Disclaimer

The content of this Manual are not all-inclusive and should not be construed as containing all necessary compliance, safety or warning information. Guidelines within each section are intended to be an introduction to safety awareness and to how certain university policies and procedures apply to employees. When the university develops or modifies new policies, procedures and programs, it will notify members of the university community as soon as possible. Differences that result from such changes will take precedence over the contents of this Handbook.
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INTRODUCTION TO THE SUPERVISOR SAFETY MANUAL

The Arizona State University Supervisor Safety Manual was developed by ASU’s Department of Environmental Health & Safety (EH&S) as a training and reference tool for Facility Management Supervisors. The Arizona State University (ASU), Supervisor Safety Manual, is an abridged version of existing Occupational Health & Safety Programs and ASU Policies. Arizona State University’s Department of Environmental Health & Safety (EH&S) and Occupational Health & Safety (OH&S) have provided the compliance guidance materials and referenced polices found in each section of the manual.

The manual is divided into three sections, [Safety; Industrial Hygiene; & Environmental], which contain essential health and safety information as well as answers to general compliance questions. Each section topic summarizes specific ASU EH&S and OH&S program and policy requirements. Each section topic outlines the required information for Supervisor responsibilities and provides quick references to applicable Federal, State, and University policy. The manual appendix includes various sections topic forms and applicable documents used regularly by Supervisors. Additional copies of these forms can be found within the
interactive electronic copy of this manual, available through the Department of Environmental Health & Safety at ASU.

The intent of the Arizona State University Supervisor Safety Manual is to aid and assist Supervisors with integrating existing ASU Environmental Health & Safety Programs and Policies into everyday work practices. Supervisors are responsible for implementing safety policies and procedures in the work areas they supervise. The manual provides information and references to specific requirements of existing ASU Environmental Health & Safety program in one document. Supervisors now have the ability to easily search for and read specific health & safety information and Supervisor requirements. For further instruction or information regarding this manual please contact the Department of Environmental Health & Safety.

“The content of this Safety Manual is not all-inclusive and should not be construed as containing all necessary compliance and safety information. Guidelines within each section are intended to provide an abridged version of existing ASU EH&S programs, policies and procedures that apply to employees. For direct assistance or questions regarding the manual please contact the Department of Environmental Health & Safety through the contact information provided below.”

DEPARTMENT OF ENVIRONMENTAL HEALTH & SAFETY
UNIVERSITY SERVICES BUILDING
1551 S RURAL RD
TEMPE, AZ 85281
P: 480.965.1823
F: 480.965.0736
E: EHS@ASU.EDU
At ASU, our most valuable resources are our talented faculty, staff and students. We are committed to protecting the safety and well-being of our campus community, and we vigorously support programs to prevent injuries and promote health.

It is imperative that all faculty and staff take personal responsibility for their own safety and follow ASU health and safety rules. It is equally important that we all assume responsibility for one another by identifying potential hazards and modeling safe work practices. Each of us plays a critical role in maintaining safety.

This Facilities Management Supervisory Safety & Health Manual provides valuable information to help you integrate safety into your daily processes, and you are expected to follow the protocols and guidelines detailed here. Depending on the potential hazards associated with your job, you might need additional training. Please ask your supervisor whether your position requires additional training, and let your supervisor know if you have questions about the information in this handbook.

The Department of Environment, Health and Safety (EH&S) is responsible for implementing EH&S principles, policies and training at ASU and will work with you to maintain a healthful and safe work environment. I encourage you to utilize the many resources available through EH&S.

Thank you for your commitment to the health and safety of our campus community.

Sincerely,

Leon Igras, Director, EH&S
CONTACT INFORMATION

In the event of a serious or major accident please contact your local Emergency Response; Police, Fire and Ambulance by dialing **911**.

For all campus emergency Response, contact ASU Police by dialing: **480-965-3456**.

Environment, Health and Safety (EH&S)
EH&S Primary Phone: **480-965-1823**
Reporting Serious Injuries: **480-965-1823** or **480-727-9669**

If you are a Facilities Management employee in need of immediate assistance call: **480-965–3633**
After hours: **480-965–3653**

ADDITIONAL EHS CONTACT INFORMATION

- Environmental Affairs: 480-965-8554
- Fire Prevention: 480-965-0536
- Fiscal Operations: 480-965-2165
- For Bio Safety: 480-965-5389
- Laboratory Safety: 480-965-6219
- Occupational Health & Safety: 480-965-6219
- Radiation Safety: 480-965-6140
- Safety (OSHA) Compliance: 480-965-0783
- University Risk Management: 480-965-6140

For web based emergency response alerts and information please visit the ASU Emergency Website: **http://cfo.asu.edu/emergency**
CAMPUS HEALTH SERVICES

If you are seeking campus medical treatment for non-emergency injury, the Campus Health Services Building (HSB) is located at: SRC Building

South Hallway, First Floor
Call: 480-965-334
Open: Tuesday – Thursday
9:00 am – 12:00 pm

Remember:

Emergency call boxes on the Polytechnic, Tempe, and West campuses provide a direct and immediate communication with the ASU Police Department Communications Center.

Emergency call boxes are identified with a bright blue light above the phone. Call boxes are located in parking structures (multiple locations on each level) and high traffic areas throughout each campus.
ASU has in place an emergency notification and advisory communication system that delivers alerts to the ASU community with up to date information for emergency situations on all four campuses. The ASU Alert and Advisory System uses standard SMS text messaging, personal e-mail, Facebook, ASU Twitter Alerts, and ASU RSS feeds, to deliver the appropriate communications about both life-threatening and potentially hazardous situations.

ASU Alert & Advisory System can be found at the following address: http://cfo.asu.edu/emergency-alert

HOW TO SIGN UP

- Go to the ASU Alert & Advisory System Home Page listed above and click on the, “ASU Alert,” hyperlink.
- Sign in using your ASUrite ID and password.
- Create a new user account.
- Input your cell phone number, cell phone carrier and email address.
- Check the box for, "ASU Advisory," under optional groups.
- Check the box, "agree to terms of service," after reviewing.
- Create the account and validate phone numbers and email to make your account it active.
- Follow the ASU Alert Twitter page and sign up for the RSS feed (optional).
- Do not forget to, “Log out”.

IV
DEVILS COMMITMENT TO SAFETY IS KEY!

Arizona State University is committed to protecting the health and welfare of students, employees, visitors, and the environment. The Department of Environmental Health & Safety (EH&S) is responsible for facilitating ASU compliance with all applicable environmental and safety regulations and ensuring employees receive the proposer safety training.

As an employee for Arizona State University, you have rights that protect you from health and safety hazards on the job. You have the right to participate in workplace health and safety training programs and to know about potential job hazards. You also have the right to refuse work that you believe is dangerous. ASU has the overall responsibility for your health and safety in the workplace, however you also have duties and responsibilities as an employee. General responsibilities are presented below.
ASU’S THE RIGHT TO KNOW

ASU’s- The right to know.

As an Employee with ASU, you have the right to know all hazards associated with your job. As a supervisor you must record and demonstrate how you ensure you and your department knows how to work safely.

ASU’s- The right to participate.

As an Employee with ASU, you have the right to participate in keeping your workplace healthy and safe. ASU requires employee training and participation in health and safety programs, as well as working in conjunction campus wide with safety committees/programs.

ASU’s- The right to refuse unsafe work.

If you believe your job is likely to endanger you, and the situation is not corrected after reporting it, you have the right to refuse to perform the work without punishment.

ASU’s – The right to report unsafe work practice.

As an Employee with ASU, all unsafe working conditions should be reported to EH&S Facilities Management immediately.
WHAT ARE YOUR RESPONSIBILITIES

Supervisors are responsible for implementing safety policies and procedures in the work areas they supervise.

Including:

- Ensure the work areas they supervise are safe.
- Ensure employees are aware of the safety rules.
- Determine, establish and implement standard safety operating procedures (general and protocol-specific), and ensuring employees follow all safety rules and standard safety operating procedures in their work area.
- Report hazards promptly to the Department of EH&S. Continually identify and mitigate hazards in changing work conditions.
- Provide the required PPE while ensuring that employees know how to properly use it.
- Ensure employees use the required Personal Protective Equipment (Safety Glasses, Gloves, Hard Hat, & Face Shield) when necessary.
- Ensure employees use appropriate engineering and administrative controls devices. Promptly notify EH&S and/or Facilities Management if engineering controls (e.g., fume hoods) or safety equipment (e.g., emergency showers) becomes nonoperational.
- Ensure employees report accidents and injuries immediately to the Department of EH&S.
- Ensure employees attend the required safety training courses.
- Consult EH&S on the use of high risk materials (e.g., particularly hazardous substances, infectious materials, select agents or radioactive materials) and on high risk select agents or radioactive materials and on high risk experimental procedures, so that additional safety precautions may be taken.
ASU EMPLOYEE SAFETY TRAINING

For questions about ASU’s employee safety training requirements contact:

ASU Safety Program Manager at:
• Mobile: 480-248-0599
• Work: 480-965-0789

The EH&S training table can be found through the following address, http://cfo.asu.edu/ehs-training-table, there you will find training listed based on job function or tasks performed by individual employees. It is each supervisor’s responsibility to determine each employee’s training requirements and ensure each employee meets those requirements on the frequency basis identified in the right hand column of the training determination table, also located in Appendix B of this manual. For information on enrollment or scheduling training classes see EH&S training.

For more information including questions on employee access to medical records or medical evaluations or training requirements, please contact the EH&S Department by dialing 480-965-1823 or EHS@asu.edu.
As a part of ASU’s General Workplace Safety requirements it is important that potential safety hazards be recognized, controlled, or eliminated from the workplace whenever possible. Hazards may include, but are not limited to, biological, chemical, environmental, physical and radiological hazards.

When hazards cannot be eliminated, they must be mitigated through special training, equipment lockout tagout, or other administrative control procedure. Including standard operating procedures (SOPs) for area specific actions, job safety analyses (JSAs), and personal protective equipment (PPE) requirements.

Supervisors are responsible for reviewing all job descriptions to determine if safety controls measures and PPE are required. Items such as eye and face foot protection, hearing protection, safety shoes and protective clothing will be provided by your department. Some safety controls and PPE, such as respirators, require medical training through the Department of Environmental Health and Safety.

For information and answers to questions about accident prevention and general workplace safety employee training, please contact the EH&S Department by dialing, 480-965-1823 or EHS@asu.edu or visit http://cfo.asu.edu/ehs-training.
The Shop Safety & Housekeeping requirement was developed to manage the safe operation of all ASU shop equipment, employees and their specific work areas. The intent of ASU’s Shop Safety and Housekeeping requirements are to provide supervisor with guidelines for proper work area cleanup and general safety considerations.

CLEAN-UP

All ASU Employees shall strive to keep the work area, specifically walking and working surfaces, clean and free from debris and trash which could cause slipping and tripping hazards. Tools, materials, dirt, lumber, concrete, metal, insulation, paper, etc. should be promptly cleared to prevent the potential for slips, trips and falls. All debris should be disposed of each day in a campus supplied dumpster.

PORTABLE AND FIXED LADDERS

The design for portable ladders must have no structural defects or accident hazards such as sharp edges, burrs.

- Always place the ladder on secure footing and lock in place.
- Short ladders must not be spliced together to make long ladders.
- The top of a regular stepladder must not be used as a step.
- Always face the ladder when climbing or descending.

All walking/working surfaces including ladders and scaffolds that may be utilized by ASU employees are subject to inspection by EH&S for compliance with OSHA regulations.

FALL PROTECTION

OSHA standards on fall protection must be followed.
See: (29CFR1926; Subpart M, Fall Protection)

✓ Providing engineering controls as a primary protective mechanism;
✓ Providing a competent person at the job site where fall hazards exist; and
✓ Providing personal protective equipment and training to protect employees from fall hazards where engineering controls are not feasible.

SCAFFOLDS AND OTHER WORKING SURFACES

• The scaffold must be able to support four times the maximum intended load.
• If the working surface is higher than 10 feet, guardrails, midrails and toe boards must be installed.
• Scaffolds must be equipped with an access ladder or equivalent and if people are working or passing underneath, the toe boards and guardrails must have wire mesh between them.
• Ensure workers use proper protection on scaffolds from overhead hazards.
• Whether going up or down stairs, always use the handrail.
• Use the right side of the stairs to improve traffic flow.
• Never carry objects that prevent you from using the handrail or block your view of the stairs.
• Do not place or store materials on the stairs at any time.

ASU TOOLS AND EQUIPMENT

• All equipment must be inspected to ensure its safe operating condition.
• All guards must be in place, and meet or exceed all applicable governmental regulations (OSHA, EPA, DOT, etc.).
• Machines must be located to give enough clearance between them so that the movement of one operator will not interfere with the work of another.

If your department requires further information regarding the ASU Shop Safety & Housekeeping requirements, please contact the EH&S Department for further information by dialing, 480-965-1823 or EHS@asu.edu.
The ASU Safe Driving Program applies to all ASU facilities and operations, and all ASU employees and volunteers who operate university owned and non-university owned, leased, or rented vehicles used for university business.

Recently, EHS Policy EHS 119: Motor Fleet Safety, was adopted to ensure insurance coverage is maintained on ASU owned and leased vehicles.

• Each department supervisor is to identify employees under his or her supervision who will operate a university owned and non-university owned, leased, or rented vehicle, or personal vehicle where mileage allowance is paid for university business purposes, and ensure that each identified employee has a valid State of Arizona driver’s license of the appropriate class, submits a Driver Authorization form, and attends defensive driver training within three months of assignment.

• Each department supervisor is to ensure that each employee notified about refresher training requirements completes this training within 30 days of notification.

• Each department supervisor is responsible for identifying employees under his or her supervision who will operate a university-owned or university leased/rented vehicles for university business purposes.

• Supervisors are responsible for ensuring that each identified employee has a valid State of Arizona driver’s license of the appropriate class and attends Defensive Driver training prior to using a state vehicle.
TRAINING

ADOA insurance coverage requires that each affected ASU employee attend a refresher training class every four (4) years, or annually if Department of Motor Vehicle records indicate an affected employee has six (6) points or more on their driving record. EH&S will notify affected employees that have completed the initial training of the need to complete the refresher requirements.

For employees whose business does not take them beyond the campus, ASUPD Policy 207–02 “Vehicles and Carts on Malls or Sidewalks” was adopted to ensure ASU employees were aware of the rules and regulations. The Driving on the Mall course is required for anyone who drives an ASU vehicle or cart on campus malls.

Options for training registration for either “Defensive Driver” or “Driving on the Mall” courses include the following:

- Completion of any classroom training program offered by EH&S (see course descriptions below). You can enroll in a course through the LMS system found online.

- Completion of the web based class on Blackboard (not available for student workers as this course has a prerequisite for experienced drivers). If you are not familiar with Blackboard instructions on how to login and search for Blackboard classes are in a PowerPoint presentation. For those familiar with Blackboard go to MyASU login and search for “Defensive Driver” and enroll.

- Any defensive driving class attended to address state of Arizona traffic citations or similar class provided proof of attendance with a date can be provided. When using this option please mail a copy of the proof of attendance along with employee number to EH&S – Training Records at Mail Code 6412 or email to EHS@asu.edu.
ASU RADIO PROTOCOL

The ASU Radio Protocol; ASU FDM Policy 502 was written in accordance with:


ASU RADIO PROTOCOL CALL LETTERS

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ASU requires certain employees to use portable hand held radios for university wide communication.

- The most important rule to remember while using an ASU issued portable hand held radio is inappropriate language will not be tolerated and should never be used during communication attempts through the hand held radio.

- Always ensure you identify yourself so that the responder knows who the person making the request is.
ASU RADIO PROTOCOL

- When speaking into the radio ensure you speak clearly so that the responder can identify the needs of the person making the request.

- When completing your request through the radio ensure you say, “Over,” this information the listener that you have finished.

- Be sure to stop all communications when someone is calling out an emergency transmission. Do not transmit until the emergency has been cleared.

- When signing off remember to say the radio call number (call sign), and say, “clear.”

For information including employee training on ASU’s Radio Protocol, please contact the EH&S Department by dialing 480-965-1823 or EHS@asu.edu.
BARRICADES & TRAFFIC CONTROL AT ASU

APPLICABLE REGULATIONS:

- PDP 207-01 & 2; Tempe Campus Transportation Code; Revised 11/01/2008, &
- Vehicles and Carts on Malls or Sidewalks; Revised 03/01/2011

The ASU Traffic Control Policy was developed to regulate the operation of non-pedestrian devices and vehicles on all ASU campuses. The intent of ASU traffic control program is to provide for the safety of all people using the malls, sidewalks, and other pedestrian areas on ASU campuses.

Effective 12/14/12: The use of cell phones or other hand-held electronic devices for text messaging, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication is strictly prohibited, except as otherwise permitted in this policy. This does not include glancing at or listening to a navigational device that is secured in a designed holder affixed to the vehicle provided that the destination and route are programmed into the device before operating the vehicle.

Motor-powered vehicles and carts are only authorized to drive, operate, or park on a sidewalk, mall, or other pedestrian area on an ASU campus when an adjacent street is not accessible or compatible.

RULES OF TRANSIT

The following shall apply to those areas of the campus not under the jurisdiction of Arizona Revised Statutes Title 28, the state transportation code:

RIGHT OF WAY

1. Each pedestrian or operator shall yield the right of way to all emergency personnel.
2. Each operator shall yield the right of way to any pedestrian.
3. Each operator of a non-pedestrian device shall yield the right of way to any other operator of a non-pedestrian device as necessary to ensure safe, courteous transit.
4. Each operator of a vehicle shall yield the right of way to any operator of a non-pedestrian device.
5. Each operator of a vehicle shall yield the right of way to any other operator of a vehicle as necessary to ensure safe, courteous transit.

TRANSPORT ROUTES

1. A walkway may be used by pedestrians only. Examples include an atrium, patio, point of ingress/egress, stairwell, single step, or flight of stairs, the university overpass, and a disability accommodation ramp.
2. A traveled way may be used by pedestrians and operators. Examples include a campus mall, sidewalk, parking lot, service drive, and loading bay, unless designated otherwise.

   NOTE: While a parking structure is a traveled way, operation of a non-pedestrian device is prohibited in a parking structure, excluding enforcement personnel of the ASU PD Bicycle Patrol. See Section 11, “Prohibited Conduct.”
3. A campus street may be used in a manner consistent with Arizona Revised Statutes Title 28, the state transportation code.

DIRECTION OF TRAVEL

An operator will bear to the right side of any traveled way as necessary to ensure safe, courteous transit.

INTERSECTIONS

Unless otherwise indicated, an operator may proceed through an intersection of traveled ways, or of a traveled way and a walkway, at a speed not to exceed that of surrounding pedestrian traffic if and only if safe, courteous transit is ensured and all provisions of the Code are observed.

SPEED LIMITS

1. The maximum speed at which a non-pedestrian device or vehicle may be operated on a traveled way or campus street shall not exceed that which is reasonable and prudent for the conditions at the time or that which creates a hazard to any person or property. In no case shall that speed exceed 5 miles per hour on any traveled way or 15 miles per hour on any campus street.

   NOTE: 5 mph is approximately twice the speed of an average pedestrian walking under fair conditions.
2. Under conditions of heavy congestion on a traveled way such that progress cannot be made without sudden changes in direction, e.g., “weaving,” the reasonable and prudent
speed is here defined as that of the surrounding pedestrian traffic. If a non-pedestrian
device or vehicle cannot be operated safely and courteously at that speed, operation
shall be terminated. Operation may resume only when conditions permit safe,
courteous operation within the applicable speed limit.

REQUIRED TRAINING

The Driving on the Mall course is required for anyone who drives an ASU vehicle or cart on
campus malls. If you plan to drive an ASU vehicle on the mall or sidewalk areas, you must first
complete this class, and Defensive Driving.

To register for defensive driving and driving on the mall training, access the ASU Environmental
Health & Safety Web Site and click on the Register for Training link and signup for both classes:

Defensive Driving, for employees who operate a state owned or other university-owned or
non-university-owned, leased or rented vehicle, on state business property.

  • Conduct training within three (3) months of assignment requiring vehicle operation.
  • Refresher training is required: every four (4) years; when the employee has accumulated
    6 or more points; has been legally held responsible for a vehicle accident; or is assigned
    to drive a vehicle other than the original vehicle class.

And,

Driving on the Mall, for employees who operate an ASU vehicle, including motorized carts on
campus side-walks and malls.

  • Training is required prior to driving an ASU vehicle on campus property.
  • Refresher training is required: every four (4) years; when held responsible for a cart
    accident; when held responsible for unsafe driving; when held responsible for a near-
    miss involving people/property.

REQUIRED EQUIPMENT

University-owned vehicles or carts must be inspected by Fleet Service to ensure that the vehicle
or cart is in safe condition and is equipped with the following safety and accountability devices:

1. A flashing yellow 360-degree beacon light mounted securely on the top of the vehicle
2. A beeper audible from the front of the vehicle or cart
3. An accurate speedometer, if originally equipped
4. All other street equipment required by state law for safe operation on public roadways,
   including but not limited to brake lights;
5. Lighting equipment, such as headlights, taillights, and turn signals, if originally equipped.

**EXCEPTION**

*Carts or vehicles designated for “day use only” in legible lettering on each side only need to have brake lights.*

6. A current Arizona license plate, properly displayed, and registration document carried securely on board (a photocopy of the original registration document is acceptable)
7. Vehicle number, printed legibly on the back and sides of the vehicle, with letters not less than one inch high
8. Current vehicle inspection decal issued by Fleet Service, in a position to be easily viewed by the driver, and

Non-ASU vehicles must obtain a Vehicle Inspection sticker from **Parking & Transit Services.**

**BARRICADES**

A. Barricades are required around all construction sites and all excavations, holes, or openings in floors or roofs, elevated platforms, certain types of overhead work, restricted access areas and wherever otherwise necessary to warn people against the potential for falling in, through, or off. Barricades must be suitable for the area of use.

B. Prior to erecting any barricades, the service provider shall submit to the Project Manager a site safety plan addressing Interim Life Safety Measures. ASU Police must approve any street barricades by calling 480-965-3456. Additionally, contact ASU Parking & Transit Services (PTS) prior to placing any barricades in and around construction sites.

C. When operating equipment (i.e. forklifts, scissor lifts) or conducting overhead work within a barricaded pedestrian walkway, a flagman will be present to ground guide the equipment and to warn pedestrians of overhead work.

D. Barricades shall be removed promptly when no longer needed.

**ENFORCEMENT**

A. The campus administration and finance officer authorizes ASU PD and PTS to enforce the Code. The campus administrative services officer may authorize others to enforce the Code, as needed. ASU PD, by virtue of its employment of state certified sworn peace officers, is also empowered to enforce all state laws, both on and off university
B. An enforcement officer may issue a citation for any violation of the Code. The enforcement officer may assign a level of severity to the violation that is commensurate with any aggravating circumstance present at the time of the violation. A citation may be issued for a violation of the Code with or without proper operator identification.

C. An enforcement officer may impound a non-pedestrian device or vehicle in conjunction with a citation for a violation of the Code.

D. An enforcement officer may instruct an operator to redirect, modify, or terminate operation of a non-pedestrian device or vehicle, whether or not a citation has been issued. Failure to comply with such instruction is a Level 3 violation of the Code and, at the discretion of the enforcement officer, may be addressed as violation of state law, i.e., Arizona Revised Statutes 13-2911, which relates to compliance with the rules of an educational institution.

E. An enforcement officer may ask an operator to leave university property, whether or not a citation has been issued. Failure to comply with such a request is a violation of state law, i.e., Arizona Revised Statutes 13-1502, which relates to criminal trespassing. Operation of a non-pedestrian device or vehicle in order to comply directly with such a request is permitted if such operation is safe and courteous at all times, unless otherwise prohibited or an instruction to terminate operation has been issued.

For information regarding employee training and additional training resources including:

- How to determine what training is required
- A Training Determination Table
- Information on Specialized Training/Departmental Training
- How to look up your own training Record
- or How to Register for Training
- See the EH&S Services Training Web Site
For information regarding the ASU Barricades & Traffic Control Program, please contact the EH&S Department by dialing, 480-965-1823 or EHS@asu.edu.
HAZARD COMMUNICATIONS AT ASU

APPLICABLE REGULATIONS:


It is the responsibility of ASU to provide a safe workplace for its employees. The main objective of the Arizona State University (ASU) Hazard Communications Program (HazCom) is to minimize employee exposure to hazardous chemicals in the workplace. ASU’s HAZCOM ensures employees are informed of the potential hazards in their workplace, and also the appropriate means to protect themselves. When chemicals are used by ASU employees in the performance of their duties, these activities shall be conducted in accordance with the provisions of the ASU HAZCOM. The written HAZCOM shall be readily available to all employees, employee representatives and appropriate regulatory agencies upon request.

THE HAZCOM STANDARD REQUIRES ASU TO

- Ensure hazard identification;
- Determine employee exposure to hazardous chemicals;
- Develop a written hazard communication Program;
- Inform employees of identified potential hazards;
- Provide training and information on safe work practices;
- Establish a file of the chemicals used;
- Acquire and distribute Material Safety Data Sheets (MSDS) for each chemical used;
- Maintain a container labeling system; and
- Establish record keeping procedures.
DEPARTMENT SAFETY COMMITTEE MEMBERS-SUPERVISORS

Each ASU employee is responsible for knowing the following:

- Know the location and how to use the information provided in the MSDS;
- Ensure proper labeling of hazardous chemical containers;
- Attend initial and follow-up hazard communication training as required;
- Report potential hazards; accidents and near-misses to supervisor immediately; and
- Assist in implementing recommendations for improving safety.

Supervisors are also responsible for Vendors, Contractors and Visitors

Each Vendor, Contractor and/or Visitor is responsible for the following:

- Notifying their ASU contact of their activities and reviewing any information provided related to Hazardous Chemicals in use at ASU;
- Providing MSDS and related hazard information to their ASU contact prior to utilizing any Hazard Chemical associated with their activities at ASU;
- Complying with all applicable EH&S regulations and ASU Policies related to their activities related to their purchase order, contract or any other agreement with ASU;
- Informing each ASU department of any hazardous chemical(s) they may be using during the performance of their work.

EMPLOYEE TRAINING

The workplace supervisor will ensure that employees are trained in the specific topics covered in the HAZCOM and provide further training relative to the specific hazardous chemicals employees will use in the performance of their duties. EH&S provides training sessions at regular intervals during each semester through Human Resources Staff Development.

EMERGENCY PROCEDURES

Each department must develop emergency procedures specific to their operation(s) and all affected employees must be aware of these procedures. This Program should include (but not limited to) actions or contingencies for:

- Evacuations due to fires,
- chemical spills, and other situations;
- First aid;
- Shut down, lock out during evacuations; and
- Location of emergency equipment (fire extinguishers, fire alarm pull stations, showers, eyewashes, etc.).

ACCIDENT REPORTING

Employees shall report accidents and injuries to their supervisor immediately. Supervisors shall submit a report to Environmental Health & Safety for any accident, injury or near miss within 72 hours as identified in EHS 115: Incident Reporting and Investigation available at http://www.asu.edu/aad/manuals/ehs/ehs115.html. All employees will be free from any reprisals for reporting accidents. Accident reporting will assist Environmental Health & Safety in providing corrective procedures to avoid a recurrence of the accident.

RESOURCES FOR OBTAINING MSDS

MSDSs can be obtained by contacting the vendor selling the product or the product manufacturer. Most MSDS can be found by a simple web search such as google. If you have difficulty locating an MSDS please contact EH&S at EHS@asu.edu or (480) 965-6219.

For more information on ASU’s Hazard Communications Program, please contact the EH&S Department by dialing 480-965-1823 or EHS@asu.edu.
ASU’s First Aid Policy is a non-mandatory requirement of OSHA. Your department may not have first aid kits due to your proximity to Campus Health Services and other medical facilities nearby. If your department does have a first aid kit, ensure the contents include the following minimum content quantities for these supplies.

<table>
<thead>
<tr>
<th>BASIC FILL KIT CONTENTS</th>
<th>MINIMUM CONTENT</th>
<th>MINIMUM QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSORBENT COMPRESS</td>
<td>32 sq. in</td>
<td>1</td>
</tr>
<tr>
<td>ADHESIVE BANDAGES</td>
<td>1 x 3 in.</td>
<td>16</td>
</tr>
<tr>
<td>ADHESIVE TAPE</td>
<td>5 yds.</td>
<td>1</td>
</tr>
<tr>
<td>ANTISEPTIC</td>
<td>0.5g application</td>
<td>10</td>
</tr>
<tr>
<td>BURN TREATMENT</td>
<td>0.5g application</td>
<td>6</td>
</tr>
<tr>
<td>MEDICAL EXAM GLOVES</td>
<td></td>
<td>2 pair</td>
</tr>
<tr>
<td>STERILE PADS</td>
<td>3 x 3 in.</td>
<td>4</td>
</tr>
<tr>
<td>TRIANGLE BANDAGE</td>
<td>40 x 40 x 56 in.</td>
<td>1</td>
</tr>
</tbody>
</table>

Where the potential for injury to the eyes, face, or body of any person may be exposed to hazardous materials, the Supervisors are responsible for informing employees of the location of first aid kits and eye wash/safety shower within the work area for immediate emergency use.
DEPARTMENTS SHOULD CONTACT ASU EH&S FOR FURTHER GUIDANCE AT:

Phone: 480.965.1823
Fax: 480.965.0736
E-Mail: EHS@asu.edu
Web: http://cfo.asu.edu/ehs-contact

HEALTH SERVICES LOCATIONS AND HOURS

TEMPE CAMPUS

Location: Health Services Building
451 E. University Dr.
Tempe, AZ 85287-2104

Mailing Address: ASU Health Services
PO Box 872104
Tempe, AZ 85287-2104

Medical Records Fax Number: 480-965-6531
MMR Fax Number: 480-965-8914

HOURS

Academic Year: Monday - Friday 8 a.m. - 6 p.m.
Summer Hours: Monday - Friday 8 a.m. - 5 p.m.
Additional Hours: Saturday 10:00 a.m. - 2:00 p.m.

ASU Health Services - South

Location: Sonora Center
1480 S. Rural Rd., Room A21
Tempe, AZ 85281

Hours: Monday - Friday
9 a.m. - 6 p.m.

ASU Health Services - SRC

Location: Student Recreation Center
400 E. Apache, Room #130
Tempe, AZ 85281

Summer Hours: Tuesday & Thursday
8 a.m. - 12:00 p.m.
ASU recognizes that smoking is a public health hazard and is dedicated to providing a healthy, comfortable learning environment for students, employees, and visitors; the university complies with state law on smoking.

SMOKING IS PROHIBITED IN

- Enclosed university buildings and within at least 25 feet of any building entrance, exit, vent and fresh air intake grill exterior landings, interior building courtyards, patios, and balconies areas where flammable gases, liquids, or other volatile materials are located or stored areas in which a fire or safety hazard may exist and university-owned vehicles.

IS SMOKING ALLOWED ON ASU CAMPUS?

- Smoking is allowed only in designated areas as a courtesy to the members of the university community who do not smoke. Areas such as doorways, stairways, walkways—any common area where there is pedestrian traffic—should not be used as a smoking area.
IS SMOKING ALLOWED IN UNIVERSITY-OWNED VEHICLES?
✓ No, smoking is prohibited in any University vehicle.

IF SOMEONE IS SMOKING IN AN ASU VEHICLE
✓ You should report this information to your supervisor or to: Environmental Health & Safety.

IF AN EMPLOYEE CHOOSES TO SMOKE IN AN UNDESIGNATED AREA
✓ Smoking by an ASU employee in an undesignated area is addressed as inappropriate conduct that may result in disciplinary action.

FOR EMERGENCY SITUATIONS

Dial 9-1-1

Police • Fire • Medical

Emergency Procedures and Information: www.asu.edu/emergency
Emergency Information Hotline: (480) 727-9911
Campus Safety and Compliance Hotline
ASU Policy EHS: 115 Incident Reporting and Investigations requires that all incidents resulting in an injury to an ASU employee, student, or visitor, or damage to ASU property in excess of $500 must be reported to Environmental Health & Safety.

For the purposes of this policy an incident is defined as occurrence or event that interrupts normal procedures or precipitates a crisis resulting in any of the following:

1. Injury or illness to ASU employees, students, and visitors
2. Events that were likely to cause potential injury or illness to an ASU employee, student, or visitor (near miss)
3. Damage to ASU property in excess of $500.

Incidents may be reported electronically by using the form for both ASU employee injuries and property damage and incidents involving non-ASU personnel. Alternatively you may report the incident by telephone at 480.965.1823 or 480.727.9669.

Please be aware that when an ASU employee is injured or becomes ill from a work related incidents the Arizona Department of Administration requires the following additional forms to be completed in order to process Worker’s Compensation Claims:

1. Employer Report of Injury
2. Supervisor Incident Report

- Fax completed forms to Human Resources at 480.965.1971.
- Fax insurance related forms to Risk Management at 480.965.0736.

Insurance related information is available on the Insurance Services webpage and additional insurance forms are available on the Insurance Forms webpage.

As a reminder, supervisors or other management personnel completing incident investigation reports should determine an initial or apparent cause to the accident and ensure correct action is taken as appropriate to prevent others from being injured in the same manner.

Please contact the EH&S office by dialing, 480.965.6219 or ASKEHS@asu.edu if you require assistance in determining the cause of an incident.
The following emergency response guide was prepared to aid Facilities Management Supervisors in how to properly respond to potential emergencies, disasters, accidents, and injuries.

If you have questions concerning a unique situation not covered in this reference, or need additional emergency information, please contact:

- ASU Police at 480.965.3456 or
- ASU Environmental Health and Safety (EH&S) at 480.965.1823.
- For online access see: http://cfo.asu.edu/emergency-guide

WHAT YOU CAN DO NOW TO PREPARE

- Keep emergency supplies in your office (medications, flashlights, comfortable shoes, bottled water, batteries, portable radio)
- Post an Emergency Response Guide in a visible location in your office. Ensure all staff are made aware of its location.
- Become familiar with all exit routes from your building.
- Locate the nearest fire extinguisher and pull station and register for a fire safety and fire extinguisher training course.
- Register for Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED), First Aid, Crime Prevention, or other safety training courses.

If calling 911 from a Cell Phone identify your location as ASU and the Campus.
POWER OUTAGE

The inherent danger during a major power outage is panic; therefore, all university personnel should attempt to remain calm. In the event of a major, campus-wide outage, ASU has emergency generators that will immediately provide power to some areas of the campus. To report a minor, localized power outage, call:

FACILITIES MANAGEMENT BY CAMPUS

Tempe: 480.965.3633
Poly: 480.727.1110 or 480.727.3456 after hours
West: 602.543.3200
Downtown: 602.496.2500 or 602.496.1502 for Mercado

ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

Keep flashlights and batteries in key locations throughout your work areas.

IN CASE OF A MAJOR, CAMPUS-WIDE OUTAGE

- Remain calm.
- Follow directions from the ASU Police Department for immediate action.
- If evacuation of a building is required, see "EVACUATION" section of this guide.
- Laboratory personnel should secure all experiments and unplug electrical equipment prior to evacuating. All chemicals should be stored in their original locations. If safe to do so, provide natural ventilation by opening all windows and/or doors. If this is not possible, or natural ventilation is inadequate, evacuate the laboratory until the power is returned.
- Do not light candles or other type of flame for lighting.
• Unplug all electrical equipment (including computers) and turn off light switches.

**IF PEOPLE ARE TRAPPED IN AN ELEVATOR**

• Tell passengers to stay calm and that you are getting help. Instruct passengers to pick up the emergency phone in elevator so they can provide direct information to the emergency responders.
• Notify the appropriate ASU Police Department

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**MAJOR ACCIDENT**

**AIRCRAFT ACCIDENT**

When a private or commercial aircraft is involved in an accident, the Federal Aviation Administration (FAA) is the agency of jurisdiction. Subsequently, no one will be permitted within a five hundred foot radius of the aircraft. Smoke from a burning aircraft is very toxic and should be avoided. If an aircraft incident occurs on the campus, evacuation procedures will begin in the surrounding area.

SEE **“EVACUATION” SECTION OF THIS GUIDE FOR MORE INFORMATION.**

**IF YOU WITNESS AN AIRCRAFT ACCIDENT**

• Call 911.
• Notify the operator of the accident location, the number of casualties and if any campus structures are affected.
• If the crash scene is close to your building, notify your supervisor and evacuate if smoke from the crash scene moves in your direction.
• DO NOT approach a downed aircraft.
• The responding Fire Department has equipment and personnel that are trained for such incidents.
MOTOR VEHICLE ACCIDENT

IF YOU WITNESS A MOTOR VEHICLE ACCIDENT INVOLVING INJURIES

- Call 911 immediately and remain on the scene until released by paramedics and police.
- Advise the operator of the number of injured and their injuries.
- Look for hazards that could affect you or responding emergency personnel (fuel, chemicals, etc.) and report them to the 911 operator.
- DO NOT attempt to move the injured unless it is more dangerous to leave them where they are, i.e.: car fire.
- Attempt to keep the victims calm and reassure them that assistance is on the way.
- Notify emergency personnel of the number of injured and their locations.

FLOODING

MAJOR IMMINENT FLOODING

Major flooding on campus would be the result of catastrophic dam failure or extraordinary releases by Salt River Project (SRP) along the Salt/Verde system. In either case, flood travel time to the ASU Tempe campus would be approximately 6.5 to 8.5 hours. Maximum flood depth is estimated to be 37 feet.

SEE “EVACUATION” SECTION OF THIS GUIDE FOR MORE INFORMATION.

Follow instructions from the ASU Police Department for immediate action. Use extreme caution around appliances or outlets near the leak and/or water.

MINOR IMMINENT FLOODING

Minor or area flooding of campus is a more likely scenario. This could be the result of major, multiple rainstorms, or a water line break. In the case of imminent minor, weather-related flooding, ASU Police Department will monitor the National Weather Service and other emergency advisories to determine
necessary action such as evacuation of areas and cancellation of classes. In cases of water main failure, affected areas of campus would need to be evacuated immediately. In this case, refer to the "EVACUATION" section of this guide.

NOTIFY THE APPROPRIATE ASU POLICE DEPARTMENT

ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

Wait for instructions from the ASU Police Department for immediate action. Do not return to your building unless you have been instructed to do so by someone from incident command or the ASU Police Department.

WHEN ABLE, NOTIFY THE FACILITIES MANAGEMENT BY CAMPUS

FACILITIES MANAGEMENT BY CAMPUS

Tempe: 480.965.3633
Poly: 480.727.1110 or 480.727.3456 after hours
West: 602.543.3200
Downtown: 602.496.2500 or 602.496.1502 for Mercado

Secure vital equipment, records, and chemicals (move to higher, safer ground). Shut off all electrical equipment. Secure all laboratory experiments.
HAZARDOUS MATERIALS INCIDENT

Only Trained Authorized Personnel Are Permitted to Respond to Hazardous Materials Incidents

A hazardous materials incident is considered a spill of any of the following:

- Chemicals (liquid and solids)
- Hazardous waste or
- Oils (diesel and gasoline).

FOR A MAJOR SPILL OR LEAK

- Activate the nearest fire alarm.
- Immediately evacuate the area, closing doors behind you.
- **Call 911.** The ASU Police Department will contact Environmental Health & Safety (EH&S).
- DO NOT attempt to clean up the spill yourself.
- Provide clean-up/response personnel with appropriate Materials Safety Data Sheets (MSDS) and other pertinent information.

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

FOR A MINOR SPILL OR LEAK

Contact Environmental Health & Safety (EH&S) by dialing 480.965.1823

Nights and weekends call the ASU Police Department by dialing 480.965.3456.

- Alert people in the immediate area of the spill.
- Wear proper personal protective equipment (PPE) and attempt to contain the spill.
• Avoid breathing vapors from the spill. Confine spill to a small area.
• DO NOT ALLOW ANYTHING TO DISCHARGE INTO DRAINS!
• Bag cleanup material and label it with Hazardous Waste Label.
• Contact EH&S at 480.965.3899 for removal.

CHEMICAL SPILL ON BODY

• Flood exposed area with running water from faucet or safety shower for at least 15 minutes.
• Remove contaminated clothing at once. Put in a plastic bag and seal. Avoid contact with eyes.
• Make sure chemical has not accumulated in shoes or under jewelry.
• If no visible burn, check MSDS to determine if delayed effects may be expected.

OBTAIN MEDICAL ATTENTION AT THE CAMPUS HEALTH BY CAMPUS

Tempe: 480.965.3349
Poly: 480.727.1500
West: 602.543.8019
Downtown: 602.496.0721

M-F 9am- 4:30pm

Supervisor responsible to notify ASU EH&S by dialing 480.965.1823

M-F 8am-5pm

Nights and weekends call the ASU Police by campus

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456
ASU Environmental Health & Safety has personnel trained in the proper clean-up and containment of minor hazardous spills or releases.

Call 480.965.1823

**NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS**

Tempe: 480.965.3456  
Poly: 480.727.3456 or 480.727.3456 after hours  
West: 602.543.3456  
Downtown: 602.496.3456

Employees must be trained in the safe use of chemicals and chemical waste management prior to working in a laboratory or cleaning up minor spills. A minor spill is one that trained employees are capable of containing safely without assistance from EH&S and/or emergency personnel. All other spills are considered major.

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**RADIATION SPILLS**

Health physics emergencies in laboratories utilizing radioactive material will usually be limited to minor spills. The potential does exist, however for emergencies involving the creation of significant radiation hazards. These incidents may be complicated by injuries to personnel.

In all emergency situations the primary concern must always be the protection of personnel from radiation and non-radiation hazards. The secondary concern is to confine contamination. Medical assistance should not be withheld or delayed because of contamination of personnel by radioactive material.

**SPILLS**

- Notify all other persons in the room at once.  
- Confine the spill immediately, but make no attempt to clean up the spill.
• For liquid spills, don protective gloves and place absorbent paper on the spill.
• For dry spills, don protective gloves and place lightly moistened absorbent paper on the spill, taking care not to spread contamination.
• If the spill is on the skin, flush thoroughly with water. If the spill is on the clothing, discard outer clothing at once.

Notify the Office of Radiation Safety (ORS) immediately.
ORS: 480.965.6140

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

Fire Department: 911 (Do not dial 8)

Permit no one to resume work in the area or leave the premises without approval of the Radiation Safety Officer (RSO) or his/her designated representative.

BIOLOGICAL SPILLS

NOTES AND PRECAUTIONS

• A spill kit should be kept in each laboratory where work with microorganisms is conducted. Basic equipment is: concentrated disinfectant (household bleach or organism specific disinfectant), paper towels, rubber gloves, autoclave bags, sharps container, and forceps to pick up broken glass.
• For any biological spill, first notify others in the laboratory so they will not unknowingly spread the contamination. For spills of a large volume, or spills of organisms transmitted by inhalation when aerosolized such as Bio-Safety
Level 3 (BSL3) agents, call the Principal Investigator (PI) and EH&S at 480.965.1823

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

If someone is injured call 911 for assistance; notify emergency personnel if you are contaminated.

SPILL OF BSL2 MATERIAL OR HUMAN BLOOD

- Wear gloves, safety glasses and lab coat. If splashing is likely, wear goggles, or a face shield.
- Use forceps to pick up broken glass and discard into SHARPS container.
- Cover spilled material with paper towels.
- Carefully pour diluted disinfectant onto paper towels in sufficient quantity to ensure effective microbial inactivation.
- Allow a 20-minute contact period.
- Pick up paper towels and dispose in biohazard waste container.
- Re-wipe spill area with disinfectant diluted to working strength.
- Place all contaminated materials, including Personal Protective Equipment (PPE), into biohazard waste container and autoclave.
- Wash hands with soap and water.

SPILL OF BSL3 MATERIAL

- Stop work. Alert others to evacuate laboratory immediately. Avoid inhaling airborne material.
- Close doors to affected area; post a sign “Do not enter.”
- Remove contaminated clothing. Turn exposed area inward and place in a biohazard bag (preferably in the ante-room). Decontaminate the bottom of your shoes.
- Wash hands and other contaminated skin with soap and water.
Notify PI and EH&S at 480.965.1823

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

- Call 911 if there is an injury (when calling 911 from a cell phone, ask for ASU police except Downtown campus).
- Do not re-enter laboratory for at least 30 minutes to allow aerosols to disperse.
- Assemble all clean-up materials.
- Re-enter lab and cover spill with paper towels or disposable pads. Pour diluted disinfectant onto paper towels.
- Leave the room for 30 minutes to allow the disinfectant to inactivate the material.
- Pick up any broken glass with forceps and dispose in SHARPS container.
- Pick up paper towels and wipe the area again with an appropriate disinfectant.
- Place all contaminated materials, including disposable PPE, in a biohazard bag and autoclave.
- Wash hands thoroughly with soap and water.
- Make arrangements through your PI to receive a post-exposure medical evaluation.

SPILL ON BODY

- Remove contaminated clothing; put it in a plastic bag and seal it.
- Vigorously wash exposed area with soap and water for 1 minute

OBTAIN MEDICAL ATTENTION AT THE CAMPUS HEALTH BY CAMPUS

Tempe: 480.965.3349
Poly: 480.727.1500
West: 602.543.8019
Downtown: 602.496.0721
Supervisor is responsible for notifying ASU EH&S at 480.965.1823

**NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS**

Tempe: 480.965.3456  
Poly: 480.727.3456 or 480.727.3456 after hours  
West: 602.543.3456  
Downtown: 602.496.3456

**BIO-SAFETY RISK GROUPS**

<table>
<thead>
<tr>
<th>Risk Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Group 1</td>
<td>Agents that are not associated disease in healthy adult humans</td>
</tr>
<tr>
<td>Risk Group 2</td>
<td>Agents that are associated with human disease which is rarely serious and for which preventative or therapeutic interventions are often available</td>
</tr>
<tr>
<td>Risk Group 3</td>
<td>Agents that are associated with serious or lethal human disease for which preventative or therapeutic interventions may be available</td>
</tr>
<tr>
<td>Risk Group 4</td>
<td>Agents that are likely to cause serious or lethal human disease for which preventative or therapeutic interventions are not usually available. None at ASU.</td>
</tr>
</tbody>
</table>

**NATURAL DISASTER AND INCLEMENT WEATHER**

Remain calm and alert; listen for information and instructions from emergency crews and/or local officials.

**EARTHQUAKE**

**INDOORS**

- STAY INDOORS, do not exit building or use elevators.  
- TAKE COVER underneath table, desk or doorway, if possible.
- STAY AWAY from all windows and large glass objects.
- AVOID being underneath heavier objects such as lights, wall hangings and other items, which may fall.
- HELP DIRECT people with special needs to a safe place, if necessary.
- WHEELCHAIR bound individuals should lock brakes.

OUTDOORS

- Move to an area AWAY FROM trees, buildings, walls, and power lines.
- DROP TO KNEES and get into a fetal position close your eyes and cross your arms over the back of your neck for protection.
- REMAIN in position until shaking has stopped.

AFTER SHAKING STOPS

- DO NOT USE cell phones, EXCEPT to report serious injuries.
- ASSIST in the building evacuation of people with special needs, if safe to do so.
- TUNE radios to an emergency broadcast or local radio stations for news updates and instructions.
- BE PREPARED to evacuate if instructed to do so. (The decision to evacuate from campus will be based on the severity of the earthquake and damage to buildings.)

The ASU Police Department will provide instructions for immediate actions by means of door-to-door alerting, police vehicle loud speakers, fire alarms or bullhorns.

- IF INSTRUCTED to evacuate, see “EVACUATION” section of this guide.
- DO NOT ENTER any building that is deemed or looks UNSAFE.

TORNADO

A TORNADO WATCH means that conditions are favorable for tornados and severe thunderstorms in and close to the watch area. A TORNADO WARNING is an URGENT announcement that a tornado has been reported and warns you to take immediate action to protect life and property.

INDOORS
• STAY INDOORS, do not exit building or use elevators. You could be trapped in them if the power is lost. Locate an interior room.
• GO directly to an enclosed, windowless area in the center of the building, corners or building support columns are best. Avoid middle of exterior walls.
• STAY AWAY from all windows and large glass objects.
• CROUCH DOWN and cover your head. Interior stairwells are usually good places to take shelter, and if not crowded, allow you to get to a lower level quickly.
• AVOID being underneath heavier objects such as lights, wall hangings and other items, which may fall.
• REMAIN INSIDE until Tornado has passed or cleared to leave.
• Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby.
• HELP DIRECT people with special needs to a safe place, if necessary.
• IF INSTRUCTED to evacuate, see “EVACUATION” section of this guide.

OUTDOORS

• MOVE AWAY From trees, buildings, walls, and power lines.
• SEEK the lowest possible ground, i.e. ditch, small trench. Lying flat in a ditch or low-lying area may be the only thing available. Note: Never enter an opening or trench where a “Cave in or Flooding” may be possible.
• STAY AWAY from power lines and puddles with wires in them, they may be “Live”.
• DO NOT USE matches or lighters, in case of leaking gas pipes or fuel tanks.
• REMAIN in position until “noise and high winds” have stopped.
• DO NOT ENTER any building that is deemed or looks UNSAFE.

The ASU Police Department will provide instructions for immediate actions by means of door-to-door alerting, police vehicle loud speakers, fire alarms or bullhorns.
THUNDERSTORMS and MICROBURSTS

INDOORS

- STAY INDOORS, do not exit building or use elevators. You could be trapped in them if the power is lost.
- STAY AWAY from all windows and large glass objects.
- CROUCH DOWN and cover your head. Interior stairwells are usually good places to take shelter, and if not crowded, allow you to get to a lower level quickly.
- AVOID being underneath heavier objects such as lights, wall hangings and other items, which may fall.
- REMAIN INSIDE until storm has passed or cleared to leave.
- Do not use matches or lighters, in case of leaking natural gas pipes or fuel tanks nearby.
- HELP DIRECT people with special needs to a safe place, if necessary.
- IF INSTRUCTED to evacuate, see “EVACUATION” section of this guide.

OUTDOORS

- MOVE AWAY From trees, buildings, walls, and power lines.
- SEEK the lowest possible ground, i.e. ditch, small trench. Lying flat in a ditch or low-lying area may be the only thing available. Note: Never enter an opening or trench where a “Cave in or Flooding” maybe possible.
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- REMAIN in position until “noise and high winds” have stopped.
- DO NOT ENTER any building that is deemed or looks UNSAFE.

The ASU Police Department will provide instructions for immediate actions by means of door-to-door alerting, police vehicle loud speakers, fire alarms or bullhorns.

HAIL

- SEEK protective SHELTER immediately.
- REMAIN indoors or under protective shelter until hail has stopped, usually 5-10 minutes.
LIGHTENING

- SEEK protective SHELTER immediately.
- If OUTDOORS, DO NOT STAND underneath tall isolated objects. Avoid projecting above the surrounding landscape. Seek shelter in a low area under a thick growth of small trees. Open areas, SEEK LOW AREAS such as a ravine or valley.
- GET OFF or AWAY from OPEN WATER as well as metal equipment or small metal vehicles such as motorcycles, bicycles, golf carts, etc. Stay away from wire fences, clotheslines, metal pipes, and rails. If you are in a group in the open, spread out, keeping people several yards apart.
- REMEMBER – lightning may strike some miles from the parent cloud. If you feel your hair stand on end, lightning may be about to strike you. DROP TO YOUR KNEES and BEND FORWARD, putting your hands on your knees. Do not lie flat on the ground.

SUSPICIOUS PACKAGE

If you receive or discover a suspicious package or foreign device, do not touch it, tamper with it, or move it!!! Immediately dial 911 to report it to Emergency Dispatch Center (ASU Police except Downtown Campus - Phoenix police)

Letter and Parcel Bomb Recognition Checklist

Inspection of Packages – Look For:
- Foreign mail, air mail, and special deliveries
- Restrictive markings such as "confidential" or "personal"
- Excessive postage
- Handwritten or poorly typed address
- Incorrect titles
- Misspellings of common words
- Oily stains or discolorations on package
- Excessive weight
- Rigid, lopsided, or uneven envelopes
• Protruding wires or tinfoil
• Excessive tape or string
• Visual distractions
• No return address

Handling Suspicious Packages

• Do not open or shake it
• Do not carry or show to others
• Do not sniff, touch, taste
• Do place on stable surface, preferable a Bio-Safety Cabinet.
• Do alert others in the area
• Leave the area, close doors and prevent others from entering by using signs or guarding.
• Wash hands with soap and water
• Create a list of persons in the room where the package was received

BOMB THREAT CHECKLIST

DO NOT HANG UP!!

• Remain calm.
• Take the caller seriously.
• Ask a lot of questions, using the checklist below as a guide.
• Have a co-worker call 911 on another line or call 911 yourself immediately after hanging up.

Bomb Threat Checklist

When is the bomb going to explode?

___________________________________________________________________

Where is it right now?

___________________________________________________________________
What does it look like?
___________________________________________________________________

What kind of bomb is it?
___________________________________________________________________

What will cause it to explode?
___________________________________________________________________

Did you place the bomb?_______________Why?___________________________

What is your address?
___________________________________________________________________

What is your name?
___________________________________________________________________

Exact wording of threats?
___________________________________________________________________

**Caller’s Voice:**

<table>
<thead>
<tr>
<th>Calm</th>
<th>Deep</th>
<th>Crying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal</td>
<td>Soft</td>
<td>Accent</td>
</tr>
<tr>
<td>Slow</td>
<td>Clearing Throat</td>
<td>Slurred</td>
</tr>
<tr>
<td>Raspy</td>
<td>Laughter</td>
<td>Lisp</td>
</tr>
<tr>
<td>Loud</td>
<td>Normal</td>
<td>Ragged</td>
</tr>
<tr>
<td>Angry</td>
<td>Disguised</td>
<td>Cracked</td>
</tr>
<tr>
<td>Stutter</td>
<td>Distinct</td>
<td>Familiar</td>
</tr>
<tr>
<td>Excited Rapid</td>
<td>Deep Breathing</td>
<td></td>
</tr>
</tbody>
</table>
If known:

Name of caller:_________________________________________________________

Number from which call originated:_____________________________________

Male/Female:_____________Race:_________________

Approx. Age:_____________________

Number at which call was received:_____________________________________

Time:___________________ Date:______________________

Background Sounds:

Street Noises Music
Factory Machinery Long Distance
Animal Noises House
Other Voices Motor
PA System Office Machinery
Static

Additional Comments:

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________

1.9
In advance of an emergency, contact your department head for additional emergency preparedness related documentation/information.

Always be prepared. Learn all exists and routes to help determine the nearest exit to your location and the best route to follow if evacuation is necessary.

If time permits during evacuation, and it is safe to do so, secure your workplace and take personal items.

In most emergencies, complete evacuation of the campus is not necessary. If, however, there is a major hazardous materials release, flood, or other MAJOR incident, it may be necessary to relocate all University personnel to a safer location.

**EVACUATION FROM A BUILDING:**

- Walk, do not run.
- Do not use elevators.
- If safe to do so, assist people with special needs as indicated by that person, or direct to the nearest stairwell, and contact the ASU Police Department at 911 for assistance with location.
- Gather outside at a designated staging area. There your supervisor will take roll and account for all personnel.
- If you cannot return to your building, wait for instructions from the ASU Police Department or other organization in charge.

**“IN-PLACE” EVACUATIONS**

In some instances, it is safer to evacuate “in-place” than it is to leave a building, e.g., smoke or fire is immediately outside your room, live electrical wires bar access to the exit, individuals with mobility disabilities are above or below ground floors.

- If the hazard is fire or smoke, see “FIRE” section of this guide.
- If the hazard causes elevators to become inoperative (fire alarm sounds).
• If safe to do so, go to the nearest stairwell and tell someone who is evacuating to notify emergency personnel of your location and that you are unable to evacuate the building.
• Call 911 and tell them your name, your location, that you are unable to evacuate, and why you are unable to evacuate the building. Follow directions of the 911 operator.

**ON-CAMPUS STAGING AREAS**

In the event of a building or area evacuation, you will be notified where staging areas will be located. Food, water, first-aid, shelter, and information will be available at designated staging areas.

**MEDICAL EMERGENCY**

All university personnel are encouraged to learn first-aid and CPR. For more information call ASU Environmental Health & Safety (EH&S) at 480.965.1823.

**CALL 911 FROM ANY CAMPUS PHONE**

• Before proceeding with the following emergency responses on all medical emergencies!
• The guidelines below are for ADULT rescue
• For individuals under the age of 8, follow the dispatcher’s instructions

**START RESCUE BREATHS - IF VICTIM IS NOT BREATHING**

• Tilt the victim’s head back, lift the chin, pinch the nose shut
• Give 2 short 1 second breaths. (Breathe into victim until chest gently rises)
• Check for circulation. (Normal breathing, coughing, movement)
• If there are signs of circulation, but victim is still NOT BREATHING, give one slow breath every 5 seconds (10 to 12 breaths per minute)
• Re-check signs of circulation and breathing every minute. Continue rescue breathing as long as victim is not breathing or until medical assistance arrives
• If there are no signs of circulation and victim is still not breathing, initiate Cardio Pulmonary Resuscitation (CPR)

START CPR - IF VICTIM IS NOT BREATHING AND NO SIGNS OF CIRCULATION

• Find the notch where lower ribs meet the breastbone. Place the heel of your hand on the breastbone. Place your other hand on top of the first.
• Position shoulders over hands. Compress chest 30 times (1-1/2 to 2 inches) using a smooth, even rhythm.
• Give 2 short 1 second breaths.
• Do five (5) more sets of (30) compressions and (2) breaths (approximately 100 compressions per minute).
• Check for signs of circulation.
• If there are signs of circulation, but victim is still NOT BREATHING, give one slow breath every 5 seconds (10 to 12 times per minute)
• If there are no signs of circulation and victim is not breathing, continue CPR.

USE AUTOMATED EXTERNAL DEFIBRILLATOR (AED) IF AVAILABLE

• If the building is equipped with AEDs, retrieve the closest unit.
• If lay responder(s) are trained in the use of an AED, proceed with using unit.
• If lay responder(s) are not trained in the use of an AED, follow the dispatcher’s instructions.
• Do not use the AED on a patient who is lying in water or on any electrically conductive surface such as wet grass.
• Do not operate the AED in a potentially explosive environment.
• NOTE: The use of an AED is necessary to revive a victim of cardiac arrest. The unit is automated and will only shock when necessary.
• If an AED was used, contact ASU EH&S at 480.965.1823 Mon-Fri, 8am-5pm. Nights and weekends call the ASU Police Department.

ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456
CHOKING (ABDOMINAL THRUSTS)

- Call 911.
- Get behind victim; wrap your arms around the person’s waist, just above their navel.
- Clasp your hands together in a double fist. PRESS IN AND UP IN QUICK THRUSTS.
- Be careful not to exert pressure against the victim’s rib cage with forearms.
- Repeat procedure until choking stops.
- Report incident to supervisor. Supervisor is responsible for notifying ASU EHS at 480.965.1823 Mon-Fri, 8am-5pm

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS:

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

PERSONAL INJURY

In all "serious cases" call 911 for emergency treatment

HEART RELATED ILLNESSES

- Get victim to a cool place.
- Loosen tight clothing.
- Apply cool, wet cloths to the skin.
- Fan the victim.
- If victim is conscious, give cool (not cold) water to drink.
OBTAIN MEDICAL ATTENTION AT THE CAMPUS HEALTH BY CAMPUS

Tempe: 480.965.3349  
Poly: 480.727.1500  
West: 602.543.8019  
Downtown: 602.496.0721

- Call 911 for an ambulance, if victim refuses water, vomits, or loses consciousness.

Supervisor is responsible for notifying ASU EH&S by dialing 480.965.1823

Nights and weekends call the

ASU POLICE BY CAMPUS

Tempe: 480.965.3456  
Poly: 480.727.3456 or 480.727.3456 after hours  
West: 602.543.3456  
Downtown: 602.496.3456

MINOR CUTS & PUNCTURES

- Vigorously wash injury with soap and water for several minutes.

OBTAIN MEDICAL ATTENTION AT THE CAMPUS HEALTH BY CAMPUS

Tempe: 480.965.3349  
Poly: 480.727.1500  
West: 602.543.8019  
Downtown: 602.496.0721

If IMPALED by a foreign object – DO NOT REMOVE THE OBJECT.

- Seek medical attention immediately.
- Report incident to supervisor.

Supervisor is responsible for notifying ASU EH&S by dialing 480.965.1823
NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS
Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

MATERIAL SPLASHED IN EYE
- Immediately rinse eye and inner surface of eyelid with water continuously for 15 minutes.
- Forcibly hold eye open to ensure effective wash behind eyelids.

OBTAIN MEDICAL ATTENTION AT THE CAMPUS HEALTH BY CAMPUS
Tempe: 480.965.3349
Poly: 480.727.1500
West: 602.543.8019
Downtown: 602.496.0721

Supervisor is responsible for notifying ASU EH&S at 480.965.1823

FIRE

!! All employees are required to attend fire safety/fire prevention training !!

NEW: How to Register for Training?

The Learning Management System (LMS) through the LMS Support Team web site will no longer be supported after December 2012. EH&S is moving to register for training through EHSA at https://ehsaweb.asu.edu/ select "Register for Training" enter the Affiliate ID for whom you wish to register if the person is not in the system, choose New Worker and fill out the requested information. You can search for available courses and to register for specific classes on the next page.
If the course is not listed in LMS, contact EH&S at 480.965.1823 for scheduling.

SEE “EVACUATION” SECTION OF THIS GUIDE FOR MORE INFORMATION.

IF YOU DISCOVER A FIRE OR SEE SMOKE

• If building alarm is not sounding, manually activate the alarm by using a fire alarm pull station located near an exit.
• Immediately exit the building.
• Call 911 from the nearest safe phone or activate an emergency blue light call box.
• NOTE: Dialing 911 from a cell phone may not go directly to the ASU Police Department. Give the dispatch operator your ASU campus and address.

IF BUILDING FIRE ALARM IS ACTIVATED OR SOMEONE INFORMS YOU OF A FIRE

• Walk to the nearest exit. **DO NOT USE THE ELEVATORS**
• If able, assist people with special needs.
• Notify emergency personnel if you know or suspect someone is trapped or still inside the building.
• Gather outside at a designated area away from the building and do not attempt to re-enter the building until authorized to do so by the emergency responders.

IF CAUGHT IN SMOKE

• Drop to hands and knees and crawl towards the nearest exit.
• Stay low as smoke will rise to ceiling level.
• Hold your breath as much as possible; breathe through your nose and use a filter such as a shirt or towel.

IF TRAPPED IN A ROOM

• Close as many doors as possible between you and the fire.
• Wet and place a cloth material around or under the door to help prevent smoke from entering the room.
• If room has an outside window, be prepared to signal someone outside.
CLOTHING ON FIRE: [STOP, DROP, ROLL]

- Roll person around on floor to smother flame.
- Only drench with water if safety shower is immediately available.
- Obtain medical attention.
- Call 911.

Supervisor is responsible for notifying ASU EH&S at 480.965.1823

NIGHTS AND WEEKENDS CALL THE ASU POLICE BY CAMPUS

Tempe: 480.965.3456
Poly: 480.727.3456 or 480.727.3456 after hours
West: 602.543.3456
Downtown: 602.496.3456

USING A FIRE EXTINGUISHER

Only use a fire extinguisher if the fire is very small and you have been trained to do it safely. If you can’t put out the fire, leave immediately and make sure the building alarm is activated and emergency personnel notified.

TOTAL AND IMMEDIATE EVACUATION IS THE SAFEST.

For more information on ASU’s Emergency Response Program, please contact the EH&S Department by dialing 480-965-1823 or EHS@asu.edu.
FIRE SAFETY & PREVENTION

FIRE SAFETY AND PREVENTION AT ASU

APPLICABLE REGULATIONS:


INTRODUCTION

The ASU Fire Prevention and Safety Plan objectives are, to provide one comprehensive fire prevention and safety document that provides references to safe practices, and ensure fire prevention measures are implemented in each university operation.

RESPONSIBILITIES

Managers and Supervisors - Managers and supervisors are responsible for ensuring all ASU and department fire and safety policies and evacuation plans are implemented, and all staff is aware and trained on the policies and evacuation plan. The policies and evacuation plan must be specific to their operation and comply with the Plan and all applicable codes.

*An organizational chart defining the area of EH&S responsibilities along with other EH&S information can be obtained by contacting EH&S at (480) 965-1823 or e-mail at ehs@asu.edu*.

EH&S encourages all departments to have a fire and safety self-inspection program to ensure the facility is safe and that any safety hazards can be identified and mitigated appropriately. Print out the fire and safety **self-inspection** form to review and copy.
CERTIFICATE OF OCCUPANCY

No building or portion of a building will be used or occupied without being issued a Certificate of Occupancy by CPMG’s Building Inspectors (for construction/renovation facilities) or Fire/Safety Inspection Report from the ASU Fire Marshal’s Office or by EH&S (for any instances other than construction/renovation related).

PERMITS

Permits are required by Environmental Health & Safety for the following:

- Special Events
- Fireworks or Pyrotechnics
- Open flames or open burning
- Storage of chemicals over the UBC/UFC exempt amounts or if considered a controlled area
- Any condition, operation, or use of materials considered being hazardous, dangerous, or unsafe
- Hot Work Operations in confined spaces requires a confined space permit. Hot work must comply with EHS102 and Hot Work Compliance Guidelines.
- Laboratories, research, and other similar buildings or areas within buildings, must have permits to operate, store, and use hazardous chemicals—this is permitted through a Environmental Health & Safety certification program called Laboratory Management Information System

PORTABLE FIRE EXTINGUISHERS

Remember, you must receive Fire Safety and Prevention training in order to use fire extinguishers at ASU. Training is available through EH&S. You can register at http://www.asu.edu/uagc/EHS/trainingschedule.htm
QUICK REFERENCE TO THE ASU FIRE PREVENTION AND SAFETY PLAN KEY SECTIONS:

- Inspections: Self Inspections................................................................. See Pg 3
- Certificate of Occupancy..................................................................... See Pg 4
- Occupant Load.................................................................................... See Pg 5
- Fire Alarm; Fire Suppression Systems.................................................. See Pg 6
- Evacuation Procedures........................................................................ See Pg 8
- Storage.................................................................................................. See Pg 10
- Flammable and Combustible Liquids..................................................... See Pg 11

If you have any questions related to fire safety and prevention please contact EH&S by dialing (480) 965-1823 or email at EHS@asu.edu.
ELECTRICAL WORK SAFETY AT ASU

APPLICABLE REGULATIONS:

➢ 29 CFR §1910; [Various]; Electrical Safety.

Electricity has long been recognized as a serious workplace hazard. OSHA’s electrical standards are designed to protect employees exposed to dangers such as electric shock, electrocution, fires, and explosions. Electrical hazards are addressed in specific standards for the general industry, shipyard employment, and marine terminals.

The primary purpose of the ASU Electrical Work Safety Program is to prevent employee electrical shock and injury caused by electrical hazards. This program meets the requirements of EHS 118: Electrical Safe Work Practices. Whenever possible ASU employees will de-energize systems as the primary method of hazard control and use appropriate “Lockout and Tag out” procedures. If an electrical system cannot be de-energized, then only qualified personnel as specified under 29CFR1910, Subpart S will work on the system using the appropriate personal protective equipment as specified in this program and under NFPA 70E. Employees who face a risk of electrical shock or related injuries must be trained in appropriate electrical safety work practices. In addition, employees that work around, but not on electrical systems must also be trained in the hazards associated with electricity.

APPLICATION

This program applies to all ASU campuses, all work performed on the university campus, and to any work performed by ASU employees regardless of jobsite location.

RESPONSIBILITIES

Environmental Health & Safety (EH&S):

ASU EH&S is responsible for developing, implementing, and administering the Electrical Safety Program for the University.
This involves:

- Training supervisors and designated departmental program coordinators and their employees on this program. (specific electrical training will be obtained from nationally recognized resources or equipment manufacturer’s or trade schools)
- Maintaining centralized records of training, energy control procedures and inspection data and reports.
- Providing technical assistance to university personnel and departments.
- Developing and maintaining the written program, training programs and other training resources that can be used by university personnel.
- Evaluating the overall effectiveness of the Electrical Safety Program on a periodic basis and making the necessary changes.

SUPERVISORS

Departments are expected to maintain a safe and healthy working environment for their faculty, staff, students and visitors to our campus. Departments are expected to assure that all employees are thoroughly familiar with their safety responsibilities and that safety practices are followed at all times. Departmental worksites should be inspected on a frequent basis to identify and correct hazards. Employees are expected to comply with all safety requirements and act proactively to prevent accidents and injuries by communicating hazards to supervisors or reporting concerns directly to ASU EH&S offices.

CONTRACTORS

Contractors must comply with all local, state, and federal safety requirements and assure that all of their employees and sub-contractors performing work on ASU property have been suitably trained. Contractors must comply with the requirements under Arizona Department of Occupational Safety and Health (ADOSH) for General and Construction Industry Standards.

TRAINING

Employees who face a risk of electrical hazards that are not reduced to a safe level by the electrical installation must be trained per the requirements of this program.

Employees in the following occupations must be trained:

- Any employee who faces a risk of injury due to electric shock or electrical hazards.
- Material handling equipment operators
- Supervisors of employees performing work around or on electrical systems
- Mechanics and repairers
- HVAC Technicians
- Electricians
Painters
✓ Electrical and electronic engineers
✓ Industrial machine operators
✓ Researchers
✓ Instructors & Student Workers
✓ Electrical/ electronic equipment assemblers
✓ Welders
✓ Engineers
✓ Project Managers
✓ Electrical and electronic technicians
✓ Custodial

Note: Employees in these groups do not require training if their work does not bring them close enough to exposed parts of electric circuits operating at or above 50 volts.

Qualified persons working on or near exposed energized parts must receive training in the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment;
- The skills and techniques necessary to determine the nominal voltage of exposed live parts; and
- The clearance distances specified for working on or near exposed energized parts and the corresponding voltages to which the qualified person will be exposed.
- Appropriate safety equipment and tools necessary to safely perform work in accordance with OSHA and NFPA 70E.

Retraining will be performed whenever inspections performed by ASU EH&S or the employee’s supervisor indicates that an employee does not have the necessary knowledge or skills to safely work on or around electrical systems. Retraining will also be performed when policies or procedures change and/or new equipment or systems are introduced into the work area. Refresher training once every two to three years is recommended to maintain safe work practices skills and knowledge.
QUICK REFERENCE TO THE ASU ELECTRICAL WORK SAFETY PROGRAM KEY SECTIONS:

- Electrical installations .......................................................... See Pg 7-13
- Identifying the Hazards............................................................. See Pg 9
- Ventilation of the Confined Space............................................. See Pg 12
- Training..................................................................................... See Pg 13
- Emergency Rescue................................................................. See Pg 15
- Appendix A: Electrical Safety Work Practices Checklist and;
  Lockout/Tag out Procedure Checklist Form............................. See Pg 30
- Appendix B: Electrical Safety Training Checklist........................ See Pg 34
- Appendix C: Energized Electrical Work Permit............................. See Pg 38

If your department requires further information regarding the ASU Electrical Work Safety Program, please contact the EH&S Department for further information by dialing, 480-965-1823 or EHS@asu.edu.
LOCKOUT TAGOUT AT ASU

APPLICABLE REGULATIONS:

➤ 29 CFR §1910.147; The Control of Hazardous Energy (Lockout/Tagout).

The ASU Lockout Tagout (LOTO) Program was developed to control the hazards associated with energy. This program establishes the requirements for isolation of both kinetic and potential electrical, chemical, thermal, hydraulic and pneumatic and stored (gravitational) energy prior to equipment repair, adjustment or removal.

APPLICABILITY

All ASU Facilities and employees.

Procedure Locks and tags will be provided or made available by the unit supervisors. All lockout tags, as well as the multiple hasp or clamshell locking devices, will be stocked in the Facilities Management Maintenance Stores Warehouse.

✔ Locks for personal safety-Only Master Lock 6835 may be used for Lockout Tagout and should be yellow in color.

✔ Locks for equipment securing – Shop Locks which are typically American Standard 1105 should be used for equipment out of service locks.

All personal safety locks for which only one key exists for the employee shall be used for lockout and will be provided by the individual unit supervisor. Multiple personnel locks may be keyed the same for each lock used for LOTO provided it is issued to the same individual. When a piece of equipment is locked out, a tag will be attached at the disconnecting means to indicate who, which unit, date and a description of the piece of equipment or system that is being locked out.
• An approved one piece personal tag can be used to tag out a piece of equipment if the equipment is down for a short duration such as; preventative maintenance (PM’s), trouble shooting, minor repairs or adjustments.
• When a piece of equipment is locked and tagged out, and it will remain “out of service” longer than a four (4) hour period, or if the employee leaves the area for any substantial length of time, an approved equipment “out of service” tag will be placed on the equipment with an equipment lock, which will be different from locks used for LOTO.
• See Machine or Equipment Isolation Section of the ASU LOTO Program for specific equipment or system procedures.

BASIC RULES FOR USING THE LOCKOUT/TAGOUT SYSTEM

All equipment that is to be serviced or worked on or adjusted shall be locked out and tagged out prior to work being performed on the equipment or system to ensure protection against accidental or inadvertent operation when such operation could cause injury to personnel.

DO NOT ATTEMPT TO OPERATE ADJUST OR WORK ON ANY SWITCH, VALVE, OR OTHER ENERGY-STORING DEVICE OR SYSTEM UNLESS IT IS LOCKED AND TAGGED OUT AND HAS BEEN VERFIED AS TO “ZERO” STATE.

NOTE: All sources (energy) must be VERFIED “Zero” state before work may begin.

Only those Electricians TRAINED AND QUALIFIED to operate the ASU electrical primary distribution system will be the “ONLY” authorized personnel to lockout/tag out primary power sources. Electricians will be authorized to lockout/tag out motors and machines for both their safety and the safety of other employees.

MANAGEMENT’S REMOVAL OF LOCK AND TAG OUT

Only the Employee that locks and tags out machinery, equipment or processes may remove his/her lock and tag. However, should the Employee leave the facility before removing his/her lock and tag, the Maintenance Manager or Supervisor may remove the lock and tag if the abandoned lock procedure process is followed and the attached form is completed.

CONTRACTORS

Contractors, working on ASU property and equipment must comply with lockout tagout and energy control procedures as prescribed under, 29 CFR § 1910.147, while servicing, maintaining or installing equipment, machinery or processes. ASU employees and contractors working in the same location must adhere to their respective lockout/tagout procedures and inform each other of the specific procedures being followed while working in the same location.
TRAINING

All employees will be given training on the lockout/tag out procedure. All employees will be retrained on a yearly basis. Records of participation on this training will be retained in Facilities Management office files.

AUTHORIZED EMPLOYEES TRAINING

All Building and Equipment Maintenance employees and their Supervisors will be trained to use the Lock and Tagout Procedures. Additionally, employees involved in research activities that may involve Lockout Tag Out will be trained. The training will be conducted by EH&S or other designated trainer at the time of initial hire. Retraining shall be held at least every three years or as needed.

TRAINING WILL CONSIST OF THE FOLLOWING

i. Review of General Procedures
ii. Review of Specific Procedures for machinery, equipment and processes
iii. Location and use of Specific Procedures
iv. Procedures when questions arise

AFFECTED EMPLOYEE TRAINING

i. Only trained and authorized Employees will repair, replace or adjust machinery, equipment or processes
ii. Affected Employees may not remove Locks, locking devices or tags from machinery, equipment or circuits.
iii. Purpose and use of the lockout procedures.

OTHER EMPLOYEE TRAINING

i. Only trained and authorized Employees will repair, replace or adjust machinery or Equipment.
ii. Other Employees may not remove Locks, locking devices or tags from machinery, equipment, circuits, or special hazards and special safety procedures. The schedule will be reviewed each time to ensure employees properly lock and tag out equipment and machinery. If a Tagout Schedule does not exist for a particular piece of equipment, machinery and process, one must be developed prior to conducting a Lockout - Tagout. As repairs and/or renovations of existing electrical systems are made, standardized controls will be used.
THE MACHINE OR EQUIPMENT IS NOW LOCKED OUT

Restore the machine or equipment to service after the service or maintenance is completed and the machine or equipment is ready to return to its normal operating condition by doing the following steps:

**Step 1:** Check the machine or equipment and the immediate area around it to make sure all nonessential items have been removed and that the machine or equipment is in operating condition and ready to energize.

**Step 2:** Make sure all employees are safely positioned for starting or energizing the machine or equipment.

**Step 3:** Verify that the controls are in neutral.

**Step 4:** Remove the lockout devices and reenergize the machine or equipment. Note: Some forms of blocking may require re-energization of the machine before they can be safely removed.

**Step 5:** Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready to use.
QUICK REFERENCE TO THE ASU LOCKOUT TAG OUT PROGRAM KEY SECTIONS:

- Definitions........................................................................................................................................... See Pg 1
- The Procedure: Personnel Safety Lockout.................................................................................... See Pg 3
- Preparation for Lockout/Tagout...................................................................................................... See Pg 4
- Verification of Isolation..................................................................................................................... See Pg 4
- Release from Lockout/Tagout........................................................................................................... See Pg 4
- LOTO Procedures for Electrical Plug Type Equipment................................................................. See Pg 5
- LOTO Procedures involving more than one employee................................................................. See Pg 5
- Group Lockout/Tagout...................................................................................................................... See Pg 5
- Periodic Inspection Program............................................................................................................ See Pg 5
- Machine/Equipment Control (Equipment Lock)............................................................................. See Pg 6
- Appendix A: Fill-in-the-Blank ECP Template .................................................................................. See Attached
- Appendix B: Annual Review Information.......................................................................................... See Attached
- Appendix C: Abandoned Lock Removal Procedures....................................................................... See Attached

If your department requires further information regarding the ASU Electrical Work Safety Program, please contact the EH&S Department for further information at, 480-965-1823 or EHS@asu.edu.
Fill-in-the-Blank ECP Template

SCOPE:

This lockout procedure is for

(Specific machine or equipment that this procedure applies to):

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

PURPOSE:

• This procedure establishes the minimum requirements necessary to protect employees from injury caused by the unexpected energization, start up, or release of stored energy during service or maintenance.
• Use this procedure to make sure the machine or equipment is stopped, isolated from all potentially hazardous energy sources, and locked out before any employee begins work.

AUTHORIZATION:

The following persons are authorized to lock out the machine or equipment using this procedure

(List the names of authorized employees you want to use this procedure):

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

COMPLIANCE WITH THIS PROGRAM:

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. Authorized employees will perform lockout as described in this procedure. No employee will attempt to start, energize or use any machine or equipment that is locked out. Failure to comply with this procedure will result in the following disciplinary action.
INTENDED USE:
This procedure will be used for the following service or maintenance actions
(List the service and maintenance activities that require using the procedure):
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

SPECIFIC PROCEDURAL STEPS:

Step 1:
The authorized employee will identify the type and magnitude of the energy that the machine or equipment uses, understand the hazards of the energy, and the methods to control the energy before using this procedure.
(List the type and magnitude of the energy, its hazards, and the methods to control the energy.)
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Step 2:
Notify all affected employees that the machine or equipment is to be shutdown and locked out for service or maintenance.
(List the names or job titles of affected employees and how to notify them (i.e. verbally):
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Step 3:
Shut down the machine or equipment by the normal stopping procedure (such as depressing a stop button, opening switches, or closing valves).
(List types and locations of machine or equipment operating controls.)
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
Step 4:
Completely isolate the machine or equipment from its energy sources by using the appropriate energy-isolating devices.
(List types and locations of energy isolating devices.)
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Step 5:
Lock out the energy isolating devices with assigned individual locks
(List any additional procedural requirements, such as putting on a tag with amplifying information, necessary for the authorized employee to know):
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Step 6:
Dissipate or restrain stored and residual energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, using methods such as grounding, repositioning, blocking, or bleeding down.
(List the types of stored and residual energy and the methods to dissipate or restrain them.)
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
(List any actions necessary to prevent stored energy from re-accumulating to a hazardous level):
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Step 7:
Make sure the equipment is disconnected from the energy sources and stored and residual energy has been made safe. Check that no personnel are exposed, then verify the isolation of the equipment by doing the following:

(List the method of verifying machine or equipment isolation, such as operating the push button or other normal operating controls or by testing to make certain the equipment will not operate.)

__________________________________________________________

__________________________________________________________

__________________________________________________________

**CAUTION:** Return the operating controls to the safe, neutral, or off position, after verifying the equipment is isolated from its energy sources.
## ANNUAL REVIEW INFORMATION

<table>
<thead>
<tr>
<th>Annual Review Information</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
<td></td>
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<tr>
<td>Supervisor:</td>
<td></td>
<td></td>
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<tr>
<td>Reviewer:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Are department personnel who conduct work covered by this manual trained as Lockout Authorized Employees? List those who are trained and those who are not trained but need it.

2. Are department Lockout Authorized Employees familiar with and follow the General Lockout Procedure?

3. Have Energy Control Procedures been developed in accordance with the General Lockout Procedure? List Energy Control Procedures needed and whether they have been developed.

4. Does the department have adequate locks, tags, and lockout devices? List what is needed and whether or not the department has them.


7. Does the department have an Emergency Lock Removal procedure? Review key security method and list persons who will implement the Emergency Lock Removal procedure/form.

8. Have Lockout Authorized Employees demonstrate Energy Control Procedures or General Lockout Procedure as appropriate. List Energy Control Procedures demonstrated and the Lockout Authorized Employee who demonstrated.
ABANDONED LOCK REMOVAL FORM

Note: Only supervisors can remove abandoned locks.

Name of Person whose lock must be removed: _________________________________________

Has an attempt been made to contact him or her? □ YES □ NO

Why is it critical to remove this lock now?
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Are you sure it is safe to remove this lock? □ YES □ NO

Supervisor’s Name: __________________________________________________________________

Signature: _________________________________________________________________________

Date: _____________________

Facilities Management Representative: __________________________________________________________________

Signature: _________________________________________________________________________

Date: _____________________

1.12
WHAT IS ARC FLASH?

An electrical arc is formed when a medium that is normally an insulator, such as air, is subjected to a field of electricity strong enough to cause it to become ionized. The ionization of the medium causes the medium to become a conductor through which electricity can travel. Arc flash is the result of an arcing fault, where the unwanted release of electrical energy arcs, resulting in severe skin burns, hearing damage, and eye injuries.

ARC FLASH SAFETY

The requirement for arc flash safety applies to all potential electrical hazards 480 volts or greater. ASU requires that only qualified persons shall be permitted to work on electrical conductors or circuit parts that have not been put into an electrically safe work condition.

Each piece of equipment operating at 50 volts or more and not put into a de-energized state must be evaluated for arc flash and shock protection prior to being serviced or put into service. This evaluation will determine the actual boundaries (i.e. prohibited, limited, restricted etc) and will inform the employee of what PPE must be worn.

Arc flash can be caused by many things including:

- Dust
- Dropping tools
- Accidental touching
- Condensation
- Material failure
- Corrosion
- Faulty installation

Factors and the severity of an arc flash injury:

1. Proximity of the worker to the hazard; Heat from arc can cause severe flash burns many feet away (temperatures can reach 20,000 K, four times the temperature at the surface of the sun!).
2. Byproducts from the arc, such as molten metal spatter, can cause severe injury.
3. Time for circuit to break.
4. Pressure wave effects caused by the rapid expansion of air and vaporization of metal can distort enclosures and cause doors and cover panels to be ejected with severe force causing injury.
5. Sound levels caused by and electrical arc can damage hearing.
ARC FLASH PROTECTIVE EQUIPMENT

ASU’s arc flash protective equipment includes a flash suit, including the hood & face shield, or like. All electrical safety equipment shall have an arc rating that is suitable for the arc flash exposure. Contact the Department of Environmental Health & Safety for more information regarding arc flash safety requirements for employees.

ASU EMPLOYEE REQUIREMENTS

Employees must follow the requirements of the Arc Flash Hazard label by wearing the proper personal protective equipment (PPE), use of insulated tools and other safety related precautions.

This includes not working on or near the circuit unless you are a “qualified” worker.

Qualified person: One who has received training in and has demonstrated skills and knowledge in the construction and safe operation of electric equipment and installations and the hazards involved approved by the University and EH&S.

Additional requirements for qualified persons: Qualified persons (i.e. those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following:

- The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.
- The skills and techniques necessary to determine the nominal voltage of exposed live parts, and
- The clearance distances specified in 29 CFR 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.
ARC FLASH SAFETY INFORMATION

**Flash Protection Boundary** (outer boundary): The flash boundary is the farthest established boundary from the energy source.

**Limited Approach Boundary**: An approach limit at a distance from an exposed live part within which a shock hazard exists.

**Restricted Approach**: An approach limit at a distance from an exposed live part which there is an increased risk of shock.

**Prohibited Approach** (inner boundary): A distance from an exposed part which is considered the same as making contact with the live part.


If your department requires further information regarding ASU Arc Flash Safety, please contact the EH&S Department for further information by dialing, 480-965-1823 or EHS@asu.edu.
WHAT IS THE CONFINED SPACE ENTRY PROGRAM AT ASU?

APPLICABLE REGULATIONS:

- 29 CFR §1910.146; General Environmental Controls; Permit-required confined spaces.

The Occupational Safety and Health Administration’s (OSHA) Permit Required Confined Space Entry Standard, 29 CFR §1910.146, requires ASU to develop and implement guidelines for safe confined space entry. The ASU CSEP has been developed to protect ASU employees and contractors when working in confined spaces.

Departments and units are required to implement the practices and procedures outlined in this program including the Confined Space Pre-Entry Checklist (Appendix B) and the Confined Space Entry Permit (Appendix C) prior to conducting confined space entry operations. Confined spaces shall be considered permit-required confined spaces until the information obtained from the Confined Space Pre-Entry Checklist demonstrates otherwise.

DEFINITION OF A CONFINED SPACE

A confined space is a space that:

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

PERMIT REQUIRED CONFINED SPACE

A permit-required confined space means a confined space that has one or more of the following characteristics and therefore requires a permit:

- Contains or has the potential to contain a hazardous atmosphere.
- Contains a material that has the potential for engulfing an entrant.
• Has an internal configuration such 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.
• Contains any other recognized serious safety or health hazard.

NON-PERMIT CONFINED SPACE

A non-permit confined space means a confined space that does not contain, nor has the potential to contain, any uncontrolled hazard capable of causing death or serious physical harm.

PERMITS

When a confined space must be entered, a permit shall be completed and authorized by department heads, supervisors, or their designated representatives prior to entry of the confined space. This permit shall serve as certification that the space is safe for entry. The permit shall contain the date, the location of the space, and the signature of the person providing the certification.

A permit shall not be authorized until all conditions of the permit have been met. The permit to be used by Arizona State University personnel can be found in at the end of this document.

RESPONSIBILITIES

Environmental Health & Safety (EH&S) shall:

• Provide the Confined Space Entry Program to departments that make entry into any confined space.
• Provide guidance for the proper selection and use of appropriate air monitoring equipment, respiratory protection and personal protective equipment to meet the requirements of this program.

Department supervisors shall:

• Implement all provisions of the CSEP for work or research areas under their control.
• Identify and report job areas and locations that are or may be confined spaces, when a new confined space is created or an existing confined space changes in configuration, use or hazard potential submit a list of identified confined spaces to EH&S.
• This responsibility may be delegated to a competent person within the department provided he/she is qualified.
• The list should include department name, location of the space, description of space, atmospheric hazard, physical hazard, unusual hazards, orientation (vertical or horizontal), number of entry points, reason for entry, potential energy hazard, entry action, entrant title/specific job hazard, frequency of entry, comments, surveyors name and a date.

• The attached Permit-Required Confined Space Decision Flow Chart should be used to assist in determining if a space is consider permit required.
• Identify authorized confined space entrants and assure that each entrant attends an approved confined space entry training course.

• Provide site-specific training to authorized confined space entrants regarding the specific equipment and practices used during entry for the spaces each entrant is authorized to enter.

• Identify individuals that are authorized to sign the ASU permit for permit-required confined space entry.

• Assure that warning signs are posted immediately outside of entrances to confined spaces, and that such signs are secured. (Underground utility access vaults may not be posted. Employees will be informed of the confined space classification of these spaces during confined space training.)

• Interface with confined space supervisors where enforcement of this program is required.

The following hazards shall be identified prior to entry into a confined space:

• Atmospheric hazards
• Asphyxiating atmospheres
• Flammable atmospheres
• Toxic atmospheres
• Burn hazards
• Heat stress hazards
• Mechanical hazards
• Engulfment hazards
• Physical hazards (falls, debris, slipping hazards)
• Electrocution
• Danger of unexpected movement of machine

It is the responsibility of the department or unit supervisors to evaluate potentially hazardous spaces within facilities or areas under their control and ensure that the proper precautions are taken for safety. Departments and units requiring assistance are responsible for contacting EH&S to schedule an evaluation 48 hours prior to conducting confined space entry to determine whether a permit is required. In addition, the department shall provide the proper protective equipment when such equipment is necessary to protect the health and safety of the employee.
ENTRY SUPERVISOR

Confined Space Entry Supervisor(s) shall:

- Adhere to all requirements of the CSEP and supplemental entry procedures
- Complete all safety training requirements, request further instruction if unclear on any part of the training and comply with documentation procedures
- Knows the hazards that may be faced during entry including information on the mode, signs or symptoms, and consequences of exposure
- Ensures that entry, standby, and backup employees are properly trained and authorized for their designated functions
- Verifies the Permit-Required Confined Space Entry Permit has been completed prior to entry and verifies that all precautions and pre-entry procedures have been fulfilled prior to entry
- Terminate the entry and cancels the permit when entry operations covered by the entry permit have been completed or a condition that is not allowed under the entry permit arises in or near the permit space
- Verifies the rescue services are available and that the means of summoning them operable
- Assure that appropriate personal protective equipment is available and used by entrants
- Assure that unauthorized people do not enter the confined space during the time that authorized entry is in progress. If an unauthorized person is located in a confined space, ASU Police shall be called to enforce trespass prohibitions;
- Report all accidents or near misses as a result of a confined space entry or an aborted entry attempt to EH&S
- Assure that original entry permits are forwarded to EH&S upon completion or termination of a Permit-Required Confined Space Entry

PLANNING A CONFINED SPACE ENTRY

The first step towards conducting a safe confined space entry is planning. This will allow for the identification of all hazards, and for the determination of all equipment necessary, to complete the project. The Confined Space Pre-Entry Checklist and the Confined Space Entry Permit found at the end of this document shall be used to assist in determining the specific requirements of the permit.
QUICK REFERENCE TO THE ASU CONFINED SPACE ENTRY PROGRAM:

- Confined Space Hazards ................................................................. See Pg 3
- Identification of Confined Spaces ................................................. See Pg 8
- Identifying the Hazards ................................................................. See Pg 9
- Ventilation of the Confined Space ................................................ See Pg 12
- Training ....................................................................................... See Pg 13
- Emergency rescue ........................................................................ See Pg 15
- Appendix B: Confined Space Pre-Entry Checklist ......................... See Attached
- Appendix C: Confined Space Entry Permit Procedures .................. See Attached
- Appendix D: Permit-Required Confined Spaces/Hazards Identification See Attached
- Appendix E: Permit-Required Confined Space Decision Flow Chart See Attached

If your department requires further information regarding the ASU Confined Space Entry Program, please contact the EH&S Department for further information at, 480-965-1823 or EHS@asu.edu.
**CONFINED SPACE PRE-ENTRY CHECKLIST**

**Pre-Entry Checklist**

ARIZONA STATE UNIVERSITY Confined Space Pre-Entry Checklist

Job Location __________________________________________

Entry Supervisor __________________________ Signature __________________________

Date __________________________ Time __________________________

**This checklist must be used prior to entering any confined space to determine whether a confined space permit is required.**

Did your survey of this surrounding area indicate hazards such as drifting vapors from tanks, vehicles, motors, piping, sewers, combustible materials/debris, etc.? ( ) ( )

Did this confined space contents, (for example industrial or other discharges, mechanical or electrical systems) indicate this area may contain dangerous air contaminants and other hazards while occupied? ( ) ( )

Will work being performed in this confined space create a hazardous atmosphere or condition? ( ) ( )

**Atmospheric Monitoring**

Record Initial and Continuous Monitoring Results every Hour

<table>
<thead>
<tr>
<th>Gas Monitor Make</th>
<th>Gas Monitor Model</th>
<th>Gas Monitor Serial No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

If you answered “Yes” to any one of the above statements, you must complete the bottom portion of this checklist and obtain a confined space permit, and inform your supervisor before proceeding. “No” responses to all statements indicates this is a "Non-Permit Required Confined Space" and you may proceed with the entry.

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you been trained in the operation of the gas monitor to be used?</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Has the gas monitor been calibrated today prior to use for this job?</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Did you test the atmosphere of the confined space prior to entry?</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Did the atmosphere check as acceptable (no monitor alarms)?</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Will the atmosphere be continually monitored while the space is occupied?</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

If you answered "No" to any one of the statements above, DO NOT ENTER. Contact your supervisor for further instruction. If you answered "Yes" to all statements above, proceed to completing the “Confined Space Entry Permit”. Dial 911 and ask for ASU Police or directly 480-965-3456.
**CONFINED SPACE ENTRY PERMIT PROCEDURES**

---

### Confined Space Entry Permit

**ARIZONA STATE UNIVERSITY Confined Space Entry Permit**

*Permit Valid For Issued Work Shift only. This permit shall remain on site until job is completed.*

<table>
<thead>
<tr>
<th>Date &amp; Time Permit Issued:</th>
<th>Date &amp; Time Permit Expires:</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

**Job Location:**

<p>| |</p>
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</table>

**Supervisor(s) in charge of crew:**

<table>
<thead>
<tr>
<th>Supervisor(s) in charge of crew:</th>
<th>Phone Number:</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

**Entry Supervisor:**

<table>
<thead>
<tr>
<th>Entry Supervisor:</th>
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<tbody>
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<td></td>
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**Attendant:**

<table>
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<tr>
<th>Attendant:</th>
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</table>

**Authorized Entrant(s):**

<table>
<thead>
<tr>
<th>Authorized Entrant(s):</th>
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<tbody>
<tr>
<td></td>
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</table>

**Equipment to be worked on:**

<table>
<thead>
<tr>
<th>Equipment to be worked on:</th>
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</thead>
<tbody>
<tr>
<td></td>
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</table>

**Communication Procedures:**

<table>
<thead>
<tr>
<th>Communication Procedures:</th>
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</tbody>
</table>

**Rescue Procedures:** Dial 911 and ask for ASU Police or call ASU Police direct at 480-965-3456

---

### Entry Checklist to be Completed and Reviewed Prior to Entry

<table>
<thead>
<tr>
<th>Requirements Completed</th>
<th>Yes</th>
<th>No</th>
<th>Item does not Apply (N/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock Out/De-energize/Try-Out</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line(s) Broken-Capped-Blank (utility pipes)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning, Purging, Flushing or Ventilation (special ventilation procedure if needed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilation (forced air ventilation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secure Area (mark off area from non-authorized entrants)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respirator(s) (Air Purifying)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standby Safety Personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full Body Harness with “D” ring</td>
<td></td>
<td></td>
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<tr>
<td>Emergency Escape Retrieval Equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifelines (cable, rope, etc.)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Protective Clothing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burning and Welding Permit (Hot Work Permit)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Reading Gas Monitor (Calibrated)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### Atmospheric Monitoring

**Record Initial and Continuous Monitoring Results every Hour**

<table>
<thead>
<tr>
<th>Gas Monitor Make:</th>
<th>Gas Monitor Model:</th>
<th>Gas Monitor Serial No.:</th>
</tr>
</thead>
<tbody>
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</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Oxygen (Acceptable 19.5% thru 23.5%)</th>
<th>LEL (Acceptable &lt;10%)</th>
<th>CO (Acceptable &lt; 35ppm)</th>
<th>H2S (Acceptable &lt;10ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Rescue Procedures:** Dial 911 and ask for ASU Police or call ASU Police direct at 480-965-3456

---

**Entry Supervisor (Print & Sign Name):**

<table>
<thead>
<tr>
<th>Entry Supervisor (Print &amp; Sign Name):</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

**Attendant (Print & Sign Name):**

<table>
<thead>
<tr>
<th>Attendant (Print &amp; Sign Name):</th>
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<td></td>
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</table>

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1.14
### Arizona State University
**Confined Space Overview and Hazard Identification**

<table>
<thead>
<tr>
<th>Permit Required Confined Spaces</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oxygen Deficiency</td>
</tr>
<tr>
<td>Sewer Manholes</td>
<td>X</td>
</tr>
<tr>
<td>Swimming Pool Tanks at Mona Plumber</td>
<td>X</td>
</tr>
<tr>
<td>Sump Pits</td>
<td>X</td>
</tr>
<tr>
<td>Air Handlers</td>
<td></td>
</tr>
<tr>
<td>Drywells Pits</td>
<td>X</td>
</tr>
<tr>
<td>Water Tanks under the Soccer Field</td>
<td>X</td>
</tr>
<tr>
<td>Boiler Tanks</td>
<td>X</td>
</tr>
<tr>
<td>Tunnels - normally non-permit required, certain areas may contain:</td>
<td>(as a result of work activities)</td>
</tr>
</tbody>
</table>
PERMIT REQUIRED CONFINED SPACE DECISION FLOW CHART

APPENDIX A TO §1910.146—PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART

Does the workplace contain Confined Spaces as defined by §1910.146 (b)? NO

Does the workplace contain Permit-required Confined Spaces as defined by §1910.146(b)? NO

Consult other applicable OSHA standards STOP

YES

Inform employees as required by §1910.146 (c)(2).

Will permit spaces be entered? NO

Prevent employee entry as required by §1910.146 (c)(3). Do task from outside of space.

YES

Will contractors enter? NO

Task will be done by contractors’ employees. Inform contractor as required by §1910.146 (c)(8)(I), (ii) and (iii). Contractor obtains information required by §1910.146 (c)(9)(I), (ii) and (iii) from host.

YES

Both contractors and host employees will enter the space? NO

Coordinate entry operations as required by §1910.146 (c)(8)(iv) and (d)(11). Prevent unauthorized entry.

YES

Prevent unauthorized entry. STOP

Does space have known or potential hazards? NO

Can the hazards be eliminated? YES

Employer may choose to reclassify space to non-permit required confined space using §1910.146 (c)(7). STOP

NO

Can the space be maintained in a condition safe to enter by continuous forced air ventilation only? YES

Space may be entered under §1910.146 (c)(5). STOP

NO

Prepare for entry via permit procedures.

Verify acceptable entry conditions (Test results recorded, space isolated if needed, rescuers/mans to summon available, entrants properly equipped, etc.) YES

Permit issued by authorizing signature. Acceptable entry conditions maintained throughout entry.

Entry tasks completed. Permit returned and canceled.

Audit permit program and permit based on evaluation of entry by entrants, attendants, testers and preparers, etc.

Spaces may have to be evacuated and re-evaluated if hazards arise during entry

EXCAVATION SAFETY PROGRAM

EVACUATION SAFETY AT ASU

APPLICABLE REGULATIONS:

- 29 CFR § 1926; Subpart P, Excavation.

INTRODUCTION

The ASU Excavation Safety Program meets the requirements of OSHA’s 29 CFR §1926 Subpart P, by establishing and proving employees with safety procedures during excavation activities. ASU’s Excavation Safety Program is designed to minimize employee exposure to hazardous conditions during excavations.

Designated Program Competent Person: Dan Meraz, ASU Safety Manager

For site specific questions concerning excavation safety program requirements contact:

Dan Meraz
ASU Safety Manager

Mobile: 480-248-0599
Work: 480-965-0789

For information regarding the ASU Evacuation Safety Program, please contact the EH&S Department by dialing, 480-965-1823 or by emailing EHS@asu.edu.
RESPONSIBILITIES

The EH&S Designated Competent Person is responsible for administering the excavation safety program and has the authority to make decisions and implement changes, as necessary.

Supervisors; Department Dean, Chair, Director, or designee Each Department Supervisor or designee is responsible for the following:

- Ensuring that excavation activities involving ASU employees are reviewed with a designated competent person;
- Ensuring that employees participate in required training; and
- Ensuring that all requirements of this program are followed by employees under their control.

For access to the ASU Excavation Safety Program electronic document please select the hyperlink.

Links to specific excavation safety requirements under; 29 CFR § 1926; Subpart P - Excavations

- 1926.650, Scope, application, and definitions applicable to subparts
- 1926.651, Specific excavation requirements
- 1926.652, Requirements for protective systems
QUICK REFERENCE TO THE ASU EXCAVATION SAFETY PROGRAM APPENDICES:

- Appendix A: Soil Classification .................................................................See Pg 14
- Appendix B: Sloping and Benching ..........................................................See Pg 20
- Appendix C: Timber Shoring for Trenches ..............................................See Pg 29
- Appendix D: Aluminum Hydraulic Shoring for Trenches ....................See Pg 53
- Appendix E: Alternatives to Timber Shoring ..........................................See Pg 65
- Appendix F: Selection of Protective Systems .........................................See Pg 67
- Appendix G: Excavation Inspection Form .............................................See Attached
ARIZONA STATE UNIVERSITY – Excavation Inspection Form, rev 2-09 29CFR1926, SUBPART P

Today’s Date: _______________________________ / Time: _______________________________

Campus: __________________ ; Location/Job No.: _______________________________

Competent Person: __________________ ; Contact No.: _______________________________

Project PM: __________________ ; Contact No.: _______________________________

SOIL CLASSIFICATION


Visual Determination Results: _______________________________________________________

Manual Method Used: ☐ Elasticity ☐ Dry strength ☐ Thumb penetration ☐ Penetrometer/Shearwall ☐ Drying test

Manual Determination Results: _____________________________________________________

SURFACE ENCUMBRANCES: _______________________________________________________

BLUE STAKE NOTIFIED: ☐ NO ☐ YES: Date: __________________ ; Time: ___________________

WARNING SYSTEM FOR MOBILE EQUIPMENT: ☐ NO ☐ YES: Type _______________________

HAZARDOUS ATMOSPHERES: 1910.66(a)(1)(I) Where oxygen deficiency exists containing less than 19 percent oxygen or a hazardous atmosphere is created or made by accidental exposure to or the presence of toxic gases or fumes or dusts, or by the presence of other substances that can react explosively with oxygen or cause chemical reactions, samples shall be obtained before work is started or after such exposure has occurred. Sample analysis shall be performed before work is started. An entry permit form will be attached to the inspection form.

STABILITY OF ADJACENT STRUCTURES: 1926.651 (I) Where the stability of existing buildings, walls, or other structures is endangered by excavation operations support systems such as shoring, bracing, or underpinning shall be provided to ensure the stability of such structures for the protection of employees.

INSPECTIONS: 1926.651 (I) [D] Daily inspections of excavations; the adjacent area, and protective systems shall be made by a competent person for instance situations that will result in possible loss of life or injury of protective systems; hazardous atmospheres; or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall be made after any significant change in the excavating area. These inspections are only required when employees are exposed to hazards (anticipated: Competent Person shall complete an inspection form for each person per each inspection). 

<table>
<thead>
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<th>DATE</th>
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WORK STOPPED DUE TO: ____________________________________________________________

COMPETENT PERSON SIGN OFF: __________________ ; Date/Time: _______________________/ _____

1.15
ASU CRANES, HOISTS, & SLINGS

APPLICABLE REGULATIONS:


Designated EH&S Cranes, Hoists, & Slings Program Contact: Dan Meraz, ASU Safety Manager

For site specific questions concerning ASU’s Cranes, Hoists, & Slings requirements contact:

Dan Meraz
ASU Safety Manager

Mobile: 480-248-0599
Work: 480-965-0789

INTRODUCTION

Arizona State University adheres to the requirements for overhead and gantry cranes, hoists and slings outlined in 29 CFR § 1910 for general industry & 1926 for construction. The following information includes key safe practices for personnel working with cranes, hoists, or slings.

CRANES AND DERRICKS - §1926.550

General Safety

- Keep all body parts inside the platform during raising, lowering, and positioning.
- Make sure a platform is secured to the structure where work is to be performed before entering or exiting it, unless such securing would create an unsafe condition.
- Wear a body belt or body harness system with a lanyard. The lanyard must be attached to the lower load block or overhaul ball or to a structural member within the personnel platform.
Stay in view of, or in direct communication with, the operator or signal person.
Never leave crane or derrick controls when the engine is running or when the platform is occupied.
Stop all hoisting operations if there are indications of any dangerous weather conditions or other impending danger.
Do not make any lifts on another load line of a crane or derrick that is being used to hoist personnel.

Cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer

Rated load capacities, and recommended operating speeds, special hazard warnings, or instructions, shall be posted on all equipment.
All machinery and equipment shall be inspected prior to each use, and during use, to make sure it is in safe operating condition.
All equipment deficiencies shall be repaired; defective parts shall be replaced, before continued use.
Instructions or warnings shall be visible to operators while they are at their control stations.
Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use.
An illustration of the signals shall be posted at the job site.

HAMMERHEAD TOWER CRANES

Remember each employee required to perform duties on the horizontal boom of hammerhead tower cranes shall be protected against falling by guardrails or by a personal fall arrest system in conformance with Subpart M, Fall Protection.

CRAWLER, LOCOMOTIVE, AND TRUCK CRANES

Remember all jibs must have positive stops to prevent their movement of more than 5° above the straight line of the jib and boom on conventional type crane booms. The use of cable type belly slings does not constitute compliance with this rule.

OVERHEAD AND GANTRY CRANES

Ensure the rated load of the crane is plainly marked on each side of the crane, each side of the hoist, or the load block; ensure the load marking is clearly legible from the ground or floor.
Except for floor-operated cranes, a gong or other effective audible warning signal shall be provided for each crane equipped with a power traveling mechanism.
MATERIAL HOISTS, PERSONNEL HOISTS

Each employee in a hoist area shall be protected from falling 6 feet or more by guardrail systems or personal fall arrest systems. If guardrail systems (or chain gate or guardrail) or portions thereof must be removed to facilitate hoisting operations, that employee must be protected by a personal fall arrest system.

All rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms.

- In hoisting ropes, if six random broken wires are noticed in one rope lay or three broken wires in one strand in one rope lay; the wire rope shall be removed from service.
- If abrasion, scrubbing, flattening, or peening has compromised the outside wires; the wire rope shall be removed from service.
- If evidence of any heat damage resulting from a torch or any damage caused by contact with electrical wires is identified; the wire rope shall be removed from service.

Hoisting ropes shall be installed in accordance with the manufacturer’s specifications.

- The installation of live booms on hoists is prohibited.
- The use of endless belt-type manlifts on construction shall be prohibited.

MATERIAL HOISTS

Operating rules shall be established and posted at the operator's station of the hoist.

Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the statement "No Riders Allowed."

- No person shall be allowed to ride on material hoists except for the purposes of inspection and maintenance.
- Car arresting devices shall be installed to function in case of rope failure.
- All material hoists shall conform to the requirements of ANSI A10.5-1969, Safety Requirements for Material Hoists.

PERSONNEL HOISTS

- Hoist towers outside the structure shall be enclosed for the full height on the side or sides used for entrance and exit to the structure.
- Towers inside of structures shall be enclosed on all four sides throughout the full height.
Hoist doors or gates shall be not less than 6 feet 6 inches high and shall be provided with mechanical locks which cannot be operated from the landing side, and shall be accessible only to persons on the car.

Overhead protective covering of 2-inch planking, ¾-inch plywood or other solid material or equivalent strength shall be provided on the top of every personnel hoist.

Doors or gates shall be provided with electric contacts which do not allow movement of the hoist when door or gate is open.

Cars shall be provided with a capacity and data plate secured in a conspicuous place on the car or crosshead.

An emergency stop switch shall be provided in the car and marked "Stop."

OVERHEAD HOISTS - §1926.554

The safe working load of the overhead hoist, as determined by the manufacturer, shall be indicated on the hoist, and this safe working load shall not be exceeded.

The supporting structure to which the hoist is attached shall have a safe working load equal to that of the hoist.

The support shall be arranged so as to provide for free movement of the hoist and shall not restrict the hoist from lining itself up with the load.

The hoist shall be installed only in locations that will permit the operator to stand clear of the load at all times.

Air hoists shall be connected to an air supply of sufficient capacity and pressure to safely operate the hoist.

All air hoses supplying air shall be positively connected to prevent their becoming disconnected during use.

All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.

SLING SAFETY

SAFE LIFTING PRACTICES - §1910.184

Once the sling has been selected based on the load requirements and inspected prior to use, there are four primary factors to take into consideration when safely lifting a load.

They are:

1. The size, weight, and center of gravity of the load;
2. The number of legs and the angle the sling makes with the horizontal line;
3. The rated capacity of the sling; and
4. The history of the care and usage of the sling.
Inspections

At the beginning of each work day all slings, lifting fasteners, and attachments shall be inspected for damage or defects by a competent person designated by ASU’s Department of Environmental Health & Safety.

- Damaged or defective slings shall be immediately removed from service.
- Before making a lift, check to be certain that the sling is properly secured around the load and that the weight and balance of the load have been accurately determined.
- Keep all personnel clear while the load is being raised, moved, or lowered.
- Crane or hoist operators shall watch the load at all times when it is in motion.

REMEMBER THE FOLLOWING

- Never allow more than one person to control a lift or give signals to a crane or hoist operator; except to warn of a hazardous situation.
- Never raise the load more than necessary.
- Never leave the load suspended in the air.
- Never work under a suspended load or allow anyone else to.

<table>
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</table>

For more information on ASU’s Cranes, Hoists, & Slings requirements, please contact the EH&S Department by dialing 480-965-1823 or EHS@asu.edu.
WHAT IS THE ERGONOMICS MANAGEMENT PROGRAM AT ASU?

APPLICABLE REGULATIONS:

➢ 1970 OSHA Act; Section 5(a)(1), General Duties Clause.

The General Duty Clause, as it applies to ASU employees, describes the employer's obligation to furnish to each employee a place of work that is free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees, (29 USC 654). This clause from the OSH Act is utilized to cite serious hazards where no specific OSHA standard exists to address the hazard, as is the case with ergonomic stressors.

HOW CAN I GET A WORKSTATION EVALUATION?

Evaluations are conducted by a Health/Safety Officer with Environmental Health & Safety. Employees who are experiencing significant discomfort or have filed a Workers’ Compensation claim may bypass the software training and to expedite their evaluation request. Direct requests for personal evaluations to Environmental Health & Safety at (480) 965-1823 or ehs@asu.edu.

HOW DO I ACCESS ERGOSMART AND OTHER TRAINING RESOURCES AVAILABLE AT ASU?

Environmental Health & Safety provides a free software-based training program, ErgoSmart http://www.asu.edu/uagc/EHS/ErgoSmart/index.htm, for helping employees improve their
awareness of office ergonomics including workstation design and proper posture, or the neutral position. The program also includes guided stretching exercises and a questionnaire for performing an office workstation evaluation. ErgoSmart is available to all ASU employees.

WHERE TO FIND ASU APPROVED FURNITURE?

Are you in need of a chair or keyboard tray? Set up an appointment to visit the contract furnishings showroom located in the University Services Building at 1551 S. Rural. This is a chance to try seating and view furniture systems. The showroom provides samples of furniture that are designed to promote comfort while providing efficient and productive layouts.

For questions about the showroom location, and other furniture relocated questions please contact the ASU Purchasing Furniture Group, and Liz Chandler at 965-0578 (http://uabf.asu.edu/furnishing_services).

If your department requires further information regarding the ASU Ergonomics Program, please contact the EH&S Department for further information at, 480-965-1823 or EHS@asu.edu.
INDOOR AIR QUALITY

INDOOR AIR QUALITY MANAGEMENT AT ASU

APPLICABLE REGULATIONS:

- American Society of Heating, Refrigeration, and Air Conditioning Engineering (ASHRAE) 62-1989

INDOOR AIR QUALITY MANAGEMENT PROGRAM

As Facilities Manager your job requires the undertaking of construction & remodeling activities. Below you will find the ASU Indoor Air Quality Management Program requirements.

GUIDANCE DOCUMENT

When performing or coordinating construction or remodeling activities, be aware of what activities will impact occupant indoor air quality and follow these common sense guidelines to minimize indoor air quality complaints.

INITIAL PLANNING

- Identify how contaminants may spread through the building. Contaminants move from high pressure areas to low pressure areas via conduits, such as HVAC returns, HVAC system intakes, open doors, utility chases, wall penetrations, elevator shafts, etc.
- Identify how building occupants may be affected by the spread of contaminants.
- Identify available control options, such as containing the work area with sheets of polyethylene plastic, modifying HVAC operation, reducing emissions, intensifying housekeeping, rescheduling work hours, moving occupants, defining re-occupancy criteria.
- Design specific control measures into the project to keep dusts, odors and hazardous volatile substances out of occupied areas (consult SMACNA guidelines for details).
ISOLATE MAJOR CONSTRUCTION AREAS

• Construction areas in occupied buildings must be isolated from adjacent non-construction areas using temporary walls, plastic sheeting, or other vapor retarding barriers.
• Construction areas must be maintained at a negative air pressure to surrounding non-construction areas.
• Re-circulating air ducts must be temporarily capped and sealed (appropriate filters may be used if nuisance particulates are the only contaminant of concern).

PROTECT THE VENTILATION SYSTEM FROM DUST AND MOISTURE

• Do not operate supply air systems without filters in place (minimum 60% efficiency for a 3Fm particle).
• Building materials subject to degradation from ambient environmental exposure must be protected or replaced if damaged.
• Duct-work and air handling equipment must be stored in a clean, dry location prior to installation and openings must be securely covered to prevent entry of dust, moisture, general construction debris/dirt and vermin.
• Utilize the air handling units (AHUs) to "flush" the building to reduce off-gassing of interior furnishings and finishes at least 48 hours prior to occupancy. Fully open outside air intakes and fit AHUs with temporary filters during this period. Replace filters after system flushing.

NOTIFY OCCUPANTS

• Prior to the commencement of work, notify potentially affected building occupants (through the construction project manager and building monitor) with a brief description of the planned work, expected dates and times, and precautions taken to protect air quality. Advanced notice of construction or renovation should be given so employees may take necessary actions in anticipation of the work.

ONGOING MANAGEMENT

• After work has begun, monitor and enforce plan specifications for keeping dusts, odors, and hazardous volatile substances out of occupied areas.
• Provide periodic progressive updates to building occupants through the construction project manager and building monitor.
REQUEST FOR ASBESTOS SERVICES

- Asbestos Review for Flooring/Window Covering/Suspect Paint is required before placing an order with ASU Stores
- University building occupants who suspect that an office, laboratory, or classroom may have an indoor air quality problem must submit to Environmental Health & Safety a completed Indoor Air Quality Questionnaire.

If your department requires further information regarding the ASU Indoor Air Quality Program, please contact the EH&S Department for further information by dialing 480-965-1823 or EHS@asu.edu.
WHAT IS PERSONAL PROTECTIVE EQUIPMENT?

APPLICABLE REGULATIONS:

- 29 CFR 1910.132; Personal Protective Equipment (PPE).

- The Personal Protective Equipment (PPE) requirements at ASU were developed to protect the employee from hazards that exist in the work environment. University supplied PPE meets the requirements for protection from work hazards, including physical hazards, chemical hazards, radiological hazards, or mechanical irritants.

- Personal Protective Equipment combined with administrative and engineering controls are intended to prevent injury or impairment to the function of any part of the body through absorption, inhalation or physical contact.

The intent of ASU’s Personal Protective Equipment requirements are to provide supervisors with guidelines for managing a safe work environment through the use of Personal Protective Equipment.

DESIGN

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

HAZARD ASSESSMENT

- The supervisor shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE).

- PPE Hazard Analysis forms may be downloaded from EH&S Forms and Required Permits web page.

EQUIPMENT SELECTION

- Select and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;

- Select PPE that properly fits each affected employee.
ASU EYE AND HEAD PROTECTION

- Supervisors are responsible for ensuring proper eye protection is used in all areas where there is the potential for eye exposure to compressed air, chemicals, welding, torching, and cutting, or any operation that may pose eye injury hazards.
- Eye protection is required in all chemical storage areas and areas in which hot work is conducted.
- Employees may voluntarily wear eye protection during any operation or activity.
- Hardhats are not required in all areas, hardhats should be worn in all areas where there is a potential of falling objects, impact against fixed objects, or exposed electrical conductors.
- Protective headgear must meet the most current ANSI Standard Z89.1-1986 (Protective Headgear for Industrial Workers) or provide an equivalent level of protection.
- Safety glasses and hardhats should be inspected daily to ensure they are not in need of replacement (not cracked, lenses have clear visibility).

FOOT PROTECTION

- Supervisors shall ensure approved foot protection is worn for employees who are exposed to potential foot injury.
- Shoes are required to be closed toe, closed heel and closed side. Heels cannot be more than 2 inches in height, measured from the top of the heel.
- Steel-toed boots are preferred but are not required.
- Supervisors shall ensure employees conducting hot work activities wear high boots fully laced; and use fire-resistant boot protectors or spats.
- Foot protection should be inspected on a daily basis before use.

HAND PROTECTION

- Chemical resistant gloves will be worn when handling or managing chemicals.
- Gloves will also be worn while handling hazardous or toxic chemicals that can be absorbed through the skin.
- Latex or equivalent gloves will be worn by anyone administering first aid.
- All gloves, chemical resistant, hot work or latex, should be inspected on a daily basis prior to use.

PROTECTIVE CLOTHING

- A high visible vest or suitable shirt shall be worn at all time to reduce the potential for accidental injury from a collision accident.
- Employees who conduct hot work activities should wear clothing made from heavyweight, tightly woven, 100% wool or cotton.

HEARING PROTECTION

- Hearing protection and devices such as earmuffs or earplugs may be necessary to maintain employee exposure to noise below OSHA’s permissible exposure limits.
- Hearing protection is required in areas and activities where the noise level is 84 dBA or greater.
• Noise abatement will be attempted in any area that exceeds 80 dBA.
• Departments may request a noise evaluation by contacting EH&S.
• Any employee using hearing protection devices must comply with the ASU Hearing Conservation Program.

RESPIRATORS

• All processes should be evaluated at each work area to determine respirator necessity.
• EH&S can help you determine the necessity for respirator use by evaluating your individual circumstances.
• Employees may request an evaluation by contacting EH&S or your department’s safety committee.
• Respiratory protection users must comply with the ASU Respiratory Protection Plan and includes compliance related to all types of respirators and dust masks.
• Respirator equipment will be provided at no cost to employees by the specific department.

If your department requires further information regarding the ASU Personal Protective Equipment (PPE) requirements, please contact the EH&S Department by dialing, 480-965-1823 or EHS@asu.edu.
THE ASU HEARING CONSERVATION PROGRAM

APPLICABLE REGULATIONS:

- 29 CFR §1910.95; Occupational Noise Exposure.

The ASU Hearing Conservation Program is intended to provide proper personal protective and safety control devices for employee’s exposed to occupational noise; conserve employee hearing ability; and prevent occupational hearing loss. The purpose of this program is to establish procedures that ensure that all ASU employees are protected from noise exposure through engineering controls, PPE, and occupation noise hazard elimination.

This program shall apply to all Arizona State University (ASU) employees whose noise exposures equals or exceeds an 8-hour time weighted average (TWA) sound level of 85 decibels (dB), otherwise known as the action level, while performing their work activities. These employees must be enrolled into the ASU hearing conservation program.

HEARING PROTECTION

The primary means of reducing or eliminating personnel exposure to hazardous noise is through the application of engineering controls.

- Engineering controls are defined as any modification or replacement of equipment, or related physical change at the noise source or along the transmission path that reduces the noise level at the employee's ear.
- Administrative controls are defined as changes in the work schedule or operations which reduce noise exposure.

If engineered solutions cannot reduce the noise, then administrative controls such as increasing the distance between the noise source and the worker or rotation of jobs between workers in the high noise area should be used if possible.
The use of engineering and administrative controls should reduce noise exposure to the point where the hazard to hearing is eliminated or at least more manageable.

Hearing protective devices (ear plugs, muffs, etc.) shall be the permanent solution only when engineering or administrative controls are considered to be infeasible or cost prohibitive.

Hearing protective devices are defined as any device that can be worn to reduce the level of sound entering the ear.

The Occupational Safety & Health Administration (OSHA) requires ASU to comply with the following:

- Monitor facilities and employees to determine noise overexposure situations,
- Develop and implement a written hearing conservation program that identifies the methods used to comply with regulatory requirements,
- Implement an audiometric testing program for employees with high noise exposures to determine if exposure impacts hearing ability,
- Provide appropriate hearing protection to employees with high noise exposures if other methods of noise control are not feasible or during installation of such controls,
- Provide annual training for employees with high noise exposures, and
- Maintain medical and monitoring records pertaining to the hearing conservation program.

To meet these requirements, Arizona State University has established the Hearing Conservation Program.

For access to the ASU Hearing Conservation Program electronic document please select the hyperlink above.

**PROGRAM ADMINISTRATOR** – Environmental, Health and Safety (EH&S)

The Program Administrator is responsible for administering the Hearing Conservation Program and has the authority to make decisions and implement changes, as necessary. A Program Administrator must be designated by each department or unit with employees exposed to noise hazards.

**SUPERVISORS** – Department Dean, Chair, Director, or designee

Supervisors are responsible for ensuring that the Hearing Conservation Program is implemented in their particular areas.
• Supervisors shall also be knowledgeable in the Hearing Conservation Program requirements for their own protection from noise exposure.
• Supervisors shall ensure that the program is understood and followed by the employees under their charge.
• Supervisors will maintain surveillance of work conditions in all places where employees for whom they are directly responsible work, as well as employee exposures and stress, in order to determine if any additions to, or changes in, hearing protection use requirements are needed.
• The Supervisor shall promptly notify employees of changes whenever they are needed.

**AS A SUPERVISOR YOUR DUTIES INCLUDE:**

• Ensure that employees under their supervision (including new hires) have received appropriate training and medical surveillance;
• Determine appropriate type(s) of hearing-protective devices necessary to protect employees' hearing;
• Ensure the availability of appropriate hearing-protective devices;
• Monitor and enforce the use of hearing protective devices when required and ensure those only properly trained and medically evaluated employees use the devices;
• Continually monitor work areas and operations to identify noise hazards; and
• Coordinate with the Program Administrator on how to address hearing hazards or other concerns regarding the program.

**For employees exposed to TWA noise exposures at or over 85 decibels (dBA):**

• Use safe work practices;
• Wear and maintain appropriate hearing protective devices as instructed while performing job functions;
• Attend annual training on noise and hearing protection;
• Participate in annual audiometric testing;
• Use only those brands/types of hearing protection devices which are appropriate for the noise exposure, and for which the employees have been trained and fitted;
• Report to their supervisor changes in the workplace or “noisy” conditions; and
• Comply with all provisions of the Hearing Conservation Program.

**For employees with episodic exposure to high noise and whose TWA noise levels are below 85 decibels dBA:**

• Wear and maintain hearing protective devices as instructed; and
• Report to their supervisor any changing conditions that may impact personal noise exposures.
QUICK REFERENCE TO THE ASU HEARING CONSERVATION PROGRAM:

- Monitoring Requirements ........................................................................................................................................ See Pg 4
- Medical Surveillance/Audiometric Testing Requirements .................................................................................. See Pg 6
- Types of Hearing Protective Devices .................................................................................................................. See Pg 7
- Training Requirements .......................................................................................................................................... See Pg 9
- Appendix A: Definitions ......................................................................................................................................... See Pg 11
- Appendix B: OSHA Noise Exposure Standard .................................................................................................. See Pg 13
- Appendix C: Sound Level Survey ........................................................................................................................ See Attached

If your department requires the use of hearing protection including ear plugs, ear muffs, etc., please contact the EH&S Department for further information by dialing 480-965-1823 or EHS@asu.edu.
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<td>Department:</td>
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### General Information

#### Screening Information

- Employee Name(s):
- Job Title(s):

- Activity/Noise Source:

- Time of Exposure (daily):

### Duration of Monitoring & Reading Levels

- In the hearing zone:
- Next to the noise source(s):
- At the entrance to the work area:
- At other locations where the employee may be working:

Rough sketch of where readings were obtained:
EAR PLUGS

Roll the plug into a very thin crease free cylinder

Pull the ear outward and upward during insertion

Insert the plug well into the ear canal and hold it there while it begins to expand

Ear canal entrance

Concha   Tragus

Incorrect

Correct

The outer edge of the plug should be flush with or slightly inside the Tragus

WHAT IS THE RESPIRATORY PROTECTION PROGRAM AT ASU?

APPLICABLE REGULATIONS:

➢ 29 CFR §1910.134; Respiratory Protection.

The ASU Respiratory Protection Program was developed to prevent employee exposures to hazardous airborne contaminants. The purpose of this program is to establish procedures that ensure that all ASU employees are protected from exposure to identified respiratory hazards.

The ASU Respiratory Protection program applies to all ASU employees who are or may be required to wear respirators during routine work operations, and non-routine, or emergency operations. In addition, requirements for voluntary use of respiratory protection for ASU employees are identified within the program.

PROGRAM ADMINISTRATOR – Environmental, Health and Safety (EH&S)

The EH&S Director or designee is the Program Administrator and responsible for administering the respiratory protection program and has the authority to make decisions and implement changes, as necessary.

SUPERVISORS – Department Dean, Chair, Director, or designee

Each Department Head Official or designee is responsible for ensuring the respiratory protection program is implemented for their respirator program participants.

Duties include:

• Ensure department specific standard operating procedures (SOPs) are developed and approved by the Program Administrator;
• Ensure the availability of respirators and accessories identified in department SOPs;
• Ensure employees under their supervision (including new hires) have received appropriate medical evaluations, training, and fit testing;
• Supervisor or designee attend respirator training and ensure program requirements are met;
• Be aware of tasks requiring hazard evaluation and the use of respiratory protection and ensure SOPs related to respirator use are being followed;
• Monitor and enforce proper use of respiratory protection;
• Ensure that respirators are properly cleaned, maintained, and stored as identified in department SOPs;
• Ensure respirators fit employee well and do not cause discomfort;
• Notify employees of respiratory protection changes whenever they are needed;
• Coordinate with the Program Administrator to address respiratory hazards or other concerns regarding this program; and
• Determine appropriate discipline for employees who fail to observe any portion of the ASU Respiratory Protection Program

ASU’s Respiratory Protection Program requires supervisor be trained and knowledgeable on 7 specific standard operating procedures (SOP).

They are:

(1) Selection of Respirators;
(2) Medical Evaluations;
(3) Fit Testing;
(4) Respirator Use;
(5) Maintenance and Care;
(6) Training; and
(7) Record keeping.

Each of the SOP’s for the ASU Respiratory Protection Program can be found within the ASU Respiratory Protection Program.pdf.

Additionally Supervisors are required to implement, maintain and ensure the success of ASU Respiratory Protection Program.

✓ Supervisors should be familiar with the ASU Respiratory Protection program and their specific respiratory protection device(s).
✓ Supervisors must attend training and fit testing prior to initially using a respirator as required by department SOPs.
✓ Supervisors are responsible for the use, care, and maintenance of the respirators in their department.
✓ Supervisors shall ensure respirators are stored as per their training and department SOP.
✓ When informed an employee respirator no longer fits well or is damaged or compromised, it is the Supervisors responsibility to ensure a new respirator is available.
✓ Supervisors are instruct employees on how to complete Medical Evaluation Questionnaires and participate in hazard evaluation as required prior to initial use of the respiratory protection device.
✓ Supervisors are to address employee concerns regarding unsafe working conditions immediately. Request the employee stop working until the concern is address and resolved.

Example of N-95 Filtering Facepiece Respirator  Example of typical Half Mask Respirator

If your department requires the use of respirators including dust masks and you are not currently participating in the ASU Respiratory Protection Program, please contact the EH&S Department by dialing, 480-965-1823 or EHS@asu.edu.
ASBESTOS MANAGEMENT AT ASU

APPLICABLE REGULATIONS:

- 29 CFR §1910.1001; Toxic and Hazardous Substances; Asbestos.

Many of ASU University’s buildings constructed prior to 1985 contain asbestos, including floor tiles, mastics, HVAC duct tape, pipe insulation, roofing, spray-applied ceiling textures, ceiling tiles and drywall taping compounds; therefore asbestos management is a major concern. The current ASU asbestos policy is to manage asbestos containing materials in place.

Management in-place means that asbestos containing materials are disturbed or removed only when necessary. Typically this is prior to building renovations or demolitions, when the material could be disturbed or when the material becomes damaged.

Federal, state and county agencies regulate asbestos-related activities at ASU. Only state-approved asbestos contractors and consultants are utilized for asbestos-related work. ASU’s Asbestos Management Program was developed jointly by Environmental Health and Safety (EH&S) and the Capital Programs Management Group (CPMG).

The major components of the program are:

- **Training**- Training is required for Employees who may contact or disturb building materials suspected of containing asbestos and employees whose duties require entry to the ASU tunnel system. EH&S offers a 2-Hour Asbestos Awareness Training class. For class information and registration logon using your ASUrite user name and password then search for Asbestos Awareness.

- **Inspections of buildings or areas to be renovated**- All asbestos containing materials (ACM) are identified prior to demolition, renovation or other activities that may cause disturbance to these materials. Building surveys that include material sampling and analysis are performed in accordance with EPA and OSHA requirements.
• **Hazard evaluations**- Known asbestos containing materials are periodically inspected for any changes in condition. If materials are found to have become damaged, the materials are repaired or removed.

• **Air monitoring**- Periodic air monitoring is conducted in the ASU Utility Tunnel system and in buildings which are known to contain friable asbestos-containing materials (fireproofing, sprayed-on ceilings, ceiling tiles, etc.). Air monitoring is also conducted for ASU personnel whose work duties require them to enter the tunnel system.

• **Asbestos abatement or repair**- Asbestos abatement is the removal, repair, encapsulation, enclosure, or clean-up of asbestos containing material. Abatement is performed in academic and non-academic buildings and utility tunnel systems to assist departments with planned renovation or maintenance activity and to ensure compliance with federal, state and local regulations. Unplanned emergency abatement is performed to remove asbestos materials from mechanical equipment to allow critical repairs to be performed, or clean up an area contaminated by asbestos when a building system suddenly fails (e.g. roof leaks, steam system failures).

**ASU Building Permit**

• Construction may not begin without a Building Permit Application.
• If this Asbestos Service Request results in proceeding with your project (estimate, work order, p-card purchase, etc.), an ASU Building Permit Application is required by CPMG Building Construction Support Services for Plan Review.
• The Building Permit Application is located at [http://uabf.asu.edu/us_forms](http://uabf.asu.edu/us_forms).
• After plan review, subsequent plan review issues addressed and asbestos and/or lead clearance received, Building Construction Support Services will issue and Building Permit.

**For Asbestos Questions:** Contact: [Dave Jaggers](mailto:Dave.Jaggers@asu.edu), Asbestos and Environmental Safety Specialist

**To Report Possible Exposure:** Please select the Employee and Non-employee hyperlink.

[Current Tempe Campus Asbestos Inventory](#)

If your department requires further information regarding the ASU Asbestos Management Program, please contact the EH&S Department for further information by dialing, 480-965-1823 or [EHS@asu.edu](mailto:EHS@asu.edu).
REQUEST FOR ASBESTOS SERVICES

UNIVERSITY SERVICES

CAPITAL PROGRAMS MANAGEMENT GROUP

To: Pam Walrath (480) 965-7739 / office (480) 965-7535 / fax (602) 818-6575 / cell phone

Date of Request: _______________ Requestor: ____________________________________________

Department: ___________________________ Phone No: _________________________________

Request For: (circle)

REMOVAL / REPAIR / ENCAPSULATION / TESTING / EVALUATION

OTHER: ______________________________________

Location of ACM

BUILDING: _______________ (or) TUNNEL: ___________________________________________

ROOM NO: ___________ ENTRANCE: _____________________________________________

SPECIFIC LOCATION: _______________ STATION MARKER: _______________________

Condition of Material: (circle) Good / Damaged / Deteriorated

Type of Material

THERMAL SYSTEM INSULATION (TSI) SURFACING OR MISC. MATERIAL (check)

_____ L.F. of pipe
_____ Floor tile
_____ Sheet flooring
_____ L.F. of joint/elbow
_____ Wall

Qty. Surf/Misc.: __________________________________________

Line type: HW / CHW / STEAM / COND

Painted green (circle): Yes No
Line active (circle): Yes No
Line pressure (circle): High Med Low
Line size: ___________________ Line Temperature: ________________________________

Date by which work must be completed: ____________________________________________
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REQFORASBESTOSSVCS2.DOC - REV. 2006-09-12