

### 1. Rationale

KSU is committed to providing and maintaining a safe teaching, learning, living, and working environment for all members of its community. The university environment is unique in that it entails a variety of operations and activities, some of which involve working with hazardous materials and hazardous equipment, and may sometimes require employees and students to work outside of normal hours of operation. In accordance with the KSU Chemical Hygiene and Safety Plan and other established guidance documents, **it is strongly recommended that students and employees do not work alone**, but employ the “buddy system (at least one other person present)” when working with hazardous materials and/or equipment. However, it may not always be feasible to employ the “buddy system,” or to complete work during normal hours of operation. Therefore, it is imperative that when these circumstances arise, a framework is in place that will minimize all potential risks of injury, fatality, and/or catastrophic property damage. In accordance with the KSU Procedure for Working Alone, this framework must serve as the minimum best practices for situations where working alone is not avoidable. Colleges, safety committees, individual faculty, or supervisors may choose to implement procedures that are more restrictive. In this event, the more restrictive procedure shall take precedence.

### 2. Purpose

The intent of this document is to provide guidance on the requirements for working alone safely to individuals who may not be able to avoid it, or avoid working outside of normal hours of operation.

### 3. Scope

This guidance document is applicable to all trained KSU employees and students who may occasionally need to work alone or outside of normal hours of operation in the following areas:

- Laboratories (e.g. – chemical, biological, physics, laser, etc.)
- Outdoor or Non-Standard Work Areas (e.g. – bodies of water, wooded areas, parking lots, etc.)
- Academic shops (e.g. – engineering, electrical engineering, woodworking, welding, robotics, machine, etc.)
- Studios (e.g. – art, dance, theatre, etc.)
- Competition Teams (e.g. – motorsports, watersports, drones, pumpkin launch, etc.)
- Student commons areas (e.g. – student activity centers, shops, etc.)
- Non-laboratory or shop areas (e.g. – offices, classrooms, computer labs, storage areas, etc.)

**Note: This guidance document does not make accommodations for untrained employees and students, visitors, friends, spouses, children, or other family members.**

## 4. Situations that Create Increased Risk

Working alone can increase the risks associated with certain workplace activities due to the lack of supervision during these activities, and because assistance is not available in emergency situations. The following are some situations that can involve increased risk for a person who is working alone:

- Working with hazardous materials (e.g. – hazardous chemicals, biological hazards, etc.)
- Working with hazardous equipment (e.g. – lasers, sharp objects, power tools, high-powered machines, etc.)
- Working in areas where hazardous operations are ongoing (e.g. – experiments in progress, automated machine procedures, etc.)
- During late night/early am hours when one is not alert
- Field work in wooded areas or near rivers/lakes
- Working in any potentially hazardous situation without an established and approved work plan or standard operating procedure
- Working anywhere on campus outside of normal business hours without having informed another person(s) (e.g. – slips and falls, medical emergencies, etc.)

## 5. Control Methods and Measures

As stated in the KSU Chemical Hygiene and Safety Plan, working alone is strongly discouraged and should be avoided, especially when working with hazardous materials and/or hazardous equipment. **Under some circumstances, it may be prudent to prohibit working alone, which should be determined on a case-by-case basis by individual colleges/departments within KSU, or by individual faculty/supervisors.** Excluding these extreme circumstances, exceptions can be made in the event that working alone cannot be avoided. However, several measures must be taken in order to ensure that the risk associated with working alone is minimized. These measures must be implemented at the college and/or department level, as the measures that need to be taken will vary.

### a. Hazard Assessments

Hazard assessments must be completed for all procedures that involve working with hazardous materials and/or hazardous equipment. This applies to all work that involves hazards; however, in the case of an individual working alone, a separate hazard assessment should be conducted that takes this into consideration. It is important to assess all of the hazards at every step in a process, and to determine the inherent risk of the procedure (based on the severity of the hazard and the probability of the occurrence of adverse effects or events). There are a number of factors that need to be considered in the hazard assessment. These considerations include (but may not be limited to) the following:

- The length of time the individual will be working alone:
  - What is the anticipated time the individual will be alone?

- Does a time limit need to be set?
- How long is too long?
- The hazards associated with the work:
  - Will chemicals be used (e.g. – corrosive, flammable, toxic, etc.)? What are they? Has the worker used the chemical(s) before? Have the SDSs been made available?
  - Will the work involve hazardous equipment? Power tools? High energy? Is everything in good working order?
  - Will heavy lifting or strenuous activity be involved?
  - Will climbing ladders or working at heights be involved?
  - Will there be potential exposure to extreme temperatures (e.g. – working with cryogenics, molten metal, heat guns, torches, etc.)
- Where the work will take place:
  - Is the work being done in a laboratory? Studio? Shop? Outdoors? Other location?
  - Is the work area in a high traffic area, or is it in an isolated area (little traffic)?
  - Are there any environmental concerns (e.g. – excessive heat or cold, water, dangerous wildlife, etc.)?
- The individual who will be working alone:
  - Is the individual a faculty member, staff member, or student?
  - If the individual is a student, has s/he been trained and authorized to work alone?
  - Does he/she have any medical conditions or physical handicaps?
  - What is their training background and/or work habits?

Since the hazard assessment will be based on individuals possibly working alone, other special considerations will need to be made, and should be made on a case-by-case basis depending on the type of work being done. These special considerations should also be documented in the standard operating procedures for the work.

## **b. Standard Operating Procedures (SOPs)**

SOPs must be developed for all work that involves hazardous materials and/or hazardous equipment. The SOPs should be as detailed as possible, but easy to understand, and must include specific information on the hazards associated with the work, safe work practices, personal protective equipment needed for the work, emergency contacts, emergency procedures, and other information as appropriate.

The SOPs should be made readily available to all personnel who will be participating in the work. Any special considerations for those who may need to work alone will need to be addressed. Lastly, faculty, supervisors, employees, and students must review and sign in agreement to follow the SOPs.

### **c. Training**

Prior to starting the work, all employees and students must be trained on the basic safety measures for the work area and on the specific SOPs for the work taking place. It is also strongly recommended that all students and employees be trained on emergency procedures.

### **d. Communication**

When someone is working alone, open communication is of extreme importance. It is strongly recommended that the following considerations be made:

- At least one other person is in the vicinity of the area where someone will be working alone.
- If this is not possible, then at least one other person (e.g. – supervisor, classmate/coworker, spouse, friend, etc.) needs to be informed of the student’s/employee’s activities, where the activities are taking place, and the anticipated length of time they will be conducting those activities.
- As an added precaution, particularly during non-standard work hours, inform KSU Police/Public Safety of the planned activities and the location.
- A “check-in” plan should be implemented, meaning for every hour someone is working alone, he/she and the informed individual make contact to confirm that everything is fine.
- As an option, consider using the LiveSafe App, which can be downloaded for both Apple and Android devices.
  - The SafeWalk function can be used to have someone track the employee’s whereabouts on campus in real time.
  - The Emergency options can be used to contact KSUPD via phone or text.
- In the event of an emergency, the worker must know to dial **470-578-6666** to reach KSU Police.
- In addition, it is important for the worker to be able to communicate his/her specific location when requesting assistance [i.e. – campus, building name (street address, if possible), room number, suite, etc.).

Methods of communication can include cellular phones, land lines, two-way radios, or any other electronic form of communication. It is recommended that at least two types of communication are available in case one fails to work (e.g. – dead battery, loss of signal, etc.).

### **e. Security**

At KSU, the majority of work areas are secured electronically and can only be entered via key card access. Although it is not guaranteed to prevent unauthorized entry, this key card entry system may greatly reduce the amount of untrained/unauthorized individuals from entering an area through the employment of restrictive permits after-hours or in areas where the greatest hazards are. In order for the system to be effective, individuals who violate the security measures put in place (e.g. – letting unauthorized/untrained individuals in, preventing doors from closing to allow entry, using someone else’s access card, etc.) must be held accountable. Individual colleges/departments have the latitude to address these issues as appropriate.

## f. Emergency Procedures

When individuals will be working alone, their response to an emergency may be very different from a normal response. These individuals will need to know how to respond in the event that there is an emergency. This training should include (not limited to) the following:

- What to do when there is a fire:
  - Know where the nearest fire extinguisher is located.
  - Know whether to use the fire extinguisher (i.e. – small, manageable fire, etc.), or immediately exit the building (i.e. – not manageable, spreading quickly, etc.)
  - Know where the nearest fire alarm pull station is located.
  - When in doubt, evacuate the building immediately.

***Note: Only individuals who have been trained to use fire extinguishers should do so, and only if it is determined that it can be done without additional risk.***

- What to do when there is an injury or accident:
  - Call to the nearest person for help.
  - If alone, contact someone immediately using a phone, radio, or other device.
  - Know where the nearest first-aid kit is located for self-administration of first aid.
  - Know how to activate emergency eyewash stations or emergency showers when needed.
  - If it is an emergency situation or medical attention is needed, contact KSU Police at **470-578-6666**.
- Evacuating the building:
  - Remember the exit plan for the building/floor.
  - Know when it is necessary to evacuate.
  - If it is possible to evacuate, get out via the nearest exit.
  - Get a safe distance away from the building once evacuated (e.g. – fire drill meeting area).

As with any accident, injury, or emergency situation, the individual involved must report the incident to their immediate supervisor and complete an incident report. The report must be sent to Environmental Health and Safety for follow-up.

## **Appendix A: Potential Hazards**

### **Campus Activities that Present Potential Hazards**

KSU has a number of work processes, operations, and activities that could potentially result in accidents, personal injury, or damage to property. The hazards from these situations are only amplified without proper training and properly implemented control measures. The following are examples of these work processes, operations, and activities:

- Working with hazardous chemicals (e.g. – flammable, corrosive, toxic, carcinogenic, etc.)
- Working with biohazards and/or infectious agents
- Working with compressed gases or equipment under high pressure
- Working with lasers, other forms of non-ionizing radiation, or ionizing radiation
- Working with cryogenic materials
- Working with sharp objects
- Working with power tools or heavy machinery
- Welding, hot work, or other similar operations that produce extreme heat
- Working with electricity and/or high energy
- Working with extremely hot or extremely cold materials
- Working on elevated surfaces
- Fieldwork (e.g. – working around bodies of water, wildlife, wild caught specimens, etc.)
- Working in remote or isolated areas
- Working in extreme weather conditions (e.g. – heat, cold, snow, ice, lightning, etc.)

### **Potential Hazards by College**

Each college at KSU has potential hazards that are specific to the college or department, but may also be common among other colleges/departments. The following examples are not an exhaustive list, but include many of the hazards that may be found within each college or department.

#### College of Science and Math

- Hazardous chemicals (e.g. – flammables, corrosives, toxic materials, carcinogens etc.)
- Poisons/pesticides
- Compressed gases and/or materials under pressure
- Cryogenic materials
- High energy, explosives, etc.
- Biohazards or infectious agents
- Live specimens
- Radioactive materials, machine produced radiation, etc.
- Lasers, UV light, etc.
- Electrical/high energy hazards

- Open flames (e.g. – torches, Bunsen burners, alcohol lamps, etc.)
- Heat producing equipment and tools (e.g. – ovens, hot plates, etc.)
- Sharp objects
- Strong magnetic fields
- Extreme weather conditions
- Fieldwork (e.g. – working around bodies of water, wildlife, wild caught specimens, etc.)
- Working in remote or isolated areas

#### College of Health and Human Services

- Hazardous chemicals (e.g. – flammables, corrosives, toxic materials, carcinogens etc.)
- Compressed gases and/or materials under pressure
- Biohazards or infectious agents
- Radioactive materials, machine produced radiation, etc.
- Electrical/high energy hazards
- Sharp objects

#### College of the Arts

- UV Light (welding)
- Open flames/sparks
- Hazardous chemicals (e.g. -flammables, corrosives, toxic materials, carcinogens, etc.)
- Molten metal
- High temperatures
- Compressed gases
- Inhalation hazards (e.g. – spray paint, smoke, sawdust, etc.)
- Working from elevated surfaces
- Electrical hazards
- Power tools (portable and stationary)

#### College of Architecture and Construction Management

- Power tools (portable and stationary)
- Electrical hazards
- Sharp objects (e.g. - saw blades, knives, etc.)
- Inhalation hazards (e.g. – smoke, fumes, dust, etc.)
- Pinching or crushing from heavy objects or levers/pinch points
- Heat producing tools and materials (e.g. – heat guns, torches, glue guns, etc.)

#### College of Engineering

- Power tools (portable and stationary)
- UV Light (welding)
- Heavy machinery
- Radiation Sources
- Electrical hazards
- High temperatures
- Hazardous chemicals (e.g. - flammables, corrosives, toxic materials, carcinogens, etc.)
- Compressed gases
- Sharp objects
- Inhalation hazards (e.g. - fumes, vapors, dusts, etc.)

#### Department of Athletics

- Working from elevated surfaces
- Extreme temperatures (heat and cold)
- Heavy weights
- Exercise equipment (e.g. - moving parts, pinch points, etc.)
- Strenuous activities

#### Culinary/Food Services

- Extremely hot temperatures (e.g. - ovens, hot oil, boiling water, etc.)
- Extremely cold temperatures (e.g. - freezers, cryogenic materials, etc.)
- Sharp objects
- Natural gas