UNIVERSITY OF NORTH CAROLINA CHARLOTTE | ENVIRONMENTAL HEALTH & SAFETY

Working Alone with Hazardous Materials or Equipment Procedure

Purpose

The University of North Carolina at Charlotte is committed to providing a safe and healthy working, teaching and learning environment for faculty, staff and students required to work alone. This procedure provides safety requirements for working alone in laboratories, shops, studios, or other work areas where hazardous materials, equipment, or conditions are present.

Scope

This procedure applies to all work with highly hazardous materials and hazardous equipment in research laboratories, shops, studios or other work areas as part of your UNC Charlotte job duties.

Responsibilities

Department Management (Dean, Chair, Principal Investigator, Supervisor, Instructors): Supply appropriate equipment, training and authorize workers to work alone with hazardous materials or equipment.

Employees, Graduate Students, Postdocs: Complete safety training, adhere to safety requirements and obtain authorization from your supervisor prior to working alone.

Undergraduate Students: Complete safety training, adhere to safety requirements and receive approval from your supervisor prior to working alone (See Appendix).

Volunteers: Researchers who are not affiliated with the university will have their corresponding credentials taken into consideration for the purpose of this guideline.

Definitions

Buddy System: A “buddy system” establishes regular, routine checks on personnel working alone, such as every 15 – 30 minutes, to ensure no accidents have occurred. This could be accomplished by physically walking to the room where the lab worker is located. A system of visual checks ensures there are no problems and/or determines if help is needed.

Hazardous Equipment: Hazardous equipment includes any electrically, pneumatic, hydraulic powered machinery (drill press, lathe, abrasive wheel grinders, band saws, etc.) and high pressure equipment.

Hazardous Materials: Hazardous materials include, but are not limited to, chemicals that are pyrophoric, water reactive, explosive, large volumes of highly flammable materials, acutely toxic, peroxide forming, strong corrosives, strong oxidizing agents, regulated carcinogens, biological materials listed as select agents or toxins, and radioactive materials.

High Risk: This means work that places an employee/researcher at a substantially increased risk of physical harm, uses potentially dangerous machinery, or exposes the employee to a hazardous location or materials in the laboratory setting.

Working Alone: This means an employee performing tasks without direct supervision or assistance, or where they cannot be seen or heard by another person, essentially working in isolation and where immediate help is not readily available, often in a remote location or confined space; requiring employers to regularly account for these employees/researcher through sight or verbal communication to ensure their safety.

Working Alone Prohibited

Working alone is prohibited under the following circumstances:

- Work with highly hazardous materials (e.g., select agents or toxins, nitric acid, chlorine, ammonium nitrate, potentially explosive substances, etc.) at or above threshold quantity
- Work involving high pressure gases, vapors, or equipment (high pressure chemical reactions, opening tanks containing high pressure gases, heavy materials crane lifts, etc.)
- Work involving the transfer of large quantities [>10 liters] of hazardous materials
- Work involving exposed energized electrical components (bare wiring, terminal contacts, breakers) above 50 volts
- Work involving entering permit required confined spaces (manholes, tanks, silos, pits)
- Work involving high elevated heights (scaffolds, towers, aerial lifts)
- Use of supplied air respiratory equipment or self-contained breathing apparatus
- Risk of drowning
- Minors under the age of 18

Special Requirements

Working alone, especially after hours, can be unsafe and should be avoided whenever possible. When working alone cannot be avoided, appropriate risk assessments must be conducted to ensure a safe work environment. All available means to protect workers in the event of an emergency situation, including check-in systems, communication devices, and emergency procedures should be included in the assessment. Undergraduate students have additional safety requirements as listed below:

Undergraduate Students Special Requirements

UNC Charlotte's undergraduate students must avoid working alone with hazardous materials or equipment, as defined in this document. The Working Alone Permission Form (See Appendix) must be completed to approve undergraduate students working alone in the following situations:

- After-hours work in laboratories, shops, studios, or other work areas where hazardous materials, equipment, or conditions are present.
- Starting a new high-risk experiment, modifying a high-risk experiment and experiments with unknown or uncertain outcomes.
- Use of substances with significant eye injury, inhalation or absorption hazards that may exceed acceptable exposure limits as outlined in the Safety Data Sheet (SDS).

Best Practices

The department or college has the responsibility to ensure a safe work environment. A few considerations are outlined below:

- Assess whether working alone is appropriate for a given task.
- Communicating this procedure to workers, especially undergraduate students.
- Ensuring the Working Alone Permission Form is completed approving an undergraduate to work alone.
- Periodically assessing work tasks to determine hazards and methods for reducing risk.

Appendix

WORKING ALONE PERMISSION FORM ELECTRONIC VERSION

UNIVERSITY OF NORTH CAROLINA CHARLOTTE | ENVIRONMENTAL HEALTH & SAFETY

WORKING ALONE PERMISSION FORM PAPER VERSION

This form must be completed by the supervisor, manager or instructor if an **undergraduate student (s)** needs to work alone in the following situations:

- After-hours work in laboratories, shops, studios, or other work areas where hazardous materials, equipment, or conditions are present.
- Starting a new high-risk experiment, modifying a high-risk experiment and experiments with unknown or uncertain outcomes.
- Use of substances with significant eye injury, inhalation or absorption hazards that may exceed acceptable exposure limits as outlined in the Safety Data Sheet (SDS).

1. APPLICANT

Name		Department	

2. ACTIVITY AND LOCATION

Job Task Description			
Building Name		Room #	
Begin Date		End Date	
Hours Allowed Access		Check-in Method	

3. APPLICANT SIGNATURE

I verify that all applicants listed on this form have completed applicable Environmental Health & Safety training. In addition, they have received training in the proper emergency procedures from their supervisor, manager, or instructor for the work I am authorizing them to perform.

APPLICANT SIGNATURE: _____DATE: _____

4. SUPERVISOR APPROVAL SIGNATURE

I authorize all applicants on this form to work alone in the designated work location:

SUPERVISOR (PRINT NAME) : _____ DATE: _____

SUPERVISOR (SIGNATURE) : _____