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## Working Alone Policy

### REVISION

Rev No.	DCN No.	Change Summary	Release Date	DCN Initiator	Document Owner
16	DCN2958	Updating appendix room numbers	10-4-23	P. LaFountain	K. Rydberg

Prior revision history, if applicable, is available from the Document Control Office.

## 1. PURPOSE

- 1.1.1 The purpose of this document is to establish the requirements for working alone on the Albany NanoTech Complex (ANC). Generally, it is prudent to avoid working alone in the cleanrooms, laboratories, or when performing high risk operations.
- 1.1.2 To ensure that the hazards of the chemicals, gases, processes and equipment used are evaluated; that the information concerning their hazards are clearly identified and conveyed to those who work with or around these chemicals, gases, processes and equipment; and to determine whether such a person can work alone.
- 1.1.3 To ensure that all employees and students understand the requirements of this policy prior to entering their work area.

## 2. SCOPE

- 2.1.1 This policy shall apply to all employees, tenant employees, students and interns, temporary employees, visiting researchers, contractors, subcontractors, and anyone working in the laboratories, regardless of affiliation.
- 2.1.2 This program applies to all areas or job functions performed at this facility which involve, are adjacent to, or could produce, a recognized hazard capable of overcoming or immediately incapacitating a person to the point where they are unable to directly control the hazard or summon help.

## 3. EXCEPTIONS

- 3.1 This procedure does not address response to emergency situations by Emergency Response Technicians (ERTs) or outside emergency responding agencies. These are covered in detail in **EHS-00024 – Fire Response and Building Emergency Evacuation Plan**, and **EHS-00019 – ERT Organization SOP**.
- 3.2 This procedure does not address Facility Operations Group's (FOG) shift rounds that occur throughout the 24-hour period. Any rounds performed in an off-shift may be completed alone provided the other shift members are aware rounds are occurring.
- 3.3 This procedure does not address one person passing through or traversing through the hazardous activity areas (Section 5) so long as work is not performed alone and someone else in that person's team or unit is aware they are making the path.

## 4. HOURS OF OPERATION

- 4.1 ANC is a 24-hour operation; therefore, hours of operation have been established as 12:00 am – 12:00 am Monday through Sunday. Normal working hours are from 7:00 am – 5:00 pm Monday through Friday.
- 4.2 Students have access to the NFS / NFE common areas, student study areas and student computer labs on a 24/7 basis. All other buildings (NFX, NFN, CESTM, etc.) are accessible to students from 6:00 am – 9:00 pm Monday through Sunday.

## 5. RESPONSIBILITIES

- 5.1 It is the responsibility of each Supervisor, Department Manager, or Professor to ensure their employees and students are aware of this policy; and to know when and under what circumstances this policy applies.
- 5.2 It is the responsibility of all laboratory users to inform others in the area regarding the extremely hazardous activities that they will be performing and to obtain a buddy, when necessary.

## 6. ACTIVITIES

- 6.1 **Non-Hazardous Activities:** Activities or areas where the risks are not significantly increased. The risks of these activities are comparable to everyday living situations. **These tasks can be accomplished alone.**
- 6.2 **Hazardous Activities:** Activities or areas which present the potential for significant, although not life-threatening or incapacitating injury or illness. **Most of these activities or processes can be accomplished alone but it is preferred that others within the department assist or are aware they are occurring.**
- 6.3 **Extremely Hazardous Activities or Locations:** Activities or locations which present the potential of imminent danger to life and/or incapacitating injury or illness. **These activities and locations require the use of the “Buddy System”.**
- 6.4 **Guidance for Evaluating Hazard Level:** The following table is intended to provide guidance for evaluating the hazard level of a particular area or activity. The manager, supervisor or principal investigator needs to evaluate procedures or processes and determine the appropriate risk level. EHS can assist in this evaluation. This list is not intended to contain all potential scenarios which may occur.

<b>Laboratories:</b>			
<b>Risk Level →</b>	<b>Non-hazardous:</b>	<b>Hazardous:</b>	<b>Extremely Hazardous:</b>
Area	<ul style="list-style-type: none"> <li>• Offices</li> <li>• Classroom/ Lecture Hall</li> <li>• Public Areas</li> <li>• Metrology or other labs with no chemicals in use</li> </ul>	<ul style="list-style-type: none"> <li>• Research Labs in CESTM and NFE</li> <li>• Metrology Labs with chemical use</li> </ul>	<ul style="list-style-type: none"> <li>• Research Labs in CESTM and NFE when extremely hazardous activities are conducted</li> </ul>
Activity	<ul style="list-style-type: none"> <li>• Desk Work</li> <li>• Computer Work</li> <li>• Metrology/ Microscope Work</li> </ul>	<ul style="list-style-type: none"> <li>• Work with chemicals with NFPA rating of 2 or less</li> <li>• Work with hazardous Waste</li> <li>• Work with Biosafety Level 1 or 2 (BSL1, BSL2) materials</li> </ul>	<ul style="list-style-type: none"> <li>• Work with highly corrosive, flammable, or toxic material with NFPA ratings of 3 or more – dependent upon amount and concentration</li> <li>• Experiments involving any amount or concentration of: hydrofluoric acid (HF), tetramethyl ammonium hydroxide, pyrophorics or water reactives which generate flammable or noxious gas</li> <li>• Pouring or refilling cryogenic materials</li> <li>• Work with class 3B or 4 lasers, open beam</li> </ul>

<b>Cleanrooms, Subfabs, FOG Spaces, HPM, CUB, Gas Yard, Interstitial Spaces</b>			
<b>Risk Level →</b>	<b>Non-hazardous:</b>	<b>Hazardous:</b>	<b>Extremely Hazardous:</b>
Area	<ul style="list-style-type: none"> <li>• Offices</li> <li>• Classroom/ Lecture Hall</li> <li>• Public Areas</li> </ul>	<ul style="list-style-type: none"> <li>• CESTM Labs</li> <li>• All cleanrooms, including sub-fabs and mechanical areas</li> <li>• Hazardous waste storage sheds</li> <li>• Chemical Shipping/Rec.</li> <li>• Traversing for Shift Rounds</li> </ul>	<ul style="list-style-type: none"> <li>• HPM Corridor</li> <li>• Chemical Mix Rooms</li> <li>• Central Utility Building</li> <li>• HPM Building(s)</li> <li>• Bulk storage areas (gas or liquid)</li> <li>• Any area where extremely hazardous activities occur</li> </ul>
Activity	<ul style="list-style-type: none"> <li>• Desk Work</li> <li>• Computer Work</li> <li>• Metrology/ Microscope Work</li> </ul>	<ul style="list-style-type: none"> <li>• Work on enclosed systems</li> <li>• Work in water treatment, DI or acid waste neutralization</li> <li>• Handling/transport of chemicals with NFPA hazard rating of 2 or less</li> <li>• Handling/transport of hazardous waste</li> <li>• Bottle or drum washing</li> <li>• Activities requiring air purifying respirators.</li> <li>• Testing of electrical circuits, 30-480 volts</li> <li>• Work on high vacuum or high-pressure systems</li> <li>• Use of forklifts or material handling/lifting</li> </ul>	<ul style="list-style-type: none"> <li>• Live electrical work, 480V or greater</li> <li>• Work with highly corrosive, flammable, or toxic chemicals and gases with NFPA rating of 3 or more</li> <li>• Activities requiring an air supply or SCBA respirator</li> <li>• Replacing/disconnecting valve manifold boxes (VMB)</li> <li>• Entry into a permit required confined space</li> <li>• Hot work operations</li> <li>• Refilling or pouring cryogenic materials</li> <li>• Use of cranes</li> <li>• Work involving moving parts without full LOTO</li> <li>• Any task with the potential for off gassing of a hazardous materials (tool maintenance or cleaning)</li> </ul>

## 7. WORK SYSTEMS

### 7.1 Extremely Hazardous Work - Buddy System

7.1.1 The Buddy System consists of the employee performing work being constantly within sight or sound of another individual, the “buddy”. The “buddy” must be able/trained to react appropriately to the hazard(s) involved and call Security in the case of an emergency.

7.1.2 The purpose of the Buddy System is to provide rapid assistance to employees in the event of an emergency.

7.1.3 An individual cannot work on an extremely hazardous activity or in an extremely hazardous location unless the employee uses the Buddy System. Additionally, ERTs must be available to provide emergency response. Affected employees and responsible supervisors must ensure that the “buddy” understands their responsibilities. Permits applicable to extremely hazardous (e.g., hot work or non-routine work permit) must be completed and approved prior to initiating the work. The permit shall identify the employees/students performing the work and appropriate procedures, protective equipment, and emergency response procedures/equipment.

7.1.4 Additionally, the work needs to be planned and communicated appropriately so that there is adequate time and coverage available at the time of work.

### 7.2 Hazardous Work

Whenever possible, hazardous work shall be done in areas where other employees are present. If this is not feasible (e.g., transporting materials by forklift between buildings), the employee shall have a means of communication such as a phone, or radio for summoning assistance. Additionally, the employee’s supervisor or other team members shall periodically check on the employee to verify their well-being.

## **8. SPECIAL CONDITIONS**

### **8.1 Continuous Operations**

Operations involving hazardous substances are sometimes carried out continuously or overnight with no one present regardless of physical location. These experiments/processes shall be designed to prevent: the release of hazardous substances during normal and upset conditions, such as utility interruptions (loss of electricity, cooling water, and inert gas).

- It is the responsibility of the worker to receive approval from the cleanroom/laboratory operations team prior to conducting such an operation.
- Whenever unattended, lights should be left on, and signs should be posted identifying the nature of the experiment/process, the hazardous substances in use and how to contact the responsible individual.
- If appropriate, arrangements should be made for other workers to periodically inspect the operation.

## **9. TRAINING**

The Supervisor, Department Manager, or Professor shall review the requirements of this policy with the employee, student, intern, as well as contract and subcontract employees.

## **10. COMPLIANCE**

If the policies described in this document are violated, the general and/or lab access that was provided will be revoked and the individual must be retrained on Safety Orientation (if the general access policy is violated) and Laboratory Safety (if the lab access policy is violated).

## **11. APPENDICES**

### **11.1 Appendix A - Safety Procedures for Working in the NFX Air Return Chase**

## APPENDIX A

### SAFETY PROCEDURES FOR WORKING IN THE NFX AIR RETURN CHASE

#### 1. PURPOSE AND SCOPE

This appendix establishes safety procedures for employees working in the NFX Air Return Chase ([room 246](#), [247](#), [248](#), and [249](#)) to perform cleaning activities due to the area's characteristics:

- Large enough to completely enter;
- Not designed for normal occupancy;
- Descending/ascending a ladder to enter/exit the space;
- Must duck under cross beams to access areas to perform job;
- 3-foot clearance in the central area that requires cleaning.

#### 2. AREA REQUIREMENTS

These safety items are required in case power should go out in this work area and emergency egress is required.

##### 2.1 Reflective Tape on Cross Beams

2.2 Cross beams and surfaces under which employees must duck to access cleaning areas are lined with reflective tape as a bump warning and to help facilitate egress during emergencies.

2.3 **Emergency Lights** are tied into generator power in case of power outage.



### **3. SAFETY RESPONSIBILITIES**

#### **3.1 Cleanroom Janitorial Staff**

- 3.1.1 Never enter this area alone. Use buddy system whenever working. Buddies should stay within line of sight of each other at all times.
- 3.1.2 Employees should carry a mobile phone (that has reception in the work area) or other communication device whenever entering the area to provide a method of emergency communication.
- 3.1.3 Notify Security whenever entering and leaving this area by leaving your cell phone number and the number of your buddy in their logbook at the Security Desk in NFE Rotunda. Security will call your cellphone in the event of an emergency or evacuation. In the cases where the individual does not have a cell phone or the cell phone does not get reception in that area, Security will issue a radio for the duration of the task.
- 3.1.4 Before entering area to work, post a sign on the door "Employees working inside." Remove this sign once work is completed and employees have exited the space.
- 3.1.5 Employees working in this area should carry a portable emergency light source (e.g., flashlight attached to vacuum setup or head lamp on hard hat/cap) which would be used for emergency egress only.
- 3.1.6 Wear a hard hat and safety glasses when working in this area.

#### **3.2 Management Responsibility**

Enforcing the requirements of this document.

#### **3.3 Emergency Response Team Responsibility**

During a building evacuation, perform sweeps of this area. Sweepers must go to floor level to be able to completely see all work areas.