

***NEW MEXICO HIGHLANDS UNIVERSITY***  
**Standard Operating Guidelines**



**Environmental Health and Safety  
Department**

**Adoption: 2018**

**Review 1: January 30, 2020**



## IN CASE OF EMERGENCY

### Emergency Response

#### Emergency (Fire, Law Enforcement, EMS)

911

When reporting an emergency, provide the following:

- Your Name and Phone Number
- Exact location of the incident (example- Ivan Hilton Rm. 237)
- Details of the emergency (what happened, equipment involved, chemicals involved, etc.)
- # of people involved
- Stay on the phone with the 911 Dispatcher until first responders arrive

### Internal (NMHU) Resources

NMHU Police/Security Dispatch	505-454-3278
NMHU University Safety Officer (EHS Director)	505- 426-2059
Facilities Department	505-454-3260
Public Information Officer /University Relations	505-454-3387
Vice President of Finance and Administration	505-454-3272
Information Technology Services	505-454-3496
Dean of Students	505-454-3020
Office of the President	505-454-3269

### External Resources

New Mexico State Police	505-425-6771
NM State Police Hazardous Materials Bureau	505-476-9620
Las Vegas City Police	505-425-7504
Las Vegas Fire Department	505-425-6321
Las Vegas/San Miguel County Emergency Management	505-425-6190
Alta Vista Regional Hospital	505-426-3500
New Mexico Poison Control	1-800-222-1222
CHEMTREC (Emergency Chemical Response Information)	1-800-424-9300



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## 1.0 DEFINITIONS

- **Assembly Points:** a location designated as the place for a group to meet or for people to gather during an emergency.
- **EHS:** Environmental Health and Safety Department. The Department responsible for all safety and fire related aspects at New Mexico Highlands University.
- **Emergency Action Plan (EAP):** Emergency Action Plans describe the actions employees should take to ensure their safety during an emergency situation.
- **Emergency Evacuation Floor Plan:** An individual map depicting escape routes for users of individual facilities on campus.
- **Emergency:** An emergency is a situation that poses an immediate risk to health, life, property, or the environment.
- **Job Hazard Analysis (JHA):** The Job Hazard Analysis is a form used to document elevated work activities. The JHA provides recommendations for safe actions, including required Personal Protective Equipment (PPE) and mitigation measures.
- **Occupancy:** Within the context of building construction and building codes, "occupancy" refers to the use, or intended use, of a building, or portion of a building.
- **Personal Protective Equipment (PPE):** PPE provides protection to employees operating specific equipment or machinery. PPE requirements are established by supervisors in coordination with the EHS Department. Individual Chemical Handling and Storage Plans or Facility Safety Plans will identify specific PPE required to protect employees at individual facilities.
- **Safety Data Sheets (SDS):** An SDS (formerly known as MSDS) includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical.
- **Shelter-in-Place:** The term related to protection measures which means selecting an interior room or rooms within a facility, or ones with no or few windows, and taking refuge there. In many cases, local authorities will issue advice to shelter-in-place via TV or radio.
- **Situational Awareness:** An on-going process of gathering information by observation and by communication with others. This information is integrated to create an individual's perception of a given situation.
- **University Safety Officer:** The designated Environmental Health and Safety employee who functions as the lead safety officer for New Mexico Highlands University. This individual must maintain a nationally recognized certification as a Safety Officer in the fields of: fire suppression, hazardous materials and/or emergency management.



## 2.0 REGULATORY ENTITIES

The following information outlines the regulatory authority by agencies specific to health, safety and fire codes, standards and/or policies.

- Occupational Health and Safety Administration (OSHA): In 1970, Congress created the Occupational Safety and Health Administration (OSHA) to assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA Standards apply to most activities occurring at NMHU.
- New Mexico Environment Department: The New Mexico Environment Department has statutory oversight for several activities occurring at NMHU.
  - Occupational Health & Safety Bureau: is responsible for the enforcement of occupational safety and health standards. Compliance officers inspect workplaces for hazardous conditions and issue citations where violations of occupational safety and health standards are found. Inspections may be the result of regular scheduling, imminent danger reports, fatalities, and worker complaints or referrals.
  - Solid Waste Bureau: Regulatory oversight and permitting of the Recycling Center.
  - Environmental Health Bureau: Regulatory oversight and permitting of the Natatorium.
  - Radiation Safety Bureau: Regulatory oversight and permitting of any radiation producing devices on campus.
- New Mexico State Fire Marshal: The Code Enforcement Bureau of the New Mexico State Fire Marshal provides for the life safety of occupants in buildings, structures and facilities, the prevention of fire and the reduction of property losses due to fires. The International Code Council (ICC) and National Fire Protection Association (NFPA) provides fire codes, some of which have been adopted by the State Fire Marshal Office (SFMO) to assure standardization of life safety concerns. The two primary codes adopted are the ICC International Fire Code 2003 for new construction and NFPA Fire Prevention Code –1 and the 1997 Life Safety Code – 101 for existing facilities. Other NFPA codes are referenced as needed.

### 2.1 Code Establishing Entities

- National Fire Protection Association: The National Fire Protection Association (NFPA) is a global nonprofit organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The NFPA mission is to help save lives and reduce loss with information, knowledge and passion. The NFPA maintains more than 300 consensus codes and standards, many of which apply to activities and/or facilities at NMHU.
- International Code Council (ICC): The International Code Council is a member-focused association. It is dedicated to developing model codes and standards used in the design, build and compliance process to construct safe, sustainable, affordable and resilient structures.



### **3.0 OPERATING STANDARDS**

The purpose of *Environmental Health and Safety (EHS) Department Standard Operating Guidelines* is to provide guidance to the Environmental Health and Safety Department personnel on safety standards and requirements for effective and safe procedures at New Mexico Highlands University (NMHU). In addition, the standard operating guidelines will provide guidance and assign responsibility for all administrators, deans, department heads, faculty, staff and students as it relates to health, safety and fire safety requirements and standards.

#### **3.1 Responsibilities**

The Environmental Health and Safety Department (EHS) is responsible for the coordination, implementation and inspection of safety related aspects at New Mexico Highlands University. The EHS Department provides multiple functions to the campus; however, their primary responsibility is to implement health and safety practices for the university and inspect and maintain the fire suppression systems on campus.

#### **3.2 EHS Unit Goals**

- Ensure compliance with the National Fire Protection Association and NM State Fire Marshal Codes/Requirements.
- Facilitate OSHA requirements for labs, studios and other hazardous working environments.
- Identify campus hazards and provide for adequate and reasonable mitigation.
- Provide effective and safe fire suppression systems to facilitate fire department and first responder response.
- Work cooperatively with first responders to develop field-training exercises at campus facilities.
- Identify and improve outdated fire alarm technology.
- Implement new safety training strategies to reach a broader audience.
- Provide consistent and reliable focal point monitoring of fire suppression systems.

#### **3.3 Primary Duties of the EHS Department**

Implement Health and Safety Guidelines to increase awareness and safety practices among staff, faculty, students, and visitors.

- Practice extensive fire suppression inspections and maintenance of such systems.
- Provide first responder roles and capabilities for emergencies on campus.
- Increase situational awareness by providing training and scenario exercises.
- Ensure OSHA Hazard Communication Standards are maintained and practiced per industry standards.
- Provide Chemical Handling and Storage Plans or Safety Plans for elevated-risk facilities.
- Conduct accident investigations and provide mitigation measures to reduce future occurrences.
- Function as the Loss Control Prevention Coordinator.
- Conduct Job Hazard Analysis (JHA) for requested job related activities.
- Post required safety signage at each facility on campus.



### 3.3.1 EHS Department Right-to-Enter

The EHS Department, its employees, contractors, agents and/or work-study employees have the right-to-enter the following areas to conduct fire safety inspections, maintenance of fire suppression systems, safety audits, and/or other life safety activities as outlined by the regulatory entities identified in *Section 2*.

- Laboratories
- Studios
- Offices, excluding faculty offices, unless responsible faculty is present
- Classrooms, conference rooms, meeting rooms, athletic facilities, cooking areas, auditoriums, and/or assemblies.
- Any room at a residential hall and/or apartment
- Workshops or equipment shops
- Chemical storage or handling facilities
- Chemical storage rooms
- Elevated Risk activities/facilities

### 3.4 NMHU Safety Concepts

- Every employee of the university has the responsibility to prioritize the health and safety of individuals to facilitate a safe and healthy campus environment.
- First-line or first-level supervisors have the primary responsibility to provide and maintain a safe environment for daily work activities.
- Individuals or contractors working with university equipment or at university facilities are required to follow safe and proper safety guidelines.
- It is essential that all accidents (regardless of severity) are reported to the NMHU Safety Officer as soon as safely possible.
- Follow the “Stop or Cease Work Concept” during accidents or other hazardous conditions.
- Individuals should immediately notify first-level supervisors of unsafe conditions or practices.
- Understand and follow standard operating guidelines and/or safety plans for elevated-risk activities or facilities.

#### 3.4.1 Safety Responsibilities for Deans & Department Heads

Deans and department heads have the responsibility to maintain a safe and healthy work environment for their specific jurisdiction. They should also monitor and control their assigned areas to ensure that safety standards are prioritized. It is essential that, deans and department heads implement the following designated safety-related procedures:

- Assist in identifying areas, facilities, and equipment that present a health or safety hazard.
- Ensure that assigned personnel utilize safety plans, chemical handling plans and/or other industry safety standards.
- Ensure assigned personnel utilize the necessary safety equipment and protective devices recommended by industry standards.
- Make the appropriate effort to observe and comply with all health and safety regulations.
- Ensure personnel seek immediate medical help for all injuries requiring medical attention.
- Support the EHS Department in reviewing accidents in order to develop mitigation measures and to reduce similar accidents.
- Notify the University Safety Officer immediately upon notification of an accident and/or incident.
- Require all employees to take required safety courses/classes outlined by the EHS Department.



- Solicit recommendations from employees that will contribute to the constant improvement and establishment of a hazard-free and healthy work environment.
- Promptly notify the EHS Department when circumstances exist that could cause an accident.
- Ensure all supervisory personnel are informed of their responsibilities to ensure that new employees are properly trained for the task to be performed prior to the initiation of new job duties.

#### 3.4.2 *Safety Responsibilities for Supervisors*

Supervisors have the **ultimate responsibility** for ensuring their assigned employees follow established safety standards. In addition, they are also responsible for training, or coordinating training, for their assigned employees prior to a specific job being performed. Facilities and equipment under their supervision are to be monitored and maintained in a safe and effective condition. Additional responsibilities of supervisors include:

- Instruct new employees, or prior to new hazardous activities, on all safety standards/practices related to their specific job duties.
- Conduct safety briefings (tailgate safety briefings) at the beginning of new projects and/or the introduction of new equipment and/or practices; and to document the training through an approved EHS Department training form. –*See Appendix C*
- Report unsafe conditions, equipment, and practices to the EHS Department as soon as possible.
- Create a safety first atmosphere. Encourage employees to monitor for and report unsafe conditions immediately.
- Encourage recommendations from employees to improve the safety and efficiency of the department.
- Provide personnel with needed safety equipment, devices, and PPE, and demonstrate their proper use prior to operation of equipment or performance of hazardous tasks.
- Enforce the use of personal protective equipment.
- Maintain good housekeeping in all work areas.
- Control unsafe practices and actions of employees such as running, horse playing, smoking in prohibited areas, operating machinery without safeguards, etc.
- Investigate accidents and incidents promptly, and complete necessary forms to fully document such occurrences.
- Notify the University Safety Officer immediately upon notification of an accident and/or incident.
- Make every effort to seek prompt medical treatment for employees who are injured, including notifying NMHU Campus Police and/or 911.
- Notify the department head of any employee who may be physically or emotionally incapable of performing duties in a safe manner.



### 3.4.3 *Safety Responsibilities for Faculty, Teaching/Graduate Assistants or Lab/Studio Managers*

Every faculty member, teaching/graduate assistant, or lab/studio manager are responsible for ensuring that students and staff under their supervision receive the appropriate safety information related to the activities being performed. These responsibilities include, but are not limited to:

- Instruct new employees on all safety standards/practices related to their specific job duties.
- Conduct safety briefings (tailgate safety briefings) at the beginning of new projects and/or the introduction of new equipment and/or practices; and to document the training through an approved EHS Department training form.
- Demonstrate the proper use of manual or powered equipment.
- Require students/staff to use personal protective equipment and clothing. Ensure personal protection equipment is maintained in a functional manner.
- Inspect instructional areas and/or labs/studios frequently for identification and mitigation of unsafe practices and conditions.
- Make every effort to seek prompt medical treatment for students/staff who are injured, including notifying NMHU Campus Police and/or 911.
- Notify their immediate supervisor and University Safety Officer immediately upon notification of an accident and/or incident.
- Submit recommendations for the improvement of the immediate academic environment to the appropriate supervisor, administrator, dean, or department head.

### 3.4.4 *Safety Responsibilities for Employees and Students*

University employees and students are subject to all campus health and safety guidelines and/or standards. Compliance is essential to the creation and maintenance of a healthy and safe campus environment. Responsibilities include:

- Understand and comply with university and departmental safety guidelines/instructions, whether written or oral, when performing assigned work duties.
- Use only tools and equipment approved or provided by the supervisor/instructor.
- Use appropriate safety equipment and guards, and work within established safety procedures.
- Wear the appropriate personal protective equipment when required to do so.
- Report unsafe conditions, practices, or equipment to the supervisor/instructor whenever such deficiencies are observed.
- Inform the supervisor/instructor immediately of all injuries or accidents.
- Make every effort to seek prompt medical treatment for individuals who are injured, including notifying NMHU Campus Police and/or 911.



#### *3.4.5 Safety Responsibilities for Contractors*

Contractors working for NMHU, under a formal procurement process, must adhere to the safety standards outlined in this operating guideline. The contractors, and their employees, are expected to follow OSHA standards for all activities performed on campus to include:

- Understand and comply with university and departmental safety guidelines/instructions, whether written or oral, when performing contractual work duties.
- Use only tools and equipment that meet specific industry standards for safe use.
- Follow and adhere to ladder safety as outlined by OSHA.
- Use appropriate safety equipment and guards, and work within established safety procedures.
- Wear the appropriate personal protective equipment when required to do so, to include hard hats when there are overhead hazards or when they are working 6 ft. above a walking surface.
- Report unsafe conditions, practices, or equipment to the supervisor whenever such deficiencies are observed.
- Notify the University Safety Officer immediately upon notification of an accident and/or incident. This contact can be made directly to the EHS Department or **NMHU Campus Police**.
- Make every effort to seek prompt medical treatment for individuals who are injured, to include notifying **NMHU Campus Police** and/or 911. At no time, should a contractor and/or their employee transport a severely injured employee in a private or company owned vehicle. If the accident occurs on NMHU property, then an ambulance or other designated emergency vehicle will be the only appropriate means of transportation for medical attention.



## 4.0 EMERGENCY RESPONSE

The EHS Department maintains emergency response responsibilities for the university and is considered first responders during emergency activities. The EHS Department may and/or will support NMHU Campus Police for any activity on campus that requires assistance.

In order for EHS personnel to be directly involved in emergency response activities, they must meet the minimum criteria: *All certifications must meet the training, experience and physical fitness requirements established by nationally recognized fire and/or emergency response entities.*

- Maintain a national or state certification as a Firefighter; and/or
- Maintain a national or state certification as a Safety Officer; and/or
- Maintain a state certification of an Emergency Medical Technician-Basic (or higher); and/or
- Maintain a state or national certification as a Hazardous Materials Technician; and/or
- Maintain a recognized FEMA certification in emergency response activities; and/or
- Maintain a state certification as a Law Enforcement Officer.

All training records and certifications will be maintained by the EHS Department and kept in the personnel file of each employee. Recertification standards will be maintained per the requirements of the certifying entity.

### 4.1 Emergency Vehicle Operations

EHS Department vehicles are equipped with emergency lights and sirens. In order to operate a moving vehicle in an emergency status, all personnel of EHS must meet the following minimum standards:

- Nationally recognized emergency response driver training:  
*Examples include, but are not limited to:*
  - Emergency Vehicle Driver Certification: IFSAC certified; and/or
  - Driving for the Fire Service: NWCG certified; and/or
  - EMS Certification: State recognized; and/or
  - Class E Driver's License: State of New Mexico; and/or
  - Law Enforcement Emergency Driving Certification: NM Law Enforcement Academy.

#### 4.1.1 Operating an Emergency Vehicle

Personnel of the EHS Department must meet the minimum criteria identified above to operate an emergency vehicle in the act of responding to an emergency. If an operator does not meet the minimum qualifications/certifications, they cannot operate a vehicle with emergency lights/siren while the vehicle is moving.

#### 4.1.2 Use of Emergency Warning Lights

Personnel (including work-study employees) of EHS are allowed to engage emergency lights to warn the general public of hazards if the vehicle is parked and not moving.



## 5.0 FIRE SUPPRESSION SYSTEMS

The EHS Department is responsible for the maintenance, inspection, and functionality of all fire suppression systems located on the main campus and at the Rio Rancho Center. This includes ensuring NFPA and IFC codes are adhered to and maintained in a manner acceptable to the NM State Fire Marshal. The Department is responsible for the management of the fire suppression systems to include overseeing the required monthly inspections for each facility to ensure functionality of the systems.

### 5.1 Overview of Fire Suppression Systems

The information below depicts the fire suppression systems maintained by the EHS Department.

- *Facilities/Buildings:* NMHU maintains 51 facilities/buildings located on the main campus and at the Rio Rancho Center. Not all facilities meet occupancy guidelines; however, they may maintain fire suppression systems.
- *Fire Extinguishers:* Over 700 fire extinguishers are located on campus, Rio Rancho and in NMHU vehicles.
- *Fire Sprinkler Systems:* Twenty-two (22) facilities maintain a fire sprinkler system (either wet and/or dry).
- *Fire Alarm Systems:* Over 30 fire alarm systems are currently maintained by the EHS Office.
- *Smoke, Photo, Heat or Carbon Monoxide Detectors:* Over 1,000 detectors are located throughout the main campus. Smoke, photo, heat and/or carbon monoxide detectors must be maintained in a functional manner that is acceptable to the NM State Fire Marshal.
- *Fire Pump:* NMHU maintains a fire pump for fire protection at Viles & Crimmin Residential Hall and the Student Union Building. The fire pump is intended to provide consistent water flow to the structure in the event of a fire.
- *Post Indicator Valves/Standpipe Systems:* Located at most facilities with fire sprinkler systems.
- *Emergency/Exit Lights:* Over 2,000 emergency and/or exit lights are located throughout campus. The EHS Department physically and visually inspects each system on a monthly basis.

### 5.2 Fire Drills/Evacuation Protocols

The EHS Office conducts evacuation protocol training and fire drills for all facilities on campus. A fire drill is intended to provide practical evacuation training for occupants to utilize during certain emergency incidents.

- Residential Halls must have one (1) fire drill per semester.
- All other occupancies: One (1) fire drill per calendar year.



### 5.3 Monthly Inspections

The EHS Department is responsible for conducting monthly walk-through and visual inspections of the items identified below. All fire suppression systems are inventoried and labeled to identify location and use.

- Emergency Lights
- Emergency Light Bars
- Fire Alarm Control Panels
- Sprinkler Risers
- Standpipe Systems
- Fire Exit Doors/Panic Hardware
- SDS Forms
- Evacuation Maps
- Fire Pump
- Exit Lights
- Fire Extinguishers
- Fire Department Elevator Keys
- Post Indicator Values
- Fire Hydrants
- Occupancy Signs
- Notification Signs
- Exit Routes

### 5.4 Required Tests/Inspections

Specific inspections are conducted by qualified and certified contractors as it relates to fire suppression systems. The information below depicts the testing/inspections required by NFPA, IFC and the NM State Fire Marshal.

Testing/Inspection	Occurrence
• Sprinkler Inspection	Quarterly/Annual/5 Year
• Swimming Pool-Electrical Safety	Annual
• Fire Pump Inspection	Annual
• Maintenance of Fire Pump Diesel Engine	Annual
• Fire Alarm Inspection	Annual
• Backflow Preventer Inspection	Quarterly/Annual
• Fire Extinguisher Inspections	Annual
• Standpipe Static Inspection	Annual
• Post Indicator Valve	Quarterly/Annual
• Elevator Hydraulic Testing	Annual
• Chemical Hood Cleaning	Quarterly
• Cooking Hood Fire Suppression System Inspections	Quarterly/Annual
• Cooking Hood Degreasing –Cleaning	Quarterly



## 6.0 POTENTIAL EMERGENCY INCIDENTS

It is essential that the university understands the potential emergency incidents that may impact the campus or community of Las Vegas. Providing training and scenario exercises will increase the situational awareness for all members thus, improving their ability to properly react to potential emergency incidents. Potential emergency incidents are identified below:

Natural	Technological	Human-Caused
<ul style="list-style-type: none"> <li>• Severe Local Storms</li> <li>• Hailstorms</li> <li>• Floods</li> <li>• Freezing</li> <li>• Wildfires</li> <li>• Droughts</li> <li>• Extreme Heat</li> <li>• Land Subsidence</li> <li>• Tornadoes</li> </ul>	<ul style="list-style-type: none"> <li>• Fire Hazards</li> <li>• Fire Sprinkler Ruptures</li> <li>• Energy Shortages</li> <li>• Utility Outages</li> <li>• Dam Failure</li> <li>• Transportation Accidents</li> </ul>	<ul style="list-style-type: none"> <li>• Fire</li> <li>• Active Shooter/Threat</li> <li>• Hazardous Materials Spills</li> <li>• Chemical Release</li> <li>• Civil Disorder</li> <li>• Terrorism</li> <li>• Workplace Violence</li> </ul>

### 6.1 Evacuation Protocols

In most cases of an emergency incident, the most appropriate method to ensure the safety of employees and students is to fully evacuate a facility. This is critical in cases of a fire, sprinkler rupture or in a land subsidence. There are times that shelter-in-place may be the most appropriate method to safely protect employees/students. Examples of shelter-in-place may include: active shooter/threat or tornados.

NMHU Campus Police and the Safety Officer will determine the most appropriate evacuation type and inform the impacted facilities through emergency text notification, PA systems, email alerts or other mass notification alerts. It is critical that employees know the best course of action for an emergency and train/practice throughout the year for certain emergency incidents. The EHS Department and NMHU Campus Police will provide training and practice activities for specific types of emergencies.

### 6.2 Temporary Evacuation Shelters

During the event of an extended building/facility evacuation, NMHU has established temporary evacuation shelters on campus. The temporary evacuation shelters are intended to provide relief from the weather or environmental conditions for the evacuees. The pre-identified temporary evacuation shelters include the following facilities/locations:

- Student Union Center – 1<sup>st</sup> floor Ballroom, or other spaces as needed.
- Sala de Madrid
- Stu Clark – 1<sup>st</sup> Floor Common Area
- Wilson Gymnasium
- Ifeld Auditorium
- Connor Hall

The determination to utilize a temporary evacuation shelter will be determined by NMHU Campus Police in coordination with the University Safety Officer. All impacted facility managers should be notified of the activity, including estimated time the temporary evacuation shelter will be utilized.



### 6.3 Emergency Action Plans

OSHA mandates, through 1910.38, that employers have either a written or oral emergency evacuation plan. The EHS Department is responsible for developing an emergency action plan for each facility on campus and provide training for the employees and available students. The information below briefly outlines the requirements of OSHA 1910.38.

- *Application.* An employer must have an emergency action plan whenever an OSHA standard requires one.
- *Written and oral emergency action plans.* An emergency action plan must be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.
- *Minimum elements of an emergency action plan.* An emergency action plan must include at a minimum:
  - Procedures for reporting a fire or other emergency;
  - Procedures for emergency evacuation, including type of evacuation and exit route assignments;
  - Procedures to be followed by employees who remain to operate critical operations before they evacuate;
  - Procedures to account for all employees after evacuation;
  - Procedures to be followed by employees performing rescue or medical duties;
  - The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.
- *Employee alarm system.* An employer must have and maintain an employee alarm system.
- *Training.* An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.
- *Review of emergency action plan.* An employer must review the emergency action plan with each employee covered by the plan:

### 6.4 Fire Prevention Plans

OSHA mandates, through 1910.39, that employers have either a written or oral fire prevention plan. The EHS Department is responsible for developing a fire prevention plan for each facility on campus and provide training for the employees and available students. The information below briefly outlines the requirements of OSHA 1910.39.

- *Application.* An employer must have a fire prevention plan when an OSHA standard in this part requires one. The requirements in this section apply to each such fire prevention plan.
- *Written and oral fire prevention plans.* A fire prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.
- *Minimum elements of a fire prevention plan.* A fire prevention plan must include:
  - A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard;
  - Procedures to control accumulations of flammable and combustible waste materials;
  - Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials;



- The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and
- The name or job title of employees responsible for the control of fuel source hazards.
- *Employee information.* An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also review with each employee those parts of the fire prevention plan necessary for self-protection.

### 6.5 Active Shooter/Threat

The threat of an active shooter/threat is a more common occurrence across the nation. NMHU Campus Police provide frequent training related to active shooter protection measures. The entire NMHU community should be very aware, plan for, and make appropriate decisions during an active shooter incident.

The information below outlines the ALICE strategy related to active shooters. Note: ALICE was adopted by NMHU Campus Police in 2019. Information depicted below was provided by the ALICE Training Institute.

- **ALERT:** ALERT is when you first become aware of a threat. The sooner you understand that you're in danger, the sooner you can save yourself. A speedy response is critical. Seconds count. Alert is overcoming denial, recognizing the signs of danger and receiving notifications about the danger from others. Alerts should be accepted, taken seriously, and should help you make survival decisions based on your circumstances
- **LOCKDOWN:** Barricade the room. Prepare to EVACUATE or COUNTER if needed. If EVACUATION is not a safe option, barricade entry points into your room in an effort to create a semi-secure starting point.
- **INFORM:** Communicate the violent intruder's location and direction in real time. The purpose of INFORM is to continue to communicate information in as real time as possible, if it is safe to do so. Armed intruder situations are unpredictable and evolve quickly, which means that ongoing, real time information is key to making effective survival decisions. Information should always be clear, direct and in plain language, not using codes. If the shooter is known to be in an isolated section of a building, occupants in other wards can safely evacuate while those in direct danger can perform enhanced lockdown and prepare to counter.
- **COUNTER:** Create Noise, Movement, Distance and Distraction with the intent of reducing the shooter's ability to shoot accurately. Counter is NOT fighting. ALICE Training does not believe that actively confronting a violent intruder is the best method for ensuring the safety of those involved. Counter is a strategy of last resort. Counter focuses on actions that create noise, movement, distance and distraction with the intent of reducing the shooter's ability to shoot accurately. Creating a dynamic environment decreases the shooter's chance of hitting a target and can provide the precious seconds needed in order to evacuate.
- **EVACUATE:** When safe to do so, remove yourself from the danger zone.



***How to respond when law enforcement arrives on the scene***

- Remain calm, and follow the officers' instructions
- Immediately raise hands and spread fingers
- Keep hands visible at all times
- Avoid making quick movements toward officers such as attempting to hold on to them for safety
- Avoid pointing, screaming and/or yelling
- Do not stop to ask officers for help or direction when evacuating, just proceed in the direction from which officers are entering the premises

***Information you should provide to law enforcement or 911 operator***

- Location of the victims and the active shooter/threat
- Number of shooters, if more than one
- Physical description of shooter(s)
- Number and type of weapons held by the shooter(s)
- Number of potential victims at the location

***Recognizing signs of potential workplace violence. An active shooter/threat may be a current or former employee.***

- Alert NMHU Campus Police if you believe an employee exhibits potentially violent behavior.
- Indicators of potentially violent behavior may include one or more of the following:
  - Increased use of alcohol and/or illegal drugs
  - Unexplained increase in absenteeism, and/or vague physical complaints
  - Depression/Withdrawal
  - Increased severe mood swings, and noticeably unstable or emotional responses
  - Increasingly talks of problems at home
  - Increase in unsolicited comments about violence, firearms, and other dangerous weapons and violent crimes

**6.6 Emergency/Fire Incident Log**

The EHS Department is responsible for preparing and maintaining an emergency/fire incident log for any incidents on campus. The Emergency/Fire Incident Log is located in *Appendix A*.



## 7.0 COMMON IGNITION SOURCES AND FIRE PREVENTION

Fire prevention starts with identifying fire hazards. All members of the university community - faculty, staff, students and visitors - have a personal obligation to be aware of fire hazards and to reduce or eliminate the risk of a fire on campus. All members of the university, including visitors, should use common sense and good judgement when using devices that produce heat or an ignition source. This includes cooking, candles, heat-producing appliance such as coffee machines, and other activities.

### 7.1 Sources of Ignition

- Small Appliances
- Portable Heaters
- Smoking
- Matches
- Candles
- Flammable Liquid
- Combustible Solids/Liquids
- Electrical Hazards
- Cooking Activities
- Laboratory Equipment
- Lava Lamps
- Welding
- Fireworks
- Intentional
- Art Foundry Activities
- Power tools

### 7.2 Banned Sources of Ignition

- Smoking: smoking is **not** permitted in any campus building or at any athletic event.
- Fireworks – any use and/or storage in any facility, lab, office, residential hall, etc.
- Lava Lamps
- Candles
- Incense
- Overloading of Circuit Protectors
- Open Flame
- Intentional

### 7.3 How to Avoid Ignitions

- Never leave sources of ignition, such as a hot stove or portable heater, unattended.
- Turn off and unplug appliances when they are not in use.
- Do not use electrical devices with frayed or damaged cords or exposed wiring.
- Use only devices that are UL listed.
- Avoid using extension cords (permanent) and do not overload circuits.
- Do not continue using a device if it consistently trips the circuit breaker.
- If a device emits an unusual odor, turn it off and unplug it immediately. Do not use the device until it is repaired.
- Follow all directions included with your electrical devices.



#### **7.4 Administrative Controls**

The following administrative controls shall be used to control known ignition sources at NMHU.

- Smoking is not permitted in or at university facilities.
- Lighted candles are not permitted at NMHU buildings/facilities.
- All cutting torch operations should be supervised and conducted in accordance with university standards and/or procedures.
- Cooking appliances shall be periodically inspected and maintained in proper working condition.
- All potential ignition supporting activities at the Art Foundry shall be supervised by a qualified professor.
- The University Safety Officer shall be contacted for approval of any anticipated use of open flames and such activities shall be conducted under his/her direction and in compliance with governing fire code regulations.
- Electrical outlets shall not be overloaded. Electrical appliances and cords shall be monitored by responsible employees and shall be maintained in good working condition at all times. Defective equipment or cords shall promptly be taken out of service.
- Small internal combustion engines shall be routinely maintained and kept in proper working condition.
- Equipment with hot manifolds shall not be utilized or placed in close proximity to flammable or combustible materials.
- All laboratory equipment, including heat guns, must be unplugged after the planned activity is completed and/or at the end of each class or day.



### 7.5 Identifying Common Fire Hazards

Fire prevention starts with identifying common fire hazards. All members of the university community (faculty, staff, students and visitors) have a personal obligation to be aware of fire hazards and to reduce or eliminate the risk of fire at NMHU. ***The following is a list of common fire hazards found during daily activities on campus.***

<i>Combustible Waste Material</i>	Waste accumulation is prohibited. When these items are allowed to accumulate, the risk of fire is increased. Under the right conditions, the buildup of dust from wood, plastic or certain metal operations can lead to a fire or explosion. Construction debris must be properly disposed of to eliminate the risk of fire.
<i>Ignition Sources</i>	A safe clearance between ignition sources such as light fixtures, heaters and flame-producing devices and combustible materials needs to be maintained.
<i>Open Burning</i>	Due to the hazards associated with open burning, all such activities require an open burn permit. A permit application for an activity can be submitted to EHS. <i>Permit is located in Appendix E or available from the EHS Department.</i>
<i>Open Flames</i>	Similar to open burns, activities involving open flames require an open flame permit. Open flames activities include, but not limited to, all open flame decorative devices, theatrical performances, religious ceremonies, torches for removing paint, lanterns, kerosene heaters, and gas fired heaters. <i>Permit is located in Appendix E or available from the EHS Department.</i>
<i>Smoking</i>	Smoking is prohibited in facilities owned or leased by NMHU. Be aware, discarded smoking materials carelessly tossed in waste containers or into landscaping can easily start a fire. Use approved waste containers to discard all smoking materials properly.
<i>Vehicle Impact Protection</i>	Vehicle impact protection is required at locations where a moving vehicle could strike a piece of equipment that contains fuel. Guard posts and other physical barriers must be installed to prevent impact to the equipment.
<i>Indoor Displays</i>	Indoor displays of merchandise or other items pose a number of fire hazards to building occupants, such as blocked egress paths and rapid fire burning.
<i>Miscellaneous Combustible</i>	The management of combustible materials storage will reduce the risk of fire.
<i>Storage</i>	Materials should be stored in such a way that they will not obstruct the fire suppression sprinkler heads. Items should be stored 18 inches away from the ceiling if the room or area is protected by a fire suppression system (sprinklers) and 24 inches from the ceiling if there is no fire suppression system. Exceptions are allowed for attached wall shelving unless located directly under a sprinkler head. If wall shelving is located directly under sprinkler head the 18" clearance should be maintained.



## 7.6 Basic Fire Prevention Requirements

***The following is a list of fire prevention techniques that can be used to mitigate ignition sources.***

Accumulation of combustible materials	The accumulation of combustible materials (such as cardboard boxes, magazine/journals and paper products) is prohibited. Combustible material must never be stored any closer than 36" from a heating appliance or electrical light. Items no longer in use should be properly disposed to avoid stacking and accumulation on counters, top of cabinets, floors and desks.
Scrap, waste materials, dust and trash	When these items are allowed to accumulate, the risk of fire is increased. Under the right conditions, the buildup of dust from wood, plastic or certain metal operations can lead to a fire or explosion.
Plastic and foam items	The storage and use of foam or plastic cups, utensils, etc. close to heat sources should not be allowed. These materials are combustibles and can quickly start a fire. Plastic foam also burns rapidly and gives off dense toxic black smoke.
Material Storage	<ul style="list-style-type: none"><li>• <b>Ceiling Clearance</b> - 24 inches in non-sprinkle buildings is strictly required for ceiling clearance. 18 inches in a sprinkler building. This will allow manual hose streams of water to effectively reach the top of a burning piles and any adjacent storage.</li><li>• <b>Means of Egress</b> - Combustible materials cannot be stored in corridors or egress paths that could jeopardize the safety of occupants leaving the building.</li><li>• <b>Equipment Rooms</b> - Combustible materials cannot be stored in boiler rooms, mechanical rooms, data rooms, electrical closet and/or equipment rooms.</li><li>• <b>Fueled Equipment</b> - Chainsaws, power tools, drip torches, lawn-care equipment cannot be stored inside buildings if they contain any fuel.</li></ul>
Decorations	Decorations, signs and other items should not be hung on or near a fire sprinkler head.
Obstructing Portable Fire Extinguishers	Access to portable fire extinguishers should not be obstructed by other equipment, furniture or miscellaneous storage. Extinguishers must be clearly visible with notification signs displayed.
Spills on Floor	Any condition causing leaks or drips of flammable or combustible liquids should be corrected. The area of the spill should be cleaned immediately.
Hoarding	The act of "hoarding" increases the risk of fire. Maintain premises free of unneeded and unnecessary combustible materials. Properly discard unused items being stockpiled or hoarded. Hoarding is a serious fire code violation and will be treated as such.



**Clear Passage**

Keep passageways clear of obstacles, including furniture, trash, storage and equipment.

Materials that spontaneously combust

Oily rags or other materials soaked in oil can start a fire by themselves if placed in areas where the air does not circulate. All oily rags or other materials soaked in oil must be stored in approved oil rag disposal container.

**7.7 Portable Heater Safe Use**

Space heaters are allowed if the following conditions are met:

- The individual space heater has an automatic shut-off system in case the heater is accidentally left on or is tipped over.
- The heater should carry an Underwriter’s Laboratory (UL) label.
- The heater should be kept on a level surface area and on a hard floor. Avoid placing the heater on carpet, countertops, desktops, etc.
- Keep all combustible or flammable materials/liquids at least 3 feet away from the heater.
- The heater needs to be plugged directly into an outlet. No extension cords.
- Unplug after use.



## 8.0 HAZARD COMMUNICATION

The Hazard Communication Standard is required by the Occupational Safety and Health Administration (OSHA) 1910.12 for the purpose of reducing the occurrence of employee occupational illness and injury due to hazardous chemicals. The standard requires the evaluation of the potential hazards of chemicals and the communication of that information and the appropriate protective measures to employees.

### 8.1 Standard Operating Guidelines

The information below outlines the responsibilities and duties related to hazard communication.

- *Environmental Health and Safety Department*
  - Monitor the university program for compliance.
  - Obtain *Safety Data Sheets* (SDS) for requesting departments.
  - Assist departments in developing their training programs.
  - Provide the Las Vegas Fire Department with names and telephone numbers of NMHU employees to be contacted in chemical emergencies.
  - Ensure NPFA 704 signs are posted as required.
- *Deans, Department Heads, Supervisors, Supply/Stock Room Managers and Lab/Studio Supervisors*
  - Identify hazardous chemicals being used, stored, or handled in the department.
  - Obtain SDS on all hazardous chemicals.
  - Provide, maintain, and make available to all employees potentially exposed to chemicals SDS on chemicals in the workplace.
  - Provide information and training on safe use of chemicals in the workplace. All new employees will be trained in safe use of chemicals before they are exposed to them.
  - Employees will also be trained in the safe use of all new chemicals before they are used.
  - Assure proper labeling of chemicals in the workplace.
  - Provide personal protective equipment and/or equipment, if necessary.
  - Maintain chemical inventories and training records per industry standards.

### 8.2 Safety Data Sheets (SDS)

The OSHA Hazard Communication Standard requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (formerly known as Material Safety Data Sheets) to communicate the hazards of hazardous chemical products. SDS Forms are required for each facility on campus. Appropriate administrators, department heads, supervisors, supply/stock room managers, and/or lab/studio supervisors have the responsibility to maintain and update SDS forms as appropriate.

### 8.3 Hazard Communication Standard










The Hazard Communication Standard (HSC) is aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The intent of the Hazard Communication Standard provides a common a coherent approach to classifying chemicals and communicating hazard information on labels and safety data sheets.

In order to ensure chemical safety in the workplace, information about the identities and hazards of the chemicals must be available and understandable to workers. OSHA's Hazard Communication Standard (HCS) requires the development and dissemination of such information:

- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and prepare labels and safety data sheets to convey the hazard information to their downstream customers;
- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers, and train them to handle the chemicals appropriately.

Figure 1: HSC Pictograms

### HCS Pictograms and Hazards

<p><b>Health Hazard</b></p>  <ul style="list-style-type: none"> <li>• Carcinogen</li> <li>• Mutagenicity</li> <li>• Reproductive Toxicity</li> <li>• Respiratory Sensitizer</li> <li>• Target Organ Toxicity</li> <li>• Aspiration Toxicity</li> </ul>	<p><b>Flame</b></p>  <ul style="list-style-type: none"> <li>• Flammables</li> <li>• Pyrophorics</li> <li>• Self-Heating</li> <li>• Emits Flammable Gas</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>	<p><b>Exclamation Mark</b></p>  <ul style="list-style-type: none"> <li>• Irritant (skin and eye)</li> <li>• Skin Sensitizer</li> <li>• Acute Toxicity (harmful)</li> <li>• Narcotic Effects</li> <li>• Respiratory Tract Irritant</li> <li>• Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<p><b>Gas Cylinder</b></p>  <ul style="list-style-type: none"> <li>• Gases Under Pressure</li> </ul>	<p><b>Corrosion</b></p>  <ul style="list-style-type: none"> <li>• Skin Corrosion/ Burns</li> <li>• Eye Damage</li> <li>• Corrosive to Metals</li> </ul>	<p><b>Exploding Bomb</b></p>  <ul style="list-style-type: none"> <li>• Explosives</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>
<p><b>Flame Over Circle</b></p>  <ul style="list-style-type: none"> <li>• Oxidizers</li> </ul>	<p><b>Environment (Non-Mandatory)</b></p>  <ul style="list-style-type: none"> <li>• Aquatic Toxicity</li> </ul>	<p><b>Skull and Crossbones</b></p>  <ul style="list-style-type: none"> <li>• Acute Toxicity (fatal or toxic)</li> </ul>



## **9.0 ELEVATED RISK FACILITIES**

NMHU has identified several “elevated-risk facilities”. Elevated-risk facilities include any facility that presents unique hazardous materials and/or risks. The risks are considered above the “norm” for typical activities conducted by the university. In order to facilitate safety concerns, identification of hazards, and proper chemical handling and storage, the EHS Department has developed individual chemical and/or safety plans for each facility. The safety or chemical handling plans were adopted by the NMHU Board of Regents in 2017. The plans are available at each elevated-risk facility, on the EHS webpage or can be requested directly from the EHS Department.

***The “elevated-risk facilities” include:***

1. Ivan Hilton Science and Technology (Chemical Handling and Storage Plan & Radiological Safety Plan)
2. Burris Hall (Chemical Handling and Storage Plan)
3. Art Foundry (Chemical Handling and Storage Plan)
4. Facilities Compound (Safety Plan)
5. Natatorium (Chemical Handling and Storage Plan)
6. Recycling Center (Safety Plan)



## 10.0 CHEMICAL HANDLING AND STORAGE PLANS

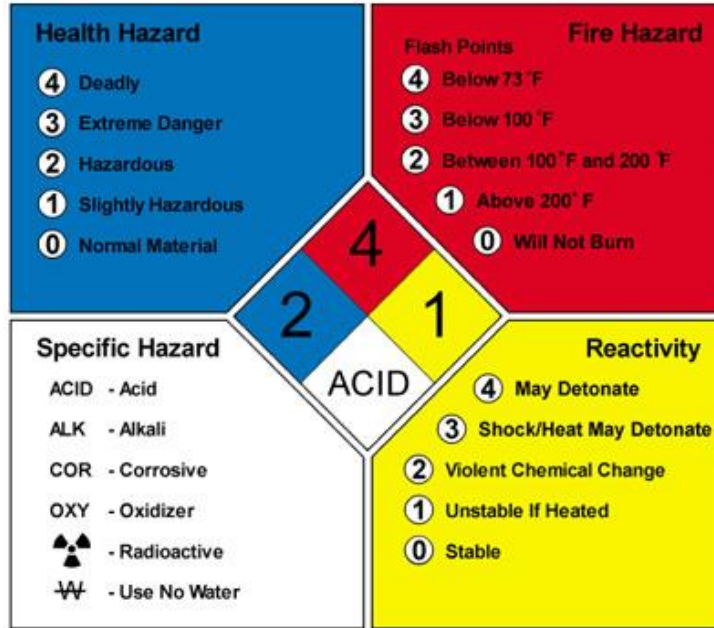
NMHU operates several “elevated-risk facilities.” These facilities maintain a chemical handling and storage plan. The plans were adopted by the NMHU Board of Regents in 2017 and are maintained by the EHS Department, at the individual facility and are available on the EHS webpage.

### 10.1 Chemical Handling and Storage Plans Minimum Requirements

All adopted or proposed chemical handling and storage plans must maintain the minimum standards:

1. Responsibilities: Explanation of individual responsibilities to include:
  - a. EHS Department
  - b. Administrators, Deans, Directors and Department Heads
  - c. Supervisors
  - d. Faculty, Teaching/Graduate Assistants or Lab/Studio Managers
  - e. Employees and Students
2. Explanation of Chemical Families and Hazard Class
  - a. *Flammable and Combustible Substances*
  - b. *Corrosive Materials*
  - c. *Highly Reactive and Unstable Materials*
  - d. *Compressed Gases and Cryogenic Liquids*
  - e. *Toxic Substances*
  - f. *Irritants*
3. NFPA 704 Identification of the Hazards of Materials for Emergency Response (*see Figure 2 below*)
4. Chemical Inventory, Labeling, and Storage
5. Storage of Chemicals
  - a. *Flammable and Combustible Substances*
  - b. *Corrosive Materials*
  - c. *Highly Reactive and Unstable Materials*
  - d. *Compressed Gases and Cryogenic Liquids*
  - e. *Toxic Substances*
  - f. *Irritants*
6. Chemical Families Storage Separation Chart
7. Disposal of Chemicals
  - a. *Solvents and Organic Compounds*
  - b. *Acids and Bases*
  - c. *Hazardous Waste*
  - d. *Labeling of Waste*
  - e. *Radiological Waste*
  - f. *Biohazard Waste*
8. In Case of Fire
9. In Case of Chemical Release
10. Emergency Notification

Figure 2: NFPA 704 Identification of the Hazards of Materials for Emergency Response





## **11.0 HAZARDOUS MATERIAL SPILLS**

Many chemicals, classified as hazardous, are used on campus each day; some are in small quantities, while others amount to hundreds of gallons/pounds. To discharge any amount of these chemicals into the environment is a violation of state and federal law. Incarceration and/or fines of up to \$10,000 per occurrence, restitution for damages, and cost of cleanup are possible consequences for the responsible parties. Responsible parties include, but are not limited to, the university and individuals involved. A standard of zero discharge, release, or improper disposal is, thereby, mandatory. Since the types and quantities of hazardous materials are too numerous to be covered, this standard operating guideline is directed at initial action and mandatory reporting procedures.

### **11.1 Responsibility**

It is the responsibility of each supervisor to ensure proper identification of hazards, training, availability of safety equipment, and handling and disposal of all hazardous materials in his/her assigned areas. Full compliance with regulations governing information and right-to-know of employees concerning SDS(s) is mandatory.

### **11.2 Containment Procedure**

- **Minor Spill:** In the event of a minor spill, only trained personnel shall undertake immediate cleanup and proper disposal. The EHS Department shall be contacted prior to attempting any cleanup.
- **Major Spill:** In the event of a major spill, an attempt to secure or prevent a further spill should be made if it can be accomplished safely. At no time shall employees place themselves in danger by trying to contain a spill. The EHS Department (Safety Officer) shall be immediately contacted for assistance. Notification is critical and should be accomplished immediately. Notify EHS Department (Safety Officer) of the type of spill, location, quantity, and potential threat. In situations outside normal working hours, EHS Department (Safety Officer) can be contacted through NMHU Dispatch- 505-454-3272.

### **11.2 Notification**

In the event of an unauthorized release of a reportable quantity of a hazardous material to the environment, the NM Environment Department must be notified immediately by telephone, with a hard copy report submitted within 24 hours. The Safety Officer is designated as the initiator of these reports, making it imperative that he/she be notified immediately of the spill.



## 12.0 USE OF LABORATORY HOODS, BIOLOGICAL SAFETY CABINETS, AND SPECIAL LOCAL EXHAUST VENTILATION

### 12.1 Purpose

The purpose of this standard operating guideline is to establish guidelines for the use of laboratory hoods, biological safety cabinets, and special local exhaust ventilation systems when using toxic or hazardous chemicals, pathogenic microorganisms, or radioisotopes in certain forms.

### 12.2 Definitions

1. *Standard Chemical Laboratory Hood*: A regular laboratory-type ventilated enclosure that creates a negative air pressure within the hood and across the face of the hood to isolate and direct air contaminants away from the user and to prevent exposure to the user. The face velocity for standard laboratory hoods shall be between 80-100 fpm. Standard laboratory hoods used with radioactive materials shall have a face velocity between 100-120 fpm.
2. *Perchloric Acid Laboratory Hood* – A hood of the same basic design as the standard chemical laboratory hood but with a wash-down feature and constructed of a welded stainless steel. The face velocity for perchloric acid laboratory hoods shall be between 80-100 fpm.
3. *Conventional Laminar Flow Cabinet (Clean Air Cabinet)* – The clean air cabinet, which was the result of industrial clean room technology, features a positive pressure that allows the air to flow out of the cabinet. Clean air cabinets are made in two basic configurations: horizontal (cross) flow and vertical (down) flow. Neither of these conventional types is considered a biological safety cabinet because personnel are potentially exposed to contaminated airflow from inside the cabinet, out and over the operator, and into the laboratory. Such units are suitable only for use with known "clean" materials where product protection is the only objective. Clean air cabinets are not for use with radioactive, corrosive, toxic, or infectious material.
4. *Biological Safety Cabinet* – A ventilated enclosure that provides a physical barrier between a worker and a hazardous operation. It may be used with an open front (or open glove ports) and with a high rate of ventilation away from the operator (like a laboratory hood) or with a closed front and attached rubber gloves. In the latter use, protection depends upon a negative pressure maintained within the cabinet. The ventilation air exhausts through a high-efficiency filter. Biological safety cabinets are to be certified yearly or when the cabinet is repositioned, whichever occurs first.

### 12.3 Functions of Exhaust Systems

Operations involving hazardous chemicals, pathogenic microorganisms, or radioisotopes in certain forms must be performed within the enclosures defined above. Local exhaust systems are a prime safety feature for laboratory workers and serve three major functions:

- Confining hazardous materials and preventing airborne contaminants from coming into contact with persons working in the laboratory.
- Exhausting these hazardous materials to a point where they may be discharged safely into the atmosphere.



- Providing sufficient air movement within the enclosure so that flammable vapor concentrations will be reduced below their lower explosive limits.
- Ventilation used for work with highly pathogenic microorganisms will be fitted with HEPA filters to entrap these particles and prevent their discharge.

#### **12.4 Precautions/Guides**

- Laboratory hood face velocities will be sufficient to maintain an inward flow of air across the entire face of the hood under all operating conditions.
- Mechanical ventilation will remain in operation at all times when hoods are in use and for a sufficient time thereafter to clear hoods of airborne hazardous substances. When mechanical ventilation is not in operation, hazardous substances in the hood will be covered or capped and hood sashes will be closed.
- When determining the need for ventilation, consider threshold limit values (TLV), toxicity, vapor pressure, flammability, possible formation of toxic dusts, aerosols, mists, vapors or gases, smoke, and pathogenic or carcinogenic properties. Use a laboratory hood when in doubt.
- Exhaust stacks of high hazards hoods will extend at least ten feet above adjacent rooflines and air intakes, parapet, and other prominent roof structures and will discharge vertically upward with an exhaust velocity of at least 2500 fpm. There should be no weather cap or other obstructions to prevent the exhaust discharge from rising straight upward.
- Most sashes are not designed as "safety shields"; therefore, supplementary shields must be used for body protection when working with potentially violent chemical reactions or energetic materials.
- All hoods should be maintained in a clean and orderly condition at all times. The use of laboratory hoods as a storage area will prohibit the hood from being used for any operations and should be avoided. Obstructions within the hood cause serious reduction in hood efficiency.
- Local exhaust ventilation (special exhaust systems designed to ventilate a small area) is used to collect contaminants from specialized procedures.

#### **12.5 Responsibilities of Department Heads or Supervisors**

- Prevent any student or employee from working with a potentially hazardous substance that requires exhaust ventilation without the proper equipment in place and in good repair.
- Route plans through Facilities Services and EHS prior to adding additional exhaust equipment to determine if the installation can be accomplished and to meet safety requirements.
- Notify EHS if an exhaust system is not functioning properly.
- Approve and fund certification of all biological safety cabinets a minimum of every year or when the cabinet is repositioned, whichever occurs first, or as often as the laboratory safety specialist deems necessary.
- Obtain validation from EHS before the start-up of hoods after initial installation or repairs on existing hoods.
- Ensure any student or employee who conducts operations with the aid of a laboratory hood, clean air cabinet, biological safety cabinet, or local exhaust system possesses the appropriate knowledge and training to do so in a safe manner.



## **12.6 Responsibilities of EHS**

- **Oversee and schedule contractors to survey each laboratory hood (and related components) on an annual. Hood ventilation performance will be identified as follows:**
  - Hoods certified for use with chemical hazards will have a blue and white label affixed stating the measured airflow during the last performance survey. The airflow will be stated as the average of the flow measurements recorded in feet per minute (fpm) of linear airflow and must be within the range of 80-100 fpm.
  - Hoods certified for use with radioisotopes will have a yellow and magenta label affixed stating the measured airflow during the last performance survey. The airflow will be stated as the average of the flow measurements recorded in feet per minute (fpm) of linear airflow and must be within the range of 100-120 fpm.
  - Coordinate and oversee certified contractors to clean the hoods on an annual basis.



## **13.0 USE AND DISPOSAL OF RADIOACTIVE MATERIALS, RADIATION PRODUCING DEVICES, AND LASERS**

It is necessary that proper guidelines be employed in the purchase, use, and disposal of radioactive material radiation producing equipment (RPE) and/or lasers being used at New Mexico Highlands University. All such standard operating guidelines must conform to the criteria established by the New Mexico Environment Department- Radiation Control Bureau.

### **13.1 Regulation Authority**

The New Mexico Environment Department, Radiation Control Bureau is responsible for registering and enforcing state statues related to radiation related services. The NMED is also responsible for enforcing NMSA 1978, 74-3-8 and 20-3-2.

### **13.2 Radiation & Laser Safety Committee**

NMHU will establish a radiation and laser safety committee. The committee shall conform with requirements established in the faculty research handbook, as well as any industry standards directing the management of radiation and lasers.

The Radiation/Laser Safety Committee shall be composed of:

- The radiation safety officer
- The laser safety officer
- Two or more faculty members active in the use of radioactive materials
- One or more faculty members active in the use of lasers
- At least one faculty member who regularly uses radiation producing equipment
- The Environmental Health & Safety Director (University Safety Officer)
- The Director of Institutional Research (Research Integrity)

Members of the committee, other than those specified by virtue of position, will be appointed by the Faculty Senate. Each will serve a term of three years, except when lesser terms may be required to maintain balanced membership and continuity of committee operations. Appointments will be made on or before September 1 of each year.

### **13.3 Radiation and Laser Safety Officers**

The radiation and laser safety officers are responsible for making on-site inspections, keeping records, assisting users, and maintaining liaison with federal and state officials.

### **13.4 Procurement of Radioactive Materials, Radiation Producing Devices, and Lasers**

- All persons wishing to use RAM, RPE, or lasers must first obtain authorization from the Radiation and Laser Safety Committee. Forms for this purpose may be obtained from the radiation and/or laser safety officer, or the Environmental Health and Safety Department.
- Specific procedures for the purchase of RAM, RPE, or lasers should adhere to university purchasing standards.
- The radiation and laser committee shall approve any purchases related to radioactive materials and/or lasers.



- Transfer or disposal of radioactive materials, radiation producing machines, or lasers must be authorized by and coordinated through the radiation and/or laser safety officer.
- All lasers pertaining to scientific and research equipment with hazard classifications of Class IIIB and IV must comply with the above requirements.
- Exemptions to this requirement are all general office supplies purchased from office suppliers. A few examples are classroom laser pointers, laser printers, and projector remote controls. The hazard classifications of these exclusions are Class I, II, IIIA.

### **13.5 Equipment/Material Other than Radiation**

All persons receiving any equipment through purchase, loan, or gift must ensure the following:

- The equipment does not contain radioactive material.
- The equipment is below acceptable levels for radiation in accordance with NM Environment Department.
- The equipment operates under all current NMHU and state requirements or is capable of being upgraded to meet these requirements.
- Persons receiving equipment found to be contaminated above acceptable levels are responsible for decontamination and/or disposal.

### **13.6 Use of Radioactive Materials/Radiation Producing Equipment/Lasers**

To assure the protection of all university personnel/students and to maintain compliance with the stipulations of the NMHU Radioactive Material License, safe and proper procedures must be followed at all times by the licensee and those under this supervision.

- Specific procedures that must be followed are contained in state and federal regulations.
- The radiation and laser safety officers are authorized to make routine inspections of laboratory areas where RAM, RPE, and/or lasers are used.

### **13.7 Disposal of Radioactive Materials**

The disposal of RAM is strictly controlled by state and federal regulations. To assure compliance with these regulations, materials will be disposed of only after consultation with and the approval of the radiation safety officer.

### **13.8 Emergency Action**

In case of an emergency, the radiation and/or laser safety officer will be contacted immediately. Decontamination procedures will be performed by the licensee under the supervision of the radiation and/or laser safety officer.

- The University Safety Officer and NMHU Campus Police should be notified immediately during the event of an emergency.



## 14.0 COMPRESSED GAS HANDLING, STORAGE, AND TRANSPORTATION

The purpose of this standard operating guideline is to ensure the safe handling, storage, and transportation of compressed gas cylinders.

### 14.1 Handling

Cylinders should always be moved with a hand truck, forklift, cylinder pallet system, or other means to keep cylinders from falling or striking each other or other objects. **Cylinders shall never be moved by rolling or dragging.** Never move cylinders using the valve or valve protection cap. Never use magnets as a lifting device. **Use a cylinder caddie/hand cart.**

- Ropes, chains, or slings must never be used to lift or suspend cylinders unless, at the time of manufacturing, lugs were included to use as appropriate lifting devices. If these are not furnished, suitable cradles or platforms must be used for lifting.
- Cylinders must not be dropped or slid in such a way as to damage the cylinder. Leaking, damaged, or defective cylinders should not be used without authorization from the gas supplier.
- Cylinder maintenance, including painting, removal of product markings, modifications, alterations, blockage, or replacement of valves or pressure relief valves, must be performed only by a trained person under the direction and consent of the cylinder owner or an authorized representative.
- Ensure cylinders are not damaged by electric current, and ensure that cylinders are not used as a grounding device or as part of the grounding circuit.
- Do not expose gas cylinders to direct heat, flame, or temperature extremes. Temperatures above 125 ° (F) may result in cylinders being damaged or affecting the integrity of the cylinder. If cylinders are exposed to fire or struck by a welding arc, notify the gas supplier before shipping these cylinders.
- Cylinders exposed to low temperatures may undergo significant decreased impact resistance. Get approval from the supplier before subjecting cylinders to very low temperatures.
- Cylinders designed for valve cap protection shall have the cap secured in place until the cylinder is being used and the cylinder is secured to a solid object.
- Where provided, valve outlet caps or plugs should be securely affixed to the valve outlet prior to transportation. These shall be used since they provide a secondary containment for the valve. These plugs shall be checked and tightened before returning the cylinder to the supplier.

### 14.2 Storage

Safe storage of compressed gas shall start with signs being posted identifying locations for gases and cryogenic liquids. Identification can be by name, hazard class, or both. Signs stating "No Smoking" shall be posted. Other storage considerations follow.

- Storage areas shall be well drained, well ventilated, and built of fire resistant materials. Storage areas must not exceed 125 ° (F).
- Adequate spacing shall be provided to allow cylinders to be grouped together by hazard class. Separate storage should be provided for full cylinders and empty cylinders.
- Storage in basements shall be avoided. Cylinders shall be adequately separated from combustibles and not stored near flammables such as gasoline.
- Do not expose cylinders to corrosives or chemical vapors.



- Cylinders must be stored away from moving objects that could strike them. Cylinders must be secured at all times in such a manner that will prevent them from being accidentally tipped or knocked over.
- Cylinders used in public areas must be protected against tampering by unauthorized personnel.
- Cylinders may be stored outdoors; however, they shall not be exposed to damp areas for prolonged periods.
- It is preferable to store cylinders on concrete.
- Liquid oxygen should never be stored on asphalt or hydrocarbon-based paving materials that could cause a violent reaction if spilled.
- Cylinders in service or in storage must be secured to an immovable object at all times to prevent falling.

### 14.3 Transportation

Compressed gases and cryogenic liquids are defined as hazardous materials by Department of Transportation (DOT) regulations. The preferred way to transport cylinders is to use a vehicle that is designed and equipped to do so. These vehicles shall be ventilated and have adequate means to secure the cylinders. Persons transporting cylinders in a vehicle must:

- Be knowledgeable of the hazards and precautions while transporting.
- Check cylinders for leaks or physical damage prior to transport.
- Ensure that cylinders are secure.
- Ensure that protective caps and valve outlet caps are in place.
- Not allow smoking or open flames near cylinders.
- Know what to do in case of leak, incident, or emergency.
- Follow all traffic laws.
- Know product regulations and supplier instructions.

The Department of Transportation regulates compressed gases by highway, rail, water, and air. These regulations are contained in Title 49 of the Code of Federal Regulations, parts 100-180.

### 14.4 Acetylene

- *Storage*
  - Storage of acetylene shall comply with NFPA 51 [4]. Inside buildings, cylinders shall not be stored within 20 feet of oxygen.
  - If the 20-foot separation is not possible, the acetylene and oxygen shall be separated by a noncombustible partition five feet high with a fire-resistant rating of 30 minutes.
  - Acetylene cylinders should not be stored in a horizontal position. This will cause loss of solvent that can cause lower flame quality and result in fuse plug failure.
  - Acetylene cylinders must not be stored so that they could be struck or knocked over. The cylinders shall be secured while in storage or in use.
- *Handling*
  - Always call acetylene by its proper name; never just label it as a gas. Proper handling includes, but is not limited to, the following:
    - Never attempt to repair cylinders.



- If acetylene is leaking, move the cylinder outdoors and keep people away. Call the supplier to have cylinder removed.
  - Keep sparks and flames away from acetylene.
  - Never let flames come into contact with the fusible plug. They melt at 212° (F) and can cause a sudden burst of flame up to 15 feet.
  - Should the outlet valve clog from ice, thaw with warm water, not with hot water or flames.
  - Cylinders must be protected against dropping while loading or unloading.
  - When moving cylinders with a crane or hoist, use a cage or cradle to protect cylinders from damage.
  - Use hand trucks to transport cylinders, and always secure cylinders to hand trucks. Never roll cylinders.
  - Never drag cylinders from place to place.
  - Always close cylinders before moving them, and ensure that the protective cap is in place.
- *Use*
    - Always use acetylene through a regulator attached to the cylinder outlet valve. Acetylene shall never be used at pressures exceeding 15 psi.
    - Always open and close acetylene cylinder valves slowly to minimize pressure surges.
    - Only use regulators designed for acetylene service.
    - Never use a hammer or mallet to open or close a valve.
    - Never stand in front of a regulator and gauge faces while opening the cylinder valve.
    - Always bleed pressure from the hoses and regulator before removing the gauge from the cylinder.
    - Never apply a torch to the side of a cylinder to raise the pressure; serious injuries have occurred from this practice.



## 15.0 ASBESTOS COMPLIANCE AND ABATEMENT PROGRAM

**PURPOSE:** The purpose of this standard operating guideline is to establish a campus asbestos compliance and abatement program that will comply with the Occupational Safety and Health Administration (OSHA) regulations, Environmental Protection Agency (EPA) regulations, and New Mexico Department of the Environment (NMED) regulations relating to asbestos exposure. This standard operating guideline defines the roles and responsibilities of parties involved in the asbestos program.

### 15.1 Overview

Asbestos is the name for a group of natural minerals that separate into strong, very fine fibers. These fibers are heat-resistant and extremely durable, making their qualities very useful in construction and industry for fireproofing, insulation, structural strengthening, sound dampening, cost savings, and aesthetics. The potential of an asbestos-containing product to release fibers is dependent upon several factors, including its location and its degree of friability. ***Friability details that the fiber can be crumbled with hand pressure and, therefore, is likely to emit fibers when disturbed.*** Asbestos-containing materials (ACM) contain greater than one percent asbestos when analyzed by polarized light microscopy techniques.

### 15.2 New Mexico Highlands University Asbestos Program

The asbestos program at New Mexico Highlands University consists of the following two separate entities:

1. *EHS Department* - The EHS Department is responsible for coordinating with Facilities Services to identify and support the abatement of asbestos on campus. The EHS Department is also responsible for securing areas that asbestos has been identified or suspected.
2. *Facilities Services* – Facilities Services is responsible for the maintenance, repair, remodel or demolition of facilities on campus. In the event of expected asbestos, Facilities Services should immediately notify the EHS Department. Facilities will coordinate the surveying, sampling, analysis, quality control, and appropriate recordkeeping. Facilities Services will also be responsible for all coordination with certified asbestos mitigation companies.

**Note:** *Employees of private contractors working at NMHU are subject to the regulations promulgated by the United States Department of Labor-Occupational Safety and Health Administration as it relates to asbestos.*

### 15.3 Responsibilities

A successful program requires commitment at all levels of management. Program responsibilities are as follows:

#### 15.3.1 Environmental Health and Safety

- Conduct appropriate training classes for the facilities, custodial staff, and others who frequent areas where asbestos exposure is a possibility.
- Keep departmental heads informed of abatement projects and progress being made in their area.



- If, at any time, it is suspected that a fiber release has occurred that could endanger public health, building occupants will be asked to vacate the suspected area until a survey can be conducted to determine the extent of the problem.
- Maintain permanent files of written documents, employee exposure records, medical exams, and training.
- Serve as the intermediary and contact point for all NMHU activities involving regulatory agencies.
- Provide required notification of asbestos abatement projects at NMHU to proper regulatory agencies.
- Provide notification of asbestos abatement projects at NMHU to all departments potentially impacted by any asbestos abatement activities.

#### 15.3.2 Facilities Services

- In compliance with appropriate regulations, perform or coordinate the removal, encapsulation, enclosure, and repair on those materials determined to contain asbestos.
- Conduct a pre-abatement conference for all planned projects. Attendees to include:
  - EHS representative
  - Facilities Service Director
  - Project Manager
  - Facilities Service Managers
  - Appropriate Building Manager
- Prepare a written plan, in coordination with EHS, of action to be followed on all non-emergency asbestos abatement projects.
- Prepare the work site before abatement begins by posting proper signage, notification to users, shutdown of the heating, ventilating, and air conditioning systems, sealing off the area with polyethylene, and other details as determined in the pre-abatement meeting.
- Coordinate the transportation and disposal of all asbestos-containing materials in compliance with appropriate regulations.
- Notify EHS immediately of any unplanned release of suspected asbestos.
- Supervisors shall be responsible for ensuring that their personnel are properly trained and equipped with personal protective equipment prior to initiation of work in asbestos-contaminated work areas or in areas with suspected or known asbestos-containing materials.
- Training shall include, but not be limited to, a two-hour asbestos awareness class and a class covering proper maintenance and use of personal protective equipment.
- Supervisors shall ensure that all building materials used for new construction or maintenance activities including, but not limited to, floor tile, floor tile adhesive, caulking, plaster, and roofing materials, are asbestos free.
- Perform air sampling and analysis on asbestos projects conducted by Facilities Services and private contractors as required.
- Inform Custodial Services when their services are to be stopped and then restarted.
- Ensure ACM waste and ACM-contaminated waste are properly disposed of in an approved manner at approved landfills.



#### 15.3.3 Custodial Services

- Custodial Services will be responsible for ensuring that their employees take the two-hour asbestos awareness course, which will detail proper cleaning procedures to follow in areas known to contain asbestos.
- Custodial Services will be responsible for ensuring that those employees under its direction are informed of all asbestos projects that might affect their job responsibilities.

#### 15.3.4 Students

- Students will not knowingly be used in areas or projects that could pose an asbestos exposure.

#### 15.3.5 Auxiliaries

- Contact EHS a minimum of three weeks prior to the initiation of any project that may contain asbestos-containing materials and/or suspected asbestos-containing materials so that a survey, bulk sampling, and assessment can be scheduled and conducted.
- Notify EHS immediately of any suspected asbestos fiber release episodes caused by or attributed to contractor personnel.
- All projects or duties in which individuals may encounter damaged asbestos-containing materials or which may potentially result in the disturbance of asbestos-containing materials will require notification of EHS.
- The department supervisor for the auxiliary shall ensure that employees involved in projects or duties that might potentially bring them into contact with asbestos-containing materials shall be trained. Appropriate training for individuals involved is the two-hour awareness training class.
- The department supervisor for the auxiliary shall ensure that employees of the auxiliary whose job responsibilities might be impacted by any asbestos-related activity are informed of the activity.
- The department supervisor shall ensure that building materials for new construction and/or renovation/repair supplied by contractors and sub-contractors are asbestos free. A written certificate stating this shall be furnished to EHS by the primary contractor at the close of the project.

#### 15.3.6 Contractors

- Contractors performing renovation and/or demolition activities at NMHU shall ensure that their employees are trained in accordance with the provisions of 29 Code of Federal Regulations, 1926.1101, Asbestos, as promulgated by the U.S. Department of Labor Occupational Safety and Health Administration. This requirement is not applicable to contractors whose employees would be working in buildings or facilities determined by the university to be asbestos free or whose employees would be performing job duties that would not involve the potential to intentionally or accidentally disturb asbestos-containing materials, presumed asbestos-containing materials, or suspected asbestos-containing materials. Specific examples of job duties requiring such training are cable installers, demolition workers, electricians, and plumbers.



- For each renovation or demolition project conducted at NMHU in which there is a potential for the contractor's employees to accidentally or intentionally damage asbestos-containing materials or presumed asbestos-containing materials, the contractor shall obtain the services of an asbestos-competent person. The training requirements for the asbestos-competent person shall consist of either a 32-hour asbestos contractor/supervisor course or a 40-hour asbestos contractor/supervisor course.
- For each renovation or demolition project conducted at NMHU in which there is a potential for the contractor's employees to accidentally or intentionally damage asbestos-containing materials or presumed asbestos-containing materials, the contractor, her/his employees, as well as the employees of sub-contractors working under contract for the project must have attended a two-hour asbestos awareness course or an annual asbestos awareness refresher course prior to the start of the project. This requirement is not applicable to contractors whose employees would be working in buildings or facilities determined by the university to be asbestos free, or whose employees would be performing job duties that would not involve the potential to intentionally or accidentally disturb asbestos-containing materials, presumed asbestos-containing materials, or suspected asbestos-containing materials.
- The contractor shall provide evidence of training for the personnel covered by these requirements prior to the project start date.

#### **15.4 Hazard Assessment and Response Actions**

The following guidelines were adopted from regulations promulgated by the EPA:

- Following completion of a building survey and/or a specific job inspection, an assessment of the hazard posed by those materials determined or assumed to be ACM shall be made.
- Using criteria developed by the EPA, each homogenous area containing ACM will be evaluated to determine:
  - Type of building material (surfacing, thermal, and miscellaneous);
  - Friability or non-friability of the ACM;
  - Condition of the ACM; and
  - Potential for further damage.

Determination of the response action specified by the various categories must be made on a case-by-case basis. A given response action, applicable for the ACM condition category, shall be arrived at following consultations with all interested parties, which may include representatives from: Facilities Services, contractors, consultants, and EHS.

#### **15.5 Restricted Use of Asbestos-containing Materials at the University**

Due to the hazards associated with the disturbance of asbestos-containing materials and the strict regulatory intent to minimize the environmental and occupational exposure to air borne asbestos fibers, it is the intent of NMHU to severely restrict the use of asbestos-containing materials in the construction of new facilities and the renovation of existing facilities. The use of an asbestos-containing material, either in the case of new construction or in the case of renovation work, is limited to only those building materials for which there is no adequate non-asbestos substitute.



### **15.6 Comprehensive Asbestos Surveys for New Construction Projects**

In order to ensure that materials used in the construction of new facilities or the renovation of existing facilities are non asbestos-containing, the appropriate project manager shall prepare or have prepared, as part of the construction work, a comprehensive asbestos survey for the new or extensively renovated facility. The comprehensive asbestos survey for new construction shall consist of one or more of the following:

- A signed letter from the architect for the project detailing those actions taken to ensure that the new materials used in the new construction work were non-asbestos.
- A signed letter from the engineer for the project detailing those actions taken to ensure that the new materials used in the new construction work were non-asbestos.
- A signed letter from the university's project manager for the project detailing those actions taken to ensure the new materials used in the new construction work were non-asbestos.
- A signed letter from the contractor for the project detailing those actions taken to ensure the new materials used in the new construction work were non-asbestos.
  - Specific actions would include, but not be limited to, on-site periodic inspections by the architect, engineer, project manager and/or contractor of product material labeling and a review of the final submittal, which would include the *Safety Data Sheets* for all materials used in the new construction work.



## **16.0 HEARING CONSERVATION PROGRAM**

The purpose of the Hearing Conservation Program (HCP) provides a primary function:

1. To identify university employees who are occupationally exposed to hazardous noise

### **16.1 References**

- 29 Code of Federal Regulations, 1910.95, *Occupational Noise Exposure*, 1989
- OSHA *Technical Manual*, 1990

### **16.2 Responsibilities**

The responsibilities for specific entities are identified below:

#### *16.2.1 EHS Department and University Safety Officer*

- Identify hazardous noise producing equipment and hazardous noise areas and recommend appropriate posting.
- Recommend engineering controls and administrative practices to reduce or eliminate exposure to hazardous noise.
- Recommend appropriate hearing protection based on the sound pressure levels and frequencies determined.
- Train employees in the proper selection and use of hearing protection.
- Perform noise dosimetry to quantify hazardous noise exposure dose and identify employees for entry into the hearing conservation program.
- Periodically re-survey and perform noise dosimetry to check for changes in noise exposure levels and durations.
- Review medical surveillance data to identify problem areas to be addressed.
- Perform recordkeeping for all documents related to noise surveys or noise dosimetry.

#### *16.2.2 Deans, Department Heads and Directors*

- Ensure that all provisions of the hearing conservation program, as they pertain to their area, are followed.
- Provide funds to purchase hearing protection and to accomplish medical surveillance of employees identified as at-risk from occupational noise exposure.
- Retain medical surveillance records related to occupational noise exposure for the term of employment plus 30 years.

#### *16.2.3 Supervisors*

- Ensure that employees use hearing protection as appropriate.
- Report possible hazardous noise sources to EHS for evaluation.

#### *16.2.4 Employees*

- Wear recommended hearing protection whenever working in an environment where hazardous noise is present.
- Comply with all provisions of the hearing conservation program and hazardous noise training.



## 17.0 HEAD AND FOOT PROTECTION

The following standard operating guideline is intended to identify and clarify when NMHU employees must wear head and foot protection. The following information is pursuant to OSHA standards for head and foot protection.

### 17.1 References

- OSHA 29 CFR 1910.135 *Head Protection*
- OSHA 29 CFR 1910.136 *Personal Protective Equipment: Foot Protection*

### 17.2 Head Protection

- NMHU shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects.
- The employer shall ensure that a protective helmet designed to reduce electrical shock hazard is worn by each such affected employee when near exposed electrical conductors which could contact the head.
- Criteria for head protection.
  - Head protection must comply with any of the following consensus standards:
  - American National Standards Institute (ANSI) Z89.1-2009, "American National Standard for Industrial Head Protection," incorporated by reference in Sec. 1910.6.
  - American National Standards Institute (ANSI) Z89.1-2003, "American National Standard for Industrial Head Protection," incorporated by reference in Sec. 1910.6. or
  - American National Standards Institute (ANSI) Z89.1-1997, "American National Standard for Personnel Protection--Protective Headwear for Industrial Workers--Requirements," incorporated by reference in Sec. 1910.6.
- Head protection devices that the employer demonstrates are at least as effective as head protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

#### 17.2.1 When Head Protection is Required

- When over-the-head hazards are present, including remodeling or renovation activities.
- All chainsaw operations, including those individuals supporting the operations.
- Forestry field activities including prescribed fire activities.
- Employees working with vertical or scissor lift platforms.
- Employees working with cranes, hoists or material handling where the material is suspended more than 3 feet off the ground.
- Any person working with fall protection systems or those supporting the activities.
- Supporting heavy equipment activities.
- Working with electrical overhead hazards.



### 17.3 Foot Protection

NMHU shall ensure that each affected employee uses protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or when the use of protective footwear will protect the affected employee from an electrical hazard, such as a static-discharge or electric-shock hazard, that remains after the employer takes other necessary protective measures.

- Protective footwear must comply with any of the following consensus standards:
  - ASTM F-2412-2005, "Standard Test Methods for Foot Protection," and ASTM F-2413-2005, "Standard Specification for Performance Requirements for Protective Footwear," which are incorporated by reference in § 1910.6.
  - ANSI Z41-1999, "American National Standard for Personal Protection -- Protective Footwear," which is incorporated by reference in § 1910.6. or
  - ANSI Z41-1991, "American National Standard for Personal Protection -- Protective Footwear," which is incorporated by reference in § 1910.6.
- Protective footwear that the employer demonstrates is at least as effective as protective footwear that is constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

#### 17.3.1 *When Foot Protection is Required*

- When over-the-head hazards are present, including remodeling or renovation activities.
- All chainsaw operations, including those individuals supporting the operations.
- Forestry field activities including prescribed fire activities.
- Employees working with vertical or scissor lift platforms.
- Employees working with cranes, hoists or material handling where the material is suspended more than 3 feet off the ground.
- Supporting heavy equipment activities.

#### 17.3.2 *Facilities Services Requirements*

- In consultation with the EHS Department, Facilities Services may require employees to wear approved work boots to protect their feet from injury. These boots should be maintained in a reasonable manner to include cleaning.
- Employees of Facilities Services shall comply with the directive set forth by the department.



## 18.0 HEAT RELATED ILLNESS/INJURY

Heat related illness and/or injury can be associated with many activities at NMHU. It is essential, that heat related illness and/or injury be monitored by the appropriate individuals and medical attention is applied accordingly. Heat related illnesses can be caused by:

- Prolonged or intense exposure to hot temperatures.
- Heat-related illness can strike anyone. Chronic alcoholics, the elderly, the young, the obese, and individuals whose immune systems may be compromised are at greater risk, as are individuals taking certain drugs, such as antihistamines, antipsychotic medications, and cocaine.
- High humidity also increases the risk of heat illness because it interferes with the evaporation of sweat, the body's way of cooling itself.

### 18.1 Administrative Controls

By reducing excessive exposure to high temperatures and taking other precautionary steps, most heat-related illnesses can be avoided. Those who work in hot or humid environments -- such as Facilities Services, academic field activities, Art Foundry, kitchens or construction sites during summer months -- are most at risk.

#### 18.1.1 Heat Related Illness/Injury

The appropriate supervisor in-charge shall monitor users for heat related illness or injuries. All users should focus on the proper hydration when planning to work in high heat activities. Dehydration is the first sign of a heat related illness. Conducting activities with high heat production can lead to heat cramps, exhaustion and/or heat stroke.

#### 18.1.2 Heat Cramps

Heat cramps are caused by the loss of body salts and fluid during sweating. Low salt levels in muscles cause painful cramps. Tired muscles—those used for performing the work—are usually the ones most affected by cramps. Cramps may occur during or after working hours.

#### 18.1.3 Heat Related Illness/Injury

Heat rash is a skin irritation caused by sweat that does not evaporate from the skin. Heat rash is the most common problem in hot work environments.

#### 18.1.4 Heat Exhaustion

Heat exhaustion is the body's response to loss of water and salt from heavy sweating. Signs include headache, nausea, dizziness, weakness, irritability, thirst, and heavy sweating.

#### 18.1.5 Heat Stroke

Heat stroke is the most serious form of heat-related illness, and happens when the body becomes unable to regulate its core temperature. Sweating stops and the body can no longer rid itself of excess heat. Signs include confusion, loss of consciousness, and seizures. **Heat stroke is a medical emergency that may result in death! Call 911 immediately.**



*18.1.6 Appropriate Action*

Any person demonstrating any of the above conditions, shall immediately cease all activities. The situation will be evaluated by the supervisor in-charge. Minor heat related illness, i.e., heat rash and/or heat cramps shall call for immediate stoppage in work and the individual shall begin to immediately hydrate. For more severe cases, EMS assistance should be immediately requested. In addition to contacting 911, NMHU Campus Police and the University Safety Officer shall be notified immediately.



## 19.0 USE AND DISPOSAL OF SHARP OBJECTS

The purpose of this standard operating guideline is to establish uniform guidelines for the safe use and disposal of sharp objects at New Mexico Highlands University.

### 19.1 Definitions

- *Sharp Objects* - (commonly referred to as "sharps"), for the purpose of this standard operating guideline, shall be defined as:
  - Razor blades;
  - X-Acto knives and blades;
  - Scalpels;
  - Knives;
  - Hypodermic needles and hypodermic syringes with attached needles;
  - Any other material or object that is readily capable of puncturing, cutting, or abrading the skin.
- *Glass waste*
  - Pasteur pipettes;
  - Capillary tubes;
  - Broken glass

### 19.2 Applications

This standard operating guidelines applies to the following facilities including, but not limited to:

- Teaching laboratories;
- Research laboratories;
- Animal research facilities;
- Field operations;
- Facility shops; or
- Any other area where sharps may be used

### 19.3 Disposal of Sharps

- All sharps are to be placed in a puncture resistance sharps container.
- Puncture-resistant sharps containers are available at the New Mexico Highlands Campus Police and/or Facilities Warehouse.
- Once the sharps container is filled, the responsible department will coordinate the removal of the items. Do not place sharps containers in the general trash receptacles or in the dumpsters.
- Whenever possible, the use of sharps should be kept to a minimum.

### 19.4 Disposal of Hypodermic Needles

If a hypodermic needle is found on campus, the individual who located the needle shall immediately contact NMHU Police and/or the University Safety Officer.

- NMHU Campus Police and/or the University Safety Officer will adhere to industry standards related to confiscating, testing and disposing of the hypodermic needle.



### **19.5 Disposal of Glass Waste**

- Glass articles such as bottles, beakers, and test tubes are potential sharps. Care should be taken not to break these items when they are discarded. Glass waste that is empty shall be placed into the broken glass waste container or into a sturdy cardboard box that can and shall be sealed prior to disposal in the dumpster.
- Glass waste that contains samples shall have the samples removed and the container shall be rinsed and then placed into the appropriate waste stream.
- Broken glass waste that has samples or reactive chemicals on them shall be rinsed prior to placing the broken glass waste in the broken glass waste container and the rinse shall be placed into the appropriate waste stream.

### **19.6 General Provisions**

Whenever possible, each department will review the use of sharps in its operation with the goal of reducing the use and amount of sharps and providing for their safe disposal. When the use of sharps is absolutely necessary, the following precautions must be followed:

- When appropriate, eye protection must be worn at all times while sharp objects are employed in a particular task.
- Sharps must be discarded in a puncture-resistant container. The container must be clearly labeled.
- Glass articles that are accidentally broken while in use must be handled with care. If they contain a potential hazard, contact the University Safety Officer for consultation.
- If glass articles contain biological material, they must be autoclaved or chemically disinfected prior to disposal. If they are empty, sweep the sharps into a dustpan and place the pieces into the broken glass waste containers or into a sturdy cardboard box that can and shall be sealed prior to disposal in the dumpster.

### **19.7 Accident Reporting**

Should a faculty member, staff, student, or visitor sustain an injury caused by a sharp object, that individual should report the accident to the person responsible for supervising their work as soon as possible. If necessary, the injured person should obtain medical treatment.

An accident report must be completed and returned to the Environmental Health and Safety Department and Human Resources Department within 24 hours of the incident. The notice of accident shall be documented on the State of New Mexico Notice of Accident Form (available from HR and/or EHS). If an employee or student is injured at a field location and treatment is required, the individual should report to the nearest medical facility. The accident report should be submitted to Environmental Health and Safety as soon as possible.

### **19.8 Compliance of Guidelines**

Faculty and staff members are responsible for ensuring that those under their direction are apprised of this guideline. Employees or students who willfully violate this guidelines will be subject to disciplinary action.



## 20.0 BLOODBORNE PATHOGEN PROTECTION PROGRAM

The purpose of this standard operating guideline is to protect workers from anticipated exposure to bloodborne pathogens. In addition, this guideline is intended to provide safe work practices to prevent exposure of NMHU employees whose job descriptions necessitate performing tasks that would result in occupational exposure to bodily fluids.

### 20.1 References and Resources

- OSHA Title 29 Code of Federal Regulations, Chapter 17, 1910.1030 (29 CFR 1910.1030)
- OSHA Title 29 CFR 1910.1020(e) *Recordkeeping*

### 20.2 Overview

Exposure to blood and other bodily fluids can lead to numerous clinical diseases. Hepatitis B Virus (HBV) and the Human Immunodeficiency Virus (HIV) are examples of pathogens that can be transmitted via blood and other bodily fluids. These agents are referred to as bloodborne pathogens. Because they can cause serious illness or death, operational guidelines must be followed to protect workers against exposures.

### 20.3 Scope and Application

The Bloodborne Pathogen Exposure Control Program covers all NMHU employees who could be "reasonably anticipated" to be exposed to bodily fluids while conducting their job duties. The program details procedures for identifying occupational exposures to bloodborne pathogens, work practice controls, personal protection, housekeeping requirements, training, and medical surveillance.

The requirements of this program apply to all NMHU employees, contract workers, and employees of companies working at locations where NMHU has management control. However, the program does not address employees willingly responding to emergencies by choice (e.g., giving CPR involving blood and other bodily fluids). In addition, this program does not address employees whose immune systems are currently and/or previously impaired because of the HIV or from other causes.

### 20.4 Terms and Definitions

Definitions are provided by 29 CFR 1910.1030, *Occupational Exposure to Bloodborne Pathogens*,

- *Blood*- human blood, human blood components, and products made from human blood.
- *Bloodborne Pathogens*- pathogenic microorganisms that are present in human blood that can cause disease in humans. These pathogens include, but are not limited to, HBV and HIV.
- *Bloodborne Pathogen Exposure Control Program* – The written NMHU program that describes methods to prevent employee exposure to bloodborne pathogens in the workplace.
- *Contaminated*- presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
- *Engineering Controls*- controls (e.g., sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazards from the workplace.
- *Exposure Incident*- a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of an employee's duties.
- *HBV*- Hepatitis B Virus.



- *HIV*- Human Immunodeficiency Virus.
- *Occupational Exposure*- reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- *Other Potentially Infectious Materials*-
  - Human bodily fluids such as semen, vaginal secretions, cerebrospinal fluids (brain or spinal fluid), synovial fluid (joint fluid), pleural fluid (lung and chest fluids), pericardial fluid (fluid in the heart sac), peritoneal fluid (serous fluid around the abdominopelvic walls), amniotic fluid (membrane enveloping the fetus), saliva in dental procedures, any bodily fluid that is visibly contaminated with blood, and all bodily fluids in situations where it is difficult or impossible to differentiate between bodily fluids;
  - Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and
  - HIV (containing cell or tissue cultures or organ cultures) and HIV or HBV (containing culture medium or other solutions), and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
- *Personal Protective Equipment*- is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.
- *Regulated Waste*- liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.
- *Sharps*- any object that can penetrate the skin including, but not limited to, hypodermic needles, scalped blades, microtome blades, razor blades, lancets, dental scalers, broken glass, pipettes, capillary tubes, and exposed ends of dental wires.
- *Universal Precautions*- an approach to infection control. According to the concept of universal precautions, all human blood and certain human bodily fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.
- *Work Practice Controls*- means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by two-handed technique).



## 20.5 Responsibilities

- *Environmental Health and Safety is responsible for:*
  - Developing and implementing the program;
  - Giving guidance on how to package waste contaminated with blood or other infectious materials;
  - Providing general training to departments or supervisors as requested;
  - Conducting work-site surveys and informing departments of results;
  - Advising employees of the proper PPE; and
- *The primary responsibilities of department heads and chairs are to:*
  - Be familiar with this program and its contents and objectives;
  - Support the program and oversee its implementation; and
  - Implement proper administrative and engineering controls in the work area.
  - Develop a department plan for any activity involving infectious material.
- *Responsibilities of managers and supervisors are to:*
  - Know where blood or other potentially infectious materials are used, produced, stored, or handled in any manner in the department;
  - Be familiar with this program and its contents and objectives;
  - Identify employees who may be at risk of exposure and implement this program. Risk is determined by reviewing each task related to fulfilling an employee's job description that could result in an exposure. Departments are expected to consult with EHS if there is a question regarding risk of employee exposure.
  - Review and update the exposure information annually or more often, if necessary, to accommodate changes in an employee's task.
  - Ensure employees are trained before beginning specific tasks involving blood or other infectious materials;
  - Identify and develop safety procedures when work activities involve risk of exposure to blood and other infectious materials. Procedures for spills, waste disposal, decontamination, and accident response procedures must be developed by each department.
  - Determine which employees who have occupational exposure are required to have the Hepatitis B vaccination series;
  - Provide the correct personal protective equipment, at no cost to the employee, who works with blood or bloodborne pathogens; and
  - Monitor the work area for changing tasks and make corrections as needed.
- *NMHU employees will:*
  - Be familiar with this program;
  - Conduct each task in accordance with their training;
  - Follow established university procedures;
  - Complete the required training, either online or from their supervisor before starting work.
  - Participate in the immunization program as required;
  - Use PPE and other protective devices as required; and



- Report to their manager or supervisor any deficiencies and any exposures.

## 20.6 Employee Exposure Determination

The following categories provides possibility of exposure related to specific job duties on campus.

- **Category A - Moderate to High Risk Exposure**
  - Research technicians, laboratory assistants who work with bloodborne pathogens, human blood, or other infectious materials;
  - Law enforcement officers; and
  - EHS Department
  - Athletic trainers
- **Category B - Low to Moderate Risk Exposure**
  - Plumbers responsible for opening sewage lines;
  - Child care assistants;
  - Custodians; and
  - Employees responsible for laundry cleaning.
- **Category C - No Risk to Low Risk Exposure**
  - Office staff;
  - Employees whose job description defines no task related to exposure.
- **Category D - Unclassified Risk Exposure**
  - This exposure will be determined by EHS on a case-by-case basis.

## 20.7 Employee Protection

- If the determination is made that an employee is potentially subject to exposure, the department must follow the program.
- Engineering controls will be used as a primary method to reduce work exposure (e.g., disposable bags, sharps containers, and self-sheathing needles).
- Departments must provide, at no cost to the employee, and require employees to use equipment such as gloves, gowns, masks, and eye protection, as well as repair or replace those items when necessary.

## 20.8 Workplace Practices

- Employees shall wash their hands immediately after removing gloves and after hand contact with blood.
- All PPE must be removed immediately upon leaving the work area.
- Used needles and other sharps shall not be sheaved, bent, broken, recapped, or resheathed by hand.
- Eating, drinking, smoking, applying cosmetics, and handling contact lenses are prohibited in work areas where the potential for exposure exists.
- Food and drinks shall not be stored in the same refrigerators or cabinets where blood or other infectious materials are stored.



### 20.9 Housekeeping

- Work surfaces potentially contaminated with human blood or bodily fluids shall be decontaminated before beginning work and at the end of each day with freshly diluted household bleach at the ratio of 1:10 (1-part bleach to 10 parts water).
- Equipment shall be checked routinely and decontaminated prior to servicing or shipping.
- All containers intended for reuse shall be inspected, cleaned, and disinfected on a regular schedule.
- Broken glassware shall not be picked up by hand. A broom and dustpan or forceps should be used.
- Specimens of blood shall be placed in a closeable, leak-proof container and labeled with the biohazard emblem.

### 20.10 Sharps

- "Sharps" is a generic term dealing with any item that can puncture, cut, or scrape body parts.
- Sharps must be disposed of in an approved container that is puncture resistant, leak resistant, and cannot be opened without great difficulty. The sharps container must always be kept close to the work area so transporting a sharp is not required.
- Sharps containers must be red in color with biohazard labels.
- See *Section 19 Sharps* for more information.

### 20.11 Training

- Training will be initiated by the manager or supervisor when an employee is assigned to a department where there is a chance for exposure. Training will include the following:
  - A copy of the bloodborne pathogen standard;
  - A general explanation of bloodborne pathogen diseases;
  - Modes of transmission;
  - Copy of the departmental bloodborne pathogen exposure control plan;
  - Methods for identifying tasks that may involve exposure to blood and other infectious materials;
  - Practices that will prevent exposure, including engineering controls, work practices, and PPE;
  - Information on Hepatitis B vaccine;
  - Response to emergencies involving blood;
  - How to handle exposure incidents;
  - Post-exposure evaluation and counseling for employees; and
  - Signs, labels, and color-coding
- Training records must be maintained by the department for three years. They must include:
  - Date and location of training;
  - Contents of the training;
  - Trainer's name; and
  - Names and job titles of trainees
- Training shall be recorded on an approved EHS Training Form.



**20.12 Labeling**

- Warning labels shall be affixed to containers of infectious waste, refrigerators, freezers containing blood, and all other containers used to transport potentially infectious materials.
- These labels shall be orange, yellow or orange-red with letters and symbols in a contrasting color.
- All infectious waste going for disposal shall be in closeable, leak-proof containers that are color-coded and labeled.
- Disposal of all infectious waste shall be in accordance with applicable federal, state, and local regulations.



## **21.0 SMOKE-FREE AND TOBACCO-FREE ENVIRONMENT**

The purpose of this standard operating guideline is to provide for the health and safety of students, faculty, staff and visitors by controlling fire hazards and assuring a smoke-free environment in all academic, athletic and administrative facilities.

### **21.1 Operating Guidelines**

- In the interest of providing a smoke-free environment, smoking is prohibited **in** all campus academic, administrative, and athletic facilities.
- Smoking areas must be located 25 feet from any facility and pedestrian entrance (ingress or egress) or public place. This includes any entryways or walkways leading to entrances.
- There will be no smoking above the first floor of any building.
- In the case of athletics, the prohibition applies to both indoor and outdoor facilities. Smoking is allowed in designated areas only.
- All buildings that are under the control of the Housing and Residence Life are nonsmoking buildings, including the Student Union Building, all dining areas, and all areas of residence halls, including individual rooms.
- Employees interested in tobacco use cessation services should contact the Office of Human Resources for information and referral.
- Persons having reason to complain about violations of this guidelines should first seek resolution of the problem by asking the smoker(s) to comply voluntarily with this standard operating guideline. If resolution of the problem cannot be achieved by this means, a complaint should be made to the head of the unit or office manager. If the head of the unit is part of the smoking activity, the complaint should be made to the next level supervisor. Heads of units are advised that such complaints can be made without risk to student or employee evaluation.
- When continued and/or obvious abuse of the guideline is evident, appropriate actions will be taken by the following individuals to assure compliance.
  - The Dean of Students will be responsible for cases involving students.
  - The college dean will be responsible for cases involving faculty.
  - The appropriate vice president will be responsible for handling cases involving non-faculty employees.
  - The Chief of Police will be responsible for handling cases involving individuals who are not student, faculty, or staff of the university.
- Electronic cigarettes will not be permitted other than in the areas already mentioned in this standard operating guideline.



## 22.0 USE OF LADDERS – LADDER SAFETY

The purpose of this standard operating guide is to ensure that training and safe operating guidelines are provided for each employee who is required to use a ladder during the performance of his/her job.

### 22.1 Roles & Responsibility

The Department owning the ladder(s) must:

- Assure that ladders purchased/used are code-compliant and appropriate for the needed safe work tasks;
- Inspect annually and maintain all ladders in their control/ownership;
- Render unusable and then dispose of any ladders that are not repairable;
- Provide training to all personnel using their ladders; and
- Keep attendance records of all training.

#### 22.1.1 Ladder User

Every ladder user must:

- Be trained on and apply the "Ladder User's Safe Work Rules" for ladder use;
- Always select an appropriate type of ladder and use a ladder in a safe manner;
- Alert management when ladders need repair/replacement;
- Assess the type of work to determine if fall protection should be worn and seek alternative access methods instead of ladders if necessary;
- Refuse to use a ladder if he/she thinks its use is unsafe and, instead, uses a safer method such as a scaffold, vertical lift, lift pod, or bucket truck;
- Ensure tasks performed on the ladder include fall protection, if required; and
- Provide alternative access when a ladder user determines use of a ladder is unsafe because of the required work tasks.

### 22.2 Definitions

- *A-frame ladder*—Also known as a stepladder.
- *Articulating ladder*—Also known as a combination ladder, sectional ladder, or a multi-position ladder, this ladder is capable of being used as a stepladder, single ladder, or an extension ladder. It may also be capable of being used as a trestle ladder or stairwell ladder.
- *Cage*—A guard that may be referred to as a cage or basket guard. It is an enclosure fastened to the side rails of a fixed ladder or to the structure, and encircles the climbing space of the ladder for the safety of the person climbing the ladder.
- *Cleats*—Ladder crosspieces of rectangular cross section placed on edge upon which a person may step while ascending or descending (also known as ladder rungs).
- *Combination Ladder*—Another name for an articulating ladder.
- *Double Front or Twin Front Ladder*—A self-standing ladder that is designed to allow both sides of the ladder to be climbed safely.
- *Feet*—The component of ladder support that is in contact with the lower supporting surface.
- *Fixed Ladder*—A ladder that is permanently attached to a structure, building, or equipment.



- *Grab Bars*— Individual handholds placed adjacent to or as an extension of fixed ladders for the purpose of providing safe handhold above the top of the ladder.
- *Individual-rung Ladder*—A fixed ladder with each rung individually attached to a structure, building, or equipment.
- *Ladder Stand*—A mobile fixed size self-supporting ladder consisting of a wide flat tread ladder in the form of stairs. The assembly may include handrails but does not include a platform.
- *Multi-Position Ladder*—Another name for an articulating ladder.
- *Rungs*—Ladder crosspieces upon which a person may step while ascending or descending. Rungs are usually round in cross-section, while cleats are rectangular in cross-section.
- *Sectional Ladder*—Another name for an articulating ladder.
- *Sections*—as related to a sectional ladder:
  - *Bottom or Base Section*—The lowest section of a non-self-supporting portable ladder.
  - *Top or Fly Section*—The uppermost section of a non-self-supporting portable ladder.
  - *Middle or Intermediate Section*—The section between the top and the bottom sections of a non-self-supporting portable ladder.
- *Single Ladder*—A non-self-supporting portable ladder, non-adjustable in length and consisting of one section.
- *Side Rails*—The side members joined at intervals by rungs, steps, cleats, or rear braces.
- *Step Stool (ladder type)*—A self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in size, with flat steps and without a pail shelf, designed so that the ladder top cap as well as the steps can be climbed on. The side rails may continue above the top cap.
- *Stepladder*—A self-supporting portable ladder, non-adjustable in length, with flat steps and hinged base (also known as an A-frame ladder).
- *Top Cap*—The uppermost horizontal member of a portable stepladder or step stool.

### 22.3 Selection of Ladders

Ladders are designed and constructed to hold a specific amount of weight. Ladders come in five different duty ratings identified by their type. The duty rating is defined as the maximum safe load capacity of the ladder. A person's fully clothed weight plus the weight of any tools and materials that are carried onto the ladder must be less than the duty rating. At a minimum, the strength of a Type II ladder is required for any work activities when ladders are used for elevated work projects and the user is not handling large or heavy objects during ladder use.

### 22.4 Duty Ratings

Duty ratings are described in terms of pounds, such as a 300 lb. Duty-Rated Type IA ladder, which is designed for extra heavy duty professional use where the total weight on the ladder does not exceed 300 pounds.

Ladders are also built to handle the demands of various applications. For example, a ladder used frequently on a construction site by larger/heavier workers typically should be stronger and have a corresponding higher duty rating than a ladder used by a lighter-weight person for infrequent light overhead work. The duty rating system is summarized below:



Ladder Duty Rating or "Type"	Capable of Supporting	Rated Use
TYPE IAA	375 POUNDS	Special Duty
TYPE IA	300 POUNDS	Extra Heavy Duty Industrial
TYPE I	250 POUNDS	Heavy Duty Industrial
TYPEII	225 POUNDS	Medium Duty Commercial
TYPE III	200 POUNDS	Light Duty Household

### 22.5 Ladder User's Safe Work Practices

- Select a ladder that is the proper length and duty rating for the intended work (Note: a leaning-ladder must extend at least 36 inches above the edge of a roof/mezzanine when properly installed. A stepladder must be tall enough so that the climber does not have to stand on the top or the top two rungs of the ladder to access his/her work).
- Do not use electrically conductive (e.g., aluminum) ladders for electrical work or near live electrical parts.
- Inspect the ladder for broken or defective parts prior to each use.
- Remove damaged or defective ladders from use and notify department management about the problem ladder.
- Do not place ladders in a location where they can be accidentally struck or displaced.
- If the ladder is used in an area where anyone can walk under it, the area must be cordoned off with a visual barrier such as yellow caution tape to alert pedestrians of the possible hazard of something falling from the ladder.
- Ladders must not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless they are protected by barricades or guards.
- For leaning or extension ladders: tie, block, or otherwise secure them while in use.
- Do not splice ladders together.
- Always face the ladder while ascending and descending.
- Do not stand on the top two rungs of a single ladder or an extension ladder.
- Do not stand on the top cap or the top two steps of a stepladder.
- Do not stand on the top three rungs of ladders unless there are members of an adjacent structure that provide a firm handhold, or the ladder user is protected by a personal fall protection system (e.g., positioning device or fall restraint system) tied off to a fall protection anchor.
- If working outside of the ladder's footprint, or when standing on the uppermost parts of the ladder as noted above, use an appropriate fall protection system.
- Do not place planks on the top cap or any other part of a ladder.
- Do not use the x-bracing or other structures on the rear section of a stepladder for climbing unless the ladder is designed to be climbed from both sides.



- Make sure that a stepladder is properly set up and that the spreader is locked in place before use.
- Do not use the stepladder as a lean-to ladder.
- Always use a tool belt and other hands-free carrying devices when ascending and descending a ladder.
- When working aloft, secure tools and supplies so they cannot fall from the ladder.

## 22.6 Fall Protection

Ladders may be used **without** the user wearing a personal harness tied off to a fall protection anchor when a leaning or extension ladder can be tied off and stabilized to a permanent structure or a stepladder is used on a level firm surface and then the work is done when:

- Using the ladder to gain access from one level to another without the climber carrying anything in his/her hands;
- Using a ladder for access to a work area where work is conducted while standing on the ladder, provided the user can ascend and descend using both hands during the entire up/down movement on the ladder;
- Working aloft on the ladder, provided both of the user's feet are stationary on one rung and the work area requiring two-handed work is within the ladder's footprint (i.e. no reaching beyond the base legs of the ladder with both hands);
- The user can use three-point contact (both feet plus one hand) for stability when reaching and working outside the ladder's footprint using only one free hand;
- The ladder user's feet are below the top two rungs of a leaning single/extension ladder or are below the top two steps and top cap of a stepladder;
- Doing elevated fine, two-handed work within the footprint of the ladder where the user is using both hands to conduct lightweight work without the use of power tools (e.g., twisting a wire nut on two to three 12-gage or smaller wires, hammering a nail into wood, or unscrewing a light bulb and installing a replacement light bulb);
- Using a small cordless power tool such as a ¼" bit (or smaller) hand drill that is not likely to cause imbalance should the power tool bind during use; and
- Using a corded power tool within the footprint of the ladder using only one hand to control the tool and otherwise having 3-point contact on the ladder.

**Fall protection must be used in all other ladder use situations** unless the department can demonstrate that the planned work activities are equivalently safe to the above noted requirements. Alternatives to using fall protection include temporary scaffolding with appropriate railings, the use of a Lift Pod, the use of Genie lifts, vertical lifts, bucket trucks, etc., and should be considered before using ladders in such situations.



## 23.0 CONFINED SPACE ENTRY PROGRAM

The purpose of this standard operating guideline is to ensure the safety of personnel required to enter and conduct work in confined spaces. The program describes procedures for defining and working in confined spaces that meets the requirements of OSHA 29 CFR 1910.146.

### 23.1 Objectives

Entering and working in confined spaces may be necessary to ensure functionality of systems. This standard operating guideline has been developed to ensure the safety of personnel required to enter and conduct work in confined spaces. The program contained herein describes reasonable and necessary standard operating guidelines for any and all facilities, departments, and/or individuals who are associated with confined space entry operations.

- **This program and all parts of 29 CFR 1910.146 shall apply to all confined space entry operations conducted at NMHU.**

### 23.2 Definitions

- *Attendant* – A person designated by the department head in charge of entry to remain outside the confined space and to be in constant communication with the personnel working inside the confined space.
- *Authorized Entrant* – A person who is approved or assigned by the department head in charge of the entry to perform a specific type of duty or duties or to be at a specific location at the job site.
- *Confined Space* – A limited or restricted means of entry or exit that is large enough for an employee to enter and perform assigned work but is not designed for continuous occupancy by the employee.
- *Entry* – The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.
- *Entry Permit* – The written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in this program.
- *Entry Supervisor* – The department head or the designated representative (such as the foreman or crew lead) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this program.
  - **Note:** An *entry supervisor* also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this program for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of entry operation.
- *Hazardous Atmosphere* – An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:
  - Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL)



- Airborne combustible dust at a concentration that meets or exceeds its LFL. The concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet or less.
- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent.
- Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of 29 CFR 1910 and that could result in employee exposure in excess of its dose or permissible exposure limit.
  - **NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.**
- Any other atmospheric condition that is immediately dangerous to life or health.
  - **NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.**
- *Non Permit – Required Confined Space* is a confined space that does not contain, nor has the potential to contain, any hazard capable of causing death or serious physical harm (with respect to atmospheric hazards).
- *Permit – Required Confined Space* is a confined space that is potentially hazardous. A permit-required confined space has one or more of the following characteristics:
  - Contains or has a 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 that slopes downward and tapers to a smaller cross-section; or
  - Contains any other recognized serious safety or health hazard. Examples of serious safety or health hazards might include:
    - Fall hazards
    - Unguarded machinery
    - Extreme heat or cold
    - Steam pipes or chemical lines
    - Hazardous noise levels
    - Electrical hazards
    - Presence of asbestos
    - Potentially hazardous levels of dust



### 23.3 Responsibilities

- *Environmental Health & Safety shall:*
  - Review and update the Confined Space Entry Program to conform to current standards;
  - Maintain confined space atmospheric testing and monitoring equipment;
  - Issue Confined Space Entry Permits;
  - Ensure compliance with standards set forth in the program by periodic inspection of entry sites and canceling permits where unsafe conditions are present; and
  - Assist supervisors with:
    - Providing training as set forth in the program;
    - Identification of confined spaces;
    - Identifying spaces that require a permit for entry; and
    - Labeling permit-required confined spaces
- *Supervisors shall:*
  - Identify confined spaces within facilities or areas under their control;
  - Identify hazards within a confined space under their control;
  - Prepare a permit for entry for planned confined entry activities. Submit to EHS for approval. **Confined Entry Permit can be found in Appendix B** or can be requested through the EHS Department.
  - Ensure that the required atmospheric tests are performed at the confined space and the results recorded on the permit prior to entry authorization;
  - Obtain and maintain all equipment necessary to complete the confined-space entry project;
  - Terminate the entry and cancel the permit when:
    - Entry operations covered by the entry permit have been completed; and
    - A condition that is not allowed under the entry permit arises in or near the permit space.
  - Determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space that entry operations remain consistent with terms of the entry permit and ensure that acceptable entry conditions are maintained.
- *Authorized Entrants*

The person(s) authorized to enter a confined space shall be responsible for and receive training in the following:

  - The knowledge of hazards that may be faced during entry, including the mode, signs or symptoms, and consequences of the exposure;
  - Proper use of equipment, which includes:
    - Atmospheric testing and monitoring equipment;
    - Ventilating equipment needed to obtain acceptable entry conditions;
    - Communication equipment necessary to maintain contact with the attendant;
    - Personal protective equipment as needed;
    - Lighting equipment as needed;
    - Barriers and shields as needed;
    - Equipment, such as ladders, needed for safe ingress and egress;



- Rescue and emergency equipment as needed; and
- Any other equipment necessary for safe entry into and rescue from permit spaces.
- Communication with the attendant, as necessary, to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space if required;
- Alert the attendant (standby person) whenever:
  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation; or
  - The entrant detects a prohibited condition.
- Exiting the permit space as quickly as possible whenever:
  - An order to evacuate has been given by the attendant or the entry supervisor;
  - The entrant recognizes any warning sign or symptom of exposure to a dangerous situation;
  - The entrant detects a prohibited condition; or
  - An evacuation alarm is activated.
- *Attendants*  
Persons authorized to perform duties as attendant shall be responsible for and receive training in the following:
  - Knowing the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of exposure;
  - Awareness of possible behavioral effects of hazard exposure in authorized entrants;
  - Continuously maintaining an accurate count of authorized entrants in the permit space and ensuring that the means used to identify authorized entrants accurately identifies who is in the permit space;
  - Remaining outside the permit space during entry operations until relieved by another attendant;
  - Attempting **non-entry** rescue if proper equipment is in place and the rescue attempt will not present further hazards to the entrant or attendant;
  - Communicating with authorized entrants, as necessary, to monitor entrant status and to alert entrants of the need to evacuate the space when conditions warrant;
  - Monitoring activities inside and outside the space to determine if it is safe for entrants to remain in the space and ordering the authorized entrants to evacuate the permit space immediately under any of the following conditions:
    - If the attendant detects a prohibited condition;
    - If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;
    - If the attendant detects a situation outside the space that could endanger the authorized entrants; or
    - If the attendant cannot perform all the duties required by this program effectively and safely;
  - Summoning rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;



- Taking the following actions when unauthorized persons approach or enter a permit space while entry is underway:
  - Warning the unauthorized persons that they must stay away from the permit space;
  - Advising the unauthorized persons that they must exit immediately if they have entered the permit space; and
  - Informing the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- Performing no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

#### **23.4 Guidelines**

1. When work is completed or a situation that violates the terms of the permit arises, then the permit is terminated and EHS should be notified.
2. A permit is authorized **only** for the duration of the job. If there is an extended break during the job, the atmosphere must be tested before re-entry.
3. All permit-required spaces must be labeled with a permanent sign that states, "DANGER Confined Space Permit Required."



## 24.0 FORK LIFT SAFETY

The purpose of the *Forklift Safety Program* provides the following:

1. To identify all the forklifts being operated on the campus, and to;
2. Train each employee required to operate a forklift.

The training will cover the safe operation and inspection of the forklift. The Forklift Safety Program will be administered by Central Receiving in consultation with the EHS Department in accordance with OSHA standards.

### 24.1 Responsibilities

- *Environmental Health and Safety will:*
  - Ensure training is being provided for all employees required to operate a forklift;
  - Work with department heads to ensure refresher training is provided on a three-year cycle;
  - Investigate all accidents/incidents and recommend corrective actions to ensure safety of employees operating this equipment.
- *Central Receiving:*
  - Ensure that all provisions of the Forklift Safety Program, as it pertains to each area, are followed;
  - Maintain a record of all employees trained and on which lifts they are trained;
  - Provide funds to perform regular scheduled maintenance on their forklifts; and
  - Retain a copy of the employee's forklift "Certificate of Completion of Training" in the employee's personnel file.
- *Supervisors will:*
  - Ensure that employees operate forklifts safely;
  - Ensure that employees are scheduled for initial training and remedial training as needed;
  - Ensure that employees are competent to operate a powered industrial truck, as demonstrated by successful completion of a training program;
  - Report all near misses and accidents to EHS so additional training can be administered;
  - Ensure that employees operate only forklifts on which they have been trained;
  - Ensure that employees are scheduled for refresher training on a three-year cycle; and
  - Ensure that new employees or reassigned employees get forklift training before operating equipment.
- *Employees will:*
  - Inspect forklifts daily before use;
  - Report any deficiencies found during daily inspections to their supervisor;
  - Not operate a forklift that is in need of repairs;
  - Not operate a forklift on which they have not been trained;
  - Operate forklifts safely to prevent injury or damage; and
  - Report any unsafe acts they may observe to their supervisor.



## 25.0 VERTICAL & SCISSOR LIFT PLATFORM SAFETY

The purpose of this standard operating guideline is to ensure that training is provided for each employee who is required to operate a vertical lift and/or scissor lift platform. The training will cover the safe operation and pre-use inspection of the vertical lift and/or scissor lift platform.

### 25.1 References

- ANSI/SIA A92.6-1999
- OSHA 29 Code of Federal Regulations, Part 1910.67
- OSHA 29 Code of Federal Regulations, Part 1926.451-45

### 25.2 Responsibilities

- *Environmental Health and Safety will:*
  - Ensure training of employees participating in vertical lift and/or scissor lifts is occurring.
  - Maintain a record of all employees trained and on which lifts they are trained;
  - Determine the extent of the refresher training to prevent duplication of training to operators; and
  - Investigate all accidents/incidents and recommend corrective actions to ensure safety of employees operating this equipment.
- *Department heads and/or directors will:*
  - Ensure that all provisions of the vertical lift and/or scissor lift program are followed;
  - Provide funds to lease, purchase, and maintain equipment; and
  - Retain verification of the employee's training certificate in her/his personnel file.
- *Supervisors will ensure that employees:*
  - Are scheduled for initial and periodic training as needed;
  - Receive training before starting work on the vertical lift and/or scissor lift;
  - Are competent to operate a vertical lift and/or scissor lift, as demonstrated by successfully completing the training program;
  - Only operate vertical lift and/or scissor lift for which they have been trained; and
  - Operate vertical lift and/or scissor lift platforms safely.
- *Employees will:*
  - Inspect and perform safety checks on the vertical lift and/or scissor lift platforms before each use;
  - Report any deficiencies found during pre-use inspections to supervisor;
  - Operate vertical lift and/or scissor lift platforms safely to prevent injury or damage; and
  - Not operate a vertical lift and/or scissor lift platforms for which they have not been trained.

### 25.3 Procedures

- Lifting and elevating the vertical lift and/or scissor lift platforms **must** be done on flat, firm surfaces.
- Outriggers must be used when the lift is raised.
- The safety bar located inside the lifting mechanism must be used to prevent lowering of the scissor-type lift during maintenance.



- **DO NOT:**
  - Exert excessive side force while the vertical lift and/or scissor lift platforms are elevated;
  - Overload (the relief valve does not protect against overloading);
  - Alter or disable limit switches;
  - Raise the platform in windy or gusty conditions. (Follow manufacturer guidelines for wind limits: **Most manufacturers follow a 20 mph wind speed as a guide. The manufacturer recommends not raising the lift if the wind speed is 20 mph or greater.**)
  - Elevate the vertical lift and/or scissor lift platforms if it is not on a firm level surface; or
  - Park the vertical lift and/or scissor lift platforms on high traffic sidewalks that will impede foot traffic or wheelchair traffic.
- **Safety Devices**
  - The guardrails must be upright and locked in place with locking pins.
  - The safety bar must be used for inspection and maintenance.
  - Do not reach through scissor assembly without the safety bar in its proper position.
  - The operator must wear a personal fall arrest system to prevent movement past or over handrails. The personal fall arrest system will consist of a body harness with a lanyard attached to an anchor point to ensure a 100 percent no-fall situation. The anchor point on the floor must be used at all times when the lift is being used; this will prevent an employee from being able to fall from the platform. The lanyard may not be hooked over the lanyard strap.

#### 25.4 Operating Procedures

- Operators must read and completely understand the operator's manual before being allowed on a vertical lift and/or scissor lift platform. The manual is located inside the side metal box of the scissor lift in a rain-tight pouch.
- Inspect and/or test for the following daily:
  - Operating and emergency controls
  - Safety devices and limit switches
  - Tires and wheels
  - Outriggers
  - Air, hydraulic, and fuel systems for leaks
  - Loose or missing parts
  - Guardrail systems
  - Engine oil level
  - Hydraulic reservoir level
- Do not operate unless proper authorization and training have been received.

#### 25.5 Operator Qualification/Training

- Only trained and authorized personnel should use the vertical lift and/or scissor lift platform.
- Operators must be familiar with this standard operating guideline before operating the equipment.
- As required, the dealer must provide appropriate training to equipment users.
- The dealer must provide means of evidence that training has been done. The training document will contain:



- Name of entity providing the training
- Name of trainer
- Specific statement that the training covered self-propelled vertical lift and/or scissor lift platforms
- Date of training
- Name of person receiving training
- The dealer will ensure that familiarization with all controls is accomplished upon each delivery of the platform.
- Individual university departments will retain records for four years on the persons trained, the person doing the training, and the name of the person receiving familiarization training upon delivery of the vertical lift and/or scissor lift platform.

### **25.6 Workplace Inspection**

Before and during use, the user shall:

- Check the area for possible hazards such as, but not limited to:
  - Drop-off or holes
  - Slopes
  - Bumps
  - Debris
  - Overhead obstructions
  - Wind and weather conditions
  - Presence of unauthorized persons
- Inspect all safety devices and PPE that will be used including:
  - Full body harness
  - Lanyards
  - Emergency stop button
  - Hand rails
  - Entry gate
  - Safety bar
  - Outriggers



## **26.0 MATERIAL HANDLING DEVICES**

The purpose of this standard operating guideline is to ensure that material handling devices are used correctly and safely.

### **26.1 References**

- OSHA 29 Code of Federal Regulations 1910.184.

### **26.2 Safe Operating Practices**

The following practices shall be followed when a sling is used:

- Slings that are damaged shall not be used.
- Knots shall not be used to shorten a sling.
- Slings shall not be loaded above their rated capacity.
- Slings shall be protected from sharp edges on the load.
- All employees shall stay clear of a load while it is lifted or suspended.
- Shock loading is prohibited.
- Slings should not be pulled out from under a load while it is sitting on the sling.

### **26.3 Inspections**

Slings shall be visually inspected before each use. The fasteners and attachments shall be inspected for damage by a competent person. The slings shall also be inspected during use to ensure that they are not being damaged from the load. Any damaged sling shall be removed from service immediately.

- A competent person is one who is knowledgeable, experienced, and capable to perform the outlined skills of this standard operating guideline.

### **26.4 Alloy Steel Chain Slings**

- This type of sling shall have a permanently attached identification tag stating size, grade, rated capacity, and reach.
- All the attachments on steel slings shall have a rated capacity. No makeshift attachments will be authorized. The rated capacity of the sling shall be determined by the weakest component of the sling.
- Inspections shall be done before each use. Slings will also be inspected on a regular basis according to the following:
  - Frequency of use;
  - Severity of conditions; and
  - Nature of lifts being made
- Inspections shall be made at least every year when slings are idle for longer than a year.
- A thorough inspection by a competent person shall include looking for wear, defective welds, or an increase in length. If any of these conditions are present, the sling shall be taken out of service immediately.



### **26.5 Proof Testing**

The employer shall ensure that all new, repaired, or reconditioned alloy steel chain slings, including all welded components, are proof tested by the sling manufacturer or equivalent entity. The proof testing will be in accordance with paragraph 5.2 of the American Society of Testing and Materials Specification A 391-65 (ANSI G 61.1-1968). The proof test shall be maintained on file for examination.

### **26.5 Repairs and Reconditioning**

- Mechanical coupling links or low carbon steel repair links shall not be used to repair broken chains.
- Slings shall be removed from service if the hook is cracked or has 15 percent or more throat opening past normal, or if the hook is twisted more than 10 degrees past plane of the hook.

### **26.6 Wire Rope Slings**

- This type of sling shall not be used in excess of the rated capacity.
- The wire rope sling shall have a minimum clear length of wire rope 10 times the diameter of the rope between splices, sleeves, or end fittings.
- Braided slings shall have a minimum length of wire rope 40 times the diameter of the component between the loops or end fittings.
- Fiber core wire rope slings shall be removed from service if they are exposed to temperatures in excess of 200 degrees Fahrenheit.
- When new fiber core wire rope slings are exposed to temperatures above 400 degrees Fahrenheit or minus-60 degrees Fahrenheit, the manufacturer's recommendations shall be followed.
- All welded end attachments shall not be used until a proof test by the manufacturer is accomplished at twice the rated capacity of the wire rope. The employer shall maintain a certificate of the proof test and make it available for examination.

### **26.7 Removal from Service**

If any of the following conditions exist (not all-inclusive), the wire rope sling shall be removed from service:

- Ten randomly broken wires in one lay or five broken wires in one strand in one rope lay;
- Wear or scraping of one-third the original diameter of outside wires;
- Kinking, crushing, bird-caging, or any other condition distorting the structure of the wire rope sling;
- Evidence of heat damage;
- End attachments that are cracked, deformed, or worn; or
- Corrosion of the wire rope sling.



### 26.8 Metal Mesh Slings

All metal mesh slings shall have a permanently affixed identification tag showing the rated capacity.

- The handles of the sling shall have the same rated capacity of the metal mesh sling.
- Ensure the load is evenly distributed across the wire mesh sling.
- Any type of coating that changes the rated capacity shall not be used.
- All new and reconditioned wire mesh slings, including the handles, shall not be used unless proof testing has been accomplished by the manufacturer or equivalent entity at one and one-half times the rated capacity of the wire mesh sling.
- Wire mesh slings that have not been impregnated with elastomers may be used in temperatures from minus-20 degrees to 550 degrees Fahrenheit without decreasing the working load capacity.
- For wire mesh slings that have been impregnated with elastomers, the working range is 0 degrees to 200 degrees Fahrenheit.
- Wire mesh slings that are repaired must not be used unless the repairs were done by the manufacturer or an equivalent entity.
- When a wire mesh sling has been repaired, it shall be tagged with a permanent marking, indicating the nature of the repair and date. This information shall be available for inspection upon request.
- Wire mesh slings shall be removed from service immediately if any of the following conditions exist:
  - Broken welds;
  - Reduction in diameter of 25 percent from abrasion or 15 percent from corrosion;
  - Lack of flexibility;
  - Distortion of the female handle so the depth of the slot is increased more than 10 percent or distortion of the width of the eye is decreased 10 percent or more; or
  - A 15 percent reduction of metal at either of the handle eyes

### 26.9 Synthetic Web Slings

- Each sling shall have marked or coded rated capacity.
- All slings shall be uniform in thickness and width and the edges shall not be split from the main body of the sling.
- The end attachments shall be of the same capacity as the sling.
- Stitching shall be the only method used to attach end fittings. The stitching should be uniform and contain sufficient stitches to equal the capacity of the sling.
- Nylon web slings shall not be used where fumes, vapors, sprays, mist, or liquids of acid or phenolics are present.
- Polyester and polypropylene web slings shall not be used where fumes, vapors, sprays, or mists of liquid caustics are present. Slings with aluminum fittings shall not be used in this environment.
- Nylon and polyester slings shall not be used in temperatures in excess of 180 degrees Fahrenheit.
- Polypropylene slings shall not be used in temperatures in excess of 200 degrees Fahrenheit.



- Web slings shall only be repaired by the manufacturer or equivalent entity.
- Each repaired sling shall be proof tested by the manufacturer or equivalent entity to twice the rated capacity prior to return to service. A certificate shall be kept on file for all repairs.
- Synthetic slings shall be removed from service if any of the following conditions are present:
  - Acid or caustic burns;
  - Melting or charring of any part of the sling;
  - Snags, punctures, tears or cuts;
  - Broken or worn stitches;
  - Distortion of fittings; or
  - Wear thread exposure.



## 27.0 LOCKOUT/TAGOUT PROGRAM

The purpose of this standard operating guideline is to prevent personal injury and property damage due to the unexpected energization or start-up of machines and equipment or release of stored energy where repairs and/or maintenance are under way.

### 27.1 References

- OSHA 29 Code of Federal Regulations, 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)*

### 27.2 Definitions

1. *Affected Employee* – An employee whose job requires her/him to operate or use a machine or equipment under lockout/tagout or whose job requires her/him to work in an area where repairs or maintenance are being performed under lockout/ tagout procedures.
2. *Authorized Employee* – A person who locks or tags a machine or equipment to perform repair or maintenance. The authorized employee and the affected employee can be the same person.
3. *Energy-isolating Device* – A mechanical device that physically prevents the release of energy. Examples: manually operated circuit breaker, a disconnect switch, a line valve, or a block. This does not include a push button, selector switch, or other circuit-type devices.
4. *Lockout Device* – A device with the positive means to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. This could be a keyed or combination lock.
5. *Tagout* – The placement of a tag on the energy-isolating device to indicate that the machine or equipment may not be operated until the tag is removed.
6. *Tagout Device* – A warning device such as a tag with means of attachment that can be secured to an energy-isolating device to indicate that the machine or equipment may not be operated until the tagout device is removed.
7. *Energized* – Connected to an energy source or containing residual or stored energy.
8. *Energy Source* – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
9. *Servicing and/or Maintenance* – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining, and/or servicing machines or equipment. These activities include lubrication, cleaning, or unjamming machines or equipment and making adjustments or changes where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.
10. *Initiator* – The authorized employee initiating the tagging out of a system, component, or sub-component who is responsible for preparing paperwork and obtaining proper signatures.
11. *Supervisor* – The duly appointed supervisor or, in her/his absence, the manager of the department.
12. *Tag Number* – A number that specifically identifies one tag and its location, and refers to the appropriate equipment on the service sheet.



### **27.3 General Provisions**

- When any new equipment is acquired or equipment is updated, the equipment will be designed in such a way that it will accommodate a locking device as required by OSHA in January 1990.
- A lockout device and tag shall be affixed to an energy-isolating device to disable machines or equipment from unexpected energization, startup, or release of stored energy.
- When a lockout device cannot be attached to the machine or equipment physically, a tag shall be attached to the energy-isolating device.
- Protective materials and hardware such as locks, tags, etc., shall be provided by the employer and used only for controlling energy and not any other purpose and shall meet the following requirements:
  - Lockout and tagout devices shall be capable of withstanding the environment in which they will be used.
  - Tagout devices shall be constructed and printed in such a way to ensure that exposure to weather conditions or damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
  - Tags shall not deteriorate when used in corrosive environments such as around acid and alkali chemicals.
  - All locks and tags shall be standardized in at least one of the following criteria: color, shape, or size. Tags shall have the same print and format.
  - Tags shall include a legend such as the following: DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, DO NOT OPERATE.
- Procedures shall clearly outline rules and techniques to be utilized for the control of hazardous energy and the means to enforce compliance, including specific:
  - Steps for shutting down, isolating, blocking, and securing machines or equipment and warning employees;
  - Steps for placement, removal, and transfer of lockout devices or tags and identification of the person responsible for them;
  - Requirements for testing to determine and verify effectiveness of lockout devices and other control measures;
  - Steps in situations when a lock or tag must be removed to move or reposition a machine or equipment for repair;
  - Procedures to be incorporated when outside personnel engage in on-site activities that are within the scope of this guidelines;
  - Procedures when group lockout or tagout is required; and
  - Procedures for a change of shift or personnel involved in a lockout/tagout.
- Inspections shall be performed at least annually to ensure that the procedures and requirements are being followed.
  - The inspection shall be performed by an authorized person other than the person utilizing the lockout/tagout procedure.
  - The inspection shall be used to identify any deviations and discrepancies in the procedure.



- Where lockout is used, the inspection shall include a review between the inspector and each authorized employee to ensure that procedures are being utilized.
- Where tagout is used, the inspection shall include a review between the inspector and each authorized employee and affected employees to ensure that employees are performing the procedures correctly.
- The employer shall certify that the inspections have been performed. The certificate shall identify the machine or equipment on which the energy control procedure was being used. It shall include the date, person performing the inspection, and the employees included in the inspection.
- Training and communication shall be provided to ensure that energy control programs are understood and that knowledge and skills required for safe application are acquired by employees. The training shall include the following:
  - Employees shall receive training in recognition of hazardous energy sources and methods necessary for energy isolation and control.
  - Employees who operate or work in areas where lockout procedures are used shall be trained to ensure that they do not attempt to restart machines or equipment that are locked out or tagged out without permission.
- When tags are used, employees shall be trained in the limitations of tags.
  - Tags are only warning devices and do not provide the physical restraint that locks do.
  - When a tag is attached to an energy source, it shall not be removed without the permission of the authorized person who put it there. It shall not be bypassed, ignored, or defeated.
  - Tags must be legible and understandable by affected employees in order to be effective.
  - Tags must be made of material that will withstand the environmental conditions in which they are used.
  - Tags must be attached so as not to be accidentally detached during use.

#### **27.4 Lockout/Tagout Procedures**

Each employee whose work requires them to be in the lockout/tagout program will be issued locks that are keyed alike for that one employee. These can be colored coded to identify that particular employee or shop. They will be issued tags to be used in conjunction with the lock. In cases where a lock cannot be used, the employee or shop will use a tag. *Exception:* When the authorized employee who applied the lock or tag is not available, the device may be removed only by the supervisor, provided that:

- It has been verified that the authorized employee is not available.
- Every reasonable effort has been made to contact the employee and let him or her know that their device has been removed.
- Ensure that the authorized employee is informed before returning to work that her/his device has been removed.
- When a locking device cannot be used to physically prevent start-up, a tag should be used and, if possible, circuit elements, valve handles, etc., should be removed to make it as safe as possible.
- The lockout/tagout procedure will follow a sequence and will be done only by authorized personnel.



- The process is as follows:
  - The type of energy, hazards associated with it, and how to control the hazards shall be determined.
  - A determination shall be made as to which employees will be affected and, therefore, notified of the lockout/tagout procedure to be used.
  - All energy-isolating devices shall be installed in a manner that will hold the machine or equipment in a safe on/off position.
  - Tagout devices will be fixed in such a way that operation of machine or equipment is prohibited.
  - Tags will be used with locks. The tags shall be placed at the same location as the lock. If this is not possible, the tag shall be placed in such a place as to make it obvious not to operate the device.
  - Following the lockout or tagout of the energy device, all potentially hazardous stored or residual energy shall be released, disconnected, or restrained to a safe condition.
  - Prior to working on a machine or equipment that has been locked out or tagged out, the authorized person shall verify that the energy source has been isolated. If there is a chance of re-accumulation of energy, the authorized person shall continue to monitor the job to ensure that re-energization does not occur.

### **27.5 Release from Lockout or Tagout Procedures**

Before lockout or tagout devices are removed, steps shall be taken by the authorized person.

*They are as follows:*

- The work area shall be checked to ensure that all employees are clear before the lockout devices are removed and the energy resupplied to the equipment. Affected employees shall be notified that the lockout has been removed.
- Each lockout/tagout device shall be removed by the employee who placed it there.
- When the authorized employee who applied the lock or tag cannot be contacted, steps shall be followed to ensure the safety of all employees involved in the lockout/tagout procedure.
- Management shall make a thorough search to contact the employee who has a locking device on equipment to inform her/him that the equipment has been energized. Documentation will be placed in a file to verify that this procedure was followed. It shall be signed and dated by the management.
- The employee shall be notified by some means that the lockout/tagout has been released before he/she returns to work.
- In situations where lockout/tagout devices must be removed in order to reposition or move a machine to complete work, the following procedures shall be followed:
  - Clear the machine of employees, tools, and material.
  - The employee who installed the locking device shall be the one to remove it.
  - Energize to run or position the equipment.
  - De-energize the equipment and reapply the lockout/tagout procedure before continuing work on the equipment.



- Group lockout/tagout shall utilize a procedure that affords a level of protection equal to a single person lockout/tagout situation. The procedure is as follows:
  - An authorized person will be responsible for a set number of employees working under the protection of a group lockout/tagout device.
  - Each authorized person shall attach her/his lock and tag to a group lockout device such as a scissor device for multiple locks. Employees shall remove their own lock and tag when they have completed their part of the job.
- When a lockout/tagout operation overlaps a shift, the following procedure shall be followed:
- The authorized person shall ensure that when one employee removes her/his lock from the isolating device, the employee coming on duty will install her/his lock. All affected employees will be notified of the personnel or shift change.
- Whenever outside servicing people are to be engaged in the lockout/tagout procedures of NMHU, the on-site manager will ensure that the contractor has a copy of the NMHU lockout/tagout procedures.
- Employee training shall be provided to ensure that the purpose of the energy control programs is understood and required knowledge and skills are in place. The training procedure shall be as follows:
  - All employees who are to be authorized will be given a copy of the lockout/tagout program. The trainer will discuss and explain the standard operating guidelines to ensure that all employees understand and comply with the program.
  - All other employees whose work area could come under the lockout/tagout program will be trained in the prohibition of attempting to restart equipment that is locked out or tagged out.
  - Retraining shall be provided if there is a change in the process, in job assignment, in machines, or in the energy control procedure. Retraining shall also be performed if the periodic inspection reveals any deviations from the energy control procedures.
  - Employees shall certify that training has been kept up to date by signing and dating the "Lockout/Tagout Training Certificate" each time they participate in training and retraining, with a copy placed in their personnel file.
- A periodic inspection of the energy control procedure shall be performed at least annually to ensure that the requirements of the program are being met. The periodic inspection procedure is as follows:
  - A periodic inspection shall be performed by an authorized employee other than the one utilizing the energy control procedure.
  - The inspection shall be used to correct any deviations observed.



## 28.0 CRANES AND HOISTS

The purpose of the NMHU crane and hoist program is to ensure the safety of all employees, (to include contractors) who are required to use a crane or hoist while performing their duties.

### 28.1 Overview

Employees' safety will be accomplished by complying with guidance in OSHA 29 CFR, 1910.179, and ANSI B30.2.0-1967. New and existing equipment shall meet all of these standards and other regulations as required for installation and operation.

### 28.2 Responsibilities

The Environmental Health and Safety (EHS) Department will be responsible for ensuring that each department using cranes and hoists are following the criteria set forth in the standards.

### 28.3 Inspections and Modifications

- Modifications may be done if they are checked thoroughly for the new rated load by a qualified structural engineer or the equipment manufacturer. The crane shall be tested at not more than 125 percent of the rated load unless recommended differently by the manufacturer. The test results will be on file and readily available.
- Rated load markings shall be clearly marked on each side of the crane or hoist. If the crane or hoist has more than one hoisting unit, each shall have the rated load marked so it can be clearly seen from the ground or floor.
- There will be an initial inspection prior to use of all new and altered cranes or hoists to ensure compliance with provisions of all standards and regulations.
- Inspections are divided into two general classifications: *frequent* and *periodic*. The intervals for inspections are dependent upon the nature and degree of exposure to wear, deterioration, or malfunction.
- Frequent inspections are performed on a daily to monthly basis and include:
  - All functional operational mechanisms for maladjustment- performed daily;
  - Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems- checked daily;
  - Hooks with deformation or cracks, or with safety latches missing- visual inspection daily; monthly inspection with a certification record, which includes the date of inspection, name, and signature of inspector and serial number or other identifier of the hook inspected. If the hook is cracked or has more than 15 percent excess throat opening or more than 10 percent twist, the hook shall be replaced;
  - Hoist chains will follow the same guidelines as the hook inspection above; and
  - Crane or hoist ropes will be inspected for reeving according to manufacturer recommendations
- Periodic inspections are performed at 1- to 12-month intervals.
- Complete inspections shall be performed on the crane or hoist on a schedule of 1 to 12 months, depending upon its activity, severity of service, and environment. They will be inspected for:
  - Deformed, cracked, or corroded members;
  - Loose bolts or rivets;
  - Cracked or worn sheaves and drums;



- Worn, cracked, or distorted parts such as pins, bearings, shafts, gears, rollers, and locking and clamping devices;
- Excessive brake wear;
- Excessive wear of chain drive sprockets and excessive chain stretch; and
- Electrical apparatus for deterioration, limit switches, and push button stations
- A crane or hoist that has been idle for more than one month but less than six months shall be inspected using the *frequent* inspection checklist, and the inspector's name, the date of inspection, and identification of the crane or hoist inspected will be documented.
- A crane or hoist that has been idle for more than six months shall be given a complete inspection conforming to *frequent* and *periodic* inspections, to include the inspector's name and the date of inspection. This documentation must be kept on file and readily available.
- Standby cranes or hoists shall be inspected at least semi-annually to conform to *frequent* inspections.

#### **28.4 Testing**

Prior to use, all new or altered cranes or hoists shall be tested to ensure compliance by checking the following functions:

- Hoisting and lowering;
- Trolley travel;
- Bridge travel; and
- Limit switches

Locking and safety devices are to be checked with an empty hook and by increasing speeds up to the maximum. The actuating components shall be set to trip the switch under all conditions in sufficient time to prevent the hook from hitting the trolley.

All cranes and hoists will be tested as per these guidelines. The operators of all electric cranes and hoists will follow these guidelines. The operators of all manual cranes and hoists will follow the guidelines for *frequent* inspections given above.

#### **28.5 Maintenance**

Preventive maintenance shall be based on the crane or hoist manufacturer's recommendations. Prior to maintenance, the following shall be done:

- Locate the crane or hoist so it does not interfere with operations in the area;
- Place all controllers in the *off* position;
- Lock out the main power supply;
- Tag-out the crane or hoist to inform other employees that maintenance is being performed on the equipment; and
- After maintenance, all guards shall be replaced, safety devices reactivated, and tools removed before checking operation of the equipment.



### **28.6 Rope Inspection**

Inspection of the wire rope shall be performed monthly and a record kept with date of inspection, name and signature of inspector, and identification of the ropes inspected. This information shall be kept on file and readily accessible. The following items shall be checked or observed:

- Reduction of rope diameter;
- Corrosion of internal or external wires;
- Number of broken outside wires and the degree of distribution and concentration on the rope;
- Worn or corroded wires at the end connectors;
- Corroded, cracked, or improperly attached connections; and
- Severe kinking

Any rope that has been idle for a month or more will receive a full inspection with the date of inspection, name and signature of inspector, and identification of the rope. This will be documented and remain on file and readily available.

### **28.7 Handling Loads**

The following procedures will apply while handling a load:

- The crane, hoist chain, or rope will not be wrapped around the load.
- The load should be attached using a sling or other approved device.
- The load shall be balanced in the sling or lifting device before lifting it more than a couple of inches.
- The crane or hoist rope shall not be kinked.
- The crane or hoist should not be used for side pulls.
- No load should be hoisted while employees are on the load.
- Loads should not be carried over individuals.
- The brake shall be tested each time a load is moved at the rated capacity of crane or hoist.
- A load should not be lowered below the point where there are less than two full wraps of rope left on the drum.
- The operator shall not leave her/his position at the controls while the load is suspended.

### **28.8 Crane and Hoist Limit Switches**

The following procedure will be followed while checking limit switches:

- At the beginning of the operations shift, the empty hook shall be raised slowly to ensure that the upper limit switch is operational. If not, a repair shall be made before using the equipment.
- The upper limit switch shall never be used as an operational control.

### **28.9 Ladders and Stairways**

- Ladders and stairways shall be securely fastened and comply with 29 CFR, 1910.27.
- Stairways will be equipped with handrails and stair surfaces will be anti-slip material.



**28.10 Holding Brakes**

- Holding brakes shall be applied automatically when power is disconnected.
- Holding brakes shall have an adjustment means.
- All brake drums shall be maintained with a smooth surface.
- Brakes may be applied by mechanical, electrical, pneumatic, gravity, or hydraulic means.

**28.11 Electric Equipment**

- All wiring shall adhere to the National Electric Code.
- The control circuit shall not exceed 600 volts.
- The pendant control voltage shall not exceed 150 volts AC and 300 volts DC.
- The pendant shall be supported by some means to prevent strain on the electric wire.
- The pendant control buttons shall be clearly marked as to their function.
- Lockout and tagout procedures will be used while maintenance is being done.



## **29.0 FALL PROTECTION**

- Employees and/or contractors working at an elevated location of six (6) feet or more above the ground or the next lower level will be protected by guardrails, safety nets or personal fall arrest systems.
- Standard guardrails will be installed on all open sides of scaffolds, elevated platforms, wall openings or other elevations 6 feet or more above the level below.
- All temporary scaffolds, suspended scaffolds or platforms will be properly designed for their intended use, in accordance with the applicable regulations.
- Employees and/or contractors exposed to falls from heights that would otherwise require guardrails or other fall protection will use an approved personal fall arrest system.
- All fixed ladders with a length of 24 feet or more will be equipped with a ladder safety device or a self-retracting lifeline.



## 30.0 ELECTRICAL SAFETY AWARENESS

Electricity is a serious work place hazard, capable of causing both employee injury (shocks, electrocution, fires and explosions) as well as serious property damage.

### 30.1 Responsibilities

NMHU is responsible for providing employee safety training, conducting electrical safety inspections, correcting all electrical safety hazards, and ensuring that all new electrical equipment and components comply with codes and regulations. Employees are responsible for the immediate reporting of electrical safety hazards, for not working on electrical equipment without proper training and authorization, and for inspecting equipment prior to using it.

### 30.2 Definitions

- *Qualified worker*: An employee who is trained and authorized to perform work on electrical equipment and components.
- *Unqualified worker*: An employee who has not been trained or authorized to perform electrical work.
- *Hazard Control*: The following control methods will be used to prevent occurrence of electricity-related incidents:

### 30.3 Engineering Controls

- Electrical systems will conform to the requirements of National Electrical Code, and the contract specifications as applicable.
- All electrical distribution panels, breakers, disconnects, switches and junction boxes must be completely enclosed;
- All 125-volt single phase, 15 and 20 ampere receptacle outlets that are not a part of the permanent wiring of the building or structure will have ground fault circuit-interrupter protection for personnel.
- All electrical circuits, equipment and conductor enclosures will have a grounding system that is: permanent and continuous; of such capacity to conduct safely any fault current likely to be imposed on it; and of sufficiently low resistance to limit the voltage to ground and facilitate the operation of the circuit breaker in the circuit.
- The continuity and resistance of plant grounding systems will be tested immediately after installation, repair or modification and annually after that.
- Temporary wiring will be guarded, buried, or isolated by elevation to prevent contact by workers or equipment.
- All electric powered machinery and equipment will be de-energized, and the switch locked and tagged out before any maintenance or repair work is performed.
- Water-tight enclosures must be used if any of these components could possibly be exposed to moisture;
- Structural barriers must be used to prevent accidental damage to electrical components;
- Conduits must be supported for their entire length, and non-electrical attachments to conduits are prohibited;
- Non-rigid electrical cords must have strain relief wherever necessary.



- Unless electrical lines are de-energized and visibly grounded, no equipment, machinery or tools will be operated or handled within ten feet of lines carrying up to 50,000 volts. Greater distances are required for voltages over 50,000.

### **30.3 Administrative Controls**

- Only trained, authorized employees may repair or service electrical equipment;
- Contractors must be licensed to perform electrical work;
- Physical barriers must be used to prevent unauthorized persons from entering areas where new installation or repair of electrical components or equipment is being performed;
- Only authorized employees may enter electrical distribution rooms;
- All electrical control devices must be labeled properly;
- Senior facility management must authorize any work on energized electrical circuits.

### **30.4 Work Practice Controls**

- Employees covered under this guidelines must wear electrically rated safety shoes or boots;
- Use only tools that are properly insulated or are made of non-conductive materials (i.e. wood ladders);
- Conductive apparel shall not be worn unless items are rendered non-conductive by covering, wrapping or other insulating means.
- Non- conductive gloves will be available for work on electrical equipment;
- Electrical-rated matting will be placed in front of all electricity-distribution panel;
- All electrical components must be treated as if they are energized and live;
- Vehicular and mechanical equipment shall be operated so that a clearance of 10 ft. is maintained from energized overhead lines;
- Work spaces containing exposed energized parts must be illuminated;
- When working in confined spaces where electrical hazards may exist, protective shields, barriers or insulating materials shall be used.

### **30.5 Electrical Equipment Inspections**

Inspect all electrical equipment for hazards that could cause employee injury or death. Consider the following factors when determining the safety of the equipment:

- Suitability for the intended use;
- Proper insulation;
- Heating effects under conditions of use;
- Arcing effects;
- Classification by type, size, voltage, current capacity and intended use.



### 30.6 Personal Protective Equipment

NMHU will provide personal protective equipment for use by employees working in areas where they could be exposed to electrical hazards.

- Employees are required to observe the following procedures for PPE use:
- PPE use is mandatory when contact with exposed electrical sources is likely; Only use PPE that is designed for the work being performed;
- Inspect and test all PPE prior to use;
- Use a protective outer cover (leather, for example) if the work being performed might damage the PPE's insulation;
- Wear non-conductive headgear if there is danger of electrical burns or shock from contact with exposed, energized equipment;
- Wear eye and/or face protection any time there is danger of flying objects, flashes or electrical arcs produced by an electrical explosion.

### 30.7 Qualified Employees

Training for those employees qualified to perform electrical work will consist of:

- Specific equipment procedures;
- The training requirements outlined in OSHA standard 29 CFR 1910.331 to 1910.339.

### 30.8 Unqualified Employees

Employees not qualified or authorized to perform work on electrical equipment and components will be trained in general electrical safety precautions for the purpose of hazard awareness. The following electrical safety rules also apply to unqualified employees:

- Do not conduct any electrical repairs;
- Report all electrical hazards to your supervisor;
- Do not operate equipment if you believe there is an electrical hazard;
- Do not allow electrical equipment or components to contact water;
- Remember that even low-voltage electricity can be physically harmful;
- Do not use cords or plugs that are missing the 'ground' prong;
- Do not overload electrical receptacles
- Maintain a safe clearance of at least 10 feet when working in an elevated position near energized overhead lines.

### 30.9 Permissible Approach Distance (Overhead Lines)

<i>Voltage Range AC (phase to phase)</i>	<i>Minimum Approach (Distance)</i>
300V and less	Avoid Contact
Over 300V not over 750 V	1 ft. 0 inches
Over 750V not over 2kV	1 ft. 6 inches
Over 2kV not over 15kV	2 ft. 0 inches
Over 15kV not over 37kV	3 ft. 0 inches
Over 37kV not over 87.5kV	3 ft. 6 inches
Over 87.5kV not over 121kV	4 ft. 0 inches
Over 121kV not over 140kV	4 ft. 6 inches



## 31.0 CHAINSAW OPERATIONS AND SAFETY

The purpose of this standard operating guideline is to ensure personnel participating in chainsaw activities follow safety and industry standards. Personal protective clothing, including gloves, ballistic pads and/or chaps or other approved chainsaw leg protection, industry approved boots with chainsaw cut-resistant protection, hard hat, hearing protection and eye protection must be worn at all times when operating any chainsaw.

### 31.1 Procedures

Every chainsaw placed into initial service shall be equipped with a chain brake and shall otherwise meet the requirements of the ANSI B175-1.1991 "Safety Requirements for Gasoline-Powered Chain Saws". No chainsaw kickback device shall be removed or otherwise disabled.

- Removing or disabling anti-kickback devices is prohibited.
- Each gasoline-powered chainsaw shall be equipped with a continuous pressure throttle control system which will stop the chain when pressure on the throttle is released.
- The chainsaw shall be operated and adjusted in accordance with the manufacturer's instructions.
- The chainsaw shall be fueled at least 20 feet from any open flame or other source of ignition.
- The chainsaw shall be started at least 20 feet from the fueling area.
- The chainsaw shall be started on the ground or where otherwise firmly supported.
- The chainsaw shall be started with the chain brake engaged.
- The chainsaw starting rules have been interpreted to permit starting a chainsaw with the rear handle firmly gripped between the legs, the front handle firmly gripped with the arm straight and locked at the elbow, and the chain brake engaged.
- The chainsaw shall be held with the thumbs and fingers of both hands encircling the handles during operation.
- The chainsaw operator shall be certain of footing before starting to cut. The chainsaw shall not be used in a position or at a distance that could cause the operator to become off-balance, to have insecure footing, or to relinquish a firm grip on the saw.
- Prior to felling any tree, the chainsaw operator shall clear away brush or other potential obstacles which might interfere with cutting the tree or using escape routes.
- The chainsaw shall not be used to cut directly overhead.
- The chainsaw shall be carried in a manner that will prevent operator contact with the cutting chain, muffler and/or dogs.
- The chainsaw shall be shut down or the chain brake shall be engaged whenever a saw is carried farther than 50 feet (15.2 m). The chainsaw shall be shut down or the chain brake shall be engaged when a saw is carried less than 50 feet if conditions such as, but not limited to, the terrain, underbrush and slippery surfaces may create a hazard for an employee.
- The chainsaw operator shall make frequent inspections (more than once per day) to ensure that:
  - Chainsaw handles and guards are in place and tight. This includes having an operational chain brake.
  - All chainsaw controls function properly. This includes having saw equipped with a safety throttle which shuts off power after pressure on the throttle is released.



- The cutting chain is properly adjusted, and that the saw chain will not continue to be driven after the throttle is released.
- The muffler is operative (and equipped with a spark arrester).
- Chain brakes and all other manufacturers' safety features remain operational.
- Chain saws without all safety devices operational or in need of repair or parts or otherwise not safe for use shall immediately be tagged out and marked "out of service".
- Manufacturer's instructions for operation and adjustment shall be followed and worker training must include specific details in the chainsaw operator's manual.
- Fuel for chain saws shall not be used for starting fires or as a cleaning solvent.
- Fellers shall have felling aids, including a felling axe (capable of driving wedges) and felling wedges.

### **31.2 Training**

Any person operating a chainsaw on NMHU property and/or NMHU sponsored activities, must have a completed chainsaw training certificate on file.

- Certificates must meet industry standards.
- All chainsaw operators training records must be approved the University Safety Officer before they can participate in chainsaw activities.
- The EHS Department will provide chainsaw training and/or coordinate such training.
- Training recertification shall follow established industry standards.



### **32.0 FORESTRY PROGRAM FIRING ACTIVITIES or DEVICES**

The Forestry Program at NMHU often provides students with the opportunity to participate (in a non-active role) on prescribed fires. The experience gained during the activity is essential in gaining knowledge and skills needed to pursue a career in forestry related fields.

All faculty and/or students participating in prescribed fire activities must meet the following minimum standards:

- Must have all the required personal protective equipment identified for prescribed fires by the National Wildfire Coordinating Group.
- Firing Devices: Only faculty and/or students can engage in firing activities or devices if they have been properly trained according to the standards established by the National Wildfire Coordinating Group.
- Firing operations or use of firing devices must be overseen by a certified National Wildfire Coordinating Group firefighter.
- PPE (as required by the National Wildfire Coordinating Group) must be worn at all times.



### **33.0 HAND OR POWER TOOLS**

- The employer shall assure that each hand portable powered tool, including any tool provided by an employee, is maintained in serviceable condition.
- The employer shall assure that each tool, including any tool provided by an employee, is inspected before initial use during each work shift. At a minimum, the inspection shall include the following:
  - Handles and guards, to assure that they are that they are sound, tight fitting, properly shaped, free of splinters and sharp edges, and in place.
  - Controls – to assure proper function.
  - Chain-saw chains – to assure proper adjustment;
  - Chain-saw mufflers – to assure that they are operational and in place.
  - Chain brakes and nose shielding devices – to assure that they are in place and function properly.
  - Heads of shock, impact-driven and driving tools – to assure that there is no mushrooming.
  - Cutting edges – to assure that they are sharp and properly shaped.
  - All other safety devices – to assure that they are in place and functioning properly.
- The employer shall assure that each tool is used only for purposes for which it has been designed.
- When the head of any shock, impact-driven or driving tool begins to chip, it shall be repaired or removed from service.
- The cutting edge of each tool shall be sharpened in accordance with manufacturer's specifications whenever it becomes dull during the work shift.
- Racks, boxes, holsters, or other means shall be provided, arranged and used for the transportation of tools so that a hazard is not created for any vehicle operator or passenger.
- Hand tools shall be sheathed or boxed if transported in a vehicle with personnel. If not contained in a box, the sheathed tools shall be fastened to the vehicle.
- Proper storage facilities shall be provided for hand tools. Tools shall be stored in the provided location at all times when not in use.
- Periodic inspections shall be made to assure all tools are serviceable and others removed from use.



## 34.0 JOB HAZARD ANALYSIS

One of the most important and effective tools in accident prevention is the Job Hazard Analysis (JHA). The following is a guide to assist personnel in developing a JHA for each type of operation.

- The fundamentals of JHA are:
  - Each type of operation or major phase of work can be broken down into a series of general steps.
  - The hazards associated with each step can be identified.
  - Controls can be identified or developed to eliminate or reduce the severity of the hazards.

### 34.1 Development

- The JHA process ideally involves personnel at various levels throughout the organization. Each JHA should, to the extent possible, be developed through the cooperation and participation of the affected users. NMHU should encourage the development of JHAs and participate when possible.
- Each type of operation or major phase of work should be broken down into a series of general steps. Each step should be described (briefly) in the order it will be performed.
- After each general step of the operation has been identified, the hazards associated with each step should be identified, to the extent practicable. The following questions should be asked about each step to help identify the potential hazards:
  - Can anyone come in contact with an energy source (electricity, noise, radiant energy) or hazardous materials (chemicals, dust)?
  - Can anyone be struck by a moving, falling or flying object?
  - Can anyone strike against a stationary or moving object?
  - Can anyone be caught in, under or between anything?
  - Can anyone slip, trip or fall?
  - Will there be any lifting, pushing or pulling of heavy objects or materials?
  - Will anyone have limited visibility due to dust, smoke or low light conditions?
  - Will there be any fire hazards?
  - Will there be any environmental hazards (rain, lightening, darkness)?
- After the potential hazards have been identified for each step, appropriate controls to eliminate or reduce the accident producing potential of the hazards must be identified. If the hazards cannot be designed out of the job steps, other forms of protection must be provided (i.e. personal protective equipment, training, etc.) to reduce the hazard to employees.

### 34.2 Implementation

- Before starting a new operation and before the next step of an ongoing operation, the JHA should be reviewed in a toolbox safety meeting, with all the employees potentially exposed to the hazards.
- Supervisors should instruct new or transferring employees using the JHA developed for the steps of operations to which those employees will be assigned.



### **34.3 Review**

- A periodic review of each JHA should be performed to evaluate the effectiveness of the controls in eliminating or reducing hazards identified in each operation.
- The review provides an opportunity to reevaluate each step and amend the JHA to incorporate the latest and most effective methods of performing the work.

### **34.4 JHA Worksheet**

Utilize NMHU JHA Worksheet available from the EHS Department or located in *Appendix D*.



### **35.0 SAFETY MEETING/TAILGATE SAFETY BRIEFINGS**

A safety meeting will be held periodically, at the beginning of a new task, change in project location and/or as needed. All employees must attend safety meetings.

- Safety meetings shall be conducted by the Safety Officer, supervisor and/or other qualified individual who, because of particular expertise, is qualified to teach the subject matter of the meeting.
- An agenda will be available in advance of each safety meeting. All accidents and significant near misses shall be discussed at safety meetings. Written materials will be provided to employees as an aid to understanding the subject covered in the meeting. Minutes of each safety meeting will be taken and distributed to employees at the next meeting. A sample form for recording minutes is found as the last page of this appendix.
- Employees are expected and encouraged to actively participate during safety meetings. Employees are also encouraged to identify topics to be covered in safety meetings. All employees present at the work site shall attend the safety meeting, and failure to do so shall be deemed a violation of company safety standards and will result in that employee being disciplined under the disciplinary program described herein.
- See *Appendix C for Record of Training/Tailgate Safety Briefing*.



## 36.0 OPERATING A NMHU VEHICLE

The Facilities Services Department manages the *NMHU Vehicle Policy and Procedures* and maintains the fleet for the university. Prior to operating a NMHU vehicle, employees and/or students must complete a state recognized and certified Defensive Driving Course. In addition, to ensure the safe operation of a university vehicle, the following procedures should be followed:

- All drivers must possess a valid driver's license.
- The driver shall adhere to **ALL** State of New Mexico Motor Vehicle laws, rules and regulations.
- Posted speed limits are not to be violated.
- *Any of the violations below may result in revocation of driver privileges.*
  - The transportation of beer and/or alcoholic beverages is strictly prohibited in NMHU vehicles, except for those activities initiated by NMHU Police/Security in the execution of their law enforcement responsibilities.
  - The use or possession of alcoholic beverages at any time, including before the planned driving activity, is strictly prohibited.
  - The use or possession of illegal drugs at any time, including before the planned driving activity, is strictly prohibited.
  - The use of prescription medication (those that all labeled not to drive or operate equipment) at any time, including before the planned driving activity is strictly prohibited.
  - The use of tobacco products is prohibited in NMHU vehicles.
  - Any speeding and/or other reckless operation citations/fines could result in removal of driving privileges.
- The driver assumes responsibilities for all passengers. Drivers are to be faculty, staff or students at NMHU.
- The University's insurance will cover only drivers listed on the *NMHU Motor Pool Trip Ticket* form provided by Facility Services.
- Vehicles are to operate on main roadways only, unless part of field activities requiring off-road travel. Avoid parking on steep slopes.
- Travel plans should not require driving time of more than 10 hours.
- Vehicles should not be parked within 100 feet of a liquor establishment.
- No pets are allowed in NMHU vehicles.

### 36.1 Emergency Vehicle Operations

The EHS Department and NMHU Police vehicles are equipped with emergency lights and sirens. In order to operate a moving vehicle in an emergency status, all personnel of EHS and/or NMHU Police must meet the following minimum standards:

- Nationally recognized emergency response driver training:  
*Examples include, but are not limited to:*
  - Emergency Vehicle Driver Certification: IFSAC certified; and/or
  - Driving for the Fire Service: NWCG certified; and/or
  - EMS Certification: State recognized; and/or
  - Class E Driver's License: State of New Mexico; and/or
  - Law Enforcement Emergency Driving Certification: NM Law Enforcement Academy.



*36.1.1 Operating an Emergency Vehicle*

Emergency personnel, including NMHU Police and the EHS Department must meet the minimum criteria identified above to operate an emergency vehicle in the act of responding to an emergency. If an operator does not meet the minimum qualifications/certifications, they cannot operate a vehicle with emergency lights/siren while the vehicle is moving.

*36.1.2 Use of Emergency Warning Lights*

Personnel (including work-study employees) of NMHU Police/Security and the EHS Department are allowed to engage emergency lights to warn the general public of hazards if the vehicle is parked and not moving.



## **37.0 ACCIDENT INVESTIGATION, REPORTING AND RECORD KEEPING**

### **37.1 Procedures**

Accidents are unintentional incidents that may or may not result in an injury or property damage. Effective accident prevention depends on the complete investigation of all accidents, even if there is no injury or damage to property (near misses), in order to identify potentially serious losses. **ALL** accidents will be investigated by the immediate supervisor of the operation involved. Whenever possible photographs of the accident scene should be taken as part of the investigation.

### **37.2 Injury To Employee**

- All employees will be instructed and required to report all work related injury or illness to their supervisor immediately (the same day).
- The supervisor of an injured employee will investigate the causes, determine corrective measures and submit a Notice of Accident to the owner on the same day the injury occurs.
- The supervisor of an injured employee should notify the Safety Officer to determine if medical treatment of an injured employee is necessary.

### **37.3 Serious Injury, Illness or Fatality**

- Any case involving serious injury, illness or death must be immediately reported by telephone to the OSHA.
- Serious injury or illness, for reporting purposes, includes any injury or illness which requires hospitalization in excess of 24 hours for reasons other than observation, or which results in the loss of any member of the body, or causes any serious degree of permanent disfigurement.
- The scene of any such serious accident should not be disturbed, except for rescue or emergency purposes, until released by a management official.

### **37.4 Property Damage and Other Incidents**

- A Notice of Accident must be completed for any incident that involves property damage, theft, and bodily injury to other than a NMHU employee, or other loss or potential claim.

### **37.5 OSHA Log Of Occupational Injuries and Illness**

OSHA requires recording keeping of reportable injuries/accidents for companies with more than 10 employees. With that said, NMHU will utilize "The Log of Occupational Injuries and Illness, OSHA Form 300" to document reportable injuries/accidents. Human Resources is responsible for the maintenance and record keeping of the log.



### **37.6 Regulatory Safety Inspections & Investigations**

- If any regulatory agency, such as OSHA, NMED, etc., conducts an inspection of any job site, the supervisor on the job site will notify the Safety Officer immediately (when the inspector arrives).
- The supervisor at the job site will make detailed notes as the inspection proceeds; these notes should include:
  - The reason for the inspection.
  - The names of any employees involved.
  - Description of any measurements or photographs taken by the inspector.
  - The description of any alleged violation.
  - The section number of the applicable regulation.
  - Any statement or instructions from the inspector
  - Whenever possible a company representative should take additional photographs.
- After the completion of the inspection, the supervisor will complete and send a report along with the original of any citations issued to the NMHU EHS Department.

### **37.7 Jobsite Inspections and Correction of Unsafe Conditions and Unsafe Actions**

Records of the inspections made by supervisors, foremen and safety personnel to identify and correct unsafe conditions and unsafe actions will be maintained at the EHS Department for at least one year.

### **37.8 Safety Training Record**

The records of safety meetings and safety training will be maintained at least one year. After one year, safety meeting and training records will be sent to the EHS Department.

### **37.9 Accident Investigation**

- The responsible supervisor is tasked with the initiation of an investigation. This should be done utilizing the Notice of Accident Report.
- Depending on the severity of the accident, to include near misses, the Safety Officer will be responsible for conducting a detailed investigation report.



## **38.0 ACCIDENT PREVENTION**

NMHU has adopted this Accident Prevention Program to provide accident prevention performance requirements for all operations including construction projects, shops, laboratories, studios and plants.

- The requirements of this program apply to all employees in all workplaces.

### **38.1 Correcting Unsafe Practices or Conditions**

Unsafe practices or unsafe conditions identified during any inspection will be corrected in a timely manner based on the severity of the hazard. When an imminent hazard cannot be corrected immediately, employees, except those necessary to correct the condition, will be removed from the area of the hazard.

### **38.2 Education and Training**

- Before their first job assignment, every new employee will receive a thorough safety orientation. They will be shown the orientation video and be given a copy of the NMHU EHS Department Standard Operating Guidelines.
- Employees that may be exposed to known or expected workplace hazards will be instructed in the recognition of the hazard, procedures for protecting themselves from injury, and the action to take in the event of injury.
- Previous experience must be considered when assigning personnel. Only those qualified by training or experience will be permitted to operate machinery and equipment.
- Safety meetings with all supervisory personnel will be conducted by or at the direction of the department at least monthly to review accident prevention efforts and results, safety guidelines pertinent to the work being performed.
- Supervisors will attend and participate in these monthly supervisor safety meetings. The training will be documented.
- First aid training will be provided to insure that each employee has a Red Cross First Aid Certificate.
- Supervisors will hold “tailgate” safety meetings with their employees at the beginning of each new job and at least weekly after that to discuss procedures, suggestions for improvement, past accidents and educational material, such as a Job Hazard Analysis about the work involved.
- In operations where more specific training is required by law or regulation such as the use of confined spaces, exposure to hazardous substances, etc., additional training will be conducted according to the applicable regulations.
- The records of safety meetings and safety training will be maintained at NMHU for at least one year. After one year, records of safety meeting and safety training will be sent to the EHS Department.

### **38.3 Health and Physical Requirements**

- Employees must be physically capable of safely performing their assigned duties.
- No person will knowingly be permitted on the jobsite whose health or physical condition might be detrimental to their safety or safety of others.
- No person will knowingly be permitted on the jobsite while under the influence of any substance including alcohol, illegal drugs, controlled substances and prescription or over the counter medications.



- All operators of equipment, vehicles and machinery must be able to read and understand the signs, signals and operation instructions in use.

#### **38.4 Sanitation**

- All outlets dispensing non-potable water will be conspicuously posted, “NON-POTABLE WATER-DO NOT DRINK” in both English and Spanish.
- Adequate toilet facilities will be provided for employees.
- Washing facilities, including soap, water, and paper towels will be provided with toilet facilities when necessary.



## **39.0 RESIDENTIAL HALL/APARTMENT SAFETY**

The standards identified in this section are directly from the NMHU Residence Halls Handbook on Policies and Procedures. The intent of this section is to provide consistency and familiarity of the standards for employees working in residential halls or apartments. If any of the safety concepts are identified not to be in compliance with the standards, the employee should immediately notify the appropriate Residential Director and/or Apartment Manager. In addition, the EHS Department should also be contacted.

### **39.1 EHS Department Right to Enter**

The EHS Department has the right to enter a room and/or apartment to conduct the following activities:

- Fire Safety Inspection (includes any activity associated with the fire prevention and fire safety devices: i.e.; replacing smoke detector batteries, inspecting fire extinguishers, smoke detector repair, etc.)
- Apartment/Room Health and Safety Inspection
- Report of unsafe actions of residents
- With or without notice for the purpose of inspection, maintenance, or repair.
- Without notice to or permission of the resident thereof, for the purpose of
  - Inspecting for dangerous drugs or narcotics;
  - Inspecting for firearms, fireworks, explosives, weapons; or
  - Any other substances, materials or goods the possession of which is a breach of the Housing Contract, the standards and NMHU regulations. Such entry and inspection, however, should be made only when the university has reasonable cause to believe that such items are present in the room; and
- When there is reason to believe that the occupants of the room are in serious physical or psychological distress.

### **39.2 Emergency Entry**

A staff member may, without verbal or written authorization from a higher authority, enter a student's room, suite or apartment either forcibly or with a building master key in cases of fire, explosion, bomb threats, attempted or suspected suicide, or other situations which call for the immediate entry in the interest of safety and security both for the residents of the room or suite.

Any unauthorized or illegal items observed in student rooms, suites or apartments during an emergency entry will not be used as a basis for criminal prosecution. However, in the event of suspected vandalism, arson, assault or other violations of housing and/or NMHU guidelines, which may have occurred in a room, Campus Police will be called in to conduct an investigation. The results of such an investigation may result in disciplinary action and/or criminal prosecution.



## 39.2 Procedures

- ***Alcohol, Drugs and Other Substances***

NMHU's procedure regarding the possession and consumption of alcohol and other drugs on campus was developed in keeping with New Mexico state law. It is important to note that a majority of disciplinary problems and a large number of academic problems faced by students are alcohol related. The following is a list of points that summarize enforcement of the alcohol and drug procedure in the residence halls:

- Alcohol is not permitted in any NMHU residence hall.
- Residents may not possess or consume alcohol in a substance-free residence hall.
- Residents age 21 and older may not furnish alcohol to minors (under legal drinking age).
- Residents who come back to the residence halls in an intoxicated state and/or violate hall procedure, will be held accountable for violating those policies and all alcohol policies that apply.
- Certain apartment complexes do allow alcohol. Please see the Resident Procedure Handbook for more information.

- ***Building Security and Personal Safety***

Each resident has the responsibility for respecting building security. Buildings are locked 24 hours a day. Propping doors, including fire exit doors, is not permitted.

- ***Dropping or Throwing Substances or Objects From Windows***

For the safety of everyone, residents are not allowed to drop or throw objects from or at residence hall windows, balconies, and or ledges. This includes bodily fluids, snow, or substances of any kind. Residents must also refrain from throwing objects through windows from outside. This procedure includes throwing keys to friends outside. Violations of this procedure will result in disciplinary action.

- ***Firearms***

No person shall have in his or her possession any gun, pistol, firearm, explosive, dangerous chemical or other dangerous weapon or instrument (including paintball guns, swords, knives, etc.) on university property. Violators will be subject to appropriate legal and disciplinary action, including the possible termination of the violator's housing contract and suspension or expulsion from NMHU.

- ***Health Code***

All residents shall comply with city, county and state codes regarding health and safety. Upon notification, students shall comply with all Housing and Student Conduct requests pertaining to correction of health and safety violations in and around their assigned room. This may include, but is not limited to, pest control, cleanliness, garbage removal, etc.

- ***Ledges and Rooftops***

For student's safety and to protect against building damage, residents and their guests are never permitted on rooftops or ledges. Violation of this procedure may result in disciplinary action.



- **Screens and Window Stops**  
Screens and window stops are safety equipment. Removal of or damage to these items may result in disciplinary action, and/or eviction, and a charge for damage.
- **Sexual Harassment**  
Consistent with NMHU's procedure on sexual harassment, the residence hall communities maintain a living environment that is free from sexual harassment. An individual found in violation of this procedure will be subject to disciplinary action.
- **Inspections**  
Inspection of the apartment may be made if there is reasonable cause to check for damage to University property, fire violations, safety violation and/or health conditions. The University can make such inspections at all reasonable times when conditions exist which warrant such action.

### 39.3 Fire and Safety Concerns

- **Appliances**  
Avoid overloading outlets with too many cords and do not use extension cords at all. THEY ARE NOT PERMITTED. The only appliances permitted in the residence halls are one microwave oven per room and one 2.5-cubic-foot refrigerator per room. The wiring system is NOT intended for items that place a heavy load on the system. It is also recommended that surge protectors be used within the residence halls for all of your appliances, computers, stereos etc. Additionally, residents are NOT ALLOWED to use hot plates, smokeless grills, or appliances with exposed heating elements. If these items are found in your room, they will be CONFISCATED.
- **Combustible Materials**  
Combustible materials such as propane, gasoline, kerosene and items containing combustible materials (i.e., lanterns) are not permitted in residence halls and/or apartments.
- **Fire Alarms**  
Legitimate fire alarms save lives. When activated, the alarm sounds in the entire building and EVERYONE must evacuate immediately. After activating an alarm, go to the nearest safe telephone (outside the building) and dial 911 to report the fire and 454-3278 to notify Campus Police. Individuals falsely activating an alarm will face disciplinary action, possible criminal prosecution and may be fined. False alarms may leave the local fire department shorthanded in the event of a real fire.
- **Fire Drills**  
Every residence hall is required to conduct a fire drill once a semester for the safety of staff and residents. All residents are required to exit the building within 60 seconds. Hall staff is required to time the drill in each building. Failure to evacuate will result in disciplinary action.



- **Fire Safety Equipment**

Damaging or tampering with fire alarm equipment is prohibited. FIRE EXTINGUISHERS are strategically located throughout each residence hall and campus apartments. Carefully follow the instructions on the extinguisher and use them ONLY in the event of a fire. EXIT SIGNS are considered fire equipment and are placed to guide residents to exit routes in emergency situations. SMOKE DETECTORS also are sensitive pieces of fire equipment. Actions that result in the activation of a smoke detector, tampering with fire alarm apparatus and equipment (including removing batteries from smoke detectors) or false alarms may result in criminal penalties, as well as disciplinary action.

- **Incense and Open Flame and Lava Lamps**

Because of the risk of burning incense or an open flame left unattended, the use of such is prohibited in residence halls. Candles or lanterns may not be used even in the event of a power outage. Residents are encouraged to have flashlights or similar devices to provide emergency lighting.

- **Smoking**

Smoking, including e-cigarettes, is not permitted in any residence hall or campus apartment. Any resident be found in violation of the no smoking procedure is subject to a \$300 fine and their housing contract subject to cancellation. All residents who do smoke, agree to do so outside and at least 25 feet from an entrance.

#### **39.4 Health and Safety Inspection**

Living conditions that could adversely affect residents' health and safety are prohibited. Residents are responsible for maintaining reasonable standards of cleanliness and safety in their rooms or apartments, hallways, lounges, bathrooms, and lobby areas including proper garbage/trash disposal and securing of cable, telephone and electrical wiring. The housing staff reserves the right to inspect rooms to ensure that residents comply with health and safety regulations. Upon vacating a room or apartment, the resident must ensure that the space is clean and in condition for the next student to occupy.

The purpose of health and safety inspections are to ensure that each student's room or apartment, all common spaces, and public areas of the residence halls/family housing are in reasonably clean condition, and that all terms associated with the safety regulations and policies of the university are being met. These inspections are conducted at least once per month.

The housing staff will inspect the general condition of the room, which includes: closets, appliances, extension cords, ceilings and wall hangings. Violations will be noted and called to the attention of the student. Serious violations or failure to remedy the condition may result in loss of housing and other penalties may apply. During the room inspection, housing staff will look for such violations as presence of pets and animals, excessive dirt, open food containers, overloaded outlets and alcohol and drug containers and paraphernalia. However, items seen in the room that are in violations of the housing policies will be confiscated.



#### 39.4.1 Procedure

- The date and time of inspections for the residence hall does not have to be announced. There may not be notification to building residents regarding the time or date of the inspection.
- This process involves the inspector accessing all occupied rooms and common-use areas. There are no exceptions.
- A copy of the Notice of Violations will be completed by the Safety Officer, resident director/residence hall coordinator or apartment manager and forwarded to the director of housing and student conduct. The notice indicates that repairs and/or removal items in violation are necessary. When violations are found, a re-inspection will be conducted approximately seven (7) to ten (10) days after the initial inspection. If a large number of violations have been found, more time (two weeks) may be allowed before the next inspection. However, this allowance is solely at the discretion of the Department of Housing and Student Conduct and its representatives.



## 40.0 EHS UNIFORM STANDARDS

In order to appropriately identify EHS employees (including work study) the EHS Department has been authorized to adopt a uniform standard. The standard is identified below:

### ***EHS Full-Time Employees:***

- Will be provided with work shirts (including polo shirts) that identify them as a member of the EHS team.
- The shirts should include the following (if applicable):
  - EHS Badge embroidered on the left chest, or NMHU approved logo on the left chest.
  - Right chest: should read: Safety and Fire Dept., or EHS Department.
  - Right sleeve- FIRE
  - Left sleeve- SAFETY
- The individual employee is responsible for maintaining the uniform in appropriate and serviceable condition, including washing and caring for uniforms.
- Hats will be provided by the EHS Department to each employee. The hats shall identify the employee as associated with the EHS Department.
- Badge- employees will be provided a wallet badge for identification purposes, specifically as it relates to making entry into a room.
- Employees are responsible for maintaining a professional appearance.

### ***EHS Work-Study Employees:***

- Work-study employees are essential and critical to the success and responsibilities of the EHS Department. Work-study employees are required to wear the following items when they are on duty.
  - Maintain a professional appearance.
  - Wear a fire safety vest when conducting any activities outside of the EHS office setting.
  - Provided a EHS Department hat that has:
    - Fire Safety
  - Return hats when the student leaves the program.
  - The individual work-study employee is responsible for maintaining the uniform in appropriate and serviceable condition, including washing and caring for uniforms.



## **41.0 AMENDMENTS/MODIFICATIONS, REVIEW & ADOPTION**

The Environmental Health and Safety Department *Standard Operating Guidelines* are intended to be a working document. Modifications and/or amendments should be suggested in writing to the Environmental Health and Safety Director. The Environmental Health and Safety Director will meet with the appropriate individuals to discuss changes/modifications. If modifications/changes are warranted, the changes will be reflected either as an Amendment or within the procedures manual. Distribution and dissemination of changes will be the responsibility of the Environmental Health and Safety Director.

### **41.1 Review**

This standard operating guideline will be reviewed in December of every third year by the Environmental Health and Safety Department (EHS). Reviews will also occur as regulatory entities amend existing codes, rules and/or regulations.

### **41.2 Adoption**

The procedures and/or guidelines contained herein have been adopted and accepted by New Mexico Highlands University Board of Regents, the University President, the Vice-President of Finance and Administration and the EHS Department on October 26, 2018.

### **41.3 Prepared By**

Brian G. Henington, M.B.A., M.A.,  
Environmental Health and Safety Director  
University Safety Officer

### ***Edited by:***

Carly Griego  
EHS Work-Study Employee

Adoption Date: **October 26, 2018**

Review # 1 Date: **January 30, 2020**



## REVIEW AND MODIFICATIONS

The EHS Standard Operating Guidelines were reviewed and modified on the date identified below. Any modifications, to include addition and/or deletion of items is identified on the following page(s).

Review #	Reviewed By	Signatures	Review Date
1	Brian Henington, EHS Director	<i>/s/ Brian G. Henington</i>	January 2020 Completed Jan. 30, 2020
2			
3			
4			
5			

### Review 1- Summary of Changes – 2019 Review

Change Type	Section	Topic	Purpose for the Change
Addition	3.4.5	<i>Safety Responsibilities for Contractors</i>	To identify the safety requirements for contractors working on NMHU property, facilities, equipment, etc.
Deletion & Addition	6.4.5	<i>Active Shooter</i>	The Run, Hide, Fight strategy has been deleted and replaced with the ALICE Strategy. NMHU Campus Police adopted ALICE in 2019. The adoption was based on the strategy better aligning with a university setting.



**APPENDIX A: Incident/Fire Log**

**Section 1: Incident Summary:**

Incident #:		Incident Name:	
Facility:		Facility #:	
Incident Date:		Incident Time:	
Day of Week:		Alarm Time:	

**Section 2: Facility/Building Information:**

Facility Name:			
Facility Address:			
Facility Owner:			
Occupancy:			
Primary Use:			
Known Hazards:			
Stories:			
<i>Fire Suppression System(s):</i>			
Fire Alarm:		Sprinkler System:	
		Smoke Detectors:	

**Section 3: Incident Information:**

Type of Incident:		Did Fire Department Respond:	
NMHU Response Time:		FD Response Time:	
Evacuation:		Evacuation Type:	
Injuries:		Fatalities:	
Fire Origin:		Equipment Involved in Ignition:	
Form of Heat of Ignition:		Type of Material Involved:	
Form of Material Involved:		Method of Extinguishment:	
Level of Fire Origin:		Extent of Flame Damage:	
Extent of Smoke Damage:		Detector Performance:	
Sprinkler Performance:		Avenue of Smoke Travel:	
Other Compartments Involved:		Contained in one Compartment:	
Avenue of Fire Travel:		Water Damage:	



**Section 4: Losses**

Documented Losses:		
Estimated Amount:		
Replacement Cost:		
Replacement Process:		
Repair Date/ Time:	Repaired/Replaced by:	

**Section 5: Investigator Information:**

Lead Investigator:		Position/Title:	
Supporting Investigator:		Title:	
Supporting Investigator:		Title:	
Reported Date:		Report Time:	
Lead Investigator Signature:	_____		

**Section 6: Photograph Summary**

Photo 1:	
Photo 2:	
Photo 3:	
Photo 4:	
Photo 5:	
Photo 6:	
Photo 7:	



**APPENDIX B: Confined Entry Permit-**  
**New Mexico Highlands University**

Date and time issued:			
Facility/Building:			
Equipment to be worked on:			
Standby personnel:			
Date and time expires:			
Job supervisor:			
Work to be performed:			
1. Atmospheric Checks:		Time: _____	
Oxygen	_____ %		
Explosives	_____ %L.F.M.		
Toxic	_____ PPM		
2. Tester's signature: _____			
3. Source isolation (No Entry):		N/A	Yes No
Pumps or lines blinded, disconnected, or blocked:		<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
4. Ventilation modification:		N/A	Yes No
Mechanical:		<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Natural Ventilation only:		<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
5. Atmospheric check after isolation and ventilation:			
Oxygen:	_____ %	>19.5%	
Explosive:	_____ % L.F.M.	<10%	
Toxic:	_____ PPM	<10PPM H <sub>2</sub> S	
Time:	_____		
Tester's signature:	_____		



6. Communication procedures:			
7. Rescue procedures			
	Yes	No	
8. Entry standby and backup persons successfully completed required training?	<input type="checkbox"/>	<input type="checkbox"/>	
Is it current?	<input type="checkbox"/>	<input type="checkbox"/>	
	N/A	Yes	No
9. Equipment:			
Direct reading gas monitor-tested:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety harnesses and lifelines for entry and standby persons:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hoisting equipment:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Powered communications:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SCBA's for entry and standby persons:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protective clothing:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All electric equipment listed: Class I, Division I, Group D and non-sparking tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Periodic atmospheric tests:			
Oxygen _____%      Time _____	Oxygen _____%      Time _____		
Oxygen _____%      Time _____	Oxygen _____%      Time _____		
Explosive _____%      Time _____	Explosive _____%      Time _____		
Explosive _____%      Time _____	Explosive _____%      Time _____		
Toxic _____%      Time _____	Toxic _____%      Time _____		
Toxic _____%      Time _____	Toxic _____%      Time _____		



We have reviewed the work authorized by this permit and the information contained here. Written instruction and safety procedures have been received and are understood. Entry cannot be approved if any squares are marked in the "No" column. This permit not valid unless all appropriate items are completed.

Permit prepared by: \_\_\_\_\_

Entry Supervisor

Approved by: \_\_\_\_\_

EHS Department

**This permit is to be kept at the job site. Return this job site copy to the unit supervisor following job completion.**

Entrants Name	Sign in	Sign out	Sign in	Sign out



**APPENDIX C:**

**RECORD OF TRAINING/TAILGATE SAFETY BRIEFING**

Project Name \_\_\_\_\_

Date \_\_\_\_\_

Facility/Building \_\_\_\_\_

Instructor/Leader \_\_\_\_\_

Name (Print)	Signature	Department

Subjects Covered:



**APPENDIX D:**

**OPEN BURN/OPEN FLAME PERMIT**

*All permits must be submitted in person to the EHS Department*

**Permit must be obtained at least one (1) week prior to the planned activity**

Event Name			
Event Location			
Event Start Date		Event End Date	
Event Start Time		Event End Time	
Sponsoring Group/Persons			
NMHU Employee/Student	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Event Coordinator			
NMHU Department			
Event Coordinator Phone #			
Type of Activity	Bonfire Other:	Religious Ceremony	Cooking
# of Expected Participants			
# of Fire Extinguishers Needed and Type			
NMHU Safety Officer Required to be on Scene			

- *Permit must be posted on-site or remain at the location with a responsible party during the time of the event.*
- *If permit involves cooking, all adjacent areas to which sparks or heat might spread must be inspected at least 30 minutes after the event is over.*
- *EHS fire extinguishers must be returned after the event is over or the following business day.*
- *In the event of a fire or other emergency, contact 911 or contact NMHU Police Dispatch at 505-454-3278.*
- *All weeds and/or other flammable material/combustibles must be removed prior to the planned activity.*
- *All activities are subject to inspection and possible corrective actions by the EHS Department, University Safety Officer or Campus Police.*

**I understand and agree to abide by the procedure and guidelines which address the usage of open flame or open burn permit.**

\_\_\_\_\_ Responsible Party Signature \_\_\_\_\_ Date

*Issued by the EHS Department*

Fire Extinguisher: Type \_\_\_\_\_ Qty \_\_\_\_\_ Size \_\_\_\_\_

Approval Signature \_\_\_\_\_ Date \_\_\_\_\_

Permit Expires \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_



## **APPENDIX E: Job Hazard Analysis**

<b>HAZARD JOB ANALYSIS (HJA)</b>		<b>Date:</b>	<b>Completed by:</b>
<b>For:</b> <b>NMHU Department:</b>	<b>Work Location:</b>	<b>Job Performed By:</b>	<b>JHA Number:</b>
<b>JOB TITLE:</b>		<b>Director:</b>	<b>Unit Supervisor:</b>
<b>Required Standards:</b>			
<b>General Notes:</b>			
<b>Required Personal Protective Equipment:</b>			
<b>Tools and Equipment:</b>			
<b>Activity/Sequence of Job Steps</b>		<b>Potential Hazards/ Injury sources</b>	<b>Safe Action or Procedure</b>



<b>Work Steps:</b> <b>Pre Work</b>		
<b>Size Up Work Area</b>		
<b>EHS Department Recommendation</b>		