# Table of Contents

I. Introduction and Purpose .................................................................................................................. 3

II. Application ...................................................................................................................................... 3

III. Definitions & Acronyms ................................................................................................................ 3

IV. Procedures ...................................................................................................................................... 4

A. General Procedures .......................................................................................................................... 4

1. Safety Procedures ............................................................................................................................ 4

2. Contractor Employee Conduct ......................................................................................................... 5

3. Security & Site Logistics ................................................................................................................... 5

4. Special Procedures for High Hazard Work ....................................................................................... 6

5. Housekeeping .................................................................................................................................. 6

6. Accident, Incident, Injury, or Illness ................................................................................................. 6

B. OSHA Safety & Health Concerns ...................................................................................................... 7

1. Asbestos .......................................................................................................................................... 7

2. Compressed Gas Cylinders .............................................................................................................. 8

3. Confined Spaces ............................................................................................................................... 9

4. Electrical Safety ............................................................................................................................. 10

5. Emergency Procedures ................................................................................................................... 10

6. Excavation ..................................................................................................................................... 12

7. Hazard Communication .................................................................................................................. 13

8. Hazardous Air Contaminants ......................................................................................................... 15

9. Hot Work ....................................................................................................................................... 16

10. Lead Paint .................................................................................................................................... 16

11. Lockout/Tagout: Controlling Hazardous Energy ......................................................................... 17

12. Occupational Noise ...................................................................................................................... 18

13. Powder Actuated Tools ................................................................................................................. 19

14. Walking and Working Surfaces ..................................................................................................... 19
I. Introduction and Purpose

The University of New Hampshire (UNH) has a duty to its students, faculty, staff, and the surrounding community to provide a safe environment and work place. The work conducted by contractors at UNH can impact the safety of our community and property. This Contractor Safety Manual has been developed to address certain specific responsibilities each contractor has when working at UNH.

The purpose of this manual is to communicate the availability of hazard information for UNH owned and leased properties, to outline UNH’s safety and environmental procedures, and to communicate additional requirements or expectations of Contractors above and beyond legal requirements. This manual is not intended to represent or replace the Contractor’s own programs for safety or environmental protection. This manual does not address and is not responsible for the Contractor’s duty to its own employees. Although this manual highlights some regulatory issues, it is not an exhaustive outline of all applicable laws and regulations for safety or environmental concerns. The Contractor may not rely on this manual for guidance on legal requirements relating to safety or environmental concerns.

Each Contractor is responsible for fulfilling the requirements of the contract in a manner that protects the health and safety of the UNH community and environment. To this end, UNH expects that Contractors shall comply with the contents of this manual and any project-specific guidelines developed by UNH. Compliance with such contents and guidelines are minimum standards, however, and shall not be deemed to fully satisfy the Contractor’s responsibility to provide a safe environment and work place. In the event law, regulation, industry practices, the Contractor’s practices or project-specific guidelines provided by UNH impose more stringent requirements than those established by this manual, the Contractor must comply with the more stringent requirements.

Nothing contained herein shall relieve the Contractor from any liability or responsibility for failure to maintain a safe environment and work place, nor transfer to UNH any obligation to supervise the Contractor’s maintenance of appropriate safety standards.

II. Application

This manual shall apply to all contractors, vendors, and consultants performing work at property locations owned, operated, or leased by the University of New Hampshire unless specifically superceded by an individual contract.

III. Definitions & Acronyms

ACBM: Abbreviation for Asbestos Containing Building Material

Competent Person: An individual, who by way of training and/or experience, is knowledgeable of applicable standards, is capable of identifying workplace hazards relating to the specific operation, is designated by the employer, and has authority to take appropriate actions.

Contract Coordinator: The UNH Project Manager or Contract Manager.
Contractor: For the purposes of this manual a “Contractor” can mean a construction contract company, a service contract company, or a consultant.

EPA: Abbreviation for the U.S. Environmental Protection Agency

MSDS: Material Safety Data Sheet

NFPA: National Fire Protection Association

NH DOL: The New Hampshire Department of Labor

OEHS: Abbreviation for the Office of Environmental Health and Safety

OSHA: Abbreviation for the U.S. Occupational Safety and Health Administration

PPE: Abbreviation for Personal Protective Equipment

UNH: The University of New Hampshire

IV. Procedures

A. General Procedures

1. Safety Procedures

UNH requires that each Contractor designate a competent person to evaluate the work site and identify the proper tools, protective equipment and procedures. This person must be trained and skilled to identify existing and predictable hazards in the surroundings or working conditions which are hazardous. This person has the authority to take prompt corrective measures to eliminate them.

UNH expects that each Contractor will train its employees and ensure that subcontractors are also trained in accordance with OSHA, EPA, and other applicable requirements. UNH expects all work to be done in accordance with specifications, high quality practices in the applicable discipline, and in compliance with all applicable laws, regulations and safety rules. UNH expects Contractors to provide all personal protective and other safety equipment for their employees. UNH may request to review the Contractor’s health and safety procedures for its employees at any time, including during the bid phase of a project. UNH may require the Contractor to develop a site-specific health and safety plan for work at UNH as appropriate.

Contractors may be asked to leave UNH if rules and safe procedures are not followed. Examples of actions that may prompt UNH to temporarily or permanently remove Contractors from its properties include, but are not limited to:

- Possession or use of alcohol or regulated drugs (including misuse of medications prescribed by a physician)
- Possession of weapons (firearms, explosives, etc.)
- Illicit handling or disposal of hazardous materials or waste
- Destruction, defacement or improper removal of UNH property
- Misuse of fire prevention and/or protection equipment
• Unauthorized removal or destruction of safety or warning devices intended to protect the UNH community or its property
• Interfering with the activities of an inspector, police officer, or security guard.
• Deliberate violation of safety, health or environmental laws, regulations, or UNH requirements.

2. Contractor Employee Conduct

UNH is a top-tier land-, sea-, and space-grant public university comprised of numerous buildings, a diverse population, and a wide variety of activities. Contractors are expected to adhere to the highest standards of conduct while working at UNH properties.

Unless the nature of the work specifically requires it, Contractors are not permitted to interact with UNH students, faculty, or employees (except the Contract Coordinator and his/her designees). Failure to observe this requirement may result in immediate removal from UNH. Staff, faculty, and students at UNH are instructed to report any behavior by Contractors which is lewd, harassing, intimidating, or otherwise inappropriate.

Other standards for Contractor conduct include:
• Contractors shall adhere to all facility rules, procedures, signs and regulations.
• Contractors shall not smoke inside or within 20 feet of the exterior of any UNH property.
• Eating is prohibited in work areas.
• Horseplay, scuffling, fighting, etc., is prohibited.
• Compressed air is not permitted for cleaning of clothing or body.
• Contractors shall not operate defective machinery or equipment.
• Contractors may not throw tools and equipment from one to another or dropped from one level to another. The transfer of all tools and equipment will be from hand to hand or by use of a suitable rope and tool bucket.
• Contractors are not permitted to use UNH tools or equipment. This includes but is not limited to hand tools, power tools, and ladders.
• Contractors must not block electrical panels, switches, fire protection devices, fire alarm stations, aisles, or exits.
• Appropriate apparel must be worn at all times in all work areas.
• Contractors are not permitted to bring personal electrical appliances to UNH properties.

3. Security & Site Logistics

Contractors are required to wear identification as Contractors while on UNH properties. Identification may be in the form of Contractor-issued ID badges, project stickers worn on clothing, or any other method deemed acceptable by the Contract Coordinator. Contractors are responsible for maintaining a daily attendance sheet for their employees that will be used in the event of an evacuation or catastrophic event.

Contractors under long-term agreements with UNH are responsible for purchasing contractor parking permits from the UNH parking office located at the Visitor Center. Contractor permits are valid only inside the applicable construction sites and specifically
designated areas as specified by the contract. The Contractor must notify the Contract Coordinator in advance of the number of permits and length of stay at UNH. The Contract Coordinator will work with the parking office to determine the type of permits and parking locations for the Contractor. Contractors who will only work at UNH for less than a full day may utilize the metered parking located throughout campus. Contractors may use parking spaces identified as Loading Zones for allotted time periods as posted to load/unload materials or equipment relative to their contract. Contractors are subject to ticketing and fines if parking rules are not observed.

4. Special Procedures for High Hazard Work

Certain activities that impose a high level of risk to the University may be restricted or prohibited. UNH may impose additional safety or environmental requirements upon the Contractor due to the hazards of the particular project. Any contractor who proposes to engage in these activities must notify the Contract Coordinator in advance of the start of work. Examples of projects where additional requirements may be necessary are:

- Working in or around chemical, biological, or radioactive materials (especially labs)
- Working with fume hoods or biosafety cabinets
- Contractor use of radioactive sources (such as radiography)
- Contractor use of lasers
- Contractor use of highly hazardous substances
- Working with asbestos- or lead-containing materials
- Mold remediation
- Working with energized systems
- Disablement of security or fire protection systems

5. Housekeeping

Contractors must consult with the Contract Coordinator before bringing materials and/or equipment on site, so that storage locations can be determined. Materials are to be placed in an orderly manner in areas so there are safe passageways for staff, faculty, and students. At the end of each work day Contractors will remove their tools, supplies, etc., to the proper storage areas. Contractors will clean all scrap material from the work area each day. A container or bin should be provided by the Contractor to discard metal, wire, wood, etc. Oily rags, waste, or other refuse, must be stored in closed properly labeled metal containers provided for this purpose. Contractors must always install appropriate safety barricades around open holes, trenches, excavations or other worksite hazards to assure that no injury is caused to UNH community members.

6. Accident, Incident, Injury, or Illness

Each Contractor is responsible for investigating all accidents that take place on UNH property (regardless of whether or not there is injury) and document the investigation. The documentation must describe the incident and identify the cause(s) and corrective action(s). The written report must be provided to the Contract Coordinator and to OEHS within 24 hours of occurrence. The Contractor is responsible for making any notifications required by law or regulation (including for OSHA and/or the NH DOL) as applicable.
B. OSHA Safety & Health Concerns

1. Asbestos

Building materials that contain more than 1% asbestos are considered asbestos containing building materials (ACBM). ACBM is regulated by OSHA standards 29 CFR 1910.1001 & 1926.1101, as well as NH Title X Chapter 141-E and He-P 5000, the Toxic Substances Control Act (TSCA), the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) and the Resource Conservation and Recovery Act (RCRA). UNH buildings contain ACBM. Proper work practices and engineering controls must be used when working with asbestos, including appropriate PPE.

UNH Asbestos Program

UNH performed a survey of certain types of accessible ACBM in its buildings built prior to 1985. The survey identified asbestos-containing fireproofing, thermal systems insulation, ceiling tiles, acoustical plaster, and other potentially friable accessible materials. The survey did not include exterior materials (i.e. roofing materials, window glazing), non-friable materials (floor tile, cove base, mastics, etc.), or inaccessible materials (pipe chases, etc). UNH abated all identified friable materials and all other identified materials in poor condition. A copy of the survey is maintained with OEHS. Other, limited sampling data may be available for buildings at UNH that were produced as a result of various restoration or repair projects. These records are maintained by the appropriate facilities department for the building.

If Contractors must perform demolition or renovation, suspect asbestos-containing materials may be encountered. A sample list of suspect asbestos-containing building materials is located in Appendix A. If suspect asbestos-containing materials are encountered, the Contractor must either assume that the material is asbestos, or work with the Contract Coordinator to obtain the services of a qualified consultant to sample the material and determine asbestos content. The Contractor must immediately notify the Contract Coordinator in writing if it encounters any suspected asbestos-containing material that has not been previously identified. The Contractor shall cease work until the material has been analyzed and remediated as appropriate.

If the material is assumed or tested positive for asbestos content, the material may only be disturbed or removed by a qualified asbestos abatement contractor.¹

UNH has not tested all flooring materials in all of its buildings for asbestos content. All 9x9 inch and 12x12 inch floor tile should be assumed to contain asbestos and treated accordingly.

Requirements for Contractors (except Asbestos Abatement Contractors) working in UNH owned or Leased Properties:

- Contractors shall provide their employees with asbestos awareness training in accordance with OSHA requirements.

¹ In limited cases certain designated UNH employees may be able to abate small quantities of asbestos-containing materials. Contact OEHS for assistance.

² Disturbance means activities that crumble or pulverize ACBM or presumed ACBM, or generate visible
• Contractors shall provide their employees with the information contained herein regarding asbestos at UNH properties.
• Contractors shall determine if known or presumed asbestos containing building materials will be impacted before beginning any maintenance, equipment installation, renovation, alteration, or demolition project.
  o The Contractor shall notify UNH if removal or disturbance\(^\text{2}\) of asbestos is required. Work shall not proceed until UNH has remediated the asbestos hazard.
• Contractors shall not disturb or remove ACBM or presumed ACBM.
  o Any accidental disturbance of ACBM or presumed ACBM shall be reported to UNH immediately. Accidental disturbances shall be reported to the Contract Coordinator (or designee). In the event that the Contract Coordinator is unavailable, accidental disturbances shall be reported to the Facilities Support Center (603-862-1427).

Requirements for Custodial Contractors working in UNH owned or Leased Properties:

• Contract custodians shall maintain an appropriate coat of wax on all tile floors under their area of responsibility, at all times.
• Contract custodial staff shall be trained in appropriate work practices, including proper operation of floor care equipment.
• Contract custodians shall perform floor stripping no greater than twice per year during a time when the building is unoccupied or at its lowest occupancy point.
• Floor stripping machines with variable speed setting shall be set to slow speeds (under 300 rpm) during floor stripping activities.
• Floor stripping shall be performed under adequately wet conditions. After stripping and before wax application the floor shall be thoroughly wet mopped.
• Contract custodial staff shall utilize the least abrasive pad possible to strip wax or finish coat.
• Contract custodians shall not sand floor tile for any reason.
• Contract custodians are directed to report damage to known or presumed asbestos flooring to UNH.

2. Compressed Gas Cylinders

Compressed gases pose unique physical hazards to UNH and its employees. Due to the nature of compressed gas hazards and the needs of the UNH population, UNH imposes strict safe handling procedures on Contractors who will use compressed gases at UNH.

Requirements for Contractors working in UNH owned or Leased Properties:

• Contractors will comply with the requirements of NFPA 55, 2005 edition.
• Compressed gas cylinders shall be secured in an upright position in a welding cart or to a solid object.
• Compressed gas cylinders shall have valve caps in place whenever the cylinder is not in use.
• Contractors shall provide to the Contract Coordinator MSDSs for all compressed gases brought to UNH properties for use by the Contractor. UNH may review the MSDSs and impose additional safety restrictions as needed depending on the gas and its intended use.

\(^{2}\) Disturbance means activities that crumble or pulverize ACBM or presumed ACBM, or generate visible debris. Examples include drilling, cutting, abrading, etc.
• Oxygen cylinders will be stored at least 20 feet away from acetylene or other oxidizers, or separated by a fireproof barrier at least 5 feet high.
• Acetylene cylinders must have a wrench in position on the acetylene valve when in use.
• Cylinders must be appropriately shielded from welding, cutting, and electrical operations.
• Contractors shall visually inspect cylinders, regulators, pressure relief valves, and cylinder connections prior to each use. Equipment that is found to be defective will be removed from service immediately.
• Contractors are responsible for the disposal of empty cylinders.
• Contractors shall transport cylinders in approved devices designed for this purpose.
• Contractors shall provide and utilize appropriate PPE when working with compressed gases.

3. Confined Spaces

UNH has identified confined spaces throughout its facilities. Contractors who are authorized to perform work in UNH confined spaces are required to maintain a rigorous confined space health and safety program that meets the requirements of 29 CFR 1910.146.

UNH Confined Spaces Program

UNH maintains a database of all confined spaces. With the exception of manholes, each confined space identified in the database is physically labeled with an appropriate sign stating whether the space requires a permit for entry or not. UNH will identify to the Contractor the locations of confined spaces and whether entry into a confined space will be required in the course of the contract.

UNH has developed a permit system for permit-required confined spaces. The UNH permit can be obtained from OEHS, or from its website at the following URL:

http://unh.edu/research/confined-space-entry

Permits are considered in effect for one (1) work shift no greater than eight (8) hours in duration.

There are occasions when the activities to be performed by a Contractor may temporarily change the designation of the confined space from non-permit to permit-required. Examples of such instances include welding or hot work. It is the responsibility of the Contractor’s competent person to determine if any operations to be performed by the Contractor will cause said condition. This condition must be identified prior to the start of work and the Contract Coordinator must be notified in advance of entry. In the event that the Contractor’s activities will change the designation of the space during the work, the permit entry procedures must be followed.

Requirements for Contractors working in UNH owned or Leased Properties:

• Contractors who will enter UNH confined spaces must demonstrate to UNH that they have a comprehensive written confined space entry program.
• Contractors must provide confined space entry training and certification to employees according to their duties (entrant, attendant, entry supervisor, and rescue team).
• Contractors must supply their own equipment for atmospheric testing. All equipment must be in good working order and been calibrated by the manufacturer (or equivalent) within the previous 12 months.
• Contractors must supply their own safety equipment, including but not limited to full body harnesses, mechanical retrieval devices, and ventilation. Contractors are responsible for ensuring that all safety equipment is in good working order and inspected per the manufacturer’s direction.
• Contractors shall provide no less than two employees for any confined space entry. At least one employee must stay outside of the confined space.
• Contractors must make provision for emergency rescue services prior to entry.

4. Electrical Safety

The requirements for safe work practices in electrical work are put forth in the National Electric Code (NFPA 70E) and by OSHA in 29 CFR 1910 Subpart S and 1926 Subpart K. Live parts operating at greater than 50 volts to which employees may be exposed shall be put into an electrically safe work condition before attempting work. Work on live parts operating at greater than 50 volts may be permitted if the contractor demonstrates that deenergizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitations. The Contractor shall notify the Contract Coordinator where work on live parts is required in writing in advance of the work.

Requirements for Contractors working in UNH owned or Leased Properties:
• Contractors shall only provide qualified electricians to work on electrical systems and equipment that use or control electrical power.
• Contractors shall perform all work in accordance with NFPA 70E Standard for Electrical Safety in the Workplace and applicable OSHA general industry or construction standards.
• Contractors shall erect barriers and post warning signs to alert non-authorized employees and the UNH population to stay clear of the work area.
• Contractors shall use ground fault circuit interrupters (GFCIs) with all power tools and equipment.
• Contractors are not permitted to use damaged or defective electrical cords on UNH properties.
• Contractors are not permitted to run cords through holes in walls, ceilings, floors, or other openings. Cords may not be secured with staples, nails, or wire.
• In the event that a circuit breaker “trips” or a fuse is blown, the Contractor shall ensure that a qualified electrician checks the circuit and corrects the problem before the circuit is reenergized.

5. Emergency Procedures

UNH has a highly varied working environment. There are many different emergencies that may arise during the course of duties, either as a result of the Contractor’s activities or as a result of University operations. UNH has developed a set of procedures for communicating, reporting and responding to emergencies. In some cases, Contractors
may be required to follow established University procedure. These procedures are provided below.

UNH Emergency Procedures Program

UNH has developed instructions for responding to emergencies by topic. This information is presented in the same manner.

a) Communication and General Procedures

Some emergencies may arise that are beyond the control of the Contractor. These include, but are not limited to, natural disasters, bomb threats, severe weather, and acts of terrorism. UNH has instituted a communications plan to inform staff, students, employees, and contractors of such an emergency. Every occupied building at UNH has a set of designated emergency contacts. Emergency broadcasts are sent to the emergency contacts via email and telephone. The building emergency contacts are responsible for relaying this information to the building occupants. Building emergency contacts will notify contractors working in their affected buildings in the event of an emergency not otherwise covered in the above sections. Contractors can verify emergency communications by calling the UNH Information line (603) 862-0000. Contractors who will be working in unoccupied areas or in areas of new construction must make arrangements with the Contract Coordinator prior to start of work for the communication of emergencies.

- Contractors must prepare for emergencies by preparing a site-specific emergency action plan. This document shall include emergency contacts for the Contractor, and the Contractor’s plan to deal with emergencies that may arise while working at UNH properties. This document shall include the method agreed upon by both UNH and the Contractor for the communication of campus-wide emergencies. The Contractor’s plan must meet the requirements of 29 CFR 1910.38 and must be readily available to both UNH and the contract personnel.
- Contractors must take daily attendance. The purpose of daily attendance is to be able to account for employees in the event of an emergency.
- In the event of a power outage, Contractors shall stop work and assess whether the power outage has created any hazards for contract personnel. Contractors should turn off equipment that was in operation before the power outage so that equipment does not automatically restart when power resumes. When power resumes, Contractors must assess whether any hazards were created by the outage. An example includes ventilation in a confined space. During a power failure, a hazardous atmosphere may develop while ventilation is off.

b) Medical Emergencies:

UNH utilizes the Durham Ambulance Corps through the City of Durham. This service is available to the Contractor by dialing 911. If dialing from a campus phone it is not necessary to add a 9 to reach an outside line.

- In the event of a medical emergency, the Contractor shall call 911.
- Contractors may not bring injured employees to UNH Health Services. Injured contract personnel who will not be transported by ambulance should be directed to the nearest emergency center.
- In anticipation of minor medical issues, Contractors shall maintain a first aid kit at their working location for the use of their employees only. Contractors may not use first aid kits owned by UNH.
c) **Fires:**

UNH utilizes the Durham Fire Department through the city of Durham. This service is available to the Contractor by dialing 911. If dialing from a campus phone it is not necessary to add a 9 to reach an outside line. Prior to the start of work the Contract Coordinator will provide the Contractor with information regarding evacuation routes and designated meeting points for the affected facility.

- In the event of a fire the Contractor shall call 911 and activate the building fire alarm (where operable).
- Contractors shall provide training on the safe use of fire extinguishers to their employees.
- The Contractor shall evacuate to the designated meeting point for the affected facility. The Contractor shall be responsible for accounting for its employees at the designated meeting place.


d) **Hazardous Material Spills:**

UNH stores and uses chemicals for a variety of purposes throughout its campus. UNH provides spill cleanup guidance and spill control materials for its internal employees. Spill control materials and personal protective equipment are not for the use of Contractors. UNH employees are not permitted to clean up hazardous materials which are owned by Contractors even if they are located on University property. UNH employees are not permitted to clean up hazardous materials which are owned by UNH if they are for the express and sole use of the Contractor.

- The Contractor shall maintain primary responsibility for the cleanup of hazardous materials which the Contractor is using in the course of its duties.
- The Contractor shall perform a hazard assessment and ensure that its employees are appropriately trained and provided with the correct spill control and personal protective equipment.
- The Contractor shall not attempt to clean up spills greater than 1 liter, or spills of any highly toxic materials. UNH reserves the right to review hazardous materials that will be used by the Contractor prior to the start of work and impose additional restrictions as necessary.
- The Contractor shall not attempt to clean up spills of any hazardous materials in any quantity if they are not for the express use of the Contractor in the course of their duties.
- The Contractor shall report all spills of hazardous materials to the UNH Contract Coordinator and OEHS immediately. If the spill takes place after normal business hours, the Contractor shall call the Facilities Support Center (862-1437) to immediately report the spill. A representative of UNH will determine whether notifications to any regulatory agencies are required and will make such notifications.

6. **Excavation**

Excavation activities present a unique set of hazards. These include accidental damage to underground utilities, cave-ins, hazardous atmospheres, and other hazards. Excavations present a hazard to the community when not adequately guarded or protected.
Requirements for Contractors working in UNH owned or Leased Properties:

- Prior to any digging or drilling project Contractors shall notify Dig Safe to determine the location of underground utilities. Contractors shall submit documentation that Dig Safe was notified to the Contract Coordinator. Work shall not commence until underground utilities have been identified and marked.
- Contractors shall slope or shore all excavations in accordance with OSHA. Excavations which are less than 5 feet in depth may not require sloping or shoring if determined by the Contractor’s competent person that there is no risk for cave-in.
- Contractors must provide properly designed means of access and egress such that at no time is the employee required to travel more than 25 feet to egress.
- The Contractor shall design the excavation to prevent the accumulation of water in the trench. Contractor shall not permit its employees to work in an excavation where water accumulates.
- The Contractor shall test the atmosphere within the trench for oxygen deficiency, flammable gases, or other air contaminants as deemed necessary by the Contractor’s competent person. The Contractor shall provide its own equipment for said testing and the equipment shall be maintained in calibration.
- Trenches or excavations where there is a hazardous atmosphere without regard to ventilation shall be classified as Permit-Required Confined Spaces. The Contractor will follow the procedures set forth in this manual for Confined Spaces. The Contractor shall provide ventilation for excavations where there is a hazardous atmosphere as determined by testing. The ventilation must maintain an atmosphere below 10% of the lower explosive limit for flammable gases.
- The Contractor shall provide appropriate respiratory protection and other personal protective equipment where the atmosphere cannot be adequately ventilated for human health.
- The Contractor will identify areas where structural integrity of neighboring facilities may be compromised as a result of excavation activities. The Contractor will notify UNH of any at-risk structures.
- The Contractor is responsible for the design and installation of guardrails or other means of protecting other employees and the public from falling into the excavation.

7. Hazard Communication

The OSHA Hazard Communication Standard (29 CFR 1910.1200) requires that employers provide each employee with information regarding the hazardous chemicals in their workplace. In addition, employers must address safe work procedures and emergency protocols. Employers must have a written Hazard Communication Program and ensure that all chemicals in the workplace are appropriately labeled and have a Material Safety Data Sheet (MSDS) on file.

UNH Hazard Communication Program

UNH uses a wide variety of hazardous chemicals in many of its operations. The University has developed a Hazard Communication program for UNH employees; however each Contractor is responsible for having its own Hazard Communication program for its own employees working at UNH.
UNH maintains a central chemical inventory in an online database called CEMS (Chemical Environmental Management System). CEMS contains an inventory of hazardous chemicals by location and also the MSDSs for each of those chemicals. CEMS is accessible via the internet. Access to MSDSs is not restricted and can be searched on by product name or manufacturer. CEMS can be found at the following URL:

http://www.unh.cems.sr.unh.edu

Access to chemical inventories (chemical locations and quantities) is restricted and access lists are maintained by OEHS. At the request of the Contract Coordinator, OEHS can provide a complete inventory of hazardous chemicals for a particular building or area. Additionally, OEHS can permit access to restricted areas of CEMS to select contractor personnel at the request of the Contract Coordinator. Generally, access may be granted to those contractor personnel who will work at UNH facilities full time for an extended period of time (such as permanently stationed service contractors).

Each department or functional unit at UNH is responsible for maintaining a list of hazardous chemicals for their individual workplaces and the appropriate MSDSs. Departments and functional units can choose to utilize CEMS as their primary chemical inventory and MSDS repository, or may additionally store such information locally (such as in an MSDS binder). Contract personnel may obtain information about the chemicals stored and used at their particular work site from their Contract Coordinator.

Labs

UNH utilizes the information stored in CEMS to generate hazard warning signs for the doors to laboratories on campus. These signs also serve as warning to contract personnel regarding the hazardous contents of these rooms. A pictogram and explanation of each hazard label is included in Appendix B of this document, as well as an example of a complete hazard sign. Entry into laboratories using hazardous materials is not permitted without prior approval from the Contract Coordinator AND the Principal Investigator (PI) responsible for the lab. If Contractor employees are required to enter the lab to perform duties, additional requirements for Contractor training and procedures shall be amended to the contract. To the extent feasible UNH will either decommission or remove the hazardous materials or components in the lab prior to Contractor entry.

Requirements for Contractors working in UNH owned or Leased Properties:

- Contractors shall provide MSDSs for any hazardous chemicals or products containing hazardous chemicals that they have purchased for use on UNH properties to UNH. The MSDSs will be provided to the Contract Coordinator AND OEHS. UNH reserves the right to disallow certain chemicals on UNH properties.
- Contractors shall maintain a Hazard Communications Program for their employees.
- Contractors shall ensure that all chemicals, whether owned by UNH or by the Contractor, are kept in containers with an appropriate label as stipulated in 29 CFR 1910.1200.
- Contractors shall provide training to their employees in accordance with 29 CFR 1910.1200.
- Contractors shall provide their employees with the information contained herein regarding hazardous chemicals and hazard communication at UNH properties.
• Contractors shall provide appropriate personal protective equipment (PPE) to their employees as required to safely store, handle, and use hazardous materials owned either by UNH or by the Contractor.

8. Hazardous Air Contaminants

Hazardous air contaminants are regulated by OSHA in the general workplace under 29 CFR 1910 subpart T, and during construction activities under 29 CFR 1926 subpart Z. UNH also recognizes occupational exposure limits as expressed by the American Conference of Governmental Industrial Hygienists (ACGIH) and the requirements of the New Hampshire Department of Labor.

UNH Industrial Hygiene Program

The Occupational Health and Safety Coordinator in OEHS is responsible for coordinating all hazard identifications and industrial hygiene sampling for the UNH employees. UNH conducts air, bulk, and wipe sampling as necessary either using internal resources or consultants to document that UNH employee exposures are not above regulatory limits. OEHS does not coordinate exposure assessment for contract personnel.

Requirements for Contractors working in UNH owned or Leased Properties:

• Wherever possible Contractors must seek the least toxic compound to accomplish the project.
• Contractors will keep sources of air contaminants such as paints, exhaust, or roofing compounds away from building air intakes.
• Contractors shall not permit their employees to be exposed to air contaminants in excess of established occupational exposure limits.
• To the extent feasible, Contractors shall utilize engineering controls to minimize the generation of hazardous air contaminants. Where engineering controls are not feasible and/or do not adequately control hazardous air contaminants, Contractors shall utilize administrative controls and personal protective equipment to prevent exposures to their employees.
• Contractors shall be responsible for hazard identification for contract personnel and performing personal and area air sampling as necessary to document exposures to their employees.
• Contractors working in UNH occupied areas shall not cause UNH employees to be exposed to air contaminants in excess of established occupational exposure limits. UNH reserves the right to specify exposure criteria for UNH employees that is more stringent than established occupational limits at its discretion based on the affected population, the air contaminant, and the needs of the project.
• UNH reserves the right to make independent measurements of area and personal exposures to its employees during work by Contractors. UNH reserves the right to stop work, with no financial penalty to UNH, in the event that exposures in UNH occupied areas are deemed unacceptable. Should this condition arise, Contractors are responsible for creating a safe environment for UNH in an expeditious manner.
• Critical barriers shall be erected at all access points between occupied areas of the building and Contractor work area where there is potential for the generation of atmospheric contaminants. UNH reserves the right to request additional critical barriers as needed on a case by case basis.
9. Hot Work

Welding, torch cutting, brazing, bronzing, soldering, or any other task that involves sparks or heat is covered in this section.

UNH Hot Work Program

UNH has developed a hot work procedure and permit which applies to both UNH employees and to Contractors. The procedure is applicable to all hot work activities except those taking place in a designated welding area. The UNH permit can be obtained from OEHS, or from its website at the following URL:

http://unh.edu/research/hot-work

Hot work permit applications are issued by the UNH Project Manager, Contract Coordinator, or his/her designee. Hot work permits are submitted to both OEHS and the Durham Fire Department prior to the start of work.

Requirements for Contractors working in UNH owned or Leased Properties:

- Contractors shall provide sufficient safety equipment for their employees' use and provide training and medical surveillance for the use of said safety equipment in accordance with applicable regulations. Safety equipment includes, but is not limited to respiratory protection, hand protection, eye protection, and ventilation.
- When working indoors, Contractors shall remove all paints and other surface treatments (including galvanizing) prior to hot work such that hot work activities are performed on bare metal substrate. Any deviation from this procedure will require notification to UNH Contract Coordinator prior to the start of work.
- Contractors shall perform daily inspections of welding and other hot work equipment. Equipment which is not in good working order shall not be used at UNH properties.
- Contractors shall not cause or create a hazardous atmosphere for UNH by the generation of fumes from hot work. In locations where air contaminants may contaminate occupied UNH space, portable local exhaust ventilation shall be provided by the Contractor.
- Contractors shall make arrangements in advance with the UNH Contract Coordinator and the Durham Fire Department if the project will require disabling fire alarms.
- The Contractor will provide an employee to serve as Fire Watch during the permit activity. The Fire Watch will not be engaged in any other project activities while acting as fire watch. The Fire Watch shall remain in the hot work area for 30 minutes after project completion.
- The Contractor shall provide an appropriately rated fire extinguisher for use in the event that there is a fire.
- The Contractor shall follow the UNH Hot Work Program instructions.

10. Lead Paint

Lead paint is regulated by OSHA and by the Toxic Substances Control Act (TSCA). Lead paint was used extensively throughout the 20th century both on indoor and outdoor applications. Although intact lead paint may pose a minimal health risk, demolition and
other repair work may create lead dusts or fumes and create additional risks to the health of employees and the UNH community.

Lead Paint at UNH

UNH has not undertaken a campus-wide lead paint identification program. Unless a lead paint inspection has been performed as part of the overall project, all painted surfaces should be treated as though they contain lead.

For projects that involve the disturbance of paint, the UNH Contract Coordinator will contract with an appropriate consultant to determine if lead is present in the affected areas. The results of the lead paint survey will be made available to the Contractor during the bid or proposal phase of the project.

Requirements for Contractors working in UNH owned or Leased Properties:

• Contractors shall not perform any work on a potentially lead-containing painted surface that creates a dust or fume (drilling, sanding, hot work, etc) unless they are specifically trained and licensed (where applicable) to do so and it is part of their contract.
• Contractors shall report to the UNH Contract Coordinator any loose or flaking painted areas discovered during the course of the project within 24 hours of discovery.
• Contractors who will be working with lead paint shall demonstrate to the University Contract Coordinator that all affected employees have received the Lead Safe Renovation Training class given by the New Hampshire Department of Health and Human Services.
• Critical barriers shall be erected at all access points between occupied areas of the building and Contractor work area where there is potential for the generation lead dust or fume. UNH reserves the right to request additional critical barriers as needed on a case by case basis.
• Contractors shall utilize engineering controls such as HEPA-shrouded tools to maintain low dust levels when working with lead painted surfaces.

11. Lockout/Tagout: Controlling Hazardous Energy

Lockout/Tagout of equipment and machinery refers to the de-energization of hazardous equipment prior to servicing. At UNH, hazardous energy may be electrical, thermal, hydraulic, pneumatic, chemical, or mechanical. Controlling hazardous energy may involve disconnecting motors that power mechanical systems, de-energizing electrical circuits, capping or blanking pipes that carry fluids (gases, liquids, hydraulic systems, steam systems, etc), discharging capacitors, or releasing springs that are under tension or compression. The requirements for the control of hazardous energy are stipulated in 29 CFR 1910.147 and 1910.333.

UNH Lockout Tagout Program

UNH maintains a Lockout/Tagout program for its maintenance employees. Each employee is issued an individual lock for the use of that individual only. Each lock has a number identification that can be used to identify the employee using the lock. Each time a maintenance employee must lock out a piece of equipment, key information (such as project duration) is communicated to the Facilities Support Center.
Requirements for Contractors working in UNH owned or Leased Properties:

- Contractors shall supply their own locks, tags, and other equipment for the purposes of de-energizing equipment for service on UNH properties. Such equipment shall include a method for identifying the equipment as belonging to the Contractor.
- Where UNH has written lockout/tagout procedures it is the Contractor’s responsibility to obtain these procedures and follow them accordingly. Procedures may be obtained from the Contract Coordinator.
- Contractors shall notify UNH the Facilities Support Center (862-1437) prior to de-energization of equipment, and upon re-energization.
- Contractors shall train their affected employees in lockout/tagout procedures in accordance with OSHA regulations. Contractors shall provide their employees with the lockout/tagout procedures developed specifically for the project.
- Contractors who encounter a UNH lock or tag that interferes with their work shall not attempt to remove or bypass the device. Contractors shall contact the Facilities Support Center for removal.
- Contractors will develop special procedures in the event that a job requires multiple lockout devices, shift changes, or personnel changes.

12. Occupational Noise

Occupational noise is regulated by OSHA 29 CFR 1910.95. Although the occupational exposure limit for noise is 85 dBA as averaged over an 8-hour shift, noise below this level can be a nuisance for employees working in adjacent areas. Noise resulting from projects at UNH may also disturb residents of the campus during evening and night hours.

UNH Hearing Conservation Program

UNH maintains a hearing conservation program for those employees whose noise exposure exceeds an average of 85 dBA averaged over an eight hour shift. The UNH hearing conservation program does not extend to Contractors.

UNH has placed signage at the entry point of certain areas on campus known to have high noise levels.

Requirements for Contractors working in UNH owned or Leased Properties:

- The Contractor must administer its own continuing, effective hearing conservation program whenever employee noise exposures equal or exceed an 8-hour time-weighted average (TWA) sound pressure level of 85 dBA measured on the A scale OR an instantaneous sound pressure level of 140 dB if exposed to impact noises. Employee exposures shall be computed in accordance with OSHA regulations without regard to the attenuation provided by hearing protection.
- The Contractor may not conduct any activity that results in a sound pressure level in excess of 85 dBA in an area occupied by UNH students, faculty, or staff. Activities which will generate noise in excess of this level in occupied spaces must be performed off-hours or when the space is not occupied.
- UNH reserves the right to impose more stringent restrictions on Contractor noise generation as necessary based on the affected population.
- Contractors shall wear hearing protection when entering areas on UNH properties marked with the signage above.
• Contractors may not generate noise that results in levels in excess of 60 dBA as measured from inside a residential building between the hours of 9 pm and 7 am.

13. Powder Actuated Tools

Powder actuated hand tools are more dangerous than other types of powered or non-powered hand tools. These tools behave much like a gun and require a high level of precaution when in use.

Requirements for Contractors working in UNH owned or Leased Properties:
• The use of powder actuated tools in occupied buildings or areas requires written authorization from the Contract Coordinator.
• Personnel who operate powder-actuated tools must be properly trained in their use and carry a valid operator's card provided by the equipment manufacturer.
• Powder actuated tools must be kept under the Contractor’s direct control at all times. These tools may not be left unattended during breaks, lunch periods, or the end of the work shift.
• When not in use, powder actuated tools must be kept in a locked case.
• The Contractor shall provide appropriate personal protective equipment for employees operating the tools or working in the nearby area as determined by the Contractor’s competent person.

14. Walking and Working Surfaces

UNH personnel must be able to safely move about their work area and be able to safely exit the building if an emergency occurs. OSHA has issued a number of regulations concerning these requirements for both general working situations as well as construction scenarios.

Requirements for Contractors working in UNH owned or Leased Properties:
• UNH work site locations shall be kept in a clean and sanitary condition.
• Contractors shall promptly clean up water or any other liquids of a non-hazardous nature to maintain a dry environment (Hazardous materials spills are discussed elsewhere in this document).
• Contractors shall not block or store items in egress pathways or exit doors.
• Contractors shall notify the UNH Contract Coordinator in advance if a project requires temporary modifications to the means of egress. The Contractor and the UNH Contract Coordinator shall work together to determine appropriate alternate means of egress and communicate necessary information to impacted populations.
• Contractors shall notify the UNH Contract Coordinator if the scope of work requires the creation of wall or floor openings.
• Contractors shall make provision for guarding or protection of wall and floor openings in accordance with 29 CFR 1910 subpart D and applicable sections of 29 CFR 1926.
• Contractors shall not remove or modify guardrails or other systems in place at UNH to protect wall or floor openings without prior written approval from the UNH Contract Coordinator.
Appendix A: Suspect Asbestos Containing Building Materials

(Excerpted from the US Environmental Protection Agency Website)

<table>
<thead>
<tr>
<th>Cement Pipes</th>
<th>Elevator Brake Shoes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement Wallboard</td>
<td>HVAC Duct Insulation</td>
</tr>
<tr>
<td>Cement Siding</td>
<td>Boiler Insulation</td>
</tr>
<tr>
<td>Asphalt Floor Tile</td>
<td>Breaching Insulation</td>
</tr>
<tr>
<td>Vinyl Floor Tile</td>
<td>Ductwork Flexible Fabric Connections</td>
</tr>
<tr>
<td>Vinyl Sheet Flooring</td>
<td>Cooling Towers</td>
</tr>
<tr>
<td>Flooring Backing</td>
<td>Pipe Insulation (corrugated air-cell, block, etc.)</td>
</tr>
<tr>
<td>Construction Mastics (floor tile, carpet, ceiling tile, etc.)</td>
<td>Heating and Electrical Ducts</td>
</tr>
<tr>
<td>Acoustical Plaster</td>
<td>Electrical Panel Partitions</td>
</tr>
<tr>
<td>Decorative Plaster</td>
<td>Electrical Cloth</td>
</tr>
<tr>
<td>Textured Paints/Coatings</td>
<td>Electric Wiring Insulation</td>
</tr>
<tr>
<td>Ceiling Tiles and Lay-in Panels</td>
<td>Chalkboards</td>
</tr>
<tr>
<td>Spray-Applied Insulation</td>
<td>Roofing Shingles</td>
</tr>
<tr>
<td>Blown-in Insulation</td>
<td>Roofing Felt</td>
</tr>
<tr>
<td>Fireproofing Materials</td>
<td>Base Flashing</td>
</tr>
<tr>
<td>Taping Compounds (thermal)</td>
<td>Thermal Paper Products</td>
</tr>
<tr>
<td>Packing Materials (for wall/floor penetrations)</td>
<td>Fire Doors</td>
</tr>
<tr>
<td>High Temperature Gaskets</td>
<td>Caulking/Putties</td>
</tr>
<tr>
<td>Laboratory Hoods/Table Tops</td>
<td>Adhesives</td>
</tr>
<tr>
<td>Laboratory Gloves</td>
<td>Wallboard</td>
</tr>
<tr>
<td>Fire Blankets</td>
<td>Joint Compounds</td>
</tr>
<tr>
<td>Fire Curtains</td>
<td>Vinyl Wall Coverings</td>
</tr>
<tr>
<td>Elevator Equipment Panels</td>
<td>Spackling Compounds</td>
</tr>
</tbody>
</table>
## Appendix B: CEMS Hazard Warnings

### Procedural Pictograms:

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Description</th>
<th>Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NOTICE</strong>  &lt;br&gt; PLEASE KNOCK BEFORE ENTERING</td>
<td>Self explanatory.</td>
<td><strong>KEEP OUT</strong></td>
<td>Self explanatory. Coordinate entry with room occupants.</td>
</tr>
<tr>
<td><strong>NOTICE</strong>  &lt;br&gt; LIGHT SENSITIVE AREA</td>
<td>Lighting conditions are set by room occupants.</td>
<td><strong>NO EATING OR DRINKING</strong></td>
<td>Self explanatory.</td>
</tr>
<tr>
<td><strong>NO SMOKING</strong></td>
<td>Self explanatory.</td>
<td><strong>RESTRICTED AREA</strong>  &lt;br&gt; NO UNAUTHORIZED PERSONNEL BEYOND THIS POINT</td>
<td>Self explanatory. Coordinate entry with room occupants.</td>
</tr>
<tr>
<td><strong>NO FLAMMABLE SOLVENTS</strong></td>
<td>No flammable solvents allowed in the room.</td>
<td><strong>NO HAZARDS</strong></td>
<td>No hazards present.</td>
</tr>
<tr>
<td><strong>NO OPEN FLAMES</strong></td>
<td>No open flames allowed in the room.</td>
<td><strong>NO INSECTICIDES</strong></td>
<td>No insecticides allowed in this area.</td>
</tr>
<tr>
<td>Pictogram</td>
<td>Description</td>
<td>Pictogram</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><img src="image" alt="RADIOACTIVE MATERIAL" /></td>
<td>Radioactive material is used or stored in this area. Special requirements apply prior to entry.</td>
<td><img src="image" alt="RADIATION AREA" /></td>
<td>Radioactive material is used or stored in this area. Special requirements apply prior to entry.</td>
</tr>
<tr>
<td><img src="image" alt="MICROWAVE RADIATION" /></td>
<td>Microwave radiation in use in this area. Check with UNH Contract Coordinator for special entry requirements.</td>
<td><img src="image" alt="STRONG MAGNETIC FIELD" /></td>
<td>Strong magnetic field in use in this area. Check with UNH Contract Coordinator for special entry requirements.</td>
</tr>
<tr>
<td><img src="image" alt="LASER IN USE" /></td>
<td>Laser device is in use at this time. Do not enter.</td>
<td><img src="image" alt="LASER LIGHT CLASS 3" /></td>
<td>Laser device is used or stored in this area. Check with UNH Contract Coordinator for special entry requirements.</td>
</tr>
<tr>
<td><img src="image" alt="LASER LIGHT CLASS 4" /></td>
<td>Laser device is used or stored in this area. Check with UNH Contract Coordinator for special entry requirements.</td>
<td><img src="image" alt="X-RAY" /></td>
<td>X-ray device is used or stored in this area. Check with UNH Contract Coordinator for special entry requirements.</td>
</tr>
</tbody>
</table>
## Biological Safety Pictograms

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Description</th>
<th>Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Non-pathogenic Agents Only" /></td>
<td>Biological agents present that pose a minimal hazard to personnel and the environment.</td>
<td><img src="image" alt="Non-pathogenic Environmental Samples Only" /></td>
<td>Biological agents present that pose a minimal hazard to personnel and the environment.</td>
</tr>
<tr>
<td><img src="image" alt="Human Blood, Body Fluid, Tissue or Bone" /></td>
<td>Potential bloodborne pathogens present. OSHA bloodborne pathogens training required prior to entry.</td>
<td><img src="image" alt="OSHA Bloodborne Pathogen" /></td>
<td>Potential bloodborne pathogens present. OSHA bloodborne pathogens training required prior to entry.</td>
</tr>
<tr>
<td><img src="image" alt="Medical Waste" /></td>
<td>Potential bloodborne pathogens and/or associated waste products present. OSHA bloodborne pathogens training required prior to entry.</td>
<td><img src="image" alt="Infectious Waste" /></td>
<td>Potential bloodborne pathogens and/or associated waste products present. OSHA bloodborne pathogens training required prior to entry.</td>
</tr>
<tr>
<td><img src="image" alt="BSL-2 Infectious Environmental Samples" /></td>
<td>Biological agents present that are associated with human disease. Special procedures may be required prior to entry.</td>
<td><img src="image" alt="BIOHAZARD" /></td>
<td>Biological agents present that are associated with human disease. Special procedures may be required prior to entry.</td>
</tr>
<tr>
<td><img src="image" alt="BSL-2 Infectious Agents" /></td>
<td>Biological agents present that are associated with human disease. Special procedures may be required prior to entry.</td>
<td><img src="image" alt="Potentially Infectious Samples BSL-2" /></td>
<td>Biological agents present that are associated with human disease. Special procedures may be required prior to entry.</td>
</tr>
<tr>
<td><img src="image" alt="BSL-3 Infectious Agents" /></td>
<td>Biological agents present that carry elevated risk for human disease. Special procedures required prior to entry.</td>
<td><img src="image" alt="BSL-3 Infectious Environmental Samples" /></td>
<td>Biological agents present that carry elevated risk for human disease. Special procedures required prior to entry.</td>
</tr>
<tr>
<td>Pictogram</td>
<td>Description</td>
<td>Pictogram</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------------------------</td>
<td>----------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>CARPENTER SHOP</td>
<td>Self explanatory.</td>
<td>CLEAN ROOM</td>
<td>Special entry requirements apply, permission required for entry.</td>
</tr>
<tr>
<td>INSECTS</td>
<td>Experimental insects stored or housed at this location.</td>
<td>LABORATORY ANIMALS</td>
<td>Experimental animals housed at this location.</td>
</tr>
<tr>
<td>LABORATORY ANIMALS</td>
<td>Experimental animals housed at this location.</td>
<td>SATELLITE ACCUMULATION AREA</td>
<td>Hazardous waste may be present or generated in this area.</td>
</tr>
<tr>
<td>MERCURY VAPOR LAMP</td>
<td>Mercury vapor lamp used in this location.</td>
<td>DANGER</td>
<td>This is a pesticide storage area.</td>
</tr>
<tr>
<td>PRESERVED SPECIMENS</td>
<td>Specimens preserved in hazardous materials are present.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pictogram</td>
<td>Description</td>
<td>Pictogram</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td><img src="image1.png" alt="Poison Gas" /></td>
<td>Toxic or poisonous gas is present at this location.</td>
<td><img src="image2.png" alt="Poison" /></td>
<td>Toxic or poisonous liquid or solid is present at this location.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Reproductive Toxins" /></td>
<td>Chemicals toxic to the human reproductive system are present at this location.</td>
<td><img src="image4.png" alt="Mercury" /></td>
<td>Elemental mercury is present at this location.</td>
</tr>
<tr>
<td><img src="image5.png" alt="Toxic Chemicals" /></td>
<td>Toxic or poisonous chemical is present at this location.</td>
<td><img src="image6.png" alt="Toxic Gas" /></td>
<td>Toxic or poisonous gas is present at this location.</td>
</tr>
<tr>
<td><img src="image7.png" alt="Highly Toxic!" /></td>
<td>Hydrofluoric acid is present at this location.</td>
<td><img src="image8.png" alt="Cancer Hazard" /></td>
<td>A cancer-causing chemical is present at this location.</td>
</tr>
<tr>
<td><img src="image9.png" alt="Propane" /></td>
<td>Propane is stored or used at this location.</td>
<td><img src="image10.png" alt="Chemical Storage" /></td>
<td>Chemicals are stored at this location.</td>
</tr>
<tr>
<td><img src="image11.png" alt="Corrosive Materials" /></td>
<td>Corrosive materials are stored at this location.</td>
<td><img src="image12.png" alt="Corrosive" /></td>
<td>Corrosive materials are stored at this location.</td>
</tr>
<tr>
<td><img src="image13.png" alt="Salt Storage" /></td>
<td>Salt is stored at this location (in large quantities. Typically found in water treatment areas.)</td>
<td><img src="image14.png" alt="Cryogenic Liquid" /></td>
<td>A cryogenic liquid is stored at this location.</td>
</tr>
<tr>
<td><img src="image15.png" alt="Water Reactive" /></td>
<td>A chemical that reacts with exposure to water is present at this location.</td>
<td><img src="image16.png" alt="Dangerous React" /></td>
<td>A chemical that reacts with exposure to water is present at this location.</td>
</tr>
<tr>
<td>Pictogram</td>
<td>Description</td>
<td>Pictogram</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>[Combustible]</td>
<td>Combustible material (liquid or solid) present at this location.</td>
<td>[Flammable gas]</td>
<td>Flammable gas present at this location.</td>
</tr>
<tr>
<td>[Flammable gas]</td>
<td>Flammable gas present at this location.</td>
<td>[Flammable gas]</td>
<td>Flammable gas present at this location.</td>
</tr>
<tr>
<td>[Flammable liquid]</td>
<td>Flammable liquid present at this location.</td>
<td>[Flammable liquid]</td>
<td>Flammable liquid present at this location.</td>
</tr>
<tr>
<td>[Flammable solid]</td>
<td>Flammable solid present at this location.</td>
<td>[Flammable solid]</td>
<td>Flammable solid present at this location.</td>
</tr>
<tr>
<td>[Explosive]</td>
<td>Materials that can undergo combustion and burn without the addition of heat or flame are present at this location.</td>
<td>[Explosive]</td>
<td>Explosive substance present at this location.</td>
</tr>
<tr>
<td>[Oxidizer]</td>
<td>Oxidizing chemical present at this location.</td>
<td>[Oxidizer]</td>
<td>Oxidizing chemical present at this location.</td>
</tr>
<tr>
<td>[Organic peroxide]</td>
<td>Organic peroxides present at this location.</td>
<td>[Organic peroxide]</td>
<td>Organic peroxides present at this location.</td>
</tr>
<tr>
<td>[Oxygen]</td>
<td>Oxygen present at this location.</td>
<td>[Oxygen]</td>
<td>Oxygen present at this location.</td>
</tr>
</tbody>
</table>
### Miscellaneous Pictograms:

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Description</th>
<th>Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="HIGH PRESSURE" /></td>
<td>Instruments or equipment operating at high pressure.</td>
<td><img src="image2" alt="COMPRESSED GAS" /></td>
<td>Compressed gas cylinder(s) present.</td>
</tr>
<tr>
<td><img src="image3" alt="NON-FLAMMABLE GAS" /></td>
<td>Non-flammable compressed gas cylinder(s) present.</td>
<td><img src="image4" alt="HIGH VOLTAGE" /></td>
<td>High voltage electrical hazard present.</td>
</tr>
<tr>
<td><img src="image5" alt="ELECTRICAL HAZARD" /></td>
<td>Electrical hazard present (non-specific).</td>
<td><img src="image6" alt="ULTRA VIOLET LIGHT" /></td>
<td>Ultraviolet light source in this location.</td>
</tr>
</tbody>
</table>