DURHAM TECH

Health and Safety Manual

Original Issue: July 2009
Formatting and Review: May 2018
Revised: February 2021, September 2022

Original Issue: July 2009. Author: Craig Stoke and Sarah Minnis. Reviewed by Durham Technical Community College Safety Committee.

Annual Review: November 2010. Edited by: Craig Stoke. Reviewed by Durham Technical Community College Safety Committee.

Annual Review: April 2017. Edited by: Jason G. Davis and L. William Stuart. Reviewed by Durham Technical Community College Safety Committee.

Annual Review: January 2018. Reviewed by Durham Technical Community College Safety Committee.

Formatting and Review: May 2018. Reviewed by Durham Technical Community College Safety Committee.

Annual Review: September 2022. Reviewed by Durham Technical Community College Safety Committee.

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Introduction, Purpose, and Scope

The rules, procedures, and practices described in this manual may not represent all safety rules, procedures, and practices that should be utilized at Durham Technical Community College (Durham Tech) or that may apply to any one specific category.

Introduction

Durham Tech recognizes its obligation to provide for the health, safety, and physical well-being of the College community. This manual establishes appropriate safety standards and guidelines for the operation and facilities of the College. The procedures herein shall apply to the following members of the College community while they are engaged with the College and/or otherwise present on College property:

- Every student currently enrolled in any course(s) at the College.
- Every current employee.
- Every campus visitor.

Application of these procedures shall also extend to all properties and facilities owned, operated, or used by the College for its programs, services, and activities.

Durham Tech's Health and Safety Manual shall be reviewed at least annually and revised as necessary.

Purpose

The purpose of this manual is to provide guidance in areas of potential safety risk. Recognizing that the health and safety of students, employees, and visitors is of paramount importance, health and safety guidelines and procedures have been established to prevent and recover from accidents, and emergency action procedures have been established to address College emergencies.

Scope

This manual provides specific guidance for maintaining safety during daily operations and emergencies, and instructions for accident and fire prevention. Please note that due to the nature of emergencies, related responses as outlined may need to be altered to accommodate contingencies of various types and magnitudes.

Implementation

The primary responsibility of the health and safety program is assigned to the Safety Compliance Officer who reports directly to the Vice President of Campus Operations; however, the success of the program requires the full cooperation of all employees, students, and visitors. Department and division heads bear immediate responsibility for ensuring employee adherence to applicable rules, standards, codes, regulations, and safe practices. Depending on employees' roles, this responsibility may include general education in safe practices and specialized training in safe use of equipment and facilities.

The president (or designee) will serve as emergency director and will have overall responsibility for decisions regarding College emergencies or community emergencies that may impact the College. In the president's absence, the chain of command is as follows:

- Director/Chief, Campus Police and Public Safety
- Vice President, Campus Operations
- Vice President, Student Learning and Instructional Services
- Director, Facility Services
- Executive Director, Information Technology Services
- Safety Compliance Officer

Safety Classes

Safety classes may be conducted by the College through a variety of methods including online presentations, traditional seated classes, printed material, or by outside organizations such as the Environmental Health and Safety Institute (EHSI) based at Blue Ridge Community College, Flat Rock, NC 28731. The safety compliance officer is responsible for hosting College-wide training including Hazardous Materials Communication and Emergency Response.

Supervisors should evaluate their employees for specific safety training needs including Hazardous Materials Communication, bloodborne pathogens, lockout/tagout, and fire extinguisher use. Supervisors are also responsible for ensuring training has been completed in a timely manner and should track employee progress via the employee evaluation process. Supervisors shall provide each employee's training records to the safety compliance officer for compliance inspections.

Safety Committee

Durham Tech's Safety Committee provides input, shares concerns, advises, and makes recommendations in matters and procedures related to providing a healthy and safe College environment. The Safety Committee will meet at least quarterly to identify and evaluate possible health and safety issues and recommend policy, procedure, and physical changes. The committee shall review and update the Health and Safety Manual annually.

The Safety Committee is advised by the vice president of Campus Operations and sits under the Operations and Technology Council. Its members shall be designated according to the College's Council on Committees structure in cooperation with the vice president of Campus Operations.

The committee shall be led by the following officers:

- Chair (nominated by the committee and appointed by the vice president of Campus Operations);
- Vice Chair (nominated by the committee and appointed by the vice president of Campus Operations); and
- Communications Coordinator (nominated and selected by the Safety Committee).

Safety Survey

The Environmental Health and Safety Institute (EHSI) conducts a full-service safety survey when requested by the safety compliance officer. Buildings are inspected with a special emphasis on labs and shop areas. All non-compliance issues must be addressed based on recommendations from the findings. The safety survey should take place annually.

Risk

Risk is the probability or threat of quantifiable damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive action. Durham Tech recognizes that there are inherent risks in all activities and has adopted a Kaiser Permanente Risk Matrix tool for quantifying the amount of residual risk when identifying potential hazards.

When a potential hazard cannot be fully abated, the matrix will be utilized by the safety compliance officer to determine the appropriate risk level. The potential hazard will be tracked on the Health and Safety Master Hazard Log (Appendix P) until eliminated. The Safety Committee will review the Master Hazard Log quarterly.

When residual risk cannot be eliminated, an appropriate risk authority must be notified to determine whether to continue or discontinue operations in the affected area. Durham Tech has designated the following personnel as risk authorities:

- Low Risk – Director, Facility Services or Chief, Campus Police and Public Safety
- Moderate Risk - Vice President, Campus Operations
- High Risk - President

Chapter 1 – Emergency Response

Introduction

Although there are set guidelines and procedures for responding to various types of events, no one set of responses can cover every eventuality. In an emergency situation, **CALL 911** if you need emergency help and no other resource is available. Calling 911 (or 5555) from any Durham Tech phone connects the caller with the Durham Tech police dispatcher. Responses should follow the guidelines of the Business Continuity Plan. The Business Continuity Plan establishes operational priorities identified in a systematic approach to restore facilities and services in the event of an emergency or disaster. The College will use the emergency notification alert system notifying employees and students of emergencies.

The primary goals of any emergency response are to (listed in priority order):

Save human lives;

- Protect human health and safety;
- Protect College property;
- Restore College operations; and
- Support community needs.

Emergency Declaration

Authority to declare a College state of emergency rests with the president (or designee). In case of an emergency, procedures to safeguard personnel and property will be activated. The following definitions are provided as guidelines but are not all inclusive:

Level 1 (Minor Incident)

A Level 1 incident is any incident, potential or actual, that will not seriously affect the overall functional capability of the College. These emergencies can be resolved with existing College resources or limited outside help. Examples of Level 1 incidents include minor chemical spills, low-level acts of violence, water line bursts, and weather-related emergencies which result in closures. An Emergency Operations Center (EOC) may be partially activated or not at all. Some, but not all, Emergency Action Group team positions may be filled to coordinate and support the incident response.

Level 2 (Emergency/Partial Activation)

A Level 2 incident is any incident, potential or actual, that affects an entire building or buildings and which may disrupt the overall operations of the College. These emergencies require a coordinated response beyond normal operating channels. Outside emergency services will probably be required, as well as major efforts from College support services. These situations – extended power outages, gas leaks, fires confined to the local area, etc. – are likely to affect some community members. An EOC may be partially or fully activated. Some, but not all, Emergency Action Group team positions may be filled to coordinate and support the incident response.

Level 3 (Disaster/Full Activation)

A Level 3 incident is any incident that has the potential or does seriously impair or halt College operations. In some cases, death and severe property damage may be a possibility. Such disasters require a coordinated response by all College resources, and outside emergency services would be essential. Level 3 incidents include situations involving active shooters, mass violence, mass casualties, tornadoes, earthquakes, major chemical incidents, and major fires. In all cases, an EOC will be activated, and the appropriate support and operational plans implemented.

Emergency Declaration Action Plan

After an emergency has been declared, only emergency personnel with proper identification will be permitted on campus. Employees assigned emergency resource team duties or issued an emergency pass will be allowed to assist. This includes all Emergency Action Group members or their alternates. Unauthorized persons may be subject to arrest.

Direction and Coordination

In the event of an emergency, the first duty of all employees is the safety of the students, other employees, and visitors present on campus. Employees should alert Campus Police and Public Safety by dialing 5555 (from campus phones) or 911 (campus or cell phones); the dispatcher will notify the Emergency Action Group.

The Emergency Action Group will provide overall direction and coordination of emergency response activities under the leadership of the incident commander following the guidance of the Incident Command System of the National Incident Management System (NIMS). The incident commander and the Emergency Action Group will complete the following steps:

1. Assess the situation;
2. Determine the resources necessary to manage the emergency;
3. Locate the resources available to manage the emergency;
4. Determine individual personnel assignments;
5. Establish liaisons with outside agencies;
6. Monitor the progress of the emergency operations and respond appropriately; and
7. Keep the president and the board of trustees apprised of the situation to allow for their guidance in overall planning and response.

Emergency Action Group Members and Responsibilities

The Emergency Action Group is comprised of the following personnel:

- President
    - Provides strategic leadership and overarching policy direction for the Business Continuity Plan;
    - Implements the Business Continuity Plan when necessary, or when directed to do so by a higher authority; and
    - Consults with and advises appropriate officials during implementation of the Business Continuity Plan.

- Incident Commander/Operations Chief (This role is typically, but not necessarily, filled by the Director/Chief, Campus Police and Public Safety.)

  - Sets the incident objectives, strategies, and priorities; and has overall responsibility for the incident;
  - Conducts tactical operations to carry out the Incident Action Plan; and
  - Develops the tactical objectives and directs all tactical resources associated with operations at the site of the incident; if multiple sites are identified (i.e., if an extreme weather incident creates emergency conditions at more than one campus location), an operations chief will be assigned to each incident site.

- Vice President, Chief Student Services and Vice President, Academics & Guided Career Path
  - Advises the group on academic and student services;
  - Supervises the implementation of academic emergency response plans;
  - Organizes the processes through which students return to campus-based activities;
  - Communicates with state and regional academic and student services authorities;
  - Determines space allocation and facility requirements;
  - Coordinates with appropriate organizations to reserve space if campus facilities are compromised;
  - Implements plans in each person's assigned area of responsibility;
  - Assures timelines are observed; and
  - Updates vice president, Campus Operations.

- Vice President, Campus Operations
  - Monitors costs related to the incident;
  - Provides accounting, procurement, time recording, and cost analyses;
  - Supervises accounts payable and payroll personnel; and
  - Collaborates with outside agencies to resolve financial issues.

- Director, Facility Services
  - Advises the group on facilities issues;
  - Supervises the acquisition of required goods and services;
  - Coordinates replacement, renovation, and repair of facilities; and
  - Communicates with state-wide facilities planning agencies.

- Executive Director, ITS
  - Develops the logistical approach to recovery;
  - Keeps the president and other administration informed;
  - Works with outside agencies to resolve financial issues;
  - Advises the group on information and communication technology issues;
  - Supervises the implementation of technical services response plans;
  - Coordinates the replacement of technical infrastructure;
  - Communicates with state-wide technology agencies; and
  - Ensures telephonic, web-based, email, and television communication is developed and published to the extent possible.

- Director, Marketing and Communications/Public Information Officer
    - Serves as a conduit for information to internal and external stakeholders, including the media;
    - Provides written or verbal statements to the media; and
    - Provides written or verbal updates to the College community.

- Planning Officer
    - Prepares and maintains the Incident Action Plan to ensure objectives are accomplished;
    - Collects and evaluates information;
    - Maintains resource status information; and
    - Maintains documentation for incident records.

- Safety Compliance Officer
    - Monitors safety conditions and develops measures for ensuring the safety of assigned personnel; and
    - Provides information regarding hazardous or harmful materials to responding units.

- Liaison Officer
    - Serves as the primary contact for supporting agencies that may be assisting the incident commander.
    - Maintains the ICS Unit Log and ICS Organization Assignment List.

- Building Safety Captains
    - Ensure that 911 and Campus Police have been contacted;
    - To the extent possible, communicate the nature and extent of the emergency to building occupants;
    - Report directly to the incident commander/operations chief;
    - Ensure that special attention is given to persons requiring assistance;
    - When appropriate, supervise the orderly evacuation of the building, unless preceded in that task by Campus Police; and
    - Ensure that evacuees assembled at pre-determined points are alert for emergency vehicles responding to the scene; if no pre-determined point is evident, evacuees should be directed to an area at least 300 feet from the building.

On-Campus Emergency Resource Telephone Numbers

(If using a cell phone, dial 919-536-7200 followed by the extension.)

Note: The Campus Police dispatcher will maintain a list of emergency numbers and alternate contact numbers for the Emergency Preparedness Task Force.

- Dispatch, Campus Police and Public Safety: Dial ext. 5555 or 911
- Emergency Medical Services/Local 911 Operator: Dial 911
- Local Fire Department: Dial 911
- Director/Chief, Campus Police and Public Safety: Dial ext. 5505
- Vice President, Campus Operations: Dial ext. 6125

- Vice President, Student Learning, Development, and Support: Dial ext. 1805
- Vice President, Academics & Guided Career Pathways: Dial ext. 8002
- Director, Facility Services: Dial ext. 6206
- Executive Director, Information Technology Services: Dial ext. 6101
- Executive Director, Orange County Services: Dial ext. 4202
- Director, Northern Durham Center: Dial ext. 4404
- Safety Compliance Officer: Dial ext. 1018 or 919-943-2810.
- Public Information Officer: Dial ext. 5206

Fire Prevention

Recognizing the importance of fire prevention within the College community, Durham Tech has developed an ongoing fire prevention plan combining the elements below.

The Fire Marshal and the Safety Compliance Officer will conduct a College-wide inspection at least annually to identify potential fire hazards. Corrections are made according to the fire marshal's specifications.

Facility Services will ensure that fire alarms are tested and fire extinguishers are inspected at least annually by a private, contracted service company. At least once per month, the safety compliance officer will check for the presence of fire extinguishers in all buildings. Fire drills and emergency response training will be conducted by the safety compliance officer at least annually.

Facility Services will ensure that fire hydrants and fire sprinkler systems are tested at least annually by a private, contracted service company.

The safety compliance officer will test each building's Emergency Egress Exit lights using guidelines established by OSHA and Life Safety Code at least monthly and annually.

High-Risk Fire Hazard Areas

The Environmental Health and Safety Institute (EHSI), which is the designated safety consultant for the North Carolina Community College System, conducts on-campus investigations upon request to identify fire hazards and high-risk fire hazard areas, and to ensure compliance with OSHA safety regulations. Identifying areas as having the highest fire potential does not necessarily imply that fires are waiting to happen in those areas; rather, they are so identified in hopes of preventing fires. The following areas have been identified as high-risk areas:

- Maintenance Supply Storage, Facilities (Building 7), Rooms 7-111, 7-112, 7-113, 7-114, 7-118
- Fuel/Chemical Storage, Groundskeeping Building, Bacon (Building 20), Room 20-A
- Gasoline Storage Cabinet, Motorcycle Building, behind Newton (Building 4)
- Automotive Technology Lab, Newton (Building 4), Room 4-170
- Carpentry Lab, Newton (Building 4), Room 4-149
- Heating/A/C Lab, Bacon (Building 20), Room 20-134
- Boiler Rooms
    - Collins (Building 2), Room 2-180
    - Building 8, Room 8-200A
    - Tech (Building 9), Room 9-242

- Housekeeping Closets, All Campus Buildings, Rooms 1-162, 3-123, 3-235, 4-157, 5-106, 5-207, 6-103, 8-121, 9-109C, 9-209C, 10-102A, 10-204A, 10-302C, NDC 1-111, OCC 1-110
- Biology and Chemistry Labs and Store-rooms, Collins (Building 2), Rooms 2-108, 2-108A, 2-112, 2-126, 2-126B, 2-128, 2-128A, 2-132, 2-132A, 2-136A
- Biology and Biotechnology Labs, Chemical Cabinets
    - Northern Durham Center, Rooms NDC 1-112, 1-114
    - Orange County Campus, Rooms OCC 1-219, 1-223, 1-223A, 1-223B, 1-225

Care of Combustibles

Shops where flammable products are stored and/or used are most often identified as high-risk areas. Employees who use flammable products are instructed to take precautions to ensure that storage containers are maintained in a safe condition and are capped and stored in an approved flammable cabinet where there is little danger of fire.

Major or Minor Fires

In the case of fire or smoke of undetermined origin, the following steps should be taken:

You must follow the **R.A.C.E.** fire procedure **before** attempting to extinguish any fire.

1. *Rescue/Remove*
   Rescue or remove any persons from the immediate scene.

2. *Alert/Activate*
   Pull the nearest alarm and call 911, then the following numbers:
   Campus Police and Public Safety at ext. 5555 (919-536-7255, option 1). Give the exact location of the fire (building, location/area, floor, room number).

3. *Confine*
   Close all doors to the hazard or fire area to prevent the spread of fire and smoke.

4. *Extinguish/Evacuate*
   Extinguish using the closest fire extinguisher. Evacuate to your designated meeting location. Do not use the elevator.

All fires, even those extinguished, must be reported.

Bomb Threat Procedures

If you receive a bomb threat by phone, use the Bomb Threat Procedure Checklist to gather information. As soon as possible, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1 using a cell phone or outside line) to report the bomb threat or call 911 to report an imminent emergency.

If you are informed of a bomb threat after it has been reported to authorities, complete the following steps:

1. Evacuate the building/area. Each classroom and office suite have a floor plan posted that indicates the primary exit route.
   a. Do not use attempt to retrieve valuables.

   b. Do not touch any suspicious objects.
   c. Do not use elevators.
   d. Close, but do not lock, doors and windows.
   e. Do not block entrances, roadways, walkways, or fire hydrants.
2. Move away from the area and warn others to stay away.
3. Move to the designated outdoor assembly areas found on emergency procedures signage.
4. Take a headcount if possible.
5. Report any unusual observations to Campus Police and Public Safety or emergency personnel.
6. Do not return to an evacuated building until an “all-clear” signal is issued.

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Bomb Threat Procedure Checklist

What to do	Information to Obtain
Record the date of the call: Record the time of the call:	When and where is the bomb going to explode?
Stay focused and stay on the phone for the entire message.	What does the bomb look like? Is it contained in something like a box or bag?
Try to alert a colleague and have him or her call Campus Police and Public Safety or local law enforcement.	What type of bomb is it? What is the bomb made of?
Note characteristics of the voice (circle or fill in): Sounds familiar? Male or female? Calm, nervous, upset, angry? Accent? (Please note where from.) Bland, natural? Clear, stutter, lisp, slurred?	What can cause the bomb to explode (timer, motion, etc.)?
Note background noises.	Why are you doing this?
Note affiliations mentioned.	Where are you calling from?
Note keywords/phrases used.	Who are you?
Note names mentioned. Familiar (if so, who?) or unfamiliar (natural or disguised).	(Any additional information that may be useful)

Your Name: _____

Once the call is over, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line) or local police at 911 immediately.

Medical/Psychological Crisis

If a serious or life-threatening medical emergency occurs, call 911 and Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line). Provide officials with the individual's name, telephone number, location, and a description of the problem.

Complete the following steps while you await assistance:

1. Stay with the individual until emergency help arrives; never leave an affected individual alone, if at all possible. If he or she is conscious, ask what the problem is. If not, check for breathing and bleeding.
2. Ask people to clear the area if they are not providing needed assistance.
3. Avoid contact with any visible body fluids such as blood or vomit, and do not attempt to clean up any blood or bodily fluids. Direct someone to report spillage of any body fluids to Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line).
4. Keep the individual still, comfortable, and warm.
5. Protect him or her from any disturbances.
6. Check/ask for any emergency identification (such as an ID bracelet).
7. Wait for emergency help to arrive. Someone from Campus Police and Public Safety will come to you.

If a psychological crisis (e.g., suicide attempt, disorientation, confusion) occurs, call 911 and Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line). Provide officials with the individual's name, telephone number, location, and a description of the problem.

Complete the following steps while you await assistance:

1. Stay with the individual until emergency help arrives – unless your safety is threatened.
2. Stay calm and do not incite panic in others.
3. Be sensitive to the individual and others during the crisis.

Civil Disturbances

Workplace Violence

In all situations, if violence appears to be imminent, employees should take the precautions necessary to assure their own safety and the safety of others.

Violence	Steps
Occurring or imminent	1. Seek safety first. 2. Call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line). 3. Evacuate everyone in the area. 4. Notify your supervisor. 5. Provide First Responders core information as follows: a. Who is involved b. Where it occurred c. Any weapons observed d. Extent of injuries e. Any damage done 6. Refer media or other information requests to the Public Information Officer (PIO), ext. 5206, or to the Executive Vice President, Institutional Advancement and Support, ext. 6005. 7. After the incident, complete the Workplace Violence Report (see next page), and submit it to Campus Police.
Not occurring or not imminent	1. Separate the parties involved. a. If possible, escort them to separate areas. 2. If the parties cannot be separated, or it would be too dangerous to attempt separation, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line). 3. Contact your supervisor. 4. Complete the Workplace Violence Report (see next page) and submit it to Campus Police.

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Workplace Violence Report

Please complete this report as soon as feasible and submit it to Campus Police.

Your Name:	Phone Number and/or Extension:
Office Location (Building and Room Number):	Date and Time of Incident:
Location of Incident (Building and Room Number or General Area):	Names (and College IDs) of People Involved:

Has any person involved made threats in the past?
☐ Yes ☐ No If yes, who and when?

Has any person involved been known to carry a weapon?
☐ Yes ☐ No If yes, who and when?

Is there a history of animosity between the people involved?
☐ Yes ☐ No If yes, who and when?

Severe or Inclement Weather

The chief of Police and safety compliance officer receives weather notifications from the National Weather Service and Durham Emergency Management. When severe or inclement weather is possible, a watch or warning is issued by the National Weather Service and/or local media:

- A watch is issued when people in the watch area should prepare for the possibility of dangerous weather. When a watch is issued, regular activities and operations are to be continued until further notice.
- A warning is issued when dangerous weather has been sighted (e.g., tornado, high winds, flooding, lightning). When a warning is issued for areas that include Durham Tech, the College community will be informed of the precautions to take via the emergency notification alert system.

Please review the Inclement Weather procedure for details regarding delays and closures.

Tornado or High Wind Warnings

The College community will be notified of any area tornado or high wind warnings. Employees, students, and visitors should proceed to the appropriate Weather Shelter Areas (designated with the tornado symbol on emergency response posters found in classrooms, hallways, and at building exits).

Please monitor emergency information channels on a radio or cell phone, and do not return to classrooms or work areas until you receive an “all clear” signal or notification.

Flash Flood

If a flash flood prevents departure from campus, employees, students, and visitors will be instructed to proceed to the highest floor areas in each building and remain there until emergency assistance arrives.

Violent Crime or Criminal Activity

If you suspect any illegal activity or if you observe any of the following occurring on or around College property:

- A scream or call for help.
- A whistle or horn blowing, especially in groups of three.
- A broken window.
- Gun shots.
- An unfamiliar person doing any of the following: entering an office without authorization, loitering, attempting to break into a vehicle, or repeatedly driving around campus.

Please complete the following steps:

1. Call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line).
2. Give Campus Police and Public Safety your name and location as well as the location and nature of the incident.
3. If you are in a safe location, stay there.
4. Do not attempt to interfere with the situation except for self-protection.

5. Note a description of any suspects involved, including the following:
   - Race;
   - Gender/sex;
   - Height;
   - Weight;
   - Age;
   - Name(s) used;
   - Hair color;
   - Method and direction of travel; and
   - Distinguishing marks (e.g., scars, tattoos,).
6. Note a description of any vehicles involved, including the following:
   - Colors;
   - Makes and models;
   - License plate numbers;
   - Number of occupants; and
   - Any noticeable damage or uniqueness.

Firearms

North Carolina Law (N.C.G.S. §14-269.2) generally prohibits the open or concealed carrying of weapons either on community college property. Weapons are defined as firearms, explosives, BB guns, stun guns, air rifles or pistols, and certain knives and sharp instruments. However, the General Assembly has enacted a limited exception to the general prohibition (S.L. 2013-369, sec. 2; HB 937; N.C.G.S. §14-269.2(k)) making a firearm permissible on campus only under all of the following circumstances:

- The firearm is a handgun.
- The individual has a valid concealed handgun permit or is exempt from the law requiring a permit.
- The handgun remains in either a closed compartment or container within the permit holder's locked vehicle or a locked container securely affixed to the permit holder's locked vehicle.
- The vehicle is only unlocked when the permit holder is entering or exiting the vehicle.
- The firearm remains in the closed compartment at all times. The permit holder may not carry the handgun around campus.

Please consult Durham Tech's Weapons on College Property policy for more information.

Active Shooter

Situations where one or more individuals are using deadly force against many people are very fluid and changing. It is impossible to anticipate exactly how the situation will evolve and provide absolute guidelines. Thinking through possible actions now may give you an important advantage. Active shooter incidents can happen at any location where people gather and usually start quickly and without warning. In the event of an active shooter on campus, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line) as soon as you can safely do so.

Decision Making for Active Shooter on Campus/Lockdown

In the initial phases of an active shooter situation, individuals will need to make decisions based upon their assessment of the situation but must follow all directions from law enforcement personnel.

As soon as it is safe, Durham Tech's Emergency Action Group will convene to consider and communicate necessary actions. All information will be communicated via the College's emergency communication plan.

Action Steps – Happening Now

Hearing gunfire may be your first indication that something is wrong. Assess your situation as best you can and take action. In general, the more distance you can put between yourself and the shooter the better. Do not go towards the sounds of gunfire to investigate and/or try to help. Move away from the area. Try to be a moving target vs. a non-moving target. If you cannot get out of the area but are somewhat distant from the shooting, consider locking down as an option.

You may choose to try and secure the room you are in or go to a nearby room that can be secured. Close blinds, turn off all radios, etc., and keep quiet. Get down near the wall which the shooter is most likely to try firing through. Consider the possible trajectory of bullets when taking cover. Your goal is to keep the shooter from entering your room.

Quietly discuss with others in the room what you will do if the shooter enters the room. If the shooter enters the room, do not duck for cover and become a partially exposed, passive target. If possible, try to get away. Evaluate the situation as best you can before following any directions from the shooter.

Lockdown

The purpose of a lockdown is to avoid contact with the shooter by relocating to areas that can be secured. Ideally, these spaces will have phone and internet access, but being able to secure the area is the primary focus. When possible, the College's emergency notification system will be activated to alert people to the need for a lockdown.

It must be an individual decision whether it is best to try to flee or lock down. There are risks and benefits to both decisions and your decision will need to be based on your individual situation. Departments should have pre-determined safe rooms, which employees may use when circumstances dictate.

Do not set off the fire alarm in a lockdown. Individuals following established fire evacuation and assembly procedures could become targets. If a fire alarm goes off while you are in lockdown or sheltering in a safe room, assess the situation before evacuating. The alarm may have been set off by the shooter(s). However, if smoke or fire is present, exit the area.

In an active shooter situation, law enforcement's first priority is to neutralize the shooter(s). Until this is accomplished, first aid for victims is a secondary priority.

When the situation is secure, an announcement will be made on the overhead public-address system. Everyone should cooperate fully with law enforcement, make no sudden moves, and refrain from running towards officers.

Modified Lockdown

The purpose of a modified lockdown is to secure exterior doors while normal activities and operations continue inside buildings. Modified lockdowns are used when a dangerous situation is probable and building access should be restricted.

When employees are directed to initiate a modified lockdown, they should secure their building's exterior doors, close blinds, and continue normal activities until an all clear signal is given.

During a modified lockdown, you may grant entry to people you know and/or who do not fit the description of the suspect.

When the situation is secure, an announcement will be made using the emergency notification alert system.

Hazardous Materials Emergency Contingency Plan

A hazardous material is any item or agent (biological, chemical, radiological, and/or physical), which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. If you are unsure whether a material is hazardous, err on the side of caution, and assume that it may be.

If you suspect possible danger from a material, complete the following steps:

1. Call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line).
2. Warn everyone in the immediate hazard area.
3. Evacuate, if necessary.
4. Do not attempt to clean up a spill unless both of the following apply:
   a. The spill is incidental.
   b. You have been trained on the proper procedure and have the proper personal protective equipment (PPE).
5. Be aware of offensive or irritating odors or fumes resulting from spills and be prepared to evacuate to avoid potentially dangerous fumes.

All laboratory and maintenance personnel should be prepared to assist in the assessment of spills within their areas but only if requested to do so by local emergency personnel or a hazardous materials team. Consult the spilled substance's Safety Data Sheet (SDS) for proper Personal Protective Equipment (PPE) and clean-up procedures.

Utility Emergencies

If a utility emergency (e.g., electrical issues, gas leak, or elevator failure) occurs, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line).

Gas Leak

If a gas leak occurs, please complete the following steps:

1. Activate the emergency shut-off valve (if there is one). Only personnel specifically trained in emergency shut-off procedures should attempt to shut off the gas in the building.
2. Do not light matches, turn lights on or off, or plug or unplug electrical items.
3. Evacuate the building.
4. Follow directions given by Campus Police and Public Safety, Facility Services, or other authorized personnel.
5. If possible, open windows to allow ventilation.

Elevator Failure

If an elevator stops between floors or the doors will not open, use the elevator phone or alarm button to call for help. A Facility Services or Campus Police and Public Safety employee will respond.

Do not pry open the doors or overhead hatch of a stopped elevator.

During power outages and/or emergency situations, Facility Services and Campus Police and Public Safety employees will check elevators for occupants.

Electrical Issues

If you discover an electrical issue, call Campus Police and Public Safety at ext. 5555 (or 919-536-7255, option 1, if using a cell phone or outside line).

Do not approach or touch any wires or persons down with wires nearby. Do not attempt to make any repairs and report all electrical shocks or non-functioning/malfunctioning outlets to Facility Services.

Chapter 2 – General Safety Guidelines and Procedures

Introduction

The guidelines and procedures set forth in this section have been established and designed to safeguard the well-being of Durham Tech's students, employees, and visitors. As previously noted, no set of guidelines or procedures can foresee every eventuality; however, the guidelines and procedures contained in this chapter, along with everyone's commitment to be vigilant and safety conscious, will help prevent many of the accidents and injuries which we hope to avoid. The guidelines and procedures will be monitored and applied the appropriate employees.

Occupational Health and Safety Act

The Occupational Health and Safety Act of 1970 provides that every employer engaged in business shall:

- Furnish each employee a place of employment free from recognized hazards that are causing or likely to cause death or serious physical harm;
- Comply with occupational health and safety standards and guidelines, regulations, and orders pursuant to the Act that are applicable to company business and operations;
- Comply with and require all employees to comply with occupational health and safety standards and regulations under the Act which are applicable to their actions and situations; and
- Encourage employees to contact their immediate supervisor for information that will help them understand their responsibilities under the Act.

Health and Safety Responsibilities

Duties and responsibilities of all personnel under our health and safety program are as follows:

Vice President, Campus Operations

- Ensures that all aspects of the occupational health and safety programs are administered.
- Recommends disciplinary action for repeat violators of health and safety guidelines.
- Ensures the state health and safety posters, emergency telephone numbers, OSHA Form 300, and other notices required by OSHA are posted in areas accessible to employees.
- Develops and maintains accident and incident investigation and reporting procedures and systems.
- Investigates serious or reportable accidents and takes action to eliminate accident causes. Reportable incidents include fatalities, lost workday cases, and lost workday cases requiring medical treatment.
- Keeps senior leadership informed of findings.
- Reports accidents that result in an occupational fatality or three or more hospitalized workers within eight (8) hours of occurrence.
- Requires all subcontractors and subcontractor personnel working within College facilities to comply with health and safety regulations.

Safety Compliance Officer

- Carries out aspects of the occupational health and safety program.
- Helps develop programs and technical guidance to identify and remove unnecessary physical, chemical, and biological hazards from facilities, operations, and sites.
- Assists senior leadership and supervisors with employee health and safety training.

- Conducts inspections to identify unhealthy or unsafe conditions or work practices. Completes written reports of inspections.
- Recommends programs and activities that will motivate and incentivize employees.
- Maintains OSHA 30-Hour General Industry qualification.
- Vice presidents, assistant vice presidents, deans, department/division heads.
- Familiarize themselves with health and safety regulations related to their areas of responsibility.
- Direct, implement, and coordinate health and safety program elements and activities within areas of responsibility.
- Require all employees supervised to use individual protective equipment and safety devices.
- Ensure that safety equipment is available, maintained, used, and stored correctly.
- Ensure that all employees within their areas of responsibility receive job safety and health training as required.
- Ensure that directors/chairs and supervisors are aware of and in compliance with safety requirements.
- Investigate all accidents within their areas of responsibility. Review all accidents/incidents with supervisors and employees involved. Ensure accident reports and Workers' Compensation forms are completed and submitted as appropriate. Ensure that corrective action is taken immediately to eliminate the cause of the accident.
- Maintain copies of applicable records.

Directors/Chairs/Supervisors

- Be familiar with, explain, and enforce health and safety regulations that apply to operations within their areas of responsibility.
- Ensure that employees under their supervision use safety devices and proper PPE.
- Ensure that all employees within their areas of responsibility are trained in job health and safety requirements and require compliance with established safety guidelines.
- Ensure that injuries are treated promptly and reported properly.
- Investigate all accidents/incidents, obtain all pertinent data, and initiate corrective action.
- Act on reports of hazards or hazardous conditions that employees report to them.
- Ensure monthly and annual inspections are completed in their areas for items such as eyewash stations and decontamination showers.

Faculty

- Ensure that all students wear appropriate PPE.
- Train students on hazards they may encounter in the classroom, lab, or field site.
- Establish safety practices for students in their specific areas.
- Immediately report potential safety problems or accidents to the safety compliance officer.

All Employees

- Be familiar with and comply with proper health and safety practices.
- Use the required safety devices and PPE.
- Notify supervisor immediately of unsafe conditions/acts, accidents, and injuries.
- Complete required health and safety training annually.

DURHAM TECH

Reporting On-Campus Injuries

All accidents or injuries must be reported to Campus Police and Public Safety; Campus Police and Public Safety will notify the safety compliance officer who will complete an Accident/Injury Report. All employee injury reports should be copied and forwarded to the Workers' Compensation Administrator (WCA). All student injury reports should be copied and forwarded to the director of Purchasing and Auxiliary Services.

Important Contact Information

- Campus Police and Public Safety (CPPS) – 919-536-7255, ext. 5555
- Safety Compliance Officer (SCO) – 919-536-7200, ext. 1018 / nasirc@durhamtech.edu
- Director, Purchasing and Auxiliary Services –919-536-7200, ext. 1004 / businessoffice@durhamtech.edu
- Human Resources (HR) – 919-536-7244 / humanresources@durhamtech.edu

Reporting Injuries

True (no fault of the individual) accident/injury cases are subject to the following actions:

1. Ensure that the **scene is safe** before attending to the victim. Look for hazardous conditions such as standing water, live electrical wires, blood/biological specimens, etc. Once you've determined safe conditions, proceed with caution.
2. Ensure that the victim receives immediate and appropriate attention.
   In **life threatening** emergencies, call 911.

   Using a **Mobile Device** – call 911 and provide your specific location information (street, building number location within the building) and then call Campus Police and Public Safety to ensure that they are aware of the incident and can assist local response teams, if needed.

   Using a **Campus Phone** (landline) – call 911 and your call will be routed to Campus Police and Public Safety automatically.

   Campus Police and Public Safety will contact the Safety Compliance Officer immediately, but no later than 24 hours, informing them that a life-threatening incident has occurred and provide preliminary actions taken (e.g., contact with Facilities, name of victim and contact information, etc.). The SCA will follow up with the victim and campus responders after the incident has stabilized to conduct a risk assessment and based on the outcome, inform the appropriate departments of actions needed. This includes directing the victim to the appropriate form to complete.
3. For **non-life-threatening** incidents, report the accident immediately to Campus Police and Public Safety.

   Students are encouraged to visit the nearest urgent care facility or their primary care provider.

   Employees must contact Human Resources before selecting a provider. Injuries that take place while working are subject to the College's Worker's Compensation process.

   Both students and employees are **required to provide** receipts, including the medical provider's discharge summary form, when submitting information for reimbursement.

Note: Expenses incurred as a result of an accidents/injuries caused by inappropriate behavior (e.g., fighting), misuse of college property, or considered the fault of the individual and not the College, will not be reimbursed.

Financial Hardship

Durham Tech has agreements with the following medical providers to assist our employees and students with receiving services. Provide the victim with the Durham Tech form to use as verification for receiving services.

1. **Durham County** - Fast Med Urgent Care, (919) 313-3900, 7010 NC-751, Durham, NC 27707
2. **Orange County** - Fast Med Urgent Care, (919) 913-0996, 1407 E Franklin St, Chapel Hill, NC 27514
3. Emerge Ortho Urgent Care, (800) 359-3053, 120 William Penn Plaza, Durham, NC 27704
   (For orthopedic related injuries only.)
4. Campus Police and Public Safety informs the Safety Compliance Officer of the incident, immediately but no later than 24 hours from the incident being reported to CPPS, so that they can assist in the accident investigation to determine the cause of the accident.
5. The Safety Compliance Officer will work to correct the unsafe condition, within 24 hours of being contacted by CPPS, by conducting a risk management assessment, including contacting the appropriate departments to address the hazardous condition (e.g., Facilities). Once the department has addressed the condition, they will notify the SCA that the task has been completed.
6. The Safety Compliance Officer will follow up with the victim and request that they complete the appropriate form(s) and submit required documentation (Medical Accident/Incident Investigation Report) within 24 hours of the injury. The SCA will also contact the Director, Purchasing and Auxiliary Services, informing them of an active report and that they should look for an email from SafeColleges.

   The SCA will cover the following with the victim:
   Website: https://durhamtech-nc.safecollegesincident.com/#/login
   1. Select “Medical Incident” from dropdown menu
   2. Click “Create New” button
   3. Fill in form – many fields not required
   4. Enter your name and date in last fields
   5. Click “Save Form” button

7. **Closing the Loop** - Safety Officer will work with CPPS to close out the process, informing all involved that all of the steps have been completed and ensuring that are corrective actions have been resolved.

Training

Training and education cannot be overemphasized as a means of maintaining a healthy and safe College environment. Knowledge of the safety guidelines and how and when to function under those guidelines is essential to health and safety.

Employees scheduled for health and safety training must attend and complete the training. New employees will be provided orientation training and will receive information about the College’s health and safety policies, guidelines, and procedures. This training must be completed prior to the employee's exposure to the work environment.

Individual job/task training will be provided to all employees and shall include the following:

- Applicable regulations/standards related to their position;
- Guidance on how to recognize, avoid, and prevent unsafe conditions;
- Areas and activities that require PPE; and
- Directions on the use of protective equipment (e.g., respirators).

Ongoing safety training sessions will be offered to provide employees with information and training on new equipment, procedures, and chemicals; refresher/remedial training in specific areas; and to meet annual requirements. Examples of training include, but are not limited to, fire extinguisher, confined space entry, hazard communication, lockout/tagout, industrial truck/forklift operation, and electrical work.

All safety training addressed above will be documented and copied to the safety compliance officer for compliance with OHSA recordkeeping.

Hazard Identification, Assessment, And Control

Responsibility for hazard identification and elimination efforts is not limited to supervisors and senior leadership. Employees are particularly important in this process as they are in the best position to identify hazards in the workplace and day-to-day operations. Hazard evaluation and control should be ongoing concerns for all, and everyone is responsible for identifying, reporting, and correcting possible hazards.

Hazard reporting is a protected activity, and no action shall be taken against anyone for identifying unsafe conditions. Employees should make reports to their supervisor for appropriate action. The College conducts inspections of workplaces and job sites to ensure compliance with health and safety guidelines. These in-house inspections identify hazards and unsafe practices before they cause an injury or accident.

Formal health and safety inspections and reviews will be conducted as follows:

- The safety compliance officer will conduct semi-annual inspections of all fixed facilities and shops.
- Directors/chairs and supervisors will conduct quarterly inspections of their areas of responsibility.
- The Safety Committee will review the health and safety program at least annually.
- OSHA, EHSI, contracted consultation services, and insurance company representatives may conduct on-site consultations and inspections when requested.

After completing inspections or review, the responsible party or parties will complete the following steps:

- Discuss findings with those responsible for creating the condition, inviting their comments, suggestions, and assistance.
- Ensure recommended changes or corrections are discussed with the appropriate supervisor for correction.
- Follow up on changes, corrections, and other necessary actions.
- Provide a copy of the inspection checklist (see below) to the safety compliance officer, along with a statement describing the corrective actions taken or required to be completed. These items will be added to the Appendix P - Health and Safety Master Hazlog.

Inspection Guidelines

The list below highlights items, areas, and categories that may be examined during health and safety inspections. This list is not meant to be all-inclusive; instead, it provides guidelines for areas to be surveyed and may be developed into an inspection checklist.

- First aid equipment.
- Posters and signs required by OSHA and Worker Safety.
- Health and safety practices.
- Accident reporting records.
- Employee training provided (e.g., health and safety talks, presentations, and discussions; orientation.)
- Equipment and tools (hand, power, welding, etc.) – use and operating condition.
- Protective guards and devices – availability, use, proper maintenance, and operating condition.
- Housekeeping – maintenance of work areas (cleanliness, absence of trash/debris accumulation and tripping and slipping hazards, proper operation, etc.).
- Noise hazards, hearing protection.
- Ventilation – examine for gases, vapors, fumes, and dust.
- Availability of PPE (hard hats/head protection, respirators, safety belts, life lines, safety shoes, ear protection, eye protection, gloves, lab aprons, and coats).
- Fire protection, prevention, and control; and the use of fire protection equipment.
- Temporary buildings, trailers, sheds.
- Open yard storage.
- Storage of flammable and combustible liquids, including vehicle service and refueling areas.
- Temporary heating devices.
- Fall protection requirements – in place and in use.
- Electrical system and devices – condition and use of cords, ground fault protection, circuit breaker panels, receptacles, and switches.
- Openings – floor, wall, and safety railings.
- Materials – handling equipment and elevators.
- Ladders – condition and use.
- Hazard communication program and Safety Data Sheets (SDSs).
- Stairways – safety railings and condition.
- Scaffolds – safety railings and if secured.
- Lockout/tagout procedures.
- Machines and equipment – condition and if guards are in place.
- Forklifts, etc. – condition and operation.
- Preventive maintenance program – all-inclusive and up-to-date.

Health and Safety Guidelines and Procedures

In order for a health and safety program to be effective, it must be understood and implemented at all levels. The following are the primary occupational health and safety guidelines and procedures applicable to College operations. A complete set of standards may be found in the OSHA Guidelines and Regulations for General Industry, 1910.

General Workplace Safety

- Report unsafe conditions to your immediate supervisor, Building Safety Captain or Campus Police and Public Safety.
- Promptly report all accidents/injuries/incidents to Campus Police and Public Safety.
- Use eye and face protection when there is danger from flying objects or particles (such as when grinding, chipping, burning, and welding, etc.) or from hazardous chemical splashes.
- Dress properly. Wear appropriate work clothes, gloves, and shoes or boots when necessary. Loose clothing and jewelry shall not be worn in areas with machinery that has moving parts.
- Operate machines or other equipment only when all guards and safety devices are in place and in proper operating condition.
- Keep all equipment in safe working condition. Never use defective tools or equipment. Report any defective tools or equipment to your immediate supervisor.
- Properly care for and be responsible for all PPE. Wear or use any such PPE when required.
- Lock out, tag out, or disconnect power on any equipment or machines before any maintenance, unjamming, and adjustments are made.
- Do not leave materials in aisles, walkways, stairways, work areas, or other points of egress.
- Practice good housekeeping at all times.
- Training on equipment is required prior to unsupervised operation.
- Compliance with all governmental regulations/guidelines and all College safety guidelines and procedures in the following sections is required.

Housekeeping

- Proper housekeeping is the foundation for a safe work environment. It helps prevent accidents and fires and creates a professional appearance in the work area.
- All work areas, floors, aisles, and stairways will be kept clean, orderly, and free of tripping and slipping hazards. Oils, greases, and other liquids will be immediately cleaned up if spilled.
- Combustible scrap, debris, and garbage shall be removed from the work area at frequent and regular intervals.
- Stairways, walkways, exit doors, areas in front of electrical panels, and access to firefighting equipment will be kept clear of storage, materials, supplies, trash, and other debris at all times.
- Overhead storage areas will be marked as to maximum load ratings.

Fire Prevention

- All portable fire extinguishers will be conspicuously located, accessible, and maintained in operating condition. Portable fire extinguishers will receive required monthly checks and an annual service check. These inspections will be documented by a tag on the extinguisher or other form.
- Building Safety Captains must know the location of firefighting equipment in the work area and have knowledge of its use and application as required.
- Exits will be marked as such by a readily visible sign. Other doors likely to be mistaken for an exit will be marked as to their use or noted as "Not An Exit."
- Only approved safety cans shall be used for handling or storing flammable liquids in quantities greater than one (1) gallon. For one (1) gallon or less of flammable fuels, only the original container or a gasoline safety container will be used.

- When heat-producing equipment is used, the work area must be kept clear of all fire hazards, and all combustible materials will be eliminated.
- Fire extinguishers will be available at all times when utilizing heat-producing equipment.

Industrial Hygiene and Occupational Health

- Employees exposed to noise levels above the permissible noise level will be included in the hearing conservation program. Hazardous noise areas will be posted, and hearing protection will be worn in those areas as required.
- Employees exposed to harmful gases, fumes, dust, and similar airborne hazards will be furnished protection through proper ventilation or personal respiratory equipment.
- Any demolition, renovation, or self-help work will be assessed for lead exposure and asbestos exposure, particularly if drywall or any painted surfaces or abrasive blasting/grinding are involved.

Personal Protective and Related Equipment

- Personal Protective Equipment (PPE) must be worn as required for each job in all operations where there is an exposure to hazardous conditions. This exposure is determined by the supervisor's personal protective equipment hazard assessment of the workplace, which is documented with a written certification that identifies the workplace evaluated, the person certifying that the evaluation has been performed, and the date(s) of the hazard assessment. Equipment selection and wearing requirements are determined during this assessment. A sample PPE Hazard Assessment can be found on Workshares/SafetyCompliance/PPE.
- Safety glasses, goggles, or face shields will be worn in areas where there is a reasonable probability of eye injury due to flying particles, molten metal, chemicals/acids/caustics, light radiation, or other eye hazards.
    - Persons requiring corrective lenses will only wear approved safety glasses, protective goggles, or use other medically-approved precautionary procedures.
- Head protection (hard hats) will be worn for protection from falling objects or for work near energized electrical contact.
- Foot protection will be worn when there is danger to the foot from falling/rolling objects, objects piercing the sole, or electrical hazards.
- Hand protection is required when hands are exposed to the possibility of severe cuts/abrasions, chemical/thermal burns, or chemical absorption.
- Appropriate gloves, aprons, goggles, and closed-toe shoes or boots will be used when needed for protection from acids and other chemicals.
- Respiratory equipment is often needed for protection against toxic and hazardous fumes/dust. Supervisors must verify which equipment meets the need for breathing safety and provide the appropriate training. Only Mine Safety Health Administration/National Institute of Occupational Health and Safety (MSHA/NIOSH)-approved equipment will be used.
- Safety harnesses and lanyards are required when working more than ten (10) feet above a floor or ground level, when there are no guardrails or other form of fall protection, and when working on certain suspended scaffolds. Each employee will be on a separate safety line, and this line will be adjusted so that the employee cannot fall more than six (6) feet.
- All PPE will be maintained in sanitary condition and ready for use.

Electrical

- Live electrical parts shall be guarded against accidental contact by cabinets, enclosures, location, or guarding. Open circuit breaker openings or knock out holes, broken receptacles/switches, missing covering plates, etc. will be reported to supervisors for repair or replacement.
- Working and open space around electrical equipment and distribution boxes will be kept clear and accessible.
- Circuit breakers, switch boxes, and similar items will be legibly marked to indicate their purpose.
- Employees shall conduct preliminary inspections and/or appropriate tests to determine the status of the electrical equipment before starting work.
- All extension cords and electrically-powered tools (except double insulated) will be grounded; ground prongs will not be removed.
- Electrical cords and their strain-relief devices will be in good condition, with no splices.
- Electrical wiring and cords entering and exiting any panel, control, or junction box will be secured with clamps or other appropriate strain-relief device.
- Extension cords and other flexible cords will not be used in lieu of permanent wiring and receptacles. Cords will not be run through holes in doors, walls, or windows; nor will they be fastened to walls, poles, equipment, etc.
- All lamps below seven (7) feet used for general illumination will have the bulbs protected against breakage.
- All contract electrical work must be in compliance with OSHA.

Guarding

- All flywheels, shafting, pulleys, belts, gears, sprockets, chains, and fan blades will be guarded or enclosed when located less than seven feet (7) above the floor or work platform.
- Guards installed on machinery and equipment, such as air compressors, conveyors, and drill presses, will not be removed when operating. Guards removed for servicing or other work on the machine require the machine be unpowered and labeled as out of service.
- Woodworking equipment, such as power saws, radial arm saws, table saws, and portable abrasive grinders, will not be operated unless all required guards are in place. Feather boards and push boards will be used when appropriate.

Compressed Gas Cylinders

- All gas cylinders shall have their contents clearly marked on the cylinder.
- Cylinders must be transported, stored, and secured in an upright position. They will never be left lying on the ground or floor, nor used as rollers or supports.
- Cylinder valves must be protected with caps and closed when not in use.
- Oxygen cylinders and fittings will be kept away from oil or grease. Oxygen cylinders will be stored at least twenty (20) feet from any fuel gas cylinder or separated by a fire barrier at least five (5) feet high.
- When cylinders are hoisted, they will be secured in a cradle, sling board, or pallet. Valve protection caps will not be used for lifting cylinders from one vertical level to another.

Ladders

- Ladders will be inspected frequently to identify any unsafe conditions. Ladders which have developed defects will be removed from service and repaired or replaced. They will be tagged or marked as such.

- Portable ladders will be placed as to prevent slipping or, if used on other than stable, level, and dry surfaces, will be tied off or held. A simple rule for setting up a ladder at the proper angle is to place the base from the vertical wall equal to one-fourth the working length of the ladder.
- Portable ladders will extend at least three (3) feet above the upper level to which the ladder is used to gain access.
- The top of a stepladder will not be used as step.
- Only one (1) person will be on a ladder at a time.

Flammable and Combustible Liquids

- Only approved safety cans, original containers, or portable tanks will be used to store flammable or combustible liquids. Small quantities (less than 500 milliliters) for laboratory use will be stored in containers designed for their use and properly labeled.
- Above-ground storage tanks will be separated from each other by a minimum of three (3) feet or 1/6 the sum of their diameters. Dikes or drainage to prevent accidental discharge from reaching adjoining property or waterways will be provided.
- No more than twenty-five (25) gallons of Class IA and 120 gallons of Class IB, IC, II, or III liquids may be stored outside a storage cabinet or an inside storage room.
- An emergency shut-off switch located fifteen (15) to seventy-five (75) feet from the pumps and a fire extinguisher will be provided at fuel servicing areas.

Welding and Brazing

- Combustible material will be cleared for a radius of at least thirty-five (35) feet from the area around cutting or welding operations. If the combustible material cannot at least be cleared, or the work cannot be moved, then the welding/cutting will not be done.
- Welding helmets and goggles will be worn for eye protection and to prevent flash burns. Eye protection will be worn to guard against slag while chipping, grinding, and dressing of welds.
- Welding screens will be used and in proper position to protect nearby workers from welding rays.
- Cables, leads, hoses, and connections will be placed so that there are no fires or tripping hazards. Cables will not be wrapped around the welder's body.
- Oxygen cylinders will be stored at least twenty (20) feet from fuel gas cylinders or separated by a noncombustible fire wall with a one-half hour rating at least five (5) feet high.
- All cylinders will be properly secured. Valve protection caps will be in place on cylinders not in use.
- Ventilation is required for welding in any confined spaces.
- A portable fire extinguisher will be available nearby whenever welding or brazing takes place.

Tools

- Hand tools with broken or cracked handles, mushroomed heads, or other defects will not be used. Files will have handles installed.
- Special precautions will be exercised when using power tools. Defective tools will be removed from service.
- Power tools will be turned off and motion stopped before setting the tool down.
- Tools will be disconnected from the power source before changing drills, blades, or bits or before attempting a repair or adjustment; never leave a running tool unattended.
- Power saws, table saws, and radial arm saws will have operational blade guards installed and in use.

- Anti-kickback teeth and spreaders will be used when rip sawing.
- Portable abrasive side-winder grinders will have guards installed covering the upper and back portions of the abrasive wheel. Wheel speed ratings will never be less than the grinder RPM speed.
- Pedestal grinders will be permanently mounted, tool rests installed and adjusted to within 1/8 inch of the wheel, tongue guards installed and adjusted to within 1/4 inch of the wheel, and side spindle/nut guards installed.
- Air compressor receivers will be drained frequently to prevent buildup of water in the tank.
- Compressed air will not be used for cleaning purposes except when pressure is reduced to less than thirty (30) psi by regulating or using a safety nozzle and then only with effective chip guarding and proper PPE.
- Employee-furnished tools of any type must meet all OSHA safety and American National Standards Institute (ANSI) requirements.
- Required PPE will be used appropriate to the hazards associated with the tool's use. Generally, this means safety glasses and appropriate gloves at a minimum.

Safety Railings and Other Fall Protection

- All open-sided floors and platforms four (4) feet or more above adjacent floor/ground level will be guarded by a standard railing (top and mid rail and toe board, if required).
- All stairways of four (4) or more risers will be guarded by a handrail or stair rails on the open side. Handrails or stair rails will be provided on both sides if the stairs are more than forty-four (44) inches wide.
- When a hole or floor opening is created during a work activity, a cover or a barricade must be installed immediately.
- Safety harnesses, belts, lanyards, lines, and lifelines may be used in lieu of other fall protection systems to provide the required fall protection.
- Adjustment of lanyards must ensure that a fall would be no more than six (6) feet, and all tie-off points must be at least waist high.

Scaffolds

- Scaffold platforms more than ten (10) feet above the ground, floor, or lower level will have standard guardrails (consisting of top rail, mid rail, and toe board) installed on all open sides and ends of platforms.
- Planking will be laid tight, overlap at least twelve (12) inches, and extend over end supports six (6) to twelve (12) inches.
- Mobile scaffolds will be erected no more than a maximum height of four (4) times their minimum base dimension.
- Scaffolds will not be overloaded beyond their design loadings.

Forklifts

Authorized employees and only employees who have successfully completed the Safe Forklift Operator training course may operate the College's forklift. This training is scheduled and conducted by an authorized instructor through the North Carolina Department of Transportation (NCDOT). Authorized employees will be given specific instruction for the forklift owned and operated by the College.

- Preoperational Inspection: Authorized employees will conduct an inspection of the forklift prior to operation. This inspection shall include checking fluid levels, pressures, leaks, tire condition, horns/alarms, mast/forks, controls/gauges, and safety equipment. Never operate equipment that is unsafe.
- Safety Equipment: Authorized employees will wear a safety belt when operating the forklift. Alarms and safety equipment shall not be disabled or bypassed. The forklift should have a working backup alert.
- Operation: Never allow passengers to ride on the forklift. Never use the lift or forks to raise or lift any employee unless an approved work platform with fall protection is used. Never raise the load in an attempt to see under the load. The use of forklifts outdoors is dangerous and can present hazards not found in a warehouse. Be aware of changing terrain, bumps, or seams that may cause the load to shift. Always drive up and back down ramps and steep inclines when carrying a load. Keep speeds low and avoid sudden braking. Always check behind and to both sides before backing up.
- Picking Up a Load: Make sure the load does not exceed the capacity of the forklift. Position the forks and drive into the load as far as possible. Make sure the load is balanced and secure. Check for overhead obstructions. Tilt the load back slightly and lift to proper height (usually two (2) to four (4) inches from the floor). Never allow anyone to stand or move under the load while it is raised to be placed. Stop the forklift completely before raising a load to be placed.

Excavations and Trenches

- Any excavation or trench five (5) feet or more in depth (or less than five (5) feet and showing potential of cave-in) will be provided cave-in protection through shoring, sloping, benching, or the use of trench shields. Specific requirements of each system are dependent upon the soil classification as determined by a competent person (as defined by OSHA).
- A competent person will inspect each excavation/trench daily prior to the start of work, after every rainstorm or other hazard-increasing occurrence, and as needed throughout the shift.
- Means of egress will be provided in trenches four (4) feet or more in depth so as to require no more than twenty-five (25) feet of lateral travel for each employee in the trench.
- Spoil piles and other equipment will be kept at least two (2) feet from the edge of the trench or excavation.

Ergonomics

Ergonomics is the science of fitting the job to the worker. When there is a mismatch between the physical requirements of the job and the physical capability of the worker, musculoskeletal disorders (MSDs) can result. MSDs are a category of injuries that affect the body's muscles, bones, ligaments, tendons, and nerves. Where feasible, the following MSD risk factors should be avoided: repetition and inadequate work/rest scheduling, forceful exertions, awkward and extreme positions of the body, and sustained or static positioning of the body. Be sure to report to your supervisor any existing discomforts that last more than a week. If you and your supervisor are unable to identify the source or find a solution, contact the safety compliance officer for assistance.

As an employee, you are in the best position to evaluate the tasks you do each day. The following information is intended to provide you with the basic knowledge necessary to assess and correct your own job. The following are some suggestions for setting up your workstation properly:

- Sit with your lower back against the chair, your upper legs parallel to the floor, and your feet flat on the floor or on a footrest.
- Adjust your desk and chair so that your elbows are bent at right angles and your forearms are approximately parallel to the floor.
- Keep your wrists neutral (straight) by using a wrist rest that is the same height as the keyboard.
- Place your mouse (or other pointing device) on a surface close to and at the same height as your keyboard.
- Position your computer screen directly in front of you, approximately an arm's length away, with the top of the screen at or slightly below eye level. Tip the screen back at an angle similar to that used when reading a book.
- Use a document holder to position work at eye level and close to the screen.
- Adjust your lighting and screen to prevent glare or use an antiglare filter.
- When performing tasks involving repetitive motions or awkward positions, take periodic stretching breaks, or alternate with other tasks.

Filing Cabinets

Filing cabinets are a major cause of accidents and should be used with care. When caution is ignored, filing cabinets can pinch, cut, crush, or trip a user. Always be alert for a top-heavy filing cabinet. It might tip over if a drawer is opened. Heavy filing cabinets shall be secured to the wall to prevent this.

The following are a few suggestions for safe use of filing cabinets:

- Exercise care when opening and closing file drawers. Open one (1) file drawer at a time and close it with the handle, making sure your fingers are clear. Never close a drawer with your knee, elbow, or any other part of your body other than your hand. Close each drawer immediately after use, even if you plan to reopen it in a short time.
- Never climb on open file drawers.
- Properly store small non-slip step stools (used to access upper file cabinets) out of passageways.
- Wear finger guards to avoid paper cuts.
- Empty filing cabinets before moving them.

Chapter 3 – Specific Area Safety Guidelines and Procedures

Automotive Shop

Newton (Building 4): Rooms 4-160, 4-162, 4-164, 4-166, and 4-170

Employees and students using the automotive shop should adhere to the following guidelines and regulations:

- Report every injury and accident to the instructor no matter how minor.
- Never work alone.
- Do not engage in horseplay.
- No one is to operate or adjust any equipment unless he or she has been told to do so by the instructor.
- No one is to work in the shop without the instructor's knowledge.
- Wash hands thoroughly with soap and hot water after handling fuels and solvents, especially before eating.
- Do not eat in the shop.
- Never mix solutions near your face and eyes.
- Keep fingers away from your eyes and mouth while working in the shop.
- Tobacco use is prohibited in all College buildings. Consult the Tobacco-Free Campus policy for more information.
- Discard all trash in the trash can or other appropriate container.
- Keep aisles clear.
- In case of fire, notify the instructor immediately.
- Do not allow oil and rags to accumulate on the floor around and beneath any equipment.
- Spilled liquids of any kind should be cleaned up immediately.
- Do not attempt to lift heavy items. Ask for assistance if the item is too heavy and cannot be broken down into smaller parts or packages.
- Always read labels and follow directions printed on containers.
- Avoid breathing direct fumes and vapors.
- Never guess when using chemicals. Ask the instructor and consult Safety Data Sheets (SDS) for concise information when working with a chemical you are not familiar with.
- Dispose of chemicals and solvents in an approved manner.
- Only use those solvents the instructor has designated for cleaning.
- Never use gasoline, benzene, toluene, or turpentine for cleaning. These substances are highly flammable and/or toxic.
- Emergency disconnect switches, also called panic buttons, should only be pushed in an emergency or an apparent emergency. They are not to be used for jokes or pranks.
- Avoid wearing jewelry. If wearing jewelry upon arrival, remove it from your fingers, wrist, and neck.
- Persons authorized to operate a machine should not allow unauthorized persons to operate machinery or make any adjustments to machinery.
- Persons observing the operation of a machine must stay out of the operator's way so as not to impede his or her operation and control of the machine.
- Observers must keep their hands off the machine and out of the machine.
- Machinery must be operated in the manner and at the speed demonstrated by the instructor.

- Only those adjustments authorized by the instructor should be performed, and then only in the manner demonstrated by the instructor.
- The floor and aisle around a machine must be kept free of oil, paper, and other debris.
- Use of safety glasses is required during various work activities including drilling, grinding, hammering, and battery air conditioning servicing.
- Use of jack stands is required when using a floor jack to raise a vehicle.
- Use of brake cleaning equipment is required anytime work is being done which would cause asbestos exposure.
- Tables should not be used as workbenches or depositories for books, lunches, or other items.
- Always use the correct tool for the job; do not improvise.
- If the correct tool is not available when making repairs, ask the instructor.

Chemical and Biological Teaching Laboratories

Biology and Chemistry Labs and Store-rooms, Collins (Building 2), Rooms 2-108, 2-108A, 2-112, 2-126, 2-126B, 2-128, 2-128A, 2-132, 2-132A, 2-136A
Northern Durham Center: Rooms 1-112 and 1-114
Orange County Campus: Rooms 1-219, 1-223, 1-223A, 1-223B, and 1-225

All teaching laboratories will follow the guidelines outlined later in this manual under the College's Chemical Hygiene Plan. All chemical safety hoods are also inspected annually for compliance with minimum flow rates. A sticker is affixed to every hood to show the optimal opening of the sash-door for correct air flow rate.

Electrical Laboratory Safety Guidelines

Newton (Building 4): Rooms 4-113, 4-115 and 4-129

Employees and students using the electrical lab should adhere to the following guidelines and regulations:

- Do not apply voltage to a circuit without the instructor's approval.
- When working on electrical circuits, always keep one hand in your pocket.
- Remove all jewelry before working with electrical circuits.
- Tobacco use is prohibited in all College buildings. Consult the Tobacco-Free Campus policy for more information.
- Do not assume the power is off; measure the voltage with a voltmeter to be sure.
- Do not engage in horseplay.
- Never remove the grounding prong of a three-wire input plug.
- Keep floors and aisles clear.
- Know the locations of the nearest fire extinguishers.
- When cutting or nipping wire, have the wire pointed away from others.
- Follow all other guidelines designated by the instructor.
- If you have questions, ask your instructor.

Electronics Laboratory Guidelines

Newton (Building 4): Rooms 4-113, 4-115 and 4-129

Employees and students using the electronics lab should adhere to the following guidelines and regulations:

- Do not engage in horseplay.
- No food or drinks may be consumed in the laboratory.
- Tobacco use is prohibited in all College buildings. Consult the Tobacco-Free Campus policy for more information.
- Use common sense at all times.
- Learn to use all tools and equipment safely. If you have questions, ask your lab instructor.
- Be certain all circuits and test equipment are properly connected before applying power. If you have questions, ask your lab instructor.
- Make sure meters are set to proper range and scale before making measurements.
- Remove conductive (metal) jewelry such as watches, rings, and bracelets before working on energized circuits.
- When working with high-voltage circuits, keep one hand behind your back at all times.
- Utilize all safety equipment and follow procedures specified by your instructor.
- Disconnect electrical devices by pulling on the connector or plug; do not pull the lead or line cord.
- Report all damaged or malfunctioning equipment, components, and tools to the lab instructor.
- Properly store all tools, components, and equipment at the end of each work period.
- Discharge capacitors before attempting to make circuit repairs.

Groundskeeping Safety Guidelines

- No one under eighteen (18) years of age shall operate mowers, edgers, weed eaters, or tractors.
- Safety glasses shall be worn by anyone operating weed eaters, blowers, and edgers.
- Ear protection shall be provided to employees, and employees are encouraged to use this protection when they are using mowing equipment and blowers.
- Employees should exercise caution when they are working in areas that contain harmful plants and stinging insects, such as bees, wasps, and hornets.
- All employees shall be instructed in the proper handling of poisons or other hazardous substances. Consult Safety Data Sheets (SDS) for concise information on handling chemicals.
- Designated agricultural toxins shall be applied to foliage by trained and/or licensed personnel wearing appropriate PPE.
- All fuel-powered tools shall be stopped and powered off while being refueled, serviced, or maintained.
- Fuel must be transported, handled, and stored in approved safety cans.

Housekeeping Safety Guidelines

All custodial personnel shall complete any required safety training and observe the following safety guidelines:

- All elevated work shall be performed using an appropriate ladder.
- Proper protective apparel such as gloves, masks, and/or safety glasses shall be worn in compliance with infection control or hazardous materials procedures.

- Warning signs or devices, such as wet floor signs and appropriate barricades, must be in place while work is being performed.
- All traffic areas should be kept free of debris or litter that could cause a fall.
- Look for and take steps to eliminate wet spots and standing water in traffic areas as soon as possible.
- Do not leave carts, ladders, or other maintenance devices in traffic areas.
- Do not block exits with housekeeping or maintenance equipment.
- Report any accidents, chemical spills, or blood borne pathogen hazards to your supervisor.

Machine Technology Safety Guidelines

- Wear safety glasses at all times while in lab areas.
- Safety-type shoes are recommended. Never wear sandals in lab areas.
- Never wear shorts in lab areas.
- Wear short-sleeve shirts or roll long sleeves up in lab areas.
- Do not carry files or wrenches in your pockets.
- Never leave chuck wrenches in drill motors.
- Clean up any oil spilled on the floor immediately.
- Use your legs and not your back when lifting objects.
- Use a brush, not the air hose, to clean machines.
- If an injury occurs, report it to the lab instructor immediately.
- Do not attempt to measure parts while a machine is running.
- Be sure unused materials or parts are properly stored.
- Do not engage in horseplay in lab areas.
- Do not wear jewelry or loose clothing while operating machines.
- Never use a file without a handle on the tang.

Maintenance Department Safety Guidelines

All maintenance personnel will complete any required safety training and observe the following safety guidelines:

- When moving a heavy or awkward object, use the correct tools such as pry bars, lever trucks, hand trucks, and portable dollies. To lift heavy or awkward objects, use proper lifting techniques, such as lifting with your legs and not your back.
- All elevated work shall be performed using an appropriate ladder.
- Operating and safety instructions posted on all machines must be strictly observed.
- Public access areas under renovation, alteration, excavation, or modification shall be barricaded from general access by the use of traffic cones, yellow caution tape, and other warning devices.
- When operating a College vehicle (van, truck, forklift, tractor, etc.) on campus, you must not exceed ten (10) miles per hour, stop at all crosswalks, and give pedestrians the right of way.
- Before backing a vehicle, you must look to the rear and sound the horn. If visibility is blocked, ask an observer to direct movement.

Hvac Safety Guidelines

Bacon (Building 20): Room 20-134

- Electrical power should always be off and tagged when installing or hooking up equipment in a panel.
- Whenever possible, electrical power to HVAC systems should be disconnected before service or repair.
- Use a voltmeter or test equipment to check power before working on electrical equipment or control wiring.
- Make sure all drills and/or hand tools are grounded or double-insulated.
- Do not stand on a wet or damp area when checking power.
- Close all power boxes before power is applied.
- Make sure a fire extinguisher is available when using gas or electrical welding.
- Use a mechanical striker to light a torch.
- Never weld on a closed tubing (low or high with pressure inside line).
- When welding next to combustible materials, use a shield of non-combustible materials for insulation.
- Make sure all motor pulleys have a guard.
- Do not try to stop a fan or motor by gripping the belts.
- Power equipment must be plugged into wall receptacles with power switches in the “off” position.
- Electrical equipment should be unplugged by grasping the plug and pulling. Do not pull or jerk the cord to unplug the equipment.
- Frayed, cracked, or exposed wiring or equipment cords must be replaced.

Welding Shop Safety Guidelines

Bacon (Building 20): Room 20-133

- Safety glasses should be worn at all times in the welding shop. Proper lenses in cutting goggles and welding helmets must be checked and in good condition at all times for eye protection.
- Do not operate the welding torches or machines before checking them for loose tips or electrical connections.
- Never wear loose clothing or clothing with oil or flammable materials in the welding shop.
- Never wear tennis shoes or sandals in the welding shop; boots or safety shoes are required.
- Always wear gloves when working with hot metal or when cutting or welding.
- Keep work areas clean.
- Keep shop walkways open and clear.
- Do not engage in horseplay in the welding shop.
- Make sure the ventilation system is turned on. Never weld without ventilation.
- Always be alert for hazardous conditions, and immediately report any to the instructor.
- Report any injury or accident to the instructor immediately.

Chapter 4 – Occupational Health and Safety Programs

The Occupational Health and Safety Guidelines and Regulations specify various individual programs and plans that are applicable to the College. These programs and plans include the following:

- Hazard Communication Program
- Confined Space Entry Program
- Occupational Noise Exposure/Hearing Conservation Program
- Lockout/Tagout Program
- Chemical Hygiene Plan
- Exposure Control Plan

Hazard Communication Program

Purpose

Durham Tech is firmly committed to providing a safe and healthy environment for all of its employees, students. The Hazard Communication Program seeks to protect the College community from injuries or illnesses that may result from exposure to hazardous chemicals or substances.

Responsibilities

Safety Compliance Officer – The specific responsibilities of the safety compliance officer include the following:

- Maintaining an up-to-date Hazard Communication Program.
- Ensuring that Durham Tech has a Hazardous Chemicals Inventory List exists.
- Ensuring that Durham Tech has a Safety Data Sheet (SDS) for each chemical listed.
- Ensuring that an adequate supply of hazard warning labels are maintained.
- Ensuring that general hazard and communication training is provided to all applicable employees.
- Maintaining training records for employees who have completed Hazard Communication training.
- Keeping a master copy of the Hazard Communication Program and all SDSs on file.

Department/Division Heads – Each department or division head is responsible for the following:

- Ensuring that materials are properly labeled within their areas of responsibility.
- Ensuring that SDSs are obtained with any new materials received.
- Ensuring that employees are trained on any non-routine chemicals that may be used in their work areas.

Employees – All employees are responsible for learning and adhering to program requirements.

Access to the Written Program

All or any part of this written Hazard Communication Program is available to employees, their designated representatives, the Assistant Secretary of Labor for Occupational Safety and Health (OSHA), and the Director of the National Institute for Occupational Safety and Health (NIOSH) on the Durham Tech shared folders or through your supervisor.

Definitions

Acute Hazard - Symptoms develop immediately or within days of exposure. Sometimes associated with brief and/or high concentrations of exposure.

Asphyxiant - A vapor or gas that can cause loss of consciousness or death by suffocation (lack of oxygen). Simple asphyxiants (e.g., carbon dioxide, nitrogen, helium) act by displacing the oxygen available in the air so the body cannot take in enough oxygen. Chemical asphyxiants (e.g., carbon monoxide, cyanide) act by interfering with the body's use of oxygen even though adequate oxygen is present.

Boiling Point (BP) - Temperature at which a liquid changes state to a gas. Solvents with low boiling points will volatilize readily. Examples include benzene, methyl alcohol, mercury, and toluene.

Carcinogen - A substance that causes or is suspected of causing cancer in humans.

Chemical - Any element, compound, or mixture of elements, and/or compounds.

Chronic Hazard - Symptoms or effects develop slowly over a long period of time and with repeated contact.

Combustible - Ability of a solid, liquid, or gas to ignite and burn. Chemicals with a flash point of 1000°F or above are considered combustible. See also Flammability.

Corrosive - A chemical that attacks and destroys whatever it comes in contact with and can cause permanent damage or destroy living tissue. Vapors from corrosives can damage the nose, mouth, and throat.

Evaporation Rate - How long a liquid takes to change into a vapor (evaporate). Butyl acetate has a relative evaporation rate of 1. A chemical with a higher number evaporates faster; one with a lower number evaporates slower.

Exposure or Exposed - An employee is subjected in the course of employment to a chemical that is a physical or health hazard and includes potential (e.g., accidental or possible) exposure. "Subjected" in terms of health hazards includes any route of entry (e.g., inhalation, ingestion, skin contact, or absorption).

Flammability - Ability of a solid, liquid, or gas to ignite and produce a flame. If a chemical has a flash point below 1000°F, it is considered flammable. See also Combustible.

Flash Point - The lowest temperature at which a chemical's vapors are concentrated enough to ignite. The lower the flash point, the more dangerous the material. For example, gasoline's flash point is -450°F, and diesel fuel #2 has a flash point of +1250°F.

Hazardous Chemical - Any chemical which can cause a physical or a health hazard (OSHA). Also see NIOSH Pocket Guide to Chemical Hazards

Hazard Warning - Any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).

Health Hazard - Includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, and neurotoxin agents which damage the lungs, skin, eyes, or mucous membranes.

Identity - Any chemical or common name which is indicated on the Safety Data Sheet (SDS) for the chemical. The identity used shall permit cross-references to be made among the Hazardous Chemical Inventory List, the label, and the SDS.

Irritant - A chemical that causes temporary inflammation (redness, swelling, irritation).

Label - Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Melting Point - Temperature at which a solid changes state to a liquid.

pH - Expresses the degree of acidity or alkalinity of a solution. A pH of 7 is neutral. Numbers increasing from 8 to 14 indicate greater alkalinity (bases/alkalis). Numbers decreasing from 6 to 0 indicate greater acidity (acids). Depending on the substance and tissues contacted, a pH of greater than 9 or less than 3 is potentially hazardous.

Physical Hazard - A chemical which is a combustible liquid, compressed gas, explosive, flammable, organic peroxide, oxidizer, pyrophoric, unstable (reactive), or water-reactive.

Safety Data Sheet (SDS) - Written or printed material concerning a hazardous chemical which is prepared in accordance with OSHA Hazard Communication Standard (29 CFR 1910.1200(g)).

Sensitizer - A material that causes little or no reaction at first but which can cause an allergic reaction upon repeated exposure. Skin sensitization is the most common form, but respiratory sensitization is also known to occur from isocyanates and epoxy resins.

Specific Gravity - Density (or heaviness) of a chemical compared to water, which has a relative value of 1.0. Insoluble materials with specific gravity of less than 1.0 will float in (or on) water. Insoluble materials with specific gravity greater than 1.0 will sink in water. Most (but not all) flammable liquids have specific gravity less than 1.0 and, if not soluble, will float on water – an important consideration for fire suppression.

Vapor Density - Density (or heaviness) of a vapor compared to air, which has the density of 1. If the chemical's vapor density is greater than 1, the vapor is heavier than air and will concentrate in low places – along or under floors and in sumps, sewers, manholes, trenches, and ditches. Examples include propane, hydrogen sulfide, ethane, butane, chlorine, and sulfur dioxide. If the chemical's vapor density is less than 1, the vapor will rise in the air and dissipate (unless confined); examples include acetylene, methane, and hydrogen.

Vapor Pressure - Measures the volatility (how quickly a substance forms a vapor at ordinary temperatures) of a liquid (how easily a liquid evaporates). The higher the number, the faster the liquid evaporates.

Upper and Lower Flammable Limits (UFL and LFL) - The highest and lowest concentrations (percentage of substance in air) that will produce a flash of fire when an ignition source (heat, arc, or flame) is present. Between the UFL and LFL, the substance is likely to ignite. Above the UFL, the mixture is too "rich" to burn.

Below the LFL, the mixture is too “lean” to burn. The UEL and LEL (upper and lower explosive limits) provide the minimum and maximum concentration of the chemical’s vapor in the air required for an explosion to Occur.

Training

The safety compliance officer is responsible for the overall coordination of the training program.

All employees, including temporary employees, who work with or may be exposed to hazardous chemicals will receive appropriate information and training related to potential hazards.

All employees will receive Hazard Communication Program details, including an explanation of the labeling system and Safety Data Sheets (SDSs), and how they can use the appropriate hazard information.

Employees will also receive training when new hazardous chemicals are introduced and added to the chemical inventory and before non-routine tasks are to be performed that could involve exposure to hazardous chemicals.

The extent of information employees receive during training sessions will be dictated by the degree of hazard the chemicals present. The basic elements of the training program will include the following:

- Type and location of hazardous chemicals used within College facilities;
- Methods of detecting the presence or release of hazardous chemicals;
- PPE and methods of protecting against chemical exposure;
- An explanation of a Safety Data Sheet (SDS);
- The text of the OSHA Hazard Communication Standard (29 CFR 1910.1200); and
- This written program, including the Hazardous Chemicals Inventory List, procedures for chemical labeling and handling non-routine tasks, and the College’s contractor guidelines.

Training will be reinforced through discussions in health and safety meetings, as appropriate.

Records Maintenance

These records will be maintained by supervisors and training shall take place prior to new employees’ exposure to job-specific hazards and annually thereafter. The safety compliance officer will have access to all training records.

Hazard Determination And Inventory

The initial hazard determination of chemicals is performed by manufacturers or importers. Every hazardous substance known to be present in College work spaces will be listed on the Hazardous Chemicals Inventory List. This list will serve as an index to the Safety Data Sheet (SDS) files. The identity of the substance appearing on the Hazardous Chemicals Inventory List will be the same name that appears on the manufacturer's label, in-House Label, And The Safety Data Sheet (SDS) For That Substance.

Safety Data Sheets (SDSs)

A Safety Data Sheet (SDS) containing the information required by the Hazard Communication Standard will be kept for each substance listed on the Hazardous Chemicals Inventory List. The SDS will be the most current one supplied by the chemical manufacturer, importer, or distributor. See the Safety Data Sheets (SDS) section of the website.

Labeling

No hazardous chemicals will be accepted for use at the College or shipped from the College to any outside location unless labeled with at least the following information:

- Identity of the hazardous chemical(s).
- Appropriate hazard warnings (physical and/or health hazards).
- Name and address of the chemical manufacturer, importer, or other responsible party.

All in-house containers of hazardous chemicals will be labeled with at least the following information:

- Identity of the hazardous chemical(s), including the trade and common names.
- Appropriate hazard warnings (physical and/or health hazards).
- Appropriate GHS pictogram labels.

No label is to be defaced or removed when a material is received or in use. If a label becomes unreadable or material is poured into a different container, the person using the material is responsible for labeling the container appropriately and including an in-house warning label.

Contractor Guidelines

Any contractor delivering hazardous substances must coordinate with the safety compliance officer. The contractor and the safety compliance officer shall supply each other with a list of the hazardous chemicals and the corresponding SDS for the materials to which any employees will be potentially exposed in the course of their work.

Outside contractors must be provided with all necessary information concerning the potential hazards of the substances to which they may be exposed and appropriate protective measures required to minimize their exposure.

Hot work permit - The employer's **written authorization** to perform operations (e.g., riveting, welding, cutting, burning, heating) capable of providing a source of ignition. Hot Work is any construction or maintenance procedure which requires heat or open flame to complete. This includes, but is not limited to: cutting, grinding, brazing, welding, soldering, thawing pipes, sweating pipes or applying roofing materials with torches.

This policy applies to any Durham Tech employee or any contractor who is performing new construction, repair, renovations and/or alterations that require hot work. Outside contractors are of particular concern since they are not familiar with buildings or processes, and may not be supervised closely. Sparks, in the presence of flammable vapors, may cause immediate fires or explosions. Smoldering material hidden from sight can suddenly burst into flame long after work has been completed and personnel have left the area. Heat

produced by hot work on one side of a wall can actually ignite combustible material on the other side. Due to the high fire potential, most hot work will require a HOT WORK PERMIT.

Immediately dangerous to life or health (IDLH) - Any condition that poses an immediate or delayed threat to life, would cause irreversible adverse health effects, or interfere with an individual's ability to escape unaided from a permit space. (Note: Some materials (e.g., hydrogen fluoride gas and cadmium vapor) may produce immediate transient effects that, even if severe, may pass without medical attention but are followed by sudden, possibly fatal collapse within twelve (12) to seventy-two (72) hours of exposure. Prior to collapse, the individual may feel normal and may appear to have recovered from transient effects. Such materials in hazardous quantities are considered to be immediately dangerous to life or health.)

Inerting - The displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible. (Note: This procedure produces an IDLH oxygen-deficient atmosphere.)

Isolation - The process by which a permit-required confined space is removed from service and completely protected against the release of energy and material into the space by such means as blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout and tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking - The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, toxic, or inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Non-permit confined space - A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen-deficient atmosphere - An atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere - An atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space (permit space) - A confined space that has one (1) or more of the following characteristics:

- Contains or may 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 which slopes downward and tapers to a smaller cross-section.
- Contains any other recognized serious safety or health hazard.

Permit-Required Confined Space Program (Permit Space Program) - Durham Tech's program for controlling permit space hazards, protecting employees from such hazards, and regulating employee entry into permit spaces.

Permit system - Durham Tech's written process for preparing and issuing entry permits and returning permit spaces to service following termination of entry.

Prohibited condition - Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue service - Personnel designated to rescue employees from permit spaces.

Retrieval system - Equipment (retrieval lines, chest or full-body harnesses, wristlets [if appropriate] and lifting devices or anchors) used for non-entry rescue of persons from permit spaces.

Testing - The process by which the hazards that may exist in a permit space and confront entrants or exist are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space. Testing enables employers to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to and during entry.

Training

All entry supervisors, attendants, and entrants are trained prior to assuming space entry duties, and refresher training is provided when duties and space hazards change or whenever there is reason to believe there are deviations from the entry procedures or inadequacies in the employees' knowledge or use of the procedures.

The training establishes employee proficiency in the required duties and introduces new or revised procedures, as necessary. All training is documented with the employee's name, the trainer's signature or initials, and the training dates.

Records Maintenance

The records will be maintained by supervisors prior to new employees' exposure to job-specific hazards and annually thereafter. The training certification is available for inspection by the employee or his/her authorized representatives' by contacting the supervisor and the safety compliance officer.

Permit-Required Confined Space Program (PRCS)

The Permit-Required Confined Space (PRCS) Program is designed to prevent unauthorized entry into permit-confined spaces, identify and evaluate hazards, and establish procedures and practices for safe entry, including testing and monitoring conditions. The program requires that an attendant be stationed outside permit spaces during entry; procedures to summon rescuers and prevent unauthorized personnel from attempting rescue; and a system for preparing, issuing, using, and canceling entry permits. It also includes procedures for entry operations and canceling entry permits as well as review of the permit program at least annually and additionally as necessary.

The following measures are implemented as necessary to prevent unauthorized employee entry into permit spaces:

- All affected employees will be informed through initial safety training about the characteristics and presence of permit spaces.
- Some permit spaces are also posted with danger signs to supplement the safety training. However, the posting of danger signs is not all inclusive, so employees must know what a permit space is, the usual

hazards involved, and what precautions are required to ensure safe entry. The following practices for safe permit space entry operations are to be implemented as required:

- Acceptable Entry Conditions – All permit space entrants must be protected from atmospheric hazards including oxygen deficiency (less than 19.5 percent) or increased oxygen concentration (greater than 23.5 percent), toxic materials (above the exposure limit), flammable gases and vapors, asphyxiation, engulfment, and configuration or other recognized hazards.
- Isolating the Permit Space – All hazardous energy sources associated with permit spaces which may expose entrants to potential injury must be isolated, locked out, and/or tagged out prior to entry.
- Purging, Inerting, Flushing, or Ventilating Permit Spaces – All permit entry spaces must be thoroughly purged, made inert, flushed, and/or ventilated as necessary to ensure the elimination and/or control of all hazards which may cause entrants injury and/or illness.
- External Hazards – Pedestrian, vehicle, or other barriers must be provided as necessary to protect entrants from external hazards.
- Verifying Acceptable Conditions – Conditions in permit spaces must be tested and monitored throughout entry as necessary to ensure that the conditions in permit spaces are acceptable for the duration of the authorized entry.

Equipment

The following equipment is provided at no cost to employees and must be maintained, calibrated and used properly and properly to ensure the safety of employees entering permit spaces:

- Testing and monitoring equipment:
  - The College owns an oxygen meter, which will be utilized prior to entry.
- Ventilating equipment:
  - Dual purpose, push/draw ventilation system for sewer system manhole will be used as appropriate.
- Communications equipment:
  - The College utilizes a two-way radio communications system.
  - Cellular telephones will be used to summons emergency personnel, if necessary.
- Personal protective equipment (PPE):
  - Hard hats, steel-toed shoes, rain suits, full-body harnesses, gloves, and eye protection will be used as appropriate.
- Lighting equipment:
  - Portable lighting will be utilized and will be of a type that is safe for confined space entry so that sparks and ignition sources are not introduced into the environment.
- Barriers and shields:
  - Type II portable barricades and 36” traffic cones will be used as appropriate.
- Ingress and egress equipment (to be rented):
  - Vertical entry tripod and winch system.
  - Full-body harnesses/lifelines.

Evaluating Permit Space Conditions

Permit space conditions are evaluated as follows:

- The entry conditions in the permit space are tested to determine if acceptable entry conditions exist before entry is authorized to begin unless isolation of the space is not feasible because the space is large or is part of a continuous system (such as a sewer). In such cases, pre-entry testing is performed to the extent feasible before entry, and entry conditions are continuously monitored in work areas.
- The tests and monitoring are conducted in permit spaces as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations.
- When conducting tests for atmospheric hazards, oxygen tests are conducted first, followed by combustible gases and vapors tests and finally, toxic gases and vapors test. The tests are conducted in order to ensure that test instruments function properly since an oxygen deficient atmosphere may adversely affect the test results.

Attendants

At least one (1) attendant is required outside the permit space into which entry is authorized for the duration of the entry operation. Attendants are required to fulfill the following duties:

- Knowing the hazards that entrants may face during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Being aware of possible behavioral effects of hazard exposure in entrants.
- Continuously maintaining an accurate accounting of entrants in the permit space and ensuring a system to accurately identify authorized entrants is established.
- Remaining outside the permit space during entry operations until relieved by another attendant. Once properly relieved, attendants may participate in other permit space activities, including rescue, if they are properly trained and equipped.
- Communicating with entrants as necessary to monitor entrant status and alert entrants of the need to evacuate.
- Continuously monitoring activities inside and outside the space to determine if it is safe for entrants to remain in the space. The attendants should order entrants to immediately evacuate if:
    - The attendant detects a prohibited condition.
    - The attendant detects entrant behavioral effects of hazard exposure.
    - The attendant detects a situation outside the space that could endanger the entrants.
    - Or, if the attendant cannot effectively and safely perform all the attendant duties.
- Summoning rescue and other emergency services as soon as the attendant determines that entrants need assistance to escape the permit space hazards.
- Taking the following actions when unauthorized persons approach or enter a permit space while entry is underway:
    - Warn unauthorized persons that they must stay away from the permit space.
    - Advise unauthorized persons that they must exit immediately if they have entered the space.
    - Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
- Performing non-entry rescues as specified by that rescue procedure and entry supervisor.

- Not performing duties that might interfere with the attendant's primary duties of monitoring and protecting the entrants.

Entrants

All entrants must be authorized by the entry supervisor to enter permit spaces, have received the required training, use the proper equipment, and observe the entry procedures and permit. Entrants are required to fulfill the following duties:

- Knowing the hazards that entrants may face during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Properly using the equipment required for safe entry.
- Communicating with attendants as necessary to enable the attendants to monitor the status of the entrants and to enable the attendants to alert the entrants of the need to evacuate the space if necessary.
- Alerting attendants whenever entrants recognize any warning sign or symptom of exposure to a dangerous situation or if any prohibited condition is detected.
- Exiting the permit space as quickly as possible whenever any of the following conditions exist:
    - An attendant or entry supervisor gives an order to evacuate the permit space.
    - An entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
    - An entrant detects a prohibited condition.
    - An evacuation alarm is activated.

Entry Supervisors

Entry supervisors are responsible for the overall permit space entry and must coordinate all entry procedures, tests, permits, equipment and other relevant activities. Entrants are required to fulfill the following duties:

- Knowing the hazards that entrants may face during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Verifying, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- Terminating the entry and cancelling the permit when the entry is complete or when there is a need for terminating the permit.
- Verifying that rescue services are available and that the means for summoning them are operable.
- Removing unauthorized persons who enter or attempt to enter the space during entry operations.
- Determining that entry operations remain consistent with the permit terms and that acceptable entry conditions are maintained whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space.

Testers And Monitors

The accuracy of testing and monitoring equipment may be significantly affected under certain conditions of humidity, pressure, or temperature; or by the presence of interfering chemicals. However, if the equipment is properly selected, calibrated, maintained, and operated by well-trained employees, confined space testing and monitoring needs can be effectively met. All persons performing tests and monitoring for permit space are to be properly trained in the use and limitations of any testing and monitoring equipment.

The proper type of equipment must be obtained prior to any permit being issued. All employees are to be trained in proper use and maintenance before being assigned to use the equipment.

- Atmospheric Testing – Atmospheric testing is required for two (2) distinct purposes: evaluation of the hazards of the permit space and verification that acceptable entry conditions exist for the confined space. (See Appendix A - Confined Space Evaluation Checklist)
    - Evaluation Testing – The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data and development of the entry procedure is performed by or reviewed by a technically qualified professional (e.g., certified industrial hygienist, registered safety engineer, certified safety professional, etc.) based on evaluation of all serious hazards.
    - Verification Testing - The atmosphere of a permit space which may contain a hazardous atmosphere is tested for residues of all contaminants identified by evaluation testing using permit-specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (actual concentration, etc.) are recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.
- Duration of Testing – Measurements of values for each atmospheric parameter are made for at least the minimum response time of the test instrument specified by the manufacturer.
- Testing Stratified Atmosphere – When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope is to be tested at a distance of approximately four (4) feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress is slowed to accommodate the sampling speed and detector response.

Permit System

The entry permit is a vital part of the permit space entry program and documents that the required measures have been taken to ensure entrant safety. All pertinent safety requirements must be recorded on the permit, including the isolation, ventilation, tests, and monitoring; PPE; and other equipment necessary for entrant safety. (See Appendix B - Confined Space Permit)

The following information must be recorded/documented on the entry permit:

- The identity of the permit space, purpose of entry, and the date and authorized duration of the entry permit.
- Names of authorized entrants (or other suitable tracking system).
- Current attendants' names.
- Entry supervisor's name (noted by signature), including original authorizing supervisor.
- Hazards of the space.
- Measures used to isolate the space and to eliminate or control the space hazards before entry.
- Acceptable entry conditions.
- Initial and periodic test results, testers' names or initials, and times of the tests.
- Available rescue and emergency services information, including contact phone numbers.

- Communication procedures used by entrants and attendants to maintain contact during entry.
- Equipment to be provided (PPE, alarm systems, rescue equipment, etc.).
- Any other pertinent information necessary to ensure entrant safety.
- Additional permits (e.g., hot work permits) which have been issued to authorize work in the space.

Contractors

All contractor entry into permit spaces must comply with all sections of the PRCS program and related procedures.

Rescue and Emergency Services

Rescue and emergency services are provided by off-site local responders. The local fire department will respond to any emergencies within a permit-required confined space. Rescue and emergency service personnel will be given access to all permit spaces from which rescue may be necessary so they can develop appropriate rescue plans and practice rescue operations. Any College employees acting in the role of rescue and emergency services will be trained by an outside contractor in the use of the appropriate gas monitor.

Non-Entry Rescue

Retrieval systems and methods have been developed for entrants to use when the equipment does not increase the overall risk of entry and prohibit the rescue of the entrant. The systems are as follows:

- Tripod and winch with lifelines are used with full-body harnesses for vertical entries.
- Each authorized entrant uses a full-body harness, with a retrieval line attached at the center of the entrant's back near shoulder level or above the entrant's head.
- Retrieval lines are attached to a mechanical device or a fixed point outside the space so rescue can begin immediately after emergency personnel are notified.
- Mechanical devices are available to retrieve entrants from vertical type permit spaces more than five (5) feet deep.
- Safety Data Sheets (SDSs) and similar written documentation are available at the worksite in case of exposure to hazardous substances and for dissemination to emergency responders and medical personnel.

Occupational Noise Exposure/Hearing Conservation Program

Purpose

The Occupational Noise Exposure/Hearing Conservation Program provides guidelines for employees exposed to occupational noise and to comply with the OSHA Occupational Noise Exposure Standard (29 CFR 1910.95). The objective of the program is to offer strategies to protect the hearing of those employees exposed to noise levels in excess of 85 dBA, provide a uniform method of handling noise and hearing conservation for all departments, and develop historical data.

Responsibilities

The safety compliance officer oversees this program.

Access To Written Program

The safety compliance officer will maintain a current copy of the program and make it available to all employees.

Training

Annual training is required for all employees who are exposed to noise at or above an eight-hour timeweighted average (TWA) of 85 dBA. Information provided in the training program shall be updated to be consistent with changes in protective equipment and work processes.

Employee training will cover the following information:

- The effects of noise on hearing.
- The purpose of hearing protection; the advantages, disadvantages, and attenuation of various types; and selection, care, and use.
- The purpose of audiometric testing and explanation of the test procedure.

The Occupational Noise Exposure/Hearing Conservation program consists of the following components:

- Noise level monitoring and evaluation.
- Noise control.
- Audiometric testing.
- Hearing protection.

Records Maintenance

Audiometric test records shall be retained by supervisors on all employees and maintained for (thirty) 30 years after the employee's employment ceases. After employment ceases the records shall be maintained by the safety compliance officer or at another designated storage location.

Noise Level Monitoring And Evaluation

Monitoring of noise exposure levels shall be conducted to accurately identify employees who are exposed to an eight-hour TWA at or above 85 dBA. The exposure measurement shall include all sound levels within an 80 dBA to 130 dBA range and shall be taken during a typical work situation. Measurements shall be obtained on the A scale of a standard sound level meter at slow response. (Note: Where high worker mobility or significant variations in sound level make area monitoring generally inappropriate, representative personal sampling [dosimetry] will be conducted.)

Monitoring will be repeated whenever a change in the process, equipment, or controls is suspected of increasing noise exposure to the extent that additional employees may be exposed to noise levels at or above 85 dBA as an eight-hour TWA, or when the attenuation provided by the selected hearing protective devices is rendered inadequate. This reevaluation of workplace noise shall be conducted within sixty (60) days of the aforementioned changes.

Employees are entitled to observe the monitoring procedures.

Employee complaints concerning noise shall be addressed within sixty (60) days. An outside contractor will screen noise levels with a sound level meter, and conduct noise dosimetry tests on affected employees.

Noise Exposure Evaluation

After noise-level monitoring has been completed in an area, noise dosimetry tests shall be conducted by an outside vendor on those employees potentially exposed to noise levels in excess of an action level of 85 dBA or greater. Noise dosimetry shall be conducted on personnel based upon their job description.

Noise dosimeters must be capable of integrating all continuous, intermittent, and impulsive sound levels from 80 decibels to 130 decibels. All sound level meter readings and octave band analyses that indicate employee exposures shall be maintained on file at least thirty (30) years in accordance with OSHA Standard

1910.1020(d)(1)(ii). Each employee exposed at or above an eight-hour TWA of 85 dBA shall be notified of the results of the monitoring via a meeting with his or her supervisor and the safety compliance officer. The employee will receive a memo noting the testing and results. All present must sign and date the memo, which is kept on file with the safety compliance officer.

Noise Control

Noise control may be addressed through three main categories: engineering controls, administrative controls, and personal hearing protection. This section will address the first two controls.

The most desirable method of noise control is to apply engineering principles designed to reduce sound levels either at the source or within the hearing zone of the employee. This application can usually reduce noise to a desired level; however, economic considerations and/or operational necessities can make these controls impractical. It is the College's practice to utilize engineering controls whenever feasible and practical to reduce employee noise exposures.

Whenever engineering controls are not feasible or practical, the use of administrative controls should be explored. (Note: Administrative controls may be used in conjunction with engineering controls.)

Administrative controls include any administrative decision that results in lower noise exposures, including complying with purchase agreements that specify maximum noise levels for machinery. Administrative controls may include rotating jobs so that exposure times are reduced. This includes such measures as transferring employees from locations with high noise levels to locations with lower noise levels in order to reduce employees' daily exposure to below the action level. When job rotation is not feasible, other alternatives, including hearing protection, shall be utilized to reduce daily noise exposure.

Audiometric Testing

Audiometric testing monitors the sharpness or acuity of an employee's hearing over time and provides an opportunity to educate employees about their hearing and the need to protect it.

A baseline audiogram is the reference audiogram against which future audiograms are compared. Baseline audiograms shall be conducted within six (6) for new hires who will work in areas with high levels of noise. Any employee whose job contains exposure to an eight-hour TWA of 85 dBA shall be included in the baseline audiogram.

The annual audiogram shall be conducted within one (1) year of the baseline. It is important to test hearing on an annual basis in order to identify changes in an employee's hearing ability. Annual audiograms shall be

routinely compared to baseline audiograms to determine whether the audiogram is accurate and to determine whether the employee has a change in hearing ability (that is, if standard threshold shift [STS] has occurred).

Standard threshold shift (STS) is defined as an average shift in either ear of 10 dBA or more at 2,000, 3,000, and 4,000 Hz. An averaging method of determining STS was chosen because it diminishes the number of persons falsely identified as having STS who are later shown not to have had a change in hearing ability. The annual audiogram shall be conducted for all employees who are exposed to noise levels equal to or in excess of an eight-hour TWA sound level of 85 dBA measured on the A scale. Employees who have the baseline audiogram conducted as a new hire shall receive an annual audiogram. A work history/hearing questionnaire is required for each employee tested. This questionnaire shall be updated with each annual test.

Annual Hearing Test Guidelines

The annual audiogram shall be preceded by fourteen (14) hours without exposure to workplace noise; however, hearing protectors may be used as a substitute for this practice.

- An annual work history/hearing questionnaire is required.
- The audiometric examination shall be conducted by an audiometric technician certified by the Council for Accreditation in Occupational Hearing Conservation (CAOHC), a trained physician, or a licensed or certified audiologist.
- The audiometer shall be acoustically calibrated annually in accordance with Appendix E of the OSHA Occupational Noise Exposure Standard (29 CFR 1910.95). The audiometric examination shall be conducted in a booth/room meeting the criteria outlined in Appendix D (Table D-1) of the standard. The booth/room shall have accurate sound level measurements made at least annually, using a Type 1 octave band analyzer/sound level meter.
- If an employee has an STS when exposed to noise at or above the action level, the following actions will be taken:
    - The employee will be notified in writing within twenty-one (21) days from the time the determination is made that their audiometric test results showed an STS.
    - A retest may be obtained within thirty (30) days, and the results of the retest may be considered as the annual audiogram.
    - An employee not using hearing protectors shall be fitted with hearing protectors, trained in their use and care, and required to use them. An employee already using hearing protectors shall be refitted and retrained in the use of hearing protectors and provided with hearing protectors offering greater attenuation if necessary.
    - An employee with an STS may need to be referred for further testing if the tester determines that the employee's results are questionable or if he or she has an ear problem of a medical nature which is thought to be caused or aggravated by wearing hearing protectors. If the suspected medical problem is not thought to be related to wearing protectors, the employee must be informed in writing that he or she should see a physician.
    - A subsequent audiogram may be substituted for the original baseline audiogram if the professional supervising the program determines that the employee's STS is persistent. This substitution will ensure that the same shift is not repeatedly identified. The professional may also decide to revise the baseline if an improvement in the employee's hearing has occurred. This will ensure that the baseline reflects actual hearing thresholds to the extent possible.

Post-Test Guidelines

All audiograms will be reviewed by the affected College employee, their supervisor, and safety compliance, who may consult with a personal occupational physician or an audiologist.

Hearing Protection

Hearing protective devices (HPD) shall be readily available at no cost to all employees exposed to an eight-hour TWA of 85 dBA or greater and to employees that enter an area or perform a task requiring hearing protection. (See Appendix C - Areas Requiring Hearing Protection)

HPDs must be worn by the following personnel:

- All employees exposed to an eight-hour TWA of 85 dBA or greater;
- Any employee entering an area in which hearing protection is required (where noise levels are 85 dBA or greater); and
- Any employee performing a task in which hearing protection is required (where noise levels are 85 dBA or greater).

Employees shall have an opportunity to select their HPDs from at least two different styles. Each department shall supply the HPDs, and the safety compliance officer shall have an additional supply.

HPDs shall be evaluated to ensure that they attenuate noise level exposures to less than 90 dBA. For employees who have experienced a standard threshold shift, hearing protectors shall attenuate employee exposure to an eight-hour TWA of 85 dBA or below.

Lockout/Tagout Program

Purpose

The Lockout/Tagout Program establishes guidelines and procedures for the control of hazardous energy, annual employee training, and periodic inspections per the OSHA Hazardous Energy Standard (29 CFR 1910.147). It shall be followed to ensure that all machines and equipment are isolated from potentially hazardous energy during service and/or maintenance activities when the unexpected energization, start-up, or release of energy could cause injury.

General

The Lockout/Tagout Program covers any maintenance and/or servicing activities where employees may come into contact with machines and/or equipment and where the unexpected energization, start-up, or release of energy could cause injury. This program also applies whenever an employee is required to bypass a guard, place any part of his or her body into an area on a machine or piece of equipment where work is actually performed (point of operation), or where an associated danger zone exists during a machine operating cycle. This program does not cover normal production operations unless the criteria listed above are met.

Lockout/tagout is a hazardous energy control program used to ensure that machines and equipment are totally isolated from all energy sources (electrical, hydraulic, pneumatic, kinetic, potential, thermal, chemical, and radiation). Locks will be used to secure switches and valves in the off or safe position. A tag will be attached as a warning device indicating the equipment may not be operated until the tag is removed.

Responsibilities
The director of Facility Services is responsible for the Lockout/Tagout Program.

Access to Written Program
The director of Facility Services will maintain a copy of this program and make it available to all employees.

Definitions
Affected Employee - An employee whose job requires him or her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him or her to work in an area in which such servicing or maintenance is being performed.

Authorized Employee - A person who locks or implements a tagout system procedure on machines or equipment to perform the servicing or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment that must be locked or a tagged out.

Energized - Connected to an energy source or containing residual or stored energy.

Energy Isolating Device - A mechanical device that physically prevents the transmission or release of energy, including the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, or other control circuit type devices.

Lockout - The placement of a lockout device on an energy-isolating device in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment.

Maintenance and/or servicing - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, and may expose employees to the unexpected energization or startup of the equipment or release of hazardous energy.

Tagout - The placement of a tagout device on an energy-isolating device in accordance with an established procedure to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device - A prominent warning device, such as a tag, and a means of attachment which can be securely fastened to an energy-isolating device in accordance with an established procedure to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Training

Training will be provided annually by the director of Facility Services. (See Appendix D - Lockout/Tagout Training)

Records Maintenance

The director of Facility Services will maintain all lockout/tagout records.

Guidelines

These guidelines apply to the control of hazardous energy during maintenance and/or servicing of machinery and equipment. Maintenance and/or servicing that takes place during normal production operations is covered by these guidelines only under the following conditions:

- If an employee is required to remove or bypass a guard or other safety device.
- If an employee is required to place any part of his or her body into an area on a machine or piece of equipment at the point of operation.
- When an associated danger zone exists during a machine operating cycle.

Exceptions to this are minor tool changes and adjustments and other minor servicing activities that take place during normal production operations. These activities include those that are routine, repetitive, and integral to the use of the equipment for production, provided that the work performed uses alternative measures which provide effective protection for the employee. These guidelines do not apply to work on cord- and plug-connected electric equipment if the employee has exclusive control of the disconnected cord and plug. Lockout or tagout devices shall not be used on machinery or equipment designated to be removed from service.

Energy Control Program Authorization

Only authorized employees who have been trained in the type and magnitude of the energy, the hazards of the energy, the methods or means of isolating and/or controlling energy, the means of verifying effective energy control, and the purpose of the procedures to be used may begin to perform maintenance or servicing of machinery or equipment under lockout/tagout procedures.

Hardware and Materials

Lockout devices must be identified as such and not used for any other purpose. All locks used for energy isolation will be kept in a LOTO box in specified campus locations. The director of Facility Services is responsible for the distribution of the locks and the security of keys. Both lockout and tagout devices must be capable of withstanding environmental conditions in the workplace (i.e., locks should not rust and tags should not deteriorate).

All tagout devices will be standard with a "Do Not Operate" warning. (See Appendix E - Control of Hazardous Energy (Lockout/Tagout)). Each authorized employee will receive one (1) lock and one (1) key. The second key will be maintained in a locked supervisory key case in the employee's department.

Energy Control Procedures
Application of Lockout or Tagout

The following information relates to the steps to be followed before work on equipment or before machinery has been started. Application of lockout or tagout shall be performed in the following sequence:

1. Notification – Before lockout or tagout procedures begin, employees who operate the machine or equipment or those who work in the area around the machine or equipment must be notified that a procedure under lockout or tagout will be performed on the machine or equipment. The notification may be made by the employee performing the work or another designated employee.
2. Preparation for Shutdown – Before a machine or piece of equipment is isolated, the employee(s) who will perform the lockout or tagout must know the type and magnitude of the energy, the hazards of the energy to be controlled, the method or means of isolating and/or controlling the energy, the means of verifying effective energy control, and the purpose of the procedures to be used.
3. Machine or Equipment Shutdown – The machine or equipment must be shut down in an orderly fashion to avoid any additional or increased hazard and to avoid damage to the machine or equipment as a result of the de-energization.
4. Machine or Equipment Isolation – All energy-isolating devices needed to control the energy to the machine or equipment must be physically located and operated in such a manner as to isolate the machine or equipment from the energy source.
5. Applying Lockout or Tagout Devices – The employee(s) performing the lockout or tagout must attach a lockout or tagout device to each energy-isolating device. These devices must be placed in a manner so that they will hold the energy-isolating devices in the safe or off position.
    - If tagout devices are used, they must clearly indicate that the operation or movement of energy-isolating devices from the safe or off position is prohibited.
    - A tag should never be used in place of a lock on an energy-isolating device that is capable of being locked. If a tag cannot be attached directly to an energy-isolating device, it must be attached as close as safely possible to the device and in a position that will be immediately obvious to anyone attempting to operate the device.
    - A tag used without a lock (as permitted; electrical only) shall be supplemented by at least one of the following additional measures that provides a level of safety equivalent to a lock: removal of an isolating circuit element, blocking of a controlling switch, and/or opening of an extra disconnecting device.

Stored Energy

Following the application of lockout or tagout devices to energy-isolating devices, all potentially hazardous stored or residual energy must be relieved, disconnected, restrained, or otherwise controlled. If there is a danger that the stored energy will reaccumulate to a hazardous level, the employee must continue to verify isolation until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.

Verification of Isolation

Before starting work on a machine or equipment, the authorized employee must verify that the isolation and de-energization of the machine or equipment has been effective. This verification process includes the following:

- Mechanical – Checking the position of valves and blanking lines, utilizing pressure gauges to determine if supply is under pressure or in a vacuum state, and ensuring blocks or other devices are in place to isolate movement.
- Electrical – A qualified employee (by definition included) shall use test equipment to test the circuit elements and electrical parts that are exposed to verify that parts are de-energized and determine if any energized condition exists from inadvertently induced voltage or back-feed voltage even though specific circuits are presumed to be de-energized. If testing over 600 volts nominal, test equipment shall be checked immediately before and after the test.

Release From Lockout or Tagout

Once the work or activity on equipment or machinery has been completed, and the unit is to be placed in service, release from lockout or tagout shall be performed in the following sequence:

1. Inspection of the Work Area – Ensure that all non-essential items and employees have been removed or safely positioned, and machine or equipment components are operationally ready.
2. Initial Employee Notification – Before lockout or tagout devices are removed and before machines or equipment are energized, affected employees shall be notified that lockout or tagout devices are being removed.
3. Removal of Lockout or Tagout Devices – The employee who applied the devices shall remove each one from each energy-isolating device. If the authorized employee who applied the devices is not available, the devices may be removed by the supervisor as long as the following conditions apply:
    a. The authorized employee who applied the devices is not in the building.
    b. A reasonable effort is made to contact the employee to advise him or her of the device removal.
    c. The employee has been advised before he or she resumes work.
    d. The supervisor applies his or her own lock before removing the employee's lock.
    e. The employee's lock is removed using the supervisory key.
    f. The employee's lock is placed in the supervisory lock box and given to the employee at the first opportunity.
4. Final Employee Notification – After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.
5. Start-up – Follow the machine or equipment's specific start-up procedures.

In situations where lockout or tagout devices need to be temporarily removed from energy-isolating devices for testing or positioning, the procedure below shall be followed in the order shown:

1. Inspection of the Work Area – Ensure that all non-essential items and employees have been removed or safely positioned and machine or equipment components are operationally ready.

2. Initial Employee Notification – Before lockout or tagout devices are removed and before machines or equipment are energized, affected employees shall be notified that the lockout or tagout devices are being removed.
3. Removal of Lockout or Tagout Devices – The employee who applied the devices shall remove each lockout or tagout device from each energy-isolating device. If the authorized employee is not available, the devices may be removed by the supervisor as long as:
    a. The authorized employee who applied the devices is not in the building.
    b. A reasonable effort is made to contact the employee to advise him or her of the device removal.
    c. The employee has been advised before he or she resumes work.
    d. The supervisor applies his or her own lock before removing the employee's lock.
    e. The employee's lock is removed using the supervisory key.
    f. The employee's lock is placed in the supervisory lock box and given to the employee at the first opportunity.
4. Final Employee Notification – After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.
5. Energize and proceed with testing or positioning.
6. De-energize all systems and proceed with energy control procedures for the application of lockout/tagout.

Group Lockout or Tagout

When maintenance and/or service work is performed by more than one (1) employee or in conjunction with another department, group, or contractor, a procedure shall be utilized which affords each employee a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. The following requirements apply for group lockout or tagout:

- When machine or equipment maintenance or servicing involves more than one (1) employee and/or more than one crew (including contractors) or department, one (1) authorized employee must be designated to take primary responsibility for coordinating the affected work and ensure continuity of protection for all.
- The designated employee is responsible for coordinating activities for the entire group to ensure that the Application of Lockout or Tagout and Release from Lockout or Tagout procedures are followed by each participating authorized employee.
- The designated employee has primary responsibility for providing the group lockout and/or tagout device(s) and all employee notifications.

Shift or Personnel Changes

A single authorized employee or the designated authorized employee responsible for group lockout or tagout shall communicate with the oncoming shift personnel to ensure that the continuity of protection is maintained during machine or equipment maintenance or servicing. The procedure is as follows:

- The authorized employee(s) assuming responsibilities on a servicing or maintenance activity currently locked out shall place his or her lock(s) on all current or existing lockout devices(s).

- The authorized employee(s) leaving the servicing or maintenance activity shall remove his or her lock(s) from current or existing lockout device(s).
- The oncoming authorized employee(s) assuming responsibilities shall verify that all energy sources have been identified and controlled.

Special Procedures for Multiple Energy Sources

Where machinery or equipment with multiple energy sources exists, special lockout and tagout procedures shall be developed. A Zero Energy State Procedure (ZESP) is a procedure established for machinery or equipment with two (2) or more energy sources. The ZESP is intended to guide authorized employees through multiple lockout/tagout methods required to achieve a zero-energy state. Each ZESP shall include instructions on the existing energy sources and their location, method(s) to isolate the energy, and the steps required to verify that a zero-energy state has been achieved.

ZESP Development

Departments possessing machinery or equipment utilizing two (2) or more energy sources shall develop a ZESP for each of these specific machines and equipment.

The director of Facility Services shall develop the ZESP as needed. (See Appendix F - Zero Energy State Procedure) The director of Facility Services will make the ZESP to all authorized employees by attaching it to its appropriate multiple energy source machine or equipment. Any machinery or equipment that utilizes two (2) or more energy sources will have a ZESP on file. The ZESP file shall be available for review at all times.

ZESP Procedure for Authorized Employees

In situations where multiple energy source machinery or equipment requires maintenance or servicing, the authorized employee shall follow the steps listed below:

1. Identification of the ZESP – Before lockout or tagout procedures begin, the employee should locate the ZESP on the machine or equipment. If no ZESP is found, the employee must notify the supervisor immediately.
2. Use the ZESP to Apply Energy Controls – Before the energy on machinery or equipment is isolated, the employee should review the information on the ZESP so that he or she is familiar with the type and location of the energy sources, the method to control each energy source, and how to verify that each energy source is isolated.
3. Follow the procedure for Application of Lockout or Tagout.
4. Inspect the machine or equipment to ensure that there are no additional energy sources to be controlled.
5. Perform required servicing or maintenance work.
6. When the servicing or maintenance work is complete, follow the procedure for Release from Lockout or Tagout.

Outside Contractors

The director of Facility Services will coordinate with outside contractors to ensure they are informed of Durham Tech's hazardous energy control requirements and aware that they expected to follow the same basic program. Contractors who works on College machinery or equipment that has the potential of containing or storing hazardous energy will be required to document that their employees have been trained in standard

lockout/tagout procedures. Contractors are also required to provide each of their authorized employees with approved lockout/tagout devices. (See Appendix G - Contractor Obligations for Lockout/Tagout) . All contractors hired by Durham Tech should have an adequate OSHA 300 log, as well as safety programs that are in line with Durham Tech policies and procedures.

Periodic Inspection

The director of Facility Services will conduct periodic inspections at least annually to ensure compliance with this program. The objective of these inspections is to ensure that the College is in compliance with its hazardous energy control procedures and the requirements of OSHA's Hazardous Energy Standard (29 CFR 1910.147). If any deviations or inadequacies are identified, all authorized employees will be retrained.

The inspections will be conducted to assess authorized employees' knowledge of their responsibilities and hazardous energy control procedures. The director of Facility Services shall certify that the periodic inspections were completed using the Lockout/Tagout Periodic Inspection Report; the certification will be filed in his or her office along with comments regarding problem areas and additional training needs. (See Appendix H-1 - Periodic Inspection Instructions and Appendix H-2 - Lockout/Tagout Periodic Inspection Report.)

Chemical Hygiene Plan

Purpose

Employees who work in chemical and biological laboratories must be safety minded. Safety awareness should be a part of each employee's daily work habits.

Employees must accept responsibility for conducting their work in accordance with the Chemical Hygiene Plan and all other established safety practices. Employees shall familiarize themselves with the safety and emergency equipment available, its location, and appropriate use. Employees shall also practice good housekeeping, wear personal protective equipment (PPE) (safety goggles, aprons, gloves, etc.), and refrain from smoking, eating, drinking, or applying cosmetics where chemicals are present.

Advance planning is one of the best ways to avoid serious incidents. Before beginning any procedures or experiments, laboratory workers should consider the worst-case scenario and be prepared to handle any potentially hazardous situation. Familiarity with specific chemicals or procedures can result in underestimating or overlooking the hazards involved. Casual attitudes can lead to a false sense of security, which may result in carelessness. Each and every laboratory worker has a basic responsibility to himself or herself and his or her colleagues to plan and execute laboratory operations in a safe manner.

Responsibilities

The safety compliance officer is responsible for fulfilling the following duties:

- Working with administrators and employees to implement the Chemical Hygiene Plan.
- Monitoring chemical purchase, use, and disposal; and maintaining appropriate audits.
- Helping employees identify precautions and establish adequate work areas.
- Knowing current legal requirements concerning regulated substances.
- Continuously improving the Chemical Hygiene Plan.

Access To Written Program

The safety compliance officer will maintain a current copy of the written Chemical Hygiene Plan and make it available for review by all employees.

Definitions

Acute - Immediate response to exposure.

Acute Toxicity - Employers shall make provisions for additional protection when appropriate if any of the following lethal dose (LD) conditions arise:

- Median LD50 of 50 mg/kg orally in albino rats, 200-300 g.
- Median LD50 of 200 mg/kg by continuous contact with the bare skin of albino rabbits, 2-3 kg.
- Or, median LD50 in air of 200 PPM (2 mg/L) continuous inhalation for one hour.

Carcinogen - A cancer-causing agent.

Chronic - Delayed response to exposure.

Combustible - Materials that flash above 100°F but less than 200°F.

Flammable - Materials that release sufficient vapor to burn or flash below 100°F.

Flashpoint - The minimum temperature at which a liquid gives off a vapor in sufficient amounts to ignite.

Hazardous Chemical - A chemical for which there is statistically significant evidence in at least one (1) study that acute or chronic health effects may occur in employees exposed to that chemical.

IDLH (Immediately Dangerous to Life and Health) - Atmospheric concentration of any toxic, corrosive, or asphyxiant substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere.

Laboratory Type Hood - A device enclosed on five (5) sides with a movable sash of fixed glass partially enclosed on the remaining side. It is designed to draw air from the lab and prevent contaminants from entering the lab.

PEL (Permissible Exposure Limit) - The eight-hour time weighted average measured in parts per million and established by OSHA. Workers may not exceed the PEL for any specific chemical.

Physical Hazard - A chemical for which there is scientific evidence that it is a combustible liquid, compressed gas, explosive, flammable, organic peroxide or oxidizer, pyrophoric, reactive, or water-reactive.

Reproductive Toxin - Chemicals that affect the reproductive capabilities, including chromosomal change (mutation) and effects on fetuses (teratogenesis).

TLV (Threshold Limit Value) - The time weighted average concentration of a substance for a normal eight-hour workday and a 40-hour workweek to which nearly all workers may be exposed day after day without adverse effect.

Water-reactive - A chemical which releases a flammable or hazardous gas when it reacts with water.

Training

Supervisors will train employees, upon initial employment and at least annually thereafter. Supervisors are required to document all training and supply the safety compliance officer with the training records.

Records Maintenance

The safety compliance officer will maintain all training records for this program.

Selection Of Chemicals

Laboratory experiments and/or procedures shall be reviewed periodically to determine if alternate experiments or procedures could accomplish the same principle using less toxic or less physically hazardous chemicals. Special attention shall be given to eliminating the use of highly acute toxins, carcinogens, and reproductive toxins. The quantity of chemicals stored shall be minimized by ordering only what is needed for a specific period of time. It is important that employees ordering chemicals confirm that a disposal route is available for the material before ordering.

Labeling And Transporting Chemicals

Chemicals obtained from outside suppliers shall be properly labeled, and care shall be taken not to deface the label and render it illegible. The product name or the chemical name on the label shall correspond with the name on the Safety Data Sheet (SDS). Labels shall also convey the hazards associated with that chemical (such as toxicity, flammability, or reactivity). If a chemical is transferred into a new container, that container of mixtures and/or newly created compounds shall also be labeled in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200). Foodstuffs intended for use in the laboratory will be identified with a label noting that it is not for consumption and is for laboratory use only.

Transporting chemicals shall be accomplished in such a manner that the risk of exposure or spill is minimized. If transportation involves moving chemicals through building corridors or other public areas, the move shall employ a solvent bottle carrier or other means of secondary containment. The number and amount of chemicals moved shall be kept to a minimum. Transporting hazardous materials between campuses will follow proper procedures.

Chemical Storage

The primary concerns with chemical storage are contact between incompatible chemicals and the elimination of dangerous storage conditions (heat, electrical shorts, light, etc.). The following chemical storage protocols must be followed:

- Flammable/combustible chemicals (those with flashpoints below 200°F) shall be stored in specifically designed flammable storage cabinets or refrigerators. Flammable materials shall never be stored in refrigerators not designed or modified for flammable material storage.

- Chemical storage shelves shall have a raised lip of at least 1/4" in height at the front edge of the shelf. Other means of preventing containers from moving or falling over the edge may be used only with the permission of the safety compliance officer.
- Photosensitive chemicals shall be stored away from light.
- Incompatibles, such as acids and sodium cyanide; acids and bases; and ethyl ether and oxidizers shall be segregated. Acids and bases shall not be stored in the same cabinet or adjacent on the same shelf; similarly, oxidizers and flammables shall not be stored together in the same cabinet or adjacent on the same shelf. Chemicals must be organized in accordance with the Fisher Scientific color-code system or an equal system.
- Stored chemicals shall be inspected periodically and at least annually.

Personal Hygiene

Employees are responsible for implementing the following personal hygiene practices whenever working in the laboratory:

- Avoid skin contact as a cardinal rule whenever handling chemicals.
- Personal protective equipment (PPE) shall be worn whenever an employee is manipulating chemicals and using glassware. Employees shall consult Safety Data Sheets (SDS) to determine specific PPE requirements.
- Loose clothing shall be confined when working in the laboratory.
- Long hair shall be tied back and/or confined when working in the laboratory.
- Mouth suction shall not be used when pipetting liquid chemicals or starting a siphon. Use of a pipette safety bulb or aspirator is required.
- Employees must avoid breathing gases, vapors, or mists that may be toxic. Fume hoods or a confinement apparatus should be used when appropriate.
- Unsafe conditions or actions should be reported to the safety compliance officer so that immediate and timely corrections can be made.
- Equipment shall be used only for its intended purpose.
- Avoid distracting or startling others in the laboratory.
- Horseplay or practical jokes in the laboratory or storage areas will not be tolerated.
- Exposed skin areas must be thoroughly washed before leaving the laboratory.
- Employees shall not smoke or apply cosmetics in areas where chemicals are used or stored.

Food Handling

Food and beverage intended for consumption are prohibited in areas where chemicals are used or stored. Areas where food or drinks intended for consumption are permitted shall be clearly marked with signage, and hazardous chemicals must not be allowed. Glassware used for laboratory operations shall not be used for food or beverage consumption. Containers that have been used for food or beverage shall not be used to store laboratory chemicals. Laboratory refrigerators and ice chests shall not be used to store food even if the food containers are sealed. Refrigerators and microwaves intended for chemical use should be labeled “NOT FOR FOOD OR DRINK”.

Glassware

Careful storage and handling procedures shall be used to avoid damaging glassware. Damaged glassware shall be discarded in a manner that protects others. Notify housekeeping of the hazard. Hand protection shall be worn when inserting glass tubing into rubber or cork stoppers or when placing rubber/plastic tubing on glass tubing or connections. All glass tubing shall be fire polished or rounded and lubricated when making connections. A vacuum-jacketed glass apparatus, such as a Dewar flask, shall be wrapped with plastic webbing or tape and handled with extreme caution to prevent implosions. Employees must use tongs, a broom and dustpan, or cotton swabs to pick up broken glass. Employees should never pick up broken glass using their hands.

Laboratory Equipment

Equipment must be inspected and maintained on a regular basis following manufacturer recommendations. Prior to repair, faulty equipment shall be secured (locked, tagged, and/or removed from the laboratory) so that accidental use is not possible. Equipment with exposed moving parts shall be equipped with guards or safety shields. Safety shields shall be used during experiments or operations where danger of explosion or release of high pressure exists. If electrical devices are used in proximity to high moisture conditions, a Ground Fault Interrupter Device (GFID) shall be installed. A pressurized apparatus, such as high-pressure cylinders, shall be equipped with an appropriate relief device and be secured (chained) in an upright position to a stationary object at all times.

Flammable Substances

An open flame should never be used to heat a flammable liquid or distill materials under reduced pressure. Prior to lighting any flame, flammable substances must be removed from the area or sealed in containers away from the heat. Open flame should be used only when necessary and extinguished as soon as no longer needed. When volatile flammable chemicals are present, only intrinsically safe or non-sparking electrical equipment should be used. All combustible substances (flashpoint below 200°F) which are stable at room temperature must be stored in an approved flammables cabinet.

Waste Disposal

Chemical wastes should be collected in suitable containers that are clearly labeled. Incompatible wastes shall not be mixed. Waste containers should be kept closed unless waste is being added or removed. Measures shall be taken to avoid the accidental ignition of flammable and combustible wastes. Waste disposal should be scheduled periodically with a licensed chemical waste vendor; chemical wastes should not be stored indefinitely. When the vendor comes for pickup, the person signing the manifest/bill of lading **MUST** be DOT trained.

Key Elements of Experiments

Key elements for carrying out any experiment shall include the following:

- **PPE** - All participating persons shall put on and wear appropriate Personal Protective Equipment (PPE). This may include but not be limited to safety goggles, face shields, latex, vinyl or nitrile gloves, and aprons or lab coats.
- **Safety Equipment** - Safety equipment shall be inspected to determine its location and condition. This includes fire extinguisher, fume hood, eyewash and shower, first aid kit, etc.

- **Equipment** - The appropriate equipment shall be examined for defects and assembled properly. This may include but not be limited to glassware specifically designed for use in a chemical laboratory.
- **Visual Inspection** - Each chemical container shall be visually inspected to determine the condition of the chemical (i.e., out of date, damaged container, etc.).
- **The Label** - The label on the chemical container shall be reviewed to determine if any health hazards or physical hazards can be attributed to the chemical. If the label is illegible, the contents shall be confirmed and a new label attached prior to use.
- **Safety Data Sheet (SDS)** - The SDS shall be reviewed to confirm any health or physical hazard and to determine emergency or spill control measures before starting the experiment.
- **Spill Control** - Recommended absorbents and clean-up materials shall be assembled and placed in an accessible location.
- **Incompatibles** - Any incompatible chemicals present shall be removed from the experiment area prior to beginning the procedure.
- **Preparation and Experience** - The experiment shall be conducted by persons approved to conduct the experiment. Students and instructors should have read and understood the experimental procedure they will be following.
- **Supervision** – Students and instructors should not work alone. Students should be supervised at all times chemicals or hazardous equipment is being handled.
- **Decontamination** - At the conclusion of the experiment, chemicals shall be returned to their appropriate storage locations, all laboratory equipment shall be thoroughly cleaned, and the area decontaminated.
- **Personal Hygiene** - Disposable PPE shall be disposed of, and all persons shall follow personal decontamination procedures (such as washing exposed skin areas).

Control Measures and Protective Equipment Requirements

Determining Control Measures

The decision to implement control measures such as fume hoods or protective clothing shall be determined for the specific operation or experiment. Control measures shall be determined for groups of chemicals such as acids, oxidizers, or acute toxins which are highly reactive or can result in acute or chronic exposure. Chemicals with a Permissible Exposure Limit (PEL) of 50 ppm or less shall be manipulated only with the use of a fume hood so that fumes are not released into the general laboratory. Corrosive chemicals, toxic chemicals, or any chemical that may cause damage to or be absorbed through the skin will require the use of gloves and safety goggles. In potential splash situations, an apron or lab coat and face shield shall be used.

Control Measures at the Source (Controls at the Chemical)

A less hazardous chemical that will accomplish the same purpose shall be substituted. The operation or experiment shall be enclosed to prevent release into the general work area. Changes in the process shall be implemented where possible to prevent the creation of unnecessary hazards. Stored chemicals shall be kept at a minimum.

In the Path

(Controls in the Environmental Pathway between the Chemical and the Employee)
Laboratory hoods are the primary control in the environmental pathway. Where required by the OSHA PEL, the fume hood shall be used. General ventilation may be adequate for most operations involving chemicals

with little or no toxicity or which are amply confined. General ventilation shall exchange the air within each laboratory room a minimum of four times per hour.

By the Employee

(Controls the Employee Shall Take Involving Actions)
Durham Tech employees shall avoid working alone in the College's chemical and biological laboratories. Employees shall always wear appropriate PPE such as safety goggles, gloves, and aprons. Employees shall receive appropriate instruction and/or training prior to conducting a specific procedure.

Exception: Chemicals listed by the EPA as "extremely hazardous substances" under SARA Title III Section 302 and 304 shall be considered individually. (See "EHS" column on the quarterly inventory.)

Protective Equipment

All Durham Tech laboratories shall be equipped with an emergency shower, eye wash station, fire blanket, fire extinguisher, and first aid kit. Signs indicating the location of each shall be posted, clearly visible, and legible from all areas of the laboratory. In addition, all exits will be labeled "EXIT." Laboratory diagrams shall be posted in each laboratory indicating evacuation routes and the current location of the safety equipment.

All laboratory safety equipment will be inspected on a regular basis in accordance with appropriate OSHA regulations. Eyewash equipment and emergency showers shall be inspected and tested in accordance with the American National Standards institute (ANSI) Standard, ANSI Z358.1-2004, National Standard for Emergency Eyewash and Shower Equipment.

Personal Protective Equipment

Durham Tech shall provide, at no cost to the employee, appropriate PPE for the chemical to be used as called for in the protocol in which the chemical is used. PPE may include but not be limited to the following:

- Goggles.
- Disposable gloves.
- Respirators.
- Lab coats.
- Aprons.

It is the responsibility of each employee to be aware of the appropriate PPE required, to know the location of the PPE, and to wear the appropriate PPE for the assigned task.

Employee Exposure Monitoring

If there is reason to believe that the PEL or other published recommended exposure limits are being exceeded, then Durham Tech will provide monitoring for that exposure. A qualified person using the appropriate monitoring equipment shall perform the monitoring. Should the results of the monitoring indicate that any specific PEL is being exceeded, Durham Tech will take measures to eliminate the exposure potential.

Evaluation of Ventilation and Fume Hoods

An evaluation shall be completed to measure the quality and quantity of ventilation in the laboratory. Airflow shall be consistent, with no areas in the lab exhibiting static or high-velocity airflow. Adequate ventilation

systems change the room air at least four times per hour. A higher air exchange rate may be needed depending upon chemicals being used. Airflow paths can be monitored with use of smoke tubes; however, these do not determine velocities. Pitot tubes are used for measuring duct velocities, and anemometers or velometers are used to measure airflow rates within rooms and at the faces of fume hoods.

Any experiment that uses a chemical with a PEL of 50 parts per million (ppm) or less requires the use of a fume hood or an experiment seal. The fume hoods shall be inspected and labeled at least annually or when any changes have occurred that may alter fume hood operation. Inspections are conducted by EHSI: Environmental Health and Safety Institute Based at Blue Ridge Community College, Flat Rock, NC 28731.

An accepted method of fume hood evaluation is the anemometer or velometer which measures the velocity of air across the face of the hood. Measurements shall be taken at multiple points along the hood and averaged. Minimum face velocity is 80 linear feet per minute (lfm). A program of annual measurements and a performance of 100 lfm shall be considered acceptable for toxins and carcinogens.

Fume hoods equipped with fixed air velocity monitoring devices will be properly inspected, monitored, and calibrated for proper operation in accordance with the manufacturer's recommendations. Any fume hood or monitoring device found to be operating improperly will be labeled as follows:

- Fail
- Out of service

Medical Examination and Consultation

Durham Tech shall provide all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, under the following circumstances:

- Personal Symptoms: Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory, the employee shall be provided an opportunity to receive an appropriate medical examination.
- Monitoring Levels: Where exposure monitoring reveals an exposure level routinely above the action level (or in the absence of an action level, the PEL) for an OSHA-regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance shall be established for the affected employee as prescribed by the particular standard.
- Emergency Exposure: Whenever an event takes place in the work area such as a spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure, the affected employee shall be provided an opportunity for a medical consultation. Such consultation shall be for the purpose of determining the need for a medical examination.
- All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

Information Provided to the Physician

Durham Tech shall provide the following information to the physician:

- The identity of the hazardous chemical(s) to which the employee may have been exposed.
- A description of the conditions under which the exposure occurred, including quantitative exposure data, if available.
- A description of the signs and symptoms of exposure that the employee is experiencing.

Physician's Written Opinion

The physician's written opinion shall not reveal specific findings of diagnoses unrelated to occupational exposure. For examination or consultation required under 29 CFR 1910.1450 and this standard practice instruction, this employer shall obtain a written opinion from the examining physician which shall include the following:

Recommendations for further medical follow-up:

- The results of the medical examination and any associated tests.
- Any medical condition that may be revealed in the course of the examination, which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace.
- A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The medical report will be filed in a confidential medical file kept by the safety compliance officer, separate from the employee's other personnel records. This report will be maintained by the College for a period of 30 years. At any time during this period, the employee may review his/her file. If the employee is not able to review the file in person, he/she may send his/her designated representative to review the file.

Procedures for Working With Carcinogens, Reproductive Toxins, and Highly Acute Toxins

Additional protection for work with particularly hazardous substances such as toxins and carcinogens shall be given specific consideration where appropriate as follows:

Work Procedures

- Establishment of a Designated Area
    - Designated areas shall be established in each laboratory for the use and manipulation of hazardous chemicals.
    - The designated area shall be posted, and all employees working there shall be informed of the hazards.
- Use of Containment Devices such as fume hoods and glove boxes, shall be used as follows:
    - When working with a hazardous substance.
    - If the potential exists for use of the chemical to generate aerosols.
    - Or, if the process has the potential to result in an uncontrollable release of the substance.
- Procedures for Safe Removal of Hazardous Waste:
    - Hazardous waste shall be disposed of in accordance with all federal, state, and local regulations.
- Decontamination procedures shall include but not be limited to the following:

- Cleaning as appropriate of the work area before and after chemical use or manipulation.
- Removing outer protective gear (gloves, apron, etc.) and placing in labeled container for proper cleaning or disposal.
- Washing hands and face, removing inner protective clothing, and placing in labeled container for proper cleaning or disposal.
- Placing contaminated equipment into labeled containers for proper cleaning.
- Checking for skin contamination.
- Employees may add additional steps to procedures as needed for health and safety.

Carcinogens - Known and Suspected

Identifying Carcinogens

Various regulatory agencies and programs have identified specific chemicals as carcinogenic or potentially carcinogenic. These agencies include the following:

- Occupational Safety and Health Administration (OSHA) - Carcinogenic chemicals that OSHA has specifically designated as carcinogens or cancer suspect agents and for which standards have been written (e.g. 29 CFR 1910.1003 – "13 Carcinogens" or 29 CFR 1910.1017 – "Vinyl Chloride").
- National Toxicology Program (NTP) - Chemicals listed in the "Annual Report on Carcinogens" published by NTP as "Known to be Carcinogens" or "Reasonably Anticipated to be Carcinogens."
- International Agency for Research on Cancer Monographs (IARC) - All chemicals listed in the publication "International Agency for Research on Cancer Monographs" (IARC) under the lists titled: Group 1 – "Carcinogenic to Humans;" Group 2A – "Probably Carcinogenic to Humans;" and Group 2B – "Possibly Carcinogenic to Humans."

Exposure Control Plan

Purpose

The purpose of the Exposure Control Plan is to significantly reduce the risk of infection for employees with the potential to be exposed to blood or body fluids. The targeted diseases include Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV). This plan and noted procedures are in compliance with the Standards of the U.S. Department of Labor in 29 CFR 1910.1030, Occupational Safety and Health Administration (OSHA), pertaining to employees who may be subject to occupational exposure to bloodborne pathogens.

This plan identifies the job classifications that have been determined to have potential exposure to blood and other potentially-infectious materials at the college. This plan also describes the methods of compliance with applicable requirements of the Standard and a procedure for evaluating exposure incidents. All full- and part-time employees of the College whose job classifications make them at risk for exposure to bloodborne pathogens are required to comply with this plan and with requirements of the Standard. Any failure to comply may be cause for disciplinary action.

College employees involved in the instruction of students at off-campus clinical sites will comply with the plan established by that facility as well as with the College's Exposure Control Plan.

Departments/programs utilizing on-campus sites for instruction in which there is a high risk of exposure to bloodborne pathogens will establish, in conjunction with the safety compliance officer, specific exposure control policies and procedures as applicable to the situation.

Responsibilities

The safety compliance officer is responsible for implementing the Exposure Control Plan and ensuring compliance with it and the Standard. (See Appendix I: Departments Implementing Exposure Control Plan) Campus Police and Public Safety have an additional Appendix (O) due to the nature of their job and potential exposure outside the academic environment.

Access to the Written Plan

The safety compliance officer will maintain a copy of the Exposure Control Plan and make it available for all employees to review.

Definitions

Bloodborne Pathogens: Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include but are not limited to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

Contaminated: The presence, or reasonably-anticipated presence, of blood or other potentially-infectious materials on an item or surface.

Contaminated Sharps: Any contaminated object(s) that can penetrate the skin.

Engineering Controls: Controls (e.g., sharps disposal containers) that isolate or remove the bloodborne pathogen hazard from the workplace.

Needleless Systems: A device that does not use needles for the following:

- The collection of body fluids or withdrawal of body fluids after initial venous or arterial access is established.
- The administration of medication or fluids.
- Or, any other procedure involving the potential for occupational exposure to bloodborne pathogens due to subcutaneous injuries from contaminated sharps.

Occupational Exposure: Any 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.

Sharp with Engineered Sharps Injury Protections: A non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Other Potentially Infectious Materials:
Includes such materials as the following:

- Fluids such as semen, vaginal secretions, cerebrospinal fluid (CSF), synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
- An unfixed organ or tissue (other than intact skin) from a human.
- HIV-containing cells or tissue cultures, organ cultures, and HIV- or HIV-containing culture medium or other solutions, blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Personal Protective Equipment (PPE): Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts, blouses) are not considered to be personal protective equipment.

Regulated Waste: 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.

Universal Precautions: An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, or other bloodborne pathogens.

Work Practice Controls: Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

Training Requirements

- Training will be provided for employees who are at risk for occupational exposure to blood or other potentially-infectious materials and hazardous chemicals.
- Training documents and materials will be provided by the safety compliance officer.
- All affected employees are required new hire training and to participate at least annually in training sessions offered during normal work hours at no cost to the employee.
- Training sessions for employees will be scheduled in all of the following case:
    - At the time of initial assignment to tasks involving occupational exposure.
    - Whenever tasks or procedures change which affect an employee's occupational exposure.
    - When required due to unusual circumstances.
- For employees who have received training on bloodborne pathogens in the year preceding the effective date of the Standard, only training with respect to the provisions of the Standard which were not included need be provided.
- Annual training for all employees shall be provided at least within one year of their previous training.
- The College shall provide additional training when changes such as modifying tasks or procedures or instituting new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the exposure(s) created.

- Materials appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used for this training.

Content of Training Sessions

The training program shall contain, at a minimum, the following elements:

- An accessible copy of the regulatory text of this Standard and an explanation of its contents.
- A general explanation of the epidemiology and symptoms of bloodborne diseases.
- An explanation of the modes of transmission of bloodborne pathogens.
- An explanation of Durham Tech's Exposure Control Plan and the means by which the employee can obtain a copy of the written plan.
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially-infectious materials.
- An explanation of the use and limitations of methods that will prevent or reduce exposure, including appropriate engineering controls, work practices, and personal protective equipment.
- Information about the types, proper use, location, removal, handling, decontamination, and disposal of protective equipment.
- An explanation of the basis for selecting personal protective equipment and how to gain access to it.
- Information about the Hepatitis B vaccine, including information on its efficacy, safety, methods of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- Information about the appropriate actions to take and persons to contact in an emergency involving blood or other potentially-infectious materials.
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
- Information about the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident.
- An explanation of the signs, labels, and/or color-coding required by the Standard.
- An opportunity for employees to participate in interactive questions and answers with the person conducting the training session.

Records Maintenance

The College will maintain in the Safety Compliance office a record for each employee who is determined to be at risk for occupational exposure to bloodborne pathogens. (See Appendix J: Exposure Classification.) Each employee's record should contain the following:

- Employee's name.
- A copy of the employee's Hepatitis B vaccination status, including the dates of all Hepatitis B vaccinations or a signed declination form.

If an exposure occurs, the safety compliance officer will maintain copies of the incident report, the post exposure follow-up procedures performed, documentation of the route(s) of exposure, the results of the source individual's blood testing, if available, and a copy of the health care professional's written opinion.

An employee's records will be kept confidential and not disclosed or reported without the individual employee's written consent, except as required by federal, state, or local laws. The safety compliance officer will maintain an employee's records for not less than 30 years after the employee's departure.

Training Records

Employee training records will include the following information related to specific education about bloodborne pathogens:

- The dates of the training sessions.
- The contents or a summary of the training session.
- The name(s) and qualifications of the person(s) conducting the employee training.
- The names and titles of all persons attending the training sessions.

The training records must be kept for three years as follows:

- The safety compliance officer will maintain the training records.
- The College will ensure that all records required to be maintained by the OSHA Standard shall be made available upon request to federal and state officials for examination and copying.
- Employee training records required by the OSHA Standard will be provided upon request for examination and copying to employees, to employee representatives, and to federal, state, and local officials in accordance with 29 CFR 1910.1020.
- The College shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020 (h).
- If the College ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the College shall notify the director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, at least three months prior to their disposal. The College shall also transmit these records to the director, if the director requires the College to do so, within that three-month period.

Exposure Determination

The safety compliance officer is responsible for classifying tasks performed in their areas of responsibility that have a potential of exposure to blood or other infectious body fluids. Whenever possible, additional procedures are established to eliminate or reduce task-associated risks. The safety compliance officer shall ensure that all position descriptions, including administrative and support personnel, whether paid or volunteer, have been evaluated by the appropriate department managers and that a Risk of Exposure has been identified.

For jobs with a potential exposure, a list of tasks or procedures which present a potential occupational exposure to those employees will be prepared. Assignment of personnel to a new department in the same basic job may necessitate a formal change of job title to ensure that they will receive training according to that job's risk classification. This must be reviewed by department managers on an annual basis.

All department managers and supervisors are responsible for monitoring employees' job performance and for updating job descriptions/class activities if new tasks are being performed by individuals in a job/class which

presents a change in exposure status while on any of the College's campuses or clinical instruction sites. Managers and supervisory personnel are also responsible for monitoring employees' training status and their compliance with Universal Precautions and other risk-reducing policies, being particularly attentive to recognize, act on, and prevent unsafe actions by anyone in their presence. The Human Resources director shall ensure, that, whenever a new position description is prepared, it is reviewed for exposure risks prior to being approved.

All employees share responsibility with and for their coworkers to ensure compliance with the letter, spirit, and intent of Durham Tech's procedures for preventing the transmission of disease among college employees, students, and visitors. Therefore, each employee must know how to recognize occupational exposure and must communicate changes in the exposure classification to their supervisor if asked to perform tasks or procedures which involve an increased risk of exposure.

Methods of Compliance

The College will practice and enforce Universal Precautions to prevent contact with blood or other potentially infectious materials [i.e., semen, vaginal secretions, cerebrospinal fluid (CSF), synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, or any body fluid that is visibly contaminated with blood and in situations where it is difficult or impossible to differentiate between body fluids] as follows:

- Blood and body fluid precautions will be used consistently in settings where the risk of blood exposure is present.
- All identified employees will use barrier precautions to prevent exposure to the skin and mucous membranes (eyes, nose, mouth) when contact with blood or other potentially-infectious materials is anticipated.
- Disposable gloves (single use) will always be replaced as soon as practical when visibly contaminated, torn, punctured, or when their ability to function as a barrier is compromised. Disposable gloves will not be washed or decontaminated for reuse.
- Masks and protective eyewear combination (goggles or glasses with solid side shields) or face shields which protect all mucous membranes will be worn when performing procedures that are likely to generate splashes, spray, spatter, or droplets of blood or other potentially-infectious materials.
- Gowns, aprons, or other protective body clothing will be worn when performing procedures likely to generate splashes or splatters of blood or body fluids and in all occupational exposure situations.
- The Hepatitis B vaccine will be offered and provided free of charge to all employees in the jobs determined to have a potential exposure to blood or other infectious body fluids. The employee will be reimbursed for any expense for the required shots.
- Surgical caps or hoods and/or shoe covers will be worn in instances when gross contamination can reasonably be anticipated.
- Hands or other skin surfaces will be washed immediately using a five-minute scrub if contaminated with blood or other body fluids. Hands will also be washed after removing protective gloves.
- Safety precautions will be followed to prevent injuries caused by needles, scalpel blades, and other sharp instruments.

- All sharps (e.g., needles, scalpels,) will be placed in properly labeled containers with the international biological hazard symbol and the wording "Biohazard."
- Identified employees with exudative lesions or weeping dermatitis will refrain from all direct patient contact during student activities and from handling patient-care equipment until the condition resolves.

Work Practices

All employees are expected to adhere to the following work practices:

- Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
- Food or beverages will be consumed only in a safe designated area. Food and drinks will not be kept on the countertops or bench tops where blood or other potentially-infectious materials are present.
- Employees will wash hands immediately, or as soon as feasible, after removing gloves or other personal protective equipment. Antiseptic hand cleansers or towelettes, in conjunction with paper towels, will be used if hand-washing facilities are not available.
- Employees will wash their hands or any other skin for at least five minutes or will flush the mucous membranes with water immediately (if contamination is in the eyes, flush for 10-15 minutes) or as soon as possible following contact with blood or other potentially-infectious materials.
- Tobacco use is prohibited on College property as well as on any spaces where College-sponsored or College-related activities are held, including during non-instructional and non-service hours.
- The mucous membranes (eyes, nose, and mouth) will be protected when there is a likelihood of splatter or splashes from blood or body fluids. All procedures involving blood or other potentially infectious materials will be performed in a manner which minimizes splashing, spraying, splattering, and the generation of droplets of these substances.
- Mouth pipetting or suctioning of blood or other potentially-infectious materials is prohibited. Contaminated needles or other contaminated sharps will not be bent, recapped, sheared, broken, or removed. A mechanical device or a one-handed technique may be used to recap or remove needles. Immediately, or as soon as possible after use, contaminated sharps will be placed in containers which are puncture resistant, leak-resistant, and properly labeled or color-coded. All glass and hard plastics (intact or broken), which are to be discarded, will be treated as sharps.
- Specimens of blood or other potentially-infectious materials will be placed in a designated regulated waste container.
- Any blood or body fluid-related accident (i.e. needle stick, blood or body fluid splatter or splash to the mucous membranes) will be reported immediately to the supervisor.
- Equipment which has been contaminated with blood or other potentially-infectious materials will be decontaminated before being serviced or shipped unless it can be shown that decontamination of the equipment is not feasible. Equipment, or portions thereof, which is not decontaminated requires that a warning label be affixed.

Personal Protective Equipment

All employees should have access to, become familiar with, and follow personal protective equipment policies established by each of the College's departments on all of the College's campuses and those off-campus

clinical sites where they are participating in clinical experiences for students. Personal protective equipment will be provided, at no cost to the employee, when there is potential for an occupational exposure. For example, personal protective equipment may include the following: gloves, gowns, laboratory coats, face masks, face shields or safety glasses, mouthpieces, resuscitation bags, pocket masks, or other ventilation equipment. Personal protective equipment will be used for all occupational exposure situations. However, the employee may temporarily or briefly decline the use of equipment in the following scenario: "Under rare and extraordinary circumstances, the employee may use his/her professional judgment that, in a specific instance, its use would have prevented delivery of health care or public safety services or would have posed an increased hazard to the safety of the employee." Situations in which personal protective equipment was temporarily or briefly declined will be investigated and documented to determine if changes can be instituted to prevent future occurrences.

Sharps

Procedures for the use and disposal of sharps are as follows:

- Only disposable needles will be used at the College and whenever applicable, safety needle devices purchased.
- Contaminated sharps will be discarded immediately or as soon as possible in containers which are closable, puncture resistant, leak-proof on the sides and bottom, and either labeled with the international biological hazard symbol as well as the wording "biohazard" or using red containers.
- The sharps containers will be easily accessible to personnel and located as close as possible to the areas where sharps are used.
- The sharps containers will be maintained upright throughout use, replaced routinely, and not be allowed to overfill.
- During replacement or removal from the work area, the sharps containers will be closed to prevent the spillage or protrusion of contents during handling, storage, transport, or shipping. The sharps containers will be placed in a secondary container if leakage is possible.
- Reusable containers will not be opened, emptied, or cleaned manually or in any other manner which will expose employees to the risk of a subcutaneous injury.
- Immediately, or as soon as possible after use, contaminated reusable sharps must be placed in containers until properly decontaminated. These containers will be puncture resistant, leak proof on the sides and bottom, and will either be red or affixed with a fluorescent orange or orange-red label with letters in contrasting colors and a biohazard symbol.
- All reusable sharps will be properly sterilized or decontaminated after use as recommended by the Center for Disease Prevention and Control.
- Contaminated reusable sharps will not be stored in a manner which requires employees to reach into the containers.

Specimens

Procedures for the use and disposal of specimens are as follows:

- Specimens of blood, tissue, or other potentially-infectious materials which the college collects or transports will be placed in containers that prevent leakage during collection, handling, processing, storage, transport, or shipping.

- The container will be red or affixed with a fluorescent orange or orange-red label with letters in contrasting colors and a “biohazard” symbol. The container must be closed prior to storage, transport, or shipping. (NOTE: If Universal Precautions are utilized in the handling of all specimens, the labeling/color coding system is not necessary, provided the containers are recognizable as containing specimens.)
- If outside contamination of the primary container occurs, the primary container is to be placed within a second container to prevent leakage during handling, processing, storage, transport, or shipping and which is labeled or color coded appropriately.
- If the specimen could puncture the primary container, the primary container will be placed within a secondary container which is puncture resistant in addition to having the above characteristics.
- Spills of infectious material will be handled using an appropriate spill kit.

Laundry

Procedures for handling and disposing of laundry are as follows:

- Employees handling contaminated linen will wear protective gloves and other appropriate personal and protective equipment to prevent exposure to blood or other potentially-infectious materials during the handling and sorting of soiled linen and other fabric items.
- Laundry that is contaminated with blood or other potentially-infectious materials or that may contain contaminated needles or sharps will be treated as if it were HBV/HIV infected and handled as little as possible with a minimum amount of agitation.
- Contaminated laundry will be bagged at the location where it was used.
- Contaminated laundry will be placed and transported in bags that are labeled with the international biological hazard symbol and the wording "biohazard."
- The "biohazard" labels used will be fluorescent orange or orange-red with the lettering in contrasting colors. The labels will be affixed to the containers by string, wire, adhesive, or any method that prevents their loss or unintentional removal.
- Red bags or red containers may be substituted for labels.
- Contaminated laundry that is wet and presents a reasonable likelihood of soak-through or leakage from the bag will be transported in bags or containers which prevent the fluids from the exterior.
- All contaminated laundry shipped off site to another facility which does not utilize Universal Precautions must be labeled or color coded as follows:
    - Contaminated laundry will be placed and transported in bags that are labeled with the international biological hazard symbol and the wording "biohazard."
    - The "biohazard" labels used will be fluorescent orange or orange-red with the lettering in contrasting colors. The labels will be affixed to the containers by string, wire, adhesive, or any method that prevents their loss or unintentional removal.
    - Red bags or red containers may be substituted for labels.

Housekeeping

The College department/area will be maintained in a clean and sanitary condition. A written schedule for cleaning and a method of decontamination, based on the location, type of surface, type of soil present, and procedures being performed in each area have been developed with Housekeeping Services.

- All equipment and environmental work surfaces will be cleaned and decontaminated after contact with blood or other potentially-infectious materials.
- The process of decontamination will be conducted after completion of procedures; when surfaces are overtly contaminated; after the spill of blood or other potentially-infectious material; and at the end of the work shift, if the surface may have become contaminated since the last cleaning.
- Only approved disinfectants will be used, such as a 10 percent solution of sodium hypochlorite (household bleach) mixed fresh each day.
- Protective coverings such as plastic wrap, aluminum foil, or imperviously-backed absorbent will be removed at the end of the work shift or whenever they become overtly contaminated during the shift.
- Any bins, pails, cans, or other similar receptacles intended for reuse will be decontaminated on a regular basis or whenever there is visible contamination.
- Broken glassware must be handled with the aid of a mechanical device (i.e., brush and dustpan, tongs, or forceps).

Regulated Waste

Regulated waste includes the following:

- Liquid or semi-liquid blood.
- Other potentially-infectious materials 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 that are capable of releasing these materials during handling.
- Pathological and microbiological wastes containing blood or other potentially-infectious materials.
- Any item, such as bandages, gauze, linens, or used personal and protective equipment that becomes covered with or contains liquid blood or other potentially-infectious materials.

The following guidelines will be followed to meet the federal, state, and local guidelines. However, if the North Carolina and local medical Biohazard waste regulations are more stringent, then those regulations will also be incorporated into the plan.

- Specimens of blood or other potentially-infectious materials will be placed in containers which prevent leakage during the collection, handling, processing, storage, transport, or shipping.
- For disposal of regulated waste, the College shall provide containers that are as follows:
    - Closable.
    - Constructed to contain all contents and prevent leakage of fluids.
    - Colored red or orange-red label with letters in contrasting colors and a “Biohazard” symbol.
- The containers shall be closed prior to removal to prevent spillage or protruding of contents during handling, storage, transport, or shipping.
- If outside contamination of the regulated waste container occurs, it will be placed in a second container with the same characteristics as the first container.
- The College shall place the containers for regulated waste in every appropriate laboratory and classroom.

- Immediately, or as soon as feasible after use, disposable sharps shall be disposed of in closable, puncture resistant, disposable containers that are leak proof on the sides and bottom, and that are labeled with a "Biohazard" symbol or color-coded in red. A commercial sharps container is acceptable.
- Any regulated waste is picked up and transported by an outside contractor.

Hazard Communication

The College must affix fluorescent orange or orange-red labels with letters in a contrasting color to containers of regulated waste, refrigerators, and freezers containing blood or other potentially-infectious material, and other containers that will be used to store, transport, or ship blood or other potentially-infectious materials. All such labels must have the universal “biohazard” symbol.

Blood Spills

At Durham Tech (except in special medical programs), employees and students are not to clean up another person’s blood. This task is assigned to Housekeeping Services personnel.

Hepatitis and Hepatitis B Vaccine

Hepatitis Information

- Hepatitis means inflammation of the liver. Hepatitis B, which is a viral infection, is one of multiple causes of hepatitis. Many people with Hepatitis B recover completely, but approximately 10 percent become chronic carriers; one to two percent die from fulminant hepatitis. In the group of chronic carriers, many have no symptoms and appear well, yet can transmit the virus to others. Others may develop a variety of symptoms and liver problems varying from mild to severe (chronic persistent hepatitis, chronic active hepatitis, cirrhosis, and liver failure). There is also an association between the Hepatitis B virus and hepatoma (a form of liver cancer).
- Hepatitis B virus can be transmitted by contact with body fluids including blood (along with contaminated needles), semen, breast milk, and vaginal secretions. Health workers are at high risk of acquiring Hepatitis B due to frequent contact with blood or potentially contaminated body fluids and, therefore, the vaccine is recommended to prevent the illness.

Hepatitis B Vaccine Information

- Three doses of Hepatitis B vaccine are needed to confer protection. Clinical studies have shown that after three doses, 96 percent of healthy adults have been seroprotected. Doses are administered at zero, one, and six months.
- Employees who have occupational exposure will be provided, on a reimbursement basis, the Hepatitis B vaccine and vaccination series, as well as post-exposure evaluation and follow-up procedures, including laboratory tests at an accredited laboratory.
- Protocol for the above procedures will be performed under the supervision of a licensed physician or by another licensed health care professional and provided in accordance with the recommendations of the U.S. Public Health Service. Employees must complete a Hepatitis B Vaccine Record. (See Appendix K: Hepatitis B Vaccine Record form.)
- The health care professional responsible for the employee’s Hepatitis B vaccination will be provided with a copy of 29 CFR 1920.1030 bloodborne Pathogens if they do not have one.
- The Hepatitis B vaccination will be available to employees within 10 working days of initial assignment involving potential exposure and after they have received training on the required subjects.

The Hepatitis B vaccine and any future booster(s) OSHA recommends will be available to employees who have an occupational exposure, unless they have previously received the complete Hepatitis B vaccination series and the antibody testing has revealed the employee is immune or the vaccine is contraindicated for medical reasons.

- A Hepatitis B pre-screening program will not be a prerequisite for receiving the vaccination.
- An employee who initially declines the Hepatitis B vaccination will be allowed to receive the vaccination at a later date.
- Employees who decline to accept the Hepatitis B vaccination will be required to sign the declination statement, Appendix L: Hepatitis B Vaccine Declination.
- All part-time employees who may have occupational exposure to Hepatitis B will be offered the Hepatitis B vaccine free of charge on a reimbursement basis, as long as they are employed by the College. If the employee's assignment ends at the College before the completion of the vaccination series, that individual will be responsible for completing the series at his/her own expense.
- Employees who have already had the vaccine at another location must send or deliver a copy of their vaccination record to the safety compliance officer to be placed in the employee's file.

Post-Exposure

After exposure to blood or other potentially infectious or disease fluids, these procedures should be followed:

- Immediately take appropriate precautionary measures. For eye, mouth, and other mucous membrane exposures, flush/rinse the exposed area thoroughly with running water for at least 10-15 minutes. For needle sticks, other puncture wounds, or contamination of any body part with blood, scrub for a minimum of five minutes.
- Report the incident IMMEDIATELY to the appropriate persons (e.g., supervisor, program director, or department head).
- If the source individual is known and present, inform the individual of the incident and the need for him/her to be tested. Testing of the source individual must be completed at no cost to the individual. If the source individual is known but unavailable, contact him/her as soon as feasible to inform him/her of the incident and the need to be tested.
- If the source individual refuses to be tested or does not report for testing within a reasonable time, the source individual's physician should be contacted; or, if the physician is not known, contact the County Health Department director. The Health Department director will then take appropriate action.
- Be sure to complete the vaccine declination form. (See Appendix L: Hepatitis B Vaccine Declination Form.) Additional information should be obtained if the source individual is known. It will be necessary to report the incident to the insurance representative within 48 hours so that a worker's compensation form can be completed.
- Arrangements for a confidential medical consultation and follow-up are made at no cost to the employee and at a convenient time and location. The safety compliance officer sends a letter (Appendix M: Letter to Physician) and a completed (Appendix N: Exposure Incident Report) form to the physician.
- If known, the source individual's blood will be tested by a physician for HBV and HIV as soon as feasible and within no more than 48 hours.

- If the source individual is already known to be infected with HBV or HIV, testing will not need to be repeated.
- Whether the source individual blood tests are completed as a result of the exposure incident or previous testing has revealed the source individual to be infected with HBV or HIV, the results of the source individual's blood tests will be provided to the exposed employee.
- The employee will be informed of applicable laws and regulations concerning disclosure of the identity and the infectious status of the source individual at the time the source individual's testing results are provided to the employee.
- If the source individual cannot be identified, the exposed employee's blood will be tested for HBV and HIV infectivity as soon as feasible or within no more than 48 hours and with consent.
- If the exposed employee consents to baseline collection of blood but refuses HIV testing, the laboratory is instructed to preserve the sample for 90 days. (If the employee elects to have the sample tested during this time period, this testing shall be completed.)
- If all tests on the source person and the exposed employee are negative, and the exposed employee has an adequate Hepatitis B immunity response, there will not be a need for further testing. Each case will be evaluated individually and test results reviewed. If the source person is positive for Hepatitis B or HIV at 6 weeks, 12 weeks, and 6 months after exposure, the employee must give consent for retesting on each occasion.
- Follow-up of the exposed employee will include counseling, medical evaluation of any acute febrile illness that occurs within 12 weeks post-exposure and use of safe and effective post-exposure measures according to recommendations for standard medical practices.
- Following an exposure incident, the College will provide the health care professional with the following information if the employee chooses to be treated by his/her personal physician:
    - A copy of The Standard: 29 CFR 1910.1030 if the employee does do not have one.
    - A description of the exposed employee's duties as the duties relate to the exposure incident.
    - Documentation of the route(s) of exposure and the circumstances under which the exposure occurred.
    - Results of the source individual's HIV and HBV testing, if available.
    - All records relevant to the appropriate treatment of the employee, including his/her vaccination status.
- An evaluation of the employee's work practices and protective equipment or clothing used at the time of the incident must be made by the safety compliance officer and changes made as indicated.
- The College will provide the exposed employee with a copy of the evaluating health care professional's written opinion within 15 days of completion of the medical evaluation.

Influenza, Respiratory, and Other Communicable-Related Exposure:

The safety compliance officer, in efforts to minimize the work-related risks, will work with the National Institute for Occupational Safety and Health (NIOSH). If necessary, a Health Hazard Evaluation (HHE) will be requested through NIOSH.

Employees will notify the safety compliance officer immediately if they believe there has been a case of any communicable-related exposure in their classroom or work environments.

DURHAM TECH

Appendix A – Confined Space Evaluation Checklist

Do not enter a confined space until all questions have been considered and it has been determined the space is safe.

Use the following checklist to evaluate the confined space.

_____ Yes _____ No Is the entry necessary?

Testing

_____ Yes _____ No Are the instruments used in atmospheric testing properly calibrated?

_____ Yes _____ No Was the atmosphere in the confined space tested?

_____ Yes _____ No Was the oxygen level at least 19.5 percent and not more than 23.5 percent?

_____ Yes _____ No Were toxic, flammable, or oxygen-displacing gases/vapors present?

Monitoring

____ Hydrogen Sulfide

____ Carbon Monoxide

____ Methane

____ Carbon Dioxide

____ Other (Please list.) _____

_____ Yes _____ No Will the atmosphere in the space be monitored continuously while work is under way?

_____ Yes _____ No Will the atmosphere in the space be monitored periodically while work is under way?
(If yes, note the time interval: _____)

Remember, atmospheric changes occur due to the work procedure or the product stored. The atmosphere may be safe when you enter, but it can change very quickly.

Cleaning

_____ Yes ____ No Was the space cleaned before entry was allowed?

_____ Yes ____ No Was the space steamed?

_____ Yes ____ No If the space was steamed, was it allowed to cool?

Ventilation

_____ Yes _____ No Has the space been ventilated before entry?

_____ Yes _____ No Will ventilation be continued during entry?

_____ Yes _____ No Is the air intake for the ventilation system located in an area that is free of combustible dusts and vapors and toxic substances?

_____ Yes _____ No If the atmosphere was found unacceptable and then ventilated, was it retested before entry?

Isolation (Lockout/Tagout)

_____ Yes _____ No Has the space been isolated from other systems?

_____ Yes _____ No Has electrical equipment been locked out?

_____ Yes _____ No Have disconnects been used where possible?

_____ Yes _____ No Has mechanical equipment been blocked, chocked, and disengaged where necessary? _____ Yes _____ No Have lines under pressure been blanked and bled?

Clothing/Equipment

_____ Yes _____ No Is special clothing required (boots, chemical suits, glasses, gloves, etc.)? If so, specify: _____

_____ Yes _____ No Is special equipment required (for example, rescue equipment, communications equipment, etc.)? If so, specify: _____

Respiratory Protection

_____ Yes _____ No Is respiratory protection required (for example, air-purifying, supplied air, self-contained breathing apparatus, etc.)? If so, specify: _____

_____ Yes _____ No Are NIOSH approved respirators of the type required available at the worksite?

_____ Yes _____ No Can you get through the opening with a respirator on? (If you don't know, find out before you try to enter.)

_____ Yes _____ No Has qualitative/quantitative fit testing been performed?

Training

_____ Yes _____ No Have you been trained in the proper use of a respirator?

_____ Yes _____ No Have you received first-aid training?

_____ Yes _____ No Have you been trained in confined space entry and do you know what to look for?

Standby/Rescue

_____ Yes _____ No Will there be a standby person on the outside in constant visual or auditory communication with the person on the inside?

_____ Yes _____ No Will the standby person be able to see and/or hear the person inside at all times?

_____ Yes _____ No Has the standby person been trained in rescue?

_____ Yes _____ No Will safety lines and harnesses be required to remove a person?

_____ Yes _____ No Are rescue procedures available to be followed in the event of an emergency?

_____ Yes _____ No Are you familiar with emergency rescue procedures?

_____ Yes _____ No Do you know who to notify and how to make notification in the event of an emergency?

Permit

A confined space entry permit is an authorization in writing that states that the space has been tested by a qualified person and that the space is safe for entry; what precautions, equipment, etc. are required; and what work is to be done.

_____ Yes _____ No Has a confined space permit been issued?

_____ Yes _____ No Does the permit include a list of emergency telephone numbers?

_____ Yes _____ No Is a Hot Work Permit required for this work?

_____ Yes _____ No If so, is the Hot Work Permit attached to the confined space permit?

Reclassifying Permit-Required Confined Space

Permit-required confined spaces are reclassified to non-permit confined spaces only as follows:

_____ Yes _____ No Does the space pose no actual or potential atmospheric hazard?

_____ Yes _____ No Have all hazards been eliminated without entry?

_____ Yes _____ No Do the non-atmospheric hazards remain eliminated?

_____ Yes _____ No If entry is required to eliminate hazards, are the requirements of permit-required confined space entry followed? If testing and inspection demonstrates the hazards were eliminated, the space may be reclassified as a non-permit confined space as long as the hazards remain eliminated (control through forced air ventilation is not used to eliminate hazards).

_____ Yes _____ No Has the basis for determining all hazards been eliminated?

_____ Yes _____ No Has the elimination of hazards been documented by certifying the date, location of the space, and signature of the person making the determination and making it available to employees entering the space?

_____ Yes _____ No Have hazards arisen within a permit-required confined space been declassified to a non-permit confined space? If so, each employee in the space must exit the space and the space must be reevaluated and determined if it should be reclassified as non-permit confined space.

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Appendix B – Confined Space Permit

For pits, trenches, deep excavations, manholes, vaults, tanks, wells, etc.

Identification of Space: _____

Purpose of Entry: _____

Location: _____

Duration: _____

Date: _____ Time Starting: _____ Time Completed: _____

Name of All Employees Working This Job: _____

Name of Authorized Entrants: _____

Name of Current Attendants: _____

Name of Entry Supervisor: _____

How Long to Purge System with Air Flow Before Entry: _____

Atmospheric Check after Isolation and Ventilation:

a. Oxygen Level _____

b. Flammable Vapors (Methane) _____

c. Toxic Vapors (Hydrogen Sulfide) _____

d. Toxic Vapors (Carbon Monoxide) _____

_____ Yes _____ No Were procedures for entry of a confined space followed?

_____ Yes _____ No Was Confined Space Entry Checklist completed?

_____ Yes _____ No Can Permit-Required Confined Space be downgraded to Non-Permitted Confined Space?

Emergency Telephone Numbers: _____

I have verified or made the above tests; inspected for overall safe conditions and procedures; and ensured the safe condition of lifelines, safety harnesses, mechanical hoist, and other appropriate equipment.

Supervisor: _____ Date: _____

Qualified Person: _____ Date: _____

Appendix C – Areas Requiring Hearing Protection

Noise areas requiring hearing protection, which have been defined by noise level monitoring, shall have an adequate number of signs requiring the wearing of hearing protectors. Disposable hearing protectors shall be provided at these locations.

The following areas and/or activities require hearing protection:

- Carpentry Lab.
- When operating weed eaters, leaf blowers, chainsaws, and lawn mowing equipment.
- When operating propane-powered floor buffing equipment.

The following positions are included in this program as appropriate for health and safety of the individual:

- Department - Affected Positions/Employees.
- Buildings and Grounds Workers and Supervisor.
- Buildings and Grounds Maintenance Technicians and Supervisor.
- Applied Technologies Carpentry Instructor, Welding Instructor.
- Extension Education Welding Instructor.
- Extension Education (Public Safety Training) Driving Instructors, Firearms Instructors.

Appendix D – Lockout/Tagout Training

Qualified instructors from Blue Ridge Community College EHSI or Durham Tech will provide the training for authorized employees. The outline of topics included in the training follows:

1. Introduction and Purpose
    a. OSHA 29 CFR 1910.147 and Other Applicable Standards
    b. Durham Tech Policy
    c. Goals and Objectives
2. Durham Tech Responsibilities
3. Employee Responsibilities
4. Lockout/Tagout Definitions
5. Energy Identification: Electrical, Hydraulic Pressure, Pneumatic Pressure, Other Forms of Pressure, Potential Energy, Thermal Energy, Kinetic Energy, Chemical Energy, and Radiation
6. Tag Limitations
7. Energy Control Procedures
    a. Application of Lockout or Tagout
    b. Release from Lockout or Tagout
8. Testing or Positioning Machines and Equipment
9. Group Lockout or Tagout
10. Shift or Personnel Changes
11. Special Procedures for Multiple Energy Sources
12. Zero Energy State Procedures (ZESP)
13. Outside Contractors
14. Periodic Inspection
15. Responsibility
16. Review of Materials
17. Written Evaluation

Appendix E – Control of Hazardous Energy (Lockout/Tagout)

The tags shown below have been approved by Durham Tech and shall be used as a part of the Hazardous Energy Control Program. Wording on the tags to warn of hazardous conditions may include the following:

- Do Not Start.
- Do Not Open.
- Do Not Close.
- Do Not Energize.
- Do Not Operate.

Appendix F – Zero Energy State Procedure

Performing the Evaluation

Each department possessing machinery or equipment that will require the use of multiple lockout/tagout methods to achieve a zero-energy state shall develop procedures for the lockout and/or tagout of those specific machines and/or equipment. This Zero Energy State Procedure (ZESP) could include any combination of sources such as electrical, hydraulic, pneumatic, potential, thermal, kinetic, chemical, radiation, or other forms of energy.

The following sections contain information regarding the different types of energy sources along with questions to be answered when evaluating machinery or equipment. This will assist supervisors and Durham Tech employees in developing ZESPs for multiple energy source machinery and equipment in their departments.

Electrical (E)

Definition

Electrical energy is a system for moving electrons through wires to perform work. A magnetic field is produced whenever electrons move through a wire. A magnetic field can generate an electric current when the field moves across a wire.

Examples

Examples of electrical energy systems, in addition to line voltage and current, include rectifiers, amplifiers, transistors, motors, circuit panels, lights, controls, computers, heaters, and batteries.

Potential Hazards

Hazards associated with electrical energy include the potential for electrocution and injuries, primarily burns, due to the discharge of current through the body or due to arcing of the electrical energy.

Questions to Ask When Developing a ZESP:

Are there one or more sources of electricity serving the machine?
Have the electrical energy source(s) been totally isolated?

- Pulling or locking out the main disconnects?
- Breaker panels locked?
- Plug-in removed and locked in a can?
- Battery back-up disconnected?
- Has all electrical energy been isolated or bled off?
- Capacitors discharged?
- Can transformers be energized from welding operations on the load side?

The only positive method of isolating electrical energy is pulling the main disconnect and locking. Breaker panels can be equipped with a door hasp to attain lockout of an individual breaker.

Hydraulic Pressure (H)

Definitions
Hydraulic energy is a system of pumps, valves, hoses, etc. delivering fluid under pressure to perform work. Hydraulic energy performs work through two major routes: cylinders and pumps.

Examples
Examples of hydraulic energy systems include trash compactors, presses, bailers, and forklifts.

Potential Hazards
Hazards associated with hydraulic energy include the potential for crushing and injuries due to the exposure to high-pressure fluid leaks. Amputation and injection of hydraulic fluid into body tissue are additional hazard potentials.

Questions to Ask When Developing a ZESP:
Are other sources of hydraulic energy used on this machine?
Have the hydraulic energy source(s) been totally isolated?

- Closing all valves?
- Blocking all lines?
- Opening all residual accumulators?
- Blocking cylinders or pumps?
- Has all residual energy or pressure been isolated or bled off?
- Can pressure reaccumulate in the system?

Hydraulics components can create hazards. Pumps can be started accidentally; accumulators maintain a given pressure within the system; check valves can trap pressure in the system; weight on a cylinder will introduce pressure to the system. Common methods of isolating and locking out pressurized circuits are closing and locking valves, blanking pipes, and breaking pipes. After closing and locking a valve, means must be available for bleeding residual pressure from the lines.

Pneumatic Pressure (A)

Definition
Pneumatic energy is a system of pumps, valves, hoses, and cylinders to deliver air pressure to perform work. Pneumatic components create the same types of hazards as hydraulics.

Examples
Examples of pneumatic energy systems include plant air, air-operated presses, lifts, air-actuated over-hydraulics, compressors, conveyors, and air-powered hand tools.

Potential Hazards
Hazards associated with pneumatic energy include the potential for crushing and injuries due to exposure to high-pressure air. Additional hazards include injection of air into the bloodstream, which can result in crippling and death due to air embolism, as well as injection of particulates into body tissue.

Questions to Ask When Developing a ZESP:
Are there one or more air systems serving the machine?
Has/have the pneumatic source(s) been totally isolated?

- Closing all valves?
- Blocking all lines?
- Opening all residual accumulators?
- Blocking cylinders or pumps?
- Has all residual pressure been isolated or bled off?
- Can pressure reaccumulate in the system?

Other Forms Of Pressure (OP)

Other mediums can create pressure within lines and machinery similar to hydraulic and pneumatic systems.

Examples
Examples of other forms of pressure systems are gases (hydrogen, nitrogen, carbon dioxide, acetylene, oxygen), natural gas (boilers, cafeteria equipment), water (domestic water supply, heat exchangers, chilled water, return water supply), or steam (boilers, heaters, steam traps, heat exchangers, presses, or lifts).

Potential Hazards
Hazards associated with other forms of pressure include the potential for crushing and injuries due to exposure to the medium. Hazards from various media can include thermal burns, fire, asphyxiation, and injection of the medium into the body tissue and/or bloodstream.

Questions to Ask When Developing a ZESP:
Are there one or more pressure systems serving the machine?
Have all sources of pressure been totally isolated?

- Closing all valves?
- Blocking all lines?
- Opening all residual accumulators?
- Blocking cylinders or pumps?
- Has all residual pressure been isolated or bled off?
- Can pressure reaccumulate in the system?

Potential Energy (PE)

Common methods of controlling potential energy are blocking, pinning, chaining, or lowering.

Definition
Simply defined, potential energy is the energy at rest or due to position.

Examples
Springs (S) held in compression or under tension, pins, linkage, hydraulics, pneumatics, vacuum, and magnetic systems can release the positioned components and allow them to move. Gravity (G) by the failure of springs, pins, linkage, etc. can cause machine components or materials to fall (dump trucks, forklifts).

Potential Hazards
Hazards associated with potential energy include the uncontrolled release of this energy, which can cause machinery components or materials to go ballistic and cause punctures or penetration injuries, dismemberment, or caught between situations.

Questions to Ask When Developing a ZESP:
Are there one or more springs, pins, linkage systems, chains, etc. serving the machine? Have all sources of potential energy been totally isolated, removed, or blocked?

Thermal Energy (TE)

Definition
Thermal energy is the motion of particles at the molecular or particulate level. It involves both hot and cold systems and the transfer of this energy through mediums.

Examples
Welding, torch work, chemical reactions, heat exchangers, environmental chambers, boilers, and cryogenic systems. Durham Tech has established 113°F and 39°F as action levels for employees. Temperatures above 113°F and below 39°F can cause serious and severe damage to human tissue.

Potential Hazards
Hazards associated with thermal energy are burns, heat stress, or frozen tissue.

Questions to Ask When Developing a ZESP:
Must the employee work in close proximity to the heat or cold?

Are means available to bring the temperatures above or below the action levels?

Is appropriate personal protective equipment (PPE) available for use?

Kinetic Energy (KE)

Definition
Kinetic energy is the energy of machinery or equipment due to its motion.

Examples
Rotating flywheels and spinning shafts create both a contact hazard and point of operation hazard (a spinning flywheel on a press could cause a press cycle when working on the clutch controls).

Potential Hazards
Hazards associated with forms of kinetic energy include caught in, caught on, and caught between situations for employees.

Questions to Ask When Developing a ZESP:
Has all energy of motion been stopped?

Are means available to block spinning or rotating machine or equipment parts to prevent them returning to motion?

Chemical Energy (CE)

Definition
Chemical energy is the energy associated with chemical reactions such as decomposition, synthesis, or replacement reactions.

Examples
Hazards associated with plating tanks and associated piping and chemical storage tanks.

Potential Hazards
Heat of reaction, uncontrolled reactions, fires, and explosions are the primary hazards with chemical energy.

Questions to Ask When Developing a ZESP:
Have pipes and tanks been blocked and/or bled?
Have system tanks and piping been purged or inerted?
Has the residual chemical been neutralized or inactivated?

Radiation (R)

Definition
Radiation is the emission and propagation of waves or particles.

Examples
Hazards associated with X-ray units and lasers.

Potential Hazards
Irradiation or exposure to alpha, beta, or gamma particles can cause radiation, burns, radiation sickness, and death.

Questions to Ask When Developing a ZESP:
Is there a radiation source associated with this machine or equipment?
What is the type of radiation?
Is PPE available for alpha or beta exposure?

Appendix G – Contractor Obligations for Lockout/Tagout

Any contractor who performs work on machinery or equipment at a Durham Tech worksite which has the potential of storing or containing hazardous energy, will be required to document that the contractor's employees have been trained in standard lockout/tagout procedures.

In addition, any contractor who performs work on machinery or equipment which has the potential of storing or containing hazardous energy, will be required to provide each of his/her (or their) employees with approved lockout/tagout devices.

Appendix H-1 – Lockout/Tagout Periodic Inspection Instructions

- Periodic inspections of the energy control system will be conducted at least annually to ensure compliance with Durham Tech's Hazardous Energy Control procedure and the requirements of 29 CFR 1910.147.
- The Facility Services director or his/her designee will conduct the inspections. The Maintenance department may also perform periodic inspections.
- A review will be held with a sufficient number of employees to assess the knowledge of the authorized employees of their responsibilities and procedures under the energy control procedure being inspected.
- The Facility Services director or his/her designee shall certify that the periodic inspections were completed. The Lockout/Tagout Periodic Inspection form in this appendix will be used to document that the periodic inspection has been completed.
- The Lockout/Tagout Periodic Inspection form and Certification will be filed in the Facility Services director's office along with comments regarding where problems may exist and/or additional training that may be required.

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APPENDIX H-2 – LOCKOUT/TAGOUT PERIODIC INSPECTION REPORT

Date: _____ Time: _____

Name of Inspector: _____

Machine or Equipment: _____

Location: _____

Maintenance/Services Conducted: _____

_____

_____

Authorized Employee(s): _____

Affected Employee(s): _____

INSPECTION PROCEDURE

1. General review of responsibilities and procedures were satisfactory?

(See LO/TO Procedure Card) _____ Yes _____ No

Comments: _____

2. Knowledge of machine/equipment energy types were satisfactory? _____ Yes _____ No

List Energy Types: _____

Comments: _____

3. Knowledge of machine/equipment control methods were satisfactory? _____ Yes _____ No

List Required Controls: _____

Comments: _____

4. Other Comments or Deficiencies Identified: _____

5. Recommend Refresher Training? _____ Yes _____ No

CERTIFICATION

I, hereby, certify that an inspection was performed on the Lockout/Tagout procedure utilized by the employee(s) indicated above on the aforementioned machine and/or equipment to ensure the procedure and requirements of OSHA 29 CFR 1910.147 (Control of Hazardous Energy Lockout/Tagout) are being satisfied. The findings of this inspection have been reviewed with the employee(s) performing the servicing and/or maintenance work being inspected.

Inspector: _____ Date: _____

Authorized Employee(s): _____ Date: _____

Appendix I – Departments and Programs Implementing Exposure Control Plan

The following deans, department heads, directors, and/or supervisors are responsible for implementing the Exposure Control Plan in their specific administrative, instructional, or support areas and ensuring compliance by their respective employees and/or students:

Dean and Department Head, Health Technologies Department

Director, Associate Degree Nursing

Director, Clinical Trials Research Associate

Director, Dental Laboratory Technology

Director, Occupational Therapy Assistant

Director, Opticianry

Director, Pharmacy Technology

Director, Practical Nursing

Director, Respiratory Therapy

Director, Surgical Technology

Chair, Science

Coordinator, Basic Law Enforcement Training

Director, Environment, Health, and Safety Technology

Director, Nurse Aide

Director, Emergency Medical Services (Public Safety Services)

Director, Fire Services (Public Safety Services)

Coordinator, Law Enforcement Extension (Public Safety Services)

Director, Facility Services

Housekeeping Supervisor

Chief of Campus Police, Campus Police and Public Safety (See Appendix O for Campus Police and Public Safety)

Appendix J – Exposure Classification/Exposure Control Plan

At the College, the following classifications are identified as having significant risk potential for occupational exposure during the performance of on-campus laboratory instruction, the performance of off-campus clinical instruction, and/or the provision of first aid/CPR in the event of on-campus emergencies:

Associate Degree Nursing instructors and students.

Cardiopulmonary Resuscitation instructors and students.

Emergency Medical Services instructors and students.

Nurse Aide instructors and students.

Occupational Therapy Assistant instructors and students.

Practical Nursing instructors and students.

Respiratory Therapy instructors and students.

Surgical Technology instructors and students.

Science laboratory technicians, and students.

Campus Police and Public Safety officers (See Appendix O for Campus Police and Public Safety)

In accordance with the approved affiliations agreements for the above listed instructional programs, the College's instructors will be subject to the standards and guidelines of the specific health care agency's exposure control plan while performing clinical instruction at the clinical facility.

At the College, the following classifications are identified as having low or insignificant risk potential for occupational exposure relative to the performance of on-campus laboratory instruction:

Dental Laboratory Technology instructors and students.

Housekeeping staff (as designated).

Opticianry instructors and students.

Pharmacy Technology instructors and students.

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Appendix K – Hepatitis B Vaccine Record Form

Hepatitis B: Special Precautions

I have read information about Hepatitis B and have had an opportunity to ask questions. I understand the benefits and risks of the Hepatitis B vaccine and voluntarily agree to be immunized. I understand that I must have three doses of the vaccine to confer immunity. As with all medical treatments, there is no guarantee that I will become immune. I am in generally good health. I am not immunosuppressed, on hemodialysis, pregnant, or breast-feeding.

Name: _____ Date of Birth: _____ Age: _____

Address: _____

City: _____ State: _____ Zip: _____ Home Phone: _____

Signature: _____ Date: _____ Department: _____

Date	Type	Manufacturing	Lot Number	Expiration Date	Given By
1.					
2.					
3.					

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Appendix L – Hepatitis B Vaccine Declination Form

(Complete Either Section 1 or 2)

Section 1

If you have never received the Hepatitis B vaccine:

I understand that, due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring a Hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with the Hepatitis B vaccine. However, I decline the Hepatitis B vaccination at this time. I understand that, by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis B vaccine, I can receive the vaccination at no charge to myself.

Employee Name: _____

Signature of Employee: _____

Date: _____

Section 2

If you have previously received the Hepatitis B vaccine through another organization or employer:

I have been given the opportunity to be vaccinated with the Hepatitis B vaccine at no charge to myself. I decline the Hepatitis B vaccination at this time due to the fact that I have previously received all three doses of the Hepatitis B vaccine through another organization, or I know that I already have immunity due to my Hepatitis B antibody count.

Employee Name: _____

Signature of Employee: _____

Year of Hepatitis B Vaccine: _____

Through what organization or employer did you receive the Hepatitis B vaccine?

_____

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Appendix M – Letter to Physician

Letter to Physician Evaluating Employee Injured from Possible Blood Exposure

Dear Dr. _____:

A person at Durham Tech encountered a blood exposure injury on _____. Please refer to the attached injury report (Exposure Incident Report form) for the route of entry and circumstances regarding this incident. This person has come to you for a medical evaluation, and you may treat the person as medically indicated. The College can provide you with a copy of the U.S. Public Health Service recommendations regarding these testing and treatment options.

The status of the source individual which may have infected the person is indicated below:

_____ The source individual cannot be determined.

_____ The source individual has given his/her consent for HBV/HIV antibody testing to be completed.

_____ The source individual is known to be HBV or HIV positive.

A brief description of the blood exposure injured person's duties as follow:

_____

_____

_____

A copy of the medical evaluation must be delivered to the person within 15 working days of the blood exposure injury. In your report, please limit your findings to indicate that the person has been informed of the results of the evaluation, of any medical condition possibly resulting from the exposure during the incident, and any further treatment which may be needed. The results of the investigation of this injury will be treated confidentially by all parties.

Thank you for your assistance.

Sincerely,

Durham Tech Representative's Name _____

Title _____ Contact Number _____

Attachment

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Appendix N – Exposure Incident Report Form

Name of Exposed: _____

Date of Incident: _____ Time of Incident: _____

Location: _____

Type of Exposure (puncture, splash, cut, etc.): _____

Type of Infectious Material (blood, body tissue, body fluid, vomit …) and Amount, if known: _____

Parts of Body Exposed: _____

Severity of Exposure (depth of puncture, etc.): _____

Circumstances (work being performed, etc.): _____

_____

_____

_____

1. How and Why the Exposure Incident Occurred: _____

2. The Action Being Performed at the Time: _____

3. Whether the Action Being Performed is a Routine Part of the Employee's Job or Student Activity:

_____

Methods of Control in Place: _____

Personal Protective Equipment Being Used: _____

If Personal Protective Equipment Was Not Being Used, Explain Why: _____

_____

Action Taken (decontamination, clean-up, reporting, etc.): _____

_____

Recommendations for Avoiding Future Incidents: _____

Appendix O – Campus Police and Public Safety Exposure Control Plan

Purpose

The purpose of this policy is to provide Durham Tech Police and Public Safety officers with guidelines for preventing the transmission of bloodborne pathogens such as HIV/AIDS virus, Hepatitis B, Hepatitis C, and from contact with blood or other potentially infectious body fluid. As delegated by the Department of Health and Human Services, (NIOSH) has created a list of potentially life-threatening infectious diseases. The list is subdivided into those routinely transmitted by: 1) contact or body fluid exposure, 2) aerosolized airborne means, 3) aerosolized droplet means, and 4) agents potentially used for bioterrorism or biological warfare.

Policy

It is the responsibility of the Durham Tech Police department to take all reasonable measures to allow its members to perform their duties in a safe and effective manner. The safe performance of daily operations is threatened by bloodborne pathogens that can be contracted through exposure to infected blood and body fluids. Therefore, it is the policy of this educational institution to continuously provide employees with information and education on prevention of these diseases, provide up-to-date safety equipment and procedures that will minimize their risks of exposure and to institute post-exposure reporting evaluation and treatment for all members exposed to these diseases. Appendix O recognizes the potential for Campus Police and Public Safety to have a higher potential to exposure outside the academic controlled environments. Appendix O is to be additional guidance to that information provided in the Durham Tech Health and Safety Manual (CHEMICAL HYGENE PLAN) and the Ryan White HIV/AIDS Treatment Extension Act of 2009. Flow charts are provided at the end of this appendix to assist officers and staff (Figure 1 and Figure 2). Once an exposure has occurred the safety compliance officer will work closely with medical professionals involved in the case. The safety compliance officer will also receive routine notifications from medical facilities if medical professionals determine a potential that any source person had a listed disease which may have been transmitted by airborne or aerosolized means. All documentation will be maintained pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and Peer Review material pursuant to N.C.G.S § 90-21.22A.

Definitions:

Bloodborne Pathogens: Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include but are not limited to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

Contaminated: The presence, or reasonably-anticipated presence, of blood or other potentially-infectious materials on an item or surface.

Contaminated Sharps: Any contaminated object(s) that can penetrate the skin.

Engineering Controls: Controls (e.g., sharps disposal containers) that isolate or remove the bloodborne pathogen hazard from the workplace.

Needleless Systems: Devices that do not use needles for the following:

- The collection of body fluids or withdrawal of body fluids after initial venous or arterial access is established.
- The administration of medication or fluids.
- Or, any other procedure involving the potential for occupational exposure to bloodborne pathogens due to subcutaneous injuries from contaminated sharps.

Occupational Exposure: Any 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.

Sharps with Engineered Sharps Injury Protections: Non-needle sharps or needle devices used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with built-in safety features or mechanisms that effectively reduce the risk of an exposure incident.

Other Potentially Infectious Materials: Include such materials as the following:

- Fluids such as semen, vaginal secretions, cerebrospinal fluid (CSF), synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, body fluids that are visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
- Unfixed organs or tissues (other than intact skin) from a human.
- Or, HIV-containing cells or tissue cultures, organ cultures, and HIV- or HIV-containing culture media or other solutions, blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Personal Protective Equipment (PPE): Specialized clothing or equipment worn by employees for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts, blouses) are not considered to be personal protective equipment.

Regulated Waste: 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.

Universal Precautions: Approaches to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, or other bloodborne pathogens.

Work Practice Controls: Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

Procedures:

1. General Disease Prevention Guidelines
    A. Durham Tech's Campus Police and Public Safety Infection Control policy, in conjunction with the College's infection control policies, shall provide the overall strategy for limiting exposure to bloodborne pathogens and responding to potential exposure incidents. The College's infection control policies are found in the Health and Safety Manual, pages 70-81.

    Durham Tech's Campus Police and Public Safety subscribes to the principles and practices for prevention of bloodborne pathogen exposure as detailed in the "standard precautions" prescribed by the federal regulations of the Occupational Safety and Health Administration (OSHA). Where, otherwise, not detailed in this policy or the College's Exposure Control Plan, officers shall be guided by these practices and procedures.

2. Workplace Controls and Personal Protective Equipment
    A. In order to minimize potential exposure, officers should assume that all blood and body fluid are potentially infectious for bloodborne pathogens.
    B. When appropriate protective equipment is available, no member shall refuse to arrest or otherwise physically handle any person who may be infected with a bloodborne pathogen.
    C. Members shall use protective gear under all appropriate circumstances unless the member can demonstrate that, in a specific instance, its use would have prevented the effective delivery of health care or public safety services or would have imposed an increased hazard to his safety or the safety of another coworker. All such instances shall be reported by the employee and shall be investigated and appropriately documented to determine if changes could be instituted to prevent similar occurrences in the future.
    D. Disposable gloves shall be worn when handling any person, clothing, or equipment contaminated with body fluids.
    E. Masks, in combination with eye protection devices, such as goggles or glasses with solid side shields or chin-length face shields, shall be worn whenever splashes, spray, spatter, or droplets of potentially infectious materials may be generated and mucous membrane (eye, nose, or mouth) contamination is anticipated.
    F. Gowns, aprons, lab coats, clinic jackets, or other outer garments shall be worn as determined by the degree of exposure anticipated.
    G. Plastic mouthpieces or other authorized barrier/resuscitation devices shall be used whenever an officer performs CPR or mouth-to-mouth resuscitation.
    H. All sharp instruments, such as knives, scalpels, and needles, shall be handled with extraordinary care and should be considered contaminated items.
        i. Leather gloves, or their protective equivalent, shall be worn when searching persons or places, or when working in environments, such as accident scenes, where sharp objects and body fluids may be encountered.
        ii. Searches of automobiles or other places should be conducted using a flashlight, mirror, or other devices where appropriate. Subsequent to a cautious frisk of outer garments, suspects should be required to empty their pockets or purses and to remove all sharp objects from their person.

iii. Needles shall not be recapped, bent, broken, removed from a disposable syringe, or otherwise manipulated by hand.
iv. Needles shall be placed in a puncture resistant, leak-proof container that are marked as biohazardous when being collected for evidence, disposal, or transportation purposes.

I. Officers shall not smoke, eat, drink, or apply makeup around body fluid spills.
J. Any evidence contaminated with body fluids shall be completely dried, double bagged, and marked to identify potential or known communicable disease contamination.

3. Custody and Transportation of Prisoners
   A. Officers shall not put their fingers in or near any person's mouth.
   B. Individuals with body fluids on their persons shall be transported in separate vehicles from other persons. The individual may be required to wear a suitable protective covering if he/she is emitting body fluids. Individuals who are bleeding shall be transported by EMS to the nearest hospital unless exigent circumstances exist (in the opinion of the supervisor) necessitating immediate transport in a department vehicle.
   C. Officers have an obligation to notify relevant support personnel during a transfer of custody when the suspect has body fluids present on his person or has stated that he/she has a communicable disease.
   D. Suspects taken into custody with body fluids on their persons shall be directly placed in a designated area for processing for the purpose of limiting contamination to police facilities and equipment.
   E. Officers shall document on the appropriate arrest or incident form when a suspect taken into custody has body fluids on his person or has stated that he/she has a communicable disease.
4. Housekeeping
   A. Supervisors and their officers are responsible for the maintenance of a clean and sanitary workplace and shall conduct periodic inspections to ensure that these conditions are maintained.
   B. All supervisory personnel shall determine the appropriate means of cleaning and decontamination based on the location within the facility or work environment, the type of surface or equipment to be cleaned, the amount of hazardous material/fluid, the type of soil present, and the tasks and procedures to be performed in the area. The chief of Campus Police and Public Safety shall determine what areas of the department, if any, will be subject to regular cleaning and decontamination. Dispatch will contact the Housekeeping supervisor when cleanup of large spill areas is more than can be handled with a spill kit. (See section 5, subsection B of this policy.).
   C. All equipment and work surfaces must be cleaned and disinfected with an EPA-approved disinfectant after contact with blood and other potentially infectious materials as provided in this policy.
   D. Any protective coverings used for covering surfaces or equipment in laboratory, evidence custody, or enforcement operations shall be removed or replaced as soon as possible following actual or possible contamination.
   E. Broken and potentially contaminated glassware, needles, or other sharp instruments shall not be retrieved by hand but by other mechanical means such as forceps or brush and dust pan and shall not be stored in a manner that requires manual retrieval.

F. Officers shall remove clothing that has been contaminated with body fluids as soon as practical and with as little handling as possible. Any contaminated skin area shall be cleansed in the prescribed fashion.
G. Contaminated laundry and personal protective equipment shall be bagged or placed in a leak-proof container, labeled as biohazard but shall not be sorted, rinsed, or cleaned at that location. Contaminated laundry, including uniforms, will be cleaned by a contract linen service.
H. All employees who handle contaminated laundry will utilize personal protective equipment to prevent contact with blood or other potentially infectious materials.
I. Bins, pails, and similar receptacles used to hold actual or potentially-contaminated items shall be labeled as biohazardous. These receptacles shall be decontaminated with an EPA-approved disinfectant as soon as feasible following contamination, and then inspected and decontaminated on a regularly-scheduled basis. Biohazardous storage containers shall not be placed in areas where food and drink are stored or consumed.

5. Disinfection
   A. Any unprotected skin surfaces that come into contact with body fluids shall be thoroughly washed as soon as possible with hot running water and soap for at least five minutes before rinsing and drying.
      i. Waterless hand cleaner or antiseptic towelettes may be used where soap and water is unavailable.
      ii. Hands should be washed after disposable gloves are removed.
      iii. All open cuts and abrasions shall be covered with waterproof bandages before reporting to duty.
      iv. Exposure of mucous membranes (eye, nose, or mouth) will be flushed with water for 15 minutes as soon as feasible following the exposure.
   B. Cleaning Spills of Blood and Other Potentially Infectious Material
      Always use protective gloves and other personal protective equipment (PPE) as appropriate for the task.
      i. To clean a very small spill or splatter (<5ml or about a teaspoon):
         a. Put on gloves.
         b. Wipe clean with disinfectant (Dispatch).
         c. Dispose in regular trash.
      ii. To clean larger spills that can still be absorbed by paper towels:
         a. Put on gloves.
         b. Carefully remove visible blood with paper towels or some other absorbent paper and dispose in biohazard waste container.
         c. Do not use your hands to pick up any contaminated sharps or broken glass bag.
      iii. To clean large amounts of blood (more than can be absorbed by paper towels):
         a. Secure the area to prevent other exposures.
         b. Report spill to supervisor. Call Housekeeping if mops and buckets are required.
         c. Utilize biohazard spill kit.
         d. Put on PPE (gloves, gown, mask and eye protection).
         e. Sprinkle absorbent powder on the spill.
         f. Remove solidified material using brush and dustpan, and place in biohazard bag.

g. Apply disinfectant to the spill area, keeping the area wet for 10 minutes.
h. Wipe clean or air dry.
i. Discard all cleaning equipment and PPE in biohazard waste bag.
j. Wash hands using soap and water.

C. Department Vehicles

Disinfection procedures shall be initiated whenever body fluids are spilled in a departmental vehicle or an individual with body fluids on his person is transported in a departmental vehicle.

i. A supervisor shall be notified and the vehicle taken to the designated service center as soon as possible.
ii. Affected vehicles shall be immediately designated with the posting of an "Infectious Disease Contamination" sign upon arrival at the service center and while awaiting disinfection.
iii. Service center personnel shall remove any excess body fluids from the vehicle with an absorbent cloth, paying special attention to any cracks, crevices, or seams that may be holding fluids.
iv. The affected areas should be thoroughly cleaned with hot water and detergent and disinfected with an EPA-approved disinfectant.

6. Supplies

A. Supervisors are responsible for continuously maintaining an adequate supply of disease control supplies in a convenient location for all affected personnel in their unit. This includes, but is not limited to, ensuring that:

i. Personal protective equipment in appropriate sizes, quantities, and locations are available.
ii. Hypoallergenic gloves and other materials are available for those who are allergic to materials normally provided, and cleaning, laundering and disposal, as well as repair or replacement of these and other items is provided.
iii. First aid supplies and disinfecting materials are readily available at all times.

B. The following infection control supplies shall be available to all sworn personnel at designated location(s) within the department. The chief of Campus Police and Public Safety will ensure supplies are continuously stocked with the same supplies:

i. A disinfectant such as "Dispatch."
ii. Gloves.
iii. Biohazard bags.
iv. "Biohazard" signs, tape, or other instruments used to label areas or vehicles as a biohazard.

C. Officers using supplies stored in their vehicles are responsible for ensuring that the supplies are replaced as soon as possible via notification to Dispatch that supplies were used.
D. Officers are required to keep disposable gloves in their possession while on either mobile or foot patrol.

7. Vaccination, Exposure, Evaluation, and Treatment

A. All members of this educational institution who have been determined to be at risk for occupational exposure to the Hepatitis B virus shall be provided with the opportunity to take the HBV vaccination series within 10 working days of assignment to an occupationally exposed duty. The vaccination shall be provided in conjunction with required departmental training, unless previously vaccinated or immune or contraindicated for medical reasons. Those who decline to receive the vaccine will complete a written OSHA declination form (provided by the Durham Tech

benefits coordinator) and a copy will be forwarded to the safety compliance officer. Any employee who initially declines to take the vaccine may later choose to be immunized.

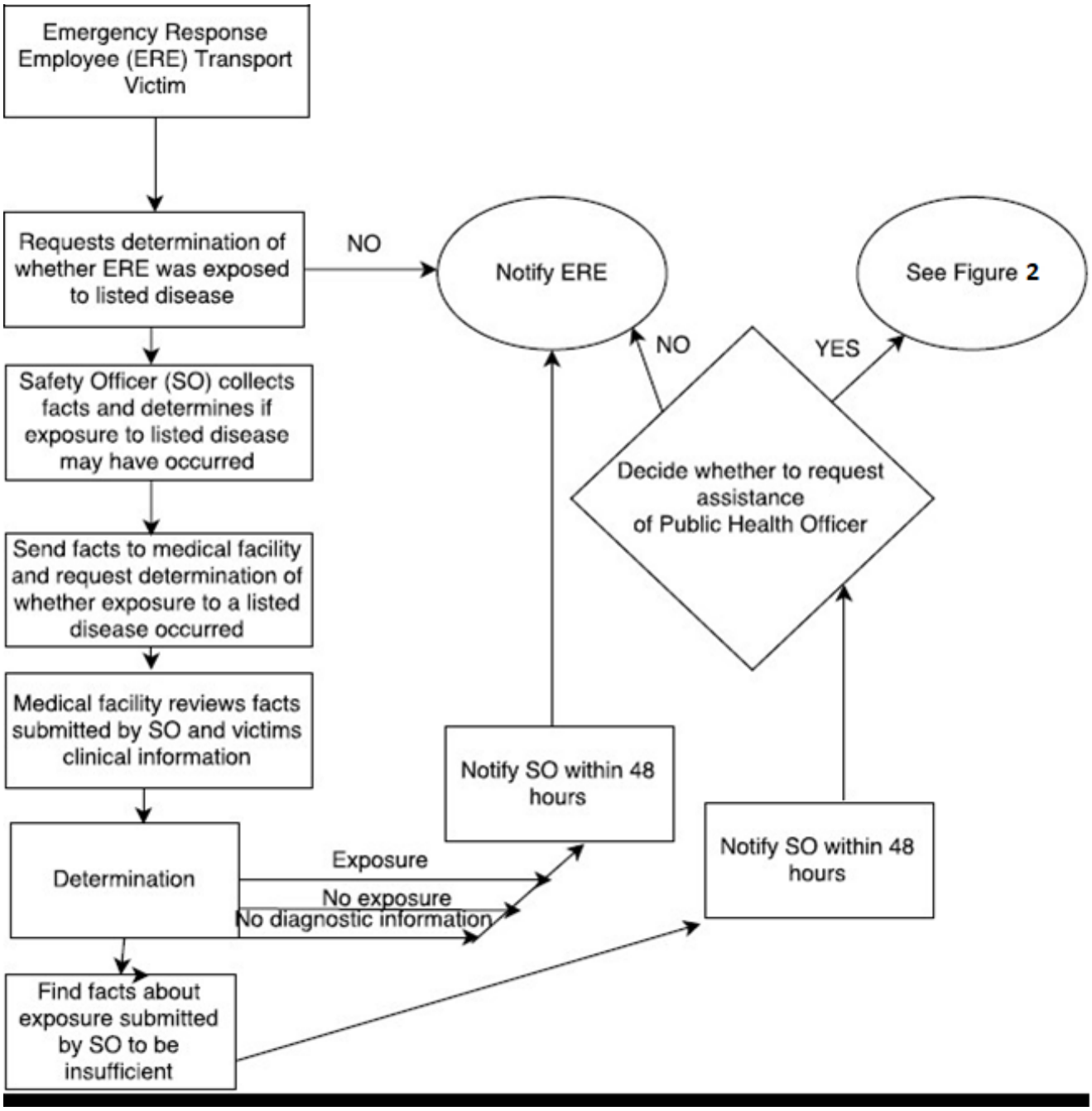
B. Any person who has unprotected physical contact with blood or other body fluids of another person while in the line of duty shall be considered to have been potentially exposed to bloodborne pathogens.
C. In case of exposure, a supervisor will be contacted who shall complete appropriate duty injury and medical forms and shall take appropriate steps to document the means and circumstances under which the exposure occurred.
D. Immediately after exposure, the officer shall proceed to the designated health care facility for tests of evidence of infection and treatment of any injuries. The officer shall report to the designated health care facility (Concentra Medical Center) for initial evaluation, with follow-up care at no cost to the employee. Exposure to known HIV is the only exposure which is an urgency as medication should start within 24-48 hours.
    i. This department shall ensure continued testing of the member for evidence of infection for up to six months and provide psychological counseling as determined necessary by the safety compliance officer and medical professionals.
    ii. The members shall receive a copy of the health care provider's written opinion within 15 days of the evaluation and information on any conditions resulting from the exposure that requires further evaluation or treatment.
    iii. Unless disclosure to an appropriate departmental official is authorized by the officer or by state law, the officer's medical evaluation, test results and any follow-up procedures shall remain confidential.
E. Testing of Source of Exposure
    i. OSHA Standards state that the source of exposure will be identified and reported to the employer; however, the employer can request that the source be tested for bloodborne infection, but the source must consent to be tested. Any person responsible for potentially exposing a member of this educational institution to a communicable disease shall be encouraged to undergo testing to determine if the person has a communicable disease.
    ii. In practice, Durham Tech employees will go to Concentra Medical Center for testing and follow-up care of the officer. The source should be taken to Concentra Medical Center for testing (if they consent) and the visit and lab charges will be charged to Durham Tech. If an officer is bitten and blood is drawn, the officer is then the source patient and would require labs to see if the person that bit the officer would have been exposed to anything.
    iii. The results of source testing will be provided to the employee. The employee shall be informed of applicable state and/or College laws and regulations concerning the disclosure of the identity and infectious status of the source individual.
    iv. Criminal charges may be sought against any person who intentionally exposes a member of this educational institution to a communicable disease.
F. Officers who test positive for HIV, HBV, or HCV may continue working as long as they maintain acceptable performance and do not pose a safety and health threat to themselves, the public or other members of the department.
    i. The department shall make all decisions concerning the employee's work status solely on the medical opinions and advice of Concentra Medical Center health care officials.

ii. Durham Tech's Campus Police and Public Safety may require an employee to be examined by Concentra Medical Center physicians to determine if he is able to perform his duties without hazard to himself or others.

G. All members of Durham Tech's Campus Police and Public Safety shall treat employees who have contracted communicable disease fairly, courteously, and with dignity.

8. Record Keeping
   A. All Durham Tech employee health records are maintained by the College for the duration of the member's employment plus 30 years and may not be disclosed or reported without the express written consent of the member. There shall be no protected health information provided to the department.
   B. The chief of Campus Police and Public Safety will supply a copy of training records to the safety compliance officer. Training Records are located in the offices of the chief of Campus Police and Public Safety, and the safety compliance officer.
   C. These personnel records shall be retained in a secured area with limited access. Secured access means behind a locked door and inside at minimum a lockable filing cabinet. All Personal Identifiable Information (PII) will be protected at all times.
9. Training
   A. The department training coordinator shall ensure that all members of the department with occupational exposure to blood or other potentially infectious materials are provided with a complete course of instruction on prevention of bloodborne diseases within 10 days of their initial assignment.
   B. All affected employees shall receive annual refresher training and additional training whenever job tasks or procedures are modified in a manner that may alter their risk of exposure.
   C. All trainees shall have access to applicable federal and state regulations pertaining to the regulation of bloodborne pathogens which are posted on the Durham Tech website.
   D. The training coordinator shall ensure that complete records are maintained on member training to include information on the dates and content of training sessions, names, and qualifications of persons conducting the training and the names and job titles of all persons attending the training sessions. These records shall be maintained for a period of three years from the date of training.

Figure 1: Emergency Response Employee Requests Assistance For Possible Exposure



1. In the event an emergency response employee (ERE) is transporting a victim and potentially exposed to health hazards, the employee may request information if they were exposed.
    A. The safety compliance officer will collect facts to determine if exposure occurred.
    B. If the potential for an exposure exists, the safety compliance officer will forward facts to medical facility and request a determination be made.
    C. Medical facility will review the facts and determine exposure.

D. The medical facility has 48 hours to notify the safety compliance officer.

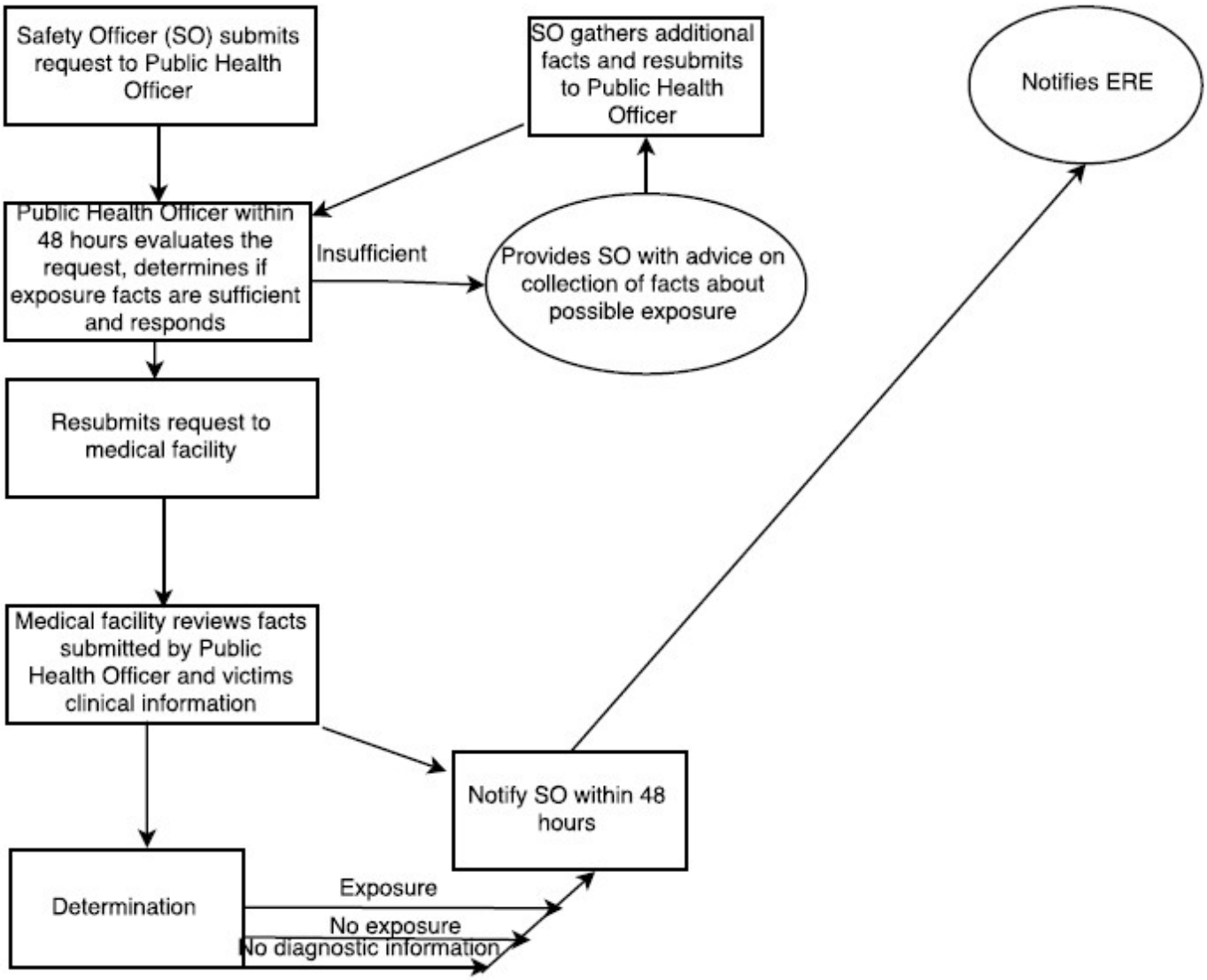
E. The safety compliance officer has 48 hours to than notify the emergency response employee.

F. The safety compliance officer will determine if public health officer assistance is required.

G. If public health officer assistance is required refer to Figure 2 (safety compliance officer requests assistance of public health officer)

2. If the safety compliance officer determines they were not exposed, the employee will be notified within 48 hours by the safety compliance officer.

Figure 2: Safety Compliance Officer Requests Assistance of Public Health Officer



1. The safety compliance officer (SCO) requests public health officer assistance.

    A. Public health officer has 48 hours to evaluate request and determine facts of potential exposure

        i. If facts are insufficient, the public health officer will advise safety compliance officer and request more data at which point the safety compliance officer will gather more evidence and resubmit.

    B. Public health officer will resubmit requests from Figure 1 to medical facilities.

    C. Medical facility will review the facts and determine exposure.

    D. The medical facility has 48 hours to notify the safety compliance officer.

    E. The safety compliance officer has 48 hours to than notify the emergency response employee.

DURHAM TECH

Appendix P – Health And Safety Master HAZLOG

Area Safety Inspection and Correction Summary

Inspection Date	Building/ Area	Hazard (unsafe work condition)	Risk - H/M/L	Individual for Follow-Up (Assigned to)	Corrective Action	Date (corrected/ closed)