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UNC CHARLOTTE

Environmental Health and Safety

FIRE SAFETY PROGRAM

UNC CHARLOTTE
9201 UNIVERSITY CITY BLVD., CHARLOTTE, NC 28223

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Acronyms

AED	Automated External Defibrillator
AHJ	Authority Having Jurisdiction
CFR	Code of Federal Regulations
EHS	Environmental Health & Safety
FM	Factory Mutual
GFCI	Ground Fault Circuit Interrupter
HEOA	Higher Education Opportunity Act
ICC	International Code Council
NFPA	National Fire Protection Association
NIMS/ICS	National Incident Management System / Incident Command System
HRL	Housing and Residential Life
OSHA	Occupational Safety and Health Administration
REC	Residence Education Coordinator
SDS	Safety Data Sheet
NCDOIOSFM	North Carolina Department of Insurance Office of State Fire Marshal
NCFC	North Carolina Fire Code
UL	Underwriters Laboratory

1.0 Introduction

UNC Charlotte is committed to providing a safe work environment. This *Fire Safety Program* is a collaborative effort between the Environmental Health and Safety Office (EHS), Facilities Management, and University Police. This program outlines the various responsibilities, activities, and procedures that the university observes to reduce the potential for fires and mitigate the damage should one occur on university property.

1.1 Purpose

The purpose of this document is to describe the procedures that UNC Charlotte uses to mitigate the risk of fire on university property and satisfy the requirements of the North Carolina Fire Code (NCFC) Section 404. This document establishes the necessary testing, inspection, and certification of fire alarm and suppression equipment maintained by the university.

1.2 Scope

This document is applicable to all campuses, sites, centers, and buildings that are owned by UNC Charlotte. Elements of this program may be applicable to leased spaces based on university activities and contract stipulations. University employees that are responsible for university space or conduct activities on University property are expected to be familiar with the contents of this program.

2.0 Roles and Responsibilities

The following departments, offices, shops, and individuals identified below are assigned specific roles and responsibilities to implement this *Fire Safety Program*.

2.1 Environmental Health and Safety Office

EHS collaborates with the university community to promote health, safety, environmental protection, emergency preparedness and compliance with applicable regulations, guidelines, and best practices in order to sustain a healthful and safe working and learning environment. This mission is accomplished by establishing policies and procedures, providing training and education, facilitating emergency management, implementing preventive actions, and ensuring continuous improvement of the health and safety programs for employees, students, and visitors.

EHS consists of several functional areas some of which have responsibilities related to fire safety. These responsibilities are outlined in the section below.

2.1.1 EHS-Fire Safety

EHS-Fire Safety is responsible for developing and maintaining this *Fire Safety Program*. EHS-Fire Safety works collaboratively with various departments and individuals to implement this *Fire Safety Program* and enforced as necessary. Specific responsibilities are to:

- Serves as UNC Charlotte's primary point of contact with local, state, and federal officials with regard to the *Fire Safety Program* and fire safety operations at UNC Charlotte.
- Provide specific information and guidance on fire prevention and safety to assist in the development of *Building Emergency Evacuation Plans*.
- Provide floor plans, maps, and information to facilitate safe building evacuations in the event of a fire as required by section 404 of the NCFC.
- Conduct routine fire drills in accordance with the NCFC and maintain associated records.
- Conduct routine *Fire Extinguisher Training*.
- Conduct routine building inspections to identify hazardous conditions that may contribute to, cause, or exacerbate the effects of a fire.
- Coordinate with fire departments upon request or as necessary to familiarize fire department personnel with the layout and features of university buildings and campuses.
- Participate or conduct fire investigations in conjunction with University Police or fire code official.
- Participate in annual DOL OSFM Fire and Life Safety Inspections to identify hazards that may contribute to, cause, or exacerbate the effects of a fire.
- Coordinate the purchase, installation, and maintenance of Knox Boxes.
- Participate in the review of construction/renovation design plans to ensure conformance with applicable fire safety standards and regulations.
- Participate in building inspections, acceptance testing, and systems testing coordinated by Facilities Management.

2.1.2 Emergency Management

Emergency Management is responsible for coordinating with local and regional emergency management on a routine basis to ensure that the university provides appropriate support and assistance during a fire response. Emergency Management is responsible for responding to fire incidents on campus, when notified by University Police, to ensure that the proper university notifications are made, and provide support to emergency responders as necessary. Emergency Management will integrate into response activities in accordance with the incident command system and at the direction of the Incident Commander.

2.1.3 EHS-Laboratory Safety

EHS-Laboratory Safety is responsible for the inspection and condition of all laboratory spaces at UNC Charlotte. Specific responsibilities of EHS-Laboratory Safety team in regards to this *Fire Safety Program* are:

- Conduct routine inspections of laboratories and recommend appropriate hazardous storage.
- Assist in addressing fire safety issues within laboratories.
- Provide *Hazard Communication Training* to educate employees on the proper handling and use of hazardous materials.

2.1.4 EHS-Health and Safety

EHS-Health and Safety assists the university in maintaining compliance with OSHA standards. Specific responsibilities of the EHS-Health and Safety team in regards to this *Fire Safety Program* include:

- Conduct routine inspections of maintenance and operations work areas for compliance with OSHA standards.
- Assist in addressing fire safety issues within maintenance and operations work areas.
- Provide training to educate employees on proper handling of combustible materials and electrical hazards.

2.2 University Police

University Police are responsible for monitoring all incoming fire alarms for all buildings that are owned by UNC Charlotte. The University Police Communications Center is responsible for dispatching University Police to all alarms and requesting local fire departments respond to incidents when a general building alarm is reported. Communications Officers are also required to notify the appropriate EHS personnel in the event that a fire incident has been reported on campus.

University Police are responsible for responding to all fire alarm calls reported to the University Police Communications Center. Specific responsibilities of University Police are:

- Respond to and investigate all fire alarms.
- Determine the cause of the alarm and:
 - Reset the fire alarm if appropriate; or
 - Notify University Police Communications that a fire department response is required.
- Establish Incident Command and observe Incident Command System (ICS) procedures throughout the response.

- Assist other emergency response personnel as necessary.
- Request assistance from EHS as necessary.
- Notify EHS of long-term unscheduled fire alarm outages.
- Publish the *Annual Security and Fire Safety Report* which contains fire safety statistics required by federal regulations.

2.3 Facilities Management

Facilities Management is responsible for conducting and/or managing repairs or modifications to fire and life safety systems to ensure that they function properly and meet applicable code requirements.

2.3.1 Facilities Management Fire Alarm Shop

The Fire Alarm Shop has ultimate responsibility for the condition and operation of fire detection and alarm systems. Specific responsibilities of the Fire Alarm Shop are:

- Conduct preventative maintenance of fire alarm systems in university owned buildings.
- Conduct or coordinate upon request, fire alarm system takedown procedures to facilitate hot work, systems repairs, or inspections.
- Serve as the impairment coordinator when fire protection systems are out of service.
- Participate in the take-down and activation of fire alarm systems as necessary to facilitate scheduled and unscheduled repairs, maintenance, or construction.
- Conduct repairs of fire alarm panels in accordance with (NCFC) and NFPA regulations.
- Maintain fire alarm systems.
- Notify EHS of long-term unscheduled fire alarm outages.
- Maintain contract with a licensed sprinkler company to make necessary repairs to the sprinkler systems.
- Coordinate or conduct inspections and testing of buildings, fire detection systems, and fire suppression systems.

2.4 North Carolina Department of Insurance (NCDI) Office of State Fire Marshal (OSFM)

- The DOI OSFM is the authority having jurisdiction (AHJ) for UNC Charlotte pertaining to fire safety and fire prevention. UNC Charlotte works closely with the NCDI OSFM to maintain compliance with all applicable fire codes and that faculty, staff and students conduct their business in such a way to mitigate property damage and injuries due to fire or other related hazards. Specific responsibilities of the NCDI OSFM are:
 - Inspect campus buildings at least annually.
 - Inspect, permit, and supervise the use of pyrotechnics.
 - Approve the use of open flames in performance spaces.

- Interpret and enforce the (NCFC).
- Serve as the AHJ for all university owned property.

2.5 Building Occupants

Building occupants are required to conduct themselves in a manner so as to not put any other person or property in any unnecessary jeopardy. Building occupants are subject to all university policies, and state or federal codes pertaining to fire safety, which includes but not limited to, statutes that prohibit the tampering with fire suppression equipment, and false summoning of emergency personnel. Specific responsibilities of building occupants:

- Maintain work spaces in accordance with (NCFC).
- Evacuate buildings when a fire alarm sounds.
- Keep clear all materials from fire lanes, egress and ingress walkways and corridors, and building exits.
- Observe university policies and procedures regarding fire safety.
- Participate in routine fire drills.
- If assigned responsibilities to shut down unique building or workspace equipment in the event of a fire, to understand response procedures and perform them accordingly.
- Notify EHS-Fire Safety of unsafe work conditions or fire hazards.

2.6 Supervisors

Supervisors of work areas and personnel are responsible for ensuring that work spaces and employees maintain conformance with applicable fire safety standards and regulations.

Supervisors are responsible for seeking information on or identifying the appropriate university policies and programs applicable to their work areas.

Supervisors are required to inform their employees of required environmental, health, and safety training commensurate with their duties.

Supervisors are responsible for notifying EHS of activities or events that may delay or obstruct emergency response personnel responding to an emergency to include but not limited to; construction/renovation projects, inoperable building systems, landscape features, and temporary structures.

2.7 Facilities Management Planning, Design and Construction-Project Managers

Project Managers are responsible for ensuring that any state employee or contractor who is working on UNC Charlotte property is provided a safe work environment and that the construction or renovation projects are completed in accordance with the (NCFC) and referenced codes and standards.

Project managers are responsible for ensuring that contractors and personnel under their supervision observe university policies and programs related to fire safety to include but not limited to; hot work, fire watch, university design standards, emergency response procedures, storage of hazardous materials, and permitting processes. Specific responsibilities of Project Managers are:

- Notify EHS of activities or events that may delay or obstruct emergency response personnel responding to an emergency to include but not limited to; construction/renovation projects, inoperable building systems, landscape features, and temporary structures.
- Coordinate fire alarm and suppression system acceptance tests of renovated or new buildings during which the fire alarm or suppression system was modified or installed with EHS-Fire Safety and Fire Alarm Shop to ensure the systems work correctly and the test is documented in accordance with the NCFC.

2.8 Student Residents

Student Residents are expected to follow guidelines in the *Residential Student Handbook* that is provided to all students from HRL. Student residents are required to maintain their residence, in accordance with the *Residential Student Handbook*. Residents are responsible for addressing violations noted by either the HRL, EHS, NCDOI OSFM. Student Residents are required to participate in routine fire drills.

3.0 Administrative Controls

Administrative controls are policies and programs intended to protect health, safety, and the environment through administrative processes when engineering controls are not appropriate and are intended to mitigate the potential for injury or failure to maintain university operations in a manner consistent with the NCFC. Administrative controls are implemented by the parties identified in this document as necessary to satisfy their roles and responsibilities.

3.1 Building Inspections

Building inspections are conducted routinely by an EHS-Fire Safety. Inspectors identify violations of the OSHA, NCFC and university policies, note any unsafe practices or conditions, and record observations in an inspection report. Inspection reports are shared with the appropriate faculty or staff who has responsibility for the work area in which violations are noted. Deficiencies that are unable to be addressed by the building occupant are submitted to the appropriate university department for correction.

The NCDOI OSFM is responsible for inspecting campus buildings and issuing notices of violations whenever violations of the NCFC are noted.

3.2 Fire Drills

Fire Drills are conducted on campus in accordance with Section 405 of the NCFC. The purpose of the fire drills is to evaluate the efficiency and effectiveness of faculty, staff, students, and visitors in carrying out emergency evacuation procedures. The frequency of fire drills depends on the use and primary occupancy classification of the building, which can be found on the building's Certificate of Occupancy (Table 1. *Fire Drill Frequency*). Fire drills must be documented according to the NCFC; EHS-Fire Safety maintains documentation of all routine fire drills.

I. Table 1: Fire Drill Frequency

Use Group	Frequency	Example of Building
Group A (Assembly Buildings)	Quarterly	Student Activity Center (SAC), Atkins Library
Group B (Educational/Business)	Annually	Barnard, McEniry
Group E (Adult / Child Care)	Monthly	None
Group R-2 (Residence Halls)	Four Annually	Witherspoon, Wallis

3.3 Building Emergency Evacuation Plan

A Building Emergency Evacuation Plan, which includes a Fire Prevention Plan is a customizable plan for each university building on campus that outlines unique hazards that may contribute to a fire and procedures that must be observed by the building occupants to mitigate the potential damages from fire based on the building's activities. The Building Emergency Evacuation Plan outlines building evacuation procedures to assist building occupants in identifying appropriate designated assembly areas, areas of assistance, procedures for accounting for occupants, and guidelines for people who have mobility impairments. Building Emergency Evacuation Plans are reviewed and updated routinely by EHS-Fire Safety. The Building Emergency Evacuation Plans are available on the EHS website (www.safety.uncc.edu).

3.4 Building Evacuation Floor Maps

Building Evacuation Floor Maps designate primary and alternate routes of evacuation and assembly areas. The Building Evacuation Floor Maps designate the location of fire extinguishers and fire alarm pull stations. The Building Evacuation Floor Maps are available on the EHS website (www.safety.uncc.edu).

3.5 Preplanning with Fire Departments

EHS collaborates with the Charlotte Fire Department (CFD) to allow access to campus for training, familiarization, and completion of fire department preplanning procedures. Through preplanning, fire departments make notes and observations of unique situations that require special consideration when responding to a fire on university campuses. Information that will be made available to local fire departments upon request include but are not limited to:

- Chemical inventories for areas that contain hazardous materials.
- Building floor plans.
- Schematics of unique building or fire suppression and detection systems.
- Information regarding the number of occupants and nature of work.
- The status or anticipated schedule of construction/renovation projects.
- Access to campus for preplanning activities.

3.6 Notification of Obstructed Roadways and Egress

EHS, FM, EM, and University Police work collaboratively to stay informed on activities or events that obstruct traffic, or otherwise hinder emergency response procedures. In the event that such a situation occurs, it is the responsibility of EHS, FM, EM, and University Police to ensure that external first responders are made aware of the situation and assist with the modification of plans or response procedures as necessary.

3.7 Fire Watch

A fire watch is defined as, “A temporary measure intended to ensure continuous and systematic surveillance of a building or portion thereof by one or more qualified individuals for the purposes of identifying and controlling fire hazards, detecting early signs of unwanted fire, raising and alarm of fire and notifying the fire department. the assignment of a qualified person or persons for the express purpose of notifying the fire department, the building occupants, or both of an emergency; preventing a fire from occurring; extinguishing small fires; or protecting the public from fire or life safety dangers”.

The NCFC 901.7 mandate that a building shall either be evacuated or an approved “fire watch” shall be provided for all building occupants left unprotected by the shutdown until the fire protection system has been returned to normal. Notification must be made to EHS when a fire suppression or fire alarm system is out of service, under repair, or otherwise inoperable to determine if a fire watch is warranted.

The fire watch shall:

- Have a fire extinguisher readily available and be trained in its use and limitations.
- Aware of inherent hazards of the work site and of any hot work taking place.
- Be provided with at least one means of communication to notify the campus police and

- notification device for building occupants (i.e. air horn, manual pull station if operable).
- Watch for fires in all exposed areas and try to extinguish them only when within the capacity of the equipment available.
 - Ensure that a tag has been placed to indicate that a system or portion has been removed from service.
 - Immediately notify Campus Police of any reports of smoke or flames.
 - Maintain a fire watch log.
 - A manual fire watch will be conducted until the fire protection system has been repaired, tested, and placed back into service.

3.8 Fire Investigations

Fires that occur on UNC Charlotte property will be investigated by the appropriate authority. EHS Fire Safety will assist with investigations and may be the primary investigator in coordination with the NCDOT OSFM. Fire investigations will be conducted in a manner that is consistent with the NCFC.

3.9 Fire Safety Communication

EHS will on a regular basis communicate fire safety information to the campus community about the fire safety resources that EHS provides. The communications will also encourage the campus community to continuously practice fire safety.

4.0 Engineering Controls

UNC Charlotte possesses a broad-spectrum of fire suppression and detection systems. EHS-Fire Safety is responsible for ensuring that tests and inspections are completed and documented appropriately. Facilities Management is directly responsible for the testing and inspections of most systems, however when appropriate, testing and inspections are coordinated with the NCDOT OSFM or Charlotte Fire Department. Table 2. Outlines the testing and inspection schedule for fire protection equipment.

**II. Table 2: Fire Suppression and Detection
Equipment Inspection/Testing**

Equipment	Inspection Frequency	Resp. Party	Testing Frequency	Resp. Party
Automatic Fire Doors/Curtains /Rollup Doors	Semi-Annually	Facilities Management	Annually	Facilities Management
Back Flow Preventers	Monthly	Facilities Management	Annually	Facilities Management
Commercial Cooking Hood Systems	As Necessary. Dependent on Use	Auxiliary Services	Semi-Annually	Auxiliary Services
Control Valves (sealed or unmonitored)	Weekly	Facilities Management	Quarterly	Facilities Management
Control Valves (locked or tampered)	Monthly	Facilities Management	Quarterly	Facilities Management
Dry / Pre-action systems	Monthly	Facilities Management	Annually	Facilities Management
Elevator Hoistways	N/A	N/A	Annually	Facilities Management
Emergency Exit Signs	N/A	N/A	Monthly	Facilities Management
Fire Department Connections	Quarterly	Facilities Management	5- Year	Facilities Management
Fire Alarm Systems	Weekly	Facilities Management	Annually	Facilities Management
Fire Extinguishers	Monthly	Facilities Management	Annually	Facilities Management
Fire Pumps	Weekly / Monthly	Facilities Management	Annually	Facilities Management
Internal Pipe Inspection	N/A	N/A	5-Year	Facilities Management
Pressure Gauges	Monthly	Facilities Management	5-Year	Facilities Management

Pressure Indicator Valves (include in control valve)	Monthly	Facilities Management	Quarterly	Facilities Management
Stand Pipes	Monthly	Facilities Management	5-Year	Facilities Management
Smoke Detectors (battery)	Weekly	Building Occupant	Annual	Facilities Management
Smoke Evacuation Systems (non-dedicated)	N/A	N/A	Annually	Facilities Management.
Smoke Evacuation Systems (dedicated)	N/A	N/A	Semi-Annually	Facilities Management
Sprinkler Systems	Annually	Facilities Management	Quarterly	Facilities Management

4.1 Fire Extinguishers

NFPA 10 defines fire extinguisher as: “a portable device, carried or on wheels and operated by hand, containing an extinguishing agent that can be expelled under pressure for the purpose of suppressing or extinguishing fire.” Fire extinguishers are found in every building that is occupied by UNC Charlotte. They can either be found hanging on the walls or in marked cabinets. The location of fire extinguishers is also identified on Building Evacuation Floor Maps. Fire extinguishers are maintained annually by Facilities Management. Employees are not encouraged to use fire extinguishers unless.

4.1.1 Replacement

Fire extinguishers are replaced according to NFPA 10, which requires all stored pressure fire extinguishers to be emptied and refilled or replaced every six years. EHS-Fire Safety coordinates with Facilities Management to ensure fire extinguishers are maintained.

4.1.2 Annual Certification

EHS – Fire Safety coordinates with Facilities Management to ensure all fire extinguishers are certified annually. The certification consists of the following:

- Confirm extinguisher is in proper location.
- Check for sufficient pressure.

- Inspect rubber hose for cracks and/or deficiencies.
- Invert the extinguisher.
- Inspect the extinguisher for and damage or deficiencies.
- Confirm pin is in place with tamper tag attached.
- Inspect bracket or cabinet for any damage.

4.1.3 Monthly Inspection

Fire extinguishers are required to be visually inspected monthly. Monthly inspections are the responsibility of Facilities Management. Inspections must be noted on the fire extinguisher inspection tag. All defective or damaged fire extinguishers must be reported to Facilities Management for replacement or repair. Monthly visual inspections consist of the following:

- Confirm extinguisher is in proper location and unobstructed.
- Check for sufficient pressure by checking the pressure gauge.
- Inspect the extinguisher for legible tags, damage, clogged nozzle or deficiencies.
- Confirm pin is in place with tamper tag attached.
- Inspect bracket or cabinet for any damage.
- Initial and date the tag with month/year.

4.2 Commercial Cooking Hood Systems

NFPA 45 defines a hood system as: “a suspended ventilating device used only to exhaust heat, water vapor, odors, and/or other nonhazardous materials.” Hoods must be located over commercial cooking appliances. Hood systems are required to be clean, maintained, and inspected in accordance with manufactures specifications and usage.

4.2.1 Inspections

All commercial cooking hood systems are required to be inspected at least twice annually to ensure that hoods are properly integrated into the building fire alarm and suppression systems. EHS – Fire Safety coordinates with Auxiliary Services to ensure a certified inspector completes the inspection.

4.2.2 Cleaning

Commercial cooking hood systems must be cleaned on a routine basis to prevent the accumulation of cooking grease that can cause fires if ignited by a cooking appliance. The frequency of hood cleanings is dependent upon usage; hoods that are used routinely require more frequently cleaning than hoods that are used periodically. All hoods must be cleaned at least twice annually. Hoods that are used heavily will require more frequent cleanings. EHS – Fire Safety coordinates with Auxiliary Services to ensure all hoods are cleaned appropriately.

4.3 Certifications for Inspectors

UNC Charlotte utilizes in-house inspectors and contractors to inspect fire safety equipment. NFPA requires that systems be inspected, tested, and maintained by personnel who have developed competence through training and experience.

5.0 Fire Protection System and Equipment Repairs

Fire suppression or alarm system equipment that is found to be damaged, destroyed, missing, malfunctioning, or expired must be repaired or replaced as soon as possible.

5.1 System Impairments

Whenever scheduled repairs demand that a fire suppression or fire alarm system be taken out of service, notification must be made to University Police (704) 687-2200 and EHS (704) 687- 1111. University Police maintain a list of university employees who are authorized to impair fire alarm and suppression systems; only certain Facilities Management and EHS-Fire Safety employees may initiate a system impairment.

Additionally, when it is discovered that a fire suppression or fire alarm system is inoperable due to damage, utility failure, or operates improperly, EHS and the Office of Risk Management must be notified. When reporting such an outage, include the following information:

1. Location of the system
2. System(s) impacted and corresponding areas of coverage;
3. Anticipated duration of the outage;
4. Suspected reason for the outage if known; and
5. Name and contact information.

The Facilities Management Impairment Coordinator will manage the following levels of impairments:

- **Level 1:** A single component (i.e. smoke detector or heat detector) is found to be defective and requires replacement or is covered during a hot work task or system shut down of an unoccupied facility. **Notification:** Not required.
- **Level 2:** A shutdown of a system or portion thereof for maintenance (i.e. replacement or rerouting of the electrical or mechanical system) of an occupied facility. **Fire watch:** Required. **Notifications:** Environmental Health and Safety Office, Building Manager/Liaisons, Campus Police, Fire department. Notifications should only be sent to Risk Management if the impairment will extend overnight.

- **Level 3: SPRINKLERS AND FIRE ALARMS ONLY** This level is for the entire or major portions of the water supply to the sprinkler and fire alarm system for a building which is taking out of service, or the communication between the system and dispatch is not available. **Fire watch** is mandatory during the entire duration of the impairment. **Notifications:** Environmental Health and Safety office, Risk Management, Campus Police, and Building Managers/Liaisons. Impairment tag (s) shall be posted at each fire department connection, system control valve, fire alarm control, fire alarm annunciator and fire command center, indicating which system, or part thereof, has been removed from service.

The Facilities Management Impairment Coordinator will manage the following for restoring the system:

- The impairment coordinator shall conduct the necessary inspections and tests to verify that affected systems are operational.
- Notify Campus Police, Environmental Health and Safety, and Building Managers/Liaisons that the system has been returned to full service.
- The impairment tags have been removed.

5.1.1 Fire Alarm Systems

The Fire Alarm Shop will have primary responsibility for taking fire alarm systems out of service for repair or construction in university buildings. EHS-Fire Safety is responsible for taking fire alarm systems out of service during testing, emergency situation, and when requested to do so by the Fire Alarm Shop.

5.1.2 Fire Suppression Systems

When renovations to a building require the suppression system to be taken out of service, the persons doing the renovations should contact the Facilities Management Fire Alarm Shop so they can isolate the affected area and take it out of service.

5.2 Acceptance Testing

Following renovation or construction of a building, the fire alarm and/or fire suppression system must be tested prior to occupancy or re-occupancy to ensure that all systems are functioning as designed. An acceptance test must include all devices or equipment associated with the system that was impacted by the renovation or construct, the test must be observed by EHS-Fire Safety or other competent university official and be documented in accordance with NCFC.

6.0 Fire Prevention

Fire prevention is accomplished through training and inspections. EHS-Fire Safety utilizes in-person and online training courses to educate the campus community on fire safety. Additionally, building inspections serve to educate the campus community of various fire hazards that they are exposed to while at UNC Charlotte and how to mitigate those hazards. The following are the most common types of fire hazards that employees and students are exposed to at UNC Charlotte.

6.1 Common Fire Hazards

UNC Charlotte is exposed to many fire hazards due to the nature of the campus, and the occupancy types of the buildings. Faculty, staff, students, and visitors are required to adhere to all campus policies regarding the safe usage of appliances and fire safety.

6.1.1 Smoking

UNC Charlotte Policy 707 regulates smoking on university property. Smoking may not occur in or within 25 feet of any university building or within any structure to include; tents, parking garages, temporary structures, or trailers. Smoking policies also include the use of electronic cigarettes (e-cigs).

Employees, students, and visitors must properly dispose of their smoking materials in such a way that a fire cannot be ignited. The university provides ashtrays in designated smoking areas around campus that allow for the proper disposal of smoking devices. Individuals who do not use the proper receptacles for disposing their smoking devices can be held liable for any damage or financial loss that is substantially caused by their actions.

6.1.2 Indoor Decorations

Interior decorations are a common factor in the spread of fire. Decorations are considered any flammable wall hanging, artificial vegetation, or other decorative material that is not permanently attached to the building. Decorations used during the holiday seasons are a large concern. The NCFR section 807 requires that all decorations used are fire resistant in accordance with NFPA 701. Decorations, even if in compliance with NFPA 701, cannot cover more than 10 percent of the wall or ceiling that it is attached to. Any decoration, whether purchased from a store, dealer, catalog or other business or if handmade, will require proof acceptable to EHS-Fire Safety and/or the NCDOT OSFM that the materials used meet the fire safety standards of fire resistance. Proof can be in the form of a manufacturer's tag stating that the decoration conforms to NFPA 701 standards, or the label off of the container of fire retardant used to treat the decoration.

6.1.3 Open Flames

Candles, incense, and other decorative flame devices are not permitted in residence halls, offices, or public assembly areas. Open flames are permissible in lab settings, during performances, and to complete maintenance as long as the proper safety precautions are taken. Open flames, in every setting can pose a fire hazard and all precautions should be taken when using a device that has an open flame.

Open burning outdoors such as bonfires and recreational fires require a permit. The EHS-Fire Safety should be consulted prior to any open burning on campus.

6.2 Appliances

UNC Charlotte allows for certain appliances to be used on campus in work areas and residence halls. It is imperative that appliances be utilized solely for their intended purposes, and be maintained accordance with the manufacture's specifications. Additionally, all appliances must be Underwriters' Laboratory (UL) or Factory Mutual (FM) approved.

6.2.1 Cooking

Cooking appliances should be used for the sole purpose of food preparation. While using this type of appliance the user should take all care and caution in order to mitigate the hazard of fire. The user should be familiar with the operation of the appliance and how to respond to any potential fire. Appliances that utilize a hot plate, other than coffee makers, or an open flame should only be used in a commercial kitchen setting. The following guidelines should be followed when cooking:

- Stay in the kitchen while you are cooking on the stove. If you leave turn the stove off.
- When using an oven, set a timer as a reminder that food is cooking.
- Keep anything that could burn away from stoves, including oven mitts, kitchen towels, food packing, paper plates, etc.
- Keep a lid nearby when you're cooking to smother small grease fires. Smother the fire by sliding the lid over the pan and turn off the stove top.

6.2.2 Laundry Facilities

Laundry facilities should remain clean and free of any debris that could ignite or fuel a fire. Driers in a laundry facility have an increased potential for fires, especially if they are not installed or maintained properly. All washers, dryers or other appliances in laundry facilities on UNC Charlotte are to be installed and maintained in accordance with the manufacturer's specifications, and industry best practices. Lint traps and duct hose must be cleaned periodically or more frequently depending upon usage, and in accordance with the manufacture's specifications. All duct work must be installed according to the driers

manufacturer's specifications.

6.2.3 Space Heaters

Space heaters are permitted in university work areas however they must be used in accordance with the directives below.

- Contact EHS-Fire Safety for evaluation.
- Space heater must be UL or FM listed.
- Space heaters must have tip over automatic safety cut-offs and wiring that is in good condition.
- All combustible materials must be removed at least three feet from the space heater.
- Space heaters must be plugged directly into the wall, without the use of an extension cord or power strip.
- Space heater may never be used in areas where hazardous materials (i.e., flammable materials) are used or stored.
- Space heaters must be turned off when they are left unattended.
- Heaters must have a ceramic element. Coil elements are not permitted.
- The user must follow all manufacturers' operating instructions.

6.2.4 Sky Lanterns Devices

The use of sky lanterns is prohibited on campus.

6.3 Electrical

Extension cords should be utilized in a manner that is consistent with the NFPA, NFPA, and OSHA standards. The following are basic guidelines in using extension cords at UNC Charlotte.

- Do not fasten flexible cords with staples or hang in a way that can damage the outer jacket or insulation.
- Flexible power cords may not be routed through walls, windows, ceilings, floors, doorways, or similar openings; attached to building surfaces; or concealed behind building walls, ceilings, or floors, unless temporary (i.e., eight hours or less).
- If temporary wiring is required longer than eight hours, it must be disconnected before leaving the work area at the end of the work day.
- Flexible cords and cables must be protected from accidental damage. Sharp corners and projections must be avoided. Where temporarily passing through doorways or other pinchpoints, flexible cords and cables must be protected to avoid any possible damage.
- Do not use extension cords on equipment with a 10-ampere rating or greater such as refrigerators, appliances and industrial equipment.
- Do not perform housekeeping duties or use electrically conductive cleaning materials near energized parts where there is a possibility of contact, unless adequate

safeguards(such as insulating equipment or barriers) are provided.

- Do not enter spaces containing exposed energized parts. Do not reach blindly into areas which may contain energized parts.
- Remove cords from receptacles by pulling on the plug, not the cord.
- Do not plug and unplug extension cords and other portable electric equipment with wet hands.
- Do not modify, cut, splice, or repair flexible power cords, to include the plugs and prongs.
- Do not alter, defeat, or remove plugs or prongs from electrical cords. Electrical devices that have been altered are forbidden to be used at UNC Charlotte.
- Extension cords that are frayed, defective, damaged, or have exposed wires must not be used under any condition and should be replaced.
- Do not attempt to connect, disconnect, or use electrical equipment when the equipment or plug is wet.
- Do not use electrical equipment when electrical equipment or user is located in standing water.
- Equipment that is used in an environment prone to moisture or potential liquids (i.e., pools, laboratories, outdoors, or dining facilities) electrical outlets must be equipped with ground fault circuit interrupter (GFCI) plugs or circuits.
- Do not plug a power strip, multi-plug, or extension cord into another power strip, multi-plug, or extension cord; this may start a fire. Power strips, multi-plugs, and extension cords must be plugged directly into an outlet.
- Do not place extension cords or cords to power strips and electrical devices where they present a tripping hazard.

Electrical panels shall not be tampered with by any personnel. Only UNC Charlotte authorized and qualified electricians will be allowed to access electrical panel live exposed parts. The following are basic safety guidelines for electrical panels:

- Be accessible and be unobstructed thirty-six (36) inches in front of and in all directions around the panel.
- Have the panel cover and panel door securely in place and closed.
- Ensure breakers and blanks are installed.
- Be identifiable as an electrical panel. Do not cover or paint panels.
- Have a legible and accurate electrical circuit directory.

Electrical outlets/switches shall not be tampered with by any personnel. The following are basic safety guidelines for electrical outlets/switches:

- Cover plates must be securely fastened to the outlet box.
- Be protected by a Ground Fault Circuit Interrupter (GFCI) when located within six feet of water.

All electrical devices used at UNC Charlotte must be UL or FM tested and approved by a recognized testing laboratory such as Underwriters' Laboratory (UL) or Factory Mutual (FM). The device must bear the appropriate label, sticker or tag supplied by the manufacturer. Trained electricians must address electrical hazards that result from faulty equipment or wiring. Any electrical hazards that are found on campus should be reported to Facilities Management.

6.4 Outdoor Grills

Outdoor grills have the potential to be dangerous if not maintained or used properly. The following guidelines shall be followed for any outdoor grilling that at UNC Charlotte:

- Propane gas and charcoal are approved fuel sources to be used in outdoor grills.
- Grills must be at least 15 feet from any building and should not be near the air intake vents on a building. Grills are not allowed inside parking decks.
- A minimum of one (1) five-pound ABC fire extinguisher must be within 10 feet of each grill.
- Grills must never be left unattended when hot.
- Grills must be maintained as per the manufacturer's specifications.
- Gas grills may not exceed a propane tank of 20 pounds.
- Tank valves must be shut off prior to disconnecting propane cylinders from grills. Propane cylinders must be removed from all grills prior to storage.
- Fires in charcoal grills must be thoroughly extinguished with water before leaving the grill unattended. To properly extinguish charcoals, pour water on the coals until they are no longer hot.
- Ashes must be completely cooled before being disposed.
- Ashes must be disposed of in a metal trash can or container. Ashes may not be placed cool or hot in any plastic container, or trash receptacle, including dumpsters.

6.5 Deep Fryers

Deep fryers (electric or propane fueled) are only allowed during tailgating events or other special events by students, faculty, and staff. Only contracted or university food/dining service employees are permitted to use deep fryers for routine food preparation on campus. The use of all cooking equipment must be in accordance with this *Fire Safety Program* and the NCFC.

6.6 Hazardous Materials

Hazardous materials should be stored and used in such a way that they do not needlessly create or increase the hazard or potential of a fire. Employees that work with hazardous materials must receive Hazard Communication Training. Information on the fire hazard of a material can be found on the safety data sheet (SDS). Any time there is a potential for an exposure to hazardous materials, the proper personal protection equipment should be utilized.

6.7 Building Construction and Renovations

Building plans for new and renovated campus construction projects are reviewed by EHS-Fire Safety for compliance with life safety codes and applicable fire safety standards. Buildings should be constructed or renovated to be in compliance with the NCFC. Whenever possible during a building renovation, fire suppression and detection systems should be updated in accordance with university construction standards and the NCFC.

Contractors and university personnel should conduct themselves in such a way that mitigates firehazards on university construction sites. Accepted safety protocol shall be adhered to when performing all hot work, or using an open flame. Installation of electrical equipment, appliances and any other powered equipment shall be done to the manufacturer's specifications. The proper permits must be kept on the premise in accordance the relevant NCFC sections.

6.8 Accumulation and Storage of Combustible and Flammable Materials

Employees and students are required to control the accumulation of flammable or combustible materials so that they do not contribute to fire hazards. Occupants of university buildings should follow storage requirements of the relevant sections of the NCFC.

- The NCFC requires a clearance of 24 inches between the ceiling and any materials in the room to allow proper operation of the fire suppression system.
- All university employees are required to maintain their work spaces in a manner that prevents the unnecessary accumulation of combustible materials in work areas.
- No combustible materials may be stored in egress pathways, stairwells, corridors, electrical, or mechanical rooms.
- Combustible materials must be stored away from ignition and heat sources.
- Items that are combustible that no longer serve a purpose should be discarded instead of stored.
- In any location where there is more than a total of ten (10) gallons of flammables, these materials are required to be stored away from combustibles and stored in an approved flammable storage cabinet.
- Oily or grease-laden materials must be kept in metal self-closing containers.
- Flammable liquids must be stored in an approved container.

7.0 Building Egress and Access Requirements

Egress requirements for all buildings on campus are clearly specified in the NCFC. Upon receiving a building Certificate of Occupancy, the building has been certified that it was constructed in a manner consistent with egress requirements of the NCFC. The occupants of the building are responsible for ensuring that egress routes are not blocked or impeded.

7.1 Minimum Egress Requirements

Means of egress refers to a continuous and unobstructed route of travel from any point in a building to an exterior exit. The route of travel consists of three parts; access to an exit, the exit itself, and the area into which the exit discharges. In order to safely exit a building, these three parts of the route of travel must be kept clear. It is responsibility of every build occupant to ensure that all means of egress be kept clear. In order to maintain egress widths:

- Do not prop open or block fire doors.
- Report damaged doors, walking surfaces, or exterior objects that may obstruct a path of egress to Facilities Management.
- Do not block fire extinguishers, electrical panels, pull stations, or other equipment with furniture or storage.
- Do not store materials in hallways, aisle ways, or near exits in a manner that could impede access to an emergency exit or from a building.
- Do not obstruct any doorway (interior or exterior) under any condition unless appropriate signage has been posted and it has been approved by EHS-Fire Safety.

Table 3 provides the maximum occupancy in rooms that have limited exits.

III. Table 3: Rooms with Limited Means of Egress

Occupancy	Maximum Occupancy Load for One Exit	Maximum Occupancy Load for Two Exits	Maximum Occupancy Load for Three Exits
Group A (Assembly Buildings)	49	500	1,000
Group B (Educational / Business)	49	500	
Group E (Adult / Child Care)	49		
Group R-2 (Residence Halls)	10		

7.2 Occupancy

All spaces that are designated as "A use group" (i.e., having a capacity of 50 persons or more) must have a posted occupancy limit stating the maximum number of persons allowed in the space at one time. Occupancy limits must be posted near each entrance and may not be blocked or removed under any condition. Depending on the configuration of furniture, temporary structures, and equipment used in the room, the posted occupancy limit may be reduced. In any case, the posted number shall never be exceeded without the express permission of the NCDOT OSFM.

7.3 Crowd Manager

For events that are held on campus with 1,000 or more persons congregated for the purpose of the event, crowd managers are required. There must be one crowd manager for every 250 people when a crowd exceeds 1,000.

7.4 Fire Lanes

Fire Apparatus Access Roads, also known as fire lanes are designated areas on campus that restrict parking and placement of temporary structures. These areas have been deemed by EHS, Facilities Management, and the Charlotte Fire Department as areas that need to be clear of obstructions to allow fire apparatus access to the buildings. Fire lanes are designated by a yellow painted curb and/or a "Fire Lane" sign. Fire lanes are always designated around fire hydrants to ensure that the fire department has unobstructed access to the hydrant. Fire lanes are enforced by UNC Charlotte, and vehicles that are found parked in them are subject to being towed or ticketed.

8.0 Emergency Access

UNC Charlotte is responsible for providing access to university buildings to first responders during emergencies. The following equipment is maintained by UNC Charlotte to facilitate access by first responders to buildings and mechanical spaces.

8.1 Knox Box

Knox boxes are mounted on the exterior of many university buildings that contain the keys or swipe cards for access to that particular building. Knox boxes are tamper proof and secured to a building. Fire departments maintain keys to access Knox boxes in an emergency. EHS is responsible for the installation and management of Knox boxes and their contents. EHS coordinates with the various departments to obtain keys and/or swipe cards as necessary.

8.2 Systems Key Boxes

Facilities Management has mounted and maintains systems key boxes in each building in a secure location. Systems key boxes contain key building systems keys that are required to inspect/test such equipment as elevators, fire alarm systems, and pull stations. Facilities Management inspects systems key box contents on a routine basis.

9.0 Permits

UNC Charlotte requires employees, students, and anyone else who is on university property to complete and gain approval for any activity that increases the potential of a fire on university property or has the potential to obstruct egress or access to a building by the fire department. This is done through a permit process. Permit applications can be found on EHS's website under resources. All permits need to be completed and approved by EHS-Fire Safety and/or Facilities Management before any activity commences. Permits are required for the following activities and structures:

- Hot work (welding, cutting, or brazing)
- Temporary structures
 - Tents
 - Amusement devices
 - Stages
 - The erection of temporary structures designed to support or shelter people
- Pyrotechnics

9.1 Hot Work

Hot Work Permits are required for operations involving open flames or producing heat and/ or sparks. This includes, but is not limited to: brazing, cutting, grinding, soldering, and thawing pipe, torch-applied roofing, and cad welding. All UNC Charlotte personnel and contractors who perform hot work are required to get prior approval.

9.2 Tent and Membrane Structures

All temporary structures, including tents, stages, inflatable devices, and any other amusement devices that are erected on campus must be approved by EHS-Fire Safety. A *Tent and Membrane Structure Permit* must be completed for each device that is being utilized. The EHS – Fire Safety will submit the tent and membrane structure permit to the Office of State Construction for review and approval.

All temporary structures shall be positioned in such a way as to not block egress routes from any building, fire lanes, or any equipment that aids in the suppression of a fire (e.g., fire hydrants, fire department connections, or post indicator valves). No open flames or non-electrical cooking

appliances allowed under tents. EHS-Fire Safety reserve the right to revoke any permit at any time due to unsafe conditions or if any regulations are found to be violated.

9.3 Pyrotechnics

Any pyrotechnic display on campus must be coordinated with the EHS-Fire Safety by submitting a safety service request. The EHS- Fire Safety will provide consultation assistance to obtain approval from the NCDOT OSFM. The event coordinator should consider the following:

- Submitting the safety service request at least 30 days prior to the event date.
- Obtaining quotes from qualified pyrotechnic companies approved by NCDOT OSFM.
- The campus location for pyrotechnics.
- Designating personnel to assist with event coordination and support.
- The event coordinator approved by the NCDOT OSFM and EHS-Fire Safety.

10.0 Training

Education and training are an important tool in fire safety. EHS provides in-person and online training to employees and students. A list of fire safety training courses is available on the EHS website.

10.1 Fire Extinguisher Training

Fire Extinguisher Training is offered by EHS to all employees. The intent of the training is to educate university personnel on the basic use of fire extinguishers. The course does not require personnel to use a fire extinguisher for a fire on campus.

11.0 Fire and Fire Alarm Response Procedures

The following procedures should be followed when a building must be evacuated:

1. If you become aware of a dangerous situation that warrants an evacuation, activate the fire alarm by using a manual pull station. If you are unable to activate the fire alarm, notify the building occupants of the dangerous situation and contact the university police immediately.
 - o If you are unaware of a dangerous situation but hear a fire alarm, you must evacuate the building as quickly as possible.
2. Notify University Police by dialing 911 from a university phone or (704) 687-2200 from a cell phone and report the situation and associated details if known.
3. Do not use elevators during a fire or evacuation.
4. Assist individuals with special needs and those unfamiliar with evacuation procedures.
5. Exit the building by way of the nearest exit.
6. Assemble at the designated assembly area and await further instruction from emergency response personnel.
7. Report missing persons to emergency response personnel.

8. Do not re-enter the building until authorized to do so by University Police, EHS, Safety Monitor or emergency response personnel.

Information identifying the location of designated assembly areas for each building is provided on building emergency evacuation plan for each university buildings. The building emergency evacuation plans are located on the EHS website.

11.1 Designated Assembly Areas

Designated assembly areas have been identified for all university buildings. Designated assembly areas are to be utilized when a building has been evacuated. These designated areas are a safe distance from the building, and keep building occupants safe while allow emergency response personnel to access the building. In the event that a designated assembly area is inaccessible or inappropriate for the current situation, the following guide lines should be taken into consideration when choosing a more appropriate place:

- At least 50 feet away from the building.
- Upwind from the building to avoid any possible smoke/fume inhalation.
- Sheltered, if possible, to protect against the elements.
- Away from fire lanes or other areas that must remain unobstructed to allow emergency response personnel and vehicles access to the building.

11.2 Individuals with a Disability

Persons with a disability may have difficulty evacuating a building without assistance. Individuals who have a mobility challenge and are unable to exit the building should proceed to an Area of Assistance/Refuge to await aid from emergency response personnel. Persons with a disability should attempt to coordinate with an evacuation assistant receive the proper assistance necessary to remain safe. If they don't have an evacuation assistant with them, they should attempt to make contact with emergency response personnel and relay to them what their location is any other pertinent information.

11.2.1 Areas of Assistance/Refuge

An Area of Assistance/Refuge is a location in a building that, due to its construction, offers protection from fire or damage and can provide temporary shelter for individuals unable to exit a building until emergency response personnel arrive. Accepted areas of assistance include enclosed stairwell landings, exterior rooms with windows and fire-rated doors, elevator lobbies, and "firerated" corridors.

11.2.2 Safety Monitor

A Safety Monitor is a trained employee available to provide assistance during an emergency evacuation. Safety Monitors provide instruction during an evacuation, help individuals with special needs relocate to Areas of Assistance/Refuge, notify first responders or emergency personnel of persons with special needs that are unable to evacuate a building, and provide support as necessary to ensure a safe evacuation.

Safety Monitors are not responsible for physically evacuating an individual from a building. Except in a life-threatening situation, trained emergency response personnel should only do carrying a person down a set of stairs or out of a building.

11.2.3 Individuals with a Mobility Challenge

Individuals who have a mobility challenge should relocate to an Area of Assistance/Refuge if they are unable to evacuate the building. Mobility challenged individuals and their Assistants, if identified, are encouraged to know the Areas of Assistance/Refuge for their work area and go to these locations during an evacuation when possible. The person assisting the mobility challenged person should then self-evacuate and immediately relay the location of the mobility challenged person(s) to emergency response personnel. Persons occupying an Area of Assistance/Refuge should dial 911 and provide their exact location to the dispatcher.

11.2.4 Individuals with a Hearing Impairment

Individuals with hearing impairments should be familiar with their immediate surroundings, frequently traveled routes, and emergency evacuation routes. Visible strobe lights should be observed to indicate an evacuation. Additionally, a person should be selected to immediately alert and assist a person with a hearing impairment during a building emergency evacuation.

11.2.5 Visually Impaired

Individuals with visual impairment should be familiar with their immediate surroundings, frequently traveled routes, and emergency evacuation routes. However, since an evacuation route may be different from a commonly traveled route, a visually impaired person may need assistance. Safety Monitors or designated Assistant(s) should be identified and provide assistance as necessary during an evacuation.

11.3 Residential Students

When the fire alarm sounds, residents must immediately evacuate the building, report to the designated assembly area, attempt to report to their Residence Education Coordinator (REC), and follow the instructions of emergency response personnel and/or HRL staff. Residents who do

not evacuate in a timely manner, or fail to adhere to instructions given by emergency personnel and/or HRL staff, may be subject to disciplinary action. Residents are responsible for their guests while in the residence halls and should familiarize guests with fire alarm and evacuation procedures.

To aid in the safety of residents with mobility challenges, either permanent or temporary, student residents should report special needs or conditions to their REC.

12.0 Record Keeping

UNC Charlotte requires that all records be maintained in accordance with regulatory requirements. Records that pertain to fire protection equipment testing, inspection, maintenance, fire drills, and corrective actions produced by EHS will be maintained for a minimum of five years.

Table 4: Records Retention and Disposition Schedule

Records Series and Description	Scheduled Retention	Example File Types
Evacuation Plan	Retain until superseded, obsolete or rescinded	Building Evacuation Floor Maps
Fire Extinguisher Inspection Records	Retain until new tag is created or life of extinguisher	Fire Extinguisher tags Fire Extinguisher inventory
EHS-Fire Safety Inspections	Retain 5 years	Building inspections Equipment inspections/tests

13.0 Reporting

The UNC Charlotte *Annual Security and Fire Safety Report* is required by the Jeanne Clery *Disclosure of Campus Security Policy and Crime Statistics Act* and the *Higher Education Opportunity Act* (HEOA). It is prepared in cooperation with local law enforcement, local fire services, EHS, and University Police.

13.1 Higher Education Opportunity Act

The HEOA is specific on the reporting requirements in regards to fires and fire safety in on-campus student housing facilities. On-campus student housing is defined by HEOA as “any student housing facility that is owned or controlled by the institution, or is located on property that is owned or controlled by the institution, and is within the reasonably contiguous geographic area that makes up the campus.” The following is the reporting section found in the HEOA § 488(g). Subsection (i) of section 485 of the Higher Education Opportunity Act that requires all Title IV institutions that maintain on-campus student housing facilities to publish an annual firesafety report that contains information about campus fire safety practices and standards of the institution to include:

- Statistics for each on-campus student housing facility during the most recent calendaryears for which data are available concerning each of the following categories:
 - The number of fires and the cause of each fire;
 - The number of injuries related to a fire that result in treatment at a medical facility;
 - The number of deaths related to a fire; and
 - The value of property damage caused by a fire;
- A description of each on-campus student housing facility fire safety and sprinkler system;
- The number of regular mandatory supervised fire drills;
- Policies or rules on portable electrical appliances, smoking and open flames (such as candles);
- Procedures for evacuation from student housing in case of a fire
- Polices regarding fire safety education and training programs provided to students,employees; and
- Plans for future improvements in fire safety if determined necessary by the institution.
- A list of titles of each person or organization to which students and employees shouldreport that a fire occurred.

Appendix A: OSHA Emergency Action Plan and Fire Prevention Plan Compliance

29 CFR 1910 requires an Emergency Action Plan (1910.38) and a Fire Prevention Plan (1910.39) for employers who meet specific requirements as required by individual sections of 29CFR 1910. The following table illustrates the university's conformance with 29 CFR 1910.38 and 1910.39.

Table A1: 29 CFR 1910 Compliance

Requires Emergency Action or FirePrevent Plan	Description	Requires Emergency Action Plan 1910.38	Requires Fire Prevention Plan 1910.39	Does this section apply?
1910.119	Process Safety forHigh Hazard Chemicals	X		No – The quantity of materials onuniversity property is below the threshold quantities.
1910.157	Portable Fire Extinguish er	X		No – employees are not expectedto use fire extinguishers and an educational program is provided. The university complies with allsections of 1910.157
1910.160	Fixed Extinguishing Systems	X		No – The university does not have a total flood fire suppression system on university property
1910.164	Fire Detection Systems	X		No – The university does nothave any delayed fire alarm signals in university buildings
1910.272	Grain Handling	X		No – The university does notengage in this activity
1910.1047	Ethylene Oxide	X	X	No – Concentrations of thischemical do not exceed the threshold PEL or STEL
1910.1050	Methylenedianiline	X	X	No – This material is not present on university property
1910.1051	1,3-Butadiene	X	X	No – This material is not present on university property

UNC Charlotte does not meet any 29 CFR 1910 requirements to maintain an Emergency Action Plan or a Fire Prevention Plan. UNC Charlotte will continue to monitor the activities of the University and reevaluate compliance with applicable sections of 29CFR 1910 as necessary. Conformity with each of the regulations listed above is discussed in detail below. The quantities of hazardous materials that require an Emergency Action Plan and Fire Prevention Plan are reevaluated by EHS when this program is reviewed or more frequently if necessary.

Process Safety Management of Highly Hazardous Chemicals (29 CFR 1910.119)

29 CFR 1910.119 applies hazardous chemicals in quantities documented in Appendix A of 29 CFR 1910.119. UNC Charlotte does not maintain or use chemicals in excess applicable quantity set in 29 CFR 1910.119.

Portable Fire Extinguishers (29 CFR 1910.157)

UNC Charlotte is in compliance with 29 CFR 1910.157. Portable fire extinguishers are installed, inspected, maintained and tested per paragraph (c), (d), (e), and (f) of 29 CFR 1910.157 and NFPA 10. Portable fire extinguishers are provided on university property in accordance with the North Carolina Fire Prevention Code (NCFC); however, university employees are not required to use fire extinguishers in the workplace. Instead, employees are directed to exit buildings immediately when they discover a fire and alert other occupants by activating the building fire alarm system. Fire extinguisher training is available to all employees; however, training is intended as an outreach program not as a condition of employment or designation of firefighting responsibilities. Training requirements outlined in 29 CFR 1910.157 (g) are only required when the employee is provided fire extinguishers to be used in the workplace. None of the exceptions granted in 29 CFR 1910.157 are observed by the university, therefore an Emergency Action Plan is not required by 29 CFR 1910.157. The university's position is further explained by section VII(c)(3) of the OSHA CPL Directive 2-1.037:

The employer keeps portable fire extinguishers in the workplace but does not want employees fighting fires and therefore evacuates the employees to safety [1910.157(a)]: OSHA recognizes that portable fire extinguishers may be required in the workplace by other organizations (e.g., insurance companies, local fire departments, etc.). Portable fire extinguishers that are not intended for employee use may still pose a hazard if they are not properly maintained. Employers who select this option must comply only with the maintenance, inspection, and testing requirements in paragraphs (e) and (f) of 1910.157.

Employers who do not select any of these options but instead provide portable fire extinguishers for use by any employee to use in fighting incipient stage fires must comply with 1910.157 in its entirety. Employees who provide portable fire extinguishers for

employee use must provide an educational program to familiarize all employees with the general principles of fire extinguisher use [1910.157(g)(1) and (g)(2)]. Employees who are expected to use portable fire extinguishers must be provided with "hands on" training in the use of the fire extinguishing equipment [1910.157(g)(3)]. If the employer chooses to comply with all of 1910.157, there is no requirement to comply with 1910.38.

Fixed Extinguishing Systems, General (29 CFR 1910.160)

29 CFR 1910.160 requires an Emergency Action Plan be provided when there is an area of the workplace that is covered by a total flood fire suppression system. UNC Charlotte does not maintain a total flood fire suppression system in university owned buildings. Therefore, an Emergency Action Plan is not required.

Fire Detection Systems (29 CFR 1910.164)

29 CFR 1910.164 requires an Emergency Action Plan be provided when a fire alarm signal is delayed by more than 30 seconds. UNC Charlotte does not have any fire alarm systems that delay alarms by more than 30 seconds. Therefore, this section does not apply.

Grain Handling (29 CFR 1910.272)

29 CFR 1910.272 requires an Emergency Action Plan when the following equipment is used or the following processes are taking place: grain elevators, feed mills, flour mills, rice mills, dust pelletizing plants, dry corn mills, soybean flaking operations, and the dry grinding operations of soy cake. UNC Charlotte does not own or operate any equipment associated with grain handling operations.

Ethylene Oxide (29 CFR 1910.1047)

29 CFR 1910.1047 requires an Emergency Action Plan and a Fire Prevention Plan if there are airborne concentrations of ethylene oxide greater than 1 ppm over an 8-hour time weighted average or a 5 ppm over a 15-minute time weighted average in the workplace. Although the university does possess and use ethylene oxide on campus, concentrations do not exceed the threshold limits that require an Emergency Action Plan or Fire Prevention Plan is required.

Methylenedianiline (29 CFR 1910.1050)

29 CFR 1910.1050 requires an Emergency Action Plan and Fire Prevention Plan if airborne concentrations of methylenedianiline exceed 10 ppb over an 8-hour time weighted average or a short-term exposure limit of 100 ppb. The university does not currently have methylenedianiline in any quantity in university owned or operated buildings.

1,3 Butadiene (29 CFR 1910.1051)

29 CFR 1910.1051 requires an Emergency Action Plan and a Fire Prevention Plan if there are airborne concentrations of 1,3-butadiene greater than 1 ppm over an 8-hour time weighted average or a 5 ppm over a 15-minute time weighted average in the workplace. The university does not currently have 1,3-butadiene in any quantity in university owned buildings.