

# OCCUPATIONAL AND ENVIRONMENTAL SAFETY OFFICE SITE SPECIFIC FIRE PLAN

## Part II General Statement

This Department also adheres to the Duke University Safety Manual located at <http://www.safety.duke.edu>. All personnel are responsible for the knowledge and compliance with this policy as well as their departmental specific policy described below.

## Fire Procedures

Fire emergency response is defined by the acronym: **R.A.C.E.**

**IF YOU DISCOVER A FIRE, SEE FLAME OR SMOKE**, follow the RACE procedures:

**R** = Remove all persons in immediate danger to safety.

**A** = Activate manual pull station AND call or have someone call **911**.

**C** = Close doors and fire shutters to prevent the spread of smoke and fire.

**E** = Extinguish the fire.

### **R: REMOVE ALL PERSONS IN IMMEDIATE DANGER TO SAFETY**

There are four types of evacuation that may be utilized in the Hospital:

- *Zone Evacuation:* Movement of patients and personnel away from immediate danger to areas within the same Fire Zone. This usually involves the movement of a few patients away from the fire to a safer area within the ward.
- *Horizontal Evacuation:* Movement of patients to Designated Evacuation Zone on the same floor (horizontally). This is the most common form of evacuation and is the type of evacuation practiced during Fire Drills.
- *Floor Evacuation:* Movement of patients and personnel to another floor, generally to the floor below the affected area. This is usually when required there is a need to remove personnel to a safer level but the threat does not requiring evacuation of the building.
- *External Building Evacuation\*:* Movement of patients and personnel completely out of the building and to the designated Emergency Assembly Point (EAP).

*\*Note: Only the Hospital Administrator (Operations Administrator-OA), Safety Officer, and/ or the Fire Department representative in charge of the fire scene can order an External Building Evacuation. External Building Evacuation is rare and will only be used in extreme emergency*

## **Floor Plans (Evacuation Maps)**

Floor Plans are strategically located throughout the facility and can be useful in planning for evacuation. The Floor Plan depicts your current location, the nearest exits and the location of:

- Medical Gas Shut Off Valves
- Fire Extinguishers
- Manual Fire Alarm Pull Stations
- Fire Hose and Sprinkler Valve Cabinets

Staff should know the location of the floor plan(s) for their Fire Zone.

## **Evacuation Equipment**

If relocation is necessary, the following equipment and information for transport and life support may be utilized:

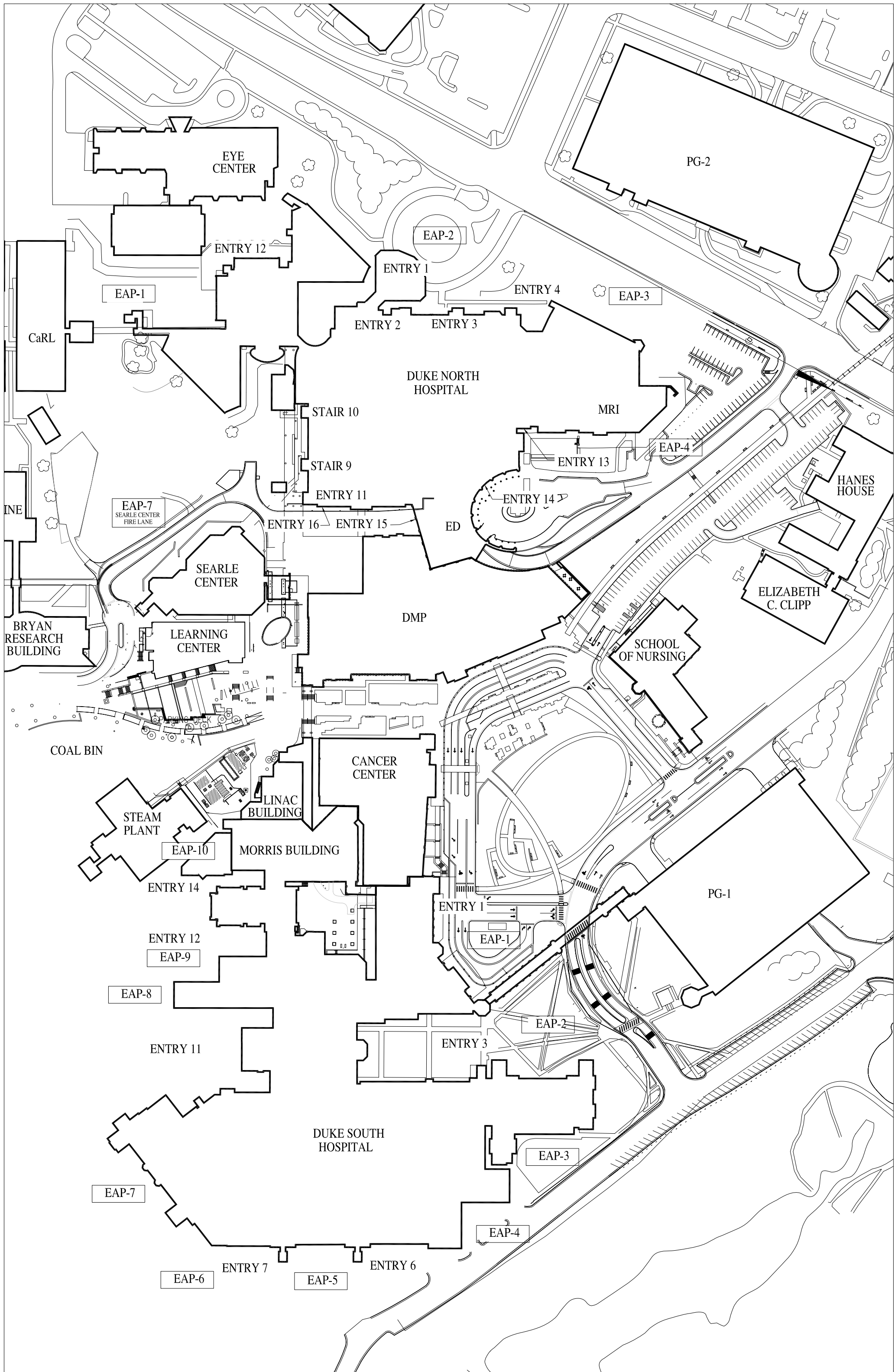
1. Code Blue cart located in the designated area for your department/unit
2. Phone number for transport services: 681-2400
3. Pager number and contact person for Respiratory Therapy: 970-6698

## **Emergency Assembly Point (EAP)**

In the event of an emergency that requires General Evacuation, all Duke University Hospital Departments will have a designated Emergency Assembly Point (EAP) outside of the building. Visitors are not required to go to the emergency assembly points, but must evacuate along with DUH staff, employees, patients, and others participating in DUH operations.

The designated EAP(s) for this Fire Zone is indicated on the cover page. The key to the numbers is as follows:

- EAP #1 Duke Hospital Cafeteria Courtyard between the CARL Building Walkway and the Eye Center
- EAP #2 Grass area near Erwin Road in the circle in front of Duke Hospital
- EAP #3 Children's Health Center Parking Lot
- EAP #4 ER Drive Sidewalk towards the MRI
- EAP #5 Reserved for future use. 12-14-09
- EAP #6 Reserved for Future use.12-14-09
- EAP #7 Searle Center Fire Lane
- EAP #8 Reserved for future use - 12-31-11
- EAP #9 Grassy area near Parking Garage # 9 at corner by Erwin Road



## **A: ACTIVATE MANUAL FIRE ALARM PULL STATION AND DIAL 911**

Fire alarm pull stations activate the building fire alarm system and are located throughout the hospital. Pull stations are usually located at or near an exit and staff should know where each pull station is located in their immediate work area.

Although activation manual fire alarm pull station will activate the building fire alarm and automatically notify Duke Police and other emergency personnel, it is important to call or have

someone call **911** and provide all pertinent information to include your name, location (building, floor, zone), type of fire and your observations of the situation. Stay on the line until released by the emergency dispatcher.

## **C: CLOSE ALL DOORS TO PREVENT THE SPREAD OF SMOKE AND FIRE**

The first step in defending against the threat of fire and smoke is containment. The hospital is designed and constructed using fire compartments. Fire walls and fire doors are designed and constructed with a specific fire resistance rating to limit the spread of fire and restrict the spread of smoke. Smoke walls and smoke doors are designed and constructed to restrict the movement of smoke and may or may not have a fire resistance rating. Closing all doors (fire doors, smoke doors, patient room doors, etc.) is crucial to prevent the spread of fire and smoke.

Corridor fire/smoke doors close automatically, ONLY between the activated fire zone and the adjoining fire zones. If corridor doors fail to close automatically, they should be closed manually and the failure reported to OESO-Fire Safety Division.

## **E: EXTINGUISH THE FIRE**

Fire extinguishers of the appropriate size and type have been installed throughout the Hospital. Duke Police and Engineering & Operations (E&O) personnel have been trained as first responders and in the use of the fire extinguisher. However, any Duke employee may use the fire extinguisher to reduce or extinguish a fire. The acronym, PASS, defines the proper procedure:

**P** = Pull the pin breaking the plastic seal;

**A** = Aim at the base of the fire;

**S** = Squeeze the handles together; and

**S** = Sweep from side to side.

# Automatic Fire Alarm/Fire Response/ Fire Drills

## Fire Alarm Activation

There are four types of initiating alarms utilized in Duke Hospital

- manual pull stations;
- smoke detectors;
- heat detectors; and
- water-flow indicators.

Activation of any of these devices in any part of the building sends a signal to the Building Automated Systems (BAS) Control Room on the 0 Level.

When the fire alarm signal is received in the BAS Control Room, the following occurs:

- Information is immediately transmitted to the Durham Fire Department and Duke University Campus Police;
- Corridor smoke doors will automatically close between the Fire's Origin/Activated Fire Zone and the adjoining Fire Zone(s);
- The ventilation system will automatically change to exhaust in order to remove any smoke from the activated zone. Air pressure in the activated zone will become negative and air pressure in the surrounding zones will become positive. The result is that any smoke in the affected zone is vented to the outside of the building and not into any area surrounding the fire zone; and
- Voice messages are announced over the public announcement system followed by the Life Safety System Code.

## Fire Alarm Announcement:

- The following message will sound three (3) times throughout the facility during an alarm: "*YOUR ATTENTION PLEASE - CODE RED...*" followed by the *Life Safety System Code numbers: X-X-X-X..* The term "CODE RED" is used for all fire messages in Duke Hospital. All employees are expected to respond to fire drills in their area as if there was a working fire
- After the above message has sounded three (3) times, the following message will be announced in the activated Fire Zone: "ATTENTION PLEASE - CODE RED HAS BEEN REPORTED IN YOUR ZONE. IF RELOCATION IS NEEDED, MOVE ALL PERSONS  
  
TO YOUR DESIGNATED EVACUATION ZONE".

## Life Safety System Code

The Life Safety System Code consists	1 <sup>st</sup> Digit indicates:	<b><i>Building</i></b>
	2 <sup>nd</sup> Digit indicates:	<b><i>Floor/Level</i></b>
	3 <sup>rd</sup> Digit indicates:	<b><i>Fire Zone</i></b>
	4 <sup>th</sup> Digit indicates:	<b><i>Fire Alarm Device Activated</i></b>

of four (4) digits:

- **(0) Manual pull station:** A device that personnel use to activate the fire alarm/life safety system.
- **(1) Heat detector:** A device that senses a change in temperature above a fixed setting (usually 135 degrees).
- **(2) Duct smoke detector:** A smoke detector located in ducts for the purpose of fan shutdown in the presence of smoke.
- **(3) Ceiling, (4) Elevator Lobby and (5) Helistop Foam:** A device that senses smoke, visible or invisible particles of combustion, at a specific location.
- **(6) Sprinkler Water-flow Alarm:** A device used to detect any flow of water from a fire sprinkler system.
- **(7) Sprinkler Tamper Alarm:** A device used to detect when a valve has been partially closed.
- **(8) Kitchen Hood Fire Suppression System:** Kitchen hoods capture grease-laden vapors over cooking appliances and the Kitchen Hood fire suppression system provides fire protection to the kitchen hood.
- **(9) Gaseous Fire Suppression System:** A gaseous fire suppression system or preaction system mainly utilized in sensitive areas such as a computer room.

It is the employee's responsibility, regardless of where they travel in Hospital, Clinics, Children's Health Center and the Eye Center, to listen for fire drills announced over the life safety system. Employees should pay particular attention to the exact location of the fire drill and know the Life Safety System Code for their specific Fire Zone and the adjoining Fire Zone(s).

### Specific Roles and Responsibilities for Fire Drills

Fire drills are conducted for three reasons: fire drills allow personnel to practice fire response (training), reinforce fire safety (education) and allow for evaluation of staff knowledge. To ensure that drills provide the maximum benefit, personnel should respond to each drill as if there were an actual fire. **All fire drills conducted in patient care and clinical areas will be unannounced.** All fire drills will be conducted as if there were a real emergency.

## Fire Drill Frequency

Fire drill frequency is dependent upon the occupancy classification of the facility and other factors. Fire drill frequency adheres to the following guidelines, however, additional drills may be conducted from time to time:

Health Care one fire drill during each shift per quarter

Areas under renovation or construction requiring Interim Life Safety Measures (ILSM) when various deficiencies and construction hazards warrant additional measures: two fire drill during each shift per quarter

## Fire Drill Evaluation

A specific fire zone is selected for each fire drill. Drill locations are tracked to ensure that all fire zones will be tested in a given time period without duplication. Up to 50% of false alarms may be utilized to satisfy fire drill requirements. The OESO-Fire Safety Division utilizes a Fire Drill Form and database to determine the effectiveness of each actual fire drill by evaluating the staff participation and understanding of the fire response (RACE), as well as, site-specific fire response issues in the area or zone where the fire alarm was initiated. Each unit participating in an actual fire drill is given a score to determine whether it “passed” or “failed”. Pass or Fail criteria is outlined on each Fire Drill Evaluation Form and must pass the fire drill with a score of 90% or more. Those departments who fall below this 90% score will be rescheduled within 30 days for a follow-up fire drill. Additional fire drills are required until a passing score is obtained.

## Staff Roles and Responsibilities at the *Fire’s Origin/Activated Zone*

- Clear the hallways of *ALL* equipment
- If necessary, cut off gas supply according to policy (fire event only)
- Prepare to “defend in place” and standby for evacuation\*

\*Note: During an actual fire emergency move patients to designated evacuation zone(s).

Clear the hallways of *ALL* equipment, including crash carts and infection control carts so that patients, visitors and employees can be removed from the area if necessary. **This should be done during drills as well as during a fire event.**

During a fire, it may be necessary to shut off medical gas if the fire is at or near the medical gas distribution valve in a patient’s room. **DO NOT** shut off medical gases during a fire drill. The primary person responsible for shutting off medical gas is the *Charge Nurse*. In intensive care areas, the Charge Nurse, in conjunction with respiratory therapy, is responsible for shut off. Employees are expected to “defend in place” until instructed to do otherwise by designated personnel.



### **Staff Roles and Responsibilities in the Designated Evacuation Zone(s)**

- Clear the hallways of *ALL* equipment
- Prepare to receive patients from fire's origin/activated zone
- Assist activated zone as needed in moving patients
- The Hospital Administrator (Operations Administrator-OA) will respond to all fire alarms to support the Charge Nurse's decision and response in the activated zone

*ALL* equipment must be removed from hallways in preparation to receive patients. This must be done during a drill as well as during a fire event.

### **Staff Roles and Responsibilities in Standby Zones**

- Personnel should remain on standby until an "all clear" has been announced
- Complete the standby fire drill form online at [www.safety.duke.edu](http://www.safety.duke.edu)

### **Roles of Visitors, Volunteers or Licensed Independent Practitioners**

- Visitors should remain with their family member and await further instructions
- Volunteers, licensed independent practitioners and others should report to the charge nurse for instructions

Visitors, volunteers or licensed independent practitioners may be asked by the charge nurse to assist the staff in R.A.C.E. or evacuation procedures.

### **Air Handler Unit Emergency Stop Procedures**

Engineering and Operations personnel responding to fire emergencies will consult with the fire department for air handler shut down actions and procedures.

Clinical personnel are instructed not to touch air handler unit (AHU) emergency stop buttons.

## **Site Specific Fire Plans**

OESO-Fire Safety Division, in collaboration with each Department/unit, is responsible for the development of a Site Specific Fire Plan (SSFP) for each work area. Each SSFP is reviewed annually and updated as necessary. SSFPs are submitted to the Duke University Safety Committee for approval prior to implementation. SSFPs include instructions for horizontal evacuation and list the Emergency Assembly Point for vertical evacuation should the Incident Command Post (ICP) mandate a total evacuation.

All **patient care areas must keep a copy of the Site Specific Fire Plan on site**. A back up copy is kept at the OESO-Fire Safety Office at 1411 Hull Street. The plan may simply state that all employees, visitors and patients are notified to be alert and be prepared for further instruction, or it may give more stringent guidance. The on-site Supervisor, Department Head, or their designated representative in their absence, is responsible for the implementation of the site specific fire plan and the safe evacuation of all employees, volunteers, patients and visitors from the area.

## **Interim Life Safety Measures (ILSM)**

Interim life safety measures are a series of temporary administrative actions required during construction to provide the level of life safety that existed prior to construction start-up. Interim life safety measures apply to all personnel (including construction workers), must be implemented upon project start-up, and must be continuously enforced through project completion. Each interim life safety measure action must be documented through written policies and procedures.

## **OESO-Information Telephone Numbers:**

Biological Safety 684-8822 Fire Safety 684-5609

Chemical Safety/Waste Pick-Up 684-2794 Employee Occupational Health

Services Pickens Clinic 681-6204 Duke Hospital South Clinic 684-3136 Student

Health Clinic 684-3180 Ergonomics 668-3746 Hearing Conservation 684-5996

Laser Safety 668-3157 Occupational Hygiene (Industrial Hygiene) 684-5996

Radiation Safety 684-2194 Safety Training 684-2794