

UNIVERSITY OF TOLEDO

SUBJECT: INTERIM LIFE SAFETY MEASURES AND INFECTION CONTROL

Procedure No: LS-08-008

PROCEDURE STATEMENT

Interim life safety and infection control measures will be implemented to protect against hazardous conditions created in life safety provisions or infectious disease that may temporarily exist during periods of renovation/ construction or during periods when the life safety code is not met for reasons other than construction. Air quality, infection control, utility requirements, noise, vibration, and other hazards that may affect care, treatment, and services will be assessed.

PURPOSE OF PROCEDURE

To provide guidelines in the identification of life safety and infectious disease hazards that may temporarily, to assure adequate interim life safety and infection control measures are taken during those periods and to provide appropriate communication and documentation of those hazards and the measures implemented.

DEFINITIONS

Construction or Renovation refers to any building modification involving activities that include but are not limited to:

- Removal or replacement of walls, ceilings, floors, carpet and components such as moldings, cabinets, doors, and windows;
- Painting, decorating, demolition, surface refinishing, and removal or cleaning of ventilation ducts;
- Maintenance activities include welding, cutting, and use of cleaning and maintenance chemicals in such quantities or in such a way as to have the potential to have an adverse impact on occupant health and safety, and indoor air quality.

During the activities described above, work procedures and appropriate controls will be utilized to protect degradation of indoor air quality and ensure life safety and patient safety.

Fire Protection System applies to the following systems:

- Fire alarm system
- Detection systems
- Special Suppression Systems (CO₂, Clean Agent, Dry Chemical, Water spray)
- Automatic sprinkler systems
- Standpipe and hose system
- Fire pump and water storage tanks
- Underground piping and control valves.

Protection system impairment occurs when a fire (or explosion) prevention, protection, alarm or supervisory system is shut off, impaired or otherwise taken out of service completely or in part. A detection system is considered impaired if 5 or more detectors in the same area are out-of-service.

Emergency impairment occurs when a fire protection system is out of service due to an unexpected interruption, such as a ruptured pipe or an unexpected power outage.

Planned impairment occurs when a fire protection system is out of service due to work that has been planned in advance, such as revisions to the water supply or sprinkler piping system.

Minor impairment is less than eight hours in duration and when not more than one system is out of service.

Major impairment is greater than eight hours in duration or when more than one system is out of service.

Firewatch is 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 an alarm and notifying the fire department.

Impairment Coordinator will act as the governing authority for the fire protection system impairments.

PROCEDURE

CONSTRUCTION AND RENOVATION

Facilities and Construction will arrange a pre-construction meeting for campus construction/renovation activities and invite necessary parties including but not limited to, Environmental Health and Radiation Safety Department and Infection Prevention and Control.

Facilities and Construction will ensure that project status reports of all campus construction/renovation activities are forwarded to the Environmental Health and Radiation Safety Department and Infection Prevention and Control upon request.

Project Managers will increase surveillance and shall conduct periodic inspections of renovation sites to assure compliance with this policy and to identify deficiencies in infection control or life safety provisions. The frequency of inspections will be determined by the nature and risk of the projects.

Prior to a construction or renovation project a permit must be completed (Appendix B). The Permit Forms will cover the following (If Applicable):

- General Description of Work to Be Covered
- Initial Security Assessment
- Initial Life Safety Assessment
- Daily Interim Life Safety Worksheet for Contractors
- Fire Watch Check List
- Above Ceiling Penetration Permit
- Dig Permit
- Hot Work Permit
- Utility Systems Impact
- Post Construction Closeout Assessment
- Hazard Control Permit (Infection Control Risk Assessment Construction Permit)

Initial Security Assessment

An initial security assessment must be completed by the Project Manager in conjunction with the contractor. Any security impact will be communicated to the Director of Security for resolution.

Interim Life Safety Measures (ILSM)

An initial life safety assessment must be completed prior to the start of the project by the project manager. All corrective actions must be indicated on the form. The daily ILSM form must be completed by the contractors and collected by the project manager.

Whenever the effectiveness of a fire protection or fire detection system is reduced or discontinued, including when the reduced or discontinued effectiveness is for the purposes of test, repairs, or alterations, Interim Life Safety Measures (ILSM) must be taken. This procedure applies to all fire protection/detection systems in any UT campus building and to all employees or contractors and their representatives whose work involves these systems.

Project managers will work with the Contractors, University Employees, and University of Toledo Police Department and/or Security to assure that all ILSM are carried out in accordance with the established procedures.

1. The fire impairment process (Appendix A) must be initiated by contacting Work Control when:
 - a. A contractor or UT employee will be impairing a fire system on campus for more than 4 hours in a clinical building or for more than 8 hours in a non-clinical building;
 - b. If there is a failure of the fire alarm system control panel, entire detection system, entire extinguishing system, or complete failure of the fire pump.
2. A firewatch will be conducted continuously by UTPD or their designee (Appendix B).
 - a. During all fire impairments initiated in clinical buildings, residence halls, and research lab buildings.
 - b. During all fire impairments initiated in all other buildings not listed above, unless an in-service, full coverage detection is provided.
3. Discontinue hazardous operations that elevate the risk of fire, particularly any cutting or welding.
4. Pre-arrange a plan to quickly re-open sprinkler or water valves in the event a fire is discovered.
5. Impaired sprinkler systems or other fire protection equipment shall be prominently marked with a hang tag, sign or other indication as "Out of Service" until restored.
6. Expedite work, in order to restore all impaired systems as quickly as possible. Do not leave protection out of service any longer than necessary.
7. When fire protection is restored it should be tested or otherwise verified as having been returned to operational condition.

Other Life Safety Measures

- Ensure exits are free and unobstructed.
- Ensure free and unobstructed access to emergency services and for fire, police and other emergency forces.
- Ensure the fire alarm, detection and suppression systems are in good working order. If a fire system is impaired follow ILSM requirements (Appendix A).
- Ensure temporary construction partitions are smoke tight and built of noncombustible that will not contribute to the development or spread of fire.
- Provide additional fire-fighting equipment and training. Contractors ensure their workers are well-versed in the University of Toledo Code Red (fire) response procedure (the R.A.C.E. acronym) and the emergency telephone number on campus (x2600).
- Smoking is prohibited.
- Develop/enforce storage, housekeeping and debris removal practices that reduce the buildings' flammable and combustible fire load to the lowest feasible level.
- Train personnel to compensate for impaired structural or compartmentalization features of fire safety per ILSM risk assessment. If egress routes are altered or alternate EXITS are used staff will be educated and additional fire drills will be implemented per shift per quarter. UTMC conducts education to promote awareness of building deficiencies, construction, hazards and temporary measures to maintain fire safety. This is completed through email, OLT, and daily huddles. End users are involved in all pre-construction meetings and informed of any building deficiencies that may arise during the project.
- Conduct organization-wide safety education training programs to promote awareness of Life Safety Code (LSC) deficiencies, construction hazards, and ILSM: these mandates are addressed in employee safety education, on

website, and in the signage in and around construction hazard areas that inform all persons of the dangers located nearby.

- When a life safety code deficiency is identified an ILSM risk assessment will be performed and notifications made to staff and occupants through posting in the area and electronically, as needed, by Facilities Maintenance. Each phase of the project will be assessed as necessary.
- All contractors must adhere to the Above the Ceiling Procedure and Permitting procedure ADM-26. The permit can be located in Appendix B of this procedure.
- A Dig permit may be required and completed prior to work to ensure all utilities are marked. The Dig permit is located in Appendix B.
- A hot work program must be in place per the Occupational Safety and Health Administration regulations if hot work will be completed as part of the project. A sample permit can be found in Appendix B.
- When combustible materials are located in area for sales (i.e. café sales) the daily Interim Life Safety Worksheet for sales must be completed. The sale must be attended at all times and egress maintained.

Interim Utility Safety Management Measure (IUSM)

The Utility Systems Impact form must be completed prior to the start of the project by the Project Manager. All corrective actions must be indicated on the form including interim utility management measures taken. The hospital incident command system will be initiated during emergent impacts.

Infection Control and Site Safety

Information regarding clean construction techniques will be included in all bidding documents so bidders are aware of the expected cleanliness and safety standards they will be expected to adhere to should they be the contractor chosen for a project located in clinical building.

1. The Environmental Health and Radiation Safety Department will review all local funded capital projects for the existence of any hazardous materials that may be encountered during the project work. The Environmental Health and Radiation Safety defers all authority for site safety to the project manager, but may become involved when hazard breaches the project site and pose a potential threat to UT employees, faculty, patients and students.

On large state-funded projects, it shall be the responsibility of Facilities Maintenance to notify Environmental Health and Radiation Safety of the need to address any potential safety and health issues prior to the start of the work, and at any time during the project work when such issues arise.

2. Project managers will work with a Environmental Health and Radiation Safety and Infection Control staffer to assure that the contractor(s) completes the University of Toledo Hazard Control Construction Permit (Appendix B), in all clinical buildings, and complies with the responsibility to:
 - a. Maintain the site in a clean and fire-safe manner.
 - b. Develop, maintain and enforce a process whereby debris removal and removal of combustible construction materials is a daily, ongoing part of the project.
 - c. Report to the Project Manager prior to the occurrence of any activities or circumstances that may cause deficiencies in compliance with Life Safety Requirements.
 - d. Report to the Project Manager prior to the delivery or on-site use of any materials regulated by OSHA as "Hazardous" and to submit applicable Safety Data Sheets (SDS's).

3. Before the activities listed above are initiated, the coordinating individual, the affected departmental manager(s), a Environmental Health and Radiation Safety representative and infection Control staffer as needed and the contractor representative shall meet to discuss the work plan to as to minimize entry of air contaminants to other areas of the building during and after performance of the work. This will specifically include planning for the cleaning or removal of debris from areas prior to project completion.

The work plan will evaluate and provide for all of the following, as applicable, utilizing Infection Control Construction Permit (Appendix B), Clinical Buildings ONLY:

- The requirements of any OSHA standards.
- Measures to ensure continued effective operation of HVAC systems during and after renovation activities.
- Feasibility of relocation of potentially affected occupants to temporary accommodations away from the area of construction or renovation or the scheduling of these activities after normal work hours.
- Floor-to-ceiling physical barriers to prevent dust or particle migration.
- Isolation or containment of work areas and negative air pressure containment.
- Air contaminant suppression controls or auxiliary air filtration/cleaning.
- Controls to prevent air contaminant entry into the HVAC air distribution system (including air intakes and air circulation systems). This includes activities on outside of buildings or directly adjacent to them such that air contamination could enter through exterior air intakes.
- Provision of product Safety Data Sheets (SDSs) for materials to be used on the project that meet OSHA criteria as hazardous materials to affected department managers.
- Completion of the form University of Toledo Infection Control Construction Permit, as deemed appropriate depending on the scope, duration and intensity of the work to be performed in clinical areas.

Additional surveys are completed on all clinical construction projects. A representative from Infection Control and Facilities complete regular walk throughs on site. Interim Life Safety Daily Implementation of Activities form (Appendix B) is also completed by the contractors on-site.

The individual coordinating the project will be responsible for notifying the affected department manager(s) at least 48 hours in advance (or promptly in emergency situations) of work to be performed on the building that may introduce air contaminants into their work area. Notification will include anticipated adverse impacts on indoor air quality or workplace conditions. Whenever indoor air quality may be affected, it may be necessary for user departments to instruct personnel to vacate potentially affected areas or occupy the potentially affected spaces during alternate times when construction activities exist.

Post Construction Closeout

The post construction closeout form must be completed by the Project Manager to ensure all life safety, utilities, and required needs of the projects are met including ensuring the site is free of hazards.

LIFE SAFETY CODE DEFICIENCIES

Deficiencies found during preventative maintenance activities or during environmental rounds. These deficiencies are normally short term in duration. Facilities has developed a process to immediately correct the problem, preferably in the same shift the deficiency was found.

In those occurrences where the repair cannot be immediately implemented, Facilities will complete the Initial Life Safety Assessment locate in Appendix B and will assign the ILSM warranted.

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