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# EAST TENNESSEE STATE UNIVERSITY

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## Facilities Management

**Policy Number:** 700.10

**Title:** Fire Protection Impairment Program

**Implementation Date:** April, 2008

**Last Revised:** August 4<sup>th</sup>, 2014

**Date Audited:** May 7<sup>th</sup>, 2019

### **Introduction**

The probability of a fire or explosion causing major damage is increased whenever a fire protection system is impaired. The longer the fire protection system is impaired, the greater the probability becomes. Therefore, it is necessary to minimize the duration and scope of any impairment or provide for an alternate protection system.

A Fire Protection Impairment Program is an effective management program used to:

- Supervise the safe shutdown of fire protection systems
- Control potential fire hazards during the impairments
- Restore the fire protection system to service as soon as possible

### **Purpose**

The purpose of this policy is to establish procedures to be used when a fire protection system is taken out of service due to construction, alteration, power outage, repair or an emergency condition. These procedures include measures taken during the impairment to ensure that increased risks are minimized and the duration of the impairment is limited. Procedures set forth in this policy do not apply to routine scheduled maintenance or testing.

### **Scope**

This policy applies to all ETSU employees, outside contractors and their representatives, or any company representative hired by ETSU to provide services or any outside trade workers who will be working on university property.

## **Definitions**

**Fire Protection Systems:** Sprinkler systems, standpipe systems, fire hose systems, underground fire service mains, fire pumps, water storage tanks, water spray fixed systems, foam-water systems, special extinguishing systems, fire service control valves, fire alarms systems (including smoke and heat detectors, pull stations, horns and strobes), and emergency lights.

**Fire watch:** A person or persons designated to physically patrol the area where the fire protection system is impaired.

**Impairment:** a shutdown, in whole or part, of a fire protection system.

1. **Emergency impairment:** when a fire protection system is out of service due to an unexpected occurrence, such as a ruptured pipe or an unexpected power outage.
2. **Planned impairment:** 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.
3. **Level 1 impairment:** when a limited number of components of a fire protection system are found defective or removed from service. A Level 1 impairment represents a minimal impact to the overall life safety of building occupants.
4. **Level 2 impairment:** a shutdown of an entire fire protection system, or major portion, significantly affecting occupant life safety.

**Impairment Coordinator (IC):** The person who manages the impairment while system work is being performed and has overall responsibility for proper implementation of the Fire Protection Impairment Program. The Director of Environmental Health and Safety, the Fire Protection Manager or a member of the Department of Environmental Health and Safety will be designated as the Impairment Coordinator.

## **Responsibilities**

### **ETSU Employees**

- Any employee who impairs a fire protection system, in whole or part, must first notify the Impairment Coordinator in the Department of Environmental Health and Safety at 439-6028. If hot work or smoke producing activities are localized, smoke detectors will be covered. Localized hot work should not require the use of any type of fire panel walk test mode unless approved by Environmental Health & Safety. It is recognized that walk test mode, due to the disabling nature of the entire fire alarm system, should only be used if smoke producing activities are widespread. If an impairment permit is required, the employee will attach the Fire & Life Safety System Permit/Impairment Tag (Appendix A) to the fire department

connection for sprinkler system impairments or to the fire alarm annunciator/control panel for fire alarm systems.

### **Contractors, Outside Workers, Outside Company Representatives**

- Any Contractor/contractor's representative or outside worker who impairs a fire protection system, in whole or part, must first notify the Impairment Coordinator at the Department of Environmental Health and Safety. If an impairment permit is required, the contractor, contractor's representative, or outside worker will attach the Fire & Life Safety System Permit/Impairment Tag (Appendix A) to the fire department connection for sprinkler system impairments or to the fire alarm annunciator/control panel for fire alarm systems.

### **Impairment Coordinator (IC)**

- The IC will determine the level of impairment due to a shutdown, in whole or part, of a fire protection system.
- The IC will be responsible for completion of the Impairment Worksheet (Appendix B) when authorizing Level 2 impairments.
- The IC will be responsible for issuing and verifying removal of fire & life safety system permit/impairment tags when authorizing Level 2 impairments.
- The IC will be responsible for coordination of the fire watch, if it has been determined that a fire watch is necessary. The IC will document fire watch activities on Appendix C, the Fire watch Log Sheet.
- The IC will be responsible for providing training to ETSU employees who will be utilized as fire watch personnel.

### **Impairment Coordination Procedures – Level 1**

- All level 1 impairments, both preplanned and emergency, must be reported to the impairment coordinator.
- The ETSU Dept. of Public Safety will be notified of a preplanned impairment of a fire alarm system.
- The fire alarm monitoring company, if utilized to monitor that particular fire alarm system, will be notified of a preplanned impairment of a fire alarm system.
- The impairment coordinator will ensure that level 1 impairments are satisfactorily remediated.

### **Impairment Coordination Procedures – Level 2**

#### **Preplanned Impairments**

- The ETSU Dept. of Public Safety will be notified of a preplanned impairment of a fire alarm system.
- The fire alarm monitoring company, if utilized to monitor that particular fire alarm system, will be notified of a preplanned impairment of a fire alarm system.

- The maintenance supervisor for the affected building will be notified of the preplanned impairment.
- The impairment coordinator will complete the Impairment Worksheet (Appendix B).
- The impairment coordinator will complete the fire & life safety system permit/impairment tag (Appendix A). The IC will authorize the preplanned impairment and verify that the following procedures have been implemented:
  1. The extent and expected duration of the impairment have been determined.
  2. The areas or buildings involved have been considered and the increased risks determined.
  3. When a required automatic sprinkler system is out of service for an extended duration, the impairment coordinator will arrange for one of the following:
    - a) Evacuation of the building or portion of the building affected by the system out of service, or
    - b) A fire watch for all portions of the building left unprotected by the shutdown until the fire alarm or sprinkler system has been returned to service. A fire watch utilized for a fire alarm or automatic sprinkler system shutdown will be composed of individuals beyond normal staffing, assigned to walk the areas affected. The number of fire watch personnel utilized will be determined by the impairment coordinator. Fire watch personnel used for fire alarm shutdowns must be specially trained in fire prevention and in occupant and fire department notification techniques. Fire watch personnel used for automatic sprinkler system shutdowns must be specially trained in fire prevention and in the use of fire extinguishers, and in occupant and fire department notification techniques.
  4. When a required fire alarm system is out of service for an extended duration, the impairment coordinator will arrange for one of the following:
    - a) Evacuation of the building or portion of the building affected by the system out of service, or
    - b) Implementation of mitigating measures for the period that the system is impaired. This considers the building occupancy type, nature and duration of impairment, building occupancy level during the impairment period, active work being conducted on the fire alarm system during the impairment, condition of other fire protection systems and features, and hazards and assets at risk. Appropriate mitigating measures range from simple occupant notification to full-time fire watch.
  5. Sprinkler systems: the impairment coordinator will complete or authorize a Fire & Life Safety System Permit/Impairment Tag (Appendix A), making sure it is located at the fire department

connection, indicating which system, or part thereof, has been removed from service.

6. Fire alarm systems: the impairment coordinator will complete or authorize a Fire & Life Safety System Permit/Impairment Tag (Appendix A), making sure it is located at the fire alarm annunciator or fire alarm control panel.

### **Emergency Impairment Procedures**

When an emergency impairment occurs, emergency action will be taken to minimize potential injury and damage.

- The impairment coordinator will implement items 1 through 6 of section *Preplanned Impairments* with the following exception:
  - Any damage to fire protection systems caused by the contractor will be repaired by a licensed fire protection company at the contractor's expense. Any required fire watch activities due to damage of the fire protection equipment will be supplied by the contractor. Contractor must supply their own fire watch activities to ensure compliance with this policy and other ETSU policies, i.e. Hot Work Permit Policy.

### **Restoring Systems to Service**

When all impaired equipment is restored to normal working order, the impairment coordinator will verify that the following procedures have been implemented:

- Any necessary inspections and tests have been conducted to verify that affected systems are operational.
- Maintenance supervisors for the affected buildings have been advised that protection is restored.
- If a fire alarm system is involved, the ETSU Department of Public Safety and monitoring company (if any) have been advised that protection is restored.
- The Fire & Life Safety System Permit/Impairment Tag has been removed.

### **References**

NFPA 1 – 13.3.4 (2006 ed.), Uniform Fire Code  
NFPA 25 – 14 (2008 ed.), Maintenance of Water Based Fire Protection Systems  
NFPA 72 – 4.6 & 10.2.1.2, National Fire Alarm Code  
NFPA 101 – 9.6.1.7 & 9.7.6 (2006 ed.), Life Safety Code  
International Fire Code, 2006 ed.

### **Contact Persons**

Director of Environmental Health & Safety  
Fire Protection Specialist

**Forms**

Fire & Life Safety System Impairment Permit/Tag – Appendix A  
Impairment Worksheet – Appendix B  
Fire watch Log Sheet – Appendix C

Approved by: \_\_\_\_\_  
William Brady Rasnick, Jr., Associate Vice President,  
Facilities Management

Date approved: \_\_\_\_\_

## **Appendix A**

### **Fire & Life Safety System Impairment Permit/Tag**

(Please attach tag to Fire Department Connection or  
Fire Alarm Annunciator/Control Panel)

Building Name: \_\_\_\_\_

Type of system impaired: \_\_\_\_\_

Reason for impairment: \_\_\_\_\_

Extent of impairment: \_\_\_\_\_

Date system shutoff: \_\_\_\_\_

Expected date of restoration: \_\_\_\_\_

Impairment authorized by: \_\_\_\_\_

# **Appendix B**

## **Impairment Worksheet**

### **Core Information**

Today's date: \_\_\_\_\_ Bldg: \_\_\_\_\_

Type of system impaired: \_\_\_\_\_

Extent of impairment: \_\_\_\_\_

Reason for impairment: \_\_\_\_\_

Date impairment to begin: \_\_\_\_\_ Estimated completion date: \_\_\_\_\_

Person(s) conducting work: \_\_\_\_\_

Person responsible for mounting impairment tag: \_\_\_\_\_

Fire watch required? \_\_\_\_\_ If yes, number of persons: \_\_\_\_\_

### **Reminders**

Area inspected and risks determined? \_\_\_\_\_

Prohibitions involved? \_\_\_\_\_

Building evacuated? \_\_\_\_\_ Impairment tag issued? \_\_\_\_\_

### **Notifications**

Has campus police been notified of the impairment? \_\_\_\_\_

Has monitoring company, if any, been notified of the impairment? \_\_\_\_\_

Has the maintenance supervisor for the affected building been notified of the impairment? \_\_\_\_\_

### **Restoration**

Has the affected system been inspected and tested operational? \_\_\_\_\_

Has the impairment tag been removed? \_\_\_\_\_

Has the campus police been notified of the restoration, if a fire alarm system? \_\_\_\_\_

Has the fire alarm monitoring company(if any) been notified of the restoration? \_\_\_\_\_

Has the maintenance supervisor for the affected building been notified of the restoration? \_\_\_\_\_



