

# UNIVERSITY OF ILLINOIS AT URBANA – CHAMPAIGN

Campus Code Compliance & Fire Safety  
Facilities & Services  
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## **SAFETY GUIDELINES FOR OUTAGES OF FIRE PROTECTION SYSTEMS AND ASSOCIATED EQUIPMENT AT THE UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN**

### **Introduction and Scope**

These safety guidelines are intended to provide fire prevention and to reduce the number of unwanted activations of fire protection systems.

An outage is defined as a planned temporary disabling of all or parts of fire alarm or suppression systems or associated equipment. The following activities shall require observance of these outage guidelines:

1. Hot work i.e. welding, cutting or heating activities
2. Projects involving construction, maintenance, demolition and remodeling or repair activities that may produce fumes, building dust or debris in concentrations high enough to create an explosion hazard or cause an unwanted fire alarm activation
3. Repairs or alterations to fire alarm or fire suppression systems
4. Special requests or need for fire protection system and equipment outages

### **Obtaining Approval for an Outage**

Facilities & Services (F&S) personnel such as project managers, project coordinators and foremen; supervisors or other persons responsible for oversight of any project including activity that requires compliance with these guidelines are responsible for the health and safety of their employees, for compliance with all applicable health and safety regulations, and for compliance with all other applicable campus guidelines. Prior to or at the initiation of the project, they will pre-arrange with Campus Code Compliance and Fire Safety (CCC&FS) to gain approval for all outages (of more than 4 hours in a 24 hour period) associated with any project.

Whenever an external contractor will do project work involving activities that require the observance of these guidelines, the project manager, project coordinator or other F&S staff with oversight responsibility for the project will:

1. Provide a copy of these guidelines to the contractor.
2. Familiarize contractors with these guidelines.
3. Inform the contractor that any costs associated with complying with these guidelines will

be incurred by the project.

4. Develop a floor plan showing the limits of the proposed outage/work area and any means proposed for controlling work area activities such as walls, doors or temporary partitions. The floor plan will be used during discussions with CCC&FS to determine the necessary extent of the outage.

### **Implementing an Outage**

After initial arrangement, it is acceptable for the appropriate F&S alarm electricians/pipe fitters to disable fire protection systems and equipment as necessary and with proper notification in the immediate vicinity of the project work to protect against unwanted system or equipment activation. Contact the F&S Service Office at least 48 hours in advance of the job to:

1. Schedule an F&S alarm electrician to disable fire alarm devices as necessary in the immediate vicinity of the work to protect against unwanted alarms. All other fire alarm system devices should remain functional.
2. Schedule an F&S pipe fitter to disable fire protection systems and equipment as necessary in the immediate vicinity of the project to protect against unwanted alarms or fire protection system activations. All other fire protection systems and equipment should remain functional.
3. CCC&FS will notify the appropriate building/facility contact whenever a portion of the fire alarm or fire protection system will be disabled for any period of time exceeding one business day (eight hours) and whenever an entire fire alarm or fire protection system will be disabled for any period of time.

### **Fire Watch**

Any need to disable fire protection systems or equipment for greater than 4 hours in a 24-hour period may require a fire watch to be performed in the area left unprotected until the affected systems or equipment has been returned to service. The need for a fire watch shall be determined through consultation between the project and CCC&FS. Project personnel shall be responsible for supervising the activities of the individual(s) assigned to conduct the fire watch.

Fire watch activities must:

1. Inhibit unauthorized access to the unprotected work area.
2. Monitor the unprotected area(s) to detect conditions likely to cause and spread fires.
3. Promptly notify the fire department if a fire occurs.

### **Safe Operating Procedures for Hot Work (Welding, Cutting or Heating Activities)**

The following safety precautions shall be followed for hot works activities. These precautions are not intended to identify all compliance issues related to welding and cutting activities:

1. Notify the Division of Public Safety (333-1216) when open flame or high heat procedures (e.g., welding and cutting) are being performed anywhere on campus. This

notification will be made immediately prior to beginning work and will provide the type of open flame or high heat procedure to be performed and the specific location (including room number and building name if applicable) of the procedure. Also:

2. Ensure that all fire protection system devices or equipment in the immediate vicinity of the welding or cutting operation has been disabled through the appropriate process for an outage to protect against unwanted alarms or other activations.
3. Identify the location of the nearest fire alarm pull station and telephone that can be used in the event of an emergency.
4. Provide adequate ventilation of the welding and cutting operation area to (a) remove fumes and smoke at the source to keep their concentration in the breathing zone within safe limits and (b) to prevent fire protection system devices outside the work area being activated thereby creating a false alarm. Contaminated air exhausted from a work space shall be discharged into the open air or otherwise clear of intake air.
5. When practical, objects to be welded, cut or heated shall be moved to a designated safe location. If this is not practical, all movable fire hazards in the vicinity shall be taken to a safe place or otherwise protected.
6. If the object to be welded, cut or heated cannot be moved and if all the fire hazards cannot be removed, positive means shall be taken to confine the heat, sparks and slag and to protect the immovable fire hazards from them.
7. No welding, cutting or heating shall be done where the application of flammable paints or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.
8. Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use. Building fire extinguishers shall not be removed from their holders/locations and taken to the job site.
9. When the welding, cutting or heating operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while the actual welding, cutting or heating operation is being performed and for a sufficient period of time after completion of the work to ensure that no possibility of fire exists. Such personnel shall be instructed as to the specific anticipated fire hazards and how the firefighting equipment provided is to be used.
10. When welding, cutting or heating is performed on walls, floors and ceilings, since direct penetration of sparks or heat transfer may introduce a fire hazard to an adjacent area the same precautions shall be taken on the opposite side as are taken on the side on which the welding is being performed.
11. For the elimination of possible fire in enclosed spaces as a result of gas escaping through leaking or improperly closed torch valves, the gas supply to the torch shall be positively shut off at some point outside the enclosed space whenever the torch is not to be used or whenever the torch is left unattended for a substantial period of time, such as during the lunch period. Overnight and at the change of shifts, the torch and hose shall be removed from the confined space. Open-end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming devices.
12. Except when the contents are being removed or transferred, drums, pails and other containers that contain or have contained flammable liquids shall be kept closed. Empty

containers shall be removed to a safe area apart from hot work operations or open flames.

13. Drums containers or hollow structures which have contained toxic or flammable substances shall, before welding, cutting or heating is undertaken on them, either be filled with water or thoroughly cleaned of such substances and ventilated and tested. For welding, cutting and heating on steel pipelines containing natural gas, the pertinent portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standards for Gas Pipelines, shall apply.
14. Before heat is applied to a drum, container or hollow structure, a vent or opening shall be provided for the release of any built-up pressure during the application of heat.
15. Never use gas, electric arcs or open flames over manholes, sumps, open tanks, cans or partially filled containers without first testing for explosive vapors.

When the work is concluded (welding and cutting activities plus a sufficient period of time after completion of the work to ensure that no possibility of fire exists), the Division of Public Safety shall be notified that the work has been completed.

### **Restoration of Fire Protection Systems and Associated Equipment**

F&S personnel such as project managers, project coordinators and foremen; external contractors, supervisors or other person responsible for oversight of any activity that requires compliance with these guidelines are responsible for assuring that parts of fire alarm and suppression systems and equipment disabled for compliance with these guidelines are restored to full operating status upon completion of the activity necessitating the outage.

A portion of a fire alarm or fire protection system may be disabled for longer than one business day (eight hours) or an entire fire alarm or fire protection system may be disabled for any period of time. When this occurs, it is important that F&S alarm electricians and or pipe fitters notify CCC&FS by the most practical means possible when the system is restored to full operating status. This will permit CCC&FS to inform the appropriate building contact that the system has been restored.