

Impairing Fire Protection Systems

EHS Procedure EHS-Fire-40 Rev. 0

Effective Date: 6/1/2015

1.0 PURPOSE

To establish the procedures for impairing fire protection systems, responding to impaired systems during maintenance and construction activities, and placing systems back in service.

2.0 SCOPE

This procedure applies to all fire suppression systems at the NCI at Frederick main campus, the ATRF, and the VCMP. Fire protection systems included include fire suppression, detection, and alarm systems.

3.0 PROCEDURE

Step	Job Role	Action
1	FME	<p>1.1 When a need is identified, the FME COTR for construction projects or lead shop foreman for internal projects prepares an Activity Announcement in advance of any activity which requires temporary impairment of a fire sprinkler system or fire alarm system. The FME Activity Announcement is provided to EHS and to the appropriate Building Coordinator. An example Activity Announcement for sprinkler impairment is shown in Appendix A.</p> <p>1.2 The FME lead shop foreman or COTR coordinates with the FME Instrument Shop to have fire alarms bypassed to prevent inappropriate activation of notification devices in the building and to place the system on "test" with the monitoring company to prevent inappropriate fire department response.</p> <p>1.3 Determine if a fire watch is necessary as described in Appendix B. When the situation is not specifically described in Appendix B, consult EHS for guidance.</p> <p>1.4 The FME lead shop foreman, or COTR for construction projects, ensures that a fire watch is provided as required and that Protective Services and the Building Coordinator are notified at the beginning and end of an impairment.</p>
2	Building Coordinator	<p>The Building Coordinator communicates to building occupants the schedule of the sprinkler or fire alarm system impairment, the specific functions and area to be impacted by the impairment, and the steps occupants should take in the event of smoke or fire. (see model messages in Appendix B)</p> <p>At the completion of an impairment notify building occupants that the system is back in service.</p>

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Step	Job Role	Action
3	EHS	<p>3.1 EHS safety representative evaluates unplanned or emergency system impairments for additional requirements and communicates those to the COTR or lead shop foreman.</p> <p>3.2 The Protective Services Dispatcher records the beginning and end of each impairment and the name and phone number of the person performing fire watch in the daily Activity Log, and also in the Fire Alarm Logbook.</p>
4	Fire Watch	<p>A fire watch is required throughout the entire area covered by the impaired zone or system and during the entire time a fire watch is indicated in Appendix B.</p> <p>Report to Protective Services Dispatch (301-846-1091) at the the beginning and end of each fire watch. The fire watch must be present during the entire impairment and must possess means, such as radio or cell phone, to immediately report smoke or fire. The person performing fire watch must be constantly alert for smoke or fire, yell "FIRE" to alert occupants in the building to immediately evacuate, and immediately report the smoke or fire to 911 and to Protective Services (301-846-1091) to initiate emergency response.</p> <p>Note: Subcontractors are required to provide a continuous fire watch in a construction area while the sprinkler system or fire alarm system is impaired due to their work.</p>
5	Placing systems back in service	<p>Once the work is complete test the system to ensure proper functioning and restoration of all circuits and communications links. If the system was placed on 'test' with the monitoring company, place the system back in service with the monitoring company. Notify Protective Services and the Building Coordinator once the system has been verified as restored following system impairment.</p>

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4.0 RECORDS

Description of Record (include form number if applicable)	Custodian	Storage Medium
Protective Services Activity Log, PS Form No. 008	EHS	paper
Protective Services Fire Alarm Log	EHS	book

5.0 RELATED DOCUMENTS

The following documents provide requirements and background information relevant to the subject of this procedure.

- NFPA 72 (2013) Section 3.3.130, Section 10.21, and Section 14.2.2.2

6.0 DEFINITIONS

Term	Definition
Communication	The status of a fire alarm control panel is transmitted to a central station alarm monitoring company. Communication of an active fire alarm is required in order for the central station to notify the emergency communications center and, ultimately, the fire department.
Detection	Components of a fire alarm system used to activate the fire alarm in the event of fire. Detection devices are commonly smoke detectors and heat detectors. A sprinkler may serve as a detection device when detection of waterflow will activate the fire alarm.
Impairment	An abnormal condition where a system, component, or function is out of order and the condition can result in the system or unit not functioning when required.
Notification	Audible and visual devices are components of a fire alarm system used to make building occupants aware of an alarm condition. Notification to occupants is required to allow prompt evacuation out of an area where fire or smoke has been detected.

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7.0 ABOUT THIS PROCEDURE

Issuing organization:	EHS
Final approver:	Terri Bray
Subject matter expert:	Peter Boving
Review cycle (months):	36
Date last revised:	initial issue
Date last reviewed:	initial issue

8.0 SUMMARY OF CHANGES IN THIS VERSION

None. Initial issue

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Appendix A:

Example of FME Activity Announcement

Facilities Maintenance and Engineering Activity Announcement			
Activity	<input type="checkbox"/> Utility Outage	<input type="checkbox"/> Street / Parking Lot Closure	
	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Construction	
	<input type="checkbox"/> Other:	<input checked="" type="checkbox"/> Fire Alarm/Sprinkler Outage	
	Start Date: 3/10/2015	End Date: 3/10/2015	
	Start Time: 7:00 am	End Time: 3:00 pm	
Background/Details	Needed to connect the new sprinkler main to the existing system.		
Buildings/Locations Affected	B469 1 st Floor		
Systems / Equipment Affected	Sprinkler		
Other Considerations	Notification to the building occupants will be sent through the building coordinator. The system will be isolated so only the 1 st floor will be shut down. Contractor staff will provide fire watch.		
FME Point of Contact	Name	Email	Phone
	Todd Hiltner	hiltntod@mail.nih.gov	X1315

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Appendix B:

Building Coordinators communicate the schedule of the sprinkler or fire alarm system impairment to building occupants. The communication includes the specific function(s) and location(s) to be impacted by the impairment, and the steps occupants should take in the event of smoke or fire. Example messages are provided below:

Situation	Condition / Fire Watch	Model Messages
1	Detection impaired. Sprinklers in service. No fire watch required	Fire detection is temporarily out of service, however manual pull stations and sprinklers remain in service to activate the fire alarm to evacuate building occupants and notify the fire department. In the event of smoke or fire notify others in the area, evacuate immediately, pull the fire alarm and call 911 to report the location and type of fire.
2	Sprinklers impaired. Detection in service. No fire watch required	The fire sprinklers are temporarily out of service, however manual pull stations and fire detection devices remain in service to activate the fire alarm to evacuate building occupants and notify the fire department. In the event of smoke or fire notify others in the area, evacuate immediately, pull the fire alarm and call 911 to report the location and type of the fire.
3	Sprinklers impaired. Detection impaired Fire watch required	The fire alarm system is temporarily out of service. There is no automatic detection of a fire. A fire watch has been established. In addition, fire alarm pull stations will activate the fire alarm to notify building occupants and the fire department. In the event of smoke or fire notify others in the area, evacuate immediately, pull the fire alarm and call 911 to report the location and type of the fire.
4	Fire alarm is functioning within the building but unable to communicate with the monitoring company. Fire watch required, occupants dial 911. Protective Services provides fire watch after hours, normally 6:00 p.m. through 8:00 a.m. Monday through Friday	The fire alarm is temporarily unable to communicate an alarm to the Emergency Communications Center or fire department. Building occupants must dial 911 to report fire alarm activation. In the event of smoke or fire at any time notify others in the area, evacuate immediately, and dial 911 to report the location and type of fire. A fire watch will be present to monitor fire alarms after business hours. In addition to email to all occupants, signs are to be posted in the building to notify occupants that they must be alert for smoke or fire and to dial 911 immediately to report fire alarm activation.

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Situation	Condition / Fire Watch	Model Messages
5	<p>Fire alarm system is unable to notify occupants or the fire department.</p> <p>Fire watch required, occupants detect smoke or fire, alert occupants, and dial 911. Protective Services provides fire watch after hours, normally 6:00 p.m. through 8:00 a.m. Monday through Friday.</p>	<p>The fire alarm system is out of service and is not able to notify building occupants or the fire department, of a fire. Building occupants must dial 911 to report smoke or fire. In the event of smoke or fire yell “FIRE”, notify others in the area, evacuate immediately, and call 911 to report the location and type of fire. A fire watch will be present during non-business hours.</p> <p>In addition to email to all occupants, signs are to be posted in the building to notify occupants and visitors that the fire alarm system is out of service and occupants must be alert for smoke or fire, must yell “FIRE” to alert others, evacuate immediately, and call 911.</p>