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Standard Operating Procedure
for
CNSE Fire Protection Impairment

REVISION

Rev No.	DCN No.	Change Summary	Release Date	DCN Initiator	Document Owner
1	DCN1265	Update per NFPA 25 2002. Move responsibilities from Security to FOG	12-23-15	M. Rose	P. O'Dea

Prior revision history, if applicable, is available from the Document Control Office.

1 PURPOSE AND SCOPE

- 1.1 To minimize the duration and scope of any impairment or provide for an alternate protection system.
- 1.2 A Fire Protection Impairment Program is an effective management program used to:
 - 1.2.1 Supervise the safe shutdown of fire protection systems;
 - 1.2.2 Ensure communication of an impairment;
 - 1.2.3 Restore the fire protection system to service, as soon as possible.
- 1.3 **Purpose:** To establish procedures to be followed 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.*
- 1.4 **Scope:** This policy applies to all SUNY Polytechnic Institute CNSE (Colleges of Nanoscale Science and Engineering) employees, outside contractors and their representatives, or any company representative hired by CNSE to provide services or any outside trade workers who will be working on CNSE property.

2 DEFINITIONS

- 2.1 **EHS:** Environmental Health and Safety
- 2.2 **FOG:** Facilities Operations Group
- 2.3 **Fire Impairment Listserv:** an email group used to notify all parties of the status of an impairment. Including but not limited to: Facility Operations Manager, Fire Impairment Coordinator, Facility Operations Group Supervisors, EHS staff members, Security Personnel, Property Owners, Code Compliance Manager, and Site Services Managers.
- 2.4 **Fire Protection Systems:** Sprinkler systems, standpipe systems, underground fire service mains, fire pumps and or fire service control valves.
- 2.5 **Fire Alarms Systems:** Fire detection systems including smoke/heat detectors, speaker/strobes, etc.

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

2.7 **Impairment Types:**

1. **Planned Impairment:** when a fire protection or fire alarm 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.
2. **Unplanned Impairment:** when a fire protection or fire alarm system is out of service due to an unexpected occurrence, such as a ruptured pipe.
3. **Level 1 Impairment:** Any portion of a fire protection system is inoperable or removed from service for a duration less than 10 hours.
4. **Level 2 Impairment:** Any portion of a fire protection system is inoperable or removed from service for a duration of more than 10 hours.
5. **Level 3 Impairment:** Any portion of a fire alarm system is inoperable or removed from service.

2.8 **Impairment Program Coordinator (IPC):** The person who manages the impairment and has overall responsibility for proper implementation of the CNSE Fire Protection Impairment Procedure.

3 RESPONSIBILITIES

3.1 CNSE Employees

Any employee who plans to impair a fire protection system, in whole or part, must notify the Impairment Program Coordinator a minimum of three (3) days in advance. Contractor will complete the CNSE Fire Protection System Daily Permit CFM-00005-F1 and the IPC will sign-off (authorizing the deactivation / impairment) prior to submission for approval of the Work Authorization Permit.

3.2 Contractors, Tenants, other Non-CNSE Employees

Any Contractor/Contractor's representative or outside worker who plans to impair a fire protection system, in whole or part, must first notify the Impairment Program Coordinator a minimum of three (3) calendar days in advance. Contractor will complete the CNSE Fire Protection System Daily Permit CFM-00005-F1 and the IPC will sign-off (authorizing the

deactivation / impairment) prior to submission for approval of the Work Authorization Permit.

3.3 Security Supervisor

The Security Supervisor must ensure that the CNSE Fire Protection System Daily Permit CFM-00005-F1 is beside the Security Control Center (SCC) fire alarm control panel for fire alarm system.

3.4 Impairment Program Coordinator (IPC)

- The IPC will determine the level of impairment due to a shutdown, in whole or part, of a fire protection system or fire alarm system.
- The IPC will be responsible for ensuring completion of the Fire Impairment Forms associated with this document.
- If IPC determines a fire watch is necessary, they will coordinate the fire-watch. The IPC will ensure documentation of fire-watch activities on CFM-00017-F1, the CNSE Fire-Watch Log Sheet.
- The Security Supervisor will be responsible for ensuring that communications have been established and maintained with fire-watch personnel from initiation to completion of work.
- The IPC is the same as the 'System Operator' listed in the 'Facilities Resource Responsibility Matrix for Facilities System Owners' FEI-00003.

3.5 Fire Watch Personnel

- Fire Watch Personnel (FWP) will come to the SCC to sign out a radio and to receive the CNSE Fire-Watch Log Sheet (CFM-00017-F1).
- FWP will perform activities as per the Fire Watch During Fire Protection System Impairments (CFM-000017)
- FWP will indicate on CNSE Fire-Watch Log Sheet the starting and completion time of each area checked.
- FWP will report any fire, smoke, or unsafe conditions to SCC via radio.
- FWP will return the CNSE Fire-Watch Log Sheet to the SCC upon completion of fire-watch.
- FWP to be made up of individuals from the following groups in the order listed: Site Services, Security, FOG, ERT (off shift), WSO (off shift).

4 ASSOCIATED DOCUMENTS

- 4.1 **CFM-00005-F1** Fire Protection System Daily Permit
- 4.2 **CFM-00017-F1** CNSE Fire-Watch Log Sheet
- 4.3 **CFM-00017** Fire Watch During Fire Protection System Impairments

5 PROCEDURES

5.1 All impairments, both planned and unplanned, must be reported to and coordinated with the Impairment Program Coordinator.

5.2 Impairment – Level 1

Defined as any portion of a fire protection system is inoperable or removed from service for a duration less than 10 hours.

5.2.1 Level 1 Planned Impairment

- CNSE Security and the IPC will be notified of a 'Level 1 Impairment' through the CNSE Work Permit process.
- The IPC will communicate the impairment via email to the Fire Impairment Listserv.

5.2.2 Level 1 Unplanned Impairment

- Same procedure and a 'Level 1 Planned Impairment'.

5.3 Impairment – Level 2

Defined as any portion of a fire protection system is inoperable or removed from service for a duration of more than 10 hours.

5.3.1 Level 2 Planned Impairment

- CNSE Security and the IPC will be notified of a 'Level 2 Impairment' through the CNSE Work Permit process.
- The IPC will communicate the impairment via email to the Fire Impairment Listserv.
- The IPC will coordinate a Fire Watch and follow the Planned Impairment procedure.

5.3.2 Level 2 Unplanned Impairment

- Same procedure as a 'Level 2 Planned Impairment except 'unplanned' impairments utilize available personnel as required.

5.4 **Impairment – Level 3**

Any portion of a fire **alarm** system is inoperable or removed from service.

5.4.1 Level 3 Planned Impairment

- CNSE Security and the IPC will be notified of a 'Level 3 Impairment' through the CNSE Work Permit process.
- The IPC will communicate the impairment via email to the Fire Impairment Listserv.
- The IPC will coordinate a Fire Watch and follow the Planned Impairment procedure.

5.4.2 Level 3 Unplanned Impairment

- Same procedure as a 'Level 2 Planned Impairment except 'unplanned' impairments utilize available personnel, as required.

5.5 **Planned Impairment Procedure**

- The IPC will approve CNSE Fire Protection System Daily Permit (CFM- 00005-F1) which include system impairments.
- CNSE Security will be notified by the CNSE Work Permit process of an authorized planned impairment of a fire alarm system.
- Other groups (FOG/Site Services Managers, Security, etc.) will be notified by the IPC of the pre-planned impairment via the Fire Impairment Listserv.
- The IPC will authorize a CNSE Fire Protection System Daily Permit (CFM-00005-F1) and make sure it is located at the SCC fire panel, indicating which system, or part thereof, has been removed from service.

- When a Level 2 or Level 3 Impairment is required, the Impairment Program Coordinator shall consult with EHS, FOG and Air Liquide to implement mitigating measures for the period that the system is impaired shall consider 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 full-time fire-watch to restricting high risk activities (i.e. HPM handling, etc.).

5.6 Unplanned Impairments

- 'Unplanned Impairments' only differ from 'Planned Impairments' in who is available to perform the Fire Watch duties.

5.7 Fire Watch

When fire alarm or fire protection impairment requires a Fire Watch, the IPC shall:

- a) Coordinate Fire Watch personnel to patrol all portions of the building left unprotected by the impairment, until the fire alarm or fire protection system has been returned to service.
- b) Fire Watch personnel shall be equipped with radio or cell-phones.
- c) Fire-watch personnel will be composed of individuals beyond normal staffing, as soon possible, assigned to walk the areas affected.
- d) The number of Fire Watch personnel utilized will be determined by the IPC.
- e) Fire Watch personnel must be specially trained in fire prevention and in the use of fire extinguishers, and in occupant and fire department notification techniques. EHS to train personnel via the training matrix.

5.8 CNSE Security Impairment Procedure

CNSE Security personnel assigned to the SCC will dedicate their attention to the fire alarm system until the issue causing the impairment of the system is resolved.

5.8.1 Where Scheduled Work is NOT Occurring

If an alarm or notification of fire condition is received during the period of impairment for areas where scheduled work is NOT occurring, the CNSE Security Officer will make immediate notification to the Albany Fire Department for response using 9-1-1.

5.8.2 Where Scheduled Work is Occurring

If there is scheduled work occurring in the area of the alarm:

- The Security Officer will make immediate notification via radio to the roving Security patrol or ERT, FOG Fire Techs and fire-watch (if applicable) for their response and investigation. Also notify IPC.
- The Security Officer assigned at the SCC will make immediate contact with personnel working within the Work Permit area (CNSE Fire Protection System Daily Permit to determine the cause of the alarm (call on cell phone using Work Permit contact information).
- The SCC will request estimated time of arrival from responders. First responder to the scene is to report reason for alarm condition or report of area findings.
- If an actual fire event is determined the SCC will immediately make notification to AFD via 9-1-1 for response. Additional information from the fire alarm location will be immediately communicated to the Albany Fire Department to assist their response.
- A Security Officer, ERT and FOG Fire Techs will be dispatched to the scene. An immediate check with on-site personnel responsible for the work will be conducted (call on cell phone using Work Permit contact information).

5.9 Restoring Systems to Service

When all impaired equipment is restored to normal working order, the IPC will verify the following:

- Contact the impairment requestor to verify that systems should be reactivated.

- Any necessary inspections and tests have been conducted to verify that affected systems are operational.
- If a fire alarm system is involved, the CNSE Security Control Center has been advised by the IPC that protection is restored.
- The CNSE Fire Protection System Daily Permit (CFM-00005-F1) has been closed.
- The Impairment Program Coordinator will communicate termination of the impairment by phone to SCC and email to the Fire Impairment Listserv.

6 RECORDS

Activated CNSE Fire Protection System Daily Permits (CFM-00005-F1) are kept on file by Security for a period of three (3) years in the Security File Room.

7 REFERENCES

NFPA 1 – 13.3.4 (2003 ed.), Uniform Fire Code

NFPA 25 – 14 (2012 ed.), Maintenance of Water Based Fire Protection Systems

NFPA 72 – 4.6 & 10.2.1.2, National Fire Alarm Code (2002 edition)

NFPA 101 – 9.6.1.7 & 9.7.6 (2003 ed.), Life Safety Code Fire Code of New York State, 2007 edition.

8 APPENDIX

APPENDIX A - Fire Protection System Impairment Level Chart

APPENDIX A FIRE PROTECTION SYSTEM IMPAIRMENT LEVEL CHART

Parameters	Impairment Level		
	Level 1	Level 2	Level 3
Status	Planned or Unplanned	Planned or Unplanned	Planned or Unplanned
Conditions	Any portion of a fire protection system is inoperable or removed from service for a duration less than 10 hours.	Any portion of a fire protection system is inoperable or removed from service for a duration of <u>more</u> than 10 hours.	Any portion of a fire alarm system is inoperable or removed from service.
Action	Email notification made for awareness.	Email notification made for awareness. Fire Watch required.	Email notification made for awareness. Fire Watch required.
Action By	Impairment Coordinator	Impairment Coordinator to coordinate fire watch utilizing members of ERT, FOG, Site Svcs. personnel as required.	Impairment Coordinator to coordinate fire watch utilizing members of ERT, FOG, Site Svcs. personnel as required.