

POLICY NAME: IMPLEMENTATION OF INTERIM LIFE SAFETY MEASURES, FIRE SYSTEM IMPAIRMENTS, AND FIRE WATCH (formerly Implementation of Interim Life Safety Measures)

POLICY NUMBER: S06-10

ISSUE DATE: FEBRUARY 10, 2004

REVISED DATE: DECEMBER 16, 2015

REVIEW DATE: DECEMBER 16, 2015

PURPOSE:

The University of Chicago Medical Center (UCM) protects building occupants during periods of construction, renovation or when identified Life Safety Code deficiencies cannot be immediately corrected.

DEFINITIONS:

1. **Life Safety Code deficiency-** any deficiency in a life safety device or system that would decrease or eliminate the protection to an individual's life safety by the life safety device. These may include deficiencies in fire compartments, means of egress, exit signage, a fire detection system/component, a fire alarm system/component and/or a fire suppression system/component.
2. **Immediate Correction-** a correction that can be implemented within 24 hours of identification.
3. **Interim Life Safety Measure-** additional, temporary measures implemented to compensate for hazards posed during periods of construction, renovation or when another Life Safety Code deficiency is identified until the deficiency is corrected.
4. **Project Manager-** person responsible for implementing and oversight of a construction project or replacement/repair activity to correct a Life Safety Deficiency. An individual that may act as a Project Manager include, but is not limited to, staff in the Physical Plant Department, Clinical Engineering, Radiological Engineering, Telephone (NSIT) , Information Services (CBIS0, Safety Office and Planning, Design and Construction when working in Medical Center buildings.
5. **Fire watch-** A person or persons designated to physically patrol the area where the fire protection system is impaired.
6. **Impairment-** a shutdown, in whole or part, of a fire protection system.
 - a. **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.
 - b. **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.
 - c. **Limited impairment:** when a limited number of components of a fire protection system are found defective or removed from service. A limited impairment represents a minimal impact to the overall life safety of building occupants. Local shut down.
 - d. **Extensive impairment:** a shutdown of an entire fire protection system, or major portion, significantly affecting occupant life safety. More than 25% of a sub zone or for a standpipe affecting multiple areas

POLICY:

This policy establishes the processes for responding to Life Safety Code deficiencies and the implementation of Interim Life Safety Measures (ILSM).

A Life Safety Code deficiency, whether identified during building operations, maintenance activities or other activities, such as rounds, will be evaluated to determine which ILSM criteria are to be implemented. The need for these measures will be reviewed during construction, or renovation project development. The need for these measures will also be reviewed in response to other Life Safety Code deficiencies identified in Medical Center buildings.

PROCEDURES:

1. Reporting Fire Alarm or Automatic Fire Sprinkler System Impairment

- a. The UCM Safety Office notifies the City of Chicago Fire Department, 911 Center and current insurance carrier for outages or impairments pertaining to fire alarms or sprinklers.
 - i. The Plant electricians call the Safety Office with area information.
 - ii. For a non-operational **fire panel** this is reported immediately no matter the duration
 - iii. For an extensive impairment of a **sprinkler system** due to construction or maintenance, this is reported immediately no matter the duration
 1. Draining a whole system should be avoided if the drainage can occur locally
 2. Limited impairments of sprinklers locally are not required be reported (i.e. relocating 1 head)
 - iv. Information about these events is recorded in the Safety Office.

2. Fire Watch

a. A fire watch is initiated when

- i. Construction or maintenance on a sprinkler system (riser shut down etc.) lasts more than 4 hours in a 24 hr period no matter the size of the affected area. Limited impairments of sprinklers locally are not required to have fire watch (i.e. relocating 1 head)
- ii. When a fire panel will be non-operational for more than 4 hours in a 24 hr period
- iii. When an area has no detection and no sprinklers for more than 4 hours in a 24 hr period no matter the size of the affected area.
- iv. When the fire pump will be out of service more than 4 hours in a 24 hr period.

b. Fire Watch Frequency

- i. Occupied, sparsely occupied or unoccupied areas in business occupancies (day or night), as determined by the Safety Office and the departmental person responsible for the impairment (Project Manager):
 1. Documented formal tours every 2 hours through corridors, common areas, mechanical and storage areas by Fire Watch patrol

- a. Tours may occur more frequently if the area has a higher level of risk (chemicals, radiation, storage)
 - ii. Occupied areas in institutional (patient) buildings (day or night) as determined by the Safety Office and the departmental person responsible for the impairment (Project Manager):
 - 1. Documented formal tours every hour through corridors, common areas, mechanical and storage areas by Fire Watch patrol
 - a. Tours may occur more frequently if the area has a higher level of risk (pediatric, intensive care units, chemicals, radiation, storage)
 - 2. For regular maintenance and testing, Electricians may act as an informal fire watch when one electrician is in the area impaired for the duration of the work and another is at the panel. These instances do not need to be documented unless the duration is more than 4 hours in 24 hours
 - iii. Upon discovery of an emergency, sudden or unscheduled impairment, no matter the shift, a fire watch shall be declared by the department responsible for the impairment. This indicates a fire watch is to be conducted every hour. The Public Safety rover may be able to fill this role immediately; however if they are not available, other staff (typically management staff) must be found for the fire watch in the impaired area until the impairment is corrected. The department responsible for the impairment is responsible for notifying Public Safety or providing the fire watch staff.
- c. Fire Watch Responsibilities
 - i. Notification and Documentation
 - 1. The department responsible for the fire watch
 - a. The notification of the scope of a formal fire watch is communicated to the Plant Command Center and Safety Office via telephone or email (scan a completed Appendix A or include the information in email text) by the person(s) responsible for the fire watch Information for the scope to be provided (a paper copy of the notification is not required):
 - i. Date;
 - ii. Location Name and Address;
 - iii. System(s) impacted;
 - iv. Reason for Fire Watch:
 - v. Anticipated duration, if know; and
 - vi. Name and contact information.
- d. Fire Watch Procedure
 - i. Fire Watch Members
 - 1. Fire watch members are recruited, communicated with and coordinated by department responsible for the impairment. The Safety Office reviews the

information provided about the impairment, determines the fire watch tours, and, for extensive impairments, will help determine the coverage for assignments.

2. Once the fire watch tours are determined with Safety, responsible UCM staff (Public Safety and Security staff, Plant staff, Project Management staff), or contractor (under contract or additional contractors) **who have no other duties** but fire watch, will conduct Fire Watches. The individuals who conduct Fire Watches will be made aware of their role by the department member responsible for the fire watch by covering the material in Appendix A which includes the fire watch duties.
 - ii. In advance the department responsible for the fire watch will coordinate the communication of the event to the affected department managers (Plant, Project Managers, Safety, Public Safety, Nursing and other affected departments)
 1. Email is preferred method of communication. In addition to email, post of Fire Watch Signs in impacted areas. See Appendix C.
 - iii. Fire watch members will use the Fire Watch Notification and Checklist (Appendix A) to document tour activities and identify items that need to be corrected. Items identified should be corrected as soon as possible.
 - iv. Items that need to be corrected shall be communicated to the individual responsible for the fire watch who is to coordinate resolution of the issue.
 - v. When the system(s) is restored to normal operation, fire watch activities may be discontinued.
 - vi. Fire watch members are to submit their completed checklists to the individual responsible for the fire watch. This documentation should be and submitted electronically to the ATG permitting system and if applicable as part of the project record.

3. Interim Life Safety Measures

According to the Joint Commission Life Safety Chapter, when a Life Safety Code deficiency is identified that can't be immediately corrected or during construction activities, the UCM shall implement interim life safety measures (ILSM). ILSMs are additional, temporary measures implemented to compensate for hazards posed during periods of construction, renovation or when another Life Safety Code deficiency is identified until the deficiency is corrected. The buildings that require a risk assessment are the buildings within the "Medical Center" footprint and do not include the following buildings: KCBD, Knapp, Gordon Center, Cummings, MARP, Hull Court or Kovler.

- a. ILSMS (LS 01.02.01) may consist of one or more of the following actions depending on whether or not fire egress, alarms, sprinklers or barriers are affected :
 - i. Inspect exits in affected areas on a daily basis. Ensure and post alternate egress
 - ii. Provide a temporary, but equivalent fire alarm and detection systems for use when a fire system is impaired.
 - iii. Provide additional firefighting equipment (contractors).

- iv. Install temporary construction partitions that are smoke tight and built of non-combustible or limited combustible materials that will not contribute to the development or spread of fire.
 - v. Increase hazard surveillances of buildings, grounds and equipment with special attention to excavations, construction areas, and construction storage.
 - vi. Enforce storage; housekeeping and debris removal practices that reduce the flammable and combustible fire load of the building to the lowest level necessary for daily operations.
 - vii. Provide education to those who work in the hospital to compensate for impaired structural or compartmental fire safety features.
 - viii. Conduct an additional fire drill per shift per quarter (safety office).
- b. Interim Life Safety Risk Assessment Process
- i. Prior to a construction or maintenance project that may involve any aspect of the life safety system (including but not limited to egress, sprinklers, alarms, detection, walls, slabs, ceilings, floors, doors) a risk assessment shall be completed by the person responsible for the construction or maintenance project using the ATG Online Permit System (www.atginc.com). Contractors are not currently given access to this system. A ten working day notice is preferred.
 - ii. Project Manager (see definitions)
 - 1. For planned construction, renovation or maintenance activity, the Project Manager shall complete an online Interim Life Safety Risk Assessment r using the ATG Online Permit System (www.atginc.com) . Contractors are not currently given access to this system. Additional information such as a drawing or scope detail should be included as an attachment to the electronic record.
 - 2. If the project has phases or is expected to be of long duration, additional separate permits are to be completed for the project as the life safety system may change throughout the project.
 - 3. Once the Safety Office representative approves and issues the ILSM Plan, the Project Manager will implement the plan.
 - 4. A copy of the ILSM Plan will be posted at the site; preferably outside the entrance.
 - 5. If appropriate, a copy of the ILSM Plan may be placed in the paper project files by the Project Manager.
 - 6. When noted in the ILSM, the Project Manager may need to educate staff working in the affected area. Document education on Appendix E.
 - 7. Once ILSM have been implemented, the Project Manager is responsible for checking the items listed in the ILSM daily by using the form included as Appendix D. On large projects, this task **may be delegated** to the contractor and should be confirmed by the Project Manager.

8. **All life safety, fire watch, ILSM related documents should be attached to the ATG Online Permit record for the project.** A copy may be placed in the paper project file if appropriate.
9. Any modifications, additions or deletions of any life safety device including but not limited to heat detectors, smoke detectors, sprinklers, fire extinguishers, fire hoses, fire valves, fire doors, rated walls, evacuation routes will be communicated to the Plant CMMS Manager and the Safety Manager. Updates for the changes will be sent by the Project Manager to ATG via Space Planning for incorporation into the Life Safety drawings.
 - a. When the use of a space changes or for new construction, the purchasing of new extinguishers is the responsibility of the Project. For spaces that do not change use, such as minor renovations, the Safety Office will supply the extinguishers.
 - b. Any penetrations created by the Project will be infilled with rated 3M wall system material or other approved standard
 - c. All life safety devices listed above will be installed and fire rated according to code.

iii. Safety Office:

1. The Director of Safety or his/her qualified designee will evaluate the need for, appropriateness of and adequacy of ILSM for each deficiency listed on the permit submittal and will approve and issue the ILSM Plan (permit) in the ATG Online Permit System based on that information.
2. Appendix C provides a matrix for determining the extent of the ILSM and is intended for the Safety Office only
3. The Safety Office will conduct education programs to ensure awareness of Life Safety Code, construction hazards and ILSM. ILSM information is included in online fire safety training required annually.
4. In addition, the Safety Office may
 - a. Address ILSMs at contractor safety meetings.
 - b. Review construction design documents for control barriers and egress.
 - c. Participate in pre-construction meetings.

4. Joint Commission Plan for Improvement

- a. For buildings listed under the Joint Commission Statement of Conditions, life safety deficiencies that cannot be completed within 45 days, a Plan for Improvement (PFI) must be entered. The Director of the Safety Office or designee shall enter the information provided by the project manager on the UCM's electronic Statement of Condition (eSOC) for tracking purposes. See also Appendix F to this policy. Buildings listed on the Joint Commission Statement of Condition include, Billings, Center for Care and Discovery, Comer1, Comer 2, DCAM, Mitchell, Gilman Smith, Rubloff, Senior Center, Silver Cross and the Senior Center.

- i. If extensions are required for a PFI, the Director of the Safety Office or designee will review the situation with the Project Manager to determine appropriate next steps and identify the length of extension needed.
- ii. The Director of the Safety Office or designee will submit the PFI extension on the eSOC and track the PFI to resolution.

INTERPRETATION, IMPLEMENTATION, AND REVISION:

The Chairperson of the Life Safety Sub-committee or designee reviews this policy on a regular basis. The Life Safety Sub-committee shall report to the Institutional Safety and Environment of Care Committee on a quarterly basis. The Institutional Safety and Environment of Care Committee evaluates the Program at the end of each fiscal year.

CROSS-REFERENCES:

- | | |
|---|-----------|
| 1. Joint Commission Life Safety Chapter | |
| 2. Smoking Policy | A00-09 |
| 3. Fire Response | S05-10-06 |
| 4. Fire Safety | S06-20 |
| 5. Hot Work Precautions | S06-21 |

Marco Capicchioni
Vice President - Facilities, Design and Construction

Sharon O'Keefe
President

APPENDIX A
FIRE WATCH NOTIFICATION AND CHECKLIST

Part 1- Fire Watch Notification May be turned in via email as an attachment or included in email text. A paper copy of this page is not required to be submitted. To be completed by the person responsible for impairment and submitted to the Plant Command Center, Public Safety and the Safety Office.

Date: _____

Location or Department Name: _____

Building: _____

System(s) Impacted: _____

Areas Affected (by rooms, floor etc): _____

Estimated start: _____ **Estimated end:** _____

Reason(s) for Fire Watch, scope

Fire Watch Names and Contact Information:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____

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APPENDIX A

PART 2 To be completed by Persons Performing Fire Watch:

Fire Watch Procedure:

1. Conduct a continuous patrol of all public areas of the assigned building or area, including: corridors, hallways, laundry rooms, basement, lobby, stairwells, recreation rooms, lounges, and any other common areas.
2. Enter all stairwells - open doors and look into each stairwell.
3. Remain attentive. Patrol your designated area at least every 2 hours.
4. Listen for in-room smoke detectors sounding.
5. Look for observable signs of smoke and/or fire.
6. Verify exits, corridors, & stair towers are free from obstructions.
7. Verify fire extinguishers are easily accessible & in the immediate area of hot work.
8. Verify temporary partitions are smoke tight and made of limited combustibile materials.
9. At first sign of smoke or fire:
 - a. Contact UCMC Public Safety via radio or 2-6262.
 - b. Implement RACER – Rescue, Alarm, Contain, Extinguish, Relocate
 - c. Do not put yourself in jeopardy
 - d. Prepare to take further direction

Person performing Fire Watch:

I have read the instructions about conducting this Fire Watch and understand that I am responsible to follow those instructions and patrol my designated area

Signature:

Document fire watch using the table below every hour UNLESS otherwise determined by the Safety Office; use new sheet for each shift. Return Completed Checklist to Safety with a copy placed in the project file as appropriate

1. Time:	am/pm	Area:	Observations:
2. Time:	am/pm	Area:	Observations:
3. Time:	am/pm	Area:	Observations:
4. Time:	am/pm	Area:	Observations:
5. Time:	am/pm	Area:	Observations:
6. Time:	am/pm	Area:	Observations:
7. Time:	am/pm	Area:	Observations:
8. Time:	am/pm	Area:	Observations:
9. Time:	am/pm	Area:	Observations:
10. Time:	am/pm	Area:	Observations:
11. Time:	am/pm	Area:	Observations:
12. Time:	am/pm	Area:	Observations:
13. Time:	am/pm	Area:	Observations:
14. Time:	am/pm	Area:	Observations:
15. Time:	am/pm	Area:	Observations:
16. Time:	am/pm	Area:	Observations:

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17. Time:	am/pm	Area:	Observations:
18. Time:	am/pm	Area:	Observations:
19. Time:	am/pm	Area:	Observations:
20. Time:	am/pm	Area:	Observations:
21. Time:	am/pm	Area:	Observations:
22. Time:	am/pm	Area:	Observations:
23. Time:	am/pm	Area:	Observations:
24. Time:	am/pm	Area:	Observations:
25. Time:	am/pm	Area:	Observations:
26. Time:	am/pm	Area:	Observations:
27. Time:	am/pm	Area:	Observations:
28. Time:	am/pm	Area:	Observations:
29. Time:	am/pm	Area:	Observations:
30. Time:	am/pm	Area:	Observations:
31. Time:	am/pm	Area:	Observations:
32. Time:	am/pm	Area:	Observations:
33. Time:	am/pm	Area:	Observations:
34. Time:	am/pm	Area:	Observations:
35. Time:	am/pm	Area:	Observations:
36. Time:	am/pm	Area:	Observations:
37. Time:	am/pm	Area:	Observations:
38. Time:	am/pm	Area:	Observations:
39. Time:	am/pm	Area:	Observations:
40. Time:	am/pm	Area:	Observations:
41. Time:	am/pm	Area:	Observations:
42. Time:	am/pm	Area:	Observations:
43. Time:	am/pm	Area:	Observations:
44. Time:	am/pm	Area:	Observations:
45. Time:	am/pm	Area:	Observations:
46. Time:	am/pm	Area:	Observations:
47. Time:	am/pm	Area:	Observations:
48. Time:	am/pm	Area:	Observations:

Appendix B Fire Watch In Progress Sign

Attention Occupants

FIRE WATCH IN PROGRESS

*Fire alarm or sprinkler system is out-of-service for repairs,
construction or maintenance.*

Qualified individuals are conducting a continuous tour of common areas to provide smoke and/or fire detection. Please be alert to evidence of smoke or fire. Contact UCM Public Safety at **2-6262** immediately if fire or smoke is seen or detected.

Be prepared to take direction upon hearing a notification or other alert.

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APPENDIX C ILSM MATRIX

Life Safety System Deficiencies Resulting From Code Deficiencies, Construction Activities, or Maintenance and Testing

- 1. Arrange Fire Watch
- 2. Ensure alternate protected (rated) egress. Post signs
- 3. Provide additional fire extinguishers (contractor)
- 4. Construct temporary fire resistant construction Barriers
- 5. Perform hazard surveillance
- 6. Control Combustible and flammable Load
- 7. Conduct 2 Fire Drills Per Shift Per Quarter* Safety
- 8. Educate staff of ILSMs (App. E)
- 9. Provide unobstructed street and equipment access for EMS and Fire trucks
- 10. Post ILSM Plan
- 11. Risk Assessment & ILSM NOT required. Low risk manageable with current conditions

Egress Restrictions											
1. Are any fire door latches not immediately repairable?											X
2 Will any exit <u>stairs</u> discharge improperly because of the project (i.e. not to grade, blocked, restricted)?		X	X		X	X	X	X		X	
3. Will any exit <u>paths</u> for employees or pedestrians be rerouted, restricted, absent, blocked or distance increased because of the project?		X	X		X	X	X	X		X	
4. Will there be an absence of two or more <u>building</u> exits (i.e. closed at grade) because of the project?		X			X	X	X	X	X	X	
5. Will rerouting of <u>street vehicle</u> traffic need to occur?								X	X	X	
6. Exit light out; correct within 48 hr											X
Impaired Fire Alarm											
1. Will detectors (heat or smoke) greater than 1 sub zone be reduced/disabled beyond changing smokes to heats in an occupied area (i.e. detector coverage must remain in area even if sprinklered)			X		X	X		X		X	
2. Will project or maintenance take any component of an existing fire alarm system other than heats and smokes (other detectors, panel, strobes etc) out of service for any reason (i.e. disabling, modifying, replacing) including panel reprogramming in an occupied area?	X*		X		X	X		X		X	
Impaired Sprinkler											
1. Will project or maintenance take any portion of an existing sprinkler system including heads out of service for any reason (i.e. disabling, modifying, replacing)?	X*		X		X	X				X	
2. Installing sprinkler system where none existed before											X

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Notes:

The list of deficiencies and issues is not meant to be all inclusive. Issues, deficiencies, etc. not addressed in the above list will be handled on a case-by-case basis with regards to the appropriate ILSM response.

The decision to implement any one of the ILSMs above will be handled on a case-by-case assessment of the life safety system impairment.

* Safety Office only. For interruptions whose duration is greater than 30 days.

X* For more than 4 hours in 24 hours; see policy lanuague

X** Temporary construction barrier will vary with the size of the penetration

- 1. Arrange Fire Watch
- 2. Ensure alternate protected (rated) egress. Post signs
- 3. Provide additional fire extinguishers (contractor)
- 4. Construct temporary fire resistant construction Barriers
- 5. Perform hazard surveillance
- 6. Control Combustible and flammable Load
- 7. Conduct 2 Fire Drills Per Shift Per Quarter*
- 8. Educate staff of ILSMs (App.E)
- 9. Provide unobstructed street and equipment access for EMS and Fire trucks
- 10. Post ILSM Plan
- 11. Risk Assessment & ILSM NOT required. Low risk manageable with current conditions

Impaired Fire/Smoke Barriers											
1. Will project modify, add or delete any rated <u>ceilings</u> at any point because of the major renovation, unoccupied area? (Safety to inspect above-ceiling penetrations)			X	X**	X	X					X
2. Will project modify, add or delete any rated <u>walls</u> at any point because of the major renovation, unoccupied area? (Safety to review penetrations)			X	X**	X	X					X
3. Minor renovations, furniture, paint, esthetics											X
3. Will project modify, add or delete any rated <u>doors</u> at any point because of the project? (Safety to review rating)			X	X**	X	X					X
4. Penetration, small (1/2 inch or less gap)											X
5. Penetrations, large (greater than 1/2 inch gap) new due to drilling, boring, pulling wire, disturbing or failed or removal of existing smoke barrier)				X**							
6. Door frame rating missing or covered up											X
7. Damper working but not correctly installed											X

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PROJECT NUMBER: _____
PROJECT MANAGER: _____

PROJECT NAME: _____
START DATE: _____

S06-10 updated 12-2015
Appendix D Daily Documentation

PM Initials if yes

DAY OF THE MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1. Fire watch in place																															
2a. Alternate egress routes are posted																															
2b. Interior egress corridors and exits are clear																															
3. Contractor has adequate fire extinguishers in place.																															
4. Adequate fire or smoke resistant barriers are in place.																															
5a. Fire alarm system detectors, sprinkler heads operational and unobstructed.																															
5b. Temporary system in place (special issues only).																															
5c. Sprinkler system out only during periods of sprinkler modification. Coordinated shut off with Plant.																															
5d. Sprinkler system turned back on. Coordinated with Plant.																															
5e. Electrical appliances and equipment usage not causing hazards; being used appropriately																															
5f. Hot work permits in place (if applicable) being followed																															
6a. General housekeeping practices adequate. Dust is kept to a minimum																															
6b. Combustible storage minimal																															
6c. Flammable gas or liquid use/storage minimal																															
7. Conduct 2 fire drills per shift per quarter (Safety Office only)																															
8. Staff in adjacent areas trained on ILSMs (Appendix E sign in sheet)																															
9a. Exterior fire lanes unobstructed																															
9b. Fire hydrants unobstructed																															
9c. Siamese connections unobstructed																															
10. Smoking strictly prohibited. No evidence of smoking (if so make note below)																															
11. ILSM PLAN in place																															

Other hazards noted in buildings, grounds and equipment with special attention to excavations, construction areas, construction storage and field offices:

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APPENDIX E

Interim Life Safety Education Record

Education for those who work in the hospital to compensate for impaired structural or compartmental fire safety features.

Date of training: _____ Area: _____

Project: _____

Project Manager conducting the awareness _____

ILSM Items Covered (egress, sprinklers, fire alarm, fire/smoke barriers):

Printed Name	Signature
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	

