

**UNIVERSITY OF ROCHESTER
ENVIRONMENTAL HEALTH & SAFETY**

Policy No.: FS006	Approved by: Mark Cavanaugh
Title: Interim Life Safety Measures	Date: 5/23/2019
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I. PURPOSE

This procedure establishes a tool to help maintain a safe environment for all patients, visitors and staff by evaluating the loss of a life safety feature during the course of construction or renovation or when a life safety code deficiency is identified and cannot be immediately corrected. (LS.01.02.01 EP1)

As a result of the assessment, additional measures, as deemed appropriate by the Fire Marshal's Office or Facilities Safety & Compliance Manager, may be implemented to ensure an equivalent level of protection is provided.

This procedure does not replace the Medical Center Facilities and Operations Risk Assessment process.

Unoccupied or new buildings are not included in this procedure, unless construction activities affect the life safety systems/features of adjoining buildings or if the building will become partially occupied prior to the commissioning of the life safety systems.

II. PERSONNEL AFFECTED

Planning & Project Management
Medical Center Facilities and Operations
Public Safety
Hospital Fire Safety Specialist
Real Estate Services

III. DEFINITIONS

Interim Life Safety Measures (ILSM) – a series of compensatory life safety actions that guide patient care areas during construction/renovation projects, deficiencies identified when performing preventative maintenance of life safety systems, and when life safety code deficiencies are identified and cannot be immediately corrected during the shift.

IV. RESPONSIBILITIES

For any construction/renovation project managed through Planning & Project Management (PPM), the Medical Center Facilities and Operations, or Real Estate Services a risk assessment of the planned work will be submitted to the Project Risk Assessment Group (PRAG) for review. (PRAG reviews renovation construction projects in patient care areas both on site and at the Article 28 offsite location.)

For construction projects brought to PRAG, the Hospital Fire Safety Specialist will complete and file the interim life safety measures assessment form and load it to the PRAG SharePoint site.

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Planning & Project Management and/or the Medical Center Facilities and Operations will ensure all contractors and/or employees are following all the required compensatory actions identified by the interim life safety measure assessment. The Fire Safety Specialist and Facilities Safety and Compliance will conduct periodic inspections of the construction site to verify that the guidelines set during the PRAG assessment are being implemented.

V. PROCEDURES

A. FOR CONSTRUCTION/RENOVATION

1. For any construction/renovation project presented to PRAG, the Hospital Fire Safety Specialist will complete and ILSM assessment (see appendix B) and determine if any compensatory safety measures might be required during the project.
2. The ILSM assessment will review the deficiencies and determine which ILSM should be implemented, and assign the responsibilities for the specific ILSMs.
3. The following factors may mitigate the degree of risk, therefore influencing the requirements:
 - (1) Is deficiency more of a technical concern than a safety concern?
 - (2) Do patients, visitors or staff occupy the area in question?
 - (3) Are there other systems or processes already in place to minimize the risk?
4. If the construction project alters an exit outside the construction site, temporary exit signage will be posted for the public to identify the location of an alternate exit. (LS.01.02.01 EP3)
5. If the construction project alters an exit used by staff and the public, the exit shall be inspected daily by the construction team on the days they are working to ensure it is not occluded and is available for use. (L.S.01.02.03 EP4)
6. For construction/renovation projects, Planning & Project Management or the Medical Center Facilities and Operations Construction Group will notify the Hospital Fire Safety Specialist of fire protection system impairments or for any work that may impair a life safety building feature.
7. The Hospital Fire Safety Specialist will authorize the impairment of any fire detection or suppression system and notify the fire department when appropriate.
8. The Hospital Fire Safety Specialist will authorize the deactivation of life safety systems and fire protection systems, notify the fire department as well as assess the need for any ILSM if the fire alarm system is out of service more than 4 hours out of 24 hours or a sprinkler system is impaired for greater than 10 hours in a 24-hour period or if there is a significant compromise of one or more life safety protection features. If a fire watch is required, it shall be documented on the fire watch log. (LS.01.02.01 EP2)
 - (1) Fire Alarm Systems: It is not the intent to require a fire watch for a single non-operating device. A fire watch or temporary fire alarm system would be required if an entire initiating device circuit, signaling line circuit, or notification appliance circuit is out of service. (reference NFPA 101, 2012 edition Section A.9.6.1.6)

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- (2) Sprinkler Systems: It is not the intent to require a fire watch for one or 2 ceiling tiles missing from an area or some ceiling tiles removed while workers are in the area doing above ceiling work.
9. When temporary fire alarm systems are installed, the Hospital Fire Safety Specialist will ensure the monthly inspection and testing of the system is performed and will maintain the records in the ILSM book. (L.S.01.02.01 EP5)
 - (1) It is Strong's practice that during construction activities that any smoke detector in a construction site is converted to a heat detector to maintain detection coverage and eliminate the need for a temporary fire alarm system.
 - (2) It is Strong's practice to change out pendant sprinkler heads and convert them to uprights and raise them to within 12" of the deck in construction sites to maintain the sprinkler protection and eliminate the need for fire watch.
 10. If the sprinkler system or other fire suppression system is impaired during construction activities, additional fire extinguishers shall be brought into the construction site. (L.S.01.02.01 EP6)
 11. The Project Risk Assessment Group will evaluate the need for the protection of the construction activity to the protection of the patient and public. (L.S.01.02.01 EP7). Factors that are considered are scope and duration of the work, sprinkler protection of both sides of the barrier, construction of existing barriers, infection prevention concerns.
 12. The Fire Safety Specialist will assess the impact of the construction activities to fire department access, location of field offices and impact of excavation to exiting and fire department access. (L.S.01.02.01 EP8)
 13. If construction debris cannot be immediately removed from the construction site or the Fire Safety Specialist determines there is poor housekeeping or excessive combustible loading, they may require increase surveillance or posting a fire watch. (L.S.01.02.01 EP9)
 14. When the construction activity impairs a suppression system in an occupied patient care area, the Fire Safety Specialist shall provide a training ILSM on fire extinguisher operations for the areas affected. (L.S.01.02.01 EP10)
 15. Should the construction activity relocate the existing exits from patient care areas the Fire Safety Specialist will conduct an additional quarterly fire drill per shift per quarter until the exit has been restored. (L.S.01.02.01 EP11)
 16. When the Fire Safety Specialist determines the construction activity requires temporary life safety systems to be installed, such as fire alarm system or egress lighting, those temporary systems shall be tested monthly and documented. (L.S.01.02.01 EP12)
 17. For construction activities that impair compartmentation features or a detection or suppression system impairment of an occupied patient care area, the Fire Safety Specialist will develop a teaching ILSM for that unit. (L.S.01.02.01 EP13&14)
 18. Since construction and renovation projects are dynamic, the Hospital Fire Safety Specialist will periodically inspect the job throughout the course of the project. This

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is intended to verify the contractor's and/or employee's compliance with good construction and fire safety practices, in addition to monitoring the contractor and/or employee's compliance with any ILSM's requirements.

- (1) The Hospital Fire Safety Specialist will document the inspection using the Construction & Renovation Projects Fire & Life Safety Survey Form (see appendix 2).
19. Risk Assessments documentation, including a description of the project, the risk assessment checklist, ILSM assessment tool, ICRA risk assessment and work authorization permit shall be maintained by the Safety and Compliance Manager in Medical Center Facilities and Operations in accordance with this policy. These records shall be available for review for 3 years.
20. This policy is not all-inclusive and other ILSM's may be required based on our assessment. (L.S.01.02.01 EP15)

B. FOR LIFE SAFETY CODE DEFICIENCIES

1. Use the general guidance for the Construction/Renovation Section to help in your assessment evaluation of identified code deficiencies.
2. Typically, these deficiencies occur or are found while Medical Center Facilities and Operations perform preventative maintenance activities, or identified during EH&S testing or inspections. They may also be found during environmental rounds and audits of patient care areas. The deficiencies are usually short term in duration. Facilities have developed processes to immediately correct the problem, preferably within the same shift that the deficiency was found.
3. In those occurrences where the repair cannot be immediately implemented, Medical Center Facilities and Operations will implement a life safety corrective work order for the deficiency. This corrective work order has a 45-day time limit for repair on it. An automated e-mail on the life safety corrective work order is sent to the Facilities Safety Compliance Manager and Facilities Safety and Compliance Coordinator.
4. The Facilities Safety & Compliance Manager or designee will assess the deficiency for an Interim Life Safety Measure through the screening process using guidance as outlined in the Construction/Renovation section of this procedure, and assign the ILSM as warranted. This ILSM is sent to the manager of the area where the deficiency was noted as well as to Environmental Health and Safety (to the attention of the Hospital Fire Specialist).
5. Life Safety correctives put into the FAMIS system are additionally generated onto a comprehensive and ongoing listing that is also tied into FAMIS. The correctives are tracked daily and reviewed at a monthly meeting of key stakeholders in Medical Center Facilities and Operations to ensure the 45-day limit is not being exceeded.
6. Once the repair has been addressed, the implemented ILSM will be lifted and closed out. Correctives exceeding the 45 days are converted to an internal Plan for Improvement.

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7. In the event, that the Safety and Compliance Manager or Coordinator is not available at the time that the life safety corrective is put through, the mechanic in Facilities will verbally inform staff of the deficiency (i.e. after hours) Upon return of the Compliance Manager and Coordinator, the deficiency will be screened for the ILSM and it will be issued.
8. ILSM's have been assigned for key building maintenance life safety features and equipment. If a deficiency is found during preventative maintenance operations, the goal is to render repair during the same shift.
9. The ILSM will remain in place until the life safety corrective work order is closed out, and verified by EH&S or the Facilities Safety and Compliance Manager if approved by EH&S, as corrected. For identified deficiencies that cannot be repaired or corrected within 45 days, the Safety and Compliance Manager in Medical Center Facilities and Operations will move the work order to an internal plan for improvement, and will perform an ILSM assessment. Based on that assessment, the Safety & Compliance Manager will identify which ILSM should be implemented, and assign the responsibilities for the specific ILSMs
10. For **EMERGENCY** off-hours fire protection system impairments or life safety building feature problems, Public Safety will contact the Hospital Fire Safety Specialist. The Hospital Fire Safety Specialist will work with Public Safety in understanding the impairment request or problem, assess the risk and develop a plan for restoring the system or building feature, and define what ILSM are required.
11. The following factors may mitigate the degree of risk, therefore influencing the requirements:
 - (1) Is deficiency more of a technical concern than a safety concern?
 - (2) Do patients, visitors or staff occupy the area in question?
 - (3) Are there other systems or processes already in place to minimize the risk?
12. The Hospital Fire Safety Specialist will authorize the deactivation of life safety systems and fire protection systems, notify the fire department as well as assessing the need for any ILSM if the fire alarm system is impaired more than 4 hours out of 24 hours or the sprinkler system is to be impaired for greater than 10 hours in a 24-hour period or if there is a significant compromise of one or more life safety protection features.
 - (1) Fire Alarm Systems: It is not the intent to require a fire watch for a single non-operating device. A fire watch or temporary fire alarm system would be required if an entire initiating device circuit, signaling line circuit, or notification appliance circuit is out of service. (reference NFPA 101, 2012 edition Section A.9.6.1.6)
 - (2) Sprinkler Systems: It is not the intent to require a fire watch for one or 2 ceiling tiles missing from an area or some ceiling tiles removed while workers are in the area doing above ceiling work.

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13. When temporary fire alarm systems are installed, the Hospital Fire Safety Specialist will ensure the monthly inspection and testing of the system is performed and will maintain the records in the ILSM book.
14. This policy is not all-inclusive and other ILSMs may be required based on our assessment.

VI. REFERENCES

National Fire Protection Association Life Safety Code 2012 Edition
 Environment of Care Life Safety Management Plan
 FS008 – Fire Watch policy

VII. APPENDICES/FORMS

Appendix 1– Interim Life Safety Measures Assessment Form
 Appendix 2 – Construction & Renovation Projects Fire & Life Safety Survey Form
 Appendix 3 – ILSM Training Document

VIII. REVISION HISTORY

Date	Revision No.	Description
10/2/2007	New	Converted document into new format
12/7/2007	1	Added clarification of purpose and responsibilities
1/11/2008	2	Modified procedures section, updated appendices
3/6/2009	3	Modified procedures section, updated appendices
12/22/2009	4	Revised appendix 3 and enhanced procedures section
4/8/2010	5	Modified purpose, procedures section and updated appendices
9/22/2010	6	Modified Procedures Section A and updated appendices
1/8/2013	7	Clarified procedure and responsibilities
3/7/2013	8	Add fire watch
1/30/2016	9	Modified procedures section
11/20/2018	10	Modified purpose statement and procedures section
1/10/2019	11	Clarified steps
5/23/2019	12	Implemented JC recommended enhancements

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Appendix 1: Interim Life Safety Measures Assessment Tool

DESCRIPTION of Project or Deficiency:				
PROJECT/PFI/Work Order NUMBER:				
ESTIMATED START DATE:				
ESTIMATED FINISH DATE:				
CODE DEFEICIENCY	Yes	No	ILSM #	Comments
Problem w/ fire or smoke door?				
Fire or smoke barriers compartmentalization features compromised with unprotected penetrations, or missing portions of the wall or floor slab?				
Missing or impaired NFPA 101 required fire or smoke damper?				
Fire alarm system impaired more than 4 out of 24 hours?				
Sprinkler system is impaired more than 10 hours in a 24 hour period?				
Hazardous use areas not properly separated from corridors?				
Obstructed exit or exit discharge?				
Temporary relocation of exits to accommodate work?				
Excessive accumulation of combustibles and/or materials?				
Temporary construction doors not latching or missing hardware?				
Activity involving ignition sources (welding, torching)?				
Exterior construction work that would impede emergency vehicle access to the building, fire department connection or other safety features?				
OTHER- specify				

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ILSM #1		Notify fire department for significant fire protection impairments (building fire water shutdown, loss of fire pump, standpipe shutdown), pull all hot work permits for the affected area(s) until the system is back in service, post a fire protection system impairment notice at the affected valve(s) and/or area(s)
ILSM #2		Provide & maintain alternative egress routes & exits, install temporary EXIT directional signage & provide training for using alternate exits
ILSM #3		Ensure exterior building access points are unobstructed, maintain primary and/or alternate vehicular access & notify emergency response agencies when alternative access points are required (Construction areas this is the contractor's responsibility). Notify fire department for access issues to the building or fire department connection or other safety feature.
ILSM #4		For construction projects, the construction team inspect exits on a daily basis on days they are working. For code deficiencies, the occupants will do the daily inspections.
ILSM #5		Notify fire department for significant fire protection impairments Provide a temporary but equivalent system when any fire alarm system is impaired for >4 hours in a 24 hour period, test systems monthly and document testing, or provide a fire watch if no temporary systems are installed (document fire
ILSM #6		Provide additional firefighting equipment and training in its use. (Construction areas this is the contractor's responsibility.)
ILSM #7		Provide temporary barriers that are smoke tight or built of non-combustible or limited combustible materials
ILSM #8		Increase hazard surveillance of buildings, grounds & equipment including excavations, construction areas, storage area, staging areas, field offices etc.
ILSM #9		Enforce storage, housekeeping, and debris-removal practices that reduces the building's flammability and combustible fire load to the lowest feasible level.
ILSM #10		Provide training on the use of firefighting equipment when suppression systems are impaired.
ILSM #11		Conduct one additional fire drill per shift per quarter when exits have been relocated. Provide training to compensate for altered exits or impaired structural or compartmentalization features of fire safety
ILSM #12		Inspect, test and document temporary system such as fire or emergency lighting, etc.
ILSM #13		Conduct safety education programs to promote awareness of construction hazards & temporary measures implemented.
ILSM #14		Loss of compartmentation (fire walls/barriers, smoke barriers) or impaired structural safety features requires education of staff on the loss of this safety feature.
ILSM #15		"Other" impairments or deficiencies not identified will need to be assessed and ILSM's documented below in the comments section.

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COMMENTS: Smoking is not permitted on the site. Contractor for large construction projects or Facilities for in-house construction projects is responsible for monitoring and enforcing Strong's No Smoking Policy.
Signature

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Appendix 2: EH&S Construction Project Inspection Form

Construction & Renovation Projects
Fire & Life Safety Survey Form

DATE:

PROJECT AREA:

INSPECTED BY:

	Y	N	N/A	COMMENTS
1. Exits available and clear?	Y	N	N/A	_____
2. Are alternate exits required as part of this project?	Y	N	N/A	_____
3. If alternate exits are required, has staff been trained?	Y	N	N/A	_____
4. Unobstructed access for emergency services?	Y	N	N/A	_____
5. Fire alarm system fully operational?	Y	N	N/A	_____
6. Is a temporary fire alarm system required?	Y	N	N/A	_____
7. If required, is it tested monthly?	Y	N	N/A	_____
8. Fire sprinkler system fully operational?	Y	N	N/A	_____
9. Temporary construction partitions non-combustible and smoke tight?	Y	N	N/A	_____
10. Are any smoke/fire barriers breached, open, not sealed permanently or with an approved temporary seal?	Y	N	N/A	_____
11. Is the smoke/fire compartmentation lost? If Yes, has staff been trained?	Y	N	N/A	_____
12. Construction housekeeping in good shape and fire loading at its lowest level?	Y	N	N/A	_____
13. Smoking prohibited in construction area.	Y	N	N/A	_____
14. Increased hazard surveillance in effect?	Y	N	N/A	_____
15. Contractors provided fire extinguishers in construction area?	Y	N	N/A	_____

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16. Have workers been trained in fire extinguisher use and on impaired structural or compartmentalization features?
If Yes, indicate Date and Instructor
- Y N N/A _____
Date: _____ Instructor: _____
17. Did contractors answer fire safety questions correctly and understand procedures?
- Y N N/A _____
18. On-duty staff aware of Interim Life Safety Measures?
- Y N N/A _____
19. Appropriate notifications made for any deficiency indicated?
- Y N N/A _____
20. One drill per shift/per quarter conducted?
- Y N N/A _____
Date: _____

21. Are contractors completing daily inspection reports?
- Y N N/A _____

Notification made to:

Notification Date:

Comments:

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Appendix 3: ILSM Notification and Training Document Example

INTERIM LIFE SAFETY MEASURES (ILSM)	
NOTIFICATION & TRAINING DOCUMENT	
Unit or Area Number:	
Contact(s):	
Statement of Problem:	
Impact:	
Actions Staff Need to Take:	Your evacuation procedures have not changed. This includes if evacuation of the unit would be required. Direction will be provided on evacuation at the time of a fire event based on decisions made at the command post.
If there are any questions or problems contact:	Scott Miller, Fire Safety Specialist (353-6058)
This notice may be removed by:	Fire Marshal's Office OR Facilities Safety and Compliance Manager