

EC.02.03.01 The hospital manages fire risks

1 ***The hospital minimizes the potential for harm from fire, smoke, and other products of combustion.***

The University Hospital Life Safety Program is designed as a prevention as well as a containment program. Safe building design and maintenance of protective features is the first step in protecting building occupants. The hospital has and maintains a variety of smoke barriers, fire barriers, horizontal exits, and occupancy separations so that patients can be horizontally evacuated and housed in-place while the sprinkler system controls and the fire department extinguishes the fire. Quick detection of potential hazards including those that could result in fire as well as those that would prevent containment of fire or smoke or impede response, or evacuation is the goal and is managed by Environment of Care and Fire Marshal rounds. Staff education to prevent undue patient risks through appropriate response during emergencies is the objective of the training and education component. Deficiencies that are not immediately corrected are listed in the Statement of Conditions, Plan for Improvement or an equivalency applied for. The Physical Plant administers a Building Maintenance Program (BMP) for items allowed by the Statement of Conditions (SOC) in lieu of creating Plan for Improvement's (PFI's)

2 ***If patients are permitted to smoke, the hospital takes measures to minimize fire risk***

Smoking is prohibited in all health care facilities and their surrounding grounds with the exception at this time of Psych patients. These persons are escorted from their unit who maintains their smoking materials, to an outside area for their smoke breaks.

4 ***The hospital maintains free and unobstructed access to all exits. Note: this requirement applies to all buildings classified as business occupancy. The "Life Safety chapter addresses the requirements for all other occupancy types.***

In the hospital, the areas that are designated as separated business occupancies are: Levels 1 – 3, Level 5, and T13 south. All these areas receive regular Environment of Care rounding which among other things, inspects all the means of egress. Any deficiencies are either corrected through the same means as the rest of the hospital.

9 ***The hospital has a written fire response plan***

Fire response in the Hospital requires a combined and coordinated response by all personnel within the facilities. Each person working in the facilities have been trained on their responsibilities which are spelled out in the fire plan, whether they are in the area of fire origin, or elsewhere in the building, preparing for evacuation.

Preparedness for fire events is maintained through new employee orientation, annual recertification Right to Know training, and drills. In each of these, RACE, to include fire extinguisher training by a live fire simulator, the purpose of smoke compartments, and how to report fires, are taught. Floor maps with identified evacuation zones and areas of refuge for each unit have been developed and are posted throughout the hospital.

When fire alarm "chimes" sound, indicating the alarm source is on another floor or fire area, staff are trained to be on standby for further instructions. In departments away from the fire origin, staff should prepare the area in case they will be receiving evacuee's or an evacuation of their area is necessary. At off-site facilities, staff, patients, and visitors exit to the exterior of the building no matter where the fire is located.

10

The written fire response plan describes the specific roles of staff and licensed independent practitioners at and away from a fire's point of origin, including when and how to sound fire alarms, how to contain smoke and fire, how to use a fire extinguisher, and how to evacuate to areas of refuge.

- a. Fire wardens are specially trained staff members, tasked with taking charge of their areas during fire and fire alarm situations. They will investigate all fire alarms within their area of the Hospital by first inspecting the annunciator panel located closest to their area. Fire wardens, along with the nurse manager take the lead in coordinating an evacuation for their area, directing where patients will be evacuated to, keeping account of who has moved.
- b. Nurses take lead role under the direction of the fire warden or nurse manager in the evacuation and accountability of patients.
- c. Doctors will assist the nursing staff and be under the direction of the fire warden or nurse manager evacuating patients. They will then remain in the evacuation area, providing care as appropriate to the evacuated patients.
- d. Volunteers will assist the nursing staff under the direction of the fire warden or nurse manager. If at the time of fire alarm activation they are responsible for patients, the volunteer will stay with those patients and assist in their evacuation.
- e. All other hospital staff present on the unit will remove any of their items such as housekeeping, food, and linen carts from the corridors. They will assist as necessary, or evacuate the floor or area.
- f. Medical students will evacuate the area unless they are specifically tasked by the fire warden or charge nurse to assist in patient evacuation

EC.02.03.03 The hospital conducts fire drills

1

The hospital conducts fire drills once per shift per quarter in each building defined as a health care occupancy by the Life Safety Code. The hospital conducts quarterly fire drills in each building defined as an ambulatory health care occupancy by the Life Safety Code.

Fire Drills are conducted quarterly in all health care occupancy locations on each shift per EH&S policy 5-14. For the Hospital, drills on tower and network floors are conducted so that the area of fire origination is evaluated along with the floor above and below. All drills are reviewed for the purpose of identifying deficiencies and opportunities for improvement. Reports on fire drills are maintained by Environmental Health and Safety.

2

The hospital conducts fire drills every 12 months from the date of the last drill in all freestanding buildings classified as business occupancies and in which patients are seen or treated.

All freestanding clinics that see or treat patients conduct an annual fire drill. Drills are conducted by hospital fire marshals and are coordinated with the off-site manager. Drill reports are reviewed and reported through the off-site environment of care coordinator to the safety committee.

3

When quarterly fire drills are required, at least 50% are unannounced.

Environmental Health and Safety maintains a schedule of drills which is designed to cover all areas of the facility. With few exceptions such as an OR or ICU evacuation drill, drills are not announced in advance of their completion. Staff are approached by the fire marshal, given a scenario, then expected to do all RACE actions with the exception of evacuating patients from their rooms. The Fire Safety Manager reviews the schedule and makes adjustments based upon drill performance and real events

- 4 **Staff who work in buildings where patients are housed or treated participate in drills according to the hospitals fire response plan.**

It is the expectation of the Hospital that all employees participate in fire drill activities. Employees that do not respond to drill activities are documented and reported to their immediate supervisor. Fire drill reports are annotated accordingly

- 5 **The hospital critiques fire drills to evaluate fire safety equipment, fire safety building features, and staff response to fire. The evaluation is documented.**

Environmental Health and Safety fire safety staff coordinates fire drills, which includes critiques. Fire marshals observe staff reaction and participation. After the drill, the lead fire marshal conducts a debrief with the charge nurse and/or fire warden, advising of any problems or areas for improvements. A report of the drill is maintained identifying what went well and opportunities for improvements and tracks their progress

Elements of the fire response plan including RACE and PASS are evaluated and educated during drill activities. The initiation of the alarm system is completed by staff and the fire marshals quiz participants on what they would do under certain circumstances.

During the drills, fire marshals are looking out for any fire door, fire alarm, or other fire safety feature that is found deficient. A work order initiated and tracked to completion for any deficiency.

EC.02.03.05 The hospital maintains fire safety equipment and fire safety building features

EH&S policy 5-12 governs the inspection, testing and maintenance of all Hospital, ACP, and ASC fire protection systems.

- 1 **At least quarterly, the hospital tests supervisory signal devices with the exception of valve tampers.**

The hospital has two categories of supervisory signal devices: low-air switches on dry pipe valves at the hospital, and fire pump run, power loss, and phase reversal for the hospital. Tests are conducted and documented by the fire marshals office.

- 2 **Every 6 months, the hospital tests valve tamper switches and water-flow devices.**

There are a total of 81 separate sprinkler zones in the hospital, requiring 81 tests each for the flow and tamper switches. These are conducted by the fire marshals and plumbers with documentation maintained by the fire marshals office.

- 3 **Every 12 months, the hospital tests duct detectors, electromechanical releasing devices, heat detectors, manual fire alarm boxes, and smoke detectors.**

The inspection and maintenance of the hospital fire alarm, to include all initiating devices, is conducted by a Simplex contractor. The fire marshals office provides oversight for this contract, maintaining records and assuring user responsible deficiencies are forwarded and corrected.

- 4 **Every 12 months, the hospital tests visual and audible fire alarms, including speakers**

Same as EP3

- 5 **Every quarter, the hospital tests fire alarm equipment for notifying off-site fire responders.**

Fire alarm transmission from the hospital is received at the University Police Department who notifies the local fire department. Transmission of the alarm equipment notification is tested and documented quarterly by the fire marshals office.

- 6 **Every week, the hospital tests fire pumps under no-flow conditions**

The hospital has two fire pumps, one for the network and one for the towers. The pumps are tested weekly by the physical plant. They maintain that documentation. The ACP and ASC pumps are tested weekly by the fire marshals office, with them maintaining the documentation.

- 7 ***For automatic sprinkler systems: every 6 months, the hospital tests water-storage tank high water level alarms.***
N/A
- 8 ***For automatic sprinkler systems: every month during cold weather, the hospital tests water-storage tank temperatures.***
N/A
- 9 ***For automatic sprinkler systems: every 12 months, the hospital tests main drains at system low point or at all system risers.***
The fire marshals office conducts these tests annually at the three facilities, maintaining the records.
- 10 ***Every quarter, the hospital inspects all fire department connections***
The fire marshals office conducts these inspections quarterly at the three facilities, maintaining the records
- 11 ***Every 12 months, the hospital tests fire pumps under flow conditions.***
Annual fire pump tests are conducted by the fire marshals and physical plant on the hospitals two fire pumps. The fire marshals office maintains the records
- 12 ***Every 5 years, the hospital conducts water-flow tests for standpipe systems***
The fire marshals office conducts these tests every 5 years, maintaining the records.
- 13 ***Every 6 months, the hospital inspects any automatic fire-extinguishing systems in a kitchen***
The Dietary department is responsible for contracting for this test on a semi-annual basis for the level 1 and level 5 systems. Beside the original records at dietary, the fire marshals office maintains copies for QAE purposes
- 14 ***Every 12 months, the hospital tests carbon dioxide and other gaseous fire extinguishing systems.***
The telephone room on L1 which contains a halon 1301 system, comes under the jurisdiction of the campus telephone office. That office is responsible for contracting for the test, with the fire marshals office providing technical oversight and maintaining a copy of the records.
- 15 ***At least monthly, the hospital inspects portable fire extinguishers***
Per EH&S policy 5-10, Monthly, the fire marshals office inspects all fire extinguishers. Records are automated in a bar coded scanning system.
- 16 ***Every 12 months, the hospital performs maintenance on portable fire extinguishers.***
The fire marshals accomplish the maintenance as well on the same extinguishers, recording results in the bar code system. Any 6 year inspections, hydro testing, or recharges are handled by DOT certified contractors through an open contract that is maintained by the campus EH&S office.
- 17 ***The hospital conducts hydrostatic tests on standpipe occupant hoses 5 years after installation and every 3 years thereafter.***
N/A
- 18 ***The hospital operates fire and smoke dampers 1 year after installation and then at least every 6 years to verify that they fully close.***

The physical plant who has HVAC responsibility for Hospital fire dampers, contracts out for the testing of the dampers. They are currently in-between testing cycles, with the exception of the newly installed dampers in the Major Mod expansion project. Those will require their 1 year inspection in 2009.

19 ***Every 12 months, the hospital tests automatic smoke-detection shutdown devices for air-handling equipment***

The tests are conducted annually by both the fire marshals office and HVAC shop. Results are documented in the fire marshals office.

20 ***Every 12 months, the hospital tests sliding and rolling fire doors for proper operation and full closure.***

The tests are conducted annually by both the fire marshals office and structures shop. Results are documented in the structures office

Life Safety Chapter

LS.01.01.01 Statement of Conditions.

1 ***The hospital assigns an individual to assess compliance with the Life Safety Code, complete the electronic Statement of Conditions, and manage the resolution of deficiencies.***

EH&S policy 9-2, Maintenance of Buildings to Life Safety Code Standards and Statement of Conditions, outlines how the Statement of Conditions (SOC) is managed, and qualifications of the individual completing the SOC. The EH&S Fire Safety Office takes the lead in assessing compliance with the SOC.

2 ***The hospital maintains a current Statement of Conditions (eSOC)***

Maintenance of the eSOC is an continual and on-going process within the hospital, ACP, and ASC. During Environment of Care rounds which are conducted on a semi-annual basis, the Fire Safety Office which is part of the rounding team, inspects for deficiencies of the Life Safety Code 101-2000 chapter 19. Those items not corrected within 45 days are entered in to the eSOC as a Plan for Improvement (PFI). The PFI's then are monitored by the Fire Safety Office to assure they do not exceed the established time frames for correction.

3. ***When the hospital plans to resolve a deficiency through a Plan for Improvement, the hospital meets the time frames identified in the PFI accepted by the Joint Commission***

The PFI's that have been accepted by the last Joint Commission inspection which was in August of 2006, are entirely closed out, each item having met their time frames.

LS.01.02.01 The hospital protects occupants during periods when the Life Safety Code is not met or during periods of construction.

1 ***The hospital notifies the fire department and initiates a fire watch when a fire alarm or sprinkler system is out of service more than 4 hours in a 24-hour period.***

System impairments for the Hospital are governed by EH&S policy 5-5. In it, a tag out system controlled by the Fire Safety Office dictates that no system can be shut down without their knowledge and permission. With the impairment process, the Setauket FD is notified off all shutdowns over 4 hours and EH&S policy 5-8, Fire Watch, is put in place.

2 ***The hospital posts signage identifying the location of alternate exits to everyone affected.***

Should there be an alternate exit put in place, signage is put in place and those affected would be trained and an extra drill per quarter conducted.

3 ***The hospital has a written Interim Life Safety Measure (ILSM) policy that covers situations when Life Safety Code deficiencies cannot be immediately corrected or during periods of construction.***

EH&S policy 5-11, Interim Life Safety Measures, incorporates a decision making matrix for various deficiencies that could result from either construction activity or other life safety deficiencies

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12 ***When the hospital identifies Life Safety Code deficiencies that cannot be immediately corrected or during periods of construction, the hospital does the following (following each of EP's 4 4 12 as needed):***

EH&S policy 5-11 addresses all listed ILSM's which are acted on and monitored by Environmental Health and Safety. It is EH&S which will determine which measures need to be addressed and what corrective or monitoring plans need to be put into force. All renovation and construction projects are reviewed during a PreConstruction Review (PCRA) process with Infection Control, Facilities, and Fire Safety to determine any life safety deficiencies being introduced, and the appropriate interim measures, based on the NFPA 2000 Life Safety Code, that need to be utilized until the deficiencies no longer exist. Documentation of activities is kept with the project paperwork.

LS.02.01.10 Building and fire protection features are designed and maintained to minimize the effects of fire, heat and smoke

- 1-
10 The Hospital utilizes the 2000 National Fire Protection Associations (NFPA) 101 Life Safety Code as the main reference document for fire prevention and life preservation. New construction or renovation projects additionally follow the AIA Guidelines for Design and Construction of Hospital and Health Care Facilities as well as the New York State International Building Code. More stringent State and local codes are followed where applicable. Elements of Performance 1 – 10 outlined under LS.02.01.10 are all Life Safety Code requirements and inspected as part of the Statement of Conditions program and documented by the Fire Safety office as either compliant, entered into the Physical Plants work order system, or into the eSOC as a PFI with applicable ILSM's applied.

LS.02.01.20 The hospital maintains the integrity of the means of egress

Elements of Performance 1 – 11 and 14 – 32 are Life Safety Code requirements and are being managed through the Statement of Conditions program, same as LS.02.01.10.

- 12, EP 12, the corridor width is not obstructed by wall projections, and EP 13, exit access is clear of
13 obstruction such as clutter, is an issue throughout the hospital that is recognized by Hospital leadership as a problem it needs to deal with. There is a multidisciplinary committee working to mitigate the obstructions at the same time providing safe patient clinical care. Much of the obstructions comes in the form of computer carts, infection control cabinets and charting racks, which are all part of programs put in place for patient care. How these programs are being managed, such as how many carts are actually needed, or what can be mounted on the wall, are being analyzed.

LS.02.01.30 The hospital provides and maintains building features to protect individuals from the hazards of fire and smoke

Same as LS.02.01.10/.20, this standard contains Elements of Performance that are contained in the Life Safety Code and are managed through the eSOC. With an ongoing Statement of Conditions inspection process, deficiencies are being identified and corrected on a continual basis

LS.02.01.34 The hospital provides and maintains fire alarm systems.

1 ***The fire alarm signal automatically transmits to one of the following (listed in standard):***

The hospital, fire alarm system transmits to the University Police (UPD) HQ as a Proprietary Supervising Station, same as the entire Stony Brook University Campus. The UPD, upon receipt of the alarm signal, contacts the Setauket FD via a tie-line who automatically dispatch their forces. Simultaneously, the UPD dispatches campus and hospital fire marshals and hospital security guards to the fire alarm location.

2 ***The master fire alarm is located in a protected environment that is continuously occupied or in an area with a smoke detector***

The master fire alarm control panels for the hospital are located in the adjacent Health Sciences Center, collocated with the master panels for that facility. The room in which all this equipment is located is in a 1 hour rated room with smoke detection. It is not continuously occupied.

3 ***The remote ancillary annunciator panel is in a location approved by the FD***

In the main lobby of the hospital, there is a fire command room that contains a fire command panel for the purpose of: zone annunciation, firefighter phones, PA microphone for evacuation, smoke control panel, and other hi-rise fire department command center functions. This command room is meant for the fire department to operate out of, and has been approved by them. There is continual training on their part in it's usage

LS.02.01.35 The hospital provides and maintains systems for extinguishing fires

1 ***The fire alarm system monitors approved sprinkler system components***

The hospital is fully protected in all areas by a supervised sprinkler system, it's water pressure boosted by two fire pumps. All sprinkler components are completely monitored as required, with alarms, troubles and supervisory signals being automatically transmitted to the University Police.

2 ***The fire alarm system is connected to water flow alarms.***

There are 81 separate sprinkler zones, each one connected to the fire alarm system reporting as a separate zone

3 ***Piping supports for approved automatic sprinkler systems are not damaged or loose***

Semi-annual Fire Marshal Life Safety inspections includes on it's checklist, the requirement for inspecting sprinkler piping and sprinkler heads, as defined by NFPA 25, Inspection of Water Based Extinguishing Systems.

- 4 ***Piping for approved automatic sprinkler systems is not used to support any other item***
See EP3
- 5 ***Sprinkler heads are not damaged and are free from corrosion, foreign materials, and paint.***
See EP3
- 6 ***There are 18 inches or more of open space maintained below the sprinkler deflector to the top of storage***
The Fire Safety office, between it's semi-annual EC rounds and semi-annual Fire Marshal Life Safety inspections, looks for obstructed sprinkler heads, reporting to the responsible party whatever is found, making them move the blocking items.
- 7 ***Limited are sprinkler protection is compliant***
N/A
- 8 ***The travel distance from any point to the nearest fire extinguisher is 75 feet or less***
All points in the hospital have been measured for travel distance, and no point is less than 75 to the nearest extinguisher for class A and C hazards and no more than 50 feet to class B hazards, such as in labs.
- 9 ***Class K fire extinguishers are located within 30 feet of grease producing cooking devices***
There are two locations in the hospital that have grease producing cooking appliances, level 1 dietary and level 5 café. Each area has a class K extinguisher within 30 feet.
- 10-13 ***Grease producing cooking devices have an exhaust hood, duct, and filters***
The two locations mentioned above, are fully ducted to the outside with wet chemical fire extinguishing systems that activate the facility fire alarm and shut down the gas supply. Upon activation, the fans will continue to run, as per manufacturers design recommendations
- 14 ***The hospital meets all other automatic extinguishing requirements***
The halon 1301 fire suppression system located in level 1 for the hospitals telephone switching system, is fully compliant with NFPA 12A, connected to the facilities fire alarm system, isolating the HVAC system upon activation

LS.02.01.40 The hospital provides and maintains special features to protect individuals from the hazards of fire and smoke

- 1 ***Windowless buildings or portions of windowless buildings meet requirements of NFPA 101-2000***
This hospital does not meet the definition of windowless buildings
- 2 ***New hi-rise buildings have an approved automatic sprinkler system***
The hospital is a hi-rise facility and is undergoing a major modernization (MMP) renovation project, thus meeting the requirements for an automatic sprinkler system. The facility had however, just undergone a major sprinklering project prior to the MMP making it fully supervised sprinklered hospital

LS.02.01.50 The hospital provides and maintains building services to protect individuals from the hazards of fire and smoke

- 1 **Fire places are not permitted in patient sleeping areas**
N/A
- 2 **Fire places are protected by enclosures**
N/A
- 3 **Fire place hearths are compliant**
N/A
- 4 **New elevators and those with a travel distance of 25 feet above or below the level of firefighter access are equipped with fire service key recall, smoke detection recall, fire service in-car operation, machine room smoke detectors.**
There are 18 elevators in the hospital, each one meeting the requirements of the elevator code, ASTME 17.1 for phase I and phase II elevator emergency service operation, along with NFPA 72, Fire Alarm Code, for smoke detector installation in conjunction with the phase I recall. The Fire Marshals office conducts monthly testing of phase I recall as per NFPA 101-2000 and annual testing of phase I & II recall, as per ASTME 17.1.
- 5 Trash chutes discharge into dedicated collection rooms.
N/A
- 6 In new buildings, linen and waste chutes have vent openings
N/A
- 7 **In buildings more than two stories, an approved automatic sprinkler system is located above the top of the linen chute service opening, on the lowest level and above the service doors on alternate floor levels**
The hospital has an active linen chute shaft, extending from the 19th level, down to level 1 at the linen chute termination room. There is a sprinkler system installed, as per NFPA 82 guidelines, outlined above
- 8 **Linen chute service inlet door assemblies are fire rated for ¾ hour**
Each tower floor has an inlet door, labeled for ¾ hour
- 9 **All linen chute inlet and discharge service doors have both self closing and positive latching devices**
Each inlet level, as well as the discharge level, are compliant
- 10 **Linen chute discharge door assemblies are rated for 1 hour**
The discharge door assembly located in the level 1 linen collection room is 1 hour
- 11 **Linen chutes discharge into a collection room separated from the corridor by 1 hour fire rating**
The discharge collection room on level 1 is protected by 1 hour fire rated barriers.

LS.02.01.70 The hospital provides and maintains operating features that conform to fire and smoke prevention requirements.

- 1 **The hospital prohibits all combustible decorations that are not flame retardant**

EH&S policy 5-1 prohibits combustible decorations that are not flame retardant. During seasons that decorations are normally present, Fire Marshals do special rounds to check for non-compliant decorations

2 ***Soiled linen and trash receptacles larger than 32 gallons are located in a room protected as a hazardous area***

Each floor within the healthcare occupancies have dedicated trash rooms that are both sprinklered and 1 hour fire rated. The soiled linen rooms are similarly protected.

3 ***The hospital prohibits portable space heaters within smoke compartments containing patient sleeping and treatment areas***

EH&S policy 3-3 prohibits portable space heaters within smoke compartments with patient sleeping and treatment areas. The Fire Safety office, during EC and Fire and Life Safety Rounds, checks for non-compliance.

