

Duke University Hospital

Fire and Life Safety Management Plan

2022

Introduction

One of the most serious issues facing Duke University Hospital, Medical Center, Clinics and the Health Systems is the threat of fire. The risk of fire increases and decreases dependent upon facility design, occupancy, fire protection system availability, and the operations conducted in each facility. The risk of fire increases substantially due to some operations which may be conducted inside facilities—use of flammable liquids and gases, clinical research, and other laboratory processes that use hazardous substances. In addition, the use of specialized equipment such as lasers and other ignition sources utilized in oxygen-enriched atmospheres, increases the threat of fire. The threat of fire is much more critical in patient care areas due to the fact that patients are often times incapable of self-preservation.

Duke University has a dedicated Fire & Life Safety Division charged with the responsibility to design, implement, and manage a vigilant fire safety program. The Fire & Life Safety Office conducts periodic assessments for compliance with the *Life Safety Code (LSC)* and is highly effective at identifying, and minimizing the risk of fire in all Duke Health System, University, and Medical Center properties. The Fire & Life Safety Division in cooperation with the Engineering and Operations Division (E & O), and the Facility Planning, Design and Construction Office, utilizes the electronic Statement of Conditions (e-SOC) , as part of its management process to continually identify, assess, and resolve LSC deficiencies.

1. ADMINISTRATION OF THE FIRE AND LIFE SAFETY PLAN: **(REFERENCE: LS.01.01.01 / EC.01.01.01)**

a. Administration of Fire and Life Safety Management Functions:

Fire and life safety responsibilities are shared among a multi-disciplinary group. Each has specific responsibilities for design, implementation, testing, maintenance or monitoring of part of the Fire/Life Safety Management Plan under the institutional plan for the Management of the Environment of Care. The goal is to provide a safe, functional, supportive, and effective environment for patients, staff members, and other individuals in Duke University healthcare facilities. The Fire Safety Management Plan is evaluated annually. The annual review includes a review of the plan's objectives, scope, performance, and effectiveness.

(REFERENCE: EC.01.01.01 & EC.04.01.01)

Safety Management	Safety Officer Duke University Safety Committee	Dr. Stiegel
Utilities Management	Engineering & Operations	Mr. Martin
Security/Egress	Duke University Police Department	Mr. Schlitz
Emergency Preparedness	Office of Emergency Preparedness and	Mr. Zivica

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Business Continuity

Fire and Life Safety	Fire & Life Safety Division (OESO)	Mr. Knipper
Facility Planning, Design & Construction		Mr. Subasic

Description of Duties and Functions:

Safety Officer: Dr. Matthew Stiegel is the Director of the Occupational and Environmental Safety Office and the designated Safety Officer with the responsibility for coordinating the efforts of the participants in the Fire and Life Safety Management Plan. He also serves as the Chair of the Duke University Safety Committee (DUSC). The Safety Officer and the DUSC provide oversight for the development, implementation, and monitoring of fire and life safety activities.

Engineering and Operations: Engineering and Operations has the primary responsibility for maintaining the Statement of Conditions. In addition, they are responsible for correcting deficiencies identified during surveys and inspections in all Duke owned Hospital, Clinic and Medical Center facilities. Additionally, they are responsible for the inspection, testing, and maintenance of facility fire-protection equipment including, but not limited to, smoke dampers, fire-rated doors, and fire alarm systems.

Duke University Police Department: The Duke University Police Department is responsible for all security issues within Duke Hospital, Duke Clinic and Medical Center. They also respond to fire alarm activations and support the overall response to mitigate these types of incidents.

Emergency Preparedness: The Office of Emergency Preparedness and Business Continuity has the primary responsibility for the Hospital Incident Command System. They work with all key departments to create sub-plans for emergency response and notification.

OESO-Fire & Life Safety Division: The Fire & Life Safety Division is a part of the Occupational and Environmental Safety Office and reports directly to Dr. Stiegel. The Fire & Life Safety Division has the primary responsibility of surveying and reporting deficiencies related to fire and life safety issues throughout the institution to include existing conditions and planned construction activities. It also acts as liaison with City of Durham Fire Prevention Bureau and all other city Planning and Engineering Departments. Additionally, this division is responsible for the inspection and reporting of any identified deficiencies of sprinkler systems, fire pumps, fire extinguishers, gaseous fire suppression systems, and kitchen fire suppression systems.

Facility Planning, Design and Construction: Facility Planning, Design, and Construction has the primary responsibility to ensure that all new construction and building renovations meet or exceed all applicable codes and standards.

Fire Prevention Management Activities:

Duke University Safety Committee: The Duke University Safety Committee is composed of representatives from administration, clinical services, support services, and the Patient Safety

Office. The Safety Committee is responsible for the direct oversight of all fire and life safety activities as they relate to the management of Life Safety and the Environment of Care. The Fire & Life Safety Division makes monthly reports to the committee concerning fire and life safety activities.

Facilities Services Work Group (FSWG): The FSWG is composed of representatives from administration, Duke Police, Fire & Life Safety Division, Engineering & Operations and Facilities Planning, Design and Construction and Construction Risk Assessment Program: The Construction Risk Assessment Committee is composed of these departments that have oversight or direct management of specific risks such as infection control, utilities/building systems, fire and life safety Interim Life Safety Measures (ILSM), general safety issues and security. The Committee assesses all potential hazards associated with construction and renovation. The OESO-Fire & Life Safety Division has the responsibility for evaluating impact on fire and life safety issues. Any project that significantly impacts fire and life safety results in the development of Interim Life Safety Measures (ILSM) as outlined on the ILSM Matrix which includes but not limited to increased hazard surveillance, education & training, fire watch, and increased fire drills, etc.

Statement of Conditions: The electronic Statement of Conditions (e-SOC) program is managed in accordance Joint Commission Guidelines and continuously evaluated by appointed individuals with documented credentials, knowledge, and experience from FPDC, E&O, Fire & Life Safety Division, and OESO.

(REFERENCE: LS.01.01.01)

b. Certifications, Accreditations and Competencies:

OESO-Fire & Life Safety Division employees that conduct surveys and inspections, monitor and oversee installation, testing or maintenance of all automatic fire protection features/equipment, and/or respond to requests for service are required to possess specific certifications and/or experience and be able to demonstrate competencies that are essential to the duties they perform. All OESO – Fire & Life Safety Specialists are highly knowledgeable of all codes, standards, rules, and policies as well as extensive knowledge of the buildings. All Fire & Life Safety Specialists have obtained the required knowledge through a variety of resources such as Fire Protection Engineering Degree Programs, NFPA Certification Programs, or other recognized courses such as:

- NFPA 101, Life Safety Courses
- NFPA 13/25, Installation, Inspection, Testing and Maintenance of Water Based Suppression Systems;
- NFPA 72, Fire Alarm Systems;
- National Institute for Certification in Engineering Technologies (NICET)-Fire Alarm Systems;
- Manufacturer fire alarm or fire suppression certification; and/or
- OSHA Compliance

(See Fire & Life Safety Division Staff-Educational and Professional History)

c. Construction Risk Assessment and Interim Life Safety Measures:

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REFERENCE: LS.01.02.01

Construction Risk Assessment: Potential impact on existing life/fire safety are identified by the Project Manager through the completion of the Construction Risk Assessment form. OESO-Fire & Life Safety reviews all such forms and work with the Project Manager to establish Interim Life Safety Measures as necessary.

Interim Life Safety Measures: OESO-Fire & Life Safety Division is responsible for the management of the Interim Life Safety Measures (ILSM) during any construction, renovation or maintenance activity that would affect fire & life safety devices, personnel, or property preservation. OESO-Fire & Life Safety reviews, manages, and implements ILSMs in accordance with the Duke Fire & Life Safety *Interim Life Safety Measure Program* Operating Instruction 1-12 utilizing the ILSM Preconstruction Checklist and ILSM Matrix Form..

Appropriate Construction Services is responsible for providing all documentation and information to all contractors necessary for full compliance. These include:

- Hot Work Permits
- Construction Boards with pertinent fire and life safety training materials
- Fire extinguisher placement and maintenance
- Environment of Care requirements to include **RACE** and **PASS** procedures
- Fire Code and other regulatory requirements.

(REFERENCE: LS.01.02.01)

ILSM Signage: To ensure all occupants in the affected area are aware of ILSMs implemented in their areas, the OESO-Fire & Life Safety Division will ensure that proper signage is in-place documenting the deficiency and the ILSM in accordance with Duke Fire & Life Safety *Interim Life Safety Measures* Program, Operating Instruction 1-12 and the ILSM Matrix Form.

(REFERENCE: LS.01.02.01)

(See Interim Life Safety Measures Construction Alert Notice Sample)

Plan for Correcting Deficiencies: When a deficiency is noted either during the e-SOC survey, as part of a construction/renovation project, or other survey, audit or inspection, and the FSWG plans to resolve the deficiency through a Construction Project, the FSWG ensures that the time frames identified in the project plan are in accordance with the specifications outlined in OESO-Fire & Life Safety Operating Instruction 1-12.

(REFERENCE LS.01.01.01)

Automatic Fire Protection System Impairments: Fire Detection, Fire Alarm and Automatic Sprinkler systems are vital life safety features installed to protect lives and property. Failure of entire systems or even portions of the system can have serious adverse effects on life and property. The OESO-Fire& Life Safety office provides oversight and management for all impairments to automatic fire protection systems in accordance with the OESO-Fire Safety Operating Instruction (OI) 1-12; *Interim Life Safety Measure Program*. This OI outlines specific duties and responsibilities as well as notification procedures utilizing the online Life Safety System Impairment Notification Form: <https://sms.duhs.duke.edu/FSMS/Ilsm/Create>

(REFERENCE: LS.01.02.01 & LSC 101-section 9.6.1.8 & 9.7.6)

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Fire Watch: When an automatic fire protection system, hot work, or other *Life Safety Code* deficiency exists, a fire watch may be required and will be conducted in accordance with OESO-Fire & Life Safety Operating Instruction 1-3; Fire Watch Program. A fire watch is mandatory if any of the following conditions exist:

- Hazardous operations in patient care areas
- Automatic Fire Protection Impairments exceeding the time limits outlined in OESO-Fire Safety Operating Instruction 1-12
- Operations or conditions dictated by the Authority Having Jurisdiction (e.g. Fire Marshal, DHSR, TJC).

(REFERENCE: LS.01.02.01 EP 1 & LSC 101-section 9.6.1.8 & 9.7.6)

(See OESO-Fire & Life Safety Operating Instruction 1-12; Interim Life Safety Measure Program)

(See OESO-Fire & Life Safety Operating Instruction 1-3; Fire Watch Program)

2. BUILDING DESIGN, FIRE PROTECTION FEATURES, AND FURNISHINGS

Buildings shall be designed and equipped with fire protection features that will minimize the effects of fire, smoke, and heat. Once designed into a structure, these items must be inspected, maintained and repaired/replaced in accordance with approved standards, procedures, and materials. Buildings will be designed and built in accordance with the *Life Safety Code 101, NC Building Code; Fire Prevention Code, NFPA standard 99*, and other codes and regulations pertinent to the design, features, and equipment installed.

(REFERENCE: LS.01.01.01;; EC 02.03.01; LSC 101; NC Fire Prevention Code; NFPA 99)

OESO-Fire & Life Safety Division has the primary responsibility for managing the protection of patients, employees, visitors and property from fire, smoke and other products of combustion.

OESO-Fire & Life Safety Division provides oversight and consultation for all fire protection features. Engineering and Operations is responsible for inspecting, testing and maintaining fire alarm systems, including quarterly/annual testing of all circuits and annual preventive maintenance of all components.

Contract services are obtained and utilized to conduct quarterly and annual automatic sprinkler systems (to include fire pumps). Documentation of these services is maintained in the Fire & Safety Division Office. OESO-Fire & Life Safety is responsible for selecting and providing quality assurance checks of the approved contractors.

Contract services are also utilized for the inspection and maintenance of all portable fire extinguishers. Fire extinguisher documentation is maintained electronically and is available at the Fire & Life Safety Division Office.

OESO-Fire & Life Safety Division is responsible for developing purchasing recommendations, based on relevant fire and life safety standards/code, for Procurement Services to assure requirements are met during the acquisition of: bedding, window draperies or curtains, furnishings, decorations, wastebaskets, and other equipment. Procurement Services is responsible for ensuring that all materials purchased meet prescribed requirements and standards.

3. FIRE DRILLS AND FIRE ALARM NOTIFICATIONS

a. Fire Drills and fire response is an important part of achieving a fire-safe environment. It is important that responses to fire drills and actual fire situations be evaluated to assess performance of staff as well as fire safety equipment. Testing the fire response plan will involve realistic situations. All fire drills and evaluations will be conducted in accordance with Duke Fire Safety *Fire Drill Program Operating Instruction 1-9*. **(NOTE: Actual evacuation of patients during drills is not required.)**
(REFERENCE: EC 02.03.03)

Fire Drills will be critiqued to evaluate fire safety equipment, fire safety building features, and staff knowledge/ response. The evaluation will be documented in accordance with Duke Fire & Life Safety *Fire Drill Program Operating Instruction 1-9*. Documentation is maintained at the OESO-Fire & Life Safety Division. **(REFERENCE: EC 02.03.03)**

Information gained from these evaluations is used to identify problems or opportunities to improve the fire response system as well as safety education programs.
(REFERENCE: EC 02.03.03)

b. Fire Alarm Notification:

Patient Care Facilities:

In Duke Hospital, Duke Clinic, Eye Center and the MRI the fire alarm utilizes a numerical code, referred to as the Life Safety System, through a speaker system to identify the specific area involved. This numerical code is repeated three times throughout the facility. There is a pause and the code is repeated three times, but only in the reporting area. Employees are familiar with the fire alarm code in their work area. In other patient care areas the fire alarm utilizes audio-visual devices to notify the occupants of a general fire alarm. The Duke Cancer Center, Duke Medicine Pavilion, and Duke Central Tower utilize a plain language non-coded annunciation which provides all occupants with the name of the facility (e.g. Cancer Center), the level of the activation (level corresponds to the floor), and the zone of the activation.

Other facilities (Ambulatory Care and Medical Center Buildings):

In Medical Center facilities, community Private Diagnostic Clinics (PDC), Duke University Affiliated Physicians, Inc. (DUAP), or other ambulatory care facilities, the fire alarm (if present) utilizes audible and visual devices to notify the occupants of a general fire alarm. If no fire alarm system is present, the alert is provided by verbal message.

4. MAINTENANCE OF FIRE-SAFETY EQUIPMENT AND BUILDING FEATURES

(REFERENCE: EC.02.03.05)

OESO-Fire & Life Safety Division provides oversight for maintaining compliance with the NC Fire Code and Life Safety Code (**NFPA LSC 101**) standards regarding structural requirements for fire protection through routine inspections and the testing and maintenance of fire equipment in both Duke owned and Duke leased facilities.

Duke Owned and Maintained Facilities:

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The Fire & Life Safety Division, in conjunction with Engineering and Operations, is responsible through contract services or in-house operations for the routine testing, inspection, and maintenance of fire protection equipment and correcting deficiencies noted in all Duke owned and maintained facilities, to include: Duke Hospital, Duke Clinic and Duke Medical Center. All records of these inspections are maintained on file at the Engineering and Operations office.

Duke Leased Facilities:

Building owners or facility managers are responsible through contract services or in-house operations for the routine inspections, testing and maintenance of fire protection equipment and for correcting deficiencies noted for all Duke leased facilities. Records are maintained on-site of each and all inspections. The OESO-Fire & Life Safety Division is responsible for ensuring that the testing and maintenance of the all fire protection equipment is in compliance with all applicable regulations and standards. OESO-Fire & Life Safety Division reviews inspection and maintenance documentation annually to ensure that the fire protection equipment is inspected in accordance with the applicable NFPA standards and NC Fire Code, and that all deficiencies noted during inspections are corrected in a timely manner. OESO-Fire & Life Safety Division reports the failure of any owner/facility manager to correct deficiencies or failure to comply with the standards or schedule to Contract Services for further action.

Unless otherwise noted, the following procedures refer to only Duke Owned facilities:

a. Fire Alarm Testing:

The testing of the fire alarm system and components complies with NFPA 72 standards and on a routine schedule in accordance with the EOC standards. Testing is accomplished by a combination of E&O in-house Alarm shop and certified contractor managed by the OESO-Fire & Life Safety Division. Testing of the various components will adhere to the following schedule:

1. Quarterly (Performed by Contractor):
 - a. Supervisory signal devices
 - b. water flow alarms
 - c. Proprietary monitoring and Durham Fire Department notification
2. Semi-Annual (Performed By Contractor):
 - a. Valve tamper switches
3. Annually (Performed by E&O and Contractor):
 - a. Duct detectors
 - b. electromechanical releasing devices
 - c. heat detectors
 - d. manual fire alarm pull stations
 - e. smoke detectors
 - f. occupant alarm devices (audible and visual)

b. Water-based Automatic Fire Extinguishing Systems (sprinklers, standpipes, fire pumps, fire department connections):

The testing and maintenance of the water-based automatic fire extinguishing systems complies with NFPA 25 standards and testing is maintained on a routine schedule as

outlined in accordance with NFPA and EOC standards. Testing of the various components adheres minimally to the following schedule:

Weekly:	Fire pumps (no water flow required)
Quarterly:	Fire department connections, water flow devices
Semi-annually:	Sprinkler valves
Annually:	Fire pumps (water flow required) and drain tests at all system risers

Weekly fire pump inspection records are maintained by Engineering & Operations. Quarterly, semi-annual, and annual testing is conducted by contractor services. Documentation of the quarterly, semi-annual, and annual inspections are maintained by the OESO-Fire & Life Safety Division. A deficiency report is sent to Engineering and Operations upon completion of the quarterly/annual inspections for corrections.

c. Kitchen automatic fire extinguishing systems:

The testing and maintenance of kitchen automatic fire extinguishing systems complies with NFPA 17A and NFPA 96 standards and are the responsibility of OESO-Fire & Life Safety Division through contract services. Inspections of the systems are completed semi-annually utilizing an extinguishing system specific contractor services.

d. Gaseous automatic fire suppression systems:

The testing of gaseous automatic fire suppression systems complies with NFPA 2001 and NFPA 12 standards, and is the responsibility of OESO-Fire & Life Safety Division. OESO-Fire & Life Safety contracts services for the inspection, testing, and maintenance of all gaseous automatic fire suppression systems to include Halon and FM-200 Suppression Systems. Documentation is maintained by the OESO-Fire & Life Safety Division. Inspections of those systems are completed semiannually by contractor services. **(See: OESO-Fire & Life Safety Division Fire Protection Inspection Reports)**

e. Portable Fire Extinguishers:

OESO-Fire & Life Safety Division is responsible through contract services for the installation, maintenance, and testing of fire extinguishers in accordance with NFPA 10 and the North Carolina Fire Prevention Code throughout all areas.

OESO-Fire & Life Safety Division is responsible for ensuring proper fire extinguishers are correctly mounted and clearly identified at installation or after renovation, construction or major changes in occupancy. Extinguishers in cabinets where the location is not clearly visible or extinguishers located in areas not clearly seen from the path of travel will be marked with signs.

OESO-Fire & Life Safety Division is responsible through contractor services to ensure that all fire extinguishers function properly, are inspected monthly and annually and receive regular preventive maintenance in accordance with NFPA 10 and manufacture specifications. **(See: OESO-Fire & Life Safety Division Fire Protection System Inspection Reports)**

f. Standpipe Systems:

Testing and maintenance of standpipe systems, both wet and dry, comply with NFPA 14 and NFPA 25 standards. OESO-Fire & Life Safety Division is responsible for the testing and maintenance of standpipe systems through contract services. Testing of standpipe systems is in accordance with NFPA standards and tested on a routine basis as outlined in the NFPA standard. Five-year water flow requirements for standpipe systems in Duke facilities is not required. Standpipe risers are used to feed the automatic sprinkler lines and are considered tested in conjunction with quarterly and annual sprinkler inspections. Duke University maintains Class I standpipe systems that do not require fire hoses and therefore, no fire hose testing is required. Testing and maintenance of Standpipe inspection is conducted by contractor services. Documentation of inspections and maintenance are maintained by the OESO-Fire & Life Safety Division.

g. Fire and Smoke Dampers:

Inspection and maintenance of fire/smoke dampers complies with NFPA 90A. Engineering and Operations is responsible for the identification and maintenance of all fire/smoke dampers to ensure proper operation. Inspections of all fire and smoke dampers is completed annually. Fire and smoke dampers (with fusible links removed) are operated no less than every four years to ensure full closure.

Deficiencies noted during inspections are corrected in-house or through contract services. Documentation of inspections are maintained by Engineering and Operations.

h. Automatic smoke detection shutdown devices for air handling units:

Testing and maintenance of automatic smoke detection shutdown devices for air-handling units complies with NFPA 90A. Engineering and Operations is responsible for the inspection, testing and maintenance of all air handling shutdown devices. All shut down devices are tested at least annually.

Deficiencies noted during inspections are corrected in-house or through contract services. Documentation of inspections are maintained by Engineering and Operations.

i. Horizontal and vertical sliding and rolling fire doors and shutters:

Testing and maintenance of horizontal and vertical sliding and rolling fire doors and shutters complies with NFPA 80. Documentation of inspections are maintained by Engineering and Operations.

j. Smoke Control Systems:

Testing and maintenance of smoke control systems complies with NFPA 92 A&B. Engineering and Operations is responsible for testing and maintenance of smoke control systems. Documentation of inspections are maintained by Engineering and Operations.

(REFERENCE: EC.02.03.05)

5. ENVIRONMENT OF CARE MONITORING

The goal of the “Environment of Care” (EoC) is to promote a safe, functional, and supportive environment within Duke Owned, Leased, and Duke Interest facilities so that quality and safety are preserved. The EoC identifies a system to manage environmental risks as well as a method

to intervene when situations threaten people or property. The Duke EoC concept employs several methods for managing the risk which includes, but is not limited to:

- EoC Rounds
- Safety Committee
- Outside Agency AHJ Inspections (Durham Fire Marshal, DHSR, TJC, etc.)
- Periodic Fire Safety walk-thru inspections

Risk Assessment

OESO-Fire & Life Safety Division is responsible for monitoring fire and life safety through hazard surveillance surveys. Hazard surveillance surveys are conducted to identify deficiencies and to monitor and evaluate initiatives to correct these deficiencies. Hazard Surveillance surveys are conducted annually in non-patient care areas and semi-annually in patient care areas. City of Durham Fire Prevention Bureau conducts the annual non-patient survey and one of the semi-annual surveys in patient care areas. OESO-Fire & Life Safety Division Specialists conduct the remaining semi-annual survey in patient care areas. Additional Hazard Surveillance Surveys may be conducted as needed. Hazard Surveillance Survey forms are kept on file at the OESO Fire & Life Safety Division. Deficiencies noted are forward to the appropriate department for correction.

(REFERENCE: EC 02.03.01)

(SEE OESO-Fire & Life Safety Electronic Inspection Record for detailed reports)

OESO-Fire & Life Safety Division is responsible for investigating and reporting life safety code and fire protection deficiencies, failures or user errors through Fire & Life Safety Division Surveys, Durham City Fire Prevention inspections, Interim Life Safety Measure inspections and DPD Incident Reports. The Fire & Life Safety Division is responsible for forwarding this information to the appropriate departments for corrections.

OESO-Fire & Life Safety Division is responsible for the collection of fire and life safety data and deficiencies. Monthly reports are presented to the Duke University Safety Committee.

OESO-Fire & Life Safety Division is responsible for developing the performance improvement standards for Fire Prevention Objectives, scope performance and effectiveness of the Fire Safety Management Plan are evaluated annually. Reports are made to the Safety Committee monthly.

ANNUAL EVALUATION OF THE SCOPE, OBJECTIVES, EFFECTIVENESS, AND PERFORMANCE OF THE EOC MANAGEMENT PLANS

SCOPE: Any changes in *scope* will be addressed during the annual update of the Plan, and any changes in the range of application or interactions will be incorporated into the updated Plan. The completion date and significant scope changes for the annual update of the EOC Management Plans is as follows:

EOC FUNCTION	APPROVED	2022 SIGNIFICANT CHANGES
Fire & Life Safety	12-03-2009	No Changes.

OBJECTIVES: Annual planning *objectives* are developed through interactions with Committee members and hospital administration. These objectives address the primary operational initiatives for maintaining and enhancing the Environment of Care. Progress toward accomplishing these objectives are reported at least quarterly to the Committee and a year-end

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summary of the *effectiveness* in accomplishing these objectives is also presented. The primary 2019 planning objective for the EOC Management Plans is as follows:

EOC FUNCTION	APPROVED	PRIMARY OBJECTIVES FOR 2022
Fire/Life Safety	28 April 2022	<ul style="list-style-type: none"> • Continue the initiative to expand situational awareness of all workers (including contractors) to help decrease the number of fire alarm false activations. This effort will focus on improving the involvement of all departments and teams involved in construction and maintenance activities. • Increase the number of initial inspections that are in total compliance/meets standards and subsequently reduce the need for follow-up/return inspections. • Plan for and research processes, plans, and procedures for fire safety and life safety initiatives in anticipation of new facilities coming on line. • Establish a new Fire Drill Program that will provide a more realistic approach and better evaluation of participating departments/units. The new program will concentrate on three primary objectives: <ul style="list-style-type: none"> ○ Fire Safety Knowledge ○ Site Specific Fire Plan Procedures ○ Facility Life Safety features performance • Improve the facility design guidelines and formalize the specifications for automatic fire alarm protection systems, devices, and other associated fire protection equipment. Continue to seek new technologies and make project managers aware of these new technologies and opportunities for implementation. • Evaluate the distribution of Portable Fire Extinguishers located throughout the Duke Medicine Pavilion. Reduce/remove unnecessary fire extinguishers and location designators.

EFFECTIVENESS: The *effectiveness* of the EOC management functions is assessed through a Committee review of their success in achieving the accomplishments defined in their planning objectives. The completion date and significant findings from the annual review is as follows:

<u>EOC FUNCTION</u>	APPROVED	2020 SIGNIFICANT FINDINGS
Fire/Life Safety	28 April 2022	<p>1. Expand situational awareness of all workers (including contractors) to help decrease the number of fire alarm false activations. Achieved-This initiative has continued to remain in the “Achieved” status however, due to the continuous on going, new, and planned construction projects throughout the Duke Health System, this item will remain open.</p> <p>2. Increase the number of initial inspections that are in total compliance/meets standards and subsequently reduce the need for follow-up/return inspections. Partially Achieved—Over the last 12-months, this initiative has fallen below expectations due to the overabundance of materials needed within the Health System to handle COVID related cases. Increased supplies, decreased worker availability, and implementation of temporary work-arounds has resulted in a higher amount of identified issues however, each identified issue has been assigned a risk assessment and falls within a manageable level. This initiative will continue for 2022.</p> <p>3. Establish a new Fire Drill Program that will provide a more realistic approach and better evaluation of participating departments/units. The new program will concentrate on three primary objectives:</p> <ol style="list-style-type: none"> a. Fire Safety Knowledge b. Site Specific Fire Plan Procedures c. Facility Life Safety features performance <p>Partially Achieved—Due to COVID 19, this initiative was unable to be properly managed and worked on. Policies regarding reductions in group size, social distancing, etc. contributed to a reduced level of participation during drills. The reduction also resulted in fewer evaluations to properly assess the units at the level needed to obtain valid data to support changes. We will continue to monitor this initiative and resume more in-depth evaluations and data collection once COVID cases subside to a manageable level. This initiative will continue for 2022.</p> <p>4. Plan for and research processes, plans, and procedures for fire safety and life safety initiatives in anticipation of new facilities coming on line Achieved-The processes, plans, and procedures for fire and life safety initiatives has become</p>

		<p>ingrained into the construction process beginning with conceptual design and culminating in the occupancy of the renovated or newly constructed space. We are recommending additional guidelines to include “DO NOT BLOCK” wording on fire extinguisher cabinets when installed new or when it is necessary to replace them and identical wording for fire-rated doors.</p> <p>5. Evaluate the distribution of Portable Fire Extinguishers located throughout the Duke Medicine Pavilion. Reduce/remove unnecessary fire extinguishers and location designators. Partially Achieved-There has been no change in the status of this initiative and will not resume until we are able to return to a normal working status. The evaluation of DMP has been completed; however, the response to COVID-19 prevented the active removal of any fire extinguishers in order to reduce contractor exposure. It will likely incur some expenditure and will require collaboration with other divisions to complete. This initiative will continue for 2022.</p> <p>6. Increase the education provided to care providers concentrating on:</p> <ol style="list-style-type: none"> a. blocked fire doors b. blocked electrical panels c. blocked fire extinguishers <p>Partially Achieved—Due to COVID, this initiative had to be scaled back , relying heavily on the mandatory on-line training each Health System employee is required to take. Once COVID level allow more one-on-one closer interactive training, more emphasis will be put towards achieving this initiative. Continue to observe in 2022.</p>
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PERFORMANCE: The *performance* of the Management Plans is assessed through progress in achieving the Performance Improvement Standards defined within the Performance Improvement Plan for each of the functions. The completion date for the annual update of the EOC Performance Improvement Plans is as follows:
 (FA = Fully Achieved; PA = Partially Achieved)

<u>EOC FUNCTION</u>	APPROVED	PERFORMANCE IMPROVEMENT STANDARDS 2022
Fire/Life Safety	28 April 2022	1. Increase the education provided to care providers concentrating on: <ol style="list-style-type: none"> a. blocked fire doors b. blocked electrical panels c. blocked fire extinguishers

		<p>2. Increase the utilization of the online fire drill participation form to more accurately gauge the effectiveness of the fire drill program's three primary objectives:</p> <ol style="list-style-type: none"> a. Fire Safety Knowledge b. Site Specific Fire Plan Procedures c. Facility Life Safety features performance <p>3. Reduce/remove unnecessary fire extinguishers and location designators.</p> <p>(PA-CONTINUE)</p>
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6. EMERGENCY MANAGEMENT

OESO-Fire & Life Safety Division, Durham Fire Department, Duke University Police and Emergency Management Coordinator are responsible for emergency procedures that address facility-wide fire response needs and the development of emergency procedures through the Hospital Emergency Incident Command System (HEICS) in collaboration with the DUH Emergency Preparedness Committee. The Fire & Life Safety Division is responsible for the development and implementation of the Code Red sub-plan. In addition, the Fire & Life Safety Division has responsibilities under the Code Orange sub-plan and takes an active role in all HEICS drills. As part of the Code Orange sub-plan the Fire & Life Safety Division Director or his departmental representative assumes the role of Safety Group Supervisor at the Safety Operations Center. An OESO Fire & Life Safety Division Specialist will be designated as the Fire Safety Assessment Officer, part of the support for the Logistics Section, when it is deemed necessary to activate the Logistics Section.

7. TRAINING

OESO-Fire & Life Safety Division is responsible for developing and implementing a fire response plan that addresses:

- a. Facility-wide fire response
- b. Area-specific needs including fire evacuation routes and emergency assembly points (EAP)
- c. Specific roles and responsibilities of staff, Licensed Independent Practitioners (LIPs) and volunteers at a fire's point of origin
- d. Specific roles and responsibilities of staff, LIPs and volunteers away from the fire's point of origin
- e. Specific roles and responsibilities of staff, LIPs and volunteers in preparing for building evacuation.

Training is provided through a collaborative effort between OESO and Clinical Education & Professional Development. OESO-Fire & Life Safety Division is responsible for the development of all fire safety materials and training session content.

Training is generally categorized into two programs: General Orientation/Update Training and Site Specific Training.

- **General Orientation and Annual Safety Update Training:** This training targets most employees, contractors and volunteers and focuses on general fire safety issues, fire alarm notification, general evacuation

(**RACE**), general fire extinguisher usage (**PASS**) and the Environment of Care.

- **Site Specific Fire Training:** This training requires a higher level of participation and employee responsibility. The orientation and training of unit/department staff occurs during the collaborative development of the Site Specific Fire Plan. The staff receives update training to the details of this plan, including evacuation, during all fire drills conducted in their areas.

OESO-Fire & Life Safety Division, in collaboration with each Department, is responsible for the development of a Site Specific Fire Plan (SSFP) for each work area. Site Specific Fire Plans are reviewed at least once every three years. SSFPs are submitted to the Duke University Safety Committee for approval prior to implementation. SSFPs include instructions for horizontal evacuation and list the Emergency Assembly Point for vertical evacuation should the Incident Command Post (ICP) mandate a total evacuation.

All **patient care areas** have a copy of the Site Specific Fire Plan on site and a backup copy is kept electronically of the OESO server. The plan may simply state that all employees, visitors and patients are notified to be alert and be prepared for further instruction, or it may give more stringent guidance. The on-site supervisor, department head, or their designated representative in their absence, is responsible for the implementation of the Site Specific Fire Plan and the safe evacuation of all employees, volunteers, patients and visitors from the area.

- **Physicians and other Licensed Independent Practitioners** working in the area or fire zone of the building where the alarm is activated report to the on-site supervisor or department head for specific instructions.
- **Duke Police, Environmental Services and Engineering and Operations personnel** in the affected area refer to their specific fire plans for appropriate response.
- **All employees, volunteers, patients and visitors** in an area or fire zone of the building where the alarm is activated, follow the directions of the supervisor or department head in the implementation of the site specific fire plan or the general fire alarm response procedures, relocate patients when obvious danger exists or when directed to do so by fire department officials or the administrator on call.
- **Other employees, volunteers, contractors or visitors** in a facility when a general alarm is activated follow the general fire evacuation policy for that area (**RACE**).

(**REFERENCE: EC.03.01.01**)