
Environment of Care

2023

UTILITY MANAGEMENT PLAN

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I MISSION

The mission of Los Angeles General Medical Center's Management of the Environment of Care program is to provide a safe, functional, supportive, and effective environment for patients, staff members, and other individuals in the Medical Center. Consistent with this mission, the Governing Body, administration, and staff provide ongoing support for the Safety Management Program described in this plan.

II PURPOSE

The purpose of the Safety Management Plan is to provide the framework for an environmentally sound and a safe and hazard-free environment for employees, patients, visitors, volunteers, and on-site contractors at the Los Angeles General Medical Center.

III SCOPE

The Utility Systems Plan identifies the processes used to design and install appropriate utility systems equipment to support the medical care processes of Los Angeles General Medical Center. It also shows how we ensure effective preparation of staff responsible for the use or maintenance and repair of the equipment and is designed to assure continual availability of a comfortable, safe, and effective patient care environment through a program of planned maintenance, timely repair, and evaluation of all events that could have an adverse impact on the safety of patients or staff.

IV OBJECTIVES

- A. Ensure operational reliability of the medical center utility systems
- B. Reduce potential for medical center acquired illness being transferred through the utility systems
- C. Assess the reliability and minimize potential risks of utility system failures

V PROCESSES

EC.01.01.01 - Management Plans

EC.01.01.01 EP: 3 – Library of Information

Los Angeles General Medical Center maintains a library of information regarding inspection, testing, and maintenance of its equipment and systems. This library of information is available to all employees as a hard copy reference material or as a soft copy through the Intranet.

EC.01.01.01 EP: 9 - Utility Systems Management Plan

Los Angeles General Medical Center maintains a written management plan describing the processes it implements to manage the effective, safe, and reliable operation of utility systems. The management plan describes processes to effectively manage utilities systems that provide a safe, comfortable and efficient environment for patients, staff, and visitors. This plan is evaluated annually, and changed as necessary, based on changes in conditions, regulations and standards, and identified needs.

EC.02.05. 01 - Managing Utility Systems

EC.02.05.01 EP: 1- Design and installation of utility systems that meets patient care and operational needs.

Los Angeles General Medical Center has designed and installed utility systems according to National Fire Protection Association codes to meet patient care and operational needs.

Facilities Management policy #408. Los Angeles General Medical Center Policy #601, #602, #604, #609 #612, DHS Policy #918 specifies our practices.

EC.02.05.01 EP: 2 – Building System Design

The medical center Building systems are designed to meet the National Fire Protection Association’s Categories 1–4 requirements.

NFPA 99-2012: Chapter 4

EC.02.05.01 EP: 3 - Risk criteria & equipment inventory

The medical center performs initial equipment inspection for identifying, evaluating, and creating an inventory of operating components of systems to be included in the utility management plan before the equipment is used.

The results of assessment of the various utility systems and components are used to determine the need for scheduled preventative maintenance activities and the appropriate maintenance strategies to be implemented if required.

The medical center maintains a current inventory of all the utility components & equipment,

identified by the risk criteria, as needing preventive maintenance. This inventory includes all equipment maintained by facilities management staff, by manufacturers' representatives, and by contractors.

Facilities Management policies #405 & #407 specify our practices.

EC.02.05.01 EP: 4 - Maintenance Strategies and Identification of High-Risk Operating Components of Utility Systems on the Inventory.

Los Angeles General Medical Center has developed strategies for assessment of all utility systems equipment on the inventory for ensuring effective, safe, and reliable operation of all equipment in the inventory. These strategies include assessment of the utility function, failure risk, maintenance requirements and incident history. Appropriate preventative maintenance task is developed for the potentially multiple maintenance requirements that may apply and assigned where applicable. Facilities Management maintains a database that identifies all equipment and the corresponding task(s) assigned to them and distributes the tasks as they become due.

Facilities Management policies #405, #406 & #408 specify our practices.

EC.02.05.01 EP: 5 - Maintenance Frequencies.

Los Angeles General Medical Center defines the intervals for maintenance, inspection and testing of all equipment under preventive or predictive maintenance on the inventory. The maintenance activity frequencies are based upon manufacturers' recommendations, evaluated risk levels, and Los Angeles General Medical Center experience. High-Risk equipment is maintained in accordance with manufacturers' recommendations. Most intervals are monthly with few annual, semi-annual maintenance activities. This activity is scheduled by a maintenance management system that generates work orders on a periodic basis. The work orders are distributed to the appropriate staff, and when complete, the data is entered into the system.

Facilities Management policies #405 & #407 specify our practices.

Reference: NFPA 99-2012: 6.4.4.

EC.02.05.01 EP: 6 - Maintenance Frequencies with Manufacturer's Recommendations.

Los Angeles General Medical Center defines the intervals for maintenance, inspection and testing of all equipment under preventive or predictive maintenance on the inventory. The maintenance activity frequencies are based upon manufacturers' recommendations, evaluated risk levels, and Los Angeles General Medical Center experience. High-Risk equipment is maintained in accordance with manufacturers' recommendations. Most intervals are monthly with few annual, semi-annual maintenance activities. This activity is scheduled by a maintenance management system that generates work orders on a periodic basis. The work orders are distributed to the appropriate staff, and when complete, the data is entered into the system.

*Facilities Management policies #405 & #407 specify our practices.
Reference: NFPA 99-2012: 6.4.4.*

EC.02.05.01 EP: 7 - A Qualified Individual(s) to use Written Criteria for Alternate Equipment Maintenance Program. Not Applicable
&
EC.02.05.01 EP: 8 – Alternate Equipment Maintenance Program Not Applicable

Los Angeles General Medical Center identifies operating components of utility systems on its inventory that is included in an alternative equipment maintenance program. This does not apply as Facilities Management identifies the activities and associated frequencies, in writing, for inspecting, testing, and maintaining all operating components of utility systems on the inventory. These activities and associated frequencies are in accordance with manufacturers' recommendations.

EC.02.05.01 EP: 9 - Utility System Controls

Facilities Management is responsible for managing the process for documenting the layout of utility systems and the locations of critical or emergency controls for a partial or complete shutdown of the system. Critical or emergency operating components of utility systems are identified on blueprints or computerized drawings.

A variety of techniques such as legends, symbols, labels, numbers, and color-coding are used to identify the location and type of critical or emergency controls. The corresponding physical control is identified by a tag or other device attached to the system. This process is designed to provide technicians with accurate information about the function of a control before it is activated for scheduled maintenance or during an emergency.

*Facilities Management policy #402 specifies our practices.
Reference: NFPA 101-2012: 18/19.3.4.1; 9.6.1.3; NFPA 72- 2010: 10.5.5.2.*

EC.02.05.01 EP: 10 - Utility System Disruption Procedures

Los Angeles General Medical Center has identified and implemented written emergency procedures for responding to utility system disruptions or failures.

The procedures for these emergency responses are integrated with the Emergency Management plan. These plans are developed to include the criteria for implementing a utility response plan, the staff responsible for making these decisions, activities and resources used to mitigate the emergency (such as an emergency power system to mitigate external power failure), and advanced preparation for the failure (e. g., flashlights, staff training about how to respond to

a power failure).

Facilities Management policy #404 specifies our practices.

EC.02.05.01 EP: 11 - Utility System Disruptions - Shut Off & Notification

Los Angeles General Medical Center has identified and implemented emergency procedures for responding to utility system disruptions or failures that address shutting off the malfunctioning systems and notifying staff in affected areas.

The procedures for these emergency responses are integrated with the Emergency Management plan.

Facilities Management policy #404 specifies our practices.

EC.02.05.01 EP: 12 - Utility System Disruptions - Clinical Interventions

Los Angeles General Medical Center has identified and implemented emergency procedures for responding to utility system disruptions or failures that identify how and when to perform emergency clinical interventions when utility systems fail (This is focused on clinical staff and support staff)

The procedures for these emergency responses are integrated with the Emergency Management plan.

Facilities Management policy #404 specifies our practices.

EC.02.05.01 EP: 13- Utility System Disruptions - Response Procedure

Los Angeles General Medical Center has identified and implemented emergency procedures for responding to utility system disruptions or failures and staff shall respond to each individual incident as described in these procedures.

Facilities Management policy #404 specifies our practices.

EC.02.05.01 EP: 15 - Air Pressurization, Exchange Rates and Filtration

Los Angeles General Medical Center designs, installs, and maintains ventilation equipment to provide appropriate pressure relationships, air-exchange rates, and filtration efficiencies for ventilation systems serving areas specially designed to control air-borne contaminants (such as biological agents, gases, fumes, and dust).

Qualified service providers are used to verify volume flow rates (air exchange rates) in specified areas on an annual basis. There is also an ongoing PM for "isolation room pressure monitor calibration verification" program that ensures every monitor is checked for calibration annually.

Facilities Management policies #405 & #408 specify our practices.

EC.02.05.01 EP: 16 – Non-critical care areas Ventilation System

In non-critical care areas like general care nursing units, clean and soiled utility rooms; laboratories, pharmacies, and other support departments, the ventilation system provides required pressure relationships, temperature, and humidity.

Facilities Management policy #408 specifies our practices.

EC.02.05.01 EP: 17 - Utility System Mapping

Facilities Management is responsible for maintaining a variety of documents that illustrate each of the utility systems. New utility systems and major updates to existing utility systems are developed, by an architect or engineer, and provided to Los Angeles General Medical Center as computerized drawings. This information is maintained by Facilities Management and is readily available for review.

Facilities Management policy #402, #602, #611, #612 specifies our practices.

EC.02.05.01 EP: 18 - Medical Gas Storage Rooms

Medical gas storage rooms and transfer and manifold rooms in the hospital do comply with NFPA 99-2012: 9.3.7. These rooms have been provided with mechanical exhaust to maintain a negative pressure in the space. (Though, NFPA 99-2012: 9.1.3 states that existing construction or equipment shall be permitted to be continued in use when such use does not constitute a distinct hazard to life.)

Los Angeles General Medical Center Policy #611 Reference: NFPA 99-2012: 9.3.7

EC.02.05.01 EP: 19 - Emergency Power Supply System

The emergency power supply system's equipment and environment are maintained per manufacturers' recommendations, including ventilation supply and exhaust; and water jacket temperature.

Reference: NFPA 99-2012:9.3.10

EC.02.05.01 EP: 20 – Operating Room Electrical Protection Not Applicable

Operating rooms are protected by ground-fault circuit interrupters. A written record of the risk assessment is maintained and available for inspection.

Reference: NFPA 99-2012: 6.3.2.2.8.4, 6.3.2.2.8.7, 6.4.4.2

EC.02.05.01 EP: 21 – Electrical Distribution

Electrical distribution in Los Angeles General Medical Center is based on Category 1 where Critical care rooms served by a Type 1 essential electrical system (EES) in which electrical system failure is likely to cause major injury or death to patients, including all rooms where electric life support equipment is required.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406

Reference: NFPA 99-2012: 3.3.138; 6.3.2.2.10; 6.6.2.2.2; 6.6.3.1.1

EC.02.05.01 EP: 22 – Patient Room Receptacles

Hospital-grade receptacles at patient bed locations and where deep sedation or general anesthesia is administered, are tested after initial installation, replacement, or servicing. In pediatric locations, receptacles in patient rooms, bathrooms, playrooms, and activity rooms are listed tamper-resistant or have a listed cover. Electrical receptacles or cover plates supplied from the life safety and critical branches have a distinctive color.

Reference: NFPA 99-2012: 6.3.2; 6.3.3; 6.3.4; 6.4.2.2.6; 6.5.2.2.4.2; 6.6.2.2.3.2

EC.02.05.01 EP: 23 – Power Strips

Power strips in a patient care vicinity are only used for components of movable electrical equipment used for patient care that have been assembled by qualified personnel. These power strips meet UL 1363A or UL 60601-1. Power strips used outside of a patient care vicinity, but within the patient care room, meet UL 1363. In non-patient care rooms, power strips meet other UL standards.

Los Angeles General Medical Center Policy #601. Reference: NFPA 99-2012: 10.2.3.6; 10.2.4; NFPA 70-2011: 400-8; 590.3(D)

EC.02.05.01 EP: 24 – Extension Cords

Extension cords are not used as a substitute for fixed wiring in a building. Extension cords used temporarily are removed immediately upon completion of the purpose for which it was intended.

Los Angeles General Medical Center Policy #601

Reference: NFPA 99-2012:10.2.3.6; 10.2.4; NFPA 70-2011: 400-8; 590.3(D);

EC.02.05.01 EP: 25 – Medical Gases and Vacuum for General Anesthesia Areas

Areas designated for administration of general anesthesia using medical gases or vacuum are in accordance with NFPA 101-2012: 8.7 and NFPA 99-2012.

Zone valves are located immediately outside each anesthetizing location for medical gas or vacuum, readily accessible in an emergency, and arranged so shutting off any one anesthetizing location will not affect others.

Area alarm panels are installed to monitor all medical gas, medical-surgical vacuum, and piped waste anesthetic gas disposal (WAGD) systems. Alarm panels include visual and audible sensors and are in locations that provide for surveillance, including medical gas pressure decreases of 20% and vacuum decreases of 12-inch gauge HgV. Alarm sensors are installed either on the source side of individual room zone valve box assemblies or on the patient/use side of each of the individual zone box valve assemblies.

LAC+USC Medical Center Policy #611

Reference: NFPA 101-2012: 18/19.3.2.3; NFPA 99-2012: 5.1.4.8.7; 5.1.9.3

EC.02.05.01 EP: 26 – Critical Power Supply for General Anesthesia Areas

Areas designated for administration of general anesthesia using medical gases or vacuum are in accordance with NFPA 101-2012: 8.7 and NFPA 99-2012. The essential electrical system's (EES) critical branch supplies power for task illumination, fixed equipment, select receptacles, and select power circuits. The EES equipment system supplies power to the ventilation system.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406

Reference: NFPA 101-2012: 18/19.3.2.3; NFPA 99-2012: 6.4.2.2.4.2

EC.02.05.01 EP: 27 – HVAC for General Anesthesia Areas

Areas designated for administration of general anesthesia using medical gases or vacuum have the following characteristics:

- Heating, cooling, and ventilation are in accordance with ASHRAE 170.
- Existing smoke control systems automatically vent smoke, prevent the recirculation of smoke originating within the surgical suite, and prevent the circulation of smoke entering the system intake without interfering with exhaust function.

Reference: NFPA 101-2012: 18/19.3.2.3; NFPA 99-2012: 6.4.2.2.4.2

EC.02.05.02 – Water Management Program

The hospital has a water management program that addresses Legionella and other waterborne pathogens.

Note: The water management program is in accordance with law and regulation.

EC.02.05.02 EP: 1 Individual or Team.

Los Angeles General Medical Center is composed of a committee responsible for the oversight and implementation of the program. Including but not limited to development, management, and maintenance activities

Reference: CDC consultations, 2014-2017 infection control & hospital Epidemiology. CMS QSO-17-30. Requirement to reduce legionella risk in health care Facility water systems. ASHRAE Standard 188-2018 Legionellosis. ANSI/ASHRAE Guideline 12-2020 managing the risk of legionellosis.

EC.02.05.02 EP:2 Water Risk Management Plan

Los Angeles General Medical Center Water Management Committee developed a basic diagram that maps all water supply sources, treatment systems, processing steps, control measures, and end use points.

Reference: CDC consultations, 2014-2017 infection control & hospital Epidemiology. CMS QSO-17-30. Requirement to reduce legionella risk in health care Facility water systems. ASHRAE Standard 188-2018 Legionellosis. ANSI/ASHRAE Guideline 12-2020 managing the risk of legionellosis.

EC.02.05.02 EP:3 Documentation Management

Los Angeles General Medical Center Water Management Committee documents all monitoring activities, corrective actions and procedures to follow if a test result outside of acceptable limits is obtained.

Reference: CDC consultations, 2014-2017 infection control & hospital Epidemiology. CMS QSO-17-30. Requirement to reduce legionella risk in health care Facility water systems. ASHRAE Standard 188-2018 Legionellosis. ANSI/ASHRAE Guideline 12-2020 managing the risk of legionellosis.

EC.02.02.02 EP: 4 Water Management program review.

Los Angeles General Medical Center Water Management Committee reviews the Water Management Program annually or when the following occurs. Modifications have been made to water system(s) that may add additional risk. New equipment or an at-risk water system(s) have added.

Reference: CDC consultations, 2014-2017 infection control & hospital Epidemiology.

CMS QSO-17-30. Requirement to reduce legionella risk in health care Facility water systems. ASHRAE Standard 188-2018 Legionellosis. ANSI/ASHRAE Guideline 12-2020 managing the risk of legionellosis.

EC.02.05.03 - Electrical Power Systems

Emergency Diesel Generators are the primary emergency power source for the facility and are in all buildings as required by the Life Safety Code. The generators receive routine testing and receive preventative maintenance to ensure proper operation & reliability during emergencies. Fuel storage tanks are monitored to ensure adequate supply in the event of an emergency. The emergency power is distributed to the following areas when normal electricity is interrupted:

EC.02.05.03 EP: 1- Electrical System

Los Angeles General Medical Center has Type 3 essential electrical systems in accordance with NFPA 99, 2012 edition. This essential electrical system is divided into three branches - the life safety branch, critical branch, and equipment branch. Both the life safety branch and the critical branch are kept independent of all other wiring and equipment, and they transfer within 10 seconds of electrical interruption. Each branch has essential numbers of automatic transfer switches.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406
Reference: NFPA 99-2012: 6.4.2.2

EC.02.05.03 EP: 2 – Emergency Power to Alarm System

Los Angeles General Medical Center provides emergency power within 10 seconds for the alarm systems, as required by the Life Safety Code.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406
Reference: NFPA 99-2012: 6.4.1.1; 6.4.2.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 3 - Emergency Power to Exit Route

Los Angeles General Medical Center provides emergency power within 10 seconds for the exit route and exit sign illumination, as required by the Life Safety Code.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406
Reference: NFPA 99-2012: 6.4.1.1; 6.4.2.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 4 - Illumination of Means of Egress, Exit and Directional Signs

Los Angeles General Medical Center has illumination of means of egress, emergency lighting equipment, exit, and directional signs supplied by the life safety branch of the electrical system described in NFPA 99.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406 Note: All Exit Signs in the facility are self-luminous exit signs and need not power source Reference: NFPA 101-2012: 18.2.9.2; 18.2.10.5 and NFPA 99-2012: 6.4.2.2

EC.02.05.03 EP: 5 - Emergency Power to Exit Route

Los Angeles General Medical Center provides emergency power within 10 seconds for the exit route and exit sign illumination, as required by the Life Safety Code.

Reference: NFPA 99-2012: 6.4.2.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 5 - Emergency Power to Emergency Communication System

Los Angeles General Medical Center provides emergency power within 10 seconds for the emergency communication systems, as required by the Life Safety Code

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406 Reference: NFPA 99-2012: 6.4.2.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 6 - Emergency Power to Life Support System etc.

Los Angeles General Medical Center provides emergency power within 10 seconds for the following: Equipment that could cause patient harm when it fails, including life-support systems; blood, bone, and tissue storage systems; medical air compressors; and medical and surgical vacuum systems.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406 Reference: NFPA 99-2012: 6.4.1.1; 6.4.2.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 7 – Emergency Power to Operating Room etc.

Los Angeles General Medical Center provides emergency power within 10 seconds for the areas in which loss of power could result in patient harm, including intensive care, emergency rooms, operating rooms, recovery rooms, obstetrical delivery rooms, nurseries, and urgent care areas.

Los Angeles General Medical Center Facilities Management Procedure Manual Policy #406 Reference: NFPA 99-2012: 6.4.1.1; 6.4.2; NFPA 110-2010: 4.1; Table 4.1(b)

EC.02.05.03 EP: 11 - Emergency Power to Emergency Lighting at Emergency Generator

Los Angeles General Medical Center provides emergency power within 10 seconds for the emergency lighting at emergency generator locations. LAC+USC Medical Center's emergency power system (EPS) has a remote manual stop station (with identifying label) to prevent inadvertent

or unintentional operation. A remote annunciator (powered by storage battery) is located outside the EPS location.

Los Angeles General *Medical Center Facilities Management Procedure Manual Policy #406*
Reference: NFPA 99-2012: 6.4.1.1.6; 6.4.1.1.17; 6.4.2.2.3.3; NFPA 110-2010: 5.6.5.6; 7.3.1

EC.02.05.03 EP: 12 – EPS Design

Equipment designated to be powered by emergency power supply are energized by LAC+USC Medical Center’s design. Staging of equipment start up is permissible.

Los Angeles General *Medical Center Facilities Management Procedure Manual Policy #406*
Reference: NFPA 99-2012: 6.4.2.2

EC.02.05.03 EP: 13 - Emergency Power to Patient Elevators

Los Angeles General Medical Center provides emergency power for elevators selected to provide service to patients during interruption of normal power (at least one for non-ambulatory patients).

Facilities Management policy #406 specifies our practices.
Reference: NFPA 99-2012: 6.4.2.2

EC.02.05.03 EP: 14 - Emergency Backup for Medication Dispensing Equipment

Los Angeles General Medical Center implements a policy to provide emergency backup for essential medication dispensing equipment identified by the hospital, such as automatic dispensing cabinets, medication carousels, and central medication robots.

Facilities Management policy #406 specifies our practices.

EC.02.05.03 EP: 15 - Emergency Power for Essential Refrigeration for Medications

Los Angeles General Medical Center implements a policy to provide emergency backup for essential refrigeration for medications identified by the hospital, such as designated refrigerators and freezers.

Facilities Management policy #406 specifies our practices.

EC.02.05.03 EP: 16 - Battery Lamps and Flashlights

Battery lamps and flashlights are available in areas not serviced by the emergency supply source

EC.02.05.05 - Maintenance, Testing and Inspection of Utility Systems

EC.02.05.05 EP: 1 – Risk Management with Air Quality

When performing repairs or maintenance activities, Los Angeles General Medical Center has a process to manage risks associated with air-quality requirements, infection control, utility requirements, noise, odor, dust, vibration, and other hazards that affect care, treatment, or services for patients, staff, and visitors.

Facilities Management policies #405 & #407 specifies our practices.

EC.02.05.05 EP: 2 – Utility System Testing

Los Angeles General Medical Center tests utility system components on the inventory before initial use and after major repairs or upgrades. The completion date and the results of the tests are documented.

Facilities Management policies #405 & #407 specifies our practices.

EC.02.05.05 EP: 4 - Maintain documentation of maintenance on High-Risk utility systems

All preventive maintenance documents, for all equipment on the inventory, can be accessed through HEMS Enterprise Facilities Management. All PMs related to utility system are completed on time and in accordance with manufactures recommendations.

Facilities Management policy #405 specifies our practices.

EC.02.05.05 EP: 5 - Maintain documentation of maintenance on infection control utility systems

All preventive maintenance documents for all equipment on the inventory, can be accessed through HEMS Enterprise Facilities Management. All PMs related to utility system are completed on time and in accordance with manufactures recommendations

Facilities Management policies #403, #405 & #408 specifies our practices.

EC.02.05.05 EP: 6 - Maintain documentation of maintenance on non-High-Risk utility systems

All preventive maintenance documents for all equipment on the inventory can be accessed through HEMS Enterprise Facilities Management. All PMs related to utility systems are completed on time and in accordance with manufactures recommendations.

Facilities Management policy #405 specifies our practices.

EC.02.05.05 EP: 7 – Line Isolation Monitors

Line isolation monitors (LIM) are tested at least monthly by actuating the LIM test switch, which activates both visual and audible alarms. For LIM circuits with automated self-testing, a manual test is performed at least annually. LIM circuits are tested after any repair or renovation to the electric distribution system. Records are maintained of required tests and associated repairs or modifications, containing date, room or area tested, and results.

Note: This does not apply, as there are no Line Isolation Monitors in the facility.

EC.02.05.05 EP: 8 – Code Requirement for electrical distribution, HVAC

Los Angeles General Medical Center meets all other HealthCare Facilities Code requirements for electrical distribution, HVAC, as related to NFPA 99-2012: Chapters 6 and 9.

EC.02.05.07 - Emergency Power Systems

EC.02.05.07 EP: 1 - Battery Powered Lights for Illumination of Critical Task Areas

All battery-powered lights for illumination of critical task areas are tested for 30 seconds. The test results and completion dates are documented.

Facilities Management policy #406 specifies our practices
Reference: NFPA 101-2012: 7.9.3; 7.10.9; NFPA 99-2012: 6.3.2.2.11.5

EC.02.05.07 EP: 2 -Battery Powered Egress Light Testing

Every 12 months, either Los Angeles General Medical Center performs a functional test of battery- powered lights on the inventory required for egress for a duration of 1 1/2 hours; or replaces all batteries and, during replacement, performs a random test of 10% of all batteries for 1 1/2 hours. The test results and completion dates are documented.

Facilities Management policy #406 specifies our practices.
Reference: NFPA 101-2012: 7.9.3; 7.10.9; NFPA 99-2012: 6.3.2.2.11.5

EC.02.05.07 EP: 3 -SEPSS

Facilities Management will ensure that, every quarter, the medical center performs a functional test of stored emergency power supply systems (SEPSS) for 5 minutes or as specified for its class (whichever is less).

Note: This does not apply, as there are no stored emergency power systems in this facility.

EC.02.05.07 EP: 4 - EPSS

At least weekly, Los Angeles General Medical Center inspects the emergency power supply system (EPSS), including all associated components and batteries. The results and completion dates of weekly inspections are documented.

Facilities Management policy #406 specifies our practices.

Reference: NFPA 110-2010: 8.3.1; 8.3.3; 8.3.4; 8.4.1.

EC.02.05.07 EP: 5 – Emergency Generator Testing

At least monthly, Los Angeles General Medical Center tests each emergency generator under load for at least 30 continuous minutes. The cool down period is not part of the 30 continuous minutes.

The test results and completion dates are documented.

Facilities Management policy #406 specifies our practices.

Reference: NFPA 99-2012:6.4.4.1

EC.02.05.07 EP: 6 - Emergency generator load banking

The monthly tests for diesel-powered emergency generators are conducted with a dynamic load that is at least 30% of the nameplate rating of the generator or meets the manufacturer's recommended prime movers' exhaust gas temperature. If the Medical Center does not meet either the 30% of nameplate rating or the recommended exhaust gas temperature during any test in EC.02.05.07, EP 5, then it must test the emergency generator once every 12 months using supplemental (dynamic or static) loads of 50% of nameplate rating for 30 minutes, followed by 75% of nameplate rating for 60 minutes, for a total of 1 ½ continuous hours.

Facilities Management policy #406 specifies our practices.

Reference: NFPA 99-2012:6.4.4.1

EC.02.05.07 EP: 7 - Automatic transfer switches are tested 12 times per year

All automatic transfer switches, for each EPSS system, are tested as part of the monthly generator loaded test. Their performance is verified during as a part of generator testing.

Facilities Management policy #406 specifies our practices.

Reference: NFPA 99-2012:6.4.4.1

EC.02.05.07 EP: 8 – Fuel Quality Test done annually

At least annually, Los Angeles General Medical Center tests the fuel quality to ASTM standards. The test results and completion dates are documented.

Reference: NFPA 110-2010: 8.3.8.

EC.02.05.07 EP: 9 - Generators are tested for 4 hours every 36 months

At least once every 36 months, hospitals with a generator providing emergency power, test each emergency generator for a minimum of 4 continuous hours. The test results and completion dates are documented.

Facilities Management policy #406 specifies our practices.
Reference: NFPA 110-2010, Chapter 8.

EC.02.05.07 EP: 10 - 36-month generator test at 30% of nameplate

The 36-month diesel-powered emergency generator test uses a dynamic or static load that is at least 30% of the nameplate rating of the generator or meets the manufacturer's recommended prime movers' exhaust gas temperature.

Facilities Management policy #406 specifies our practices.
Reference: NFPA 110-2010, Chapter 8.
EC.02.05.09 - Medical Gas and Vacuum Systems

EC.02.05.09 EP: 1- Category 1 Medical Gas and Vacuum Systems

Los Angeles General Medical Center is equipped with Category 1 medical gas, medical air, surgical vacuum, waste anesthetic gas disposal (WAGD), and air supply systems.

Reference: NFPA 99-2012: 5.1.1.1; 5.2.1; 5.3.1.1; 5.3.1.5; 5.1.14.2

EC.02.05.09 EP: 2 – Medical Gas and Vacuum Alarm System

All master, area, and local alarm systems used for medical gas and vacuum systems comply with the category 1 warning system requirements

Reference: NFPA 99-2012: 5.1.9, 5.2.9, 5.3.6.2.2

EC.02.05.09 EP: 3 – Medical Gas Cylinder Design

Facilities Management policy #418 specifies our practices.
Medical Gas containers, cylinders, and tanks are designed, fabricated, tested, and marked in accordance with NFPA 99-2012.

EC.02.05.09 EP: 4 – Gas Locations Labels

Locations containing only oxygen or medical air have doors labeled "Medical Gases: NO Smoking or Open Flame." Locations containing other gases have doors labeled "Positive Pressure Gases: NO Smoking or Open Flame. Room May Have Insufficient Oxygen. Open Door and Allow Room to Ventilate Before Opening."

Facilities Management policy #418 specifies our practices.

EC.02.05.09 EP: 5 – Cylinder Storage Signs

A precautionary sign readable from five feet away is on each door or gate of a cylinder storage room, where the sign, at a minimum, includes the wording "CAUTION: OXIDIZING GAS (ES) STORED WITHIN NO SMOKING." Storage is planned so cylinders are used in order of which they are received from the supplier. Only gas cylinders, reusable shipping containers, and their accessories are permitted to be stored in rooms containing central supply systems or gas cylinders.

Facilities Management policy #418 specifies our practices.

EC.02.05.09 EP: 6 – Aggregated Volume of the Cylinders Stored for Immediate Use

Los Angeles General Medical Center uses cylinders with an integral pressure gauge, and they are stored on locations as follows:

When more than 300 but less than 3,000 cubic feet, the storage locations are outdoors in an enclosure or within an enclosed interior space of non- or limited-combustible construction, with door (or gates outdoors) that can be secured. Oxidizing gases are not stored with flammables or combustibles.

When gas cylinders are stored in a single smoke compartment, individual cylinders available for immediate use in patient care areas have an aggregate volume of less than or equal to 300 cubic feet. Cylinders are always handled with precautions.

Facilities Management policy #418 specifies our practices.

Reference: NFPA 99-2012: 5.1.3.1; 5.1.3.2.3; 5.2.3.1; 5.3.10; 11.3; 11.6.5.2.1

EC.02.05.09 EP: 7 – Medical Gas System Inspection and Tests

Annually, Los Angeles General Medical Center arranges to inspect, test, and maintain critical components of piped medical gas and vacuum systems; waste anesthetic gas disposal (WAGD); and support gas systems. The inspection and tests comprise all source subsystems, control valves, alarms, and manufactured assemblies containing patient gases and inlets and outlets. Activities, dates, and results are documented. Persons maintaining the systems are qualified by training and certification to the requirements of the American Society of Sanitary Engineers (ASSE) 6030 or 6040.

Facilities Management policy #401 specifies our practices.

Reference: NFPA 99-2012: 5.1.14.2; 5.1.15; 5.2.14; 5.3.13

EC.02.05.09 EP: 8 – Oxygen System

When Los Angeles General Medical Center has bulk oxygen systems above ground, they are in a locked fence at least 10 feet from vehicles and sidewalks. There is permanent signage stating "OXYGEN – NO SMOKING – NO OPEN FLAMES."

Reference: NFPA 99-2012: 5.1.3.5.12.

EC.02.05.09 EP: 9 – Emergency Oxygen Supply

Los Angeles General Medical Center's emergency oxygen supply connection is installed in a manner that allows a temporary auxiliary source to connect to it.

Reference: NFPA 99-2012: 5.1.3.5.13.

EC.02.05.09 EP: 10 – Testing medical gas systems when installed, modified or repaired

Los Angeles General Medical Center tests piped medical gas and vacuum systems for purity, correct gas, and proper pressure when these systems are installed, modified, or repaired. The test results and completion dates are documented.

Facilities Management policy #401 specifies our practices.

Reference: NFPA 99-2012: 5.1.2; 5.1.4; 5.1.14.4.1; 5.1.14.4.6; 5.2.13

EC.02.05.09 EP: 11 - Medical gas shut off valve labeling

Main supply valves and area shutoff valves for piped medical gas and vacuum systems are accessible and are clearly identify what the valves control. Piping is labeled identifying the gas or vacuum system. Labels are at intervals of 20 feet or less and are in every room, at both sides of wall penetrations, and on every story traversed by riser. Piping is not painted. Shutoff valves are identified with the name or chemical symbol of the gas or vacuum system, room or area served, and caution to not use the valve except in emergency.

Facilities Management policies #401 & #402 specify our practices.

Reference: NFPA 99-2012: 5.1.4; 5.1.11.1; 5.1.11.2; 5.1.14.3; 5.2.11; 5.3.13.3; 5.3.11

EC.02.05.09 EP: 12 – Gas Yard

Los Angeles General Medical Center implements a policy on all cylinders within LAC+USC Medical Center that includes the following:

- Labeling, handling, and transporting (for example, in carts, attached to equipment, on racks) in accordance with NFPA 99-2012.
- Physically segregating full and empty cylinders from each other in order to assist staff in selecting the proper cylinder
- Adaptors or conversion fittings are prohibited
- Oxygen cylinders, containers, and associated equipment are protected from contamination, damage, and contact with oil and grease
- Cylinders are kept away from heat and flammable materials and do not exceed a temperature of 130°F
- Nitrous oxide and carbon dioxide cylinders do not reach temperatures lower than manufacture recommendations or -20°F

- Valve protection caps (if supplied) are secured in place when cylinder is not in use
- Labeling empty cylinders
- Prohibiting transfilling in any compartment with patient care

Facilities Management policies #418 specify our practices.

Reference: NFPA 99-2012: 11.6.1; 11.6.2; 11.6.5; 11.7.3

EC.02.05.09 EP: 13 – Transfilling Medical Gas

At no time is transfilling done in any patient care room. A designated area is used away from any section of the hospital where patients are housed, treated, or examined. The designated area is separated by a barrier of at least one-hour–fire-resistant construction from any patient care areas. Transfilling cylinders is only of the same gas. Transfilling of liquid oxygen is only done in an area that is mechanically ventilated, sprinklered, and has a ceramic or concrete flooring. Storage and use of liquid oxygen in base reservoir containers and portable containers comply with sections NFPA 99-2012.

Reference: NFPA 99-2012: 11.6.1; 11.6.2; 11.6.5; 11.7.3

Note: This does not apply, as no transfilling is carried out in the facility.

EC.02.05.09 EP: 14 – Code Requirement for Gas and Vacuum Systems

Los Angeles General Medical Center meets all other HealthCare Facilities Code requirements, gas and vacuum systems, and gas equipment, as related to NFPA 99-2012: Chapters 5 & 11.

EC.02.06.01-Features of the hospital's spaces

EC.02.06.01 EP: 1- Interior spaces

Los Angeles General Medical Center spaces are designed to promote patient safety, security of patients' belongings and patient privacy. Interior spaces are planned to meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided.

Los Angeles General *Medical Center Policy #1100*

EC.02.06.01 EP: 11- Interior lighting

Los Angeles General Medical Center provides lighting suitable for patient care, treatment, and services.

Facilities Management policy #406 specifies our practices.

EC.02.06.01 EP: 20 – Area clean and free of offensive odors.

The Facilities Management makes sure that the areas used by patients are clean and free of offensive odors.

EVS Policy #028, #029, #037, #038 Manual specifies our practices.

EC.02.06.01 EP: 26 – Furnishing and equipment.

Los Angeles General Medical Center keeps furnishings and equipment safe and in good repair.

Hospital follows program of planned maintenance, timely repair to make sure all equipment are safe and in good repair.

EC.02.06.05-Riskmanagement duringdemolition, renovation ornew construction

EC.02.06.05 EP: 1- Construction design criteria

When planning for new, altered, or renovated space, LAC+USC Medical Center uses one of the following design criteria:

- State rules and regulations
- Guidelines for Design and Construction of Health Care Facilities, 2014 edition, administered by the Facility Guidelines Institute and published by the American Society for Healthcare Engineering (ASHE). When the above rules, regulations, and guidelines do not meet specific design needs, use other reputable standards and guidelines that provide equivalent design criteria

Facilities Management policy #408 specify our practices.

EC.02.06.05 EP: 2 - Construction risk assessment

When planning for demolition, construction, renovation, or general maintenance, LAC+USC Medical Center conducts a preconstruction risk assessment for air quality requirements, infection control, utility requirements, noise, vibration, and other hazards that affect care, treatment, and services.

Note: See LS.01.02.01 for information on fire safety procedures to implement during construction or renovation.

DHS policies #918 & #918.4 specify our practices.

EC.02.06.05 EP: 3 -Interim measures during construction

Los Angeles General Medical Center will ensure all demolition; renovation or general maintenance projects have the pre-construction risk assessment findings addressed, through interim measures, to minimize impact of the project on patient care activities.

DHS policies #918, #918.OJ & 918.4 specify our practices.

EC.02.06.05 EP: 4 –Assessment to specify radiation shielding prior to installation of CT, PET or NM Services

For computed tomography (CT), positron emission tomography (PET), or nuclear medicine

(NM) services: Prior to installation of new imaging equipment, replacement of existing imaging equipment, or modification to rooms where ionizing radiation will be emitted or radioactive materials will be stored, Los Angeles General Medical Center hires a medical physicist to conduct a structural shielding design assessment to specify required radiation shielding.

Diagnostic Physics Report for Neurology Laboratory is available in the EC Manual.

EC.02.06.05 EP: 6 –Assessment to specify radiation shielding after installation of CT, PET or NM Services

For computed tomography (CT), positron emission tomography (PET), or nuclear medicine (NM) services: After installation of new imaging equipment, replacement of existing imaging equipment, or modification to rooms where ionizing radiation will be emitted or radioactive materials will be stored, Los Angeles General Medical Center hires a medical physicist to conduct a structural shielding design assessment to specify required radiation shielding.

Diagnostic Physics Report for Neurology Laboratory is available in the EC Manual.

EC.03.01.01 - Staff roles and responsibilities relative to the Environment of Care

EC.03.01.01 EP: 1 Staff Responsible for the maintenance, inspection, testing and use of medical equipment, utility systems and equipment, fire safety systems and equipment, and safe handling of hazardous materials and waste are competent and receive continuing education and training.

Staff responsible for the maintenance, inspection, testing, and use of medical equipment, utility systems and equipment, fire safety systems and equipment, and safe handling of hazardous materials and waste are competent and receive continuing education and training.

EC.03.01.01 EP: 2 Staff and licensed independent practitioners can describe or demonstrate actions to take in the event of an environment of care incident.

All staff and licensed independent practitioners must attend new employee orientation within 30 days of hire. New employee orientation addresses key issues and objectives of all six areas of the Environment of Care including the role each area and staff play in the overall patient safety program.

Employees also receive area specific safety orientation at their respective work areas regarding hazards and their responsibilities to patients, visitors and co-workers. In addition, all staff participates in periodic refresher training relative to Environment of Care and function specific duties.

Los Angeles General *Medical Center Policy #509*

EC.04.01.01 - Monitor Conditions in the Environment

EC.04.01.01 EP: 1- Reporting to the Environment of Care

The Utility Manager or designee makes quarterly reports of problems, failures, and user errors to the Environment of Care Committee. The reports summarize findings of incident reports, maintenance and repair activities, hazard notices and recalls, and other information of concern.

The Chairperson of the Environment of Care Committee coordinates the collection and analysis of information about each of the EC management programs, in order to evaluate program effectiveness and improve performance. The information collected includes deficiencies in the environment, staff knowledge and performance deficiencies, actions taken to correct identified issues, and evidence of successful improvement activities.

The Chairperson of the Environment of Care Committee coordinates the performance measurement and improvement process for each of the six EC management programs. The Utility Manager or his designee is responsible for preparing monthly reports of performance for the Environment of Care Committee.

The Utility Manager establishes performance indicators to objectively measure the effectiveness of the Utility Systems program. The Utility Manager determines appropriate data sources, collection methods and intervals for the performance improvement standards. Staff, equipment, and management performance are evaluated to identify opportunities to improve the Utility Systems program.

EC.04.01.01 EP: 11- Failure investigation

The medical center reviews incident reports related to utility system failures to determine root cause of failure & implement corrective actions when needed. (i.e.: equipment upgrades, system modifications, procedural changes, training opportunities, etc.)

EC.04.01.01 EP: 15 -Annual review of management plan

The Utility Manager is responsible for the annual review of Utility Management Plan and includes an evaluation of objectives, scope, performance and effectiveness. The annual evaluation is submitted to the Chairperson of the Environment of Care Committee for review.

EC.04.01.03 - Analyze EC issues

EC.04.01.03 EP: 2 - Opportunities to resolve environment of care issues

The multidisciplinary Environment of Care Committee considers reports of management plan issues at regularly scheduled meetings. The Committee evaluates the reports and approves actions to address corrective actions for identified issues.