**ENVIRONMENT OF CARE**

**MANAGEMENT PLAN TEMPLATES**

**FOR AMBULATORY CARE**

* **Safety**
* **Security**
* **Hazardous Materials and Waste**
* **Fire Safety**
* **Medical Equipment**
* **Utility Systems**

**U.S. Army Public Health Center**

**5158 Blackhawk Road**

**Aberdeen Proving Ground, MD 21015**

**January 2019**

**ENVIRONMENT OF CARE**

**SAFETY MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. Safety Management Elements of Performance

a. Risk Management Responsibilities

b. Intervention Authority

c. Safety Management Plan

d. Risk Assessment

e. Risk Management Process

f. Maintenance and Supervision of Grounds and Equipment

g. Product Safety Recalls

h. No Smoking Policy

i. Orientation and Annual Refresher Education and Training

j. Information Collection and Evaluation System

Note: Magnetic Resonance Imaging (MRI) safety procedures are discussed in the Hazardous Materials and Waste Management Plan

1. Goal. This management plan describes the framework used to manage safety risks and improve safety performance. The scope and objectives of this plan are consistent with the Command’s values, vision, and mission to provide quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will prevent human injuries and illnesses, maintain a physical environment free of health and physical hazards, and safeguard Army property—

a. Effectively manage safety and health risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient safety and health processes

c. Improve employee performance through effective safety and health education and training

d. Improve employee and patient satisfaction by providing a safe physical environment

3. Scope. This management plan applies to HEALTHCARE FACILITY NAME and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANGEMENT PLANS.

4. Responsibilities.

a. The Safety Manager is responsible for developing, implementing, and monitoring this plan and the HEALTHCARE FACILITY NAME Safety Program.

b. The Organization Chart in Appendix A shows the primary officers, departments, and services that provide input into the development, implementation, and maintenance of this plan.

c. Department chiefs and work area supervisors develop and implement department-specific safety standing operating procedures (SOPS) and carry out organization-wide safety policies and regulations.

d. All employees, contractors, and volunteers are held responsible for obeying safety rules, utilizing personal protection equipment (PPE) as required, and reporting accidents and injuries and unsafe and unhealthy working conditions to their immediate supervisor.

5. Safety Management Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, SOPs, systems, and databases pertaining to each of these requirements—

a. EC.01.01.01, EP.1, Risk Management Responsibilities. The Safety Manager, appointed by the HEALTHCARE FACILITY NAME Commander, is a qualified safety professional (General Schedule-018). This individual directs the organization-wide information collection and evaluation system (ICES), designed to collect information about deficiencies, problems, failures, user errors, and opportunities for improvement in the environment of care (EC)/physical environment (PE).

b. Intervention Authority. The Safety Manager and core members of the Safety/EC Committee are authorized to intervene whenever conditions that pose an immediate threat to life or health or pose a threat of damage to equipment or buildings exist.

c. EC.01.01.01, EP.4, Safety Management Plan. The written Safety Management Plan provides an overview of the organization’s policies and procedures that are essential for monitoring and maintaining the EC/PE. It is based on a plan, teach, implement, respond, monitor, and improve framework. The Safety Manager reviews the Safety Management Plan annually to confirm the accuracy of the information contained within the plan and to identify opportunities for improvement.

d. EC.02.01.01, EP.1; EC.02.06.05, EPs.2 and 3; Risk Identification.

(1) The HEALTHCARE FACILITY NAME uses a risk identification and assessment process to evaluate the impact of buildings, grounds, equipment, occupants, processes, and systems on the safety and health of patients, employees, and other people coming into the facility. The Safety Manager conducts periodic safety inspections of all work areas, including inpatient psychiatric units and other areas where there may be an increased risk of suicide, and recommends corrective actions to eliminate identified hazards or interim controls to minimize risk. Management and employees use risk management processes when planning and carrying out day-to-day operations.

(2) Both proactive risk assessments (e.g., internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode and effects analyses; governmental regulation reviews; association, society, and professional literature reviews; preventive maintenance; design reviews; etc.) and reactive risk assessments (e.g., incident and accident investigation reports, utility or equipment failure investigations, hazardous materials spill investigations, root causes analyses, etc.) are used to identify trends for which corrective action is needed.

(3) In addition, the risk assessment process is used to manage “gray areas,” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/EC Committee for discussion and resolution.

e. EC.02.01.01, EP.3, Risk Management Process. The Safety Manager assigns a risk assessment code to all safety and health hazards to make sure that they are abated on a worst-first basis. Interim safety measures are implemented to manage risk and to minimize potential for harm to patients, employees, and visitors when hazards cannot be immediately abated.

f. EC.02.01.01, EP.6; EC.02.06.01, EPs. 1, 11, and 20; EM.02.02.05, EP.1; IC.02.01.01, EP.2; IC.02.03.01, EP.2; and LD.04.01.11, EPs. 3, 4, and 5, Grounds and Public Areas. The Safety and Facility Managers are responsible for the supervision and maintenance of grounds and public areas.

(1) Supervision is accomplished through routine inspections, unsafe and unhealthy working condition reports, accident investigation reports, etc.

(2) Hazard abatements requiring repairs are submitted to Facilities for correction. When corrections cannot be completed immediately, the Facility and Safety Managers implement interim controls and monitor them for effectiveness until the hazard is abated or risk is reduced to acceptable levels.

(3) Hazard abatements requiring a change in safety policy or procedure are referred to the Safety Manager for correction.

(4) Hazard abatements requiring major renovation or funding for repairs are forwarded to the Safety/EC Committee for discussion and resolution.

(5) Routine surveys and inspections include an assessment of—

(a) The safety and suitability of interior spaces based on the care and services provided

(b) Ventilation, temperature, and humidity, cleanliness, offensive odors, etc.

(c) Lighting

(d) Furnishings

(e) Cleanliness

(f) In the event of an emergency, employees are trained in procedures described in the HEALTHCARE FACILITY NAME safety regulations and in the Emergency Operation Plan. Examples of emergency safety procedures include, but are not limited to—

(1) Providing for internal safety during an emergency (Chapter XX, Annex XX)

(2) Implementing internal safety procedures during an emergency (Chapter XX, Annex XX)

(g) During emergency exercises, the Safety Manager reviews safety and health issues immediately after they occur/are reported and follows-up with appropriate staff to eliminate

g. EC.02.01.01, EP.11 and MM.05.01.17, EPs. 1, 2, 3, and 4, Product Safety Recalls. The Risk Manager is responsible for product safety recalls. The Product Safety Recall Policy describes procedures for removing products and equipment that have been recalled or that pose a significant health and safety risk to patients, visitors, or employees. The HEALTHCARE FACILITY NAME receives recall notifications from a variety of sources, such as the U.S. Army Medical Material Agency, product manufacturers, distributors and suppliers, the Consumer Product Safety Commission, and the Food and Drug Administration. Copies of notifications are distributed as follows—

(1) Medical Equipment – Chief, Medical Maintenance

(2) Pharmaceuticals – Chief, Pharmacy

(3) Dietary Recalls – Chief, Nutrition Care

(4) Medical/Surgical Supplies – Chief, Central Services

(5) Engineering Supplies/Facilities Equipment – Facility Manager

(6) Housekeeping Supplies – Chief, Environmental Services

(7) Consumer Products – Safety Manager

These designated individuals respond to the recalls as needed, including notifing affected staff and patients, and submit summaries of all follow-up actions taken to the Risk Manager and the Safety/EC Committee for review.

h. EC.02.01.03, EP.1, No Smoking Policy. The HEALTHCARE FACILITY NAME has and enforces a written, comprehensive No Smoking Policy to reduce the risk of adverse care, treatment, and services for patients who smoke; exposure to passive smoke for others; and fire. The policy prohibits smoking inside all HEALTHCARE FACILITY NAME buildings and military/government-owned vehicles, designates outdoor smoking areas, and encourages employees and patients to enroll in a smoking cessation program.

i. EC.03.01.01, EP.2; HR.01.04.01, EP.1; and HR.02.02.01, EP.1, Orientation and Annual Refresher Education and Training Program.

(1) The orientation and education component pertaining to safety addresses the following criteria—

(a) Safety hazards (biological, chemical, physical, ergonomic) in the EC/PE and the methods for eliminating these hazards or minimizing associated risk

(b) General safety processes, such as procedures for reporting accidents/occupational illnesses and unsafe/unhealthy working conditions

(c) Emergency processes, such as reporting a chemical or biological spill

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS), manages the organization-wide New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the Annual Refresher Education and Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher training.

(5) All training is documented in the employee competency folders.

j. EC.04.01.01, EPs, 1, 2, 3, 4, 5, and 15; EC.04.01.03, EP.2; EC.04.01.05, EP.1; and LD.02.03.01, EP.1, Information Collection and Evaluation System.

(1) *Reporting and Investigating Accidents, Injuries, Property Damage, Problems, Failures, & Use Errors*.

(a) The Incident Reporting/Investigation System covers all incidents involving equipment and property damage; occupational illness; and patient, employee, or visitor injury.

(b) Supervisors must investigate all incidents and submit the appropriate incident report form (Department of the Army (DA) Form 285, CA-1/CA-2, and DA Form 4106) to the Safety Manager, Patient Safety Manager, or Risk Manager.

(c) The Safety Manager, Patient Safety Manager, Risk Manager, or other HEALTHCARE FACILITY NAME representatives as deemed appropriate by the Commander promptly review incident reports to determine root cause(s), identify trends, and suggest corrective actions to prevent recurrence. Summary reports are submitted to the appropriate committee for further review and resolution as needed.

(2) *Environmental Tours*. Conduct of environmental tours involves both internal inspections and external agency audits.

(a) Internal inspections.

(1) Consistent with Army policy, the Safety Manager inspects high-hazard areas quarterly, patient care areas semi-annually and non-patient care areas annually to identify occupational safety and health trends and safety hazards that require abatement or control.

(2) The Industrial Hygienist inspects work areas to identify, evaluate, and recommend controls for chemical, physical, biological, and ergonomic hazards that pose a risk to employee safety and health at least annually.

(3) The installation Fire Department’s Fire Prevention Section inspects buildings for fire safety hazards annually.

(4) Departmental safety representatives inspect their areas of responsibility monthly.

(5) On a daily basis, supervisors and employees correct hazards identified within their work area. When hazards cannot be immediately eliminated, supervisors develop and implement interim controls with the assistance of the Safety Manager or Facility Manager.

(6) Housekeeping and maintenance personnel informally check for and report hazards to their immediate supervisor or to the Safety Manager daily.

(b) External Inspections. The U.S. Army Medical Command, US Army Public Health Center, the Occupational Safety and Health Administration, the Nuclear Regulatory Commission, and the College of American Pathologists are some external agencies that may audit the HEALTHCARE FACILITY NAME Occupational Safety and Health Program.

(c) The Safety Manager or other safety experts work with supervisors and employees to develop appropriate resolutions or controls for each identified hazard.

(d) The Safety/EC Committee reviews trends and audit results and recommends resolutions as needed.

(3) *Annual Evaluation*.

(a) The Safety Manager keeps the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making necessary modifications based on the results of the annual evaluation and changes to scope, objectives, performance goals, policies, regulations, and standards. In performing the annual review, the Safety Manager uses a variety of sources such as inspection and audit results, accident/incident reports, employee reports of unsafe or unhealthy working conditions, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. The Safety Manager may also use other forms of review and input from relevant sources such as leadership, the other EC disciplines, supervisors, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plan’s—

(1) Scope. Based on the current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2.a through 2.d are current.

(3) Performance. A review of the performance improvement project(s) is made to determine the level of performance and whether the level of performance is acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective Safety Program.

(c) After the Safety/EC Committee reviews and approves the annual evaluation, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, plans, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Education and Training Programs.

(4) *Safety/EC Committee*.

(a) The Safety/EC Committee includes representatives from administration, clinical services, and support services.

(b) Consistent with Army policy, the committee meets bimonthly (six times a year) to review and discuss summaries of problems, failures, user errors, and relevant published reports of hazards, as well as reports on findings, recommendations, actions taken, and results of measurement. In addition, the committee receives reports from the six EC disciplines, emergency management, and other established subcommittees (Radiation Safety, Infection Control, and Patient Safety).

(c) The committee reviews safety trends, concerns, and risk assessments; develops and approves appropriate resolutions; establishes measurement guidelines; and monitors the effectiveness of resolutions. Actions outside the scope of the Safety/EC Committee are forwarded to the appropriate committee for review and resolution.

(d) The committee minutes are routed through the Risk Management Committee to the Executive Committee for Command review and action if required. Additionally, summary information is communicated to the Patient Safety Officer and affected services or departments via department or work area meetings, e-mail, and the intranet.

(e) The Safety Manager is a standing committee member and is responsible for coordinating and documenting information presented to the committee. In addition, the Safety Manager is responsible for providing recurring reports on the status of the Safety Management Plan to include—

(1) Annual evaluation of the Safety Management Plan

(2) Performance improvement project

(3) Deficiencies, problems, failures, and user errors

(4) Accidents involving property damage, summaries of patient/visitor injury reports, occupational injury and illness data, and employee reports of unsafe/unhealthy working conditions

(5) Risk assessments

(6) Environmental tour summaries

(7) Product recalls

(8) Education and training trends

(9) Smoking policy issues

(5) *Performance Improvement Activities*.

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the EC/PE

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with safety policies, regulations, and standards

(b) Consistent with Army policy, the Safety Manager—

(1) Identifies at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Considers high-risk, high-volume or chronic problems when developing performance goals to better focus limited resources.

(3) Sets desired goals or benchmarks, and develops and implements data collection and reporting procedures.

(4) Appendix C lists the Safety Performance Improvement projects for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee’s minutes.

(d) Consistent with Army policy, the Safety/EC Committee recommends at least one EC performance improvement project annually to the Executive Committee for review and inclusion in the HEALTHCARE FACILITY NAME Performance Improvement Program.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standard and Element of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Performance Objective**  **(Examples)** | **Performance Indicator(s)**  **(Examples)** | **Performance Plan**  **(Consideations)** |
| --- | --- | --- |
| Improve Physical, Ethical & Cultural Environments. Example: Effectively manage safety and health risks through regulatory compliance and by using best industry practices/internal processes. Manage risk by promptly reporting and investigating mishaps. | Example: Indicator - # reports received by the Safety Office within 24 hours of the incident  Example: Performance Improvement (PI) Standard: 95% of all mishaps requiring medical treatment or property damage are reported to the Safety Office within 24 hours of the incident. | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources. Example: Optimize resources by using efficient safety and health processes. Specifically reducing loss resulting from workplace accidents and incidents. | Example: % reduction in civilian worker’s compensation  % reduction military off duty lost time  % reduction military on duty lost time  $ reduction of incidents involving property damage |
| Improve & Empower Highly Effective Work Teams. Example: Improve staff performance through effective safety and health education and training. Specifically, verifying that staff attends mandatory safety training. | Example: % staff competency based folders containing documentation showing mandatory safety training is satisfactorily completed. |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve staff and patient satisfaction by providing a safe physical environment. Specifically, staff feedback shows that Leadership supports the Safety Program. | Example: 95% of staff have a positive perception of Leadership’s commitment to safety |

**ENVIRONMENT OF CARE**

**SECURITY MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. Security Management Elements of Performance

a. Security Management Plan

b. Risk Identification

c. Risk Management Process

d. Identification Program

e. Access to Sensitive Areas

f. Security Incidents

g. Orientation and Annual Refresher Education and Training

h. Information Collection and Evaluation System

1. Goal. This management plan describes the framework to manage security risks and improve Security Program performance. The scope and objectives are consistent with the Command’s values, vision, and mission to provide quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will ensure the physical security of patients, visitors, and employees and prevent the loss of information and property—

a. Effectively manage security risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient security processes

c. Improve employee performance through effective security education and training

d. Improve employee and patient satisfaction by providing a safe and secure physical environment

3. Scope. This management plan applies to HEALTHCARE FACILITY NAME and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANAGEMENT PLANS.

4. Responsibilities.

a. The Security Officer is responsible for developing, implementing, and monitoring this plan and the HEALTHCARE FACILITY NAME security policies and regulations.

b. The Organization Chart in Appendix A shows the primary officers, departments and services that provide input into the development, implementation, and maintenance of this plan.

c. Department chiefs and work area supervisors develop and implement department-specific security standing operating procedures (SOPs) and effectively carry out organization-wide security policies and regulations.

d. All employees, contractors, and volunteers are held responsible for obeying the HEALTHCARE FACILITY NAME security procedures.

5. Security Management Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, SOPs, systems, and databases pertaining to each of the following standards—

a. EC.01.01.01, EP.5, Security Management Plan. The Security Management Plan provides an overview of the the HEALTHCARE FACILITY NAME policies and procedures that are essential for monitoring and maintaining the environment of care (EC)/physical environment (PE). It is based on a plan, teach, implement, respond, monitor, and improve framework, The Security Officer reviews the Security Management Plan annually to confirm the accuracy of the information contained within the plan and to identify opportunities for improvement.

b. EC.02.01.01, EP.1 and LD.04.01.11, EPs, 3, 4, and 5, Risk Identification

(1) The Security Officer conducts a security risk assessment at least annually that includes a thorough evaluation of the HEALTHCARE FACILITY NAME buildings, grounds, security systems, equipment, services offered, patient populations served; local crime statistics; and current world events. The potential for workplace violence and drug diversion are also considered in the risk assessment. Management and employees use risk management processes when planning and carrying out day-to-day operations.

(2) Both proactive risk assessments (e.g., internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode and effects analyses; governmental regulation reviews; association, society, and professional literature reviews; emergency exercise after action reports; preventive maintenance; and design reviews; etc.) and reactive risk assessments (incident investigations, security system failure investigations, root cause analyses, etc.) are used to identify trends for which corrective action is needed.

(3) The risk assessment process is also used to manage “gray areas” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/EC Committee for discussion and resolution.

c. EC.02.01.01, EP.3, Risk Management Process.

(1) The Security Officer and other experts work with supervisors and employees to determine the engineering and administrative controls and safe work practices necessary to eliminate or manage security risks. First-line supervisors are responsible for making sure controls and work practices are used and effective.

(2) All security risks, including those related to building access and Health Insurance Portability and Accountability Act (HIPPA) rules, are evaluated, tracked, and abated on a worst-first basis. Interim measures to manage risk and minimize potential harm to patients, employees, and visitors are implemented when hazards cannot be immediately abated.

d. Identification Program.

(1) The Security Officer issues identification badges to—

(a) Employees and contractors as part of their new hire orientation

(b) Students as part of their student orientation

(c) Red Cross Volunteer identification badges to Red Cross Volunteers as part of their orientation

(2) Each department is responsible for obtaining temporary identification badges from the Security Officer for contractors, vendors, and official visitors.

(3) Outpatients and the general public are not provided identification badges.

(4) HEALTHCARE FACILITY NAME policy requires employees, students, volunteers, contractors, vendors, and official visitors to display badges at all times while working.

e. EC.02.01.01, EP.8, Access to Sensitive Areas. Per U.S. Army Medical Command (MEDCOM) Supplement 1 to Army Regulation (AR) 190-13, the following areas have been identified as “sensitive” within the HEALTHCARE FACILITY NAME, and they are equipped with work area specific access control measures—

(1) Emergency Room

(2) Pharmacies – In Patient/Out Patient/Post Exchange

(3) Command Suite/Staff Offices

(4) Power Generation Stations/Generator System/Mechanical Rooms

(5) Medical Warehouse

(6) Dental Lab/Vault

(7) Computer Rooms

(8) Others as identified in the Emergency Operation Plan

f. EM.02.02.05, EP.1 and EM.03.01.03, EP.5, Security Incidents.

(1) The Incident Reporting and Investigation System covers all security incidents involving patients, employees, visitors, information, and property. Examples of reportable serious incidents are listed in MEDCOM Supplement 1 to AR 190-45 and include arson and incidents that result in the evacuation of patients.

(2) Anyone can report a security incident to the Security Office via telephone or by the HEALTHCARE FACILITY NAME Report of Serious/Sensitive Incident, MEDCOM Form 104, June 2007.

(3) The Security Officer, Risk Manager, or other HEALTHCARE FACILITY NAME representatives as deemed appropriate by the Commander, promptly review incident reports to identify trends, determine root cause(s), and suggest corrective actions to prevent recurrence. Summary reports are submitted to the Safety/EC Committee for further review and resolution as needed.

(4) In the event of an emergency, employees are trained in procedures described in the HEALTHCARE FACILITY NAME security regulations and in the Emergency Operation Plan. Examples of emergency security procedures include, but are not limited to—

(a) Providing for internal security during an emergency (Chapter XX, Annex XX)

(b) Controlling access, egress, and movement within the facility during an emergency (Chapter XX, Annex XX)

(c) Coordinating roles and activities with community security agencies in the event of an emergency (Chapter XX, Annex XX)

(5) During emergency exercises, the Security Manager reviews security issues immediately after they occur/are reported and follows-up with appropriate staff to eliminate or reduce risk.

g. EC.03.01.01, EP.2; HR.01.04.01, EP.1; and HR.02.02.01, EP.1, Orientation and Annual Refresher Education and Training Program.

(1) The orientation and education component pertaining to security addresses the following criteria—

(a) Security risks in the EC/PE, such as HIPPA rules, theft, violence in the workplace, and the methods for eliminating or minimizing security risks

(b) General security processes, such as wearing identification badges and reporting security incidents

(c) Emergency processes, such as responding to an active shooter

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS) manages the HEALTHCARE FACILITY NAME New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the HEALTHCARE FACILITY NAME Annual Refresher Education and Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher education and training.

(5) All education and training is documented in the employee competency folders.

h. EC.04.01.01, EPs.2 and 15; EC.04.01.03, EP.2; and EC.04.01.05, EP. 1 Information Collection and Evaluation System.

(1) *Reporting and Investigating Security Incidents, Problems, Failures, and Use Errors.*

(a) Paragraph 5.f describes reporting procedures.

(b) The Security Officer, Risk Manager, or other HEALTHCARE FACILITY NAME representatives as deemed appropriate by the Commander promptly review incident reports to identify trends, determine root cause(s), and suggest corrective actions to prevent recurrence. Summary reports are submitted to the appropriate committee for further review and resolution as needed.

(2) *Annual Evaluation*.

(a) The Security Officer keeps the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making modifications based on changes to scope, objectives, policies, procedures, regulations, standards, etc. In performing the annual review, the Security Officer uses a variety of sources such as inspection and audit results, security incident reports, employee concerns, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. The Security Officer may also use other forms of review and input from relevant sources such as leadership, other EC/PE disciplines, supervisors, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plans—

(1) Scope. Based on the current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2.a through 2.d are current.

(3) Performance. A review of the performance improvement project(s) is made to determine the level of performance and whether the level of performance was acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective Security Management Program.

(c) After the Safety/EC Committee reviews and approves the annual evaluation, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, plans, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Education and Training Programs.

(3) *Safety/EC Committee*. The Security Officer is a standing member of the Safety/EC Committee and is responsible for providing recurring reports on the status of the Security Management Plan to include—

(a) Annual evaluation of the Security Management Plan

(b) Performance improvement project

(c) Deficiencies, problems, failures, user errors

d) Serious incident reports involving employees, patients, and others within the facility

(e) Risk Assessments

(f) Environmental tour trends

(4) *Performance Improvement Activities*

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the HEALTHCARE FACILITY NAME Security Program

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with relevant security policies, regulations, and standards

(b) The Security Officer—

(1) Identifies at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Considers high-risk, high-volume or chronic problems when developing performance standards to better focus limited resources.

(3) Sets desired goals or benchmarks, and develops and implements data collection and reporting procedures.

(4) Appendix C lists the Security Performance Improvement Project(s) for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee’s minutes.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standard and Element of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Performance Objective** | **Performance Indicator(s)** | **Performance Result** |
| Improve Physical, Ethical & Cultural Environments. Example: Effectively manage security risks risks through regulatory compliance and by using best industry practices/internal processes. Specifically, manage risk through the prompt completion of background checks. | Example: % background checks completed within 30 days of hire  Example: 98% of background checks for new hires will be completed within 30 days. | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources. Example: Optimize resources by using efficient security processes. Specifically, reducing costs associated with key control/replacement. | Example: $ spent on key control/replacement |
| Improve & Empower Highly Effective Work Teams. Example: Improve staff performance through effective security education and training. Specifically, verify that staff can properly respond to a lost/missing child code. | Example: % staff, contractors, and volunteers who can articulate the process for reporting and responding to a lost or missing child code. |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve staff and patient satisfaction, by providing a secure physical environment. Specifically, responding to staff and patient security concerns | Example: % security issues (identified on patient surveys/employee perception surveys) effectively resolved each quarter. |

**ENVIRONMENT OF CARE**

**HAZARDOUS MATERIALS AND WASTE (HMW) MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. HMW Management Elements of Performance

a. HMW Management Plan

b. Risk Assessment

c. Risk Management Process

d. HMW Inventory

e. HMW Spills or Exposures

f. Selecting, Handling, Storing, Using and Disposing of Chemicals

g. Selecting, Handling, Storing, Using and Disposing of Radioactive Materials

h. Selecting and Using Hazardous Energy Sources

i. Radiation/Nuclear Medicine Equipment

j. Employee Dosimetry

k. Selecting, Handling, Storing, Using and Disposing of Hazardous Medications

l. Selecting, Handling, Storing, Using and Disposing of Hazardous Gases and Vapors

m. Monitoring Hazardous Gases and Vapors

n. Permits, Licenses, Manifests, and Adherence to Other Regulations

o. Labeling HMW

p. Orientation and Annual Refresher Education and Training

q. Information Collection and Evaluation System

1. Goal. This management plan describes the framework used to manage risk and improve performance associated with the selection, handling, storage, use and disposal of HMW. The scope and objectives are consistent with the Command's values, vision, and mission to provide quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will protect people, equipment, property, and the environment by safely controlling hazardous materials from acquisition to ultimate disposal—

a. Effectively manage HMW risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient HMW processes

c. Improve employee performance through effective HMW education and training

d. Improve employee and patient satisfaction by providing a safe and secure physical environment

3. Scope. This plan applies to all operations where there is potential for occupational exposure to hazardous chemicals and waste, hazardous drugs, ionizing and nonionizing radiation, and regulated medical wastes (RMW) in HEALTHCARE FACILITY NAME and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANAGEMENT PLANS.

4. Responsibilities.

a. The Environmental Science Engineering Officer (ESEO) is responsible for developing, implementing, and monitoring this plan.

b. The Organization Chart in Appendix A shows the primary officers, departments, and services that provide input into the development, implementation, and maintenance of this plan.

c. Service and department chiefs develop and implement department-specific HMW standard operating procedures (SOPs) and carry out the organization-wide HMW policies and regulations.

d. All employees and volunteers are held responsible for following HMW procedures, wearing personal protective equipment (PPE) as required, and reporting hazardous spills.

5. HMW Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, SOPs, systems, and databases pertaining to each of these requirements.

a. EC.01.01.01, EP.6, HMW Management Plan. The HMW Management Plan provides an overview of the HEALTHCARE FACILITY NAME policies and procedures for maintaining a safe environment of care (EC)/physical environment (PE). The HEALTHCARE FACILITY NAME HMW policies and regulations conform to Federal, State, local and Department of Army laws and regulations. The plan is based on a plan, teach, implement, respond, monitor, and improve framework. The ESEO reviews the HWM Management Plan annually to confirm the accuracy of the information contained within the plan and identify opportunities for improvement.

b. EC.02.01.01, EP.1, Risk Assessments.

(1) The Hazard Communication (HAZCOM) Program Manager and the Industrial Hygienist (IH) together with work area supervisors to conduct risk assessments at least annually to identify all hazardous materials used in the facility and to evaluate compliance with the Occupational Safety and Health Administration’s (OSHA’s) HAZCOM and Chemical Hygiene Standards and other safety and health criteria pertinent to the selection, safe storage, handling, and use of hazardous chemicals.

(2) The ESEO conducts a risk assessment at least annually to identify the various waste streams and to evaluate compliance with the Environmental Protection Agency (EPA) and the Department of Transportation (DOT) regulations pertinent to the transportation and disposal of hazardous waste and regulated medical waste (RMW).

(3) The Radiation Safety Officer (RSO), Nuclear Medicine Officer, and the Laser Safety Officer (LSO) conduct risk assessments at least annually to inventory all ionizing and non-ionizing radiation sources and to evaluate compliance with the OSHA, Nuclear Regulatory Commission (NRC) and Army regulations pertinent to the selection, storage, handling, use and disposal of ionizing and non-ionizing radiation sources.

(4) The IH conducts a risk assessment at least annually to identify employees, volunteers, patients, visitors, etc. who are or potentially exposed to HMW and to evaluate compliance with safety and health criteria published by the OSHA; the American Conference of Governmental Industrial Hygienists (ACGIH), Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, Latest Edition; Army Regulation (AR) 40-5 Preventive Medicine; and Department of the Army Pamphlet (DA PAM) 40-503, Industrial Hygiene Program.

(5) Management and employees use risk management processes when planning and carrying out day-to-day operations.

(6) Both proactive risk assessments (internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode effects analyses; governmental regulation reviews; association, society, and professional literature reviews; spill response drills; preventive maintenance; and design reviews; etc.) and reactive risk assessments (incident investigations; failure investigations involving engineering and administrative controls, work practices, PPE; root cause analyses; etc.) are used to identify trends for which corrective action is needed.

(7) The risk assessment process is also used to manage “gray areas” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/EC Committee for discussion and resolution.

c. EC.02.01.01, EP.3, Risk Management Process.

(1) Individual experts [e.g. Safety Officer, HAZCOM Program Manager, ESEO, RSO, LSO, IH, Hazardous Drug Officer (HDO), Chemical Hygiene Officer (CHO), and Infection Control Officer (ICO)] work with supervisors and employees to determine the engineering and administrative controls, safe work practices, and PPE necessary to eliminate hazards or manage HMW risks. Work area supervisors are responsible for making sure engineering and administrative controls, safe work practices, and PPE are used and effective.

(2) All HMW risks are evaluated, tracked, and abated on a worst-first basis. Interim measures are implemented when hazards cannot be immediately abated to manage risk and to minimize potential harm to patients, employees, visitors, and the environment.

d. EC.02.02.01, EP.1 and MM.01.01.03, EP.1, The HMW Inventory.

(1) The HMW include chemicals, biologicals, radioactive materials, pharmaceuticals; chemotherapeutic, electronic, universal, and mixed wastes; and hazardous gases and vapors.

(2) Work area supervisors maintain a hazardous chemical inventory and corresponding safety data sheets (SDSs) for all hazardous chemicals used by their departments. Supervisors update the chemical inventory annually, or as changes occur and forward an updated copy of the inventory to the HAZCOM Program Manager.

(3) The HAZCOM Program Manager maintains a master hazardous chemical inventory and SDS file for the organization.

(5) The HDO maintains a list of hazardous drugs.

(6) Logistics makes sure SDSs are forwarded to the user service or department and a copy is sent to the HAZCOM Program Manager.

e. EC.02.02.01, EPs. 3 and 4; IC.02.01.01, EP.6; and EM.02.02.05, EP.5, HMW Spills or Exposures.

(1) Emergency procedures for HMW are contained in the HEALTHCARE FACILITY NAME policies and regulations and work area-specific SOPs. These policies and procedures address the spill prevention precautions, emergency notification and reporting procedures, and clean-up procedures along with the PPE to be worn when cleaning up a infectious or hazardous material or waste spill. Procedures for responding to major spills and releases are discussed in the Emergency Operations Plan, Chapter XX.

(2) Additional emergency procedures included in the Emergency Operations Plan include, but are not limited to—

(a) Providing for HMW disposal (Chapter XX, Annex XX)

(b) Providing for radioactive, biological, and chemical isolation and decontamination (Chapter XX, Annex XX)

(c) Designated individuals monitor response to emergencies involving chemicals, infectious agents, and radiation during emergency response exercises.

f. EC.02.02.01, EP.5 and IC.02.01.01, EP.6, Selecting, Handling, Storing, Using and Disposing of Chemicals and Hazardous Waste.

(1) Selecting. Before purchasing hazardous chemicals, supervisors (with assistance from the Safety Manager, ESEO, IH, ICO, and Occupational Health) use the SDS to assess the health hazards and physical properties of the chemical and determine whether a safer, less hazardous chemical can be used; the appropriate facilities are available for the proper storage of the chemical and the ventilation is sufficient; the proper PPE and safety equipment is on hand for using the chemical; and establish whether the chemical or its end product will require disposal as a hazardous waste.

(2) Handling and storing. Supervisors order minimum quantities that are consistent with the rate of use. Chemical containers are inspected upon delivery to the Logistics/work area. Chemical products or their containers that are damaged or leaking are not accepted. Chemicals, including compressed gas cylinders, which are not properly labeled, are not accepted. Medical Supply receives and distributes chemicals throughout the HEALTHCARE FACILITY NAME. If a chemical container is damaged, it is noted on the packing slip and the ordering department is notified. If a spill occurs during transport, spill response is initiated by contacting the Spill Response Team at EMERGENCY PHONE NUMBER. Chemicals are stored according to manufacturer’s specifications and compatibility requirements. The Safety Manger, IH, and ESEO periodically conduct environmental tours and assess compliance with pertinent safety policies and regulations.

(3) Using. Employees are trained on proper chemical use and handling at new employee’s orientation, work site specific training, and at annual birth month training.

(4) Disposing. The ESEO conducts general trash and hazardous waste stream determinations throughout the HEALTHCARE FACILITY NAME on a regular basis. The housekeeping contractor routinely collects and removes general trash and RMW from work areas. Trained employees collect hazardous chemical wastes in waste satellite accumulation areas or in less than 90 day hazardous waste storage areas. The Installation’s hazardous waste contractor arranges for and supervises the transportation and disposal of hazardous chemical waste. The HEALTHCARE FACILITY NAME Logistics Division arranges for and supervises the storage, transportation, and disposal of RMW.

g. EC.02.02.01, EP.6, Selecting, Handling, Storing, Using and Disposing of Radioactive Materials.

(1) Selecting. The RSO, according to license requirements, approves all radioactive material purchases in advance with authorization from the HEALTHCARE FACILITY NAME Radiation Safety Committee.

(2) Use, Handling and Storing. The Radiation Safety Committee oversees the use, handling and storage of radioactive materials. The RSO provides all users with appropriate radiation safety training to make sure that employees know how to handle and work around ionizing radiation sources. The RSO oversees the employee exposure monitoring program (i.e., personnel dosimetry, ionization chambers, Geiger-Mueller (GM) monitors) and performs radiation control area environmental tours quarterly. The RSO monitors annual quality assurance (QA) tests on all lead apron shields in use at the HEALTHCARE FACILITY NAME. All lead aprons that fail the X-Ray QA test are removed from service and are properly disposed through the Installation’s hazardous waste contractor.

(3) Transporting. Only properly trained employees transport radioactive material in the HEALTHCARE FACILITY NAME.

(4) Disposing. Radioactive waste is placed in designated radioactive waste containers for disposal. Short lived radioactive waste is allowed to decay in the generator’s storage area or in the RSO controlled Low Level Radioactive Waste Decay Storage Facility in the HEALTHCARE FACILITY NAME before proper disposal through a licensed contractor.

h. EC.02.02.01, EP.7 and 17; EC.02.01.01, EPs. 14 and 16; EC.02.06.05, EPs.4 and 6; and LD.04.01.11, EPs.3, 4, and 5, Selecting and Using Hazardous Energy Sources.

(1) Selecting. Before purchasing hazardous energy sources [X-ray, laser, microwave, ultra sound, Magnetic Resource Imaging (MRI)], supervisors, with assistance from the Safety Manager, IH, RSO, LSO, Medical Maintenance, and Facility Manager, assess the physical and health hazards; determine maintenance requirements; employee education and training requirements; whether the appropriate facilities are available for the proper installation/use of the device; and whether the proper PPE and safety equipment is on hand for using the device.

(2) Using. Before use, employees are trained on proper function and use of the device and emergency procedures.

(3) MRI safety risks. The health physicist conducts initial and annual surveys of MRI rooms to make sure that restricted areas are controlled, appropriate signage is posted, employees have received proper training, and the facility is in compliance with OSHA standards. The SOPs in place to manage patient safety risks within the MRI environment, include—

(a) Patients who may experience claustrophobia, anxiety, or emotional distress

(b) Patients who may require urgent or emergency medical care

(c) Metallic implants and devices

(d) Ferrous objects

(4) The health physicist reviews the structural shielding design plans before the installation of new computed tomography (CT), positron emission tomography (PET), or nuclear medicine (NM) equipment, replacement of such equipment, or modification to rooms where ionizing radiation is emitted or stored (scan rooms or hot labs). The health physicist performs a radiation protection survey before clinical use of the work areas to verify the installed shielding is adequate.

i. EC.02.04.01, EP.10 and EC.02.04.03, EPs.18, 20, 21, 22, 23, 24, and 25, Radiation/Nuclear Medicine Equipment. Where computed tomography (CT), positron emission tomography (PET), nuclear medicine (NM), or Magnetic Resonance Imaging (MRI) services are provided—

(1) A radiologist maintains an image quality assurance program according to Army guidance and relevant industry standards (Army Regulation (AR) 40-5, Preventive Medicine; AR 385-10, The Army Safety Program; AR 750-43, Army Test, Measurement, and Diagnostic Equipment; Department of Army Pamphlet (DA PAM) 40-11, Preventive Medicine, DA PAM 385-25, Occupational Dosimetry and Dose Recording for Exposure to Ionizing Radiation; DA PAM 385-24, The Army Radiation Safety Program; Technical Bulletin-Medical (TB MED) 521, Occupational and Environmental Health Management and Control of Diagnostic, Therapeutic and Medical Research X-ray Systems and Facilities; American National Standards Institute (ANSI) guidelines; and Occupational Safety and Health Administration (OSHA) regulations).

(2) A qualified medical physicist or medical health physicist performs an annual inspection according to Army guidance and relevant industry standards (see above).

(3) A qualified medical physicist or medical health physicist measures the actual radiation dose for each system annually, verifies the radiation dose displayed on the system is within 20 percent of the actual amount of radiation dose delivered, and documents the test results.

(4) Medical lasers are inspected, tested, and maintained by LIST IF DONE BY INHOUSE MERS OR QUALIFIED CONTRACTORS.

(5) Radiation/nuclear medicine equipment are inspected, tested, and maintained by LIST IF DONE BY INHOUSE MERS OR BY QUALIFIED CONTRACORS.

j. EC.02.02.01, EP.17, Employee Dosimetry Monitoring. Employees working with medical x-ray radiation and medical fluoroscopic or cardiac catheterization x-ray equipment and employees who are exposed to x-rays or NRC-licensed material scattered from the patient, wear dosimeters to monitor occupational exposure. The RSO is responsible for preparing and maintaining accurate records of occupational exposure to ionizing radiation. Army Pamphlet 385-25, Occupational Dosimetry and Dose Recording for Exposure to Ionizing Radiation, 2 October 2012, contains detailed procedures.

k. EC.02.02.01, EP.8 and MM.01.01.03 EPs. 1, 2 and 3, Selecting, Handling, Storing, Using and Disposing of Hazardous Medications.

(1) Selecting. Pharmacy, Medical Oncology, and Respiratory Therapy oversee the selection, storage and use of hazardous drugs (HDs).

(2) Use and Handling. HDs are prepared in biosafety cabinets located in a negative pressure designed sterile room with limited access. Employees are trained in spill response procedures. Engineering and administrative controls, safe work practices, and PPE are used to prevent occupational exposures.

(3) Storing. HDs are stored per the manufacturers’ specifications and in designated locations.

(4) Transporting. HDs are prepared in the Pharmacy. The IV bags and tubing are primed with the diluent solution prior to addition of the active agent. HDs are hand delivered to the clinical administration areas in sealed bags by pharmacy employees.

(5) Disposing. HD waste regulated as HW is disposed through the installation hazardous waste (HW) contractor. Non-Resource Conservation and Recovery Act (RCRA) HD waste is placed in designated HD collection containers for removal via the RMW contract or other designated waste contract when the RMW contractor cannot incinerate the waste. The containers are marked to indicate incineration is required.

l. EC.02.02.01, EP.9, and EC.02.05.09, EPs. 3, 4, 5, 6, 12, and 13, Selecting, Handling, Storing, Using and Disposing of Hazardous Gases and Vapors.

(1) Selecting. All hazardous gases are ordered through Medical Supply.

(2) Storage, Use and Handling. All cylinders are labeled according to Department of Transportation regulations and marked with a tag or label of its contents. All cylinders are stored properly, used upright, and protected from damage/tampering.

(3) Cylinder Transport. When transporting cylinders throughout the HEALTHCARE FACILITY NAME, the protective cap is kept in place and a suitable hand truck is used with cylinders firmly secured.

(4) Disposing. Cylinders are marked empty and the empty cylinders are placed in empty cylinder holders until they can be returned to Medical Supply. Medical Supply personnel store empty cylinders in areas designated for empty cylinders prior to returning them to the supplier. Laboratory rooftop exhaust is labled to warn employess of the hazard(s) when they are working on the roof.

(5) Transfilling. Transfilling of any gases from one cylinder to another in patient care areas is prohibited.

m. EC.02.02.01, EP.10, Monitoring Hazardous Gases and Vapors. The IH monitors all areas in which hazardous gases and vapors, such as formaldehyde, glutaraldehyde, nitrous oxide and other waste anesthetic gases, methylene chloride, xylene and cauterizing equipment are used, and recommends engineering and administrative controls, and safe work practices necessary to contain and remove hazardous gases and vapors from work areas. Employees use PPE when these controls cannot effectively reduce airborne concentrations to permissible levels.

n. EC.02.02.01, EP.11, Permits, Licenses, Manifests, and Adherence to Other Regulations. The ESEO monitors the HMW Program for compliance with Federal, state, and local environmental laws. In addition, the ESEO, Installation Environmental Office, RSO, and Environmental services maintain documentation such as required permits, licenses, and hazardous materials and waste manifests. The HAZCOM Program Manager maintains a master SDS file for the HEALTHCARE FACILITY NAME.

o. EC.02.02.01, EP.12, Labeling HMW.

(1) The services and departments that handle, store, use and/or generate the HMW are responsible for properly labeling containers consistent with requirements provided in the HAZCOM, CHP, HMW, RMW, HD, and IC Programs.

(2) The ESEO, Safety Manager, ICO, CHO, IH, RSO, Environmental Services, and supply personnel monitor compliance with proper labeling requirements and assist supervisors in correcting identified problems.

(3) Additional monitoring is accomplished through various oversight inspections such as the MEDCOM Command Logistics Review Team.

p. EC.03.01.01, EPs, 1 and 2; HR 01.01.01, EPs.32 and 33; HR.01.04.01, EP.1; HR.02.02.01, EP.1; and HR.01.05.03, EPs.14 and 24, Orientation and Annual Refresher Education and Training Program.

(1) The orientation and education component pertaining to HMW addresses the following criteria—

(a) The HMW present in the EC/PE and assigned work areas, the safety and health hazards associated with these materials, and the methods for eliminating or minimizing risk such as engineering and administrative controls and PPE.

(b) General safety processes, such as safe work practices regarding the selection, handling, storage, use and disposal of HMW and the selection, maintenance, storage, use and disposal of PPE.

(c) Emergency processes, such as reporting/cleaning up a chemical or biological spill.

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS) manages the organization-wide New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the Annual Refresher Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher training.

(5) Employees maintain certifications where required by law.

(6) All training is documented in the employee competency folders.

(7) Diagnostic medical physicists who support diagnostic CT services are certified or are qualified by education and experience.

(8) Technologists performing diagnostic CT exams receiving ongoing education and maintain their certification.

(9) MRI Technologists receive ongoing education on the safe operation of the equipment.

q. EC.04.01.01, EPs.8 and 15; EC.04.01.03, EP.2; EC.04.01.05, EP.1; IM.02.02.03, EP.13; and PI.01.01.01, EPs.34 and 35; PI.02.01.01, EP.6; and LD.02.03.01, EP.1, Information Collection and Evaluation System.

(1) *Reporting and Investigating Accidents, Injuries, Property Damage, Problems, Failures, & Use Errors*.

(a) The Incident Reporting/Investigation System covers all accidents, exposures, and spills and releases causing damage to equipment, property, or the environment; occupational illness; and patient, employee, or visitor injury.

(b) Anyone can report an exposure incident to the Safety Officer, Patient Safety Officer, Risk Manager, Occupational Health, LSO, or RSO via telephone. Hazardous spills can be reported to the IH, ESEO, RSO or the Spill Response Team via telephone.

(c) The ESEO, Safety Manager, the Risk Manager, or other HEALTHCARE FACILITY NAME representatives as deemed appropriate by the Commander promptly review incident reports to identify trends, determine root cause(s), and suggest corrective actions to prevent recurrence. Summary reports are submitted to the appropriate committee for further review and resolution as needed.

(2) *Annual Evaluation*.

(a) The ESEO keeps the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making necessary modifications based on the results of the annual evaluation and changes to policies, regulations, and standards. In performing the annual review, the ESEO uses a variety of sources such as inspection and audit results, accident/incident reports, employee reports of unsafe or unhealthy working conditions, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. The ESEO may also use other forms of review and input from relevant sources such as leadership, other EC/PE disciplines, management, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plan's scope, objectives, performance, and effectiveness.

(1) Scope. Based on current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2 (a) through 2 (d) are current.

(3) Performance. A review of the performance improvement project(s) is made to determine the level of performance and whether the level of performance is acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective HMW Management Program.

(c) After the Safety/EC Committee approves the annual review, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, plans, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Training Programs.

(3) *Safety/EC Committee*. The ESEO is a standing member of the Safety/EC Committee and is responsible for providing recurring reports on the status of the HMW Management Plan to include—

(a) Annual evaluation of the HMW Management Plan

(b) Performance improvement project

(c) Deficiencies, problems, failures, user errors

(d) Spills and releases involving hazardous materials and waste

(e) Risk assessments

(f) Environmental tour trends

(g) Monitoring results/trends to include measuring occupational exposures and function of safety equipment (e.g., biological safety cabinets/chemical fume hoods, scavenging systems) and ventilation systems (e.g., operating rooms and isolation rooms)

(4) *Performance Improvement Activities.*

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the HEALTHCARE FACILITY NAME HMW programs

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with HMW policies, regulations, and standards

(b) The ESEO—

(1) Identifies at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Considers high-risk, high-volume or chronic problems when developing performance standards to better focus limited resources.

(3) Sets desired goals or benchmarks and develops and implements data collection and reporting procedures.

(4) Appendix C lists the HMW Performance Improvement Project(s) for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee’s minutes.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standard and Element of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Performance Objective** | **Performance Indicator(s)**  **SMART Performance Measure** | **Performance Result** |
| --- | --- | --- |
| Improve Physical, Ethical & Cultural Environments. Example: Effectively manage HMW risks through regulatory compliance and by using best industry practices/internal processes. Specifically, implement procedures to make critical information related to the safe use, storage, and disposal of hazardous chemicals available to staff. | Example: % SDS maintained at work areas 98% of work areas audited each quarter will demonstrate that 100% of the required SDS are kept in a readily accessible location | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources. Example: Optimize resources by using efficient HMW processes. Specifically, reduce costs associated with hazardous waste disposal. | Example: $ spent on hazardous waste disposal |
| Improve & Empower Highly Effective Work Teams. Example: Improve staff performance through effective HMW education and training. Specifically, providing personnel working with nuclear and radioactive materials critical safety and health training. | Example: # staff satisfactorily completing annual radiation safety training |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve staff and patient satisfaction by providing a safe physical environment. Specifically, reduce staff and patient complaints related to the physical environment. | Example: # complaints regarding “green” disinfectants |

**ENVIRONMENT OF CARE**

**FIRE SAFETY MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. Fire Safety Management Elements of Performance

a. Fire Safety Management Plan

b. Risk Assessments

c. Risk Management Process

d. Minimizing Potential for Harm

e. Patient Smoking Policy

f. Unobstructed Egress

g. Fire Response Plan

h. Employee Roles

i. Fire Drills

j. Technical Library

k. Preventive Maintenance for Fire Safety Equipment

l. Life Safety Code Compliance

m. Interim Life Safety Measures

n. Orientation and Annual Refresher Education and Training

o. Information Collection and Evaluation System

1. Goal. This management plan describes the framework used to manage fire risks and continuously improve safety performance. The scope and objectives are consistent with the Command’s values, vision, and mission in providing quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will prevent human injuries, maintain a physical environment free of physical hazards, and safeguard Army property—

a. Effectively manage fire safety risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient fire safety processes and lifecycle management of facilities

c. Improve employee performance through effective fire safety education and training

d. Improve employee and patient satisfaction by providing a safe physical environment

3. Scope. This management plan applies to HEALTHCARE FACILITY NAME, and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANAGEMENT PLANS.

4. Responsibilities.

a. The Safety Manager and the Facility Manager are responsible for developing, implementing, and monitoring this plan. The Safety Manager focuses on the human aspects of fire safety such as safe work practices and emergency response and evacuation. The Facility Manager focuses on the physical aspects of fire safety such as operability of fire safety equipment and the design, construction, and maintenance of buildings.

b. The Organization Chart in Appendix A shows the primary officers, departments, and services that provide input into the development, implementation, and maintenance of this plan.

c. Service and department chiefs develop and implement department-specific fire safety standing operating procedures (SOPs) and carry out the organization-wide fire safety policies and regulations.

d. All employees and volunteers are held responsible for obeying fire safety rules, knowing department-specific and facility-wide fire response procedures, and participating in fire exit drills.

5. Fire Safety Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, SOPs, systems, and databases pertaining to each of these standards.

a. EC.01.01.01, EP.7, Fire Safety Management Plan. The Fire Safety Management Plan provides an overview of the HEALTHCARE FACILITY NAME policies and procedures that are essential for maintaining a safe environment of care (EC)/physical environment (PE). It is based on a plan, teach, implement, respond, monitor, and improve framework, and it addresses two important aspects of fire safety: prevention and emergency response. The Safety and Facility Managers review the Fire Safety Management Plan annually to confirm the accuracy of the information contained within the plan and identify opportunities for improvement.

b. EC.02.01.01, EP.1 and EC.02,06.05, EPs. 2 and 3; and LD.04.01.11, EP.5, Risk Assessments.

(1) The HEALTHCARE FACILITY NAME uses a risk identification and assessment process to evaluate the impact of buildings, grounds, equipment, occupants, processes, and systems on the safety and health of patients, employees, and other people coming into the facility. Management and employees use risk management processes when planning and carrying out day-to-day operations.

(2) Both proactive risk assessments (e.g., internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode and effects analyses; governmental regulation reviews; association, society, professional literature reviews; preventive maintenance; design reviews; etc.) and reactive risk assessments (e.g., incident and accident investigation reports, utility or equipment failure investigations, fire and emergency investigations, root causes analyses, etc.) are used to identify trends for which corrective action is needed.

(3) The risk assessment process is also used to manage “gray areas,” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/EC Committee for discussion and resolution.

(4) The Facility Manager, a registered Professional Engineer with 20 years’ experience with LSC compliance, performs building assessments to determine compliance with NFPA 101-2015 and maintains an electronic Statement of Conditions (e-SOC) compliance document for all hospital and ambulatory care buildings. The e-SOC, basic building information (BBI), and life safety drawings are updated annually. This documentation is maintained by the Facilities Management Branch.

(5) The Facility Manager coordinates a preconstruction risk assessment in occupied buildings before performing any demolition, construction, renovation or general maintenance. The Preconstruction Risk Assessment Policy describes procedures for assessing and managing potential risks associated with air quality, infection control, utility systems, noise, vibration and other hazards that may impact occupants together with recommendations form managing thoses risks.

c. EC.02.01.01, EP.3 and LS.01.02.01, EPs. 2-15, Risk Assessment Process. All fire safety risks are evaluated, tracked, and abated on a worst-first basis. Interim measures are implemented when hazards cannot be immediately abated to manage risk and to minimize potential harm to patients, employees, visitors, and the environment. The Safety Manager and Facility Manager monitor compliance and take corrective action as needed.

d. EC.02.03.01, EPs.1, 11, 12, and 13 and EC.02.06.05, EP.1, Minimizing Potential for Harm. Strategies used by the HEALTHCARE FACILITY NAME to protect patients, employees, visitors, and property from fire and products of combustion include, but are not limited to the following—

(1) Newly constructed and existing buildings are designed and maintained to comply with the National Fire Protection Association (NFPA) 101-2015, NFPA 99,Healthcare Facilities Code (Chapter 15) and other NFPA standards referenced by the LSC; Unified Facilities Criteria (UFC) 4-510-01, Design Medical Military Facilities; FGI Guidelines for Design and Construction of Healthcare Facilities; and the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines.

(2) Compliance with 29 Code of Federal Regulation (CFR) 1910.38; Employee Emergency Plans and Fire Prevention Plans; Army Regulations; and local fire protection codes

(3) Testing and maintenance programs for fire protection systems and safety equipment

(4) Continuous identification and correction of life safety deficiencies through a building maintenance program, life safety assessment program, and plans for improvement

(5) Implementation of interim life safety measures (ILSM) during construction and when significant LSC deficiencies exist.

(6) Procurement of flame resistant, bedding, draperies and other curtains, furnishings, decorations, and other equipment

(7) Development and implementation of effective fire prevention and emergency response plans

(8) Training and education programs that address assignment of specific duties, use and function of fire alarm systems, transmission of alarms, containment of smoke and fire, fire extinguishment, transfer to areas of refuge, and preparation for building evacuation

(9) Conducting and evaluating fire drills to reinforce fire safety training

(10) Enforcing the HEALTHCARE FACILITY NAME No Smoking Policy

(11) Monitoring and using safety precautions when using flammable germicides and anticeptics (nonflammable packaging, unit-dose applicators, and perioperative “time-out” procedures) with lasers and electrosurgery and cauterary equipment

(12) Compling with fire code protections provided in NFPA 99, Chapter 15, to include proper storage of flammable and combustible liquids and gases and maintenance and testing of utility systems

e. EC.02.01.03, EPs.1, 4, and 6, Patient Smoking Policy. Patients and employees are permitted to smoke only in designated outdoor smoking areas. Smoking materials and non medical appliances with hot surfaces or sparking mechanisms are prohibited when patients receive respiratory therapy. All patients and employees are strongly discouraged from smoking.

f. EC.02.03.01, EP.4, Unobstructed Egress. All means of egress (stairs, aisles and corridors, doors, etc.) are continuously maintained free from all obstructions or impediments to allow for full instant use in the case of fire or other emergencies. The Safety and Facility Managers routinely monitor all means of egress and work with supervisors to resolve non-compliance issues.

g. EC.02.03.01, EP.9 and EM.02.02.11, EP.3, Fire Response Plan. The Fire Response Plan is contained in the Emergency Operations Plan, Chapter XX, Paragraph XXX. The Plan utilizes a defend-in-place strategy and how the building will be evacuated. The plan also addresses organization-wide, area-specific and special areas and population (operating room, psychiatric clinic, neonatal unit, etc.) responses. The Safety Manager reviews and updates the Fire Response Plan as often as needed and at least every year. A copy of the plan is maintained with the telephone operator and security.

h. EC.02.03.01, EPs.9 and 11 and EC.03.01.01, 02, Employee Roles. At least annually, supervisors provide employees with organization-wide and department-specific training and education on their roles in a fire emergency, including—

(1) Actions (emergency codes, RACE, PASS, etc.) they must take at and away from a fire’s point of origin

(2) When and how to sound the fire alarm

(3) How to contain smoke and fire

(4) How to use a fire extinguisher

(5) Evacuation procedures and the location of areas of refuge

(6) Transfer of patients to areas of refuge and preparation for building evacuation

(7) Shutting off medical gases

(8) Safety precautions related to the use of flammable germicides and anticeptics

Training attendance is documented in the employee competency files.

i. EC.02.03.03, EPs.1, 2, 3, and 5 and EM.02.02.11, EP.3, Fire Drills.

(1) The Safety Manager conducts and assesses fire drills, according to the Fire Response Plan.

(2) Fire drills are conducted quarterly on all shifts in the ambulatory care sections and annually (12 months from the date of the last drill) in business occupancies.

(3) All fire drills are unannounced and include transmission of a fire alarm signal and simulation of emergency fire conditions.

(4) Employees in all areas of every building where patients are housed or treated, participate in drills to the extent called for in the fire plan.

(5) Each department is responsible for critiquing employee response to the fire drill, identifying deficiencies and opportunities for improvement, noting equipment performance, providing a copy of the after action report (AAR) to the Safety Manager within three working days of the date of the drill, and conducting additional training and education as necessary.

(6) The Safety Manager reviews the fire drill and emergency test AARs to identify fire safety trends related to problems, deficiencies, and failures; recommends corrective actions; and presents summary information to the Safety/EC Committee for review and action as needed.

j. EC.01.01.01, EP.3, Technical Library. The Facility Manager maintains a technical library related to the inspection, testing, and maintenance of the fire systems installed at HEALTHCARE FACILITY NAME. The library includes manufacturer’s manuals and technical bulletins.

k. EC.02.03.05, EPs.1 through 12, 14 through 20, and EPs. 25, 27 and 28 and LS.01.01.01, EP.6, Preventive Maintenance for Fire Safety Equipment and Building Features.

(1) The Facility Manager maintains operational plans which provide guidance for the maintenance, testing, and inspection procedures for the fire protection systems and fire safety building features. Skilled workers inspect, test, and maintain these systems. The scheduled tests are summarized in Appendix C.

(2) All critical operating components of life safety equipment are included in the Preventive Maintenance Program (PMP) and assigned a unique identification number. A corresponding record is created in the Defense Medical Logistics Standard Support (DMLSS) System database. The identification numbers attach each component to a specific preventive maintenance procedure, schedule and service history file.

(3) Existing life safety features are maintained unless they are no longer required by the LSC and can be removed.

(4) The HEALTHCARE FACILITY NAME maintains documentation in the DMLSS database for the following—

(a) A current, accurate, and separate inventory of life safety equipment and life safety building features covered in this management plan

(b) Performance and safety testing of each critical component and building feature identified in the plan before initial use

(c) Annual inspection and testing of smoke and fire door assemblies by qualified individuals

(d) Inspection, testing, and maintenance of each critical component of the life safety systems and fire safety building features identified in the inventory are consistent with maintenance strategies required by referenced NFPA standards. Documentation includes—test, inspection, maintenance to be performed; date; inventory; frequency; individual/company performing the inspection, test, maintenance; required testing, inspection and maintenance criteria and referenced NFPA standard; and maintenance, inspection, and test results.

(5) The PMP facilitates program implementation and time management, and it serves as a tracking tool to ensure that required inspections, tests, and maintenance, are performed, completed in a timely manner, and properly documented.

(6) The Facilities Quality Control Manager randomly selects about 3% of the equipment having undergone preventive maintenance, inspects the chosen equipment, and compares his findings with those of the operator who originally inspected the equipment. Appropriate action is taken whenever discrepancies occur.

l. LS.01.01.01, EPs.1, 3, and 4 and EC.02.06.05, EP.1, LSC Compliance.

(1) The HEALTHCARE FACILITY NAME references the NFPA 101-2015 as the governing authority to assess life safety compliance during TJC accreditation surveys and all other code compliance assessments. The Facility Manager maintains a copy of the U.S. Army Medical Command (MEDCOM) Policy and TJC’s letter of approval. The Facility Manager makes sure this information is presented to the TJC surveyors at the beginning of the accreditation survey.

(2) Newly constructed and existing buildings are designed and maintained to comply with the NFPA 101-2015; Unified Facilities Criteria (UFC) 4-510-01, Design Medical Military Facilities; FGI Guidelines for Design and Construction of Healthcare Facilities; and the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines.

(3) The Facility Manager maintains current and accurate drawings indicating the fire safety features and related square footage. Fire safety features include: Areas of the building that are equipped with sprinklers, hazardous storage areas, fire-rated barriers, smoke-rated barriers, sleeping and non-sleeping suites, smoke compartments, and chutes and shafts.

(4) The Facility Manager performs building assessments to determine compliance with NFPA 101-2015 and maintains an electronic Statement of Conditions (e-SOC) compliance document for all hospital and ambulatory care buildings. The e-SOC, basic building information (BBI), and life safety drawings are updated annually. This documentation is maintained by the Facilities Management Branch.

(5) The Facility Manager initiates work orders, develops plans for improvement (PFI) or obtains equivalencies and waivers from TJC when buildings do not comply with the LSC.

(a) The HEALTHCARE FACILITY NAME has approved equivalencies for LIST APPROVED EQUIVALENCIES.

(b) The HEALTHCARE FACILITY NAME has approved categorial waivers for LIST APPROVED CATEGORIAL WAIVERS.

(6) The Facility Manager makes sure that sufficient progress is made towards completing corrective actions listed on the E-SOC in a timely manner. If required, the PFI includes all of the following—

(a) Corrective actions

(b) Total cost of corrective actions

(c) Estimated completion date

(d) The ILSMs to be implemented

The PFI documentation is maintained by the Facilities Management Branch.

(7) The Facility Manager meets the 60 day time frame to resolve LSC deficiencies listed on a Survey-Related PFI or requests a time-limited waiver within 30 days of the survey when corrective action(s) will exceed 60 days.

(8) The Facility Manager uses a Building Maintenance Program (BMP) to manage life safety equipment that is subject to routine failure. The program includes processes for establishing inspecting and testing frequencies, data collection and analysis, program evaluation for effectiveness, and program improvement. The following life safety equipment and deficiencies are included in the BMP—

(a) Smoke and fire doors

(b) Linen/trash chute doors

(c) Smoke and Corridor Walls

(d) Exit signage

(e) Egress lighting

(f) Ice and snow removal from means of egress

The BMP documentation is maintained by the Facilities Management Branch.

m. LS.01.02.01, EPs. 1 through 15, The ILSM.

(1) The Facility Manager implements ILSM to temporarily compensate for hazards posed by significant life safety deficiencies and construction. Responsibilities, selection, and procedures for documenting implementation are provided in the Interim Life Safety Measures Policy No. XXX.

(2) The Facilities Manager notifies the fire department and initates a fire watch when a sprinkler system is out of service for more than 4 hours in a 24-hour period.

(3) The ILSM documentation is maintained by the Facilities Management Branch.

n. EC.03.01.01, EP.1 and 2; HR.01.04.01, EP.1; HR.01.05.03, EP.1; and HR.02.02.01, EP.1, Orientation and Annual Refresher Education and Training Program.

(1) The orientation and education component pertaining to fire safety addresses the following criteria—

(a) Fire safety systems, equipment, and processes in the EC/PE and assigned work areas, such as building compartmentalization and defend in place policies; evacuation procedures and routes; location of evacuation equipment, fire extinguishers and medical gas shut-off valves; and the methods for eliminating or minimizing risk

(b) General fire safety processes, such as fire prevention; actions necessary to contain smoke and fire; storing combustibles, flammables, and compressed gases; electrical safety; and procedures for reporting unsafe/unhealthy working conditions

(c) Emergency processes such as reporting/responding to a fire

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS) manages the organization-wide New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the Annual Refresher Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher training.

(5) All training is documented in the employee competency folders.

(3) The Facility Manager verifies that personnel who perform maintenance, inspection, and testing of fire safety systems and equipment are competent and that they receive appropriate continuing education.

o. EC.04.01.01, EPs.1, 2 and 15, EC.04.01.03, EP.2; EC.04.01.05, EP.1; and LD.02.03.01, EP.1, Information Collection and Evaluation System.

1. Reporting and Investigating Accidents, Injuries, Property Damage, Problems, Failures, and Use Errors.

(a) The Incident Reporting/Investigation System covers all incidents involving equipment and property damage; occupational illness; and patient, employee, or visitor injury.

(b) Supervisors must investigate all incidents and submit the appropriate incident report form (Department of the Army (DA) Form 285, CA-1/CA-2, and DA Form 4106) to the Safety Manager, Patient Safety Manager, or Risk Manager within 3 working days of the occurrence.

(c) The Safety Manager, Patient Safety Manager, Risk Manager, or other HEALTHCARE FACILITY NAME representatives as deemed appropriate by the Commander promptly review incident reports to identify trends, determine root cause(s), and suggest corrective actions to prevent recurrence. The Safety Manager, Patient Safety Manager, and Risk Manager prepare summary reports and submit them to the appropriate committee for further review and resolution as needed.

2. Annual Evaluation.

(a) The Safety and the Facility Managers keep the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making necessary modifications based on the results of the evaluation and changes to policies, regulations, and standards. In performing the annual review, they use a variety of sources such as inspection and audit results, accident/incident reports, employee reports of unsafe or unhealthy working conditions, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. They may also use other forms of review and input from relevant sources, such as leadership, other EC/PE disciplines, management, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plan’s scope, objectives, performance and effectiveness.

(1) Scope. Based on the current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2.a through 2.d are current.

(3) Performance. A review of the performance improvement project is made to determine the level of performance and whether the level of performance is acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective Fire Safety Management Program.

(c) After the Safety/EC Committee approves the annual review, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, SOPs, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Training Programs.

3. Safety/EC Committee. The Safety and Facility Managers are standing members of the Safety/EC Committee and are responsible for providing recurring reports on the status of the Fire Safety Management Plan to include—

(a) Annual evaluation of the Fire Safety Management Plan

(b) Performance improvement project

(c) Fire safety equipment preventive maintenance status reports

(d) Summary of fire drill after action reports

(e) Status of the e-SOC and PFIs

(f) Summary reports of ILSMs

(g) Deficiencies, problems, failures, and user errors

(h) Risk assessments

4. Performance Improvement Activities.

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the HEALTHCARE FACILITY NAME Fire Safety Program

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with relevant fire safety standards

(b) The Safety Manager and Facility Managers—

(1) Identify at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Consider high-risk, high-volume or chronic problems when developing performance standards to better focus limited resources.

(3) Set desired goals or benchmarks and develop and implement data collection and reporting procedures.

(4) Appendix D lists the Fire Safety Performance Improvement Project(s) for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee’s minutes.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standard and Element of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **System** | **Equipment** | **Frequency** | **Standard[[1]](#footnote-1)** |
| --- | --- | --- | --- |
| **Fire Detection and Alarm Systems** | Supervisory signal devices listed on the inventory, except valve tamper switches. Note: Supervisory signals include control valves, pressure supervisory, pressure tank, pressure supervisory for a dry pipe (both high and low conditions), steam pressure, water level supervisory signal initiating device, water temperature supervisory, and room temperature supervisory. | Quarterly | NFPA 72 |
| Vane-type and pressure-type water flow devices and valve tamper switches | Semi-annually | NFPA 72  NFPA 25 |
| Duct detectors, heat detectors, manual fire alarm boxes, and smoke detectors | Annually | NFPA 72 |
| Visual and audible fire alarms, including speakers and door-releasing devices | Annually | NFPA 72 |
| Off-premises emergency forces notification and transmission equipment | Annually | NFPA 72 |
| **Water-based Automatic Fire Extinguishing Systems** | Motor-driven fire pumps | Monthly | NFPA 25 |
| Diesel engine-driven fire pumps, no-flow conditions | Weekly | NFPA 25 |
| Water storage tanks high and low water level alarms | Semi-annually | NFPA 25 |
| Water storage tanks temperature alarms | Monthly during cold weather | NFPA 25 |
| Main drains at system low point or at all system risers | Annually | NFPA 25 |
| Fire department water supply connections | Quarterly | NFPA 25 |
| Fire pumps under flow | Annually | NFPA 25 |
|  | Hydrostatic tests and water-flow tests on standpipe systems | Every 5 years | NFPA 25 |
|  | Hydrostatic tests on standpipe occupant hoses | 5 years after installation and 3 years thereafter | NFPA 1962  NFPA 25 |
| **Dry Chemical Suppression Systems** | Kitchen automatic fire extinguishing systems | Semiannually | NFPA 96 |
| Carbon dioxide and other gaseous automatic fire extinguishing systems | Annually | NFPA 13  NFPA 12A |
| **Portable Fire Extinguishers** | Portable fire extinguishers | Inspected monthly  Maintained annually | NFPA 10 |
| **Smoke and Fire Management Systems** | Smoke and fire dampers | Operated for full closure, 1 year after installation and every 6 years thereafter | NFPA 90A  NFPA 80  NFPA 105 |
| Automatic smoke detection shutdown devices for air handling equipment | Annually | NFPA 90A |
| Sliding and rolling fire doors. Smoke barrier sliding or rolling doors, and corridor walls and partitions for proper operation and full closure | Annually | NFPA 80  NFPA 105 |
| **Elevators** | Elevators with fire fighters’ emergency operations | Monthly | NFPA 101 |

| **Performance Objective** | **Performance Indicator** | **Performance Result** |
| --- | --- | --- |
| Improve Physical, Ethical & Cultural Environments. Example: Effectively manage fire safety risks through regulatory compliance and by using best industry practices/internal processes. Specifically, managing risk through the prompt correction of Life Safety Code (LSC) deficiencies. | Example: % LSC deficiencies corrected ≤ 60 days following identification during an on-site survey.  Example: 98% of identified LSC deficiencies will be corrected ≤ 60 days after identification during an on-site survey. | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources. Example: Optimize resources by using efficient fire safety processes and lifecycle management of facilities. Specifically, investigate, identify the root cause of equipment failures, and prevent reoccurrence. | Example: % reduction in the # failures for each root cause category |
| Improve & Empower Highly Effective Work Teams. Example: Improve staff performance through effective fire safety education and training. Specifically, verifying that staff respond correctly during an actual or simulated fire emergency. | Example: % Staff who respond correctly during a fire drill/emergency |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve staff and patient satisfaction by providing a safe physical environment. Specifically, reducing the number of complaints due to false alarms. | Example: # staff complaints regarding false alarms |

**ENVIRONMENT OF CARE**

**MEDICAL EQUIPMENT MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. Medical Equipment Management Elements of Performance

a. Medical Equipment Management Plan

b. Risk Assessments

c. Risk Management Process

d. Selection and Acquisition

e. Technical Library

f. Medical Equipment Inventory

g. Preventive Maintenance Strategies

h. Preventive Maintenance Intervals

i. Safe Medical Devices Act of 1990

j. Emergency Procedures

k. Initial Inspections

l. High-Risk Life Support Equipment

m. Low-Risk/Non-Life Support Equipment

n. Sterilizers

o. Hemodialysis

p. Oxygen Administration

q. Hyperbaric Facilities

r. Anesthesia Equipment

s. Electrical Equipment

t. Clinical Alarms

u. Orientation and Annual Refresher Education and Training

v. Information Collection and Evaluation System

Note: Information on hazardous energy sources is available in the Hazardous Materials and Waste Management Plan

1. Goal. This management plan describes the framework to manage medical equipment risks and continuously improve program performance. The scope and objectives of this plan are consistent with the Command’s values, vision, and mission to provide quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will ensure the physical safety of patients, visitors, and employees and prevent the loss of property—

a. Effectively manage medical equipment risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient medical equipment processes and lifecycle management of equipment

c. Improve employee performance through effective education and training

d. Improve employee and patient satisfaction by providing a safe physical environment

3. Scope. This management plan applies to HEALTHCARE FACILITY NAME, and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANAGEMENT PLANS.

4. Responsibilities.

a. The Chief, Medical Maintenance is responsible for developing, implementing, and monitoring this plan and the HEALTHCARE FACILITY NAME Medical Equipment Maintenance Regulations.

b. The Organization Chart in Appendix A shows the primary officers, departments, and services that provide input into the development, implementation, and maintenance of this plan.

c. Service and department chiefs develop and apply department-specific standing operating procedures (SOPs) for the safe operation of medical equipment, and they carry out FACILITY-wide medical equipment policies and regulations.

d. The Chief, Medical Maintenance makes sure that all medical equipment repairers receive periodic in-service training, formal Army training, and/or manufacturer training, particularly for new equipment introduced into the facility.

e. All medical equipment users are trained and competent in the capabilities, limitations, safe operation, and emergency procedures for the medical equipment that they use.

5. Medical Equipment Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, SOPs, systems, and databases pertaining to each of these requirements.

a. EC.01.01.01, EP. 8, Medical Equipment Management Plan. The Medical Equipment Management Plan provides an overview of the HEALTHCARE FACILITY NAME policies and procedures that are essential for making sure that all medical equipment used at HEALTHCARE FACILITY NAME is safe, functional and supports patient care. The plan is based on a plan, teach, implement, respond, monitor, and improve framework. The Chief, Medical Maintenance reviews the plan annually to confirm the accuracy of the information contained within the plan and to identify opportunities for improvement.

b. EC.02.01.01, EP.1, Risk Assessments.

(1) The medical equipment risk assessment process focuses on the impact of a particular type of equipment based on four criteria: function, physical risks associated with use, maintenance requirements, and incident history.

(2) Both proactive risk assessments (e.g., internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode and effects analyses; governmental regulation reviews; association, society, and professional literature reviews; emergency exercise after action reports; preventive maintenance; design reviews; etc.) and reactive risk assessments (incident investigations, medical equipment failure investigations, root cause analyses, etc.) are used to identify trends for which corrective action is needed.

(3) The risk assessment process is also used to manage “gray areas” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/Environment of Care (EC) Committee for discussion and resolution.

c. EC.02.01.01, EP.3, Risk Management Process.

(1) Medical equipment repairers (MERs) work with supervisors and employees to exchange information and educate each other on risks associated with medical equipment. First-line supervisors are responsible for making sure users are trained and competent in the capabilities, limitations, safe operation, and emergency procedures for the medical equipment that they use.

(2) To manage risk and minimize potential harm to patients, employees, and visitors, equipment users identify and isolate faulty or broken broken equipment to avoid use until repairs are made.

d. LD.04.01.11, EP.5, Selection and Acquisition. The selection process begins in the department that will use the equipment. After a request is made, but before acquisition, the Chief, Medical Maintenance participates in the formal review process to assess any risks associated with the equipment; to make sure that the equipment meets the user’s needs and that it is compatible with existing equipment; to evaluate maintenance requirements; to determine space and utility needs; and to determine education and training requirements.

e. EC.01.01.01, EP.3, Technical Library. The Facility Manager maintains a technical library related to the inspection, testing, and maintenance of medical equipment used at HEALTHCARE FACILITY NAME. The library includes manufacturer’s manuals and technical bulletins.

f. EC.02.04.01, EP.2, Medical Equipment Inventory. The Chief, Medical Maintenance uses the following risk criteria to evaluate new equipment and to create the medical equipment inventory—

(1) Equipment function (life support, monitoring, treatment, diagnostic, and patient support)

(2) Physical risks associated with its use

(3) Maintenance requirements

(4) Equipment incident history

All high-risk equipment (equipment where there is risk of serious injury or death to patient or employees due to equipment failure) is noted on the inventory. The inventory is documented in the Defense Medical Logistics Standard Support (DMLSS) System database.

g. EC.02.04.01, EP.3, Preventive Maintenance Strategies.

(1) The DMLSS database serves as a tracking tool to document completion of required inspections, tests, and maintenance. Each month, the DMLSS database automatically generates scheduled services requirements based on the maintenance types and intervals described in Paragraph 5.h. below. Additional preventive maintenance work orders may be generated for those devices that have missed their previous preventive maintenance inspections because the device could not be located or it was in use.

(2) Each month, Medical Maintenance quality assurance (QA) personnel randomly select a percentage of the equipment having undergone maintenance, inspects the chosen equipment, and compares the findings with the equipment repairer’s (individual who originally inspected the equipment) findings. Appropriate action is taken whenever discrepancies occur.

h. EC.02.04.01, EP.3. Preventive Maintenance Intervals.

(1) Inspecting, testing, and maintenance intervals are based on function, physical risks, maintenance requirements, incident history, and the manufacturer’s recommendations.

(a) Technical inspections are conducted prior to use.

(b) Safety inspections are conducted annually for equipment where there is no patient contact and semiannually where there is patient contact and after repairs or modifications have been made to the equipment’s electrical or electronic circuitry. In addition, the HEALTHCARE FACILITY NAME follows guidelines in NFPA 99, Chapter 10, when establishing procedures and schedules for conducting electric safety testing of medical equipment.

(c) Preventive maintenance checks and services (PMCS) are performed according to the equipment manufacturer’s recommendation or the risk assessment published in Technical Bulletin-Medical (TB MED) 750-1, whichever is more stringent.

(d) Calibration/Verification/Certification checks are performed according to the equipment manufacturer’s recommendation or the risk assessment published in

TB MED 750-1, whichever is more stringent.

(2) The Chief, Medical Maintenance may adjust maintenance schedules with the Safety/EC Committee’s approval for equipment when technical manuals, manufacturer’s literature, or past maintenance experience indicate the need for more or less frequent intervals.

i. EC.02.04.01, EP.5, Safe Medical Devices Act of 1990.

(1) Users immediately notify the Patient Safety Manager; Risk Manager; Chief, Medical Maintenance; and Safety Manager of all incidents where medical equipment fails during use and results in death, serious injury, or serious illness.

(2) Users secure the involved equipment until it can be investigated.

(3) The Risk Manager assembles a team to investigate such incidents. The team may consist of the Patient Safety Manager, Risk Manager, Safety Manager, a member of the clinical staff who is familiar with the operation and use of the equipment, and a medical equipment repairer (not the individual who last serviced the equipment).

(4) If the team determines that the equipment contributed to or caused the incident, a SF 380, Reporting and Processing Medical Material Complaints/Quality Improvement Report, is prepared and sent to the Defense Supply Center Philadelphia (DCSP). The DCSP prepares semi-annual summaries and forwards them to the Food and Drug Administration (FDA).

(5) In addition, the HEALTHCARE FACILITY NAME receives hazard notices and device recalls from several sources: the FDA, U.S. Army Medical Material Agency (USAMMA), equipment manufacturers, and from miscellaneous publications, periodicals, and advertisements. Medical Equipment repairers review each notice/recall and take corrective actions as needed. A report is submitted to the Safety/EC Committee FREQUENCY stating the findings and actions taken.

j. EC.02.04.01, EP.6, Emergency Procedures.

Medical Maintenance and Department of Nursing develop emergency procedures for medical equipment management which address the following—

(1) Emergency clinical intervention when medical equipment fails

(2) Identifying the locations of spare equipment for use when equipment fails

(3) Procedures for obtaining repair services

(4) Reporting medical and laboratory equipment problems, failures, user errors

(5) Purpose and proper operation of equipment alarm systems

k. EC.02.04.03, EP.1, Initial Inspections. Medical equipment repairers complete technical inspections (TI) on all new medical equipment, regardless of ownership, before acceptance and issue to the user. The purpose of TIs are to make sure that the equipment meets contract specifications, that it is safe for use, whether to include the equipment on the inventory, and to decide the preventive maintenance strategies and intervals.

l. EC.02.04.03, EP.2, High-Risk/Life Support Equipment.

(1) High-risk and life support medical equipment receives the highest priority to ensure that 100 percent of this type of equipment is located and appropriate inspections and maintenance is performed on schedule.

(2) All repairs are prioritized and performed in a timely manner. To assure the continuation of patient care in the event of equipment failure, backup devices are available for most critical devices (e.g., anesthesia units, physiologic monitors, defibrillators, ventilators, infusion pumps, etc.). Backup devices may be located either within the using department or in the Medical Maintenance Department. These backup devices are also available for use in expanding the HEALTHCARE FACILITY NAME capacity to provide patient care in the event of an internal/external disaster.

m. EC.02.04.03, EP.3, Low-Risk/Non-Life Support Equipment. The expected on-time maintenance completion rate for low-risk/non-life support equipment is 100 percent.

n. EC.02.04.03, EP.4, Sterilizers. Medical equipment repairers service all steam sterilizers and document all preventive maintenance and repairs. The user departments conduct biological testing and quality assurance testing and maintain documentation within the work areas.

o. EC.02.04.03, EP.5, Hemodialysis. Medical equipment repairers service all hemodialysis equipment and document preventive maintenance and repairs. The Hemodialysis Department ensures that chemical and biological testing of water used in renal dialysis is done on a scheduled basis to meet regulatory compliance. The department maintains water quality testing results and ensures it meets Association for the Advancement of Medical Instrumentation (AAMI) standards for total viable microbial count and endotoxin levels and Association for the Advancement of Medical Instrumentation’s maximum allowable levels of contaminants in water.

p. EC.02.04.03, EP.8, Oxygen Administration. All equipment and gases used for oxygen administration are clearly labeled according to NFPA 99, Chapter 11. Unit/department staff notify Medical Maintenance to replace labels when they are lost or becom illegible. In addition to being labled, medical oxygen cylinders are tagged with a DD Form 1191, showing the oxygen purity test results, the initials of the person performing the test, and the date of the test.

q. EC.02.04.03, EP.10, Hyperbaric Facilities. The HEALTHCARE FACILITY NAME has one hyperbaric unit. The unit is designated as a Class A chamber. The chamber is designed and maintained according to NFPA 99, Chapter 14. The Safety and Facilities Managers and the unit supervisor supervise the safe use of the chamber. The Chief, Medical Equipment verifies that patient care electrical equipment used in the chamber is maintained according to NFPA 99, Chapter 10.

r. EC.02.04.03, EP.26, Anesthesia Equipment. The Medical Maintenance Branch performs comprehensive anesthesia equipment maintenance testing, adjusting, leak testing, parts replacement, cleaning and lubricating the equipment according to the manufacturer's recommendations and specifications. Defective equipment is immediately removed from service.

s. EC.02.04.03, EP.27, Electrical Equipment. The Medical Maintenance Branch tests electrical equipment to identify defective or improperly grounded electrical equipment and to verify equipment is operating with acceptable safety parameters as discussed in NFPA 99, Chapter 10.

t. Clinical Alarm Systems.

(1) The Chief, Medical Maintenance is a member of the Patient Safety Committee and provides subject matter expertise on the implementation of OTSG/MEDCOM

Policy Memo, 16-102, Clinical Alarms Management. The Chief collaborates with clinicians to establish guidelines for alarm settings on alarm-equipped medical devices used in high-risk areas and for high-risk clinical conditions.

(2) Equipment maintainers perform quarterly inspections to verify that the alarms are set according to manufacturer recommendations and the clinical providers recommended standards which are based on the unit/department and each patient’s medical condition.

(3) All clinicians participate in a competency-based education and training program to acquire the knowledge and skills necessary for the safe management of clinical alarms in their work areas.

u EC.03.01.01, EPs. 1 and 2, and HR.02.02,01, EP.1, Orientation and Annual Refresher Education and Training Program

(1) The orientation and education component pertaining to Medical Equipment addresses the following criteria—

(a) Equipment users

(1) The capabilities, limitations, and special applications of medical equipment that they operate

(2) Operating and safety procedures

(3) Emergency procedures in the event of equipment failure

(4) Reporting procedures for equipment failures

(5) Infection prevention and control procedures associated with medical equipment use

(b) MERs

1. Shop safety

(2) Procedures for responding to equipment failures

(3) Technical training as required

(4) Infection prevention and control procedures associated with medical equipment use

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS) manages the facility-wide New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the Annual Refresher Education and Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher training.

(5) All training is documented in the employee competency folders.

v. EC.04.01.01, EPs.2 and 15; EC.04.01.03, EP.2; EC.04.01.05, EP.1; and LD.02.03.01, EP.1, Information Collection and Evaluation System.

(1) Reporting and investigating medical and laboratory equipment incidents, problems, failures, and use errors.

(a) In the event that a device fails the user shall immediately replace the equipment, tag the defective equipment and notify the Medical Maintenance via telephone or by submitting a DA Form 4106, Quality Assurance/Risk Management Document along with a work order request.

(b) Medical Maintenance, the Risk Manager, or other HEALTHCARE ORGANIZATION NAME representatives as deemed appropriate by the Commander promptly review incident reports to identify trends, determine root cause(s), and suggest corrective actions to prevent recurrence. Summary reports are submitted to the appropriate committee for further review and resolution as needed.

(2) Annual Evaluation.

(a) The Chief, Medical Maintenance keeps the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making modifications based on changes to policies, regulations, and standards. In performing the annual review, the Chief uses a variety of sources such as inspection and audit results, accident/incident reports, employee reports of unsafe or unhealthy working conditions, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. The Chief may also use other forms of review and input from relevant sources such as leadership, other EC/PE disciplines, management, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plan’s scope, objectives, performance and effectiveness.

(1) Scope. Based on the current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2.a through 2.d are relevant and current.

(3) Performance. A review of the performance improvement project is made to determine the level of performance and whether the level of performance is acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective Medical Equipment Management Program.

(c) Once the Safety/EC Committee approves the annual review, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, plans, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Training Programs.

(3) Safety/EC Committee. The Chief, Medical Maintenance is a standing member of the Safety/EC Committee and is responsible for coordinating, documenting, and presenting information related to Medical Equipment to the committee. In addition, the Chief is responsible for providing recurring reports on the status of the Medical Equipment Management Plan to includ**e**—

(a) Annual evaluation of the Medical Equipment Management Plan

(b) Performance improvement project

(c) Risk assessments

(d) Deficiencies, problems, failures, user errors

(e) Status of the Testing/Inspecting, and Maintenance Program

(f) Equipment hazard notices/recalls

(4) Monitoring of Performance.

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the HEALTHCARE FACILITY NAME Medical Equipment Program

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with relevant security standards

(b) The Chief, Medical Maintenance—

(1) Identifies at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Considers high-risk, high-volume or chronic problems when developing performance standards to better focus limited resources.

(3) Sets desired goals or benchmarks and develops and implements data collection and reporting procedures.

(4) Appendix C lists the Medical Equipment Performance Improvement Projects (s) for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee’s minutes.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standard and Element of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **Performance Objective** | | **Performance Indicator(s)** | **SMARTER[[2]](#footnote-2) Performance Measure/Action Plan**  ***For each performance objective, determine—*** |
| --- | --- | --- | --- |
| Improve Physical, Ethical & Cultural Environments. Example: Effectively manage medical equipment risks by using best industry practices. Specifically, managing risk through prompt preventive maintenance checks and calibration. | | Example: % Preventive maintenance, checks, calibration completed on time | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources. Example: Optimize resources by using efficient medical equipment processes and lifecycle management of facilities. Specifically, making sure the department is sufficiently staffed to maintain the medical equipment included in the inventory. | | Example: % man-hours applied to scheduled work  *The percentage of scheduled available man-hours to total available man-hours over the specified time period. A world class target of >80% of man-hours should be applied to scheduled work.* |
| Improve & Empower Highly Effective Work Teams. Example: Improve employee performance through effective medical equipment education and training. Specifically, identifying gaps in user’s knowledge of medical equipment use. | Example: # of corrective maintenance activities resulting from user error or abuse |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve employee and patient satisfaction by providing a safe physical environment. Specifically, reduce the number complaints resulting from the time needed to repair equipment. | Example: # Customer complaints received each quarter |

**ENVIRONMENT OF CARE**

**UTILITY SYSTEMS MANAGEMENT PLAN**

**2 January 2019**

1. Goal

2. Objectives

3. Scope

4. Responsibilities

5. Utility Systems of Performance

a. Utility Systems Management Plan

b. Risk Assessments

c. Risk Management Process

d. Design and Installation of Utility Systems

e. Technical Library

f. Utility Systems Inventory

g. Preventive Maintenance Strategies

h. Preventive Maintenance Intervals

i. Cooling Towers

j. Ventilation Systems

k. Utility Systems Distribution

l. Labeling for Emergency Shutdown

m. Utility Systems Disruption Procedures

n. Shutting Down Malfunctioning Systems

o. Emergency Clinical Procedures

p. Emergency Repairs

q. Emergency Response

r. Wet Locations

s. Receptacles

t. Emergency Electrical Power

u. Inspections, Test, and Maintenance Procedures

v. Emergency Power Supply Systems

w. Medical Gas and Vacuum Systems

x. Orientation and Annual Refresher Education and Training

y. Information Collection and Evaluation System

Note: Additional Information on hazardous energy sources is available in the Hazardous Materials and Waste Management Plan

Note: Additional Compressed gas safety procedures are discussed in the Hazardous Materials and Waste Management Plan

1. Goal. This management plan describes the framework to manage risks associated with utility systems and to continuously improve program performance. The scope and objectives are consistent with the Command’s values, vision, and mission to provide quality healthcare to Soldiers, retirees, and their families, and to provide a safe and healthy workplace for all employees.

2. Objectives. The following objectives will ensure the physical safety of patients, visitors, and employees and prevent the loss of property—

a. Effectively manage utility system risks through regulatory compliance and by using best industry practices

b. Optimize resources by using efficient utility system processes and lifecycle management of equipment

c. Improve employee performance through effective education and training

d. Improve employee and patient satisfaction by providing a safe physical environment

3. Scope.

a. This management plan applies to HEALTHCARE FACILITY NAME, and all subordinate facilities to include LIST ALL CLINICS AND SATELLITE LOCATIONS SERVED BY THE FACILITY AND COVERED UNDER THIS PLAN OR INDICATE SUBORDINATE CLINICS AND SATELLITE LOCATIONS WRITE THEIR OWN MANAGEMENT PLANS.

b. The utility systems covered under this plan are: electrical distribution; emergency power; horizontal and vertical transport (elevators and pneumatic tube system); heating, ventilating, and air conditioning; plumbing; boiler and steam; medical gases; medical/surgical vacuum; and communication systems (nurse call, overhead paging, computer, and telephone).

4. Responsibilities.

a. The Facility Manager is responsible for developing, implementing, and monitoring this plan and the HEALTHCARE FACILITY NAME Utility System Maintenance Regulations.

b. The Chief, Information Management is responsible for inspections, tests, and maintenance of the communication systems.

c. The INSTALLATION Department of Public Works inspects, tests, and maintains the LIST SYSTEMS.

d. The CONTRACTOR NAME inspects, tests, and maintains the LIST SYSTEMS.

e. The Organization Chart in Appendix A shows the primary officers, departments, and services that provide input into the development and implementation, and maintenance of the Utility Systems Program.

f. The HEALTHCARE FACILITY NAME trains all employees and verifies they are competent in safe operation and use of utility systems in their work areas and in emergency response and reporting procedures.

5. Utility Systems Elements of Performance. The Reference Crosswalk in Appendix B lists the corresponding policies, regulations, standard operating procedure (SOPs), systems, and databases pertaining to each of the following standards—

a. EC.01.01.01, EP.9, Utility Systems Management Plan. The Utility Systems Management Plan provides an overview of the HEALTHCARE FACILITY NAME policies and procedures that are essential for maintaining a safe environment of care (EC)/physical environment (PE). The Utility Systems Management Plan is based on a plan, teach, implement, respond, monitor, and improve framework. The Facility Manager reviews the management plan annually to confirm the accuracy of the information contained within the plan and identify opportunities for improvement.

b. EC.02.01.01, EP.1, Risk Assessments.

(1) The utility system risk assessment process focuses on the impact of utility system components on the HEALTHCARE FACILITY NAME life support, infection control, environmental support, equipment support, and communication systems.

(2) Both proactive risk assessments (e.g., internal performance improvement data; employee, patient, and family feedback; environmental monitoring; results of failure mode and effects analyses; governmental regulation reviews; association, society, and professional literature reviews; exercise after action reports; preventive maintenance; and design reviews; etc.) and reactive risk assessments (incident investigations, utility system failure investigations, root cause analyses, etc.) are used to identify trends for which corrective action is needed.

(3) The risk assessment process is also used to manage “gray areas” that do not have a clear resolution. An example of a “gray area” is deciding the best way to secure sharps in the Emergency Room. “Gray area” issues are brought to the Safety/EC Committee for discussion and resolution.

c. EC.02.01.01, EP.3, Risk Management.

(1) Facilities personnel work with supervisors and employees to exchange information and educate each other on any risks associated with the utility systems. First-line supervisors are responsible for making sure employees understand the application, safe operation, and emergency procedures for the utility systems located in their work areas.

(2) All risks associated with the utility systems are evaluated, tracked, and abated on a worst-first basis. Interim measures are implemented when hazards cannot be immediately abated to manage risk and minimize potential for harm to patients, employees, and visitors.

d. EC.02.05.01, EPs.2 and 27; EC.02.05.05, EP.8; EC.02.06.05, EPs.1 and 2, and LD.04.01.11, EPs.3 and 5, Design and Installation of the Utility Systems. The Facility Manager uses the Department of Defense Medical Military Construction Program Facilities Design and Construction Criteria, Uniform Federal Accessibility Standards (UFAS) 4-510-01; FGI Guidelines for Design and Construction of Healthcare Facilities; NFPA 99, Chapyrt 4, Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines; NFPA 99 and other NFPA standards listed in Appendix C to make sure that the utility systems meet the patient care and operational needs of the services in the HEALTHCARE FACILITY NAME buildings. The Facility Manager performs a risk assessment and assigns the appropriate building system category for gas, vacuum, and electrical systems and electrical equipment. The risk assessment is documented.

e. EC.01.01.01, EP.3, Technical Library. The Facility Manager maintains a technical library related to the inspection, testing, and maintenance of the utility systems installed at HEALTHCARE FACILITY NAME. The library includes manufacturer’s manuals and technical bulletins.

f. Utility System Inventory.

(1) All utility systems having an impact on the environment (e.g.,high-risk, life safety, infection control, support of the environment, and communications) are classified as critical systems, and they are included in the inventory. Also, the critical operating components of the high-risk systems are identified in the inventory. The Facility Manager adds newly acquired equipment to the inventory within THREE MONTHS of acquisition/installation.

(2) All systems or components included in the Preventive Maintenance Program are assigned a unique identification number and a corresponding record is created in the Defense Medical Logistics Standard Support (DMLSS) System database. The identification numbers attach each component to a specific preventive maintenance procedure, schedule and service history file.

(3) The on-time maintenance completion rate for all critical operating components of the critical systems is 100 percent. The expected on-time maintenance completion rate for all operating components for low-risk utility systems is also 100 percent.

(4) The DMLSS database is used to maintain documentation for the following─

(a) A current, accurate, and separate inventory of critical operating components included in the utility management plan

(b) Performance and safety testing of each critical operating component identified in the plan before initial use

g. EC.02.05.01, EP.4, Preventive Maintenance Strategies. Facilities personnel use a variety of maintenance strategies to include─

(1) Interval-based maintenance (e.g., adding chemicals to cooling towers, lubricating parts, etc.)

(2) Predictive maintenance (e.g., infrared scans of electrical systems, ultrasonic scans of pumps, oil analysis for diesel generators, etc.)

(3) Metered maintenance (e.g., compressors maintained based on the number of hours run)

(4) Corrective maintenance (e.g., run to fail maintenance on non-critical systems)

(5) The Facilities Manager modifies maintenance intervals, with the approval of the Safety/EC Committee, based on experience and risk levels associated with the system’s function, clinical area that it supports, and its incident history.

h. EC.02.05.01, EP.4, Preventive Maintenance Intervals.

(1) The DMLSS data base serves as a tracking tool to document completion of required inspections, tests, and maintenance. Each month the DMLSS database automatically generates scheduled services requirements based on the maintenance types described in Paragraph 5.g.

(2) Each month the Facilities Quality Control Manager randomly selects 3 PERCENT of the equipment having undergone maintenance, inspects the chosen equipment, and compares the findings with the maintenance worker’s (individual who originally maintained the equipment) findings. Appropriate action is taken whenever discrepancies occur.

i. Cooling Towers and Water Systems.

(1) Facilities personnel follow the guidance in American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) 12-2000, ASHRAE 188-2015, and the Centers for Disease Control and Prevention (CDC) Guidelines for Environmental Infection Control in Healthcare Facilities to control pathogenic biological agents (e.g., Legionella) in hot, cold, and aerosolizing water systems and cooling towers.

(2) If there is a case of suspected or known hospital-acquired infection, the Facility Manager works together with Infection Control and Preventive Medicine to review engineering policies and procedures related to inspections, preventive maintenance, and the culturing guidelines to be used.

(3) All inspections, tests and maintenance are documented in the DMLSS database.

j. EC.02.05.01, EPs.7 and 16, Ventilation Systems.

(1) Facilities personnel use guidance from a number of references, such as the UFC 4-510-01; ASHRAE; FGI Guidelines for Design and Construction of Health Care Facilities, CDCGuidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings, 2005; etc. when designing, installing, and maintaining air handling and ventilation systems. Emphasis is placed on the proper pressure relationships, air exchange rates, and filtration efficiencies in areas where patients that may have auto immune systems that are suppressed are treated. These areas include operating rooms, special procedure rooms, laboratories, sterile supply rooms, and non-critical care areas such as pharmacies, clean and soiled utility rooms.

(2) If there is a case of suspected or known hospital-acquired infection, the Facility Manager works together with Infection Control and Preventive Medicine to identify the source, eliminate the bacteria, and review engineering policies and procedures related to inspections, preventive maintenance, and the culturing guidelines to be used.

(3) All inspections, tests and maintenance are documented in the DMLSS database.

k. EC.02.05.01, EP.8, Utility Systems Distribution. For each major system, facilities personnel maintain current, detailed schematics mapping the layout of each system. These schematics show technical details and operational procedures. They also include distribution and controls for partial or complete shutdown as well as operating procedures for key controls to include notification of employees in affected areas.

l. EC.02.05.01, EP.9, Labeling for Emergency Shutdown. Emergency shut off controls are labeled for a partial or complete emergency shutdown, and the labels are inspected at least annually.

m. EC.02.05.01, EPs.10, 11, 12, and 13; and EM.03.01.03, EP.5, Utility System Disruption Procedures.

(1) When planned utility outages are required for repairs, maintenance or construction, facilities personnel notify the affected departments and services at least seven days in advance of the scheduled start date to avoid unexpected inconveniences, property damage, safety hazards, or loss of information or research.

(2) Employees immediately report loss of a utility system to Facilities via telephone when an unplanned utility outage occurs. Facilities personnel immediately respond to the reported outage.

n. EC.02.05.01, EPs.10, 11, 12, and 13, and EM.02.02.09, EP.1, Shutting Down Malfunctioning Systems. Emergency shutdown and notification/contingency plans for utility system disruptions are addressed in the Facilities Operational Plans and in the Emergency Operation Plan (EOP). Examples of emergency procedures include, but are not limited to—

(1) Shutdown/Loss of Electricity, Chapter XX, Annex XX

(2) Shutdown/Loss of Water, Chapter XX, Annex XX

(3) Shutdown/Loss of heating, ventilation, and air conditioning, Chapter XX, Annex XX

(4) Shutdown/Loss of piped medical gases, Chapter XX, Annex XX

(5) Shutdown/Loss of steam/boilers, Chapter XX, Annex XX

(6) Shutdown/Loss of communications, Chapter XX, Annex XX

(7) Shutdown/Loss of chilled water/chillers, Chapter XX, Annex XX

(8) Shutdown/Loss of natural gas/oil, Chapter XX, Annex XX

(9) Shutdown/Loss of elevators, Chapter XX, Annex XX

o. EC.02.05.01, EPs.10, 11, 12, and 13, Emergency Clinical Procedures. Facilities and Department of Nursing personnel develop emergency procedures for utility system disruptions which address the following—

(1) Specific procedures in the event of utility systems malfunction

(2) Identification of alternate source of essential utilities

(3) Shutoff of malfunctioning systems and notification of employees in affected areas

(4) Procedures for obtaining repair services when utility systems fail

p. EC.02.05.01, EPs.10, 11, 12, and 13, Emergency Repairs. See Paragraph 5.m., 5.n., and 5.o.

q. EC.02.05.01, EPs.10, 11, 12, and 13, Emergency Response. See Paragraphs 5.n. and 5.o.

r. EC.02.05.01, EP.20, Wet Locations. The HEALTHCARE FACILITY NAME designates all operating rooms as wet locations and recepticals are protected with isolated power/ground fault circuit interrupters.

s. EC.02.05.01, EPs.22, 23, and 24, Receptacles.

(1) Facilities personnel manage electrical receptacles by color-coding receptacles connected to the critical and life safety branches for ease of identification; providing tamper-resistant receptacles in pediatric locations to prevent accidental injury; and testing hospital grade receptacles for grounding and polarity after initial installation, replacement, and maintenance. Non hospital grade receptaces installed in patient care areas are tested every 12 months. Inspections and tests are documented.

(2) The Chief, Medical Maintenance inspects and approves all power strips and extension cords used in patient care areas. Extension cords are used on a temporary basis only.

t. EC.02.05.01, EPs.21 and 26 and EC.02.05.03, EPs.1,2, 3, 4, 5, 6, 7,11,12, 14, and 15, Emergency Electrical Power. The HEALTHCARE FACILITY NAME has LIST QUANTITY AND SIZE emergency generators that are installed per the manufacturer recommendations. The emergency power source supplies electricity to the following—

(1) Life Safety Branch

(a) Alarm systems (emergency power provided within 10 seconds)

(b) Exit route illumination

(c) Illumination of exit signs

(d) Emergency communication systems

(2) Critical Branch

(a) Blood, bone, and tissue storage units

(b) Emergency/urgent care areas

(c) Areas where electrically powered life-support equipment is used

(d) Operating rooms (wet areas)

(e) Postoperative recovery rooms

(f) Obstetrical delivery rooms

(g) Newborn nurseries

(h) Emergency rooms and urgent care areas

(i) Intensive care areas

(3) Equipment Branch

(a) Elevators (at least one for non-ambulatory patients)

(b) Medical air compressors

(c) Medical and surgical vacuum systems

4. Designated medication dispensing and refrigeration equipment are plugged into the emergency power system.

5. All locations used for general anesthesia are equipped with illuminated means of egress, emergency lighting, and exit and directional signs. Power to this equipment is provided by the life safety branch of the emergency power system. Also, emergency power is provided for the the ventilation systems in installed in these areas.

6. Emergency lighting is provided in areas housing the emergency generators. A remote annunciator and a manual remote stop station are located XX, outside the area housing the generators to prevent unintentional operation.

7. Each branch has INSERT NUMBER automatic transfer switches. Power is restored to the life safety and critical branches within 10 seconds.

u. EC.02.05.05, EPs.1, 2, 3, 7, and 8 and EC.02.06.05, EPs.2, and 3, Inspections, Tests, and Maintenance.

(1) Initial. All systems are tested prior to initial use and annually unless otherwise specified by the preventive maintenance frequency defined in the DMLSS database.

(2) High-risk/Life Support. See Paragraphs 5.f, 5.g, and 5.h.

(3) Infection Control. See Paragraphs 5.f, 5.g, and 5.h.

(4) Non High-risk/Non-Life Support. See Paragraphs 5.f, 5.g, and 5.h.

(5) Electrical Systems. The HEALTHCARE FACILITY NAME conducts performance, maintenance, and testing of normal and essential electrical systems according to NFPA 99, Chapter 6.

(6) HVAC Systems. The HEALTHCARE FACILITY NAME conducts performance, maintenance, and testing of performance, maintenance, and testing of HVAC systems according to NFPA 99, Chapter 9.

(7) Line isolation monitors (LIMs). The LIM circuits and visual and audible alarm indicators are tested monthly. The tests are documented.

(8) Infection control risk assessments are conducted and implemented for all repairs; general maintenance; and demolition, construction,and renovation projects identify and manage risks associated with air quality, infection control, utility systems, noise, odor, dust, vibration and other hazards that may adversely impact patient care.

v. EC.02.05.07, EPs. 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, and EC.02.05.01, EP.19, Emergency Power Supply Systems.

(1) Battery-powered lights for egress purposes are tested for 30 seconds every 30 days, and for 1½ hours annually.

(2) The HEALTHCARE FACILITY NAME does not have any stored emergency power supply systems.

(3) Facilities personnel inspect the emergency power system weekly and tests it at least monthly. Testing is conducted for at least 30 continuous minutes under a dynamic load that is at least 30 percent of the nameplate rating of the generator. Generators that are tested to less than the 30 percent of the nameplate rating require a 30 minute testing period. Facilities personnel follow guidance in the Joint Commission (JC) EC Standard EC.02.05.07 for retesting generators that tested less than the nameplate rating and for diesel-powered generators that do not meet the minimum exhaust gas temperatures.

(4) All transfer switches are tested at least monthly.

(5) Fuel quality is tested at least annually. Standby generator fuel quality and stability testing includes appearance, water content, microbes, sediment and other contamination, diesel cetane level, and fuel corrosivity.

(6) Trained facilities personnel further test each emergency generator at least once every 36 months for a minimum of four continuous hours. The test is conducted under a load (dynamic or static as necessary) that is at least 30 percent of the nameplate rating of the generator.

(7) If a test of an emergency power supply system fails, facilities personnel implement interim measures to compensate for the risk to patients, visitors, and employees, until necessary repairs or corrections are completed. Facilities personnel perform a retest after making the necessary repairs or corrections.

(8) All inspections, tests, and maintenance are documented in the DMLSS database.

(9) Emergency generators are housed in a heated and well-ventilated room/building.

w. EC.02.05.09, EPs.1, 2, 7, 8, 9, 10, 11, and 14; and EC.02.05.01, EPs.18 and 25, Medical Gas and Vacuum Systems.

(1) The medical gas system includes compressed air for medical and dental patient and laboratory use; vacuum for medical and dental patient use, laboratory dust collection, and waste anesthesia gas disposal; and gases for patient, laboratory, and equipment use. The system design includes centralized gas storage, compressors, a piped distribution system, connection outlets, medical gas storage rooms and transfer and manifold rooms. Point-of-use or decentralized systems are also included. Critical operating components of the system include master signal panels, area alarms, automatic pressure switches, shutoff valves, flexible connectors, and outlets. Areas used to administer general anesthesia using medical gases or vacuum have zone valves located immediately outside the anesthetizing location, area alarm panels to monitor gas and vacuum, piped waste anesthetic gas disposal systems and alarm sensors.

(2) Facilities personnel follow the guidance in National Fire Protection Association (NFPA) 99-2015 to install, inspect, test, and maintain the medical gas system; label all main supply valves and area shutoff valves; and design and maintain medical gas manifold and storage rooms.

(3) Areas used to administer general anesthesia using medical gases or vacuum have zone valves located immediately outside the anesthetizing location, area alarm panels to monitor gas and vacuum, piped waste anesthetic gas disposal systems and alarm sensors.

(4) The bulk oxygen storage system is installed and maintained according to 29 CFR 1910.104, NFPA 99-2015, and NFPA 55-2013. The tank is installed outdoors, above ground, away from electrical services or power lines, and at least 10 feet clear of vehicles and sidewalks. Permanent NFPA 704 markings along with a sign stating “OXYGEN, NO SMOKING, NO OPEN FLAMES” are attached to a locked fence encircling the tank. The tank is equipped with an emergency oxygen supply connection that provides a connection for bulk oxygen trucks to connect to main oxygen system in the event of an emergency, repair or system upgrade.

(5) All testing and certification of the medical gas system is done by an independent testing agency, NAME annually. Additionally, qualified technicians test the system whenever it is modified, repaired, or breeched for correct gas, gas purity, and correct pressure. All inspections, tests and maintenance are documented in the DMLSS database.

(6) Facilities personnel work with departments/sections to make sure supply valves for piped medical gas systems accessible.

(7) Compressed gas cylinders are labeled to identity their contents and they are segregated by gas type and full and empty. The number of oxygen cylinders (not in use) in patient care areas is limited to 12 size E cylinders when stored outside of designated storage areas. Where provided, cylinder caps are kept on the cylinders when the gas is not in use. Medical oxygen cylinders are tested upon receipt to verify their content and purity. Cylinders are transported via designated carts and stored in a manner to protect them from damage. Oxidizing gases are stored separately from flammable materials and gases. The NAME OF THE FACILTY does not refill any cylinders. Appropriate warning signs are posted at oxygen and compressed gas storage areas. Additional information is provided in the Hazardous Materials and Waste Management Plan.

x. EC.03.01.01, EPs.1 and 2; HR.01.04.01, EP.1; and HR.02.02.01, EP.1, Orientation and Education Program.

(1) The orientation and education component pertaining to utility systems addresses the following criteria—

(a) Employees

(1) The utility system's capabilities, limitations, and special applications

(2) Emergency procedures in the event of system failure

(3) Location and instructions for use of emergency shutoff controls

(4) Processes for reporting utility system management problems, failures, and user errors

(b) Maintenance workers

(1) Certification, license or information and skills necessary to perform assigned maintenance responsibilities

(2) The utility system's capabilities, limitations, and special applications

(3) Emergency procedures in the event of system failure

(4) Location and instructions for use of emergency shutoff controls

(5) Processes for reporting utility system management problems, failures, and user errors

(6) Shop safety (lockout/tagout, confined spaces, tool and ladder safety, etc.)

(2) The Chief, Plans, Training, Mobilization, and Security (PTMS) manages the facility-wide New Employee Orientation Program. Generally, new employees are scheduled to attend orientation within 30 days of hire.

(3) The Chief, PTMS also manages the Annual Refresher Educations and Training Program. Generally, all employees attend annual refresher training during their birth month.

(4) Supervisors provide worksite-specific orientation and annual refresher training.

(5) All training is documented in the employee competency folders.

y. EC.04.01.01, EPs.2 and 15; EC.04.01.03, EP.2; EC.04.01.05, EP.1; and LD.02.03.01, EP.1, Information Collection and Evaluation System.

(1) Incident Reporting and Investigating.

(a) The Facility Manager documents, investigates, and evaluates utility system incidents, failures, problems, or user errors to identify trends and problems that pose a potential threat to health and safety and opportunities for improvement. Investigations may include a review of equipment service reports, incident reports, utility failures, and user errors. Corrective actions are implemented in a timely manner and the results are evaluated for effectiveness.

(b) Typical incidents that require reporting and investigation include electric power system failures; emergency power system failures; water system failures or contamination; steam system failures; sewer system leaks and major blockages; medical gas system failures; disruption of heating, ventilation, and air conditioning (HVAC) service to patient care units and service areas; and any other incident deemed appropriate by the Facility Manager.

(2) Annual Evaluation.

(a) The Facility Manager keeps the management plan current by reviewing the plan at least annually (i.e., one year from the date of the last review, plus or minus 30 days) and making modifications based on changes to policies, regulations, and standards. In performing the annual review, the Facility Manager uses a variety of sources such as inspection and audit results, accident/incident reports, employee reports of unsafe or unhealthy working conditions, customer satisfaction surveys, suggestion boxes, performance improvement committees, and other statistical information and tracking reports. The Facility Manager may also use other forms of review and input from relevant sources, such as leadership, other EC/PE disciplines, management, employees, and volunteers.

(b) The annual evaluation includes an assessment of the plan’s scope, objectives, performance and effectiveness.

(1) Scope. Based on the current locations and services offered, the scope of the plan is expanded, reduced or maintained at its present scope (buildings, equipment, people, operations, services).

(2) Objectives. An annual assessment is made to determine if the objectives, as outlined in paragraphs 2.a through 2.d are relevant and current.

(3) Performance. A review of the performance improvement project is made to determine the level of performance and whether the level of performance is acceptable.

(4) Effectiveness. An acceptable level of effectiveness is determined by attaining success in meeting objectives, improving performance, and implementing the processes necessary for maintaining an effective Utility Management Program.

(c) Once the EC Committee approves the annual review, the results are submitted to the Executive Committee for review and approval.

(d) The annual review is used as an opportunity to develop or modify programs, SOPs, and policies; identify and implement additional or more effective controls; and enhance the Employee Orientation and Annual Refresher Training Programs.

(3) Safety/EC Committee. The Facility Manager is a standing member of the Safety/EC Committee and is responsible for coordinating, documenting, and presenting information related to the utility systems to the committee. In addition, the Facility Manager is responsible for providing recurring reports on the status of the Utility Systems Management Plan to include—

(a) Annual evaluation of the Utility Systems Management Plan

(b) Performance improvement project

(c) Risk assessments

(d) Outages, failures, user errors

(e) Status of the Testing/Inspecting/Maintenance Program

(f) Construction risk assessments

(4) Monitoring of Performance

(a) Performance monitoring is used to—

(1) Identify areas of concern and strengths in the HEALTHCARE FACILITY NAME Utility Systems Program

(2) Identify or determine actions necessary to address areas of concern

(3) Assess actual compliance with relevant standards

(b) The Facility Manager—

(1) Identifies at least one measurable performance improvement project regarding actual or potential risk related to one or more of the following—

(a) Employee knowledge and skills

(b) Level of employee participation

(c) Monitoring and inspection activities

(d) Emergency and incident reporting

(e) Inspection, preventive maintenance, and testing of equipment

(2) Considers high-risk, high-volume or chronic problems when developing performance standards to better focus limited resources.

(3) Sets desired goals or benchmarks, and develops and implements data collection and reporting procedures.

(4) Appendix D lists the Utility System Performance Improvement Project(s) for this year.

(c) The Safety/EC Committee tracks performance and documents the results in the committee minutes.

| **Regulation, Policy, or SOP Number** | **Date Published** | **Point of Contact** | **Relevant EC Standards and Elements of Performance** |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

| **System** | **Regulation, Code or Standard** |
| --- | --- |
| Heating Ventilation and Air Conditioning | * UFC 4-510-01, Design: Military Medical Facilities, 2016 * FGI Guidelines for Design and Construction of Hospitals and Outpatient Care, 2014 * NFPA 90A-2015, Standard for the Installation of Air-Conditioning and Ventilating Systems * OSHA CPL.2.106, Enforcement Procedures and Scheduling for Occupational Exposure to Tuberculosis |
| Medical Gas System | * UFC 4-510-01 * NFPA 99-2015, Healthcare Facities Code * NFPA 55-2016, Compressed Gases and Cryogenic Fluids Code |
| Medical/Surgical Vacuum Systems | * UFC 4-510-01 * NFPA 99-2015 |
| Electrical Distribution System | * UFC 4-510-01 * NFPA 70-2014, National Electric Code |
| Emergency Power System | * UFC 4-510-01, * FGI Guidelines * NFPA 110-2013, Standard for Emergency and Standby Power Systems |
| Elevators | * UFC 4-510-01 * ANSI/ASME A17.3, Safety Code for Existing Elevators and Escalators |
| Nurse Call System | * UFC 4-510-01 |
| Telephone System | * UFC 4-510-01 |
| Boiler/Steam | * UFC 4-510-01 * ASME Boiler and Pressure Vessel Code |
| Plumbing | * UFC 4-510-01 * IAPMO/ANSI UPC1-2015 Uniform Plumbing Code |
| Aerosolizing Water Systems | * ASHRAE 12-2000, Minimizing the Risk of Legionellosis Associated with Building Water Systems * ASHRAE 188-2015, Legionellosis: Risk Management for Building Water Systems * CDC Guidelines for Environmental Infection Control in Healthcare Facilities |

| **Performance Objective** | | **Performance Indicator(s)** | **SMARTER[[3]](#footnote-3) Performance Measure/Action Plan**  ***For each performance objective, determine—*** |
| --- | --- | --- | --- |
| Improve Physical, Ethical & Cultural Environments. Effectively manage utility system risks through regulatory compliance and by using best industry practices (internal processes). | | Examples: # Minutes required to respond to trouble calls  % Preventive maintenance, checks, calibration completed on time  # Successful emergency generator tests conducted within prescribed time frames  # Utility System Failure resulting in patient injury each quarter | Discussion  What is your goal? Is it measurable? Is your goal written in a SMARTER performance measure format? What contraints do you have (time, money, other resources)? What steps will you take to meet your goal? How will your prioritize these steps? What data do you need to collect and evaluate? How will you collect and report the data? How often will you collect and report the data? How wil you explain your goal to your staff so that they know what is being measured? To accurately compare data over time, will you need to make adjustments due to changes in variables such as sample size or quantity? |
| Optimize financial resources Example: Optimize resources by using efficient utility system processes and lifecycle management of facilities. | | Examples: % man-hours applied to scheduled work  # Utility system problems, failures, and use errors resulting in patient disruption |
| Improve & Empower Highly Effective Work Teams. Example: Improve employee performance through effective utility system education and training. | Example: # of corrective maintenance activities resulting from user error or abuse |
| Healthy & Satisfied Families and Beneficiaries. Example: Improve staff and patient satisfaction by providing a safe physical environment. | Example: # Customer complaints received each quarter |

1. USA MEDCOM adheres to NFPA 101-2015, Life Safety Code [↑](#footnote-ref-1)
2. SMARTER: Specific (What do you want to accomplish? Why? Who is involved?), Measurable (quantifiable), Attainable (neither out of reach nor below standard performance), Relevant (worthwhile), Time-Bound (assigned a target completion date), Explainable (easy to understand so that everybody knows what is being measured) and Relative (allows for comparison of values over time) [↑](#footnote-ref-2)
3. SMARTER: Specific (What do you want to accomplish? Why? Who is involved?), Measurable (quantifiable), Attainable (neither out of reach nor below standard performance), Relevant (worthwhile), Time-Bound (assigned a target completion date), Explainable (easy to understand so that everybody knows what is being measured) and Relative (allows for comparison of values over time) [↑](#footnote-ref-3)