Texas Tech University Health Sciences Center-El Paso

Utility Systems Management Plan
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Contents

I. Mission

II. Authority

III. Structure of Facilities Operations and Maintenance

IV. Responsibilities

V. Implementation

VI. TTUHSC Clinic, Laboratory, Infectious, Pathological, Hazardous and Radioactive Waste Streams

VII. Training and Education

VIII. Information Collection and Evaluation System (ICES)
Texas Tech University Health Sciences Center – El Paso Campus

Utility Systems Management Plan

I. Mission

The mission of this plan is to promote a safe, controlled, comfortable environment of care that reduces the potential for organizational-acquired illness while assessing and minimizing risks of utility failures to ensure operational reliability of utility systems.

II. Authority

Facilities Operations and Maintenance (FOM) Administrators are responsible for defining and administrating the Utility Systems Management plan.

III. Structure of Facilities Ops. & Maintenance

Texas Tech University Health Sciences Center (TTUHSC—ELP) FOM is comprised of six divisions:

1. **Planning Designs and Construction**: FOM participating in planning, design, contract administration, and project management functions for construction and major renovations.

2. **Trades**: FOM employs skilled and license tradesmen for building maintenance and minor facility renovation. Participates in plan review of all construction contracts. All Facilities Operations and Maintenance positions are designated as essential/alternate personnel.

3. **The Department of Safety Services (DSS)**: The department plans, implements and administers the TTUHSC—ELP Safety Programs involving Radiation Safety, Chemical Hazardous Waste, Life and Fire Safety, Indoor Air Quality Investigation, Occupational Safety Accident Investigation, Laboratory Safety, and Safety Education & Training. Assists administrators, deans and department chairs in meeting their assigned health, safety and environmental responsibilities to comply with safety regulations and guidelines and to meet accreditation, research funding agency requirements and provide employees, students and visitors a safe hazard-free environment.

4. **Engineering Services**: FOM employs licensed engineers functioning as institutional contact for utility providers and energy-consumption issues. Functioning as practical technical resources to members of FOM, maintaining current and historical construction documents.

5. **Housekeeping**: FOM employs and contracts services with local administrative oversight are obtained to provide a clean environment.

6. **Grounds Maintenance**: FOM employs ground’s maintenance personnel that are utilized to ensure a safe exterior environment is maintained.
IV. **Responsibilities**

FOM is the primary response group for maintenance and operation of critical operating systems and components. Director of FOM is responsible for maintaining documentation related to systems reliability and performance. FOM utilizes a Computerized Maintenance Management System (CMMS) to record planned and reactive maintenance activities associated with various systems.

All divisions within FOM interact to ensure high standards are maintained in the environment of care.

V. **Implementation**

FOM utilizes an automated preventive maintenance plan within the CMMS to generate work orders; to ensure critical component/system reliability. Tasks and frequencies are determined by manufacturers data and historical information gathered from this campus.

FOM has various preventative maintenance (PM) contracts in place for major mechanical, electrical and plumbing systems covering all buildings at the El Paso campus.

FOM utilizes infrared thermography to identify potential problems in the secondary electrical distribution system. Thermal video imaging is used to record component performance under load conditions. Potential problematic areas are produced in a report form with recommendations for action. Corrective action is scheduled with affected users.

FOM maintains a schedule for testing the emergency power system. The tests are conducted in accordance with Joint Commission for Accreditation (TJC) guidelines for load testing. Emergency transfer switches are included in the thermographic studies detailed above.

FOM maintains environmental support systems utilizing the CMMS. Filtration is managed utilizing historical data, scheduled preventive maintenance, and alarm devices. Indoor air quality is a primary issue addressed within the preventive maintenance program. Natural gas services are tested and certified; reports are submitted to the City of El Paso. The domestic water, irrigation, fire suppression system and back-flow preventers are tested contractually annually; reports are submitted to the City as well.

FOM maintains the medical vacuum system on a weekly basis.

FOM maintains two radio control units and thirty-five portable units. The radio system is designed as a component of the Campus Emergency Management Plan (EMP). The system provides for immediate communication between essential personnel (Facilities, Safety, Security and Clinical Administration) in the event the emergency operations center is activated.
FOM utilizes architects, research and engineers for review and participation in designing systems and functions; to meet institutional objectives for life support, infection control, and environmental support systems. Most building components of critical systems are redundantly configured. The department of Information Technology (IT) is tasked with maintaining communications equipment.

VI. Training and Education

Tradesmen participate in continuing education courses as a provision of annual licensing (in some cases), and in the pursuit of individual accreditation. FOM employees participate in prescribed safety programs under the guidance of the DSS.

Experts, vendors, and contacts are utilized to involve FOM staff members regarding likely risks, personal protective equipment (PPE), prevention, protection, exposure, and appropriate responses.

Unplanned utility outages are discussed and tracked with focus on assessing response through formal after-action meetings. Procedural changes/modifications are communicated to involved parties.

VII. Information Collection & Evaluation System

System performance is monitored in several ways:

1. Annual performance evaluations are conducted for personnel responsible for system maintenance
2. Response is routinely evaluated to ensure appropriate action and communication
3. Customer complaints and kudos are communicated within the group
4. CMMS vibration monitoring, and thermal imaging are utilized to facilitate predictive and planned maintenance activities for critical system components
5. Preventive maintenance tasks are ensured through a quality assurance program that selects equipment items for follow-up inspections based on performance.
6. Reporting and evaluation procedure exercised for system failures

The FOM Administrative Staff will accomplish an annual evaluation of this plan to include operational considerations for each utility system. Details are located in FMO Policy A-1.

VIII. Corresponding Policies

Corresponding policies are cross-referenced in the EOC section of the policies matrix. Specific tasks and frequencies for systems preventive maintenance are defined in the FOM, CMMS.