University of Arkansas for Medical Sciences

Part VI – Utilities Systems Management Plan

FY27

I. MISSION STATEMENT

The purpose of the Utilities Systems Management Plan is to manage risks associated with the operation of utility systems, perform planned and preventive maintenance, make timely and effective repairs, develop procedures and provide staff training to support quick and effective responses to utility failures. Events will also be evaluated that could have an adverse impact, to assure a safe, reliable and comfortable environment for patient care, academics and research at UAMS.

II. SCOPE

The department (hereafter referred to as E&O) is responsible for minimizing risks associated with utility systems and responding to emergencies in the environment of care on the UAMS campus. E&O consists of Certified Healthcare Facility Managers (Assistant Directors), Facility and Building Managers, engineers, licensed Technicians, Craftsmen and qualified support staff.

The specific utilities included in the Utility Systems Management Plan are as follows (in alphabetical order, not order of importance):

A. Communication Systems (By IT)
B. Electrical Distributions Systems
C. Emergency Power Systems
D. Fire Safety Equipment and Building Features
E. Heating, Ventilation and Air Conditioning Systems
F. Hot Water and Steam Systems
G. Medical Gas and Vacuum Systems
H. Natural Gas Delivery Systems
I. Plumbing and Water Systems
J. Vertical Transport Systems

List of applicable buildings:
Central Building (HAP) Site ID 18696
Ward Tower (HAP) Site ID 18696
Hospital (HAP) Site ID 18696
Psychiatric Research Institute (HAP) Site ID 18696
Jones Eye Institute (AMB) Site ID 18696
MRI (AMB) Site ID 18696
Outpatient Center (AMB) Site ID 18696
The Orthopedic Surgical Hospital (HAP) Site ID 18696
University Women's Clinic (Off site Business Class) Site ID 258911
University Women's Health Center (Off site Business Class) Site ID 125240

III. AUTHORITY / REPORTING RELATIONSHIPS

The Executive Director of E&O is responsible for directing the utilities program, including a safe, controlled and comfortable environment of care by provision and maintenance of adequate and appropriate utility services and infrastructure.

The Environment of Care (EOC) Committee Chair has been given authority to oversee the Utility Systems Management Plan. The EOC Committee will evaluate the trends and information gathered by E&O, develop appropriate policies and procedures, understand applicable codes and regulations, and evaluate the effectiveness of the utility management program and its components on an annual basis. Responsibilities of the EOC Committee include reporting significant findings and recommending actions to the Safety Coordinating Committee, when deemed necessary.

Oversight of the Utility Systems Management Plan lies with the EOC Committee. All utility failures and utility performance indicators are reported each quarter in a report that is presented to the EOC Committee for review and recommendations. The EOC Committee then reports to the Safety Coordinating Committee, as appropriate.

IV. OBJECTIVES

- Operate utility systems to provide a safe and comfortable patient care environment.
- Assure reliability of utility systems by performing recommended maintenance.
- Reduce incidents that result in unplanned failures and interruptions.
- Comply with Federal, State, and Local regulations.
- Utilize industry standards where applicable and approved by the Authority Having Jurisdiction (AHJ).
- Identify opportunities to improve utility system performance.
- Train staff to operate utility systems correctly, including appropriate responses to failures or disruptions.
- Enact policies and procedures that are designed to protect patients, staff, nurses, physicians, visitors, contractors, and others from known risks.

V. INTENT PROCESSES

E&O has policies that pertain to the implementation of this plan. A few of the highlights and critical applications are listed below.

E&O shall conduct and document risk assessments, collect data on management problems, failures, and user errors, and develop recommendations to improve utility performance.

Problems with the utility systems are reported to the Campus Operations Call Center for corrective action. The Campus Operations Call Center is staffed 24 hours a day, 7 days a week and has immediate access to maintenance personnel, as well as other technicians from critical shops. These technicians carry smart phones, and some are on call.

Maintaining a safe, controlled, comfortable environment on a campus, this large is a major undertaking. While E&O quickly responds to any problems with a staff of qualified people, our staff is relied upon to recognize and report any problems or hazards they observe while traveling to and from work sites and performing their duties. E&O has a Preventive Maintenance (PM) program that addresses high risk equipment and components. This program is risk based and uses alternative maintenance means derived through history of equipment and experience to maintain the campus building systems. MEP systems have a significantly reduced rate of failure when properly maintained.

Engineering & Operations has a prioritized plan for equipment preventative maintenance to maximize the effectiveness of our staff and the operation of the equipment. Details of this system are covered in Engineering & Operations Policy A-4.

Once an item has been identified as being included in the PM system, an inspection, testing, and maintenance procedure is developed for that piece of equipment, and it is added to the system. This document is called a "PMI," which is short for Preventive Maintenance Instructions.

Operational plans for the utility systems on this campus have been developed which describe the respective system and basic operation, along with responsibility for maintenance and emergency response plans. Included with these plans is a review of all failures by pertinent parties to determine its cause, what can be done to prevent it, and when this can be implemented to prevent future problems. These plans are available as part of E&O Policy IV-36 Utility Operation Plans & Management of Failures.

Construction and as-built plans for the buildings on this campus are available through the Facilities Planning office. Most of these are available through the Campus Operations computer network and there is an ongoing process to move all plans into an electronic format. To make locating the shutoff faster once a person has reached a general location, large yellow circles are on the floor and signs are posted in the area that can be readily seen by someone not totally familiar with the location.
After any significant utility system failure, an After-Action Review (AAR) is conducted to determine what improvements could be made to improve our response to subsequent utility failure events.

VI. ORIENTATION AND EDUCATION

There is ongoing development of a continuing education program to address concerns such as infection control, emergency procedures, shutoff locations, utility system operation and limitations, critical operations such as bone marrow air handlers, and the crafts necessary to perform tasks. This is accomplished through a combination of monthly E&O department meetings, on the job orientation, seminars by vendors and others, good hiring practices, and in-house training.

The Campus Operations Call Center is the 24-hour hub for all operations and emergency procedures for utility system failures are readily available. These procedures address what to do in the event of a failure as in who to notify, and initial responses. There are also policies governing emergencies in the Engineering & Operations policy manual that are reviewed annually.

Annual staff performance evaluations include a job competency and knowledge review, which results in training provided as needed.

VII. INFORMATION COLLECTION & EVALUATION SYSTEMS (ICES) – PERFORMANCE MONITORING

Performance of the system is monitored in several ways:

- Annual performance evaluation of all technicians and Managers
- Spot follow-up inspections by Managers and administrative staff
- Electronic work order "report card" system
- Complaints or "kudos" from customers
- Work order system to determine who, where and how much we are spending on equipment for repair and operation
- PM system inspections to identify problems and work that is not being accomplished

- Reporting system for utility failures as described above

The administrative staff will accomplish an annual evaluation of this plan along with the operational plans for each utility system. Details are provided in the E&O Policy A-1 Policy Manual and Utility Plan Review.

A report of all utility management activities reported through the Environment of Care Committee is provided to the UAMS Safety Committee and is included in the Quarterly Safety Management Report presented to the University of Arkansas Board of Trustees by the Director of Occupational Health and Safety.

Performance Indicator: Inspect and track fire door repairs in Healthcare Occupancies.

Goal: Inspect and track repairs on one fourth of all fire doors every quarter in Healthcare Occupancies

Performance Indicator: Track unplanned utility failures.

Goal: Enhanced maintenance or significant corrective actions will be apparent from problematic or recurring failures.

Performance Indicator: Track Joint Commission Documentation Preparedness.

Goal: Trend the accuracy and readiness of The Joint Commission documentation with a goal of 95% after a quarterly review.

Each of the performance indicators and respective results are reported to Environment of Care Committee on a quarterly basis.

VIII. ANNUAL EVALUATION

The Safety Officer has an overall responsibility for coordinating the annual evaluation process with each of the six functions associated with management of the Environment of Care. E&O performs the evaluation and submits it to the EOC Committee. The annual evaluation examines the objectives, scope, performance, and effectiveness of the Utilities Management Program.

The annual evaluation is presented to the Environment of Care Committee by the end of the first quarter of each fiscal year. The EOC Committee reviews and approves the report and forwards it to the UAMS Safety Committee. The deliberations, actions, and recommendations of the EOC Committee are documented in the minutes. The annual evaluation is distributed to other department managers as appropriate. This finalizes the evaluation process.

IX. CORRESPONDING POLICIES

The following Engineering & Operations policies are referenced either in the Utility Systems Management Plan or Utility Operating Plans.

A-1 Policy Manual and Utility Systems Management Plan Review
A-4 Preventive Maintenance Work Order Priority
I-11 Emergency Elevator Procedures
IV-2 System or Utility Shutdown
IV-7 Emergency Water Supply Schedule
IV-8 Emergency Generator Diesel Fuel
IV-9 Emergency Generators
IV-10 Monitoring Emergency Generator Sets

IV-11 Electrically powered Equipment
IV-12 Electrical Distribution Systems
IV-13 Emergency Power System
IV-14 Hot Water Temperature in Patient Areas
IV-15 Contaminated Water Supply
IV-21 Plumbing Systems
IV-22 Boiler and Steam Systems
IV-23 Medical Air System
IV-24 Medical Vacuum System
IV-33 UAMS Chilled Water Emergency Plan
IV-34 Steam Supply Emergency Plan
IV-35 Planned Electrical Power Transfer
IV-36 Utility Operating Plans & Management of Failures
IV-37 Utility Failure Debriefings
IV-38 Legionella
IV-39 Airborne Contaminante Control