

## **Environment of Care**

### **Utility Systems Management Plan – 2014**

**Updated 4.18.2014**

#### **PURPOSE**

The objectives of the Utility Systems Management plan is to establish, maintain, and continually provide a reliable utility systems management program to promote a safe, controlled and comfortable environment of care for patients, visitors, and personnel of the facility by the assessment and minimization of risks of utility failures and to ensure the operational reliability of the utility systems.

- Ensures operational reliability of utility systems.
- Reduces the potential for organization-acquired illness to be transmitted through the utility systems.
- Addresses the reliability and minimizes potential risks of utility system failures.

#### **SCOPE**

The Utility Systems Management Plan and programs apply to all facilities, as listed below, and to all processes, activities and departments, as well as to patients, staff, students and visitors at TJUH Inc.

All critical elements of the utility systems used for life support, infection control, environmental support, equipment support and communications will be included in the program. The Utility Systems Management Plan addresses the safe operation, maintenance and emergency response procedures for these critical operating systems. Utilities include systems for electrical distribution, emergency power, vertical and horizontal transport, heating, ventilating, and air conditioning, plumbing, boiler and steam, medical gas, medical/surgical vacuum, and communication systems.

TJUH facilities covered by this management plan are as follows:

- Gibbon/Bodine Building, 111 South 11<sup>th</sup> Street - All floors and areas except 1<sup>st</sup> floor leased business occupancies.
- Main Building, 132 South 10<sup>th</sup> Street - All floors and areas.
- Thompson/Tower Building, 1020 Sansom Street - All floors and areas.
- Foerderer Pavilion Building, 117 South 11<sup>th</sup> Street – All floors and areas.
- Jefferson Hospital for Neuroscience, 900 Walnut Street – All floors and areas except for 1<sup>st</sup> floor leased business occupancy and business occupancies on the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> floors. 2<sup>nd</sup> floor Infusion space and 3<sup>rd</sup> floor Surgical Family Waiting are included.

- Medical Office Building (MOB), 1100 - 1104 Walnut Street – 1<sup>st</sup> and 2<sup>nd</sup> floor Surgicenter; 3<sup>rd</sup> and 4<sup>th</sup> floor Breast Care Imaging Center; and 8<sup>th</sup> floor Clinical Lab for Cell Therapy.
- 925 Chestnut Street – 2<sup>nd</sup> floor Infusion Center.
- Clinical Office Building (COB), 909 Walnut Street – Basement and 1<sup>st</sup> floor Radiology space; and 3<sup>rd</sup> floor Oral Surgery suite.
- Methodist Hospital, 2301 South Broad Street – All floors and areas.
- Methodist Hospital, 1300 Wolfe Street – All floors and areas.
- Methodist Hospital, 2422-24 S. Broad Street - All floors and areas.

## OBJECTIVES

The objectives of the Utility Systems Management Plan include:

- Comply with all relevant safety standards and regulations.
- Provide a safe, controlled, and comfortable environment for patients, staff, students and visitors.
- Ensure the operational reliability of the utility systems:
  - Direct Life Support systems
  - Infection Control systems
  - Non-Life Support utility support systems
- Reduce the potential for hospital-acquired illness.
- Assess special risks of the utility systems.
- Provide a plan for response to utility systems failures.
- Effect essential coordination for scheduled utility systems interruptions.
- Establish and maintain a program of policies and procedures consistent with the organization's mission, vision, and values.
- Enhance of maintenance of the utility systems to reduce and minimize system failures and/or interruptions.

## AUTHORITY

The authority and responsibility for the Utility Systems Management program's strategic design, and the operational oversight has been assigned to the Utility Systems Management Subcommittee chair. Program implementation and day-to-day operational management is delegated to the Directors of Facilities Services and Facilities Management at their respective sites, (TJUH Center City and Methodist Hospital Division). These individuals work in close cooperation with EH&S, as well as various operating and safety committees.

## RISK ASSESSMENT

Hazardous physical conditions, potentially hazardous situations, unsafe behaviors and relative risks are identified and assessed through ongoing facility-wide processes. These processes are designed to proactively evaluate the impact of building, grounds, equipment, materials, operations, and internal physical systems on patient, employee and public safety. The Utility Systems Management Committee works with the Environment of Care Committee, Risk Management Department and the Infection Control Department to identify, analyze and control environmental risks to patient, visitor and employee safety that may contribute to undesirable outcomes. These assessment processes include:

- Annual subcommittee multi-disciplinary Risk Assessment
- Airborne Monitoring and Management
- Waterborne Monitoring and Management
- Routine building inspections and P.M.'s
- Utility Failure and User error/Service interruption reporting and analysis
- Contracted assessment of individual systems with follow-up programs

## PERFORMANCE ELEMENTS:

**Standard EC.02.05.01 – The hospital manages risks associated with its utility systems.**

### **EC.02.05.01 (1)**

The hospital designs and installs utility systems that meet the patient care and operational needs.

The hospital references appropriate NFPA standards and FGI Guidelines when designing and installing utility systems to assure the hospital meets the patient care and operational needs of the services in the hospital's buildings.

### **EC.02.05.01 (2)**

The hospital maintains a written inventory of all operating components of the utility systems or maintains a written inventory of selected operating components of utility systems based on risks for infection, occupant needs, and systems critical to patient care (including all life support systems). The hospital evaluates new types of utility components before initial use to determine whether they should be included in the inventory.

The Utility Systems Management Plan includes equipment that meets the following criteria:

- Equipment that maintains the climatic environment in patient care areas
- Equipment that constitutes a risk to patient life support upon failure
- Equipment that is used for infection control purposes
- Equipment that is used for non-life support functions (all other)
- Equipment that is part of the communication system, which may affect the patient or the patient care environment

The Utility Systems Management Plan includes provisions for the inspection, testing, maintenance and repair for the following systems:

- A. Life Support Systems – are used to support life or are critical in the care and treatment of patients:
  - 1. Oxygen
  - 2. Medical Air
  - 3. Medical Surgical Vacuum Systems
  - 4. Emergency Power Distribution Systems
  
- B. Infection Control Systems – are used to prevent the spread of infection, either directly or indirectly:
  - 1. HVAC Air Flow Management Program
  - 2. Boilers and steam delivery systems (M.H. only for Boilers)
  - 3. Domestic Cold and Hot water
  - 4. Natural Gas system (M.H. only)
  
- C. Environmental Support Systems - control the environment or provide for the daily needs of patients and staff:
  - 1. HVAC (Heating, Ventilation, and Air Conditioning)
  - 2. Building Automation System (BAS)
  - 3. Elevators
  - 4. Domestic Water System
  - 5. Sanitary Sewer
  
- D. Equipment Support Systems – deliver operational functions
  - 1. Clinical Pneumatic tube system
  - 2. Cart lift system
  
- E. Communications Systems - provide means for patients, visitors, and staff to communicate
  - 1. Nurse Call system
  - 2. P.A. system

The hospital evaluates new and upgraded types of utility components before initial use to determine whether they should be included in the inventory.

**EC.02.05.01 (3)**

The hospital identifies, in writing, inspection and maintenance activities for all operating components of the utility systems on the inventory.

Maintenance policies are identified for all components included in the utility systems management program. Different strategies may be utilized as appropriate for different systems including: reliability-centered maintenance, interval-based maintenance, corrective maintenance, metered maintenance may be selected to ensure dependable performance.

There is a comprehensive preventative maintenance program, which includes a written testing and maintenance program for all utility components included in the program. It is

the responsibility of the Directors of Facilities Management to keep the preventative maintenance program accurate and ongoing.

**EC.02.05.01 (4)**

The hospital identifies, in writing the intervals for inspecting, testing, and maintaining all operating components of the utility systems equipment on the inventory that are based upon criteria such as manufacturers recommendations, risk levels, and current hospital experience.

The utility systems components that are included in the inventory that would benefit from scheduled maintenance activities to minimize clinical and physical risks are based on at least one or more the following criteria:

- Manufacturer's recommendations
- Risk levels
- Current hospital experience (for equipment 10 years or older)

Equipment maintenance records are documented and maintained in the Facilities Management department.

A maintenance strategy will be developed for all utility systems components on the inventory. Maintenance procedures will be developed and maintained by the Director of Facilities Management, using the manufacturer's maintenance recommendations, risk levels, and current experiential knowledge with consideration of all applicable regulatory codes and standards.

Through a program of preventative and corrective maintenance, the incidence of unplanned outages of utility systems is reduced or eliminated. By reducing unplanned outages and increasing reliability, patient safety is increased. In order to respond to unplanned outages, Facilities shall work in conjunction with impacted departments to reduce the impact, provide temporary support, and correct the problem as soon as possible. All outages are documented and investigated to determine what measures need to be taken to prevent further outages of the same nature. The status of these measures will be reported at the Environment of Care Committee meetings.

**EC.02.05.01 (5)**

The hospital minimizes pathogenic biological agents in cooling towers, domestic hot/cold water systems, and other aerosolizing water systems.

The Director of Facilities Management has developed policies and procedures for the inspection, testing and maintenance of all aerosolizing water systems to prevent pathogenic biological agents. Cooling towers and domestic Water Systems are tested on a semi-annual basis. These results are shared with the Infection control Department.

**EC.02.05.01 (6)**

In areas designed to control airborne contaminants (such as biological agents, gases, fumes, dust), the ventilation system provides appropriate pressure relationships, air-exchange rates, and filtration efficiencies.

The Director of Facilities Management has developed policies and procedures for the inspection, testing and maintenance of all ventilation systems serving areas specifically designed to control airborne contaminants such as biological agents, gases, fumes and dust. These areas include, but may not be limited to:

- Operating rooms
- Special procedure rooms
- Clinical Laboratory areas. (hoods provided by Clinical Labs and Nutrition)
- Central Sterile Supply
- Pharmacies (hoods provided by Pharmacy Department)
- Airborne communicable disease rooms (i.e., “TB” rooms), and isolation rooms
- Critical Care areas
- Soiled and Clean utility rooms

The Director of Facilities Management will follow FGI guidelines or regulatory requirements specific to the space for filter efficiencies, air pressure relationships etc.

**EC.02.05.01 (7)**

The hospital maps the distribution of utility systems.

Facilities Management maintains drawings showing the distribution of utility systems. These drawings are located in Facility Management (Operations Control Room in Center City and Facilities Management Office in Methodist).

**EC.02.05.01 (8)**

The hospital labels controls for a partial or complete emergency shutdowns.

The drawings mapping the distribution of utility systems indicate the controls for partial or complete shutdown of each utility system in Facility Management. All emergency shutoff controls for the utility systems components are labeled clearly, visibly and permanently throughout the facility.

**EC.02.05.01 (9)**

The hospital has written procedures for responding to utility system disruptions.

The Director of Facilities Management is responsible for coordinating activities and ensuring procedures are developed that specify the action to be taken during utility system disruptions. Emergency procedures include: procedures to follow when a utility system malfunctions; alternate sources of essential utilities; shutoff procedures and controls of malfunctioning systems; procedures for notifying personnel in the affected areas; procedures to perform emergency clinical interventions; information on how to obtain repair services; procedures regarding re-certification of required systems prior to restoration of services. The written procedures include a call system for summoning essential personnel and outside assistance when required.

**EC.02.05.01 (10)**

The hospital’s procedures address shutting off the malfunctioning system and notifying staff in affected areas.

Facility Management utility failure policy identifies the appropriate level of authority for shutting off malfunctioning systems in collaboration with clinical staff, emergency

responders and hospital administration. (see Department Utility Failures/Clinical Interventions Plan)

**EC.02.05.01 (11)**

The hospital's procedures address performing emergency clinical interventions during utility system disruptions.

All clinical department leaders are responsible for developing and maintaining emergency procedures of the utility systems as it relates to their use and application in patient care or treatment areas where a failure interruption or malfunction could result in a negative patient outcome including serious injury or death. The departmental emergency procedures will provide personnel with the essential information needed to perform during an emergency. The emergency procedures will include alternate sources of utilities or back-up protection provided. When alternate sources are not available, emergency procedures will include actions to follow until the utility system can be restored to normal function. Information in the emergency procedures includes:

- Location of emergency shutoff controls;
- Conditions in which the utility may be shutoff;
- Assigned authority to use the shutoff controls;
- How to report a failure or interruption;
- Obtaining emergency repair services;
- Specific information on emergency clinical interventions.

**EC.02.05.01 (12)**

The hospital's procedures address how to obtain emergency repair service.

Facility Management maintains a listing of vendors to use for emergency repairs in the Control Room (Center City) and both the Facilities Management Office and Boiler room (Methodist).

**EC.02.05.01 (13)**

The hospital responds to utility system disruptions as described in its procedures.

Facility Management maintains written plans addressing appropriate response levels for utility system disruptions.

**Standard EC.02.05.03 – The hospital has a reliable electrical power source.**

**EC.02.05.03 (1-6)**

The hospital provides emergency power for the following:

TJUH Inc. provides emergency power to at least the following:

1. *Alarm Systems* as required by Life Safety Code
2. *Exit route and exit sign illumination*, as required by the Life Safety Code
3. *Emergency communication systems*, as required by the Life Safety Code
4. *Elevators (at least one in every group per building)*
5. *Equipment* that cause harm when it fails, including life support systems, blood, bone, and tissue storage systems, medical air compressors, and medical and surgical vacuum systems.

6. *Areas* in which loss of power could result in patient harm, including operating rooms, recovery rooms, obstetrical delivery rooms, nurseries, critical care, emergency department, urgent care areas, patient rooms and critical data systems.

**Standard EC.02.05.05 – The hospital inspects, tests, and maintains utility systems.**

**EC.02.05.05 (1)**

The hospital tests utility system components on the inventory before initial use. The completion date of the test is documented.

TJUH Inc. tests all utility system components before initial use and documents the date of initial testing.

The hospital inspects, tests, and maintains the following (EP's 3, 4, and 5):

**EC.02.05.05 (3)**

Life support utility system components on the inventory. These activities are documented.

All documentation of life support utility system components is maintained in the CMMS, (Computerized Maintenance Management System) and filed in Facilities Management.

**EC.02.05.05 (4)**

Infection control utility system components on the inventory. These activities are documented.

All documentation of infection control utility system components is maintained in the CMMS and filed in Facility Management.

**EC.02.05.05 (5)**

Non-life support utility system components on the inventory. These activities are documented.

All documentation of non-life support utility system components is maintained in the CMMS, and filed in Facilities Management.

**Standard EC.02.05.07 – The hospital inspects, tests, and maintains emergency power systems.**

**EC.02.05.07 (1)**

At 30-day intervals, the hospital performs a functional test of battery-powered lights required for egress for a minimum of 30 seconds. The completion date of the tests is documented.

At the time this plan was written, all battery powered lighting is task lighting. There are no egress battery lights on campus. Functional testing and replacement of batteries for battery powered task lighting will be conducted per NFPA 110.

**EC.02.05.07 (2)**

Every 12 months, the hospital either performs a functional test of battery-powered lights required for egress for a duration of 1 ½ hours; or the hospital replaces all batteries every 12 months and during replacement, performs a random test of 10% of all batteries for 1.5 hours. The completion date of the test is documented.

At the time this plan was written, all battery powered lighting is task lighting. There are no egress battery lights on campus. Functional testing and replacement of batteries for battery powered task lighting will be conducted per NFPA 110.



**EC.02.05.07 (3)**

Every quarter, the hospital performs a functional test of stored emergency power supply systems (SEPSS) for 5 minutes or as specified for its class (whichever is less). The hospital performs an annual test at full load for 60% of the full duration of its class. The completion dates of the tests are documented.

This standard is not applicable. TJUH does not have any stored emergency power supply systems.

**EC.02.05.07 (4)**

At least monthly, the hospital tests each generator for at least 30 continuous minutes. The completion dates of the tests are documented.

The hospital conducts and documents weekly inspections and no load run tests, monthly building load tests, and a tri-annual four-hour building load tests for each generator.

**EC.02.05.07 (5)**

The monthly tests for diesel-powered emergency generators are conducted with a dynamic load that is at least 30% of the nameplate rating of the generator or meets the manufacturer's recommended prime movers' exhaust gas temperature. If the hospital does not meet either the 30% of nameplate rating or the recommended exhaust gas temperature during any test in EC.02.05.07, EP 4, then it must test the emergency generator once every 12 months using supplemental (dynamic or static) loads of 25% of nameplate rating for 30 minutes, followed by 50% of nameplate rating for 30 minutes, followed by 75% of nameplate rating for 60 minutes, for a total of 2 continuous hours.

The hospital tests each generator in accordance with NFPA 110 and provides supplemental loads as required on an annual basis.

**EC.02.05.07 (6)**

At least monthly, the hospital tests all automatic transfer switches. The completion date of these test are documented.

The hospital tests all automatic transfer switches in accordance with NFPA 110. Tests are conducted and documented during the monthly generator load tests.

**EC.02.05.07 (7&8)**

Facilities that have a generator providing emergency power for the services listed in Standard EC.02.05.03 EPs 5 & 6 tests each emergency generator at least once every 36 months for a minimum of four continuous hours. This test shall be conducted under a load (dynamic or static) that is at least 30% of the nameplate rating of the generator. The completion date of the test is documented.

The hospital conducts a generator test every 36 months for 4 hours testing above 30% of the nameplate rating for each generator and document findings and date.

**EC.02.05.07 (9)**

If a required emergency power system fails, the hospital implements measures to protect patients, visitors, and staff until necessary repairs or corrections are completed.

If any required emergency power system tests fail the hospital will implement appropriate measures to effect repairs and restoration of system.

**EC.02.05.07 (10)**

If a required emergency power system test fails, the organization performs a retest after making the necessary repairs or corrections.

If any required emergency power system test fails the hospital performs retests after making the necessary repairs or corrections. This test is documented.

**Standard EC.02.05.09 – The hospital inspects, tests, and maintains medical gas and vacuum systems.**

**EC.02.05.09 (1)**

In time frames defined by the hospital the hospital inspects, tests, and maintains critical components of piped medical gas systems including master signal panels, area alarms, automatic pressure switches, shutoff valves, flexible connectors, and outlets. These activities are documented.

Facility Management maintains documentation of medical gas certification with all testing. The medical gas system is inspected/tested every 12 months.

**EC.02.05.09 (2)**

The hospital tests piped medical gas and vacuum systems when the systems are installed, modified or repaired, including cross-connection testing, piping purity testing, and pressure testing. The completion date of the tests is documented.

Documentation of medical gas repairs, with all testing and modifications are maintained in Facility Management.

**EC.02.05.09 (3)**

The hospital makes main supply valves and area shutoff valves for piped medical gas and vacuum systems accessible and clearly identifies what the valves control.

Facility Management works with hospital departments to keep supply valves for piped medical gas systems accessible and clearly identifies which valve controls which area/rooms.

**Standard EC.02.06.01 – The hospital establishes and maintains a safe, functional environment.**

**EC.02.06.01 (13)**

The hospital maintains ventilation, temperature, and humidity levels suitable for the care, treatment, and services provided.

Facilities Design and Construction designs and constructs spaces in accordance with current FGI Guidelines. Design parameters are reviewed with clinicians, Facilities Operations staff, Infection Control, and Environmental Health and Safety during design as necessary and are reviewed as a part of the Preconstruction Risk Assessment process. Facilities Operations maintains equipment providing ventilation, temperature, and humidity levels according to established preventive maintenance procedures and monitors temperature and humidity levels in accordance with the parameters established in ASHRAE 170. Excursions from established temperatures and relative humidity levels

are reported to clinical staff and Infection Control in accordance with hospital policy *Monitoring and Maintaining Temperature and Relative Humidity in Special Environment Rooms*.

**Standard EC.04.01.01 – The hospital collects information to monitor conditions in the environment.**

**EC.04.01.01 (1)**

The hospital establishes processes for continually monitoring, internally reporting, and investigating utility systems management problems, failures, or user errors.

Processes are in place to continuously monitor, internally report, and investigate utility systems management problems, failures, and user errors.

**EC.04.01.01 (11)**

Based on its processes, the hospital reports and investigates utility systems management problems, failures, or user errors.

The Director of Facilities Services (CC) or Director of Facilities Management (MHD) are notified of all utility system problems, failures, and user errors. Notification of problems and failures can come from calls from supervisors or mechanics or from calls in to the Operations Control Center, which are logged and reported. Public and private utility service failures are reported from the utility entities to leadership in Facilities Management and/or to the Energy Manager. As Chair of the Utility Systems Management Sub-committee, the Director of Facilities Management leads the investigations into utility systems management problems, failures, and user errors and reports on these matters in the Utility Systems Management Sub-committee meetings. Quarterly reports including reporting on problems, failures, and user errors are also prepared and presented to the Environment of Care Executive Safety Committee.

**EC.04.01.01 (15)**

Every 12 months, the hospital evaluates each environment of care management plan, including a review of the plan's objectives, scope, performance, and effectiveness.

The Director of Facilities Services, as chair of the Utility Systems Sub-committee leads the sub-committee in an annual evaluation of the Utility Systems Management Plan in terms of its objectives, scope, performance, and effectiveness. The sub-committee analyzes the findings of the annual review and determines priorities for performance improvement and develops measures designed to improve the effectiveness of the program. A final report of the findings is reported to the Environment of Care Committee, which is forwarded to Administration. Throughout the year, action plans are developed and implemented to achieve established performance goals which were developed to improve the effectiveness of the execution of the Utility Systems Management Plan.

## **ORIENTATION AND EDUCATION**

### **A. New employee orientation**

Orientation and education for new employees who use and/or maintain utility systems is managed and documented through department education. This training includes, but is not limited to:

- System capabilities, limitations, and special applications
- Emergency procedures for system failure
- Maintenance procedures as appropriate
- Location and use of emergency shut off controls
- Processes for reporting problems, failures, and user errors

### **B. Annual continuing education**

Annual continuing education is primarily based on the organization's ongoing experience. It addresses utilities and operating procedures that are new, have changed significantly during the year, or have had a series of problems, failures, or user errors that have or may have an adverse effect on patient safety and/or the quality of care. Health and safety training is administered and documented using the on-line Healthstream system.

### **C. Department specific training**

Information and skill levels required for maintaining utility systems and components will also be provided through the orientation and education programs. Training shall occur prior to initial use. Training programs may include technical manuals, diagrams, or specific training. Training records are retained in the individual employee files in the Facilities Management offices at both Center City and Methodist.

### **D. Contract employees**

Contractors must provide evidence of prior training and certifications as required by TJUH, Code or AHJ.

## **PROGRAM EFFECTIVENESS**

The annual evaluation of the Utility Systems Management Program will include a review of the scope according to the current Joint Commission standards to evaluate the degree in which the program meets accreditation standards and the current risk assessment of the hospital. A comparison of the expectations and actual results of the program will be evaluated to determine if the goals and objectives of the program were met. The overall performance of the program will be reviewed by evaluating the results of performance improvement outcomes. The overall effectiveness of the program will be evaluated by determining the degree that expectations were met.

The performance and effectiveness of the Utility Systems Management Program will be reviewed by the Environment of Care Committee.

## PERFORMANCE MONITORING

The following performance measures are established for 2014:

### **PM Completion Rate on Utility Components or Systems**

Compliance will be monitored monthly. The numerator is the number of inspections (PMs) completed by maintenance within the month and the denominator is the number of inspections (PMs) due by maintenance per month. Monthly results will be reported to the Utility Systems Sub-committee for review and quarterly to the Environment of Care Committee. Compliance goals are as follows:

- Life Support (Critical direct Patient Impact) Utility Systems – Goal 100%
- Non-Critical Utility Systems – Goal 90%

### **Quarterly Differential Pressure Testing of Special Environment Areas**

The sample size for completion rate is the number of special environment pressure differential tests planned for the period. Compliance will be monitored and reported monthly. The numerator is the number of inspections performed per month. The denominator is the number of inspections due per month based on the plan for the year. Monthly results will be reported to the Utility Systems Sub-committee for review and quarterly to the Environment of Care Committee. The goal is 100% calibration testing for special environment/isolation room spaces for each quarter based on the annual plan. This goal is based on past years reporting data and request by Infection Control to monitor areas quarterly vs. annually.

### **Domestic water sampling**

The sample size for completion rate is the number of areas tested for biologic pathogens due, which has been established as 60 random samples (Semi-annually for both types of systems). Compliance will be monitored semi-annually at all locations. The numerator is the number of inspections performed semi-annually and the denominator is the number of inspections due semi-annually (60). All “failed” results will be remediated and retested in a timely manner. Semi-annual results will be reported to the Utility Systems Sub-committee, Infection Control Department and quarterly to the Environment of Care Committee.

Additionally, the following items will be monitored and reported throughout the year:

### **Steam Utility Failures**

Based on recent past history the reliability of our steam utility has seen either total failure or partial service during critical winter months. This is being tracked by the reporting of Utility Failures caused by the vendor to provide a basis for follow up with the vendor to improve reliability.

### **Air Handler Reliability**

Based on run time and daily reporting data provided by the Building Automation system in order to capture reliability to an aging group of equipment so as to adjust P.M. rates and schedule preemptive repairs or upgrades in either operating or capital budgets. Reliability of Air Handlers will be tracked based on the number of incidences of malfunction and based on the percentage of operation vs. out of service.

## ANNUAL EVALUATION

The annual evaluation of the Utility Systems Management Program will include a review of the scope according to the current Joint Commission standards to evaluate the degree in which the program meets accreditation standards and the current risk assessment of the hospital. A comparison of the expectations and actual results of the program will be evaluated to determine if the goals and objectives of the program were met. The overall performance of the program will be reviewed by considering compliance to each standard and element of performance. The overall effectiveness of the program will be evaluated in part by reviewing the outcomes of performance improvement measures.

The performance and effectiveness of the Utility Systems Management Program will also be reviewed by the Environment of Care Committee.

Reviewed and submitted:

Dan L. Vallieu  
Chair, Utility Systems Sub-committee  
Director, Facilities Management TJUH C.C.