



## Facilities Maintenance Standards

---

### Purpose

The purpose of these standards is to outline the minimum requirements for maintaining state-owned facilities and infrastructures in a manner that will maximize the usefulness and cost effectiveness of these facilities in enhancing the quality of life of Utah state employees, citizens, and visitors. Additional work may be required to satisfy code or statutory requirements.

All agencies and institutions shall comply and will be audited against these standards by the Division of Facilities Construction and Management (DFCM). Exempt agencies are to review their maintenance programs against these standards and to report the degree of compliance for each of their individual building levels or complexes to the Legislature through DFCM.

All Agencies and institutions shall comply with the adopted editions of the International Building Code, International Fire Code, and other applicable codes in all new construction, remodels, or additions to existing facilities. All Agencies and institutions shall follow the requirements of Occupational Safety and Health Administration (OSHA) and Utah Occupational Safety and Health (UOSH).

---

### 1. Documentation and Reporting

- 1.1. As Built Drawings and Operations and Maintenance Manuals
  - 1.1.1. At least one copy of the Operations and Maintenance Manuals shall be maintained at the facility or complex. Electronic or hard copies are acceptable.
  - 1.1.2. At least one copy of the architectural, mechanical, and electrical as-built drawings shall be maintained at the facility or complex. Electronic or hard copies are acceptable.
  - 1.1.3. A mechanism shall be provided whereby as-built drawings are promptly updated upon changes in the structural, mechanical, electrical, or plumbing systems.
  - 1.1.4. As-built drawings shall be reviewed periodically to ensure that they reflect the current building or infrastructure configuration to be maintained at the facility or complex.
  - 1.1.5. Reserve electronic or hard copies of all building documentation shall be archived in an appropriate and separate location from the facility.
  - 1.1.6. Customer service surveys shall be made available onsite.
- 1.2. The agency and institution shall report to DFCM the current and accurate O&M costs tracked to the individual building level for any facility measuring 3,000 GSF or greater. Locations consisting of multiple facilities that individually do not meet the minimum GSF requirement shall be required to report O&M costs at the campus/complex level. Individual building O&M costs shall be reported by October 1st of each year.





---

### **3. Computerized Maintenance Management Systems (CMMS)**

#### **3.1. Corrective Maintenance**

- 3.1.1.** Corrective or reactive maintenance problems shall be reported to and logged promptly by the maintenance department in the CMMS which shall create a digital record of the requests.
- 3.1.2.** The CMMS system shall capture the following information in regards to maintenance requests and shall be able to create reports that clearly display this information by work order, by asset, or by property/building, by technician and where appropriate by campus.
  - 3.1.2.1.** Date of the request
  - 3.1.2.2.** Category of repair: mechanical, plumbing, electrical, fire life safety, security, etc. This is not an inclusive list; each facilities team should create categories for their needs. Some agencies may also want sub-categories layered below the main categories.
  - 3.1.2.3.** Priority of request: as an example, an emergency (fire/flood/ major security issue), some time that day, within three days, within a week, as time allows. This is an example of a priority system and each facilities team should work within their CMMS to create a clear prioritization structure.
  - 3.1.2.4.** Description of the work being requested. Each agency should determine what pertinent information needs to be gathered at the initial request to support an efficient work process for the facilities team.
  - 3.1.2.5.** The shop and/or technician to which the work is assigned. The assignment of technician may happen after the shop assignment at the initial request, but the information should be captured in the CMMS.
  - 3.1.2.6.** The cost of the work once completed, including the time the technician spent on the work order.
  - 3.1.2.7.** The date the work was completed.
  - 3.1.2.8.** All notes added to the work as it moved through to completion.
- 3.1.3.** Maintenance backlogs on the facility or infrastructure shall be regularly reviewed and older requests processed so that no request goes unheeded, and all requests are acted upon in a timely manner. Work orders older than 30 days will require a note or description as to why it is not complete, such as waiting for materials. It is at the discretion of the facilities team how much detail is required to be added, but there should be enough information on why the work is being delayed.
- 3.1.4.** A priority system, as noted in 3.1.2.3, for corrective maintenance shall be established so that maintenance work is accomplished in a way that



maximizes resources and minimizes wear or damage to the assets, and minimizes disruption to the building users.

**3.2. Preventive Maintenance**

- 3.2.1.** State facilities managers shall use a CMMS to automate preventive maintenance scheduling.
- 3.2.2.** All equipment including chillers, boilers, air handlers and associated controls, air compressors, restroom exhaust fans, domestic hot water circulating pumps, automatic door operators, temperature control devices, shall be on a computer based preventive maintenance schedule. The frequency of preventive maintenance procedures shall be determined by manufacturer's recommendations and local craft expertise and site-specific conditions.
- 3.2.3.** A filter maintenance schedule shall be established for HVAC filters and a record of filter changes maintained.
- 3.2.4.** Preventive maintenance work orders shall be issued for both contract and in house preventive maintenance and the completion of the prescribed maintenance requirements documented.
- 3.2.5.** Emergency generators shall be test run at least monthly. If test runs are not automatic, records of these test runs shall be maintained at the site. At least yearly, the transfer from outside power to emergency power shall be scheduled and successfully performed.
- 3.2.6.** All interior and exterior spaces should be kept clean, accessible and organized.

**3.3. Maintenance work completed by contractors needs to be recorded, either through the CMMS with a work order creation, or through a contracting process that can be reviewed by the building auditor if requested. Invoices may be requested.**

---

**4. Boilers.**

**4.1. Steam Boilers.**

- 4.1.1.** Steam boilers shall be checked daily when operational or on an automated tracking system.
- 4.1.2.** Low water cut off devices shall be checked for actual boiler shut down at the beginning of the heating season and at least quarterly thereafter by duplicating an actual low-water condition.
- 4.1.3.** All boiler relief valves shall be tested for proper operation at least annually.
- 4.1.4.** A record of these tests shall be maintained near the location of the boiler.
- 4.1.5.** A daily log of the operating parameters shall be maintained on boilers when they are operational to include pressures, temperatures, water levels, condition of makeup and boiler feed water, and name of individual checking parameters.



#### **4.2. Hot Water And Steam Boilers**

- 4.2.1.** All boilers 200,000 BTUs and over shall receive inspections and certification as required from an authorized state agent or insurance inspector. The certificate of compliance shall be maintained at the boiler.
- 4.2.2.** Monthly tests of boiler water pH and Total Dissolved Solids shall constitute the basis upon which to add water treatment chemicals. A log of these tests shall be maintained in the boiler room.

---

### **5. Life Safety**

- 5.1.** All elevators shall receive regular inspections and maintenance by certified elevator maintenance contractors. Records of such maintenance shall be maintained at the site. Telephones within elevators shall be checked monthly for proper operation.
  - 5.1.1.** All elevators shall have current Permits to Operate posted near the elevator equipment room or available on site as required by the Utah State Labor Commission.
- 5.2.** Fire Protection Equipment
  - 5.2.1.** Detection and notification systems including control panel, smoke detection devices, heat sensing devices, strobe alarm lights, audible alarm indicating devices, phone line communication module, shall be inspected annually and tested for operation at least semi-annually by a properly certified technician. A record of these inspections shall be maintained and the FACP needs to be properly tagged as required by the Utah State Fire Marshal.
  - 5.2.2.** Halon or Ansul pre-action systems shall be inspected and tested by a certified inspector semi-annually to ensure their readiness in the event of a fire. Testing and inspection of these systems shall be documented.
  - 5.2.3.** Fire extinguishers shall be inspected monthly and tagged annually by a certified inspector and all tags should be properly and legibly completed.
  - 5.2.4.** Automatic fire sprinkler systems, standpipes, and fire pumps shall be inspected annually by a certified technician. Tags should be properly and completely filled out including the type of inspection, month and year those inspections were performed, the person who performed the inspection, and the certificate of registration number of the person performing the inspection.
- 5.3.** Uninterruptible power supply systems for data processing centers shall be inspected and tested appropriately to ensure their readiness in the event of external power interruptions. Maintenance on these systems shall be documented.
- 5.4.** Emergency directional and exit devices including exit signs, emergency lights, ADA assist equipment, alarm communicators, shall be inspected at least quarterly for proper operation.



- 5.5. Intrusion alarm systems that communicate via phone line shall be tested monthly to ensure proper operation.
- 

## **6. Air Conditioning and Refrigerated Equipment.**

### **6.1. Chillers.**

- 6.1.1. A daily log or computerized log of important data including chilled water supply and return temperature, condenser water supply and return temperature, current draw, outside air temperature, oil level and pressure, should be kept, and the information trended to identify changes in the system operation. The causes of change should then be determined and corrected to prevent possible system damage.
- 6.1.2. The systems shall be leak checked on a quarterly basis during the operating season and once during the winter.
- 6.1.3. A factory-trained or other qualified technician should perform a service inspection annually to include an oil analysis by a third party. Any abnormal results should be discussed with the chiller manufacturer to determine a proper course of action.
- 6.1.4. Chillers shall not be permitted to leak more than 15% of their total charge annually. Losses exceeding this amount are in violation of the law and may result in costly fines.
- 6.1.5. Should refrigerant need to be added to a system, document the amount of refrigerant added; the cause of the loss; and type of repairs done.
- 6.1.6. An adequate supply of refrigerant for the uninterrupted operation of existing CFC chillers shall be maintained until the chiller is converted or replaced. Examples of CFCs are R11, R12, R113, R502.
- 6.1.7. Maintenance personnel that perform work other than daily logs and visual inspections on CFC chillers or refrigeration equipment containing CFCs or HCFCs must by law have an EPA certification matching the type of equipment being serviced.
- 6.1.8. The condition of refrigerant cooling water systems such as cooling towers shall be checked visually at least weekly for algae growth and scaling and appropriate treatment administered.

### **6.2. Roof Top and Package Units.**

- 6.2.1. Annually check and clean as needed the condenser coil and evaporator coil.
- 6.2.2. The following preventive maintenance items shall be completed annually: tighten belts, oil motors, leak check, clean evaporator pans and drains.
- 6.2.3. Quarterly check filters and replace where necessary.

### **6.3. Small Refrigerated Equipment.**

- 6.3.1. Annually clean condenser coil.
- 6.3.2. Annually oil the condenser fan motor and visually inspect the equipment and make necessary repairs as needed.
- 

## **7. Plumbing.**

- 7.1. All Backflow Prevention Devices shall be tested by a certified technician at least annually and proper documentation shall be filed with the appropriate agency. Proper documentation shall be kept on site and readily available.



- 7.2. Cross-connection control shall be provided on any water operated equipment or mechanism using water treating chemicals or substances that may cause pollution or contamination of domestic water supply.
- 7.3. Any water system containing storage water heating equipment shall be provided with an approved, UL listed, adequately sized combination temperature and pressure relief valve and must also be seismically strapped.
- 7.4. Pressure vessels must be tested annually or as required and all certificates must be kept current and available on site.
- 7.5. If the backflow prevention device is tagged, the tag shall be current.

---

## **8. Electrical Systems.**

- 8.1. All electrical panels and transformers shall have a thermal-scan test performed biennially on all components to identify hot spots or abnormal temperatures. The results of the test shall be documented.
- 8.2. A clearance of three feet, or as required by NEC shall be maintained around all electrical panels and electrical rooms shall not be used for general storage.
- 8.3. Every electrical panel shall be properly labeled identifying the following: panel identifier; area being serviced by each individual breaker; and equipment being serviced by each breaker or disconnect.
- 8.4. All pull boxes, junction boxes, electrical termination boxes shall have proper covers in place and panels accessible to persons other than maintenance personnel shall remain locked to guard against vandalism or personal injury.
- 8.5. Only qualified electrical personnel shall be permitted to work on electrical equipment.

---

## **9. Roofing**

- 9.1. Roofs will be inspected in the spring and fall and after every major storm event. Inspections shall be recorded in the CMMS. For questions or concerns contact the DFCM Roofing Program Manager.
  - 9.1.1. Roofs will be kept free of debris
  - 9.1.2. Ponding water shall be corrected. Ponding water is anything that will remain on the roof after 48 hours.
  - 9.1.3. All equipment is permanently mounted. Nothing resting on the membrane is permitted.
  - 9.1.4. Roof warranty information shall be available.
  - 9.1.5. Roof access is required to be secure.
  - 9.1.6. Inspections will include all exterior cladding.

---

## **10. Paving**

- 10.1. All Parking lots, sidewalks, curbs, gutters, storm drains, and ADA ramps will be inspected no less than annually. Inspections shall be recorded in the CMMS. For questions or concerns contact the DFCM Paving Program Manager.
  - 10.1.1. All Parking lots, sidewalks, curbs, gutters, storm drains, and ADA ramps shall be clean and free of debris
  - 10.1.2. Striping shall be visible and in good condition.
  - 10.1.3. ADA compliant signage shall be installed and in good repair.
  - 10.1.4. Handrails shall be checked for stability and kept in good repair
  - 10.1.5. Manhole covers and valve box covers shall be installed and in good repair.
  - 10.1.6. Parking bumper blocks shall be secure and in good repair.



**10.1.7.** Parking lot lighting shall be in working condition.

---

**11. Hazmat**

- 11.1.** Any activity involving demolition, cutting or any other activity that could make building material friable, create dust or fumes requires that a hazmat survey has been conducted on the material being affected and is on site. For questions or concerns contact the DFCM Hazmat Program Manager.
- 

**12. Grounds**

- 12.1.** General Ground Maintenance – Grounds shall be maintained with a clean appearance. This includes mowing and weeding where appropriate.
- 

**13. Building Inspections**

- 13.1.** General – Following any significant event, including earthquakes (especially those above magnitude 4 or 5), severe weather, or accidents that could compromise building integrity, it is imperative that all buildings undergo inspection.
- 13.2.** Licensed Engineers should be engaged to review any Mechanical, Electrical, or Structural concerns identified during these inspections. Any concerns or potential losses must be reported to Risk Management without delay.  
Contact DFCM if support or assistance is needed on the above inspections.
- 13.3.** A post-earthquake inspection by a qualified engineer should be undertaken for facilities with any evidence of damage following an earthquake, regardless of magnitude or distance from the epicenter. Facilities within a 25 mile radius of the epicenter of an earthquake having a magnitude of 4.0 or greater shall be thoroughly examined by facilities personnel who are familiar with the building. Upon discovery of damage potentially caused by the earthquake, a qualified engineer should be retained to review and comment on the apparent damage. An earthquake sufficiently large to trigger a declared state of emergency within a specified region by the authority having jurisdiction will automatically trigger a prohibition of re-entry. All buildings within the region will require a post-earthquake assessment in accordance with ATC-20 Protocol. This assessment must be performed by individuals holding the appropriate credentials for such assessments. Following the assessment, the reviewer will placard the building with instructions regarding the potential for re-occupancy.  
Contact DFCM if support or assistance is needed on the above inspections.
- 

**14. Preventative Maintenance Audit and Inspections**

- 14.1.** Facilities shall receive a detailed and comprehensive maintenance audit no less than every 2 years. The audit shall include HVAC filter condition, mechanical room cleanliness and condition, corrective and preventive maintenance programs, facility condition, ADA compliance, level of performance of the janitorial service, condition of the grounds, and a recent customer service survey to determine the level of user satisfaction with the facility, facility management and maintenance services.
- 14.2.** A copy of the audit shall be maintained at the facility. The Audit will be reviewed and a copy sent to facility management.
- 14.3.** State Risk Management sends out random building Risk Assessments that are required to be returned to Risk Management. Corrections should be made in a timely manner as requested by Risk Management.
- 14.4.** The Audit will verify that the facility is following the Risk Management requirements for insurability. See R37-1



- 14.5. Periodic inspections of facilities may be requested by local fire departments and the identified deficiencies promptly corrected. These inspections and corrections shall be documented and kept on file at the facility.
- 14.6. All State facilities over 3,000 sq. ft. or over \$1,500,000 in value will have an Audit performed.
  - 14.6.1. In the case of a complex with multiple buildings under 3,000 sq. ft., the entire complex will be assessed on a cumulative sq. ft. or value basis under one Audit.
- 14.7. Agencies shall comply with specific recommendations made in the preventive maintenance audit report within 90 days. Failure to comply may result in a report being made to the director. DFCM inspectors may schedule follow-up site visits to verify compliance.

---

**15. Indoor Air Quality and Energy Management.**

- 15.1. Indoor air quality shall be maintained within pertinent ASHRAE, OSHA, and State of Utah guidelines.
- 15.2. All individual building utility costs such as gas, electric, and water at facilities shall be metered and reported back to the director by October 1 of each year and made available at the facility so that energy usage can be accurately determined and optimized.
- 15.3. Based on the ongoing analysis of energy usage, appropriate energy conservation measures shall be budgeted for, implemented, and the resulting energy savings documented.

---

**16. Additional Resources**

- 16.1. The following documents shall be on hand at the facility maintenance office or where applicable:
  - 16.1.1. SDS (Safety Data Sheets)
  - 16.1.2. Lead and Asbestos Awareness Program
  - 16.1.3. A Laboratory Hygiene Program
  - 16.1.4. A Lockout or Tagout Program
  - 16.1.5. A Blood Borne Pathogen Program.
  - 16.1.6. An Emergency Management Plan to include emergency evacuation and disaster recovery;and
  - 16.1.7. A Respirator Program
  - 16.1.8. Hearing Conservation Program
  - 16.1.9. Confined Space Permit Program
  - 16.1.10. Hot Works Permit Program

---

**17. Facility Condition Assessment Inspections.**

- 17.1. The objective data delivered by an FCA should accurately quantify and strategically prioritize deferred maintenance and capital renewal needs. When done properly, defensible information is received to advocate for limited investment resources and prioritizing within these limited budgets. These results can exist as a communication tool between those responsible for maintaining facilities and the decision makers they report to.
  - 17.1.1. Every five years the facility shall be inspected and evaluated by an Architect/Engineer (A/E), qualified third party or qualified in-house



personnel to determine structural and infrastructural maintenance and preventive maintenance needs.

- 17.1.2.** The inspection and evaluation will include roofing, paving, structural integrity and building cladding and may include interior and exterior painting, foundations, walls, carpeting, windows, doors, ADA and OSHA compliance, brick work, landscaping, sidewalks, and exterior surface cleanliness.
- 17.1.3.** The mechanical and electrical evaluation shall include the HVAC systems, plumbing systems, security, fire prevention and warning systems, electrical distribution systems including emergency power systems.
- 17.1.4.** The inspection shall be documented and shall serve as a basis for budgeting for needed capital improvements.
- 17.1.5.** A pre-survey questionnaire is required for all Facility Condition Assessments- whether it is done in-house or by a 3<sup>rd</sup> party.
- 17.1.6.** The person conducting the Facility Condition Assessment will have access and be escorted by maintenance employees that are knowledgeable of each of the systems being inspected.
- 17.1.7.** Facilities will be evaluated to Uniformat Levels 1-4 depending on the system. Each system will have a detailed narrative that describes the system, age and condition and recent repairs or upgrades.
- 17.1.7.1.** Uniformat levels of inspection required:

- A Substructure

- A10 Foundations

- A1010 Standard Foundations

- A1020 Special Foundations

- A1030 Slab on Grade

- A20 Basement Construction

- A2020 Basement Walls

- B Shell

- B10 Super Structure

- B1010 Floor Construction

- B1020 Roof Construction

- B1030 Structural Frame

- B20 Exterior Enclosure

- B2010 Exterior Walls

- B2020 Exterior Windows

- B2030 Exterior Doors

- B2034 Overhead Doors

- B30 Roofing

- B3010 Roof Coverings

- B3020 Roof Openings

- C Interiors

- C10 Interior Construction

- C1010 Partitions



- C1020 Interior Doors
- C20 Stairs
- C30 Interior Finishes
  - C3010 Wall Finishes
  - C3020 Floor Finishes
  - C3030 Ceiling Finishes
- D Services
  - D10 Conveying
    - D1010 Elevators & Lifts
      - D1011 Passenger Elevators
      - D1012 Freight Elevators
    - D1020 Escalators & Moving Walks
    - D1090 Other Conveying Systems
      - D1094 Conveyors
  - D20 Plumbing
    - D2010 Plumbing Fixtures
    - D2020 Domestic Water Distribution
    - D2030 Sanitary Waste
    - D2040 Rain Water Drainage
    - D2090 Other Plumbing Systems
  - D30 HVAC
    - D3010 Energy Supply
    - D3020 Heat Generating Systems
      - D3021 Boilers
    - D3030 Cooling Generating Systems
      - D3031 Chilled Water Systems
    - D3040 Distribution Systems
      - D3041 Air Distribution Systems
      - D3042 Exhaust Ventilation Systems
      - D3043 Steam Distribution Systems
      - D3044 Hot Water Distribution
      - D3045 Chilled Water Distribution Systems
    - D3050 Terminal & Package Units
      - D3051 Terminal Self-Contained Units
      - D3052 Package Units
      - D3053 Split-Systems
    - D3060 Controls & Instrumentation
      - D3063 Heating/Cooling Air Handling Units
      - D3068 Building Automation Systems
    - D3090 Other HVAC Systems & Equipment
      - D3093 Dust & Fume Collectors
  - D40 Fire Protection



- D4010 Sprinklers
- D4020 Standpipes
- D4030 Fire Protection Specialties
- D4090 Other Fire Protection Systems
  - D4091 Carbon Dioxide Systems
- D50 Electrical
  - D5010 Electrical Service & Distribution
  - D5020 Lighting & Branch Wiring
    - D5022 Lighting Equipment
  - D5030 Communications & Security
    - D5037 Fire Alarm Systems
  - D5090 Other Electrical System
    - D5092 Emergency Light & Power Systems
- F Special Construction
  - F10 Special Construction
    - F1010 Special Structures
- G Building Sitework
  - G20 Site Improvements
    - G2010 Roadways
    - G2020 Parking Lots
    - G2030 Pedestrian Paving
    - G2040 Site Development
  - G30 Site Mechanical Utilities
    - G3010 Water Supply
    - G3020 Sanitary Sewer
      - G3023 Septic Disposal Systems
      - G3024 Lift Stations
    - G3030 Storm Sewer
      - G3034 Lift Stations
    - G3040 Heating Distribution
      - G3041 Steam Supply
    - G3050 Cooling Distribution
    - G3060 Fuel Distributions
  - G40 Site Electrical Utilities
    - G4010 Electrical Distribution
    - G4020 Site Lighting
      - G4024 Site Lighting Controls
    - G4030 Site Communication & Security
    - G4090 Other Site Electrical Utilities
      - G4092 Site Emergency Power Generation

**17.1.8.** Facility Condition Assessment will provide projections for a 10 year period. Immediate needs, 1-2 year needs, 3-5 year needs, 6-10 year needs. The



main focus of FCA should be 1-5 year needs. Focus should be on major systems and utilities

- 17.1.9.** All FCA information will be uploaded into a FCA Program as determined by DFCM, Each State Agency and institution will be given access. Capital Improvement requests will be requested and documented in this Program.
  - 17.1.10.** All State facilities over 3,000 sq. ft. or over \$1,500,000 in value will have FCA's performed.
    - 17.1.10.1.** In the case of a complex with multiple buildings under 3,000 sq. ft., the entire complex will be assessed on a cumulative sq. ft. or value basis under one Audit.
  - 17.1.11.** FCA shall include Seismic information – This shall be a preliminary seismic risk screening based on Occupancy, Construction year, and UBC Seismic zone.
  - 17.1.12.** Buildings constructed within the last 20 years are deemed sufficiently compliant with contemporary code provisions that earthquake assessment is unnecessary. For buildings more than 20 years old, routine maintenance should include a Rapid Visual Screening (RVS) Assessment in accordance with FEMA 154 Protocol. This is a screening assessment generally meant to assess the potential for collapse in a significant earthquake. Facilities scoring lower than 2.0 (scoring is based on a range of 0 to 7.0) should be deemed vulnerable and further, more thorough seismic assessment should be undertaken.
- 17.2.** ASTM E2018-15 should be used for a baseline for the condition assessment process.
- 

## **18. Available DFCM Maintenance Management Services**

- 18.1.** DFCM can provide certain maintenance management, energy management, and preventive maintenance services to agencies at cost. The following services are available:
  - 18.1.1.** Maintenance management consulting
  - 18.1.2.** Additional maintenance audits of facilities
  - 18.1.3.** Energy management audits and energy management consulting

Last updated: 01/07/2026