

MANUAL: Facilities Services
TITLE: Freeze Preparation
RESP: Assoc. Vice Chancellor – Facilities Services
REV. BY: Director Support Services – Facilities Services

PROC. NO: FS-PR-3.27
ORIG. DATE: 12/16/2021
EFF. DATE: 2/18/2022

SCOPE

The Facilities Services department will maintain procedural guidance to ensure continuity of business operation and continued operational performance in the event of freezing temperatures which may or may not include snow and ice. During freezing weather, a variety of potential of unforeseen emergencies can occur. Some of those emergencies can include: power outages, broken pipes, and slip and trip hazards.

Assuring resources are available to continue operational support of College activities and management of physical assets is essential. Resources may include but are not limited to, buildings, personnel, equipment and vehicle checks, documentation and data, utilities, contracted services, warehouse stores, and funding.

This procedure will provide general guidance to maintain operational support of the physical assets necessary to prepare for freezing weather.

DEFINITIONS

Facilities Services – The Facilities Services department’s objective is to serve the College community by providing a safe, comfortable, clean and aesthetically pleasing environment for our College students, faculty, staff and visitors. The Facilities department addresses operational support for the College physical resources and manages MEP infrastructure and equipment.

Energy Management – Management and control of systems supporting major and minor utilities systems. This includes not only utilities contracts, but also automated controls for heating, air conditioning, and lighting.

Continuity of Business Operations – The development of plans, procedures, and provisions for the utilization of personnel, resources, and processes to ensure continued operational tempo during situations which impact normal operational model.

Resources – Those items used in order to fulfill Facilities Services responsibilities. These include, but are not limited to: vehicles, equipment, building assets, material and parts, utilities, technology, informational tools, contracted services, and funding.

Processes - Practiced and proven policy, procedures, guidance, and instruction usually in the form of written procedure. This can live at the Facilities Services level or at other levels within or exterior to the institution.

Freeze – Temperatures below 32 degrees Fahrenheit for a period of 24 hours or more.

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Hard Freeze – Temperatures below 28 degrees Fahrenheit overnight or longer.

Trigger Points – Those weather phenomena and resulting infrastructure changes that might initiate a response to winter weather operations, freeze preparation, and prevention activities. This might include hard freezes, freeze for an extended period, freezing rain, high winds, and/or power outage in freezing temperatures.

ROLES AND RESPONSIBILITIES

Associate Vice Chancellor of Facilities Services – Overall responsibility for continuity of operations and providing for a safe, comfortable, clean and aesthetically pleasing environment for our College students, faculty, staff and visitors.

Associate Vice Chancellor of Fiscal Initiatives – Responsible for automated energy management systems and operations of utilities control.

Director Facilities Energy Management – Responsible for the management and operability of automated air conditioning and lighting systems, as well as, utility contracts.

Facilities Operations Director – Responsible for management of resources in support of continued College operations.

Trades Supervisor – Responsible for ensuring proper adherence to procedures and utilization of available resources to provide for scheduling, execution, and closure of work order tasks.

Crisis Management Team – Provides for complete command and control authority for the management and mitigation of events and circumstances impacting the College due to natural causes. Primarily driven through Office of Emergency Management.

PROCEDURES

- I. Equipment Operation and Periodic Maintenance.
 - i. PMs provide for relative assurance of continued operations
 - i. Provide for functionality of equipment
 - ii. Assures operation of system in normal power on circumstances.

- II. Upon determination of need, based on weather trigger points, the Office of Emergency Management, Energy Management, and Facilities Services Operations will convene a meeting and establish the appropriate plan of action.

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- i. Energy Management will send appropriate communications to applicable College leadership.
 - ii. Energy Management and Facilities Operations initiate Freeze Preparation activities.
- III. Freeze Preparation in a **power on** environment. Also see appendices.
- i. Trigger points include forecast freezing temperatures of 32 degrees overnight and temperatures below 28 degrees for extended periods of time.
 - i. Run hot water throughout the loop feeding all AHU that have hot water coils. **(Power On)**
 - ii. Run chilled water throughout the loop utilizing secondary pumps feeding all AHU with a 20% open valve. **(Power On)**
 - iii. Run all cooling towers **(Power On)**
 - iv. Insulation has already been checked and has been added as needed for cooling tower feeds.
 - v. South new plant, Central plant, and North main plant run primary pumps to ensure chiller tubes do not freeze. **(Power On)**
 - vi. CIT and 35acres have a heating system in the plant. **(Power On)**
 - vii. Also checking for any exposed piping not listed above.
 - viii. Walking exterior of all buildings and inspecting hose bibs and insulate as needed.
 - ix. Drain any exterior eye washes.
 - x. Insulate all exposed water lines (turn off and drain if possible).
 - xi. Turn off and drain all backflows and insulate if needed.
 - xii. Isolate, drain and insulate all irrigation PVB and RPZ units.
 - xiii. Insulate Fire PRZ and FDC.
 - xiv. Water the sports fields.
 - xv. Water container nursery stock and move indoors where possible.
 - xvi. Move unprotected equipment indoors.
- IV. If **power is lost** or anticipated to fail, then review and address the following freeze preparation tasks. Also see appendices.
- i. Common Trigger points as above but also include freezing rain and / or high wind forecasts and direct or announced power outage.
 - i. Insulation has already been checked and has been added as needed for cooling tower feeds.
 - ii. Checking for any exposed piping.
 - iii. Walking exterior of all buildings and inspecting hose bibs and insulate as needed.
 - iv. Drain any exterior eye washes.

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- v. Insulate all exposed water lines (turn off and drain if possible).
 - vi. Turn off and drain all backflows and insulate if needed.
 - vii. Isolate, drain and insulate all irrigation PVB and RPZ units.
 - viii. Insulate Fire PRZ and FDC.
 - ix. Water the sports fields.
 - x. Water container nursery stock and move indoors where possible.
 - xi. Move unprotected equipment indoors.
- V. Recommissioning of systems after a freeze response is managed following appropriate pre-recommissioning activities.
- i. Assessment of systems to determine post freeze condition.
 - ii. Meeting to review assessment results.
 - iii. Decision to recommission.
 - i. Addressed by way of the Recommissioning of a Chilled Water System document. See Appendices.
 - a. Steps taken in accordance with recommissioning document.
 - b. Coordinated between Mechanical, Plumbing, and Energy Management groups.
 - ii. Communicate with leadership the recommissioning of systems.
- VI. Appendices
- i. Informational Resources
 - i. Checklists
 - a. [Freeze Preparation Power On](#)
 - b. [Freeze Preparation Power Off](#)
 - ii. [Prioritized Equipment List](#)
 - iii. [Recommissioning of Chilled Water System](#)