Technical Guidance Document

Freeze-Ups

Freeze-ups can cause significant damage to plumbing, HVAC systems, and other critical infrastructure by causing pipes to burst, heating systems to fail, and other costly issues that are often exacerbated during unoccupied hours (e.g., after hours, over extended vacation periods). By taking a few proactive steps now, you can protect your facility from the costly consequences of frozen pipes and equipment failure.

1. Inspect Heating Systems

Prior to cold weather:

- Schedule inspection of boilers, furnaces, and heat pumps by qualified personnel.
- Replace air filters and belts for applicable devices to ensure proper airflow and efficiency.
- Clear vents of leaves and debris.
- Test heating equipment as early as possible during the cold season (as temperatures permit).

During cold weather:

- Check thermostat settings to maintain adequate warmth during unoccupied hours.
- Ensure ventilation points are clear of debris and snow to allow proper air circulation.

2. Insulate and Protect Pipes

Prior to cold weather:

- Insulate pipes in unheated areas like basements, crawl spaces, and exterior walls.
- Seal cracks or openings near pipes to block cold air.

During cold weather:

- Allow faucets to drip slightly in vulnerable areas to keep water moving and reduce freeze risk (keep water flowing (especially in exterior walls).

3. Maintain Building Exteriors

Prior to cold weather:

- Clear all drainage lines, basins, field drains, roof drains, gutters, and downspouts.
- Inspect roofs, windows, and weatherstripping for drafts and leaks (Thermal camera can help make this process quick).
- Ensure roof drainage systems are clear to prevent ice buildup.
- Mark roof drains.

During cold weather:

- Inspect roof line for ice dams.
- Check windows, skylights, air intakes, exhaust fans, bay doors, and other building penetrations.

4. Monitor and Control Indoor Temperature

Prior to cold weather:

- Install smart thermostats for remote temperature monitoring.
- Test sensors (battery replacements) if your building uses sensors.
- Use the Building Management System (BMS) to monitor heating system performance, temperature, and humidity, with alerts for significant changes.

During cold weather:

- Set building temperature to a greater value than regular occupancy, and higher than regular setback, even when unoccupied.

5. Prepare Backup Heating

Prior to cold weather:

- Stock up on fuel supplies and have the means to fuel generators.
- Test backup generators to ensure they are functional in case of power outages. This is typically done on a scheduled basis.
- Ensure your backup generator is equipped with a transfer switch to prevent damage to the building's electrical system.