Building Cooling/Heating Switchover: What Should I Expect this Fall?

TRAVIS LENZ
AREA 201 MANAGER, FACILITIES MANAGEMENT
WELCOME TO IOWA

WINTER IS AT 6AM
SPRING STARTS AT 10AM
SUMMER IS AT 2PM
FALL STARTS AROUND 4:30ISH

DRESS ACCORDINGLY
Why Do We Switchover From Cooling to Heating?

- Freeze Protection for AHU coils
- Some buildings cannot provide heating and cooling at the same time due to age of the systems
Two-Pipe HVAC Systems

A two-pipe system uses half the hydronic piping required by a four-pipe system, which results in a lower cost and a shorter installation time. The system is also more compact, reducing the space requirements of mechanical rooms. Maintenance is also simpler in a two-pipe system, thanks to the reduced number of piping fixtures and valves.

The main limitation of a two-pipe HVAC system is lack of operating flexibility. The hydronic piping circuit that runs through the building connects to either the boiler or the chiller depending on overall needs, and all building areas must operate in the same mode; heating some areas while cooling others is not possible with this system configuration.

*These buildings do not typically have air handling units, but rather fan coils or radiant heat
2-Pipe Buildings

- Halsey Hall
- Van Allen
- Phillips Hall
- English-Philosophy Building
- Iowa Memorial Union
- North Pharmacy
- Field House
- Wendell Johnson Speech and Hearing
- Medical Education Building
- Westlawn
- Medical Research Facility
- Medical Research Center
- Jefferson Building (*Treated like a 2-pipe building because of boiler*)

Note: HH, JB, College of Dentistry, and IMU-Hotel have special circumstances that may require an early switchover.
4-Pipe Systems

Four-Pipe HVAC System

This system configuration uses twice as much piping as a two-pipe HVAC system, and thus it is more expensive and takes longer to install. In addition, a four-pipe system requires more space to accommodate two hydronic piping circuits that run through the building. The increased number of fixtures, valves and connection points also results in a more demanding system in terms of maintenance.

*These buildings typically have air handling units that supply conditioned air to the entire building*
Chilled Water Coil Draining

Purpose:
• Offers freeze protection of chilled water coils should we have an event occur

High-Level Procedure:
• Shut coil, drain water
• Flush with glycol to provide freeze protection should any water remain
We have established a data-driven approach based on weather conditions.

Principles for Initiating a Switchover from Cooling to Heating:

- Overnight temperatures are consistently near freezing
- Daytime temperature highs are consistently below 60F - 65F
- Critical spaces will be given higher priority and evaluated on a case-by-case basis
What Should I Expect?

Until buildings have been transitioned to heating mode,
• Cool temperatures in the morning
• Slightly humid air

Once buildings have been transitioned to heating mode,
• Warmer temperatures and drier air in buildings
• Slightly reduced airflow within a 24-hour window while units are off for the switchover
Communication to share:

Send To: Building Coordinators of 2-pipe buildings

Dear Building Coordinators,

As discussed in the October Building Coordinator meeting, we will soon begin the switchover of your 2-pipe system from cooling mode to heating mode. Beginning the week of [insert date], Facilities Management will begin the annual fall process and anticipate swapping the process in to the seat of [insert date].

Here is a timeline for you to use to schedule your building occupants if you would like. Please feel free to modify this timeline for your communication needs.

Please send your building occupants this notice from Facilities Management regarding the seasonal switchover:

Facilities Management will begin the building switchover process from cooling mode to heating mode in November. This means that once the chiller is taken out of service, the building will be heated by a boiler system. This is not the same as the usual chiller system for cooling. Facilities Management schedules this process to coincide with the end of the cooling season. The building will be heated by a boiler system during the daytime and once the building is cool, this process will begin soon.

Please remember that during these transition months, individual comfort is best addressed by varying temperatures in each room or in each individual's workplace. Please request and schedule fan service and close windows, doors, and curtains during cool weather to prevent building temperatures from warming up and causing comfort issues during the transition.

Facilities Management will be working through our building switchover. In addition to other buildings across campus, we will be swapping the 2-pipe system to the 4-pipe system. Thank you for your patience as we work through this transition. If you have any questions or concerns, please contact [insert contact information].

Regards,

[Signature]

Facilities Management
The University of Iowa

Send To: Building Coordinators of 4-pipe buildings

Dear Building Coordinators,

As discussed in the October Building Coordinator meeting, we will soon begin the process of preparing your building for heating season. Beginning the week of [insert date], Facilities Management will begin this process.

Here is a timeline for you to send to your building occupants if you would like. Please feel free to modify this as needed for your communication needs.

Please send this message to your building occupants:

Facilities Management is going to begin the transition process from cooling mode to heating mode in the near future.

Please remember that during these transition months, individual comfort is best addressed by varying temperatures in each room or in each individual's workplace. Please request and schedule fan service and close windows, doors, and curtains during cool weather to prevent building temperatures from warming up and causing comfort issues during the transition.

Facilities Management will be working through our building switchover. In addition to other buildings across campus, we will be swapping the 4-pipe system to the 2-pipe system. Thank you for your patience as we work through this transition. If you have any questions or concerns, please contact [insert contact information].

Regards,

[Signature]

Facilities Management
The University of Iowa
What Can Building Coordinators Do This Fall?

- Remind occupants to please plan to dress in layers during the Fall season to help with comfort!
- Remind occupants to please be patient during the Fall
- Consider asking that temperature portal requests flow through a single point of contact during the Fall to reduce duplication of effort

Thank you for your partnership!