MAC HVAC System Operation

Building Equipment-

A steam converter makes hot water that is circulated throughout the building by electric pumps. There are hot water radiators placed along exterior walls scattered throughout the building , typically under the windows. There are 8 air handling units serving all the spaces in the MAC. These air handlers bring in fresh air and are also used to heat/cool the spaces. Many large rooms have individual air “boxes” (VAVs) that serve them. However, most offices and smaller rooms share these boxes with typically one thermostat in one of the rooms. These VAVs control the amount of air serving a space and reheat the air to desired temperatures. A steam chiller located the building and produces chilled water that is pumped through pipes throughout the building to the air handling units. The air handling units push cool air through ductwork to individual VAVs and the spaces they serve.

Cooling/Heating control-

The heating system is enabled year-round as the heating system used to pump hot water to the heating radiators in the building, is the same pump that delivers hot water to the reheat coils in every VAV air supply box for individual rooms. This reheated air is used to keep spaces from being over cooled during the summer. Because we use the same heating system for reheat and radiation control, we sometimes hear reports of radiators that are hot during the summer. This can happen and indicates a component failure. A work order to Facilities will help us to locate and repair these faulty components.

The process of using air conditioning and chilled water is done manually, this is done in the late winter. It’s a guess as to the correct date this should occur. Typically, for the MAC, Facilities will look for sustained outdoor air temperatures that stay above 45 degrees daily before enabling the chiller. (**NOTE:** A 55- degree day in late February will most likely **not** have the cooling enabled for the season)

Once cooling is enabled for the season, the outdoor air temperatures will need to be above 45 before the chiller starts. At that point, cooling will be enabled to the building.

The set points for an unoccupied room is 65 degrees during the heating season and 82 degrees during the cooling season. Occupied settings for common spaces are 70 degrees during the heating season and 75 degrees during the cooling season.

Occupant comfort control-

Many rooms incorporate a motion sensor to determine whether the space is occupied or not. This will limit the air to the space as well as expand the temperature control set points to the unoccupied settings. Once occupants enter the room, the system will transition to an occupied mode.

Be aware, there is a few minutes of delay as the system reacts to the motion sensor in a newly occupied space. Once activated, it may take your space some time to get the room to your desired temperature. There is a 60-minute delay once no motion is sensed in the room before the space goes to an unoccupied mode.