2 Pipe versus a 4 Pipe System- Heating and Cooling Systems

Or in other words, why can't I have both heat and air as options at the same time?

There are two types of Fan Coil/Unit Ventilator systems, two-pipe and four-pipe. The two or four-pipe designation refers to the water distribution system serving the climate control equipment in a building. For example, a two-pipe system includes only one supply line and only one return line to the unit. Fan coil units and unit ventilators served by a two-pipe system contain only one coil which serves as the heating and cooling coil, depending upon the system. The four-pipe system includes a distribution system that contains both hot water supply with return lines and a chilled water supply with return lines.

Two-pipe systems are less flexible than a four-pipe system. The entire building is in either heating mode or cooling mode. The changeover from heating to cooling or vice versa is made manually, and there is always the possibility that unusual weather patterns might cause some occupant discomfort. Overall, the majority of the buildings on campus are on a two-pipe system. This means when winter starts to set in, the two-pipe system must be switched from cold water to hot water. If the weather changes and it warms up for a few days, the occupants of a two-pipe building could become uncomfortable. The building system could then be switched back to cold water, but the manual switchover requires a couple of days. By the time this is accomplished, the weather could cool off again. So as you can see, when it comes to heating and cooling a space with a two-pipe system, especially in our fluctuating Kentucky weather, it is a guessing game.

Buildings with Two-pipe System:

- MEP Complex
- Sherwood Hall
- Shorter Hall
- Roberts Hall

Buildings with Four-pipe System:

- Legacy Hall
- Plunkett Hall

Buildings with Individual Room Units: Residents control temperature at all times.

- Garden Apartments
- Adams/Winship Apartments
- Orange Street Apartments
- Mercer Hall
- Greek Houses