CASE STUDY
INDUSTRY: **HOSPITALITY**

CUSTOMER: 414 Light Street Apartments

LOCATION: Baltimore, Maryland, U.S.A.

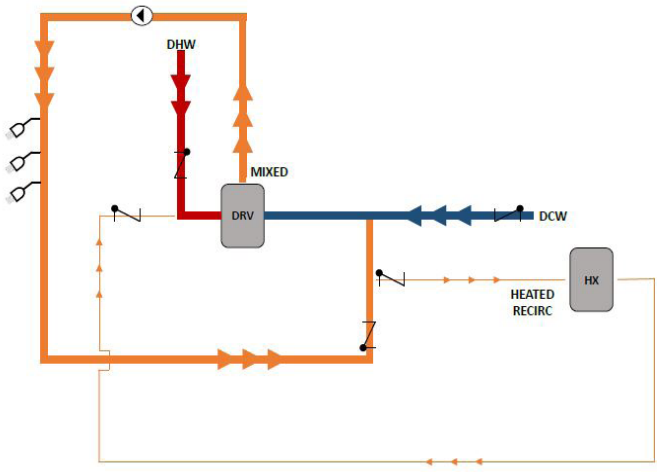
BACKGROUND: Constructed in 2016, 414 Light Street stands 44 stories along Baltimore's Inner Harbor. 414 Light Street expands over 40,000 square feet of living, entertainment and retail amenities inclusive of outdoor space, a skyline pool, a fitness club and dining options. The complex features a combination of studio and one to two-bedroom residences in addition to a spacious penthouse collection.

SCOPE OF WORK: The design team provided for a 140°F riser through the building for domestic hot water use. The building was divided into seven zones with each supplying hot water to five to six floors.

The design called for an Armstrong Digital Recirculation Valve (The Brain® DRV80R) at each zone to provide accurate temperature control for the residents of the building. Before each DRV80R is a set of pressure reducing valves for each zone.

In a domestic hot water system, the water is constantly recirculated. With The Brain® DRV80R, the majority of the recirculation water is sent back through the cold side of the mixing valve, the balance of the recirculated water is sent back to the hot water generation set.

In lieu of sending the water all the way to the basement, a solution was provided to heat the water and reintroduce it to the supply side of the mixing valve. An electric heater was placed to take the small amount of recirculation water and bring it up to the supply temperature for the mixing valve.

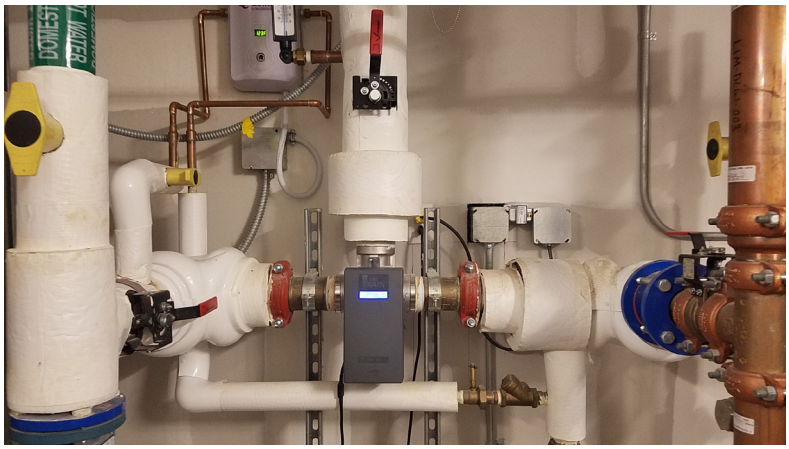


SCOPE OF WORK, CONTINUED:

One zone was on the mezzanine and the rest of the valves were located in a small space at each zone for simplicity of access.

As construction progressed up the building with the finishing of multiple floors, each zone could be brought online to provide hot water.

This multi-zone approach to provide domestic hot water gave the building safe and accurate temperature control for each zone while being able to provide a high temperature central circulation system.



BENEFITS:

The Brain® DRV80R is capable of delivering to setpoint at +/-2°F, even during extended periods of low to no demand. The DRV80R prevents overnight temperature creep, without aquastat-like control of the recirculation pump. The result is a predictably consistent setpoint delivery that reduces the risk of scalding, to every point of use.