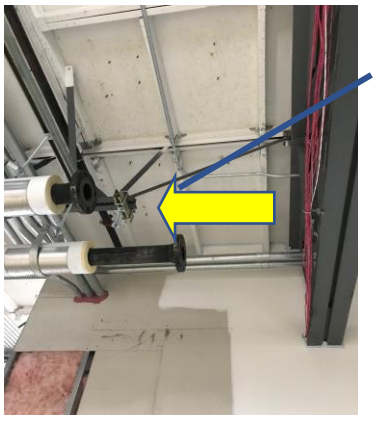
Lessons Learned

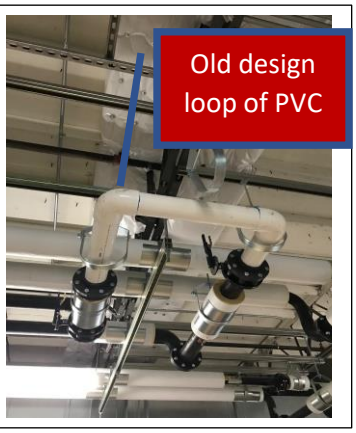
Date: 6/22/2023 Region: Coastal
Project: North Valley Complex Incident Title: In HOT water

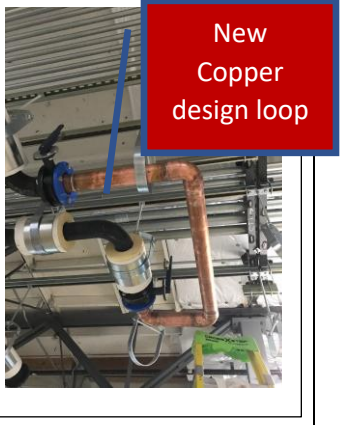
Summary

Lines had been installed and pressure tested in preparation for install to MAU units. They had been being flushed while full of water for over 7 days at about 70-75psi driven by the system pumps.
This system was then brought up to operating temperature by starting up the boilers on 6-21-23.
On 6-22-23 one of the connection loops that were made of schedule 40 PVC failed,causing the spill of 100-150 gallons of water on the floor as the water temperature reached 130 degrees.
The failure was due, either to expansion of a hairline fracture, or a failure of a glued joint when the water temperature increased.
There had been no increase of system pressure at any time since the start of the pumps over a week prior.
There were floor penetrations that had not been properly sealed, and unfortunately the closest one was directly over an electrical panel.
The floor drains were also fully covered in order to keep people safe from trip hazards.
These two conditions created a perfect pathway for the water to go right into the exposed electrical panel.

Picture







What Went Right?

- No injuries
- No significant facility damage

What Went Wrong?

- Change in temperature caused a component failure.
- Drains had been covered, and open penetrations to lower level allowed water to go directly into an electrical panel.

Lessons Learned

- Change of loop materials from PVC to copper to eliminate potential for fractures or glue joint failure at higher temperatures.
- Assure available floor drains are open for potential necessary use, and verify hole penetrations near these activities are covered or properly filled.