

Cronkite Internal Expedition to Second Floor Fan Room and Subsequent Quasi-Scientific Findings Thereof???

2010 ASES Tool Day

Disclaimer: Results may be totally fraudulent.



Team

Adnan Alanzi – PHD in Stuff,
Jonathan Knowles – Saturday Tool
Jim Phillips – Rocket Scientist



Hypothesis

The AHU casing is inefficient!



Methodology

1. Temperature Readings of Fan Room
2. Temperature Reading of Surfaces
3. Temperature Reading of Intended Occupied Spaces
4. Thermal Imaging of Surfaces



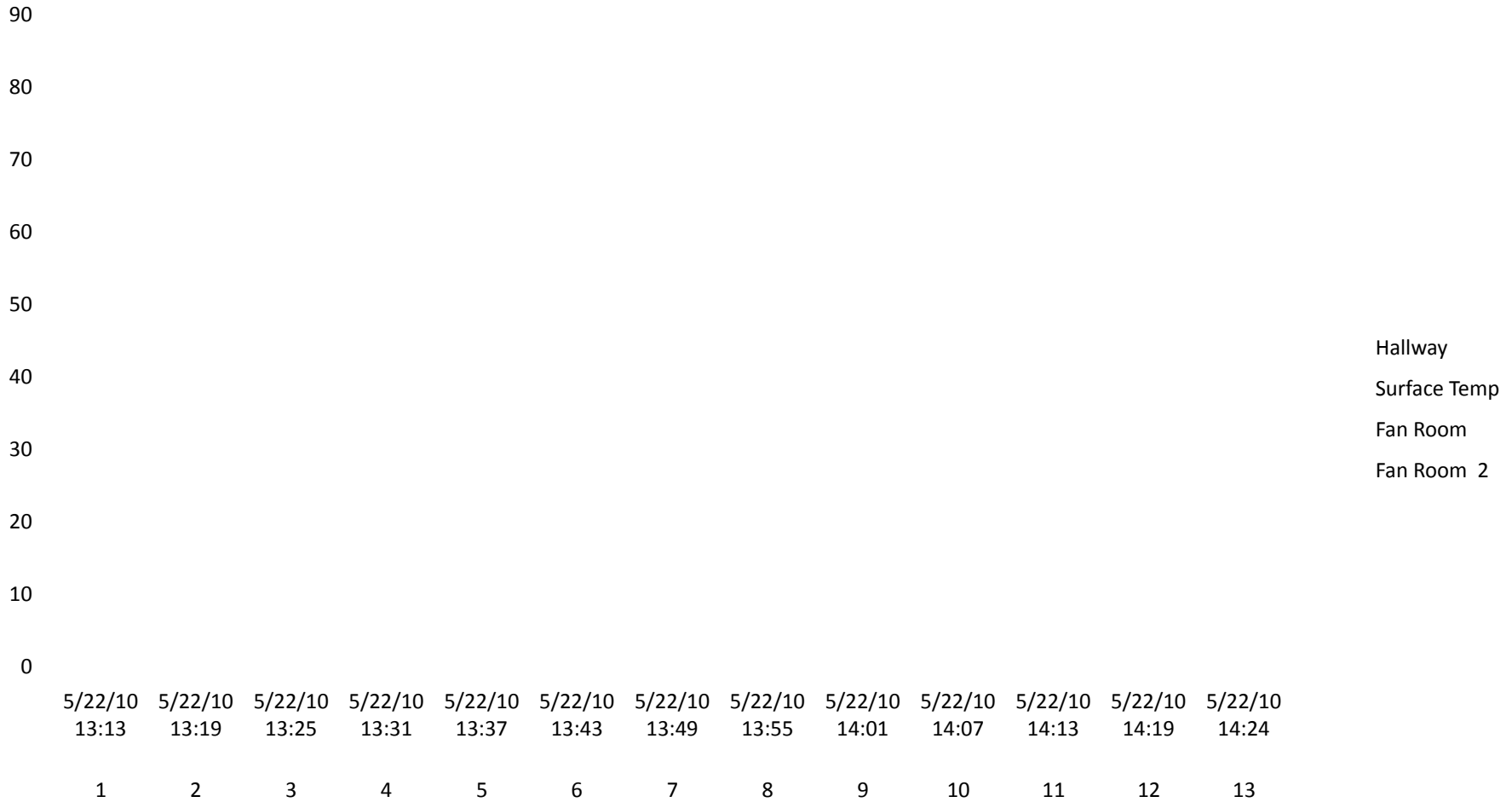
CHW Supply



CHW Return

Field Observations

1. Supply Air Temperature in the AHU is close to the return chilled water temperature.
2. AHU surface temperature feels lower than air ambient temperature.
3. Air was leaking from the door frame of the AHU casing.

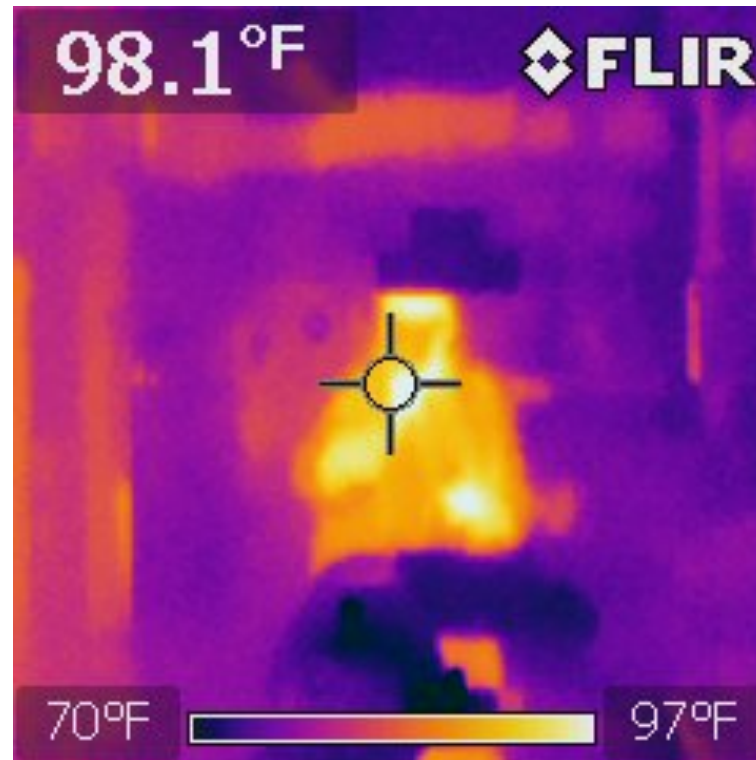


Data Analysis
 Comparison of Different Temperature Readings
 (between design intention and actual)



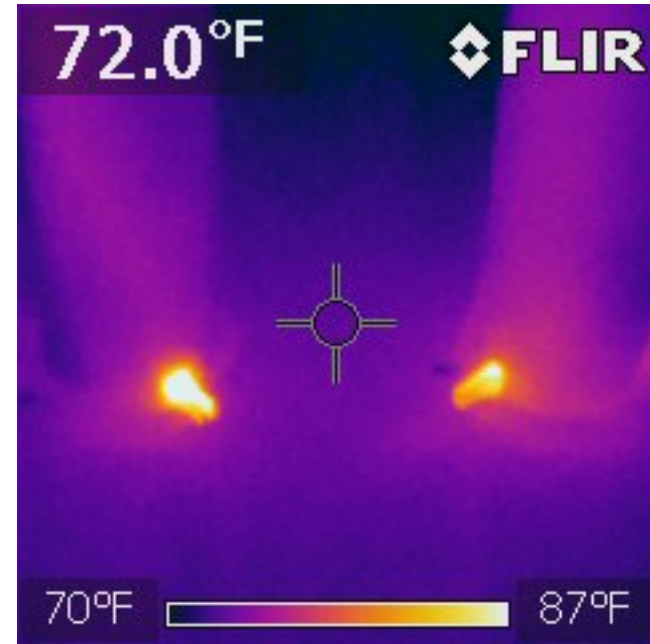
Findings

AHU surface temperature is closer to the supply air temperature than the room air temperature.



Lessons Learned

1. The AHU casing surface “felt” colder than the instrument results.
2. The reflective surfaces of the AHU casing skewed the Raytec Results,
3. The radiant energy from the observers was read by the thermal imaging camera.



Sub - Project

Inspired by Dr. Kwok – the team presents another hypothesis for consideration – the labels on the supply and return hot water piping are reversed.