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Charting a Course to Energy Independence

Providence, RI
August 9-12, 2009

Deep Dehumidification

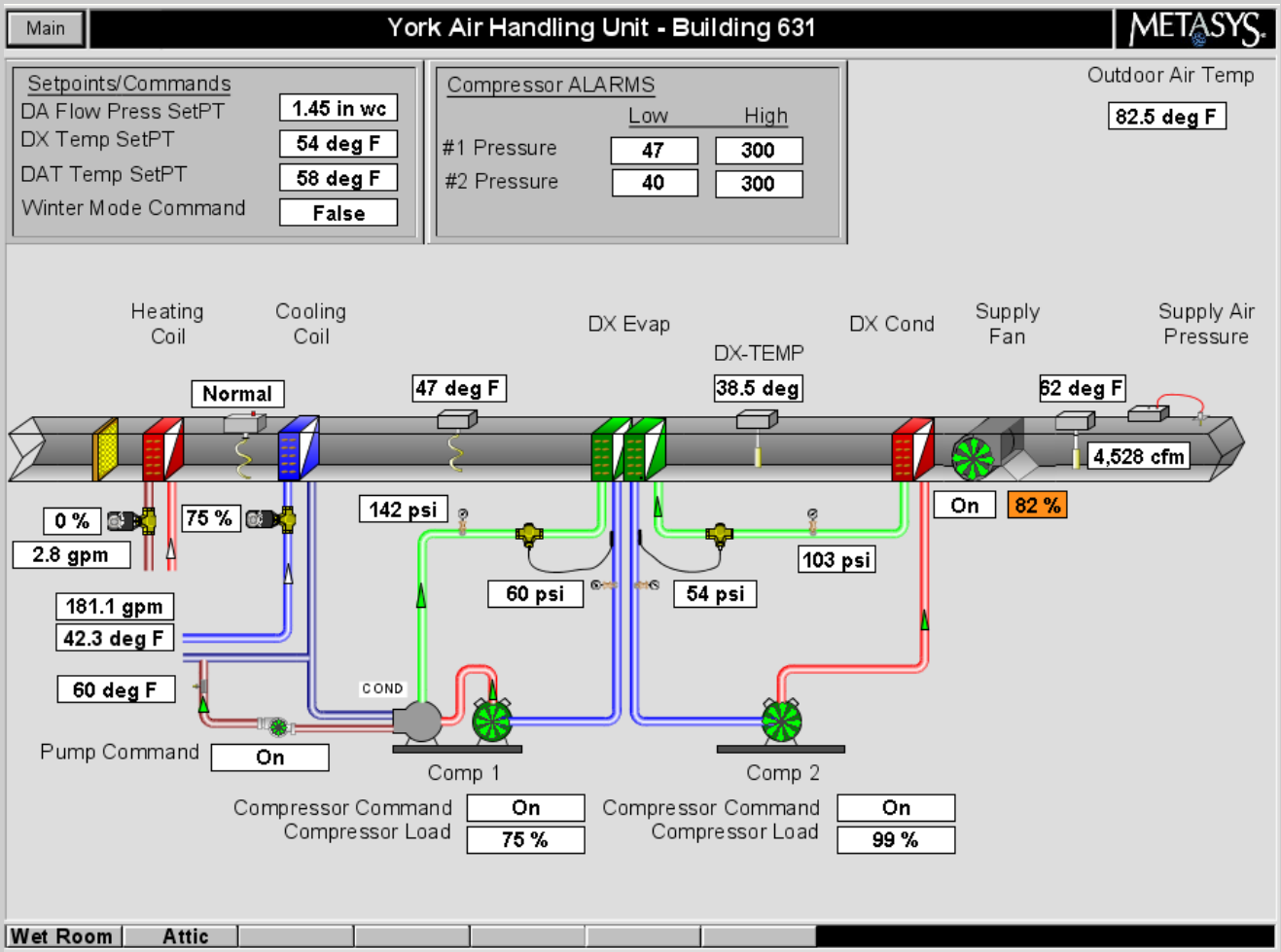
- The Deep Dehumidification Process
- Equipment Configuration
- Measured Results from Barracks Rooms
- Advantages of Deep Dehumidification

Mold Prevention

It's the Humidity!

- Keep it out! - Pressurize the Building
- Remove it! - Deep Dehumidification
- Deal with it! - No Cool Surfaces

The Deep Dehumidification Process



Deep Dehumidification vs. Conventional Cooling

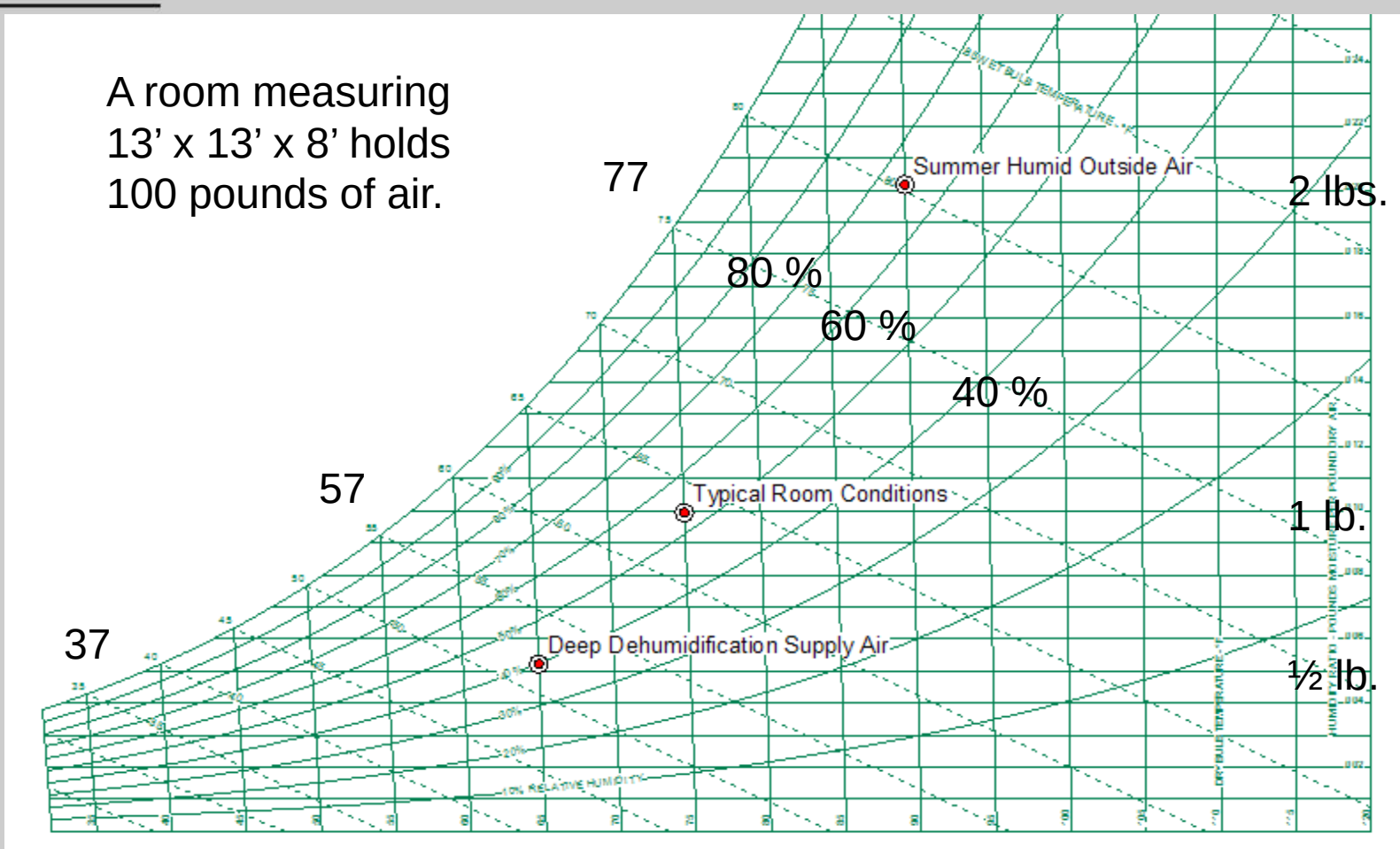
Deep Dehumidification

- 65 cfm at 40 degrees dp
- 24 pints of dehumidification
- No reheat energy required

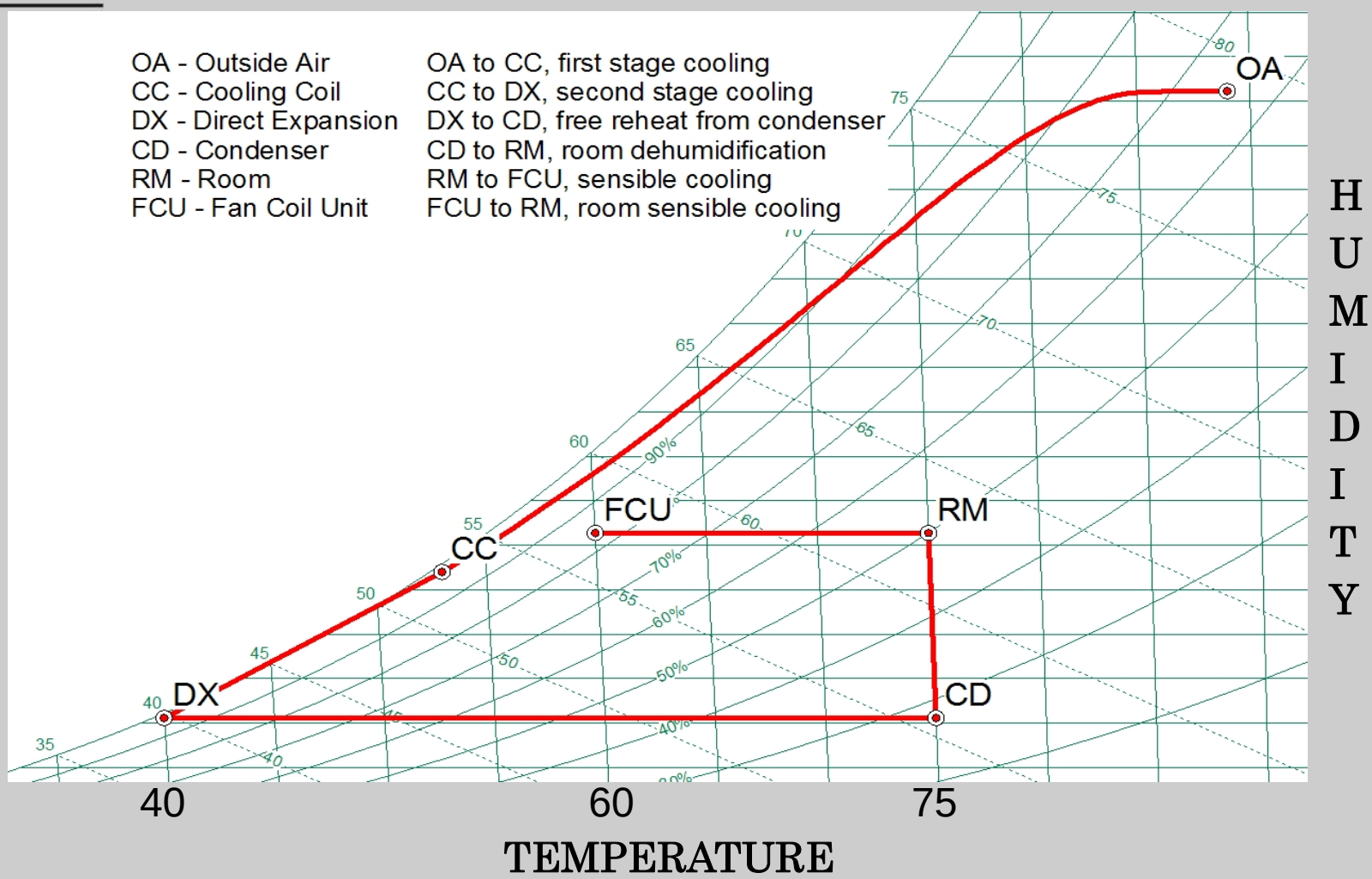
Conventional Cooling

- 400 cfm at 50.75 degrees dp
- 24 pints of dehumidification
- Reheat energy required

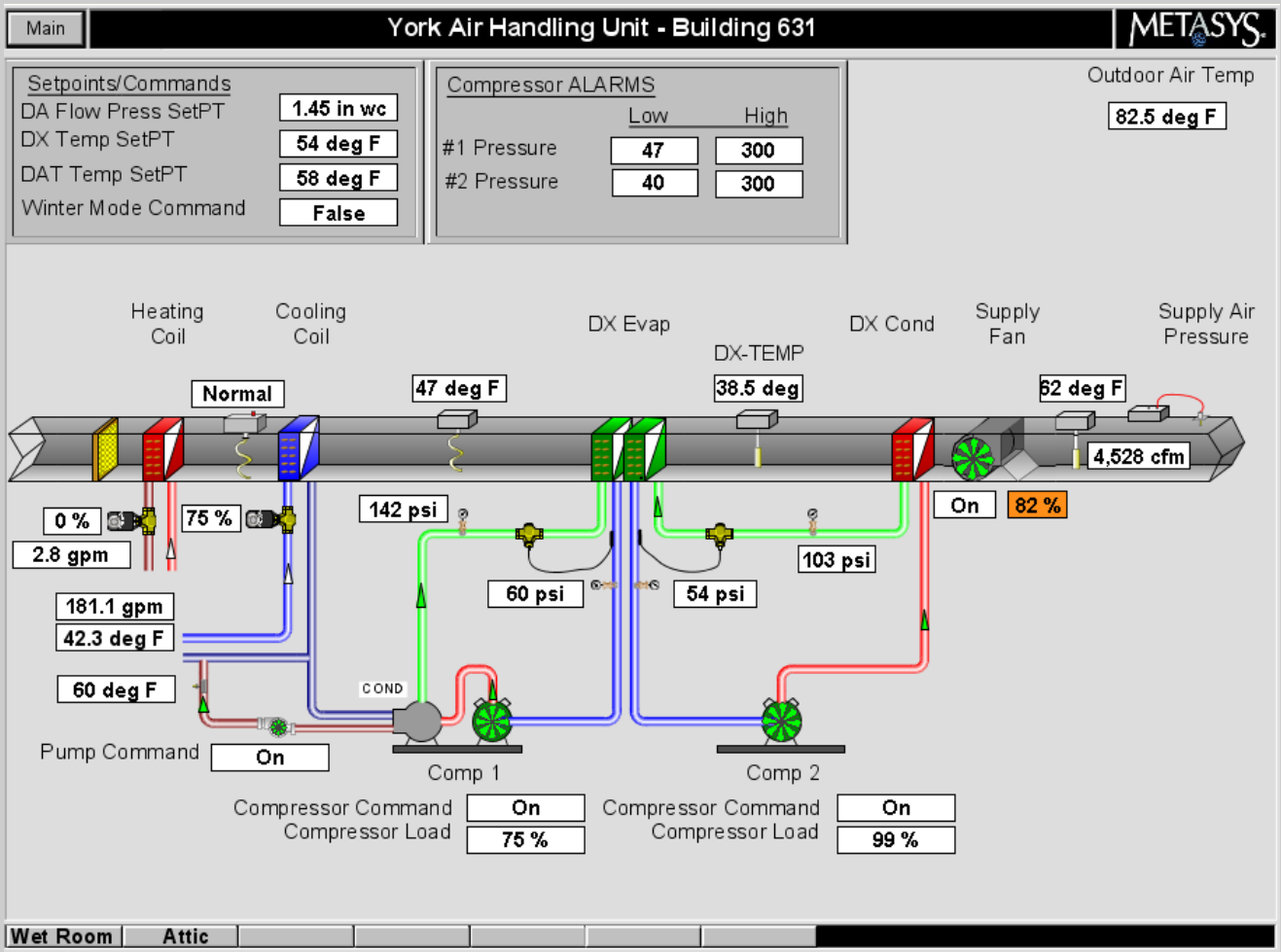
Psychrometric Chart



DOAS with FCU



The Deep Dehumidification Process

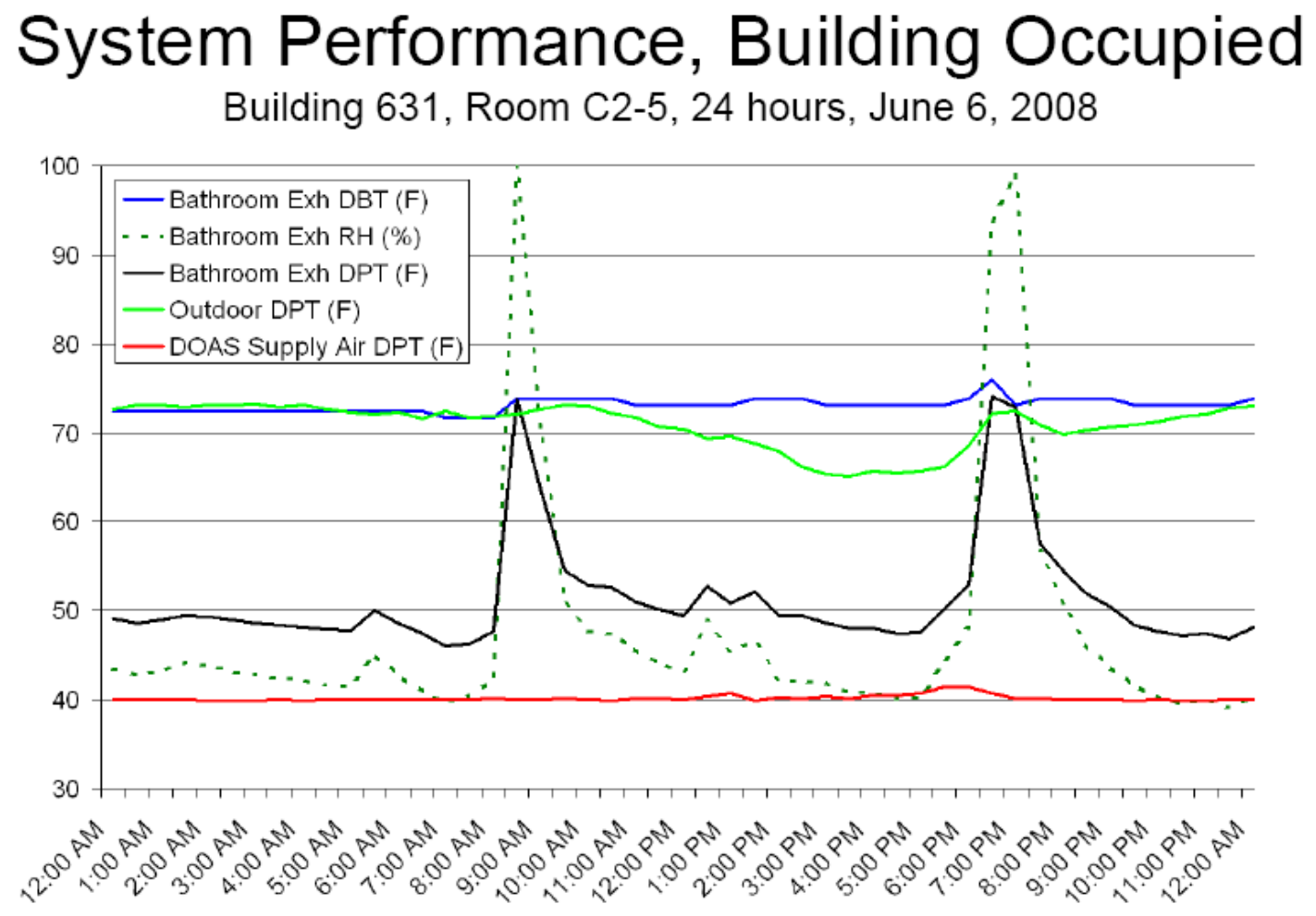


AHU with DX Dehumidifier Inside

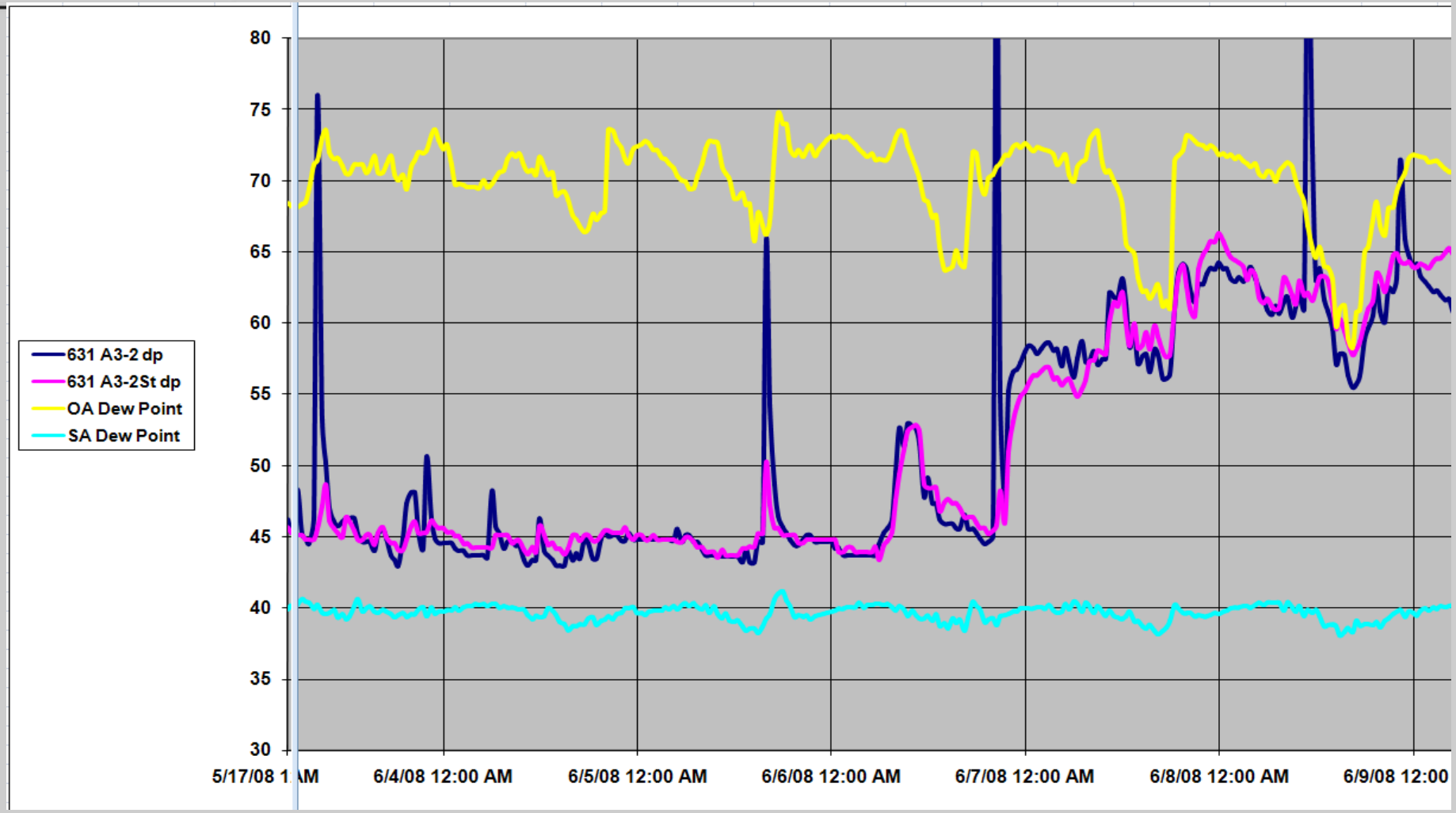
DX Components in the AHU

DX Components in the AHU

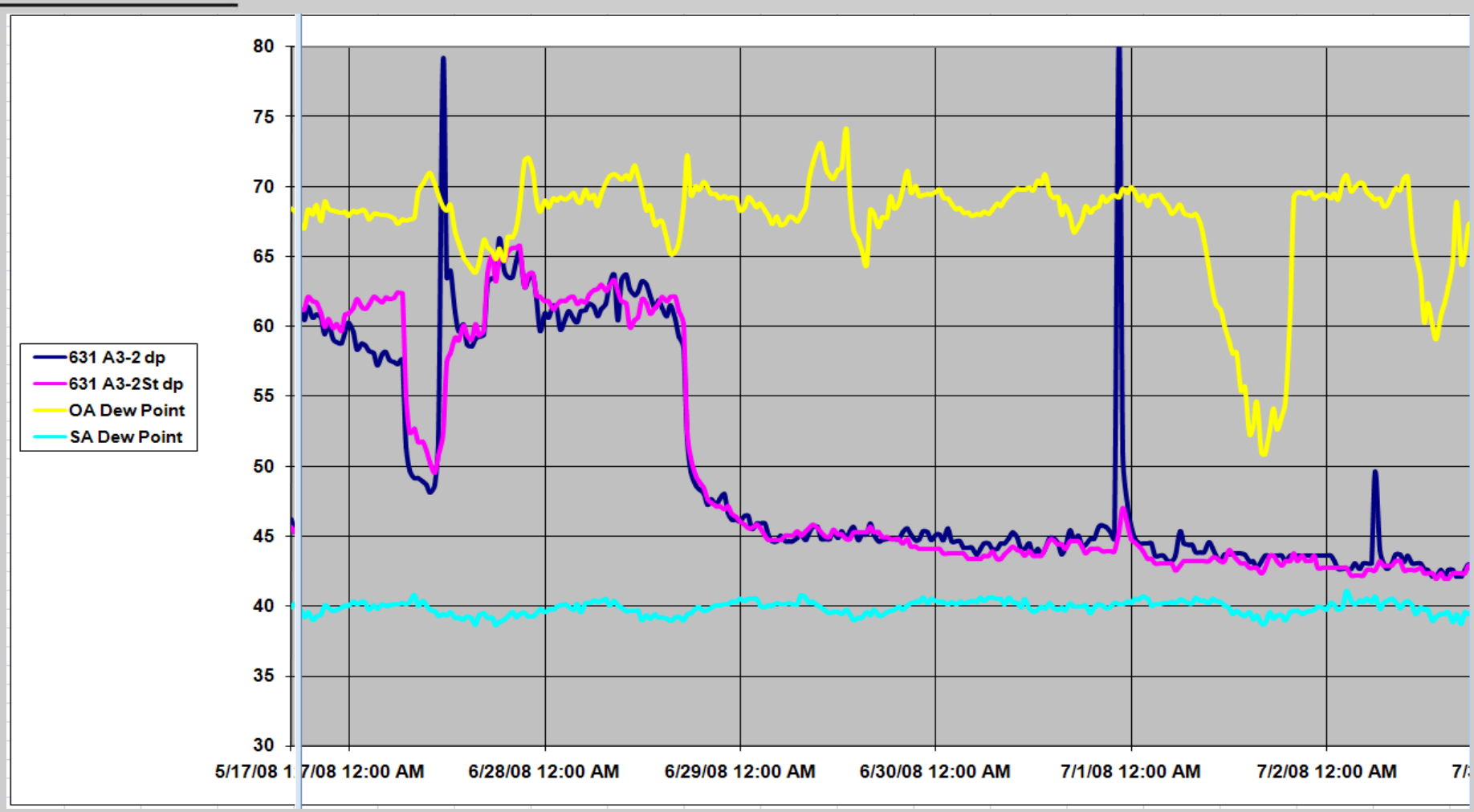
Dehumidification Results



Barracks Room Conditions



Barracks Room Conditions



Advantages of Deep Dehumidificaiton

- Lower Humidity Levels
- Dehumidification Capacity Storage
- Reheat not Required
- Energy Efficient

Mold Prevention

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Questions