

DCO Operations

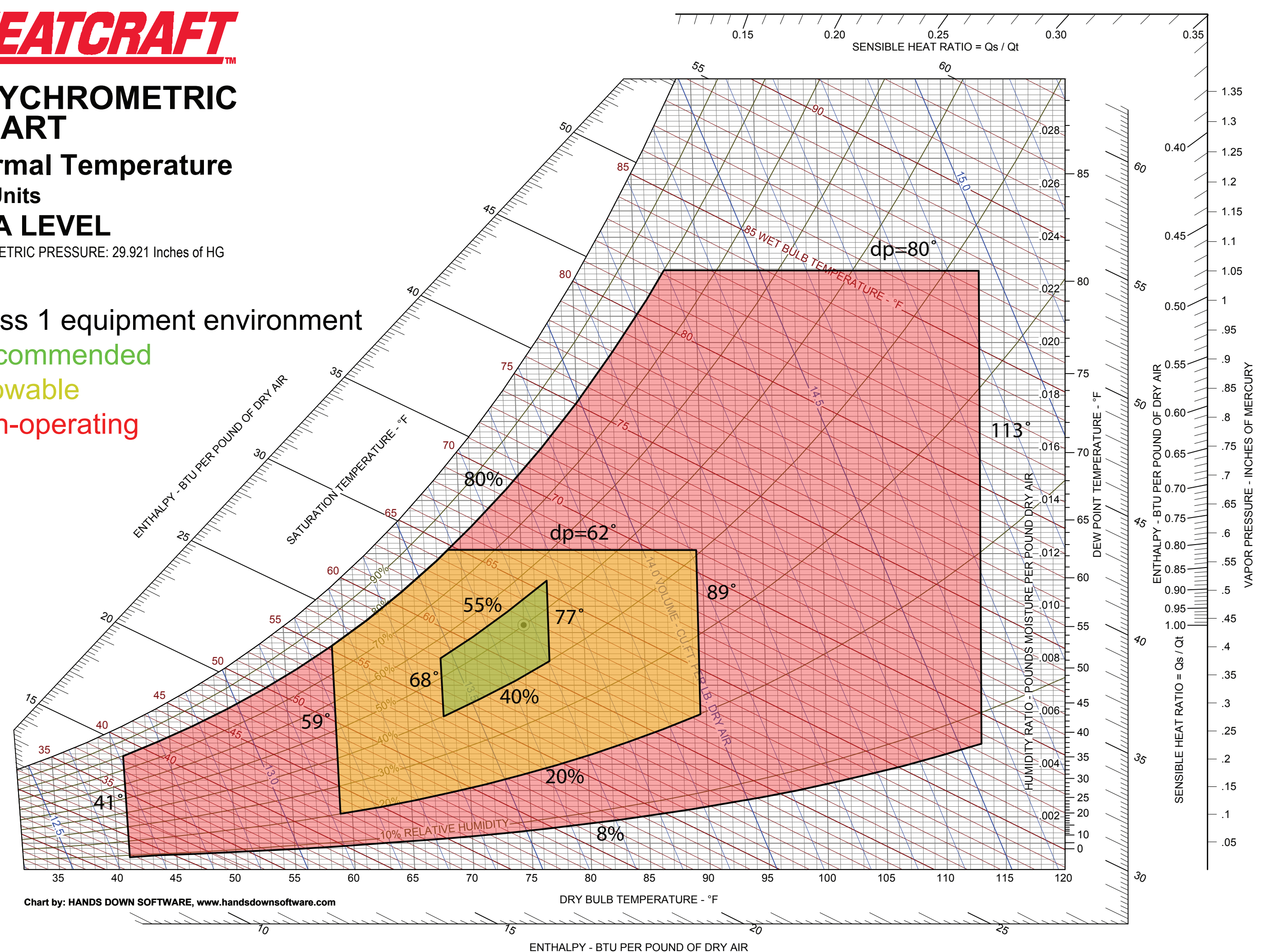
Interesting Statistics

- As of October 2008, there are 325 computers in the DCO, connected to 12 network switches, 38 power distributors and 12 remote console servers with a total of 1026 cables
- The computers operate 1560 hard disks, totaling 530 TB of storage
- Eight air conditioners within the zones process the hot air back to normal building temperatures
- 13 sensor nodes monitor environmental conditions in the room; Most equipment can send email to alert to adverse conditions
- Through the past year, the following hardware needed to be replaced:
 - Blade servers: 1 power supply
 - File server: 3 disks
 - Power distribution: 1 zone PDU cable harness
 - Air conditioners: humidifier canisters and filters (maintenance), 1 blower
 - 3U servers: 9 disks
 - 1U servers: 11 disks, 1 motherboard, 2 DIMMs
 - Sensors: 1 monitor unit

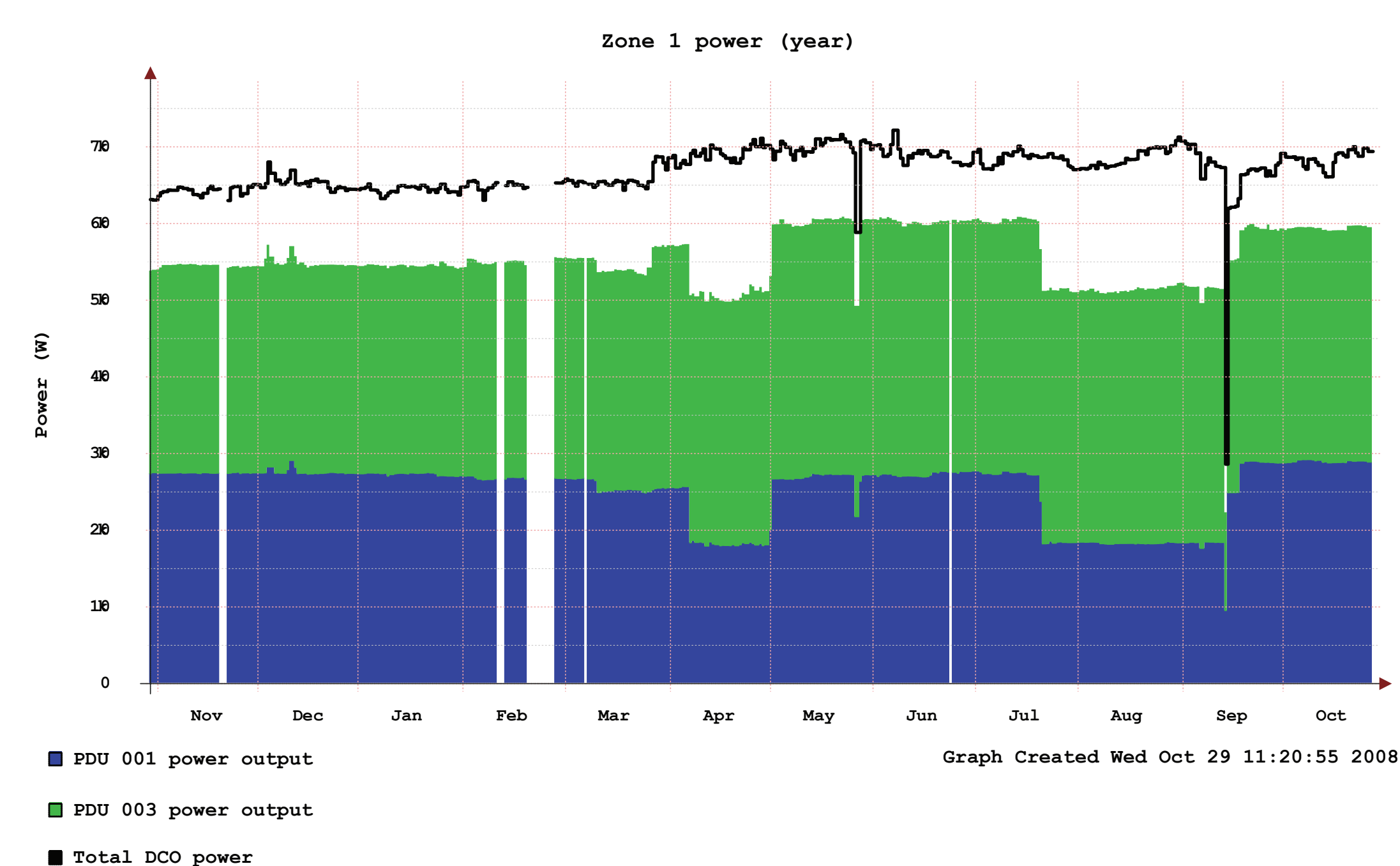
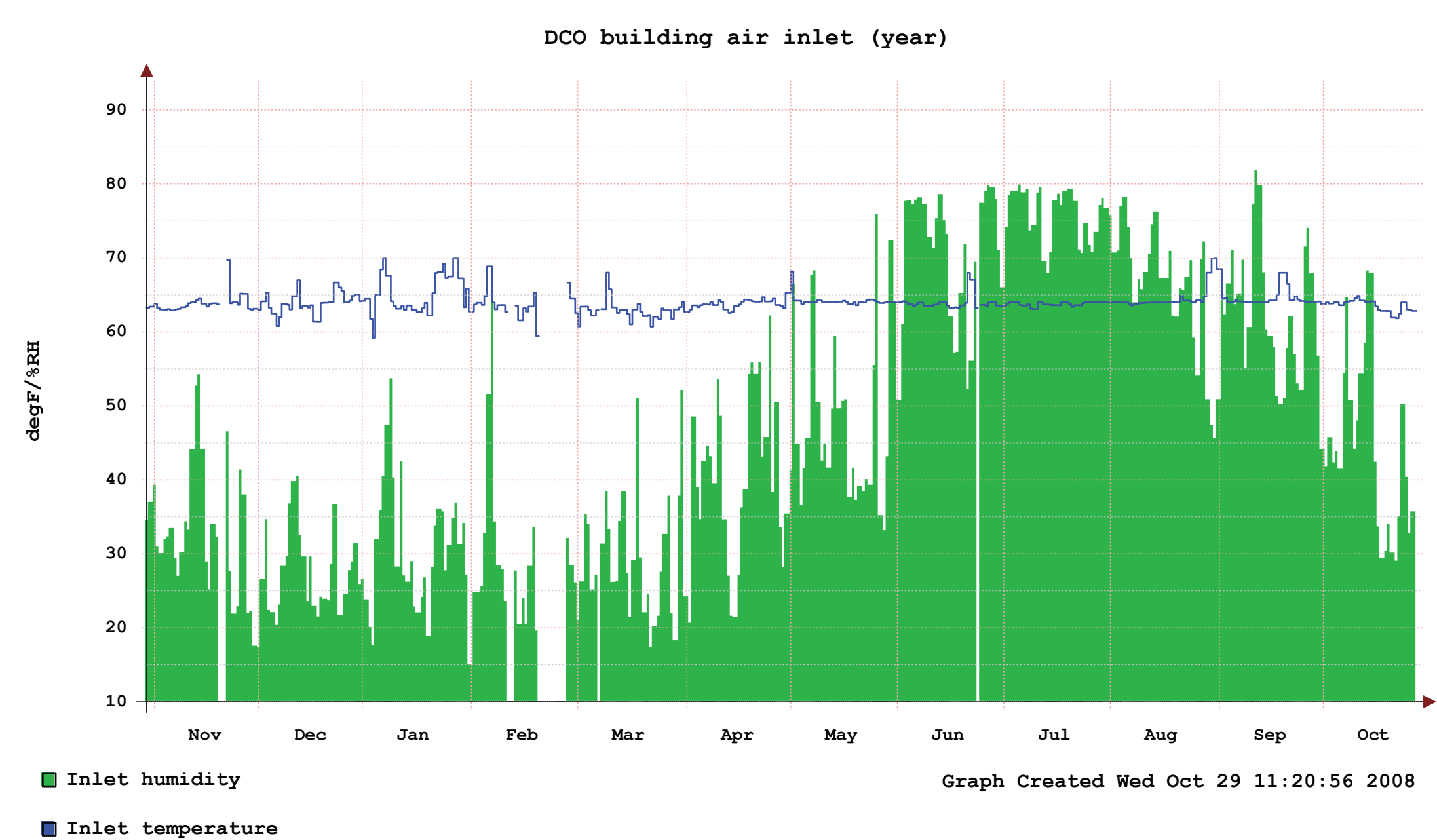
HEATCRAFT

PSYCHROMETRIC CHART
Normal Temperature
I-P Units
SEA LEVEL
BAROMETRIC PRESSURE: 29.921 Inches of HG

Class 1 equipment environment
Recommended
Allowable
Non-operating



- Psychrometric chart is annotated with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recommendations for Class 1 computing equipment
- This chart is valid for the intake air of the machines hosted within the DCO



TEMPERATURE AND HUMIDITY

- Temp and humidity of the building's fresh air as supplied to the DCO
- Over the last year, temperature remained nearly constant
- Humidity was controlled by the DCO air conditioners at all times during the year

ELECTRICAL POWER CONSUMED IN THE DCO

- There are currently two power distribution units within the computing zone, each supplying around half of the power
- The difference in the total power usage shown consists of around 6 kW of losses along with the power needed to humidify and heat the air