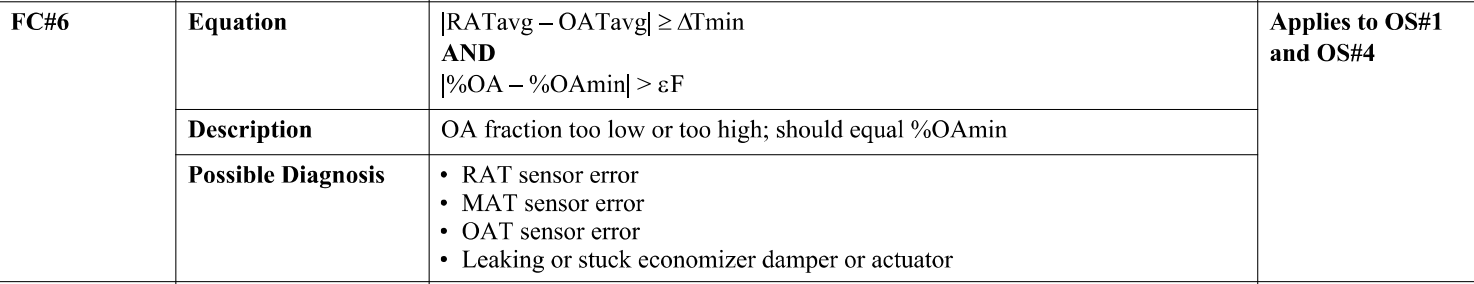
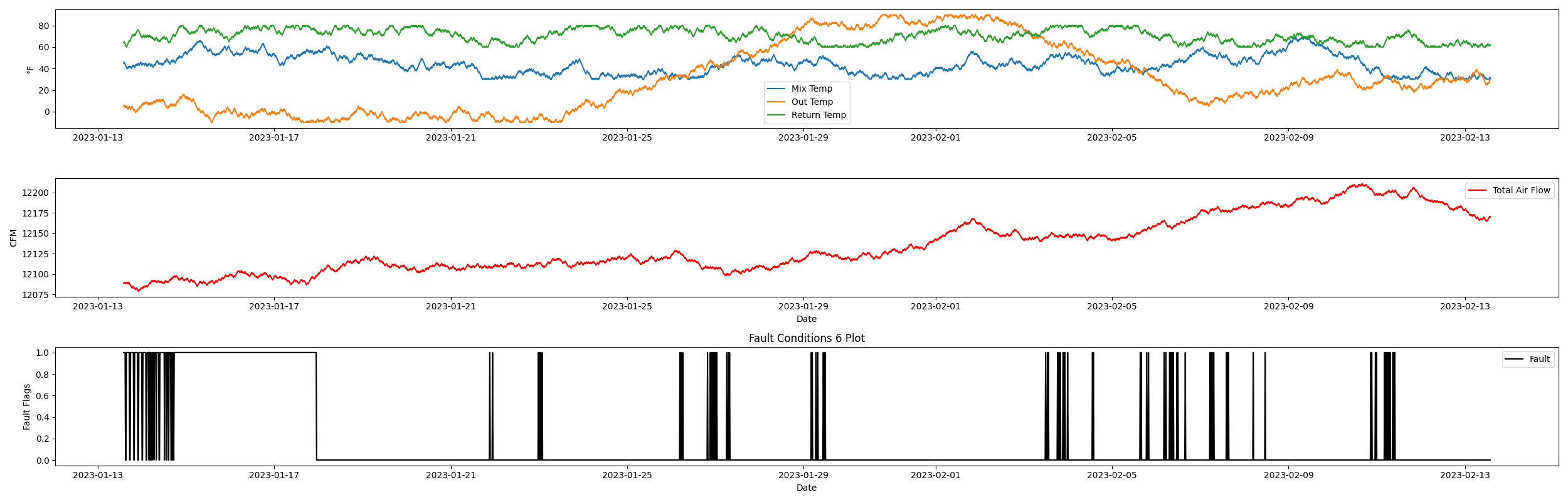
Fault Condition Six Report

Fault condition six of ASHRAE Guideline 36 is an attempt at verifying that AHU design minimum outside air is close to the calculated outside air fraction through the outside, mix, and return air temperature sensors. A fault will get flagged if the OA fraction is too low or too high as to compared to design OA. Fault condition six equation as defined by ASHRAE:



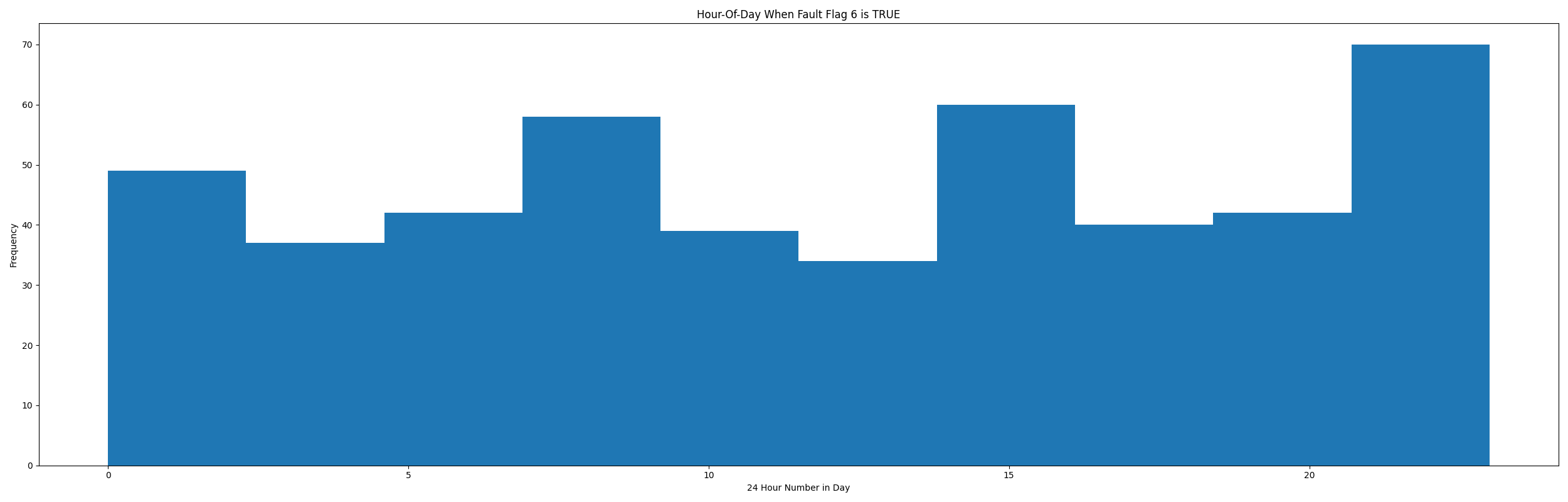
## Dataset Plot



## Dataset Statistics

* Total time in days calculated in dataset: 30.99
* Total time in hours calculated in dataset: 743.75
* Total time in hours for when fault flag is True: 117.5
* Percent of time in the dataset when the fault flag is True: 15.83%
* Percent of time in the dataset when the fault flag is False: 84.17%
* Calculated motor runtime in hours based off of VFD signal > zero: 278.0

## Time-of-day Histogram Plots



* When fault condition 6 is True the average AHU mix air temperature 50.83°F, outside air temperature is 6.49°F, and the return air temperature is 73.65°F. This could possibly help with pin pointing AHU operating conditions for when this AHU is drawing in excessive outside air.

# Summary Statistics filtered for when the AHU is running

### Mix Temp

* count 1112.000000  
  mean 44.264388  
  std 9.295638  
  min 30.000000  
  25% 36.000000  
  50% 44.000000  
  75% 53.000000  
  max 66.000000  
  Name: mat, dtype: float64

### Outside Temp

* count 1112.000000  
  mean 44.095324  
  std 36.743766  
  min -10.000000  
  25% 4.000000  
  50% 49.000000  
  75% 82.000000  
  max 90.000000  
  Name: oat, dtype: float64

## Suggestions based on data analysis

* The percent true metric maybe yeilding sensors are out of calibration either on the AHU outside, mix, or return air temperature sensors that handle the OA fraction calculation or the totalized air flow calculation handled by a totalizing all VAV box air flows or AHU AFMS. Air flow and/or AHU temperature sensor may require recalibration.

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