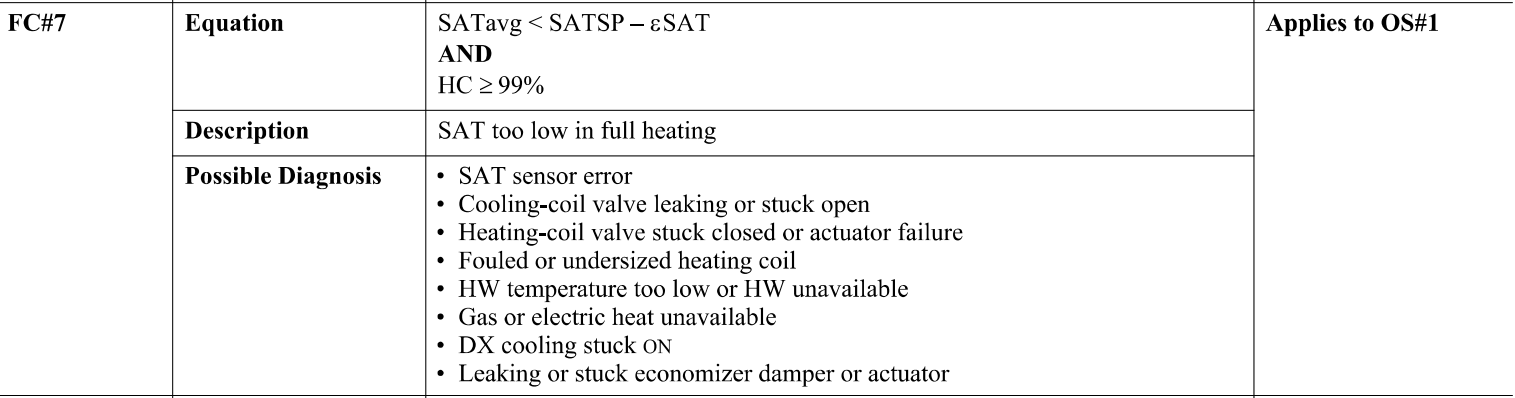
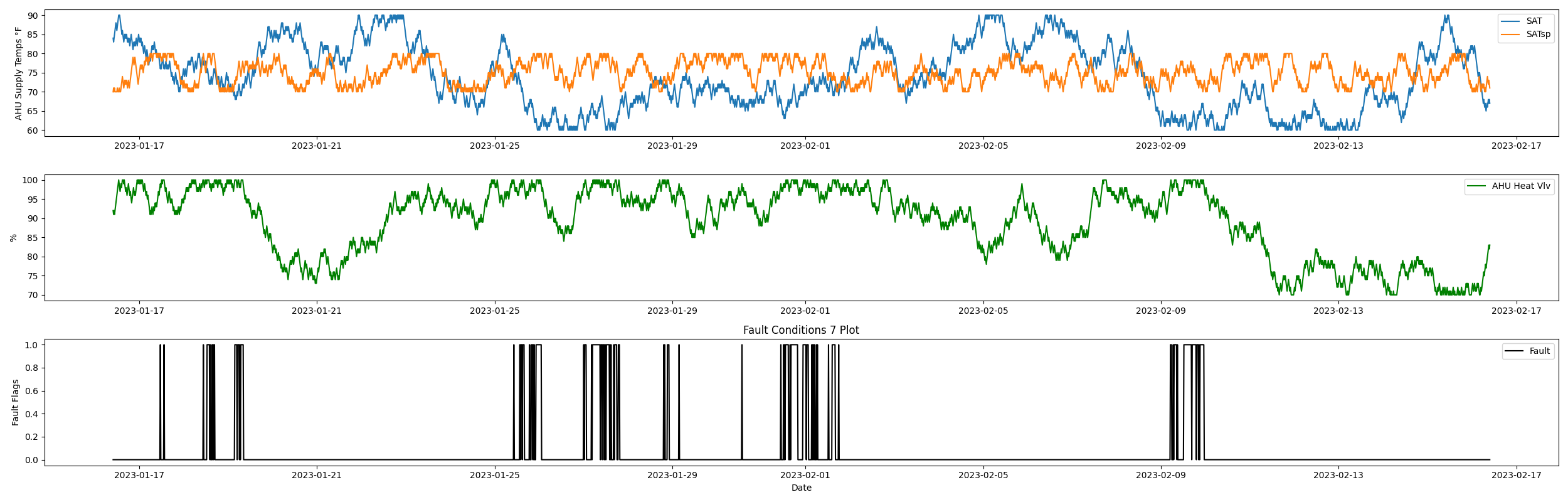
Fault Condition Seven Report

Fault condition seven of ASHRAE Guideline 36 is an AHU heating mode only with an attempt at verifying an AHU heating or cooling valve is not stuck or leaking by verifying AHU supply temperature to supply temperature setpoint. Fault condition six equation as defined by ASHRAE:



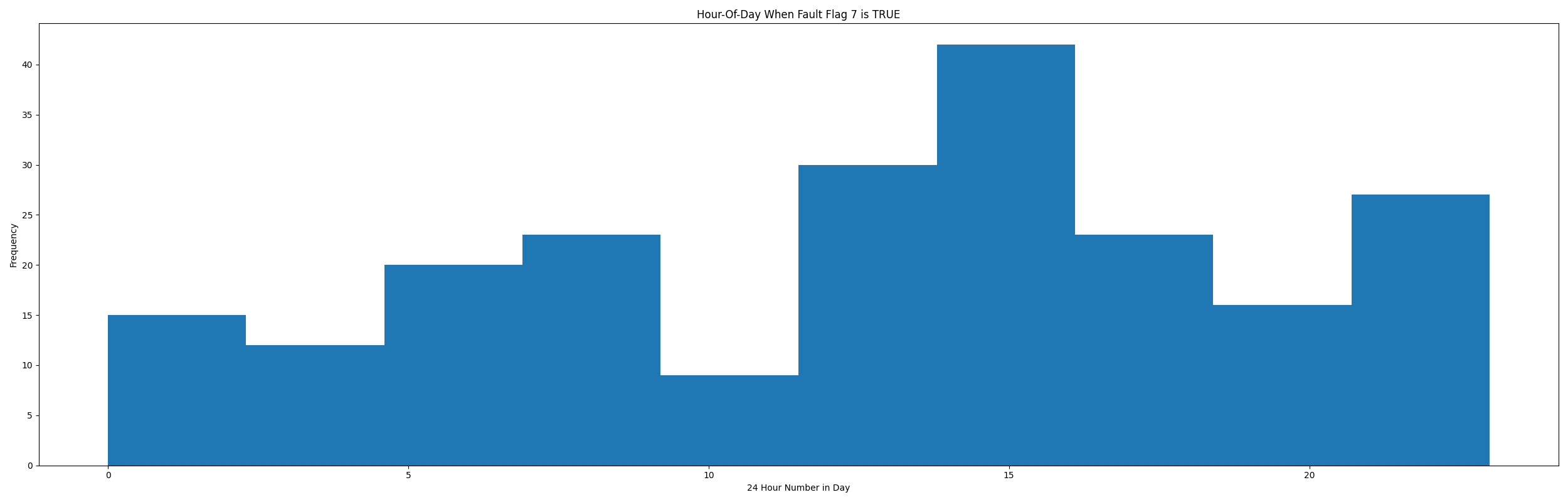
## Dataset Plot



## 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: 54.25
* Percent of time in the dataset when the fault flag is True: 7.29%
* Percent of time in the dataset when the fault flag is False: 92.71%

## Time-of-day Histogram Plots



* When fault condition 7 is True the average AHU supply air setpoint is 66.33 in °F and the supply air temperature is 76.55 in °F.

## Supply Air Temp Statistics

* count 2976.000000  
  mean 73.863239  
  std 8.432377  
  min 60.000000  
  25% 67.000000  
  50% 73.000000  
  75% 81.000000  
  max 90.000000  
  Name: sat, dtype: float64

## Supply Air Temp Setpoint Statistics

* count 2976.000000  
  mean 75.133737  
  std 3.073157  
  min 70.000000  
  25% 73.000000  
  50% 75.000000  
  75% 78.000000  
  max 80.000000  
  Name: satsp, dtype: float64

## Heating Coil Valve Statistics

* count 2976.000000  
  mean 89.355175  
  std 8.804689  
  min 70.000000  
  25% 83.000000  
  50% 92.000000  
  75% 97.000000  
  max 100.000000  
  Name: htg, dtype: float64

## Suggestions based on data analysis

* The percent True metric that represents the amount of time for when the fault flag is True is high indicating the AHU heating valve maybe broken or there could be a flow issue with the amount of hot water flowing through the coil or that the boiler system reset is too aggressive and there isnt enough heat being produced by this coil. It could be worth viewing mechanical blue prints for this AHU design schedule to see what hot water temperature this coil was designed for and compare it to actual hot water supply temperatures. IE., an AHU hot water coil sized to have a 180°F water flowing through it may have a durastic reduction in performance the colder the hot water is flowing through it, if need be consult a mechanical design engineer to rectify.

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