Below is a flow chart describing the general MATLAB code used to attain state variables.

State 3

* P3=P2∙rv
* Assume isentropic efficiency s3 = s2 →T3S
* Given ηc → T3A

→ h3,u3,s3

State 4

* P4=P3
* Stoichiometric Balance → changes composition of air →Energy Balance
* EB = EIN,AIR+EIN,FUEL
  + If EB≠0,

iterate EB again

* + If EB=0,

→ T4 → h4,u4,s4

=E

State 5

* P5=P4/rv
* Assume isentropic efficiency s5=s4→T5S
* Given ηT → T5A
* From T5A → h5,u5,s5

→WNET

* + If WNET ≠ 48 MW
  + If WNET = 48 MW

State 1

* Find P1, T1
* Use Property calculator → h1,u1, s1

State 2

* Find P2
* Guess T2
* Calculate ω based on T2 guess
* Perform Energy Balance
  + If EB ≠0,

guess T2 again

* + If EB =0, →T2→h2,u2,s2

State 0

* Given T0, P0 → ω