

FIGURE 11.1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
60	Variables	Measured	Reconciled	St. Dev	OBJ		h _{Reconciled}			Material Balances (lb/s)				
61	F _{Air}	145	152.7237	20	0.149137							IN	OUT	DIFF
62	F _{NG}	2.6208	2.581389	0.07	0.316977					Combustion Chamber		155.3050	155.3050	0
63	F _{Prod}	147.6208	155.305	20	0.147619					HRSG		24.5659	24.5659	0
64	F _{Water, Econ}	24.4444	24.56587	1.2222	0.009878									
65	F _{Steam}	24.17	24.28586	0.725	0.025538									
66	F _{Blowdown}	0.28	0.280013	0.1	1.65E-08					Energy Balances (Btu/s)				
67	F _{CW}	200	193.9783	44	0.01873							IN	OUT	DIFF
68	T ₀	547.17	547.2477	2	0.001509		2.541	h _{Air,0}		Air Cooler		3421.3824	3421.382	-2.9E-05
69	T ₁	519.94	519.0908	5	0.028846		-4.222	h _{Air,1}		Compressor/GGT		27910.108	27910.11	4.9E-09
70	T ₂	1260.48	1260.165	10	0.00099		178.527	h _{Air,2}		Combustion		82656.543	82656.54	-3.7E-09
71	T ₃	2400	2446.649	150	0.096715		523.564	h _{Prod,3}		Power Turbine		53401.993	53401.99	2.2E-08
72	T ₄	1836.34	1833.771	30	0.007332		343.852	h _{Prod,4}		Evap		42522.272	42522.27	1.3E-08
73	T ₅	1386.67	1412.059	60	0.179049		226.249	h _{Prod,5}		Eco		17553.348	17553.35	-2.7E-09
74	T ₆	914.67	877.5671	50	0.55065		85.732	h _{Prod,6}						
75	T ₇	787.67	797.6416	20	0.248581		65.475	h _{Prod,7}						
76	T _{CW,a}	504.57	507.1745	5	0.271345		15.637	h _{CW,a}						
77	T _{CW,b}	515.07	512.4828	5	0.267752		20.962	h _{CW,b}						
78	LHV	21501	21457.9	200	0.046441									
79	T _{Water, Econ}	677.67	663.6964	30	0.216959		172.547	h _{Water, Econ}						
80	T _{Water, Evap}	780.67	789.3733	30	0.084165		300.609	h _{Water, Evap}						
81	T _{Steam}	821.67	821.6748	1	2.29E-05		334.390	h _{Water, BlowD}						
82	W _{Net}	18264.44	18264.44	0.01	0.036918		1198.807	h _{Steam}						
83	Q _{CC,loss}	1125	1344.441	1000	0.048154					Chiinv (0.05,8)				
84					2.753307	ΣOBJ				15.50731				

FIGURE 11.2

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
60	Variables	Measured	Reconciled	St. Dev	OBJ	MT Error	hReconciled			Material Balances (lb/s)				
61	F _{Air}	145	163.40328	20	0.846701647	0.95						IN	OUT	DIFF
62	F _{NG}	3.0208	2.824449	0.07	7.868106285	4.14				Combustion Chamber		166.2277	166.2277	-2.7E-11
63	F _{Prod}	147.6208	166.22773	20	0.865544375	0.96				HRSG		25.2651	25.2651	-4.6E-14
64	F _{Water, Econ}	24.4444	25.265102	1.2222	0.450906654	0.76								
65	F _{steam}	24.17	24.984429	0.725	1.261914706	1.86								
66	F _{Blowdown}	0.28	0.2806736	0.1	4.5377E-05	0.10				Energy Balances (Btu/s)				
67	F _{CW}	200	199.30044	44	0.000252778	0.09						IN	OUT	DIFF
68	T ₀	547.17	547.25088	2	0.001635355	0.75	2.542	h _{Air,0}		Air Cooler		3465.58052	3465.5804	0.00014
69	T ₁	519.94	517.37196	5	0.26379318	3.17	-4.634	h _{Air,1}		Compressor/GGT		29934.3127	29934.313	-2.1E-06
70	T ₂	1260.48	1260.2859	10	0.00037659	0.35	178.558	h _{Air,2}		Combustion		89219.6385	89219.638	2.3E-05
71	T ₃	2400	2436.5984	150	0.0595307	0.25	521.028	h _{Prod,3}		Power Turbine		56674.9288	56674.929	-1.7E-05
72	T ₄	1836.34	1822.5512	30	0.211255338	0.96	340.948	h _{Prod,4}		Evap		45718.9373	45718.937	2.9E-05
73	T ₅	1386.67	1429.0617	60	0.499182057	0.75	231.072	h _{Prod,5}		Eco		19239.7224	19239.722	-3E-05
74	T ₆	914.67	910.83319	50	0.005888456	0.09	94.288	h _{Prod,6}						
75	T ₇	787.67	822.33253	20	3.003727505	3.40	71.777	h _{Prod,7}						
76	T _{CWa}	504.57	506.84308	5	0.206675565	0.66	15.305	h _{CW,a}						
77	T _{CWb}	515.07	512.70879	5	0.223013224	0.69	21.188	h _{CW,b}						
78	LHV	21501	21258.17	200	1.474163347	4.71								
79	T _{Water, Econ}	677.67	632.39662	30	2.277420842	3.28	141.162	h _{Water, Econ}						
80	T _{Water, Evap}	780.67	778.44941	30	0.005478928	0.23	289.270	h _{Water, Evap}						
81	T _{steam}	821.67	821.69665	1	0.000710286	2.96	334.413	h _{Water, BlowD}						
82	W _{Net}	18264.44	18264.435	0.01	0.276566115		1198.820	h _{steam}						
83	Q _{C,loss}	1125	2610.3969	1000	2.206404001					Chiinv (0.05,8)				
84					22.00929331	ΣOBJ				15.5073131				

FIGURE 11.3

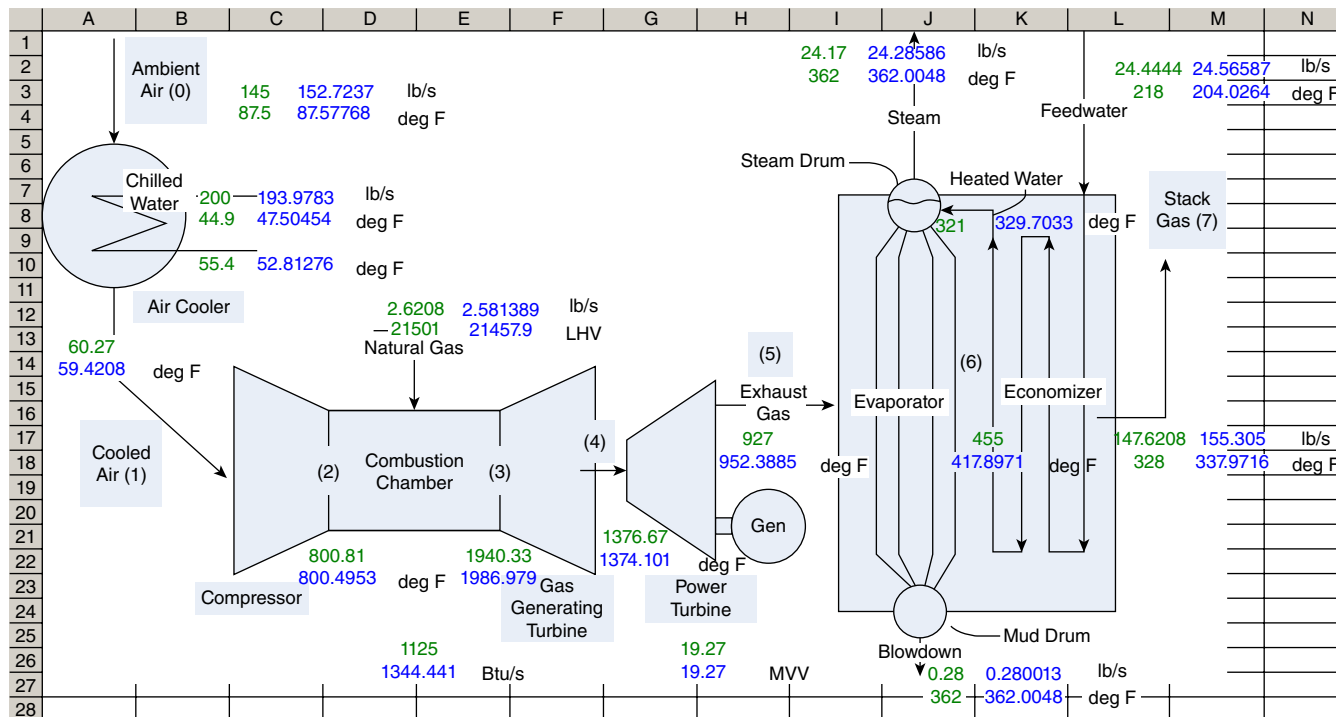


FIGURE 11.5

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Public Sub Write_Data_Recon_Values()
'
' First clear the figure of previous calculations
' But here do not use the following command as it will clear the sheet of ALL
pictures
' ActiveSheet.Pictures.Delete
'
' Loop and eliminate all pictures EXCEPT "Picture 8" - the cogen Picture Name
' You can see the cogen Picture Name in the name box
Dim myPict As Picture
For Each myPict In ActiveSheet.Pictures
If myPict.Name <> "Picture 8" Then
myPict.Delete
End If
Next myPict

' We need the height and width of the sheet cells
' Set cell width and height
cell_width = 42#
cell_height = 12#
' AF - Air Flow - Measured
Range("B61").Select
Selection.Copy
ActiveSheet.Shapes("Picture 8").Select
ActiveSheet.Paste
column_number = 2
row_number = 2
column_distance = cell_width * column_number
row_distance = cell_height * row_number
Selection.ShapeRange.IncrementLeft column_distance
Selection.ShapeRange.IncrementTop row_distance
' AF - Air Flow - Reconciled
Range("C61").Select
Selection.Copy
ActiveSheet.Shapes("Picture 8").Select
ActiveSheet.Paste
column_distance = cell_width * (column_number + 1)
row_distance = cell_height * (row_number)
Selection.ShapeRange.IncrementLeft column_distance
Selection.ShapeRange.IncrementTop row_distance

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FIGURE 11.6