

Table 3.4-10 Water Balances

		Case 1 112 °F 15% RH	Case 2 97 °F 21% RH	Case 3 97 °F 21% RH	Case 4 62 °F 70% RH	Case 5 62 °F 70% RH	Case 6 17 °F 83% RH
GTG Load:		100%	100%	100%	100%	100%	100%
Duct Burner Status:		On	On	Off	On	Off	Off
Fogger Status:		On	On	On	On	On	Off
Stream Number	Stream Description	Flow US gpm	Flow US gpm	Flow US gpm	Flow US gpm	Flow US gpm	Flow US gpm
1	Raw Water Supply	6,111.4	5,574.3	4,688.7	4,039.6	3,240.9	2,182.5
2	Filtered Water Required	5,876.3	5,359.9	4,508.4	3,884.2	3,116.2	2,098.6
3	Filtered Water To Plant	5,876.3	5,359.9	4,508.4	3,884.2	3,116.2	2,098.6
4	Backwash Water From Raw Water Filter	235.1	214.4	180.3	155.4	124.6	83.9
5	Filtered Water to Demineralizer	112.3	70.1	91.8	0.0	0.0	0.4
6	Filtered Water to Service Water	5.0	5.0	5.0	5.0	5.0	5.0
7	Filtered Water to Analyzer / Laboratory	0.2	0.2	0.2	0.2	0.2	0.2
8	Filtered Water to Potable Water	5.0	5.0	5.0	5.0	5.0	5.0
9	Filtered Water to Cooling Tower Makeup	5,753.8	5,279.6	4,406.3	3,874.0	3,106.0	2,088.0
10	Cooling Tower Evaporation	5,794.1	5,312.3	4,445.7	3,960.2	3,158.4	2,127.6
11	Demineralizer Reject Water to Cooling Tower Basin	33.7	21.0	27.6	0.0	0.0	0.1
12	Cooling Tower Drift Loss	1.5	1.5	1.5	1.5	1.5	1.1
13	Demineralized Water Required	357.7	305.4	279.6	96.5	115.0	105.7
14	Service Water to Oily Water Separator	5.0	5.0	5.0	5.0	5.0	5.0
15	CTG & STG Water Collection to Oily Water Separator	0.0	0.0	0.0	0.0	0.0	0.0
16	Chemical & Transformer Water Collection to Oily Water Separator	0.0	0.0	0.0	0.0	0.0	0.0
17	Oily Water to Oily Water Separator	5.2	5.2	5.2	5.2	5.2	5.2
18	Separated Oil to Disposal	0.0	0.0	0.0	0.0	0.0	0.0
19	Cooling Tower Blowdown	305.0	279.6	234.0	208.4	166.2	112.0
20	Demineralized Water Reject & Boiler Blowdown to CT Basin	111.7	99.4	94.5	44.9	56.1	68.8
21	Recovered Water From Zero Liquid Discharge System	0.0	0.0	0.0	95.8	39.3	0.0
22	Demineralized Water to Steam / BFW Cycle Makeup	127.7	128.3	102.5	64.6	83.0	105.7
22	Demineralized Water to Steam / BFW Cycle Makeup	127.7	128.3	102.5	64.6	83.0	105.7
23	Demineralized Water to CTG Foggers	230.1	177.0	177.0	31.9	31.9	0.0
24	Demineralized Water to CTG Water Wash	0.0	0.0	0.0	0.0	0.0	0.0
25	Clear Water from Oily Water Separator	5.2	5.2	5.2	5.2	5.2	5.2
26	Potable Water to Safety Shower and Eyewash Station	0.0	0.0	0.0	0.0	0.0	0.0
27	Potable Water to Sanitary Users	5.0	5.0	5.0	5.0	5.0	5.0
28	Steam to Atmosphere, lb/h	14,425.0	14,498.8	10,554.7	5,941.0	8,070.9	10,957.0
30	Boiler Blowdown to Cooling Tower Basin	78.0	78.4	66.9	44.9	56.1	68.7
31	Waste Water to Zero Liquid Discharge	310.2	284.8	239.2	213.6	171.4	117.2
32	Recovered Water To Demineralizer	279.1	256.3	215.3	96.5	115.0	105.5
33	Recovered Water From Evaporator	0.0	0.0	0.0	63.2	26.0	0.0
34	Brine to Crystallizer	31.0	28.5	23.9	117.2	56.5	11.7
35	Recovered Water From Crystallizer	0.0	0.0	0.0	32.6	13.4	0.0
36	Septic Tank to Leach Field	5.0	5.0	5.0	5.0	5.0	5.0
37	Sludge to Disposal	0.0	0.0	0.0	0.0	0.0	0.0

Notes:

1. Please refer to water balance diagram.
2. Flow rates may not add due to differences in stream temperatures.
3. Flow rates reflect flows at normal conditions. Intermittent or negligible flows are not included.
4. All numbers are estimated.
5. All flowrates are in US gpm, unless noted otherwise.