

SBC LEED Credit 1.1 Calculator Model

Version 1.1

Project:	LBL74
Engineer:	Mike Marr - Western Water

Yellow shaded fields require data entry	
System Information	
Total Capacity in Tons	220
Average % Capacity	100%
Hours Per Day of Operation	24
Days of Operation Per Year	365
Total System Water Volume (gallons)	800

System Operation			
Average Tower Load (Tons)	220	Recirculation Rate (gpm)	660
Evaporation (gallons/year)	3,468,960	Hours of Operation Per Year	8,760
Drift (gallons/year)	34,690		

Water Savings Calculation					
	<i>Cycles of Concentration</i>	<i>Total Water Use (gpy)</i>	<i>Blowdown (gpy)</i>	<i>Total Water Usage Savings (gpy)</i>	<i>% Total Water Use Reduction</i>
Chemical Treatment	9.0	3,937,270	433,620		
SBC Treatment	11.0	3,850,546	346,896	86,724	2.2

Chlorine Discharged to the Environment						
	<i>Total Chlorine (lbs/year) at 0.4 ppm average</i>	<i>Released through Blowdown (lbs/year) @ 1 ppm discharge</i>	<i>Released through Drift (lbs/year) @ 1 ppm discharge</i>	<i>Released to Atmosphere (lbs/year)</i>	<i>Released to Atmosphere (lbs of chlorine/hr)</i>	<i>Released to Atmosphere (ppm chlorine) See Notes</i>
Chlorine Content	1156.8	3.6	0.29	1152.9	0.13	0.52
Notes	1. OSHA short-term (15 minute) exposure limit is 1-ppm 2. The OSHA TWA PEL (8-hour avg). is 0.5 ppm					

Isothiazoline Discharged to the Environment		Corrosion and Scale Inhibitor Discharged to Environment		
1.5% Isothiazoline Usage (gallons /year)	5.6	<i>Inhibitor</i>	<i>ppm in blowdown</i>	<i>Pounds per Year</i>
		Zinc	2	7.23
		Polyphosphate	20	72.33
		Triazole	3	10.85