

Estimated Total Water Demand
Blythe Energy Project, Phase II

This analysis details the changes in the plant's estimated total water demand between the original AFC filing and the AFC Addendum filing.

Estimated Total Water Demand in Original AFC Filing

The estimated total water demand for the original AFC filing is presented in Table 7.13-6 as follows:

Water Use	Key Assumptions	Total
Low Condition Water Use	1,609 gpm, @ 59 °F, (0.24/yr)	618 Acre-feet
High Condition Water Use	3,017 gpm, @ 110 °F, (0.01/yr)	53 Acre-feet
Average Water Use	2,288 gpm, @ 74 °F, (0.70/yr)	2,586 Acre-feet
Pond Influent & Flash	20 gpm	32
Non-Operational Periods Annual O&M, etc.	25 gpm, (0.05/year)	2 Acre-feet
Annual Total Water Use	95% operation, 8322 hrs	3,289 Acre-feet

The estimated total water demand of 3,289 acre-feet contained in this Table is based on the plant being in operation 95 percent or 8,322 hours per year. This calculates to an average water demand of 2,039 gallons per minute (gpm) over the entire year or 2,146 gpm per actual operating hour.

Estimated Total Water Demand in the AFC Addendum Filing

The revised estimated total water demand for the AFC Addendum filing is presented in the attached Table, Water Balance & Consumption for Blythe Energy Project Phase II. This Table details an annual water demand of 2,281.2 acre-feet. This Table also reflects the 570 MW maximum net power output due to the transmission line power export limitation. The actual operating schedule for the plant is detailed in this Table and is summarized as follows:

Month	Days in Month	Operating		
		Days per Week	Hours per Day	Hours per Month
January	31	5	16	354.3
February	28.25	Outage	0	0.0
March	31	5	16	354.3

Yearly Plant Operation Schedule				
Month	Days in Month	Operating		
		Days per Week	Hours per Day	Hours per Month
April	30	5	16	342.9
May	31	5	16	354.3
June	30	7	24	720.0
July	31	7	24	744.0
August	31	7	24	744.0
September	30	7	24	720.0
October	31	5	16	354.3
November	30	5	16	342.9
December	31	5	16	354.3
TOTAL				5,385.1

Based on the operating schedule in this Table, the plant will be operating 5,385.1 hours per year or approximately 61 percent of the year. The original AFC filing had the plant operating 8,322 hours or 95 percent of the year. Based on operating 5,385.1 hours per year, the average water demand is 1,414.3 gpm over the entire year or 2,300 gpm per actual operating hour.

Plant Revisions for the AFC Addendum Filing

For the AFC addendum the plant's configuration was changed to enable "Fast Start" capabilities. The combustion turbines were changed from Siemens V84.3A to SGT6-5000F. The new combustion turbines are larger than the original turbines and have increased the plant's net output. The combustion turbine inlet chiller has also been replaced with evaporative coolers.

In addition to the power island changes outline above the cooling tower was changed to a plume abated tower and the cooling tower's drift rate was reduced from 0.0006 to 0.0005 percent.

The plant's increased capacity coupled with the cooling tower modifications results in a water demand increase of 154 gpm (2,300 - 2,146) for actual hours of operation. The yearly water demand decrease of 1,008 acre-feet (3,289 - 2,281) is the results of more accurately defining the plant's actual operating hours.

