

DOCKET	
09-AFC-8	
DATE	_____
RECD.	<u>JUL 20 2010</u>

July 27, 2010

California Energy Commission
Dockets Unit
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **TABLE 4: CUMULATIVE WATER BUDGET FORECAST FOR DRY
COOLING
GENESIS SOLAR ENERGY PROJECT
DOCKET NO. (09-AFC-8)**

Enclosed for filing with the California Energy Commission is the original **TABLE 4: CUMULATIVE WATER BUDGET FORECAST FOR DRY COOLING**, for the Genesis Solar Energy Project (09-AFC-8). This document was inadvertently omitted from our Biology Testimony and originally docketed and served on July 20, 2010.

Sincerely,



Marie Mills

Table 4: Cumulative Water Budget Forecast For Dry Cooling

Year	Western Chuckwalla Valley Groundwater Basin ¹										Eastern Chuckwalla Groundwater Basin ²								Chuckwalla Valley Groundwater Basin Water Budget				
	Inflow (AFY)				Outflow (AFY)				Sub-Basin Water Budget (AFY)		Inflow (AFY)				Outflow (AFY)				Sub-Basin Water Budget		Basin Annual Water Budget	Basin Cumulative Water Budget	
	Subsurface Inflow ³	Recharge from Precipitation ³	Irrigation Return Flow ³	Wastewater Return Flow ³	Total Current Pumping ³	Total Future Construction Pumping	Total Future Operations Pumping	Palen Lake Evapo-transpiration	Increased Outflow to Eastern Basin	Annual Water Budget	Cumulative Water Budget	Recharge from Precipitation ³	Irrigation Return Flow ³	Wastewater Return Flow ³	Increased Inflow from Western Basin	Outflow to PVMB	Total Current Pumping ³	Total Future Construction Pumping	Total Future Operations Pumping	Annual Water Budget			Cumulative Water Budget
2009	3,500	4,680	750	36	7,756	0	0	350	0	860	860	4,760	50	795	0	988	2,607	--	--	2,010	2,010	2,870	2,870
2010	3,500	4,680	750	36	7,756	2	0	350	0	858	1,718	4,760	50	795	0	988	2005 ⁴	2	0	4,615	6,625	5,473	8,343
2011	3,500	4,680	750	36	7,756	477	0	350	0.0	383	2,101	4,760	50	795	0.0	988.0	2,005	1368	0	1,244	7,869	1,627	9,970
2012	3,500	4,680	750	36	7,756	783	0	350	0.0	77	2,178	4,760	50	795	0.0	985.8	2,005	618	0	1,996	9,865	2,073	12,043
2013	3,500	4,680	750	36	7,756	793.3	0	350	0.3	66	2,244	4,760	50	795	0.3	979.2	2,005	618.3	0	2,003	11,868	2,069	14,112
2014	3,500	4,680	750	36	7,756	8,066.30	344	350	1.3	-7,551	-5,307	4,760	50	795	1.3	969.3	2,005	0.3	202	2,430	14,298	-5,122	8,991
2015	3,500	4,680	750	36	7,756	8,066	344	350	3.4	-7,553	-12,860	4,760	50	795	3.4	959.3	2,005	0	202	2,442	16,740	-5,111	3,880
2016	3,500	4,680	750	36	7,756	8,066	344	350	6.5	-7,556	-20,417	4,760	50	795	6.5	951.8	2,005	0	202	2,453	19,193	-5,104	-1,224
2017	3,500	4,680	750	36	7,756	8,066	344	350	10.1	-7,560	-27,976	4,760	50	795	10.1	947.0	2,005	0	202	2,461	21,654	-5,099	-6,323
2018	3,500	4,680	750	36	7,756	2,380	344	350	13.7	-1,878	-29,854	4,760	50	795	13.7	943.9	2,005	0	202	2,468	24,122	590	-5,732
2019	3,500	4,680	750	36	7,756	0	2,107	350	17.1	-1,264	-31,118	4,760	50	795	17.1	941.9	2,005	0	202	2,473	26,595	1,209	-4,523
2020	3,500	4,680	750	36	7,756	0	2,107	350	19.9	-1,267	-32,385	4,760	50	795	19.9	940.6	2,005	0	202	2,477	29,072	1,211	-3,312
2021	3,500	4,680	750	36	7,756	0	2,107	350	22.3	-1,269	-33,654	4,760	50	795	22.3	939.8	2,005	0	202	2,481	31,553	1,211	-2,101
2022	3,500	4,680	750	36	7,756	0	2,107	350	24.3	-1,271	-34,925	4,760	50	795	24.3	939.2	2,005	0	202	2,483	34,036	1,212	-889
2023	3,500	4,680	750	36	7,756	0	2,107	350	25.9	-1,273	-36,197	4,760	50	795	25.9	938.9	2,005	0	202	2,485	36,521	1,212	323
2024	3,500	4,680	750	36	7,756	0	2,107	350	27.3	-1,274	-37,472	4,760	50	795	27.3	938.7	2,005	0	202	2,487	39,007	1,213	1,536
2025	3,500	4,680	750	36	7,756	0	2,107	350	28.4	-1,275	-38,747	4,760	50	795	28.4	938.5	2,005	0	202	2,488	41,495	1,213	2,748
2026	3,500	4,680	750	36	7,756	0	2,107	350	29.7	-1,277	-40,023	4,760	50	795	29.7	938.4	2,005	0	202	2,489	43,984	1,213	3,961
2027	3,500	4,680	750	36	7,756	0	2,107	350	30.2	-1,277	-41,300	4,760	50	795	30.2	938.3	2,005	0	202	2,490	46,474	1,213	5,174
2028	3,500	4,680	750	36	7,756	0	2,107	350	31.0	-1,278	-42,578	4,760	50	795	31.0	938.2	2,005	0	202	2,491	48,965	1,213	6,387
2029	3,500	4,680	750	36	7,756	0	2,107	350	31.6	-1,278	-43,856	4,760	50	795	31.6	938.1	2,005	0	202	2,491	51,457	1,213	7,600
2030	3,500	4,680	750	36	7,756	0	2,107	350	32.0	-1,279	-45,135	4,760	50	795	32.0	938.0	2,005	0	202	2,492	53,949	1,213	8,813
2031	3,500	4,680	750	36	7,756	0	2,107	350	32.6	-1,279	-46,415	4,760	50	795	32.6	937.9	2,005	0	202	2,493	56,441	1,213	10,027
2032	3,500	4,680	750	36	7,756	0	2,107	350	33.0	-1,280	-47,694	4,760	50	795	33.0	937.8	2,005	0	202	2,493	58,935	1,213	11,240
2033	3,500	4,680	750	36	7,756	0	2,107	350	33.5	-1,280	-48,975	4,760	50	795	33.5	937.7	2,005	0	202	2,494	61,428	1,214	12,454
2034	3,500	4,680	750	36	7,756	0	2,107	350	33.8	-1,281	-50,255	4,760	50	795	33.8	937.6	2,005	0	202	2,494	63,923	1,214	13,667
2035	3,500	4,680	750	36	7,756	0	2,107	350	34.2	-1,281	-51,536	4,760	50	795	34.2	937.4	2,005	0	202	2,495	66,417	1,214	14,881
2036	3,500	4,680	750	36	7,756	0	2,107	350	34.5	-1,281	-52,818	4,760	50	795	34.5	937.3	2,005	0	202	2,495	68,913	1,214	16,095
2037	3,500	4,680	750	36	7,756	0	2,107	350	34.8	-1,282	-54,099	4,760	50	795	34.8	937.1	2,005	0	202	2,496	71,408	1,214	17,309
2038	3,500	4,680	750	36	7,756	0	2,107	350	35.1	-1,282	-55,381	4,760	50	795	35.1	936.9	2,005	0	202	2,496	73,904	1,214	18,523
2039	3,500	4,680	750	36	7,756	0	2,107	350	35.3	-1,282	-56,663	4,760	50	795	35.3	936.7	2,005	0	202	2,497	76,401	1,214	19,738
2040	3,500	4,680	750	36	7,756	0	2,107	350	35.5	-1,282	-57,946	4,760	50	795	35.5	936.6	2,005	0	202	2,497	78,898	1,215	20,952
2041	3,500	4,680	750	36	7,756	0	2,107	350	35.8	-1,283	-59,228	4,760	50	795	35.8	936.4	2,005	0	202	2,497	81,395	1,215	22,167
2042	3,500	4,680	750	36	7,756	0	2,107	350	36.0	-1,283	-60,511	4,760	50	795	36.0	936.3	2,005	0	202	2,498	83,893	1,215	23,382
2043	3,500	4,680	750	36	7,756	0	2,107	350	36.2	-1,283	-61,794	4,760	50	795	36.2	936.1	2,005	0	202	2,498	86,391	1,215	24,597

Notes:

Note that the water budget numbers in this table were changed slightly from those presented in the *Technical Memorandum - Groundwater Resources Cumulative Impact Analysis for Genesis Solar Power Project*, dated December 31, 2009 due to incorporation of updated data submitted by the Eagle Crest project (GEI, 2009) and a minor adjustment of the model. This adjustment has not substantively changed our findings or conclusions.

1. Western Chuckwalla Valley Groundwater Basin boundaries assumed to coincide with DWR's Palen Detailed Analysis Unit
2. Eastern Chuckwalla Valley Groundwater Basin boundaries assumed to coincide with DWR's Ford Detailed Analysis Unit
3. For details, see Section 3.7.4
4. Reflects decreased prison water demand starting in 2010 due to water conservation and population reduction (Eagle Crest, 2009; Lanahan, 2009).



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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**APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT**

Docket No. 09-AFC-8

**PROOF OF SERVICE
(Revised 7/23/10)**

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DECLARATION OF SERVICE

I, Scott Galati, declare that on July 20, 2010, I served and filed copies of the attached: **TABLE 4: CUMULATIVE WATER BUDGET FORECAST FOR DRY COOLING**. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://www.energy.ca.gov/sitingcases/genesis_solar].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

- sent electronically to all email addresses on the Proof of Service list;
- by personal delivery;
- by delivering on this date, for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses NOT marked "email preferred."

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FOR FILING WITH THE ENERGY COMMISSION:

- sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (**preferred method**);

OR


- depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-8
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



for Scott Galati
Counsel to Genesis Solar, LLC