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CE Obsidian Energy LLC
A Limited Liability Company

March 1, 2010

California Energy Commission
Energy Facilities Siting Division
Attn: Matt Trask
1516 Ninth Street, MS 2000
Sacramento, CA 95814-5512

Subject: Summary of the Revised Water Usage for Black Rock 1, 2, and 3
Geothermal Power Project
Reference: Docket Number: 02-AFC-2C

Dear Mr. Trask:

This letter is in response to a request by the California Energy Commission for a notice of the revised expected water usage estimates that were submitted in the response to data request 66. The new water usage estimate for Black Rock 1, 2, and 3 Project is 608.6 afy for worst case studied and 354.9 afy for the nominal design case. This compares to the previous estimate submitted in the March 13, 2009 amendment petition to the CEC of 953 afy for the worst case and 483 afy for the nominal design.

The following is a summary of the revised water usage estimates as they pertain to the Black Rock 1, 2, and 3 Project. The calculated values are estimates based on additional design information. The required water usage may vary some due to actual plant performance and variations in the extreme weathers conditions. However, we have made our best engineering analysis of the water usage for a preliminary design status. Additionally, the plant does not require the maximum quantity of water when operating at or above the nominal design electrical generation. The worst case for water issue occurs during lower than design electrical generation, which is not the desirable operating profile, as we fully plan to optimize our generation to nominal or higher.

A new evaluation was performed for each brine flow operating condition (low, nominal, and high) on a monthly basis. The water usage by month was summed to provide a total expected annual water usage for each operating condition. The summary of the water usage is shown in the following table.

Annual Canal Water Consumption per Unit Basis (Acre Feet) Case		New Estimate of Water Usage by Brine Flow and Megawatt Design Condition		
		Case		
		A	B	C
		Low	Medium	High
Generation, Annualized (net)	MW	48	53	58
Brine Enthalpy	btu/lb	400	403	408
Process Brine Flow (k lb/hr)	k lb/hr	6,000	6,300	6,500
Jan	Winter	7.3	7.3	7.3
Feb		7.3	7.3	7.3
Mar		7.3	7.3	7.3
Apr		7.3	7.3	7.3
May		7.3	7.3	7.3
Jun	Summer	36.0	14.9	7.9
Jul		36.0	14.9	7.9
Aug		36.0	14.9	7.9
Sep		36.0	14.9	7.9
Oct	Winter	7.3	7.3	7.3
Nov		7.3	7.3	7.3
Dec		7.3	7.3	7.3
Annual Total (per unit)	1	202.9	118.3	90.3
Annual Total for BR 1-3 (3 Units or 1 plant)	3	608.6	354.9	271.0

Again, the significant trend is clear that increasing the brine flow to obtain more electrical generation indicates a lower water usage. However, the worst case estimate for the low brine flow case happens to be the highest estimated water usage at 608.6 afy. The CE operating philosophy will be to maximize electrical generation during the peak energy demand period (summer months), which will lead to a lower water usage. The actual operation may be required to limit brine flow or operate when low brine flow is unavoidable due to many reasons, such as pipeline system limitation, process equipment limitations, or even well flow limitations.

Therefore, we have shown the water usage requirements at the low brine flow conditions to assure the worst case water usage impact is evaluated.

Please contact me should you have any further questions on the new water usage estimates for the Black Rock 1, 2, and 3 Project.

Best regards,

**Doug
Hackley**

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