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September 12, 2011

VIA EMAIL AND U.S. MAIL

Mary Dyas
Compliance Project Manager
California Energy Commission
1516 9th Street, MS 2000
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Re: Elk Hills Power Project Water Use

Dear Ms. Dyas:

During the course of processing Elk Hills Power, LLC's July 1, 2011 Request for Administrative Change to Allow Operation as a Cogeneration Facility, you alerted us to a concern about the amount of water used by the Elk Hills Power Project ("EHP"). We provide in this letter more information regarding the causes of EHP's increased water use, and we address how both previous and recently proposed project changes will maintain the water used by EHP below 3,000 acre feet per year ("afy").

I. EHP's Historical Water Use

The California Energy Commission ("Commission") approved EHP's Application for Certification ("AFC") with an annual water use limit of 3,000 afy, despite the Commission's conclusion that EHP would require 3,180 afy based on expected annual power generation at the time EHP was being developed. (Final Decision at 228 and 258.) Since EHP began commercial operations, annual power generation has been higher than originally expected. This has resulted in greater annual water consumption.

To reduce water consumption in light of SOIL&WATER-4, EHP sought an amendment to the Final Decision in April 2003.¹ This modification increased cooling tower water conservation by increasing the number of times water is cycled through the cooling tower (from 6 cycles to 10

¹ See http://www.energy.ca.gov/sitingcases/elkhills/compliance/2003-06-27_STAFF_ANALYS_MOD.PDF.

cycles). These measures also increased the PM10 emissions from the cooling tower. EHP obtained Commission approval for these changes on July 23, 2003.²

Despite Elk Hills Power's efforts to reduce water use by increasing cycling in the cooling tower, additional factors have caused water use at EHP to increase. First, the concentration of total dissolved solids ("TDS") in EHP's water supply has increased beyond expected levels, which limited the number of times water could be cycled through the cooling tower and therefore, increased cooling tower blow down. Second, other factors such as maintenance of the demineralized water tanks and testing of EPA injection wells have required more water than anticipated. These factors are discussed in greater detail below.

A. TDS Content of Water Supply

Over time, TDS concentrations in EHP's supply water from the West Kern Water District ("WKWD") have increased. This increase in TDS concentration was beyond EHP's control. (See Commission Staff Analysis for Elk Hills Power Project Proposed Air Quality Modifications [August 4, 2010] at 4.) Due to this increase in TDS concentration, EHP was forced to increase blowdown considerably by decreasing the cycles of concentration in order to stay in compliance with its PM10 emissions limitations. This measure significantly increased EHP's water use and blowdown disposal.

As a result of the elevated TDS levels in its water supply, EHP requested and obtained a variance from the San Joaquin Valley Air Pollution Control District ("District") allowing it to investigate the TDS levels at different cycles of concentration. The information gained from testing allowed EHP to estimate PM10 emissions at various operating conditions using the higher TDS water that EHP is currently receiving. Based on this information, EHP obtained a revised Authority to Construct from the District authorizing slightly higher PM10 emission levels from the cooling tower. The District issued the revised Authority to Construct in May 2010. (See Appendix B to Elk Hills Power Project Petition for Air Quality Conditions Modifications [June 2010].) EHP then sought an amendment to the Final Decision to increase PM10 emissions at the cooling tower and to decrease PM10 emissions at the combustion turbine generators ("CTGs"). The Commission approved these slightly higher PM10 emission levels on September 8, 2010. (See Notice of Decision dated September 8, 2010.³) This allowed EHP to reduce cooling tower blowdown, which minimizes water use while maintaining compliance with its air emission limits.

² Commission approval order available at http://www.energy.ca.gov/sitingcases/elkhills/compliance/2003-07-31_EHPP_ORDER.PDF.

³ Available at http://www.energy.ca.gov/sitingcases/elkhills/compliance/2010-09-16_Notice_of_Decision-Modifications_to_AQ_Conditions_TN-58500.pdf.

Therefore, the TDS issue has been addressed through modifications to the air permits and the emissions limits in the conditions of certification, resulting in decreased water use.

B. Other Water Use Factors

Use of water for maintenance of EHP's demineralized water tanks was not considered in EHP's original AFC and has required a greater amount of water than originally expected at the time the Commission issued the Final Decision. Additionally, EHP's water use has also increased in recent years due to testing of EHP's water injection wells that was required by the Environmental Protection Agency ("EPA"). Water use due to this testing was also not considered in EHP's original AFC. This testing has required approximately 30 afy. However, additional testing was required in 2010 that increased water consumption from these tests to 56 acre-feet in that year.

II. EHP's Water Requirements After the Cogeneration Project Becomes Operational

As discussed above, EHP used more water than originally anticipated. The 2010 air quality amendment allowed EHP to reduce water usage, but total water use remained in excess of 3,000 afy. The recently approved modification to the Final Decision allowing EHP to operate as a cogeneration facility is expected to reduce EHP's water consumption enough to ensure that EHP will use no more than 3,000 afy.

By way of short review, the Cogeneration Project involves modifying EHP by adding connections to the high and intermediate pressure steam systems and condensate system. These connections would allow steam to be diverted from EHP and delivered to new heat exchangers ("Heat Exchanger Facilities") located adjacent to the EHP site. These modifications would allow EHP to deliver useful cogenerated thermal energy to support the adjacent Occidental of Elk Hills, Inc. ("OEHI") oil and gas processing facilities (referred to as the "35R Gas Processing Facilities").

By diverting steam from the steam turbine to the Heat Exchanger Facilities, the Cogeneration Project will alter EHP's water use requirements. When steam is diverted to the Heat Exchanger Facilities, EHP would use less water because a portion of that steam will no longer be directed to EHP's steam turbine, the exhaust from which is condensed using cooling water. This will reduce the demand on the cooling water system, and thus reduce cooling tower losses. The steam diverted to the Heat Exchanger Facilities would be returned to EHP as condensate. Blow down from the steam generator in the Heat Exchanger Facilities will be recovered and sent to the EHP cooling tower, further reducing EHP's make up water requirements. Therefore, providing thermal energy to the 35R Gas Processing Facilities will reduce EHP's overall water use.

EHP Annual Water Use

Year*	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 and after
Water Use (afy)	3,157	2,934	2,917	3,358	3,520	3,215	3,300	3,100 (forecast)	2,936 (forecast)	2,868 (forecast)

* EHP began commercial operation on July 24, 2003. During that partial first year, EHP used a total of 1,560 afy.

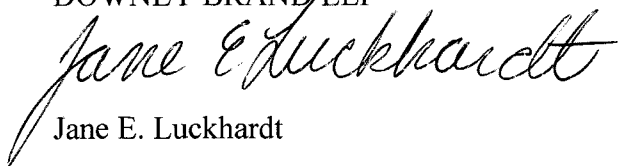
The Cogeneration Project is anticipated to reduce total EHP water supply requirements to 2,868 afy once it is completed in early 2012. This change should provide a cushion of slightly more than 100 afy below the 3,000 afy level included in SOIL&WATER-4. Therefore, once the Cogeneration Project is complete, EHP expects to use no more than 3,000 afy of water on a going-forward basis.

III. Conclusion

EHP appreciates the opportunity to describe unanticipated water conditions and regulatory requirements driving the increased water use at EHP. Furthermore, EHP expects to use no more than 3,000 afy of water after the Cogeneration Project is complete. Should you have any questions, please do not hesitate to contact me.

Very truly yours,

DOWNEY BRAND LLP



Jane E. Luckhardt

JEL:NHR

cc: Ed McMurren
Robert Hoffman

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