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November 10, 2009

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DATE	<u>NOV 10 2009</u>
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Commissioner Jeffrey D. Byron, Presiding Member
Commissioner Julia Levin
Siting Policy Committee
California Energy Commission
1516 9th Street MS 32
Sacramento, CA 95814

Subject: High Desert Power Project (97-AFC-01C)
November 18, 2009 Business Meeting Agenda Item

Dear Commissioner Byron and Commissioner Levin:

On behalf of High Desert Power Project, LLC ('Petitioner') we are writing to you in reference to an Agenda Item on the Commission's November 18, 2009 Business Meeting Agenda regarding the High Desert Power Project's petition to 1) eliminate the 2000 Decision's prohibition on use of recycled water for cooling; and 2) authorize construction of a pipeline to deliver recycled water for about one third of the power plant's cooling need.

On September 24, the Commission staff issued a Revised Staff Analysis (RSA). The RSA assesses the Petition to Amend submitted on August 12, 2008, and the Supplement to Petition for Modification to use Reclaimed Water (Supplement), submitted on June 4, 2009. In the RSA the Staff concurs with the proposal to modify Soil and Water-1 and 4 and add Soil and Water-20 and 21. The RSA states that, with the implementation of these revised and added Conditions of Certification, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment.

The Petitioner is in general agreement with the revisions to the Conditions of Certification set forth in the RSA. However, in furtherance of the goals and objectives to promote the use of recycled water, as described in the RSA, the Petitioner respectfully proposes certain clarifying changes to the Conditions of Certification set forth in the RSA. These proposed clarifying changes are set forth in Attachment 1 to this letter.

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The clarifying changes proposed herein are not intended to substantively change the Staff's recommendations. Instead, the purpose of the changes is to add clarity and specificity to the conditions. For example, in the verification language to Soil and Water-1 we propose specific language regarding the contents of the future feasibility study. This language is fully consistent with the informational requests that the Staff have made in other cases.

It is our understanding that the Siting Policy Committee may make a recommendation to the full Commission regarding the disposition of this item. Therefore, if these clarifying changes are acceptable to Staff, we respectfully request that the Siting Committee recommend to the full Commission the Staff's proposed Conditions as clarified herein.

Sincerely,



Greggory L. Wheatland
Attorney for High Desert Power Project LLC

Attachment

cc: Commissioners James Boyd, Karen Douglas and Arthur Rosenfeld
Steve Munro, Compliance Project Manager

PROPOSED
CONDITIONS OF CERTIFICATION

HDPP's proposed clarifications to the modifications to the Conditions of Certification presented in the Revised Staff Analysis are shown below in **bold double underline** and proposed deletions are shown in ~~double strikethrough~~.

SOIL&WATER-1 ~~The only~~ Water used for project operation (except for domestic purposes) shall be State Water Project (SWP) water obtained by the project owner consistent with the provisions of the Mojave Water Agency's (MWA) Ordinance 9 and/or appropriately treated recycled waste water.

- a. Whenever SWP water is available to be purchased from ~~MWA~~ the city of Victorville, or recycled waste water is available, the project owner shall use direct delivery of such water for project operation.
- b. Whenever water is not available to be purchased from the ~~MWA~~ city of Victorville the project owner may use SWP water banked in the ~~seven~~ four HDPP wells ~~identified in Figure Number 1 of the Addendum Number 1 to the "Evaluation of Alternative Water Supplies for the High Desert Power Project: (Bookman Edmonston 1998)~~ as long as the amount of water used does not exceed the amount of water determined to be available to the project pursuant to SOIL&WATER-5.
- c. If there is no SWP water available to be purchased from the ~~MWA~~ city of Victorville, and there is no reclaimed water available, and there is no banked water available to the project, as determined pursuant to SOIL&WATER-5, no groundwater shall be pumped, and the project shall not operate. At the project owner's discretion, dry cooling may be used instead, if an amendment to the Commission's decision allowing dry cooling is approved.
- d. ~~The project shall not use treated water from the Victor Valley Wastewater Authority.~~
- e. The project's water supply facilities shall be appropriately sized ~~and utilized~~ to meet project needs. **The project shall and to make maximum use of recycled waste water for power plant cooling needs given current equipment capabilities and permit conditions. Prior to use of recycled waste water the project owner will provide the CPM with details of the recycled water pipeline and connections, a copy of an agreement with VVWRA or other suppliers that will deliver recycled waste water, and any other information necessary to amend the project for the proposed recycled waste water use.**

- f. The project owner shall continue with the feasibility study **evaluating the use of 100 percent recycled water** and developing the design for eventual conversion to 100 percent recycled water use for evaporative cooling purposes **and other industrial uses**, by the 4th quarter of 2012. The intent of this conversion is to eliminate fresh water use for power plant cooling consistent with Energy Commission water policy and California Water Code, section 13550. The project owner shall submit a petition to amend the project because of the changes that would be needed to convert to 100 percent recycled water. The feasibility study shall be completed by the project owner and submitted to the CPM no later than December 31, 2011.

Verification: The project owner shall provide final design drawings of the project's water supply facilities to the CPM, for review and approval, thirty (30) days before commencing project construction.

The project owner shall provide a biannual report on the progress being made on the **feasibility study** project design for use of 100 percent recycled water for power plant cooling. The report shall include information related to **design and specifications for project modifications that may be needed** and any adjustments or changes in the schedule for **converting using up** to 100 percent recycled water, use. The first report shall be due six months after adoption of this condition of certification. ~~If the schedule for implementation of 100 percent recycled water use goes beyond the 2nd quarter of 2013, the CPM may require the owner to provide an analysis demonstrating why the necessary plant modifications can or cannot be made in a more timely manner. This analysis may be brought to the Energy Commission for consideration and further determination of what action the owner should take to make the facility modifications to 100 percent recycled water use.~~

Verifying compliance with other elements of Condition SOIL&WATER-1 shall be accomplished in accordance with the provisions of the Verifications for Conditions 2, 3, and 6, 20, and 21 as appropriate.

The feasibility study to be submitted by December 31, 2011, should contain, but not be limited to, the following information:

I Water Supply

- A. Potential sources of recycled water, its current and projected use, and alternative pipeline routes
- B. Adequacy of recycled water supplies to meet plant operation demand (provide future projections of supply and demand considering annual volumes, monthly patterns of plant water use vs. availability of water supply, and peak day supply and demand)
- C. Quality of existing and recycled water supplies

- D. Water treatment requirements for existing and recycled water supplies
- E. Cooling cycles of concentration for existing and potential recycled water supplies

II Cooling & Process Needs

- A. Consumptive water uses e.g.: cooling tower make-up, evaporative cooling of CTG inlet air, CTG compressor intercooling, and STG condensation; CTG NOx control; CTG power augmentation; boiler water makeup
- B. Space requirements for additional treatment of recycled water supplies vs. space available on the plant site
- C. Water balance diagrams for recycled water use and wastewater discharge for average and peak conditions to include distinctions in using existing vs. recycled water

III Wastewater Treatment & Disposal

- A. Method (existing discharge via sewer system to WWTP, dedicated brine return line, deep well injection, or zero liquid discharge (ZLD) recovery)
- B. Available capacity & operating limitations

IV Economic Costs of Existing Source and Recycled Sources (where applicable)

- A. Capital costs
 1. water supply pipeline
 2. water supply pumping station(s)
 3. well(s)
 4. water treatment system
 5. wastewater pipeline & facility capacity charge
 6. permitting (PM10, Legionella, discharge quality and quantities)
 7. right of Way and Easement acquisitions
 8. engineering, procurement, construction inspection and testing
 10. biologic surveys/environmental assessment reports
- B. Annual (operating and maintenance) Costs
 1. existing and recycled water purchase cost
 2. chemicals (cooling tower & water treatment)
 3. labor
 4. energy (water supply pumping, water treatment)
 5. wastewater discharge fee
 6. solids disposal (class of waste, transportation & landfill fees)
- C. Project Life – Identify project life
- D. Total Project Cost (base case)
- E. Installed cost per watt

F. Total Annualized Cost – expressed as the uniform end-of-year payment (A/P) of Capital Costs + Annual Costs

G. Cost of Capital

H. Debt to equity ratio

I. Average debt service coverage ratio

J. Identify internal rate of return

K. Monthly and annual energy production since becoming operational

V Expected Effects on Electric Customers

A. Description of electricity rate structure and rates to customers using existing water source

B. Description of expected electricity rates to customers using recycled water over the remaining life of the plant.

VI Environmental Considerations for the use of Recycled Water

A. Describe the potential effects of recycled water use on the generation of hazardous waste and on the quality of its wastewater discharge

B. Describe the potential impacts to public health through the use and discharge of recycled water

C. Describe the potential effects of recycled water use and discharge on the degradation of water quality and its potential to be injurious to plant life, fish, and wildlife.

D. Describe potential effects on existing water rights or entitlements

VII Discussion of applicable California Water Code provisions.

SOIL&WATER-4 Injection Schedule:

- a. The project owner shall inject one thousand (1000) acre-feet of SWP water within twelve (12) months of the commencement of the project's commercial operation.
- b. By the end of four years and two months from the start of commercial operation, the project owner shall install and begin operation of a pre-injection ultraviolet (UV) disinfection system.
- c. By the end of the fifth year of commercial operation, the project shall submit a report to the CPM demonstrating that HDPP has maintained an average THM concentration level consistent with the WDR permit requirements.
- d. After the end of the fifth year of commercial operation, the project owner shall ~~(i)~~ inject SWP water when it is available in excess of volumes needed to operate the project **up to a cumulative quantity of**

13,000 acre feet, subject to equipment capabilities and permit requirements. The amount of water available to HDPP for extraction is equal to Injection minus Extraction minus Dissipation minus 1000 acre-feet, as defined in SOIL&WATER-6.

- d. The project shall install and implement a pre-injection reverse osmosis treatment system within one (1) year if any water banking milestone is not met as defined in the following table.

Table of Milestones for Calculated Water Bank Reserve (1)

Water Banking Year	Anniversary Date (2)	End of Year Milestones (3)	Contingency Plan: Criteria for Installation of Reverse Osmosis
8	April 21, 2011	Water Banking Goal	Calculated Water Bank Reserve < 2,500 ac-ft
9	April 21, 2012	Water Banking Goal	Calculated Water Bank Reserve < 5,400 ac-ft
10	April 21, 2013	Water Banking Goal	Calculated Water Bank Reserve < 8,300 ac-ft
11	April 21, 2014	Water Banking Goal	Calculated Water Bank Reserve < 9,200 ac-ft
12	April 21, 2015	Water Banking Goal	Calculated Water Bank Reserve < 10,100 ac-ft
13	April 21, 2016	Water Banking Goal	Calculated Water Bank Reserve < 11,000 ac-ft
14	April 21, 2017	Water Banking Goal	Calculated Water Bank Reserve < 12,000 ac-ft
15	April 21, 2018	Water Banking Goal	Calculated Water Bank Reserve < 13,500 ac-ft

(1) — Calculated Water Bank Reserve = Injection minus Extraction minus Dissipation. (Amount of water available to HDPP is equal to Injection minus Extraction minus Dissipation minus 1000 acre feet, as defined in SOIL&WATER-6.)

(2) — Start of Commercial Operation: April 22, 2003.

(3) — Milestones are designed to determine if injection falls significantly behind schedule.

- e. No later than the end of the fifteenth (15) year of commercial operation, the amount of water injected minus the amount of banked groundwater used for project operation, minus the amount of dissipated groundwater shall meet or exceed thirteen thousand (13,000) acre feet.

- f. After the requirement of section e has been satisfied and until three (3) years prior to project closure, the project owner shall

~~replace banked groundwater used for project operation as soon as SWP water is available for sale by MWA. The project owner may choose to delay replacement of a limited quantity of banked groundwater used for project operations during aqueduct outages until the cumulative amount of groundwater withdrawn from the bank reaches one thousand (1,000) acre feet.~~

~~Once the limit of one thousand (1,000) acre feet has been reached, the project owner shall replace banked groundwater used for project operation during aqueduct outages as soon as SWP water is available for sale by MWA.~~

Verification: The project owner shall submit an installation and operation report describing the pre-injection ultraviolet disinfection (UV) by the end of the fourth year of commercial operation. The project owner shall submit a UV performance report by the fifth year of commercial operation. Forecasted estimates of SWP water to be injected shall be included in the quarterly Aquifer Storage and Recovery Well Report. For other related items, see the verification to Condition 5. See also the verification to Condition 12.

SOIL&WATER-20 The project owner shall provide the CPM two copies of the executed Recycled Water Purchase Agreement (agreement) with the ~~City of Victorville (City)~~ **Victorville Water District (VWD) and/or City of Victorville (City)** for the long-term supply (20 – 25 years) and delivery of tertiary treated recycled water to the HDPP. The HDPP shall not connect to the City’s recycled water pipeline without the final agreement in place. The project owner shall comply with the requirements of Title 22 and Title 17 of the California Code of Regulations and section 13523 of the California Water Code.

Verification: ~~No later than 60~~ **At least 30** days prior to the connection to the ~~City the connection to the VVWRA recycled water pipeline,~~ recycled water pipeline, the project owner shall submit two copies of the executed agreement for the long-term supply and delivery of tertiary treated recycled water to the HDPP. The agreement shall specify a maximum delivery rate of 4000 gpm and shall specify all terms and costs for the delivery and use of recycled water by to the HDPP.

~~No later than 60~~ **At least 30** days prior to connection to the City’s recycled water pipeline, ~~connection to the City’s recycled water pipeline,~~ the project owner shall submit to the CPM a copy of the Engineering Report and Cross Connection inspection and approval report from the California Department of Public Health and all water reuse requirements issued by the ~~Los Angeles~~ **Lahontan Regional Water Quality Control Board.**

SOIL&WATER-21 Prior to use of recycled water during operation of the HDPP, the project owner shall install and maintain metering devices as part of the water supply and distribution system to monitor and record in gallons per day the volume of recycled water used by the HDPP. The metering devices shall be operational for the life of the project, and an annual summary of daily water use shall be submitted to the CPM in the annual compliance report.

Verification: At least ~~30~~ 10 days prior to use of recycled water for HDPP operation, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the recycled water line serving the project. The project owner shall provide a report on the servicing, testing, and calibration of the metering devices in the annual compliance report.