

## DOCKETED

<b>Docket Number:</b>	97-AFC-01C
<b>Project Title:</b>	High Desert Power Plant
<b>TN #:</b>	211258
<b>Document Title:</b>	Staff Proposed Changes to Provide Interim Relief
<b>Description:</b>	N/A
<b>Filer:</b>	Joe Douglas
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Energy Commission
<b>Submission Date:</b>	4/26/2016 1:12:27 PM
<b>Docketed Date:</b>	4/26/2016

## STAFF PROPOSED CHANGES TO PROVIDE INTERIM RELIEF HIGH DESERT POWER PROJECT (97-AFC-1C)

Staff agrees that interim relief is useful to allow additional time to address reliable water supplies for the High Desert Power Project (HDPP), but this should not preclude consideration of those interim solutions that are equally applicable/workable over the long term and that are agreeable to the parties (i.e. percolation banking). Staff recommends allowing blending of cooling tower makeup waters to achieve desired functionality of the cooling tower. Based on information from the petitioner, banked water is the best and most consistent quality, so it is the best final control of cooling tower functionality. The interim Mojave River Basin adjudicated groundwater should only be available for the next two water years with an enforceable loading sequence, and be used when other water supply sources are not available.

Staff proposes changes to the soil and water conditions of certification to provide interim relief. Changes are shown in **bold underline** and ~~bold strikethrough~~. For SOIL&WATER-1, staff provides edits to the current Decision language, not to language proposed by the petitioner. But for the banking conditions (SOIL&WATER-4, 5, 6, 12, 13), the edits are to the petitioners proposed changes (Exhibit 1000). In all cases, the **bolded insertions** are what staff is proposing as appropriate interim language for the parties to consider.

### SOIL&WATER-1

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, and/or an alternative water supply obtained from the Mojave River Basin ("MRB") consistent with the "Judgment After Trial" dated January, 1996, in City of Barstow, et al. v. City of Adelanto, et al. (Riverside County Superior Court Case No. 208568) (collectively, "MRB Water Rights") as administered by the MWA Watermaster (the "Judgment").

- a. Whenever recycled waste water of quality sufficient for project operations is available to be purchased from the City of Victorville, the project owner shall use direct delivery of maximum quantities of such water for project operations. Whenever the quantity or quality of recycled waste water is not sufficient to support project operations, the project may supplement recycled water supplies with SWP water, banked SWP water from the four HDPP wells 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, and/or MRB Water Rights. **The project owner shall consume no more than 2,000 AF in water year 2016/2017 (October 1 2016 - September 30, 2017) and no more than 2,000 AF in water year 2017/2018 (October 1, 2017-September 30, 2018) of MRB Adjudicated Water Rights. The acquisition, use, and transfer of MRB Water Rights shall be in compliance with the Judgment and Rules and Regulations of the MWA Watermaster Use of water from the adjudicated basin shall be limited to situations when a sufficient amount of recycled water, SWP water, or banked SWP or combination thereof, is not available**

**to obtain the needed blend for project operation. If the 2015 Petition to Amend to use recycled water is adjudicated and a remedy for project water supply is achieved prior to September 30, 2018, the interim water supply provisions will expire and the amended provisions for water supply shall be implemented immediately.**

**The project owner shall implement an interim “Loading Sequence” as follows:**

**First, the project owner will continue to maximize use of Recycled Water as the primary water supply, to the extent it is available and its quality is sufficient to maintain cooling tower functions and reliable operation of the facility. The recycled water may be blended with SWP Water, when available and of suitable quality.**

**Second, if cooling tower operational criteria indicate that better quality backup water is needed to achieve the required cooling tower blowdown rate or cooling tower functionality, banked SWP Water may be blended, when available.**

**Lastly, MRB Water Rights water may be blended in only if SWP water and banked SWP water are not available,**

**The project owner shall provide the CPM with notice that 500 AF of MRB Water Rights have been consumed thus far in the water year within ten calendar days of reaching the 500-AF level.**

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.

- b. The project owner shall report all use of water from all sources to the Energy Commission CPM on a monthly basis in acre-feet.
- c. The project owner shall submit a Petition to Amend (PTA) no later than November 1, 2015 that will implement reliable primary and backup HDPP water supplies that are consistent with state water policies or an alternate cooling system like dry cooling.
- d. (Item Deleted)
- e. The project's water supply facilities shall be appropriately sized and utilized to meet project needs. The project shall make maximum use of recycled waste water for power plant cooling given current equipment capabilities and permit conditions.

- f. The project owner shall continue with the feasibility study evaluating the use of 100 percent recycled water for evaporative cooling purposes and other industrial uses. The feasibility study shall be completed by the project owner and submitted to the CPM.

Verification: \* \* \*

#### **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 projects commercial operation.
- b. By the end of the 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 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 **injected SWP** water available to HDPP for extraction is equal to Injection minus Extraction minus Dissipation minus 1000 acre-feet, as defined in **SOIL&WATER-6**.
- e. As a replacement of the project's injection groundwater bank, the project owner shall work with the MWA to seek a feasible agreement or modify existing agreements to allow the project to bank SWP water, for exclusive use in HDPP, in the Mojave River Basin through percolation using existing MWA facilities.**
- f. The project owner may continue to bank water by direct injection until the amount of water in the MWA bank for HDPP reaches 3,000 acre-feet (AF). Once the MWA water bank for HDPP reaches 3,000 AF, the project owner shall cease banking SWP water via direct injection.**
- g. The project owner shall achieve and maintain a combined bank (MWA bank and injection bank) of 9,000 AF, plus or minus 3,000 AF for use in any one year, by September 30, 2024. Prior to plant closure, the project owner may reduce the combined bank:**
- **To 6,000 AF plus or minus 3,000 AF three years prior to plant closure;**
  - **To 3,000 AF plus or minus 3,000 AF two years prior to plant closure;**
  - **To 0 AF plus or minus 3,000 AF one year prior to plant closure.**

**Verification:** The project owner shall submit an installation and operation report describing the pre-injection ultraviolet disinfection system (UV) by the end of the fourth year of commercial operation. Forecasted estimates of SWP water to be injected shall be included in the quarterly Aquifer and Storage Recovery Well Report. The project owner shall submit a UV performance report by the fifth year of commercial operation. For other related items, see the verification to **Condition 5**. See also the verification to **Condition 12**. **If the project owner and MWA are able to reach an agreement or modify existing agreements regarding use of existing MWA facilities for the percolation and banking of SWP water, for the exclusive use in HDPP that is feasible for the power plant, the project owner shall provide a copy of such agreement or modified agreements to the CPM.**

#### **SOIL&WATER-5 Calculation of Balance**

a. The amount of banked groundwater **as injected SWP water** available to the project shall be calculated by the CEC staff using the HDPP model, FEMFLOW3D. **The amount of MWA banked groundwater available for the exclusive use of HDPP, from SWP water percolated by MWA, shall be calculated by MWA or the Mojave Basin Area Watermaster.** The amount of banked groundwater available shall be updated on a calendar year basis by the CEC staff, taking into account the amount of groundwater pumped for the project ~~during the preceding year~~ and the amount of water banked by the project during the preceding year.

#### **SOIL&WATER-6 Banked Water Available for Project Use**

a. The amount of banked groundwater available to the project during the first twelve (12) months of commercial operation is the amount of SWP water injected by the project owner into the High Desert Power Project (project) wells, minus the amount of groundwater pumped by the project owner, minus the amount of dissipated groundwater, and minus any amount described in SOIL&WATER-5(b).

b. The amount of banked groundwater available to the project after the first twelve (12) months of commercial operation is: **(1) the amount of SWP water percolated by MWA and (2) the amount of SWP water injected by the project owner into the project wells, minus the amount of groundwater pumped for the project owner, minus the amount of dissipated groundwater, minus one thousand (1,000) AF, and minus any amount described in SOIL&WATER-5(a)**

#### **SOIL&WATER-12**

The project owner shall prepare and submit to the CEC CPM and, if applicable, to the Lahontan RWQCB for review and approval, a water treatment and monitoring plan that specifies the type and characteristics of the treatment processes and identify any waste streams and their disposal methods. The plan shall provide water quality values for all constituents monitored under requirements specified under California Code of

Regulations, Title 22 Drinking Water Requirements, from all production wells within two (2) miles of the injection wellfield for the last five (5) years.

The plan shall also provide SWP water quality sampling results from Rock Springs, Silverwood Lake, or other portions of the East Branch of the California Aqueduct in this area for the last five (5) years. Also identified in the plan will be the proposed treatment level for each constituent based upon a statistical analysis of the collected water information. The statistical approach used for water quality analysis shall be approved prior to report submittal by the CEC CPM and, if applicable, the RWQCB. Treatment of SWP water prior to injection shall be to levels approaching background water quality levels of the receiving aquifer or shall meet drinking water standards, whichever is more protective. The plan will also identify contingency measures to be implemented in case of treatment plant upset.

The plan submitted for approval shall include the proposed monitoring and reporting requirements identified in the Report of Waste Discharge (Bookman-Edmonston 1998d) with any modifications required by the RWQCB.

**Verification:** Ninety (90) days prior to ~~banking~~ **injection** of SWP water within the Regional Aquifer, the project owner shall submit to the Lahontan RWQCB and the CEC CPM a proposed statistical approach to analyzing water quality monitoring data and determining water treatment levels. The project owner shall submit the SWP water treatment and monitoring plan to the CEC CPM and, if appropriate, to the Lahontan RWQCB for review and approval. The CEC CPM's review shall be conducted in consultation with the MWA, the VVWD, and the City of Victorville. The plan submitted for review and approval shall reflect any requirements imposed by the RWQCB through a Waste Discharge Requirement.

### **SOIL&WATER-13**

The project owner shall implement the approved water treatment and monitoring plan. All ~~banked~~ **injected** SWP water shall be treated to meet local groundwater conditions as identified in Condition SOIL&WATER-12. Treatment levels may be revised by the CEC and, if applicable, by the RWQCB, based upon changes in local groundwater quality identified in the monitoring program not attributable to the groundwater banking program. Monitoring results shall be submitted annually to the CEC CPM and, if applicable, to the RWQCB.