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STATE OF CALIFORNIA

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:)
)
HIGH DESERT POWER PROJECT)
_____)

Docket No. 97-AFC-1C

**COMMENTS OF THE HIGH DESERT POWER TRUST
ON THE STAFF ANALYSIS
OF THE PETITION TO ALLOW HIGH DESERT POWER PROJECT
TO USE ALTERNATIVE WATER SUPPLIES**

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September 5, 2014

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On April 23, 2014, High Desert Power Trust (“Project Owner”), the owner of the High Desert Power Project (“HDPP”), filed a petition with the California Energy Commission (“Commission”) requesting to amend the Final Decision (“Final Decision”) for the HDPP (“Petition”). The 830-megawatt, combined-cycle power plant was certified by the Commission on May 3, 2000, and began commercial operations in April 2003. The facility is located in the City of Victorville, in San Bernardino County.

On August 28, 2014 the Commission’s Siting, Transmission, & Environmental Protection Division (“Commission Staff” or “Staff”) published the *Staff Analysis of the Proposed Petition to Allow High Desert Power Project to use Alternative Water Supplies* (“Staff Analysis”).

These comments are submitted in response to the Staff Analysis.

I. INTRODUCTION

The Petition before the Commission makes two requests. First, the Petition asks that HDPP be allowed the option of acquiring and using alternative water supplies to avoid operational disruptions caused by the current drought. The HDPP’s operational water supply is currently limited to State Water Project (“SWP”) water or recycled water.

We are pleased that the Staff Analysis recommends that HDPP be allowed the option of using a backup groundwater supply from the Mojave River Basin (“MRB”). Staff’s support of this request is qualified by several additional conditions that Staff recommends be imposed as a condition of granting this request. We do not agree with the rationale or necessity for some of these additional conditions. Nevertheless, with three limited, clarifying exceptions noted below, we will accept these conditions at this time, because we need immediate approval of the Petition in order avert serious threatening drought conditions. The new “2014/2015 Water Year” for the Mojave River Basin starts October 1st. Therefore, HDPP requires immediate authorization by the Commission at its September 10, 2014 Business Meeting in order for HDPP to seek alternative supplies for the period beginning October 1, 2014.

Attachment 1 to these comments sets forth the specific changes in the Conditions of Certification that we are asking the Commission to adopt. This Attachment sets forth the Staff’s proposed Conditions of Certification, together with three minor, clarifying modifications that we recommend.

Second, the Petition asks that HDPP be allowed to discharge backwash streams from the project’s aquifer banking water treatment system to the City of Victorville Water District’s Wastewater Treatment Plant (“City IWWTP”) to increase the supply and improve the quality of the recycled water available to HDPP. This authorization would require the construction of a short pipeline system from the HDPP to an existing pipeline that supplies the City IWWTP. . . Further, the discharge line would allow pre-treatment and banking of SWP water when HDPP is not operating, which could potentially increase the amount of water banked by the HDPP.

The Staff Analysis recommends that the proposed discharge line not “be considered or approved at this time”. (Staff Analysis, p. 4.) We are disappointed in the Staff’s

recommendation regarding the discharge line because the line offers very positive water conservation benefits and is a means of using recycled water more efficiently. If the Commission does not approve this request for the discharge line at this time, we ask that the request be acted upon as soon as possible.

In the following comments we will first provide a brief overview of the Petition. We will then address the additional conditions recommended by the Staff Analysis.

II. OVERVIEW OF THE PETITION FOR DROUGHT RELIEF.

A. The Petition was filed in response to direction from the Commission that project owners be proactive in anticipating and resolving potential impacts on plant operations caused by the drought.

On March 27, 2014, Executive Director Robert Oglesby wrote to HDPP and other generators stating:

California is facing one of the worst droughts in 50 years, and dealing with the impacts of the drought will require every Californian to pitch in. In these unprecedented times, the state is working with every section of California to make sure that everyone is prepared for continued extreme drought conditions.

Mr. Oglesby urged every project owner to know its license and how it affects the facility's water supplies, stating:

If you have not already, you should explore options for alternate sources of water and develop a backup plan for your plant. Since finding alternate water sources may require an amendment to your license . . . you should be proactive and contact your licensing...authority to explore options for ensuring your operations this year and next.

Following Mr. Oglesby's direction to be proactive, HDPP identified the potential drought-induced deficiencies in its current water supplies and potential alternative sources. As Mr. Oglesby instructed, HDPP was proactive in contacting the Commission Staff. HDPP met with the Staff on April 14, 2014. The Staff and HDPP mutually agreed that it would be

necessary for HDPP to amend its license in order to obtain access to alternative supplies of water during the drought. The amendment which HDPP discussed with Staff was filed on April 24, 2014.

B. Drought conditions threaten the continued operation of the HDPP.

The facts supporting the Petition are simple and straightforward. The proposed modifications are necessary to prevent HDPP's energy production from being curtailed and perhaps completely shut down due to drought-related water shortages. The need for additional water supplies is driven by the current extreme drought and unreliability of recycled water supplies.

The drought is the third consecutive year of below-normal precipitation in California and severely diminishes the amount of SWP water available to serve HDPP. To the extent the drought continues into 2015 and beyond, it is expected the amount of SWP water available will continue to be severely diminished.

HDPP is currently authorized to use two sources of water for operations:

- State Water Project ("SWP") water obtained by the project owner consistent with the provisions of the Mojave Water Agency's ("MWA") Ordinance 9, which may be used directly or treated and then banked (i.e., injected) into an underground aquifer for later use, and
- Recycled wastewater produced by the Victor Valley Water Reclamation Authority ("VWRA") or by the City of Victorville Water District's Industrial Wastewater Treatment Plant (the "City IWWTP").

Both of these sources are seriously constrained.

1. SWP supplies are highly tenuous.

The California Department of Water Resources ("DWR") administers the SWP. DWR's allocation of SWP water to contractors, including MWA, was reduced from five percent (5%) to zero percent (0%) on January 31, 2014 due to extreme water shortage. On April 18, 2014, DWR

increased the allocation to contractors back to five percent (5%). MWA recently informed HDPP that it will deliver only 212 acre-feet of SWP water to HDPP for the remainder of 2014 due to the low SWP allocation and HDPP's status as a junior priority user.

SWP water quality also varies seasonally, with the SWP water having higher impurities and other impairments during certain runoff events and periodically during the irrigation season. The highly variable SWP water quality can (i) lower the facility water treatment system's efficiency, (ii) require more frequent water treatment system equipment maintenance, (iii) cause plant operational derates or curtailments, and (iv) prohibit groundwater banking when constituents such as dissolved solids exceeds certain allowable limits.

2. Recycled water supplies are unreliable.

At the time of the original certification, HDPP was allowed to use only SWP water and was expressly prohibited from using recycled water. Of its own volition, HDPP petitioned and successfully obtained an amendment to the original certification to allow for the use of recycled water. However, since that amendment was approved, the supply of recycled water available to HDPP has been intermittent on a day-to-day basis, has been unavailable for long periods of time, or has not met the quality requirements of the recycled water supply contract despite substantial fees paid by HDPP to the City of Victorville to improve the City's and VVWRA's recycled water infrastructure. Recycled water typically contains high levels of total dissolved solids ("TDS") and high concentrations of silica. These constituents impact the performance of the HDPP water treatment system (for example, by clogging the microfilter system) to the detriment of the overall efficiency and operation of the HDPP. The drought has forced HDPP to accept recycled water that does not meet the water quality limits specified in the recycled water supply contract. HDPP has learned through its operating experience that the "out of spec" recycled water must be blended with high quality banked groundwater in order to be used by the facility.

These conditions are currently inhibiting HDPP's reliance on recycled water as a reliable source of water for the facility.

3. Banked water supplies are rapidly depleting.

As noted above, HDPP is also authorized to bank SWP water. However, due to SWP curtailments and the need to use large quantities of banked water to blend with less-than-adequate quality recycled water, the banked water supplies are rapidly depleting. Without new supplies and depending on the reliability of the recycled water supply, HDPP projects that it could run out of banked groundwater sometime during the first half of 2015 if current SWP curtailments continue.

C. HDPP requests the use of alternative sources of water during the drought.

The Petition seeks revisions to certain Conditions of Certification for two purposes.

First, HDPP requests the authority to obtain and use water rights consistent with the requirements and restrictions set forth in the "Judgment After Trial" dated January 1996, in *City of Barstow, et al. v. City of Adelanto, et al.* (the "Judgment") as administered by the Mojave Basin Area Watermaster, a department of the Mojave Water Agency ("MWA"). The Judgment allows any party, including HDPP, to intervene to become a Party to the Judgment and (i) acquire and use existing water rights adjudicated under the Judgment, or (ii) pay applicable Replacement Water Assessments (collectively, "Adjudicated Water Rights"). Significantly, the alternative supplies will use existing water supply infrastructure to serve HDPP, and thus no new infrastructure or construction would be required.

Second, because recycled water is HDPP's preferred supply (provided that recycled water can be supplied in sufficient quantity and sufficient quality to serve project operations), HDPP requests the authority to discharge backwash streams from the project's aquifer banking water treatment system to the City IWWTP to increase the supply and improve the quality of recycled

water available to HDPP. Sending these backwash streams to the City IWWTP will benefit the City by providing wastewater streams of lower dissolved solids content to be recycled, which will serve as a diluent to the wastewater streams of higher dissolved solids content currently entering the City IWWTP. These backwash streams also create a new supply of water that can be recycled back to HDPP for reuse. As noted above, the Staff has recommended no decision on this second request presumably because HDPP would address long-term water supply changes in the November 1, 2015 petition to amend the HDPP certification proposed in the Staff Analysis, but informed HDPP in an August 26, 2014 meeting that they did not object to the substance of the request.

D. Approval of the Petition will not have significant impacts on groundwater resources.

As explained in the Petition, HDPP use of groundwater from the Mojave River Basin will not adversely affect groundwater resources because MWA administers the Judgment to maintain both the annual and long-term basin safe yield. The Judgment adjudicated the water rights to the basin and affirmed a physical solution to appoint a Watermaster (MWA) to balance withdrawals (pumping) and recharge to maintain the safe yield of the basin. The Judgment was substantially affirmed by the California Supreme Court in August 2000, shortly after HDPP was licensed by the Commission. (*City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224.) The Superior Court of Riverside County maintains continuing jurisdiction over the Judgment. MWA serves as Watermaster of the Mojave River stream system and groundwater basin (“basin”) on the appointment of the Court. (Judgment, ¶¶ 4(nn); 23(c).) MWA responsibilities include, among other things, annual monitoring and reporting on basin conditions, management of basin safe yield through enforcement of pumping limits, and importation of surface water from the SWP to replace pumped groundwater. (See, generally, Judgment, ¶¶ 24-29.)

The Judgment has significantly reduced historic groundwater pumping and has established a mechanism to ensure that future groundwater production is maintained within the safe yield. The Judgment mitigates the effects of groundwater withdrawal by the following primary methods:

- Assigning each adjudicated water right a “Base Annual Production,” or “BAP,” in acre-feet per water year (October 1 through September 30) (Judgment, ¶ 4(g));
- Establishing a “Free Production Allowance” (FPA), which is the percentage of the BAP that can be pumped within the water year without payment of a pumping charge (¶ 4(k));
- Allowing a right holder to delay, or carry over, a FPA to a subsequent water year (“Carry Over”) (¶ 4(i));
- Imposing an obligation to pay for “replacement water” for any water pumped in excess of the FPA (“Replacement Water Assessments”), which is used by MWA to acquire SWP water to recharge the basin (¶¶ 4(dd), 24(g) 4(ee), 25(b), 27, 28);
- Directing MWA to maintain the basin in safe yield by recommending annual adjustments to the FPA and by importing SWP water to replace pumped water in excess of the native safe yield (¶¶ 9(a), 24(g), 24(o), 27); and
- Authorizing MWA to recommend adjustments to the Replacement Water Assessments for each subbasin each year (¶¶ 9(b), 27(b)).

MWA has recommended, and the court has approved, FPAs tailored to the specific water uses and hydrologic conditions of each sub-basin. In the Alto sub-basin where HDPP is located, the FPA is currently set at 60% for industrial water use and 80% for agricultural use in recognition of differences in return flows from different types of water uses. The Replacement Water Assessment provision of the Judgment and MWA’s SWP contract has allowed MWA to build a substantial water supply surplus in the basin. MWA uses the Replacement Water Assessments to acquire surplus SWP water available in above normal years for percolation into the basin. MWA has banked about 80,000 acre-feet of surplus water in the basin, which provides a buffer for

drought water years like 2014 when SWP water is of limited availability. Thus, allowing the Project Owner to obtain water rights from the Mojave Basin Area (“MBA”) consistent with the terms of the Judgment will not result in significant impacts to the basin.

E. The HDPP Petition is not seeking to modify the requirement to use recycled water.

As stated in the Petition, the Project Owner is committed to using as much recycled water of appropriate quality as can be made available and treated by the project’s equipment. Recycled water is the preferred supply because it is the most economical. Therefore, to the extent recycled water is available and is of sufficient quality, it will be used first, and supplemented as needed by other water supplies. HDPP remains committed to helping VVWRA and the City of Victorville to make appropriate investments to improve the quality and reliability of the recycled water. HDPP’s request for authority to acquire and use alternative water supplies consistent with the Judgment is solely for the purpose of providing a reliable backup supply when the SWP or recycled water supplies are not available or are not of usable quality.

III. RESPONSE TO STAFF’S ADDITIONAL PROPOSED CONDITIONS.

The Staff Analysis provides qualified support to the petition’s request for authority to obtain a backup supply of water. The Staff proposes some additional conditions that were not contained in the petition. As we explain below, HDPP does not agree with the rationale or necessity for some of these additional conditions, but recognizes that any debate of these additional conditions could delay Commission approval of the requested drought relief. Therefore, in the interest of receiving immediate approval of the request to obtain backup water supplies, we will not raise substantive objections. We do, however, recommend three minor, clarifying changes to the Staff’s additional conditions. These changes are shown in attachment 1 and are explained below.

A. Staff's additional proposed conditions.

1. Staff proposes that the use of MRB be limited to a term of no more than two years, or until November 1, 2016, whichever is later.

In the interest of receiving immediate approval of the request to obtain and use backup water supplies, HDPP will accept Staff's proposed two year limitation on the acquisition and use of MRB water. However, so that the two year limitation is clearly understood, we recommend a clarifying change to SOIL&WATER-1 as proposed in the Staff Analysis. The time periods proposed by the Staff are slightly inconsistent with the term of "water use years" as defined by the MWA. We recommend that the Commission set the deadline for acquisition of water rights in the Mojave Basin Area ("MRB") pursuant to the requirements of the Judgment ("MRB Adjudicated Water Rights") based on the two relevant water years—2014/2015 (October 1, 2014 through September 30, 2015 and 2015/2016 (October 1, 2015 through September 30, 2016, for acquisition or use of such MRB Adjudicated Water Rights during these two periods consistent with the Judgment. We also recommend clarifying language to the verification that provides that the Project Owner will provide documentation of acquisition, use, or transfer of MRB Adjudicated Water Rights pursuant to the Judgment, not just for transfers. Our recommended modifications to SOIL&WATER-1 that implement these clarifications are set forth in Attachment 1.

While we accept Staff's recommendation for a two year limitation, we also wish to emphasize, for the record, that we do not agree with Staff's rationale for this limitation.

The purpose of HDPP's request for authority to use a reliable backup water supply is to address conditions during the current drought. Because it is impossible to predict at this time how long the drought will last, it is illogical to impose an arbitrary limitation on the length of

time the backup water supply is authorized.¹ We also disagree with the assertion in the Staff Analysis that “without assurances that there will be replacement water available for purchase there is potential for significant impact that would put the basin in overdraft conditions.” (Staff Analysis, p. 12.) As acknowledged in the Staff Analysis, the MRB is fully adjudicated, and “As a result of the adjudication, the basin has been in balance and in certain years has even seen increases in water levels, likely due to a number of users not pumping all of their FPAs” and that there are requirements and rules imposed by the Judgment that “are designed to assure that the total consumptive use within a Subarea does not exceed the recharge volumes as a result of any transfer.” (Staff Analysis, p. 11.) Therefore, as explained above, HDPP’s use of groundwater from the Mojave River Basin will not adversely affect groundwater resources because MWA administers the Judgment to maintain both the annual and long-term basin safe yield.

With the rules and protections in place due to the Judgment, MWA’s legal responsibilities pursuant to the Judgment to maintain the safe yield of the basin, and the Staff Analysis’ recognition that the MRB is in balance because of the Judgment, it is unclear why the Staff Analysis concludes that “there is potential for significant impact that would put the basin in overdraft conditions” if there are no “assurances that there will be replacement water for purchase.” (Staff Analysis, p. 12.) Focusing solely on whether there are “assurances that there will be replacement water for purchase” ignores all of the other tools that the MWA possesses to manage the basin. Further, the Staff Analysis’ conclusion that there is a “potential” for overdraft to occur by virtue of authorizing HDPP to acquire MRB water pursuant to the Judgment is, by extension, a conclusion that the MWA is not acting, or would not act, pursuant to its legal

¹ The Staff’s proposed two-year limitation is also based on a “belief” that “groundwater would be used on a regular basis and become the primary supply over time”. This belief is purely speculative and completely ignores the Project Owner’s commitment and economic incentive to use as much recycled water as is feasible for the Project. The Project Owner has pledged to use recycled water whenever it is available in sufficient quantity and quality, and to use the other sources as a “supplement” to recycled water supplies. (Petition, Attachment A.)

responsibilities under the Judgment to maintain the safe yield of the basin. Such a conclusion is unwarranted.²

2. Staff proposes that MRB water be limited to not more than 2,000 acre feet (AF) per 12 month period.

In the interest of receiving immediate approval of the request to obtain and use backup water supplies, HDPP will accept Staff's proposed limitation on MRB water to not more than 2,000 acre feet per year.

However, the Project's historical water use for power production (excluding use for banking) is approximately 3,000 AFY. If the entire SWP is curtailed and if recycled water supplies continue to be constrained, the Project will logically require the flexibility to obtain rights to at least 3,000 AFY of MRB water for operations or to replenish the water bank, which is nearing depletion due to the drought. Therefore, the Staff's recommended conditions do not entirely address HDPP's reliability concerns during the drought and will constrain its ability to replenish the water bank.

3. Staff recommends that the Project Owner be required to submit a Petition to Amend the license, no later than November 1, 2015.

The Project Owner does not object to this recommendation. However, we would observe that the proposal to require a project owner to file a Petition is unprecedented. Staff's recommendation that the Project Owner must propose changes to its own license presumes that the license requires changes or that the project is not in compliance with State water laws. We

² Please also note that comprehensive groundwater management legislation, the "Sustainable Groundwater Management Act," was passed by the Legislature on August 29, 2014 and is awaiting the Governor's signature. (SB 1168 (Pavley), SB 1319 (Pavley) and AB 1739 (Dickinson) Reg. Session 2013/2014.) This landmark legislation would apply to the 515 groundwater basins in the State *except the Mojave Basin* and twenty-eight other adjudicated areas deemed to meet the requirements of the Sustainable Groundwater Management Act. (SB 1168 – proposed Water Code § 10720.8).

disagree with both presumptions, but we do not need to litigate these issues here. Instead, we will address these issues fully in the Petition to be filed on or before November 1, 2015.

Dated: September 5, 2014

Respectfully submitted,

ELLISON, SCHNEIDER & HARRIS L.L.P.



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**ATTACHMENT 1
HIGH DESERT POWER PROJECT (97-AFC-1C)**

**PROPOSED MODIFICATIONS TO STAFF'S PROPOSED REVISED CONDITIONS OF
CERTIFICATION**

The Project Owner's recommended modifications to Staff's proposed revised Condition of Certification SOIL&WATER-1 are set forth below. The changes are shown in bold, double-underlined, and highlighted text.

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 Adjudicated Water Rights")** as administered by the MWA **Watermaster** (the "Judgment") **(collectively, "Adjudicated Water Rights")**.

- a. ~~Whenever SWP water is available to be purchased from the city of Victorville, or recycled waste water is available, the project owner shall use direct delivery of such water for project operation~~ 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 Adjudicated Water Rights. **The Project Owner shall acquire no more than 2,000 AF in water year 2014/2015 (October 1 2014-September 30, 2015) and no more than 2,000 AF in water year 2015/2016 (October 1, 2015-September 30, 2016) of MRB Adjudicated Water Rights and the acquisition, use and transfer of MRB Adjudicated Water Rights shall be in compliance with the Judgment and Rules and Regulations of the MWA Watermaster. Use of water from MRB shall not exceed 2,000 AF per 12 month period and shall be limited to two years from Energy Commission approval or until November 1, 2016, whichever is later.** 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. ~~Whenever water is not available to be purchased from the city of Victorville, the project owner may use SWP water banked in 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~~ 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. ~~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~~

ATTACHMENT 1
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PROPOSED MODIFICATIONS TO STAFF'S PROPOSED REVISED CONDITIONS OF
CERTIFICATION

~~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. 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: 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 submit to the CPM documentations showing the agreements entered into between the project owner, **MWA Watermaster**, and water right owners in **MRB regarding the acquisition, use and transfer of MRB Adjudicated Water Rights MRB who agree to transfer water rights to project owner**. The project owner shall report all use of water from MRB to Energy Commission CPM on a monthly basis.

The project owner shall provide a biannual report on the progress being made on the project design for use of 100 percent recycled water for power plant cooling. The report shall include information related to project modifications that may be needed for using up to 100 percent recycled water. The first report shall be due six months after adoption of this condition of certification, and the final feasibility report shall be submitted to the CPM no later than November 1, 201~~3~~⁴. 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, 6, 20, and 21 as appropriate.

The project owner shall submit a 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.

The final feasibility study should contain, but not be limited to, the following information:

ATTACHMENT 1
HIGH DESERT POWER PROJECT (97-AFC-1C)

**PROPOSED MODIFICATIONS TO STAFF'S PROPOSED REVISED CONDITIONS OF
CERTIFICATION**

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. Water treatment requirements for existing and 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 NO_x 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 (PM 10, Legionella, discharge quality and quantities)
 - 7. Right of Way and Easement acquisitions
 - 8. engineering, procurement, construction inspection and testing
 - 9. 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)

ATTACHMENT 1
HIGH DESERT POWER PROJECT (97-AFC-1C)

**PROPOSED MODIFICATIONS TO STAFF'S PROPOSED REVISED CONDITIONS OF
CERTIFICATION**

- E. Installed cost per watt
- F. Total Annualized Cost - expressed as the uniform end-of-year payment (AIP) of Capital Costs + Annual Costs
- G. Cost of Capital
- H. Debt to equity ratio
- I. Average debt service coverage ratio

V- Expected Effects on Electric Customers

- A. Description of existing electricity rate structure and current rates to customers using existing water source
- B. Description of expected electricity rates to customers using recycled water over 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
- A. Describe potential effects on existing water rights or entitlements

VII- Discussion of applicable California Water Code provisions