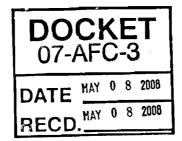
LATHAM & WATKINS LLP

May 8, 2008



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File No. 030137-0012

VIA FEDEX

CALIFORNIA ENERGY COMMISSION Attn: Docket No. 07-AFC-3 1516 Ninth Street, MS-4 Sacramento, California 95814-5512

Re: <u>CPV Sentinel Energy Project: Docket No. 07-AFC-3</u>

Dear Sir/Madam:

Pursuant to California Code of Regulations, title 20, sections 1209, 1209.5, and 1210, enclosed herewith for filing please find a letter from Mark Turner to Bill Pfanner re Revised Water Supply Plan.

Please note that the enclosed submittal was also filed today via electronic mail to your attention.

Very truly yours,

Paul E. Kihm Senior Paralegal

Enclosure

cc: CEC 07-AFC-3 Proof of Service List (w/encl. via e-mail) Michael J. Carroll, Esq. (w/ encl.)



May 05, 2008

Mr. Bill Pfanner Project Manager Energy Facilities Siting Division California Energy Commission 1516 Ninth Street Sacramento, California 95814

Re: <u>CPV Sentinel Energy Project, Docket 07-AFC-3</u>

Dear Mr. Pfanner:

As you know, on February 19, 2008, we submitted a supplement to the Application for Certification in the above-referenced project setting forth a revised water supply plan ("Revised Water Supply Plan") for the project. Since that time, we have responded to data requests, and provided input on the Revised Water Supply Plan at California Energy Commission ("CEC") sponsored workshops. As a result, the CEC staff has received information about the Revised Water Supply Plan in a somewhat piecemeal fashion. We are therefore taking this opportunity to provide you with a complete and concise explanation of the Revised Water Supply Plan, and discussion of related issues that have come up in our discussions.

First, we provide an overview of the Revised Water Supply Plan and the fresh water conservation program and groundwater recharge program associated with it. Next, we summarize how the Revised Water Supply Plan will not result in any significant environmental impacts. Lastly, we describe how the Revised Water Supply Plan complies with the Energy Commission's policies for fresh water use for plant cooling because the proposed project would not result in any net increase in fresh water use and alternative water supplies and cooling technologies have been shown to be economically infeasible or environmentally unsound.

A. Summary of Revised Water Supply Plan

The Applicant proposes to extract groundwater onsite to meet the proposed project's expected use of approximately 550 acre-feet per year (AFY) on an average lifetime basis and up to 1,100 AFY in any calendar year. The water will be withdrawn from the Mission Creek Subbasin which is part of the Coachella Valley Groundwater Basin.



Under the Applicant's Revised Water Supply Plan, the proposed project would not result in any net increase of fresh water use through the implementation of two fresh water conservation programs. In addition, the proposed project involves a groundwater recharge program that more than offsets groundwater extraction for the power plant's direct cooling requirements. Each of these programs are addressed in turn.

1. Fresh Water Conservation Programs

To ensure that the proposed project does not result in any net use of fresh water, the Applicant entered into a Conservation Agreement with the Desert Water Agency ("DWA") to implement two fresh water conservation programs within DWA's service area that would not otherwise have been economically feasible. The programs include: (1) substituting recycled water for fresh water that is currently used at the Palm Springs National Golf Course; and (2) funding a previously proven and tested Irrigation Management Controllers Retrofit Program run by DWA.

Overall, the Conservation Agreement commits the Applicant to conserve fresh water in an amount at least equal to the amount of water used by the power plant over its lifetime. The Conservation Agreement is designed to conserve up to the proposed project's maximum water use of 1,100 AFY, even though it is anticipated that actual water use levels will be closer to 550 AFY. Moreover, given the Conservation Agreement's conservative approach, the amount of fresh water that is conserved over the proposed project's life will likely greatly exceed the amount of groundwater actually used by the project.

a. Palm Springs National Golf Course Program

The Palm Springs National Golf Course currently uses fresh water from private groundwater wells for irrigation purposes. Through the Conservation Agreement, the Applicant would fund the retrofit and installation of a recycled water line to serve the golf course's water requirements. The recycled water line would connect to an existing water feature at the golf course that serves as an irrigation storage reservoir.

The recycled water comes from municipal wastewater produced by DWA's Water Recycling Plant that has been treated to tertiary levels to meet California Department of Public Health standards under California Code of Regulations Title 22 and is approved by the California Department of Health Services for all uses except drinking. Many golf courses within the City of Palm Springs are already using recycled water.

The Conservation Agreement would directly replace a portion of the golf course's fresh water use with recycled water use by a ratio of 1:1. Based on 2007 volumes, the program would initially eliminate the golf course's use of approximately 680 AFY of



fresh water, which would meet the golf course's irrigation needs except during peak times. While the DWA's Water Recycling Plant is currently limited by the available sewage effluent from the City of Palm Springs, as wastewater levels increase, DWA would be able to supply all of the annual demand of the golf course. As presented in DWA's Urban Water Management Plan, the amount of wastewater collected and treated at the City of Palm Springs WWTP is anticipated to increase to approximately 8,100 AFY by 2010 and to approximately 9,500 AFY by 2020. Using the same monthly distribution of wastewater as from 2007, in 2010 the amount of fresh water conservation is expected to be approximately 1005 AFY and increase soon thereafter to 100 percent of the fresh water used at the golf course, or 1034 AFY.

b. Irrigation Management Controllers Retrofit Program

DWA has initiated the Irrigation Management Controllers Retrofit Program to provide new homes built within DWA's service area with irrigation system controllers that use evapotranspiration and the ambient temperature to avoid excessive outdoor water application. Approximately 70 percent of the water use within DWA's service area is for outdoor irrigation. Currently, approximately 35 percent of this water use is overapplication of water, which either runs off and evaporates or percolates as brackish return flow into the groundwater basin.

The Applicant will fund installation of these irrigation controllers for a portion of existing customers to complement the DWA program. The number of controllers to be funded by the Applicant will be based on those necessary to conserve sufficient fresh water to offset the proposed project's use of groundwater after accounting for conservation achieved through the golf course program.

DWA has estimated that installation of these irrigation controllers reduces outdoor water application by approximately 0.1 AFY per residential unit. Based upon these conservative estimates, installation of the irrigation controllers on all existing residential services within DWA's service area could save more than 3,000 AFY. However, the Coachella Valley Water District (CVWD) conducted a rigorous measurement of the actual water savings from the installation of these irrigation controllers in a pilot installation test program, which showed a higher conservation level of approximately 0.147 AFY per residential unit. Thus, the Conservation Agreement will likely result in a greater level of conservation than is accounted for using DWA's conservative estimates. The actual number of homes to be retrofitted under funding by the Applicant is still to be determined.

c. Annual Freshwater Conservation Reports



The Applicant would prepare annual reports of the net freshwater conserved for submittal to the Energy Commission. These reports would include both the current annual amounts of freshwater conserved and the cumulative net amounts of freshwater conserved under the Applicant's freshwater conservation programs. After five consecutive years of increasing cumulative net freshwater conservation results, the annual reports would be suspended. The Applicant would continue to record the freshwater conservation data and would then submit reports to the Energy Commission upon request.

2. Groundwater Recharge Program

The Applicant has executed a groundwater recharge Implementation Agreement with DWA to ensure that the proposed project will not result in any long-term decrease in groundwater levels within the Mission Creek Subbasin. The Applicant has also executed an option agreement that allows it to obtain the rights and obligations of Ocotillo LLC under an existing Well Metering Agreement with DWA.

Under the Implementation Agreement, DWA will purchase new water supplies from established storage programs south of the Delta. In general terms, these storage programs have accumulated non-State Water Project (SWP) water in groundwater storage through prior conservation measures and have approval to transfer these water supplies from storage into the SWP. Water from storage in these programs would either be delivered directly into the SWP or delivered to end users of SWP water in lieu of their use of SWP supplies. Water so delivered either directly or indirectly into the SWP would be delivered to Metropolitan Water District (MWD) in exchange for delivery of Colorado River water to DWA under the existing MWD/DWA exchange program. Based on existing water rights, MWD will at all times have adequate water supplies in the Colorado River Aqueduct to meet its exchange obligations with DWA.

Regarding the reliability of DWA supplies pursuant to the Implementation Agreement, DWA has taken consistent and progressive actions to purchase additional State Water Project supplies to ensure that adequate supplies exist to meet existing and future delivery obligations. As recently as last November, DWA purchased additional State Water Project entitlements to receive delivery of additional waters beginning in year 2010. Nevertheless, through the Implementation Agreement, the Applicant has ensured a source of replenishment water for the project, the adequacy of which does not depend upon the adequacy of DWA's existing or future water supplies. This agreement has been undertaken by Applicant despite assurances from DWA that its existing water supplies from the State Water Project, and purchases of additional excess water during wet years in the state and additional entitlement water, are adequate to meet the



replenishment needs within its boundaries for all existing users and for all future users currently approved for development, plus the demands of the project.

Under the Implementation Agreement, the Applicant would purchase water through DWA equal to 108 percent of the proposed project's groundwater production. In turn, DWA would exchange this water for Colorado River Aqueduct water and deliver it to recharge spreading grounds in the Mission Creek Subbasin. Under the Implementation Agreement, DWA would spread enough water to ensure a recharge of at least 100 percent of the project's pumping. Legal title to the additional 8 percent of imported water would remain with DWA to cover incidental losses in the delivery and would go towards the benefit of all water users within DWA's service area.

Moreover, the Applicant would continue to pay the DWA replenishment assessment on all its groundwater production. This assessment, which is already intended to mitigate for groundwater use, along with the 8 percent water duty paid to DWA under the Implementation Agreement, more than ensures that recharge waters will exceed the Applicant's groundwater production, likely resulting in a net benefit for all users within DWA's service area.

B. No Significant Environmental Impacts Would Result From the Revised Water Supply Plan

The Revised Water Supply Plan would not result in any significant impacts to the environment. The installation of the piping for the golf course program would only result in temporary, minimal impacts that would not be significant. No significant environmental impacts would be associated with the Irrigation Management Controllers Retrofit Program. The plant would operate as a zero-liquid discharge (ZLD) system, and there would be no discharge of process water to surface water bodies.

The use of recycled water at the golf course will be performed in accordance with Department of Health Services requirements. The recycled water is municipal wastewater produced by DWA's Water Recycling Plant that has been treated to tertiary levels to meet California Department of Public Health standards under California Code of Regulations Title 22 and is approved by the California Department of Health Services for all uses except drinking. Many golf courses within the City of Palm Springs are already using recycled water. Appropriate signage would be placed at the golf course including standard warnings regarding the non-potable nature of the irrigation supplies. Furthermore, the Regional Water Quality Control Board, Colorado River Basin Region's Order Number 97-700 provides general waste discharge requirements for use of recycled water for golf course and landscape irrigation. Therefore, impacts on water quality due to use of recycled water for golf course irrigation would be less than significant.



The golf course recycling program may have a positive impact on local groundwater quality. The precise extent of that positive impact is difficult to predict. At a maximum, eliminating recharge of wastewater and applying it to irrigation will reduce total dissolved solids (TDS) loading to the subbasin by the difference in water quality between the wastewater and the conserved groundwater. At a minimum (assuming that TDS loading occurs as a result of percolation of irrigation water), total TDS loading to the subbasin would be reduced by the amount of assimilable TDS in the recycled water. Therefore, the golf course recycling program may result in a slight improvement of local groundwater quality based on the higher quality of the conserved groundwater relative to the recycled water.

The recharge program has the possibility of contributing to some minor change in groundwater quality for the basin as a whole as existing waters are replaced with Colorado River Aqueduct recharge waters. In particular, as large volumes of Colorado River water are used by the proposed project and others to recharge the Mission Creek Subbasin, the physical and chemical characteristics of groundwater are likely to exhibit more of the characteristics of Colorado River water over time, by some unquantifiable amount.

Without the proposed project, future recharge in the Mission Creek Subbasin with Colorado River water is expected to reach approximately 450,000 AF over the next 30 years. In comparison, the Applicant proposes a maximum potential total recharge volume of 33,000 AF over 30 years under the Implementation Agreement. Even this large cumulative volume of Colorado River water will likely only have a minimal impact on basin groundwater quality because of natural buffering and artificial mixing that occurs from pumping. Most importantly, the chemical and physical makeup of Colorado River water meets all primary and secondary standards for drinking water.

Taken all together, the Revised Water Supply Plan would not result in any significant environmental impacts. To the contrary, beneficial effects would likely result, including a net decrease of fresh water use in the DWA service area through the project's conservation programs and an increase in groundwater levels through the project's recharge program.

C. <u>Compliance with Energy Commission's Fresh Water Policies for Power Plant Cooling</u>

1. Regulatory Overview

Under the State Water Resources Control Board ("SWRCB") Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling



(adopted on June 19, 1975, as Resolution 75-58), the use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound.

In the 2003 Integrated Energy Policy Report, the Energy Commission adopted a policy stating they will approve the use of fresh water for cooling purposes by power plants only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound." The purpose of this policy is to conserve limited fresh water resources on a statewide basis.

2. No Net Increase in Fresh Water Use from the Proposed Project

The Energy Commission has previously determined for the Panoche Energy Center Power Plant that fresh water can be used for cooling purposes in compliance with SWRCB Resolution 75-58 and the 2003 Integrated Energy Policy Report if fresh water conservation programs fully mitigate any fresh water use. In this case, the proposed project would not result in any net increase in fresh water use and would likely result in a decrease in fresh water use because of the conservative design of the Conservation Agreement. As such, the proposed project complies with the Energy Commission's policies on fresh water use for power plant cooling. With no net increase in fresh water use, the proposed project would not reduce local or state fresh water supplies and would be consistent with the underlying purposes of SWRCB Resolution 75-58 and the 2003 Integrated Energy Policy Report.

It should be noted that the Palm Springs National Golf Course is located in a different subbasin (Whitewater Groundwater Subbasin) of the Coachella Valley Groundwater Basin than the proposed project site (Mission Creek Subbasin). However, the golf course conservation program is intended to offset the proposed project's use of fresh water consistent with Energy Commission's policies and is not intended to address any potential impacts on the Mission Creek Subbasin that might occur as a result of groundwater pumping. These potential impacts are fully addressed through the groundwater recharge program under the Implementation Agreement. Thus, because the purpose of the Conservation Agreement is to conserve freshwater to comply with SWRCB Resolution 75-58 and the 2003 Integrated Energy Policy Report, it is not necessary that the conservation occur in the same subbasin within a larger groundwater basin. The Energy Commission did not make its approval of the Panoche Energy Center Power Plant contingent on the fresh water being conserved in the same subbasin as the proposed plant.



3. Alternative Water Supplies and Alternative Cooling Technologies Are Not Economically Feasible and Result in Significant Environmental Impacts

Even though the proposed project already complies with the Energy Commission's policies on fresh water use because there would be no net increase in fresh water use, the Revised Water Supply Plan is otherwise consistent with the 2003 Integrated Energy Policy Report because the proposed project's use of alternate water supplies and alternative water technologies would be economically infeasible or environmentally unsound.

For alternative water supplies, the Applicant considered a range of alternatives but demonstrated each was cost prohibitive and entailed significant environmental impacts. Treated wastewater facilities are located five to ten miles from the project site. Construction of a direct conveyance system to the project site would result in significant environmental impacts and would be prohibitively expensive and infeasible. No brackish water is located in the proximity of the proposed project. Low quality groundwater is located in the Desert Hot Springs Subbasin more than five miles to the northeast of the proposed project site, but costs associated with infrastructure to extract, treat, and convey such groundwater would result in significant environmental impacts and would be cost prohibitive and infeasible. In sum, all alternative water supplies are infeasible.

Similarly, the Applicant considered a range of alternative cooling technologies but each alternative was determined to be infeasible. In particular, the Applicant analyzed the possibility of using a "dry cooling" air-cooled heat exchanger. However, the adverse impact related to dry cooling is much more severe with the proposed project's LMS100 based peaker technology than with a combined cycle plant. With a combined cycle plant, use of dry cooling only adversely affects the steam turbine output, which is typically about one third of the plant output. With a LMS100 based peaker, use of dry cooling directly adversely affects the combustion turbine performance, which is 100 percent of the gross output. Furthermore, with a combined cycle plant, duct-firing can be used to offset the dry-cooling related high ambient power decrease, which results in higher heat rate, but duct-firing is not an option for a peaker.

Dry cooling also requires a significantly bigger footprint, nearly doubling the siting requirements for the proposed project. The current site would not have adequate space to meet proposed project goals, which would require the acquisition of additional land at substantial cost. Dry cooling also significantly increases the cost of acquiring emission offsets as compared to wet cooling. PM10 emissions would be approximately 25 percent higher; NOX, CO, and VOC emissions would be approximately 10 percent



higher; SOX emissions would be approximately 4 percent higher; and GHG emissions (CO2) would be approximately 5 percent higher.

Taken all together, use of a dry cooling system to reject heat from the LMS100 intercoolers would increase the cost of developing the project by \$275 million, making it economically infeasible. The increased costs would result primarily from: 1) offsetting severe adverse performance impacts; 2) acquiring a substantially larger parcel of land for the project (assuming availability); and 3) acquiring additional emission offsets.

D. Proposed Conditions of Certification

To assist the CEC staff in its preparation of the Preliminary Staff Assessment, we have taken the liberty of drafting a set of proposed conditions that might be used as a starting point in crafting Conditions of Certification related to implementation of the Revised Water Supply Plan. Those proposed conditions are set forth in Attachment A to this letter.

E. Conclusions

I hope that you find this explanation of the Revised Water Supply Plan helpful. If you have any questions, or require any additional information, please do not hesitate to contact me or any member of our team. Thank you for your continued attention to this project.

Sincerely,

Mark Turner Project Manager CPV Sentinel, LLC

CC: Caryn Holmes, CEC

Proposed Conditions of Certification for CPV Sentinel Water Supply Plan

Conservation Conditions

WATER-1 Prior to commencement of operation, project owner will install all necessary infrastructure to deliver recycled water to the Palm Springs National Golf Course.

Verification: [tbd]

WATER-2 Prior to commencement of operation, project owner will ensure that a minimum of [amount to be determined] irrigation controllers have been deployed within the service area of Desert Water Agency.

Verification: [tbd]

WATER-3 Project owner will prepare an annual report of the net freshwater conserved and submit this annual report to the CPM. This report will include both the amount of freshwater conserved in the immediately preceding year (Annual Net Conservation or ANC), and the cumulative amount of freshwater conserved over the life of the project (Cumulative Net Conservation or CNC). At no time during the life of the project will the CNC be less than zero. The ANC and CNC shall be determined as follows:

$$ANC = G + I + O - P$$

where:

G = Golf course freshwater conserved

I = Total irrigation controller program freshwater conserved

O = Other freshwater conserved (if other programs are implemented)

P = Groundwater pumped by CPV Sentinel

CNC = ANC1 + ANC2 + ANC3, etc.

where: ANC1 is the first year annual net freshwater conserved, ANC2 is the second year, ANC3 is the third year, etc.

Verification: [tbd]

<u>Importation Conditions</u>

- **WATER-4** Project owner will provide an annual report to the CPM containing the following information:
 - a. The quantity of water pumped from project wells;
 - b. The quantity of water percolated into the Mission Creek Sub-Basin for the benefit of the project owner during the preceding year, and on a cumulative basis since commencement of percolation;
 - c. The total amount of replenishment fees paid by the project owner to the Desert Water Agency, and the quantity of water imported by Desert Water Agency as a result of project owner's payment of the replenishment fee; and
 - d. The cumulative net balance of water pumped from (expressed as a negative value) and percolated into (expressed as a positive value) the Mission Creek Sub-Basin.

Verification: [tbd]

WATER-5 At no time shall the cumulative net balance of water pumped from, and percolated into, the Mission Creek Sub-Basin be less than negative 5,500 AF. At project closure, the cumulative net balance of water pumped from, and percolated into, the Mission Creek Sub-Basin shall not be less than zero.

Verification: [tbd]

- WATER-6 Water percolated into the Mission Creek Sub-Basin for the benefit of project owner shall be Colorado River Water obtained via Desert Water Agency's exchange agreement with The Metropolitan Water District of Southern California. The water that constitutes the source water for that exchange shall come via the State Water Project (SWP) from the following sources:
 - a. DWA's entitlement to SWP water paid for through the replenishment assessment;
 - b. Non-SWP water sources approved by the CEC as of the date of certification; and/or
 - c. Other sources of water approved in advance by the CPM.

Verification: [tbd]

WATER-7 At all times prior to commencement of the final year of project operation, the sum of water stored in the Mission Creek Sub-Basin for the benefit of project owner, plus water stored in Non-SWP storage facilities for the benefit of DWA, plus water delivered from Non-SWP storage facilities to Metropolitan and owed to DWA for delivery via the exchange agreement, must exceed 1,100 acre-feet. At project closure this sum must be greater than zero.

Verification: [tbd]

STATE OF CALIFORNIA ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of:) Docket No. 07-AFC-3
Application for Certification, for the CPV SENTINEL ENERGY PROJECT) ELECTRONIC PROOF OF SERVICE) LIST
) (October 15, 2007]

Transmission via electronic mail and by depositing one original signed document with FedEx overnight mail delivery service at Costa Mesa, California with delivery fees thereon fully prepaid and addressed to the following:

DOCKET UNIT

CALIFORNIA ENERGY COMMISSION

Attn: DOCKET NO. 07-AFC-3 1516 Ninth Street, MS-4 Sacramento, California 95814-5512 docket@energy.state.ca.us

Transmission via electronic mail addressed to the following:

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<u>CPV SENTINEL ENERGY PROJECT</u> <u>CEC Docket No. 07-AFC-3</u>

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CPV SENTINEL ENERGY PROJECT CEC Docket No. 07-AFC-3

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DECLARATION OF SERVICE

I, Paul Kihm, declare that on May 8, 2008, I deposited a copy of the attached:

LETTER FROM MARK TURNER TO BILL PFANNER RE REVISED WATER SUPPLY PLAN

with FedEx overnight mail delivery service at Costa Mesa, California with delivery fees thereon fully prepaid and addressed to the California Energy Commission. I further declare that transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service List above.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 8, 2008, at Costa Mesa, California.

Paul Kihm