



PALO VERDE IRRIGATION DISTRICT

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July 11, 2005

Mr. Roger E. Johnson
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California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

DOCKET 02-AFC-1
DATE <u>JUL 11 2005</u>
RECD. <u>JUL 15 2005</u>

RE: Comments on Final Staff Assessment Blythe Energy Project Phase II (02-AFC-1)
For Soil and Water Resources Technical Report

Dear Mr. Johnson:

Thank you for the opportunity to comment on the Soil and Water Resources Final Staff Assessment Technical Report for the Blythe Energy Project Phase II (02-AFC-1) released June 9th, 2005. The following comments are provided, not only for the specific pages referenced but also for where it is appropriate throughout the Report:

General Comments:

Staff needs to separate the two issues regarding use of Colorado River water on the mesa;
Issue A, Authorized Use: Whether or not water proposed for use by the Blythe Energy Project, Phase II (BEP II) is classified as Colorado River water. If classified as Colorado River water, then the water may be used under PVID's water right. PVID's Priority #3 water right is for the Mesa and is limited to that amount of water that can be beneficially used on 16,000 acres. BEP II could use this water under current PVID regulations.

Issue B, Quantity: How much water can be used on a property before a Water Conservation Offset Program (WCOP) is needed? PVID's water right does not have a volume per acre limit. PVID's only limitation is that the water must be beneficially used. PVID's water right is only for water used, not for water saved by a WCOP. The CEC should not be responsible for setting water use limits within PVID.

Specific Comments:

- 1] Page 4.9-4, last sentence: Here and throughout the report, the phrase 'Palo Verde' needs to be clarified. Are you referring to region, valley, mesa, mountains, or townsite?
- 2] Page 4.9-5, 2nd paragraph, averages: Temperatures are the 30 year monthly averages for 1961 to 1990 at the Blythe airport.
- 3] Page 4.9-12, 2nd paragraph, last sentence: There are still about 844 acres being farmed on the mesa using well water.

120,500 ACRES LOCATED ALONG THE COLORADO RIVER

- 4] Page 4.9-13, Aquifer Parameters: Text does not indicate what the assumed rates for recharge from irrigations on adjacent mesa properties and from Rannells Drain seepage that were used to calculate aquifer parameters. Salinity of Rannells Drain depends on how much operational spillage from B Canal is sent into the drain.
- 5] Page 4.9-14, Table 3: Commas are in wrong place in 'Transmissivity' values.
- 6] Page 4.9-19, 2nd to last paragraph: PVID's 6th Priority is for an additional 16,000 acres, not 12,000 acres.
- 7] Page 4.9-20, 4th paragraph, Priority 5 issues: California is limited to 4.4 million acre feet (maf) of Colorado River water. The four agricultural agencies have California's first entitlement to 3.85 maf of that. MWD gets the balance left as Priority #4 for .55 maf. In order for agricultural agencies or MWD to use more than the 4.4 maf (Priorities 5 or 6), the Bureau of Reclamation has to declare a 'water surplus' condition on the River. The MWD Program with PVID allows MWD to get more water for their use while California stays within its 4.4 maf limit, not to supplement MWD's allocation. Perhaps the phrases **allocation**, **water order**, and **use** should be defined and used accordingly in the Report.
- 8] Page 4.9-20, last paragraph, population: City of Blythe reports a population of 22,158 people less 8,324 people in the two prisons, resulting in a population of 13,834 people, some have their own well.
- 9] Page 4.9-29, 1st thru 4th paragraphs, CRB comments: With the latest legal changes (ie. Federal Quantification Settlement Agreement) on the River, the comments from the 'CRB 2003' reference and portions of corresponding text are no longer appropriate. Coachella Valley Water District would not be impacted by PVID's use.
- 10] Page 4.9-29, 5th paragraph: Staff should note that both WCOP's cited were necessary because water was being transferred out of each senior District's boundaries over junior water right holders to another agency. That condition does not exist in the cases of BEP I and BEP II. PVID questions CEC staff's authority to determine what is 'unnecessary net increase in consumptive use of Colorado River water within PVID'.
- 11] Page 4.9-34, 1st paragraph, recharge affect: Staff indicates that at 1 mile, water table drops over 3 feet. This is about the distance Rannells Drain is from the wells. Staff does not indicate how much water is being pulled from the drain toward the wells by the cone of depression, how much deep percolation was added to recharge, and how this influenced their calculations. Over 1 mile of the drain would have a water level at least 4 feet higher than the cone of depression under the drain, providing over 21,100 square feet of surface area for water to infiltrate thru and recharge well. Staff fails to consider that Thermal King may have already had to fix these kind of well problems in the 1980's when the groundwater was heavily pumped around the airport.
- 12] Page 4.9-36, Water Quality Impacts, poor quality water: Staff did not discuss the potential of using the power plants to pump poorer quality groundwater from under the mesa so that recharging with better quality water would eventually improve the water quality under the mesa.
- 13] Page 4.9-39, 1st paragraph and Figures 4 and 5, old TDS data: Staff is using almost 40 year old data and disregards the fact that the heavy pumping of groundwater in the early 1980's and subsequent recharging with water of better quality created the groundwater that

exists today. No water quality data is provided after 1967. Staff also disregarded the fact that in three of the four wells shown, [in Figure 4 well 'a', Total Dissolved Solids (TDS) improved from 2,190 to 2,160 ppm, in Fig. 4 well 'b', TDS improved from 863 to 822 ppm, and in Figure 5 well 'a' TDS improved from 1,785 to 1,415 ppm] the reduction in TDS of the pumped water indicates water of better quality was recharging wells and improving ground water quality. It took less than 5 years for the recharging water to improve well water quality. Figure 5, well 'b' is within 2,000 feet of where the County of Riverside installed the well for providing water to Mesa Verde in the 1980's because it had the best water quality of the various locations tested. The water quality shown in Figure 5 'b' doesn't fit with what Riverside County found about 20 years later.

14] Page 4.9-41, 2nd paragraph, saline water impact: PVID questions the use of the term 'irreversibility'. The groundwater pumping scenario disregards the change in quality of groundwater when better quality water is intercepted by the cone of depression. Generally, pumping the groundwater causes the groundwater with higher salinity at the pump intake to mix with the fresher water being pulled into the well at the top of the casing. As pumping continues, there is less water of 'better' quality flowing into the well to dilute the water of 'poorer' quality so the TDS increases. When the cone of depression reaches recharge water of 'better' quality, then water quality of pumped water starts improving. The more water of 'poorer' quality that is removed from the aquifer allows more water of 'better' quality to mix and improve water quality of pumped water. So the salinity increasing in the pumped water is reversible where recharge water of 'better' quality is available. This is the case here. This groundwater was heavily pumped in the early 1980's. The present groundwater is a result of that pumping and resulting recharge by water of better quality than was pumped out.

15] Page 4.9-41, 3rd paragraph, last sentence: PVID's drainage system maintains the valley's groundwater at the present valley wide average depth of 10 feet.

16] Page 4.9-41, last paragraph, using most degraded water: PVID does not understand why staff doesn't encourage the use of the poorest quality water under the mesa so that over time, the recharge with better quality water will improve the overall quality of water under the mesa. This was unintentionally done in the 1980's resulting in the quality of water presently found under the mesa.

17] Page 4.9-42, 1st paragraph, last sentence, recharge from Rannells Drain: Based on the water elevations presented in this report, the existing cone of depression under the mesa is already lower than the water level in Rannells Drain. So, based on this sentence, it takes a week for water to flow from the drain to the wells, about 850 feet per day. How much water is flowing from the drain toward the wells? There is about 1 mile of drainage channel with water in the drain 3 feet or more in depth that is providing an area of about 16,000 square feet for water to infiltrate thru and to flow down the cone of depression to recharge the well.

18] Page 4.9-49, 5th paragraph, California's use:

a) California's consumptive use of Colorado River water is limited to 4.4 million acre feet regardless of how much water PVID uses. California's allotment to Colorado River water is 4.4 million acre feet plus any 'surplus' water declared by the Bureau of Reclamation.

b) The phrase 'increase' conveys the wrong impression. The historical high usage of water on the mesa is higher than the present day use plus proposed water use by the two power plants.

19] Page 4.9-52, item 4, California's limit: The first 'allocation and' phrase should be deleted. California did not lose its allocation. California lost access to unused apportionments from other states and surplus water. Now, all the states involved are using their full allocation.

20] Page 4.9-52, item 5, last sentence, loss of surplus water: MWD's allocation did not change, MWD's water order was reduced to comply with California's 4.4 maf limit because there was no surplus water declaration on the River and other states began using their full allocation.

21] Page 4.9-52, CRB excerpt portion: Colorado River Board's letter used the phrase 'supply' when they should have used the phrase 'water order'. Look at Table 17 for MWD's and CVWD's Final Use values for year 2003 which are higher than the CRB's letter indicates. Both agencies submitted water orders ignoring the threat from the Bureau of Reclamation to sign the Federal Quantification Settlement Agreement (QSA). Prior to the QSA being signed, these water order reductions to junior priority users occurred each year after senior priority users submitted their water orders. Prior to the QSA being signed, there was unused apportionment water and surplus water MWD used.

22] Page 4.9-55, 2nd paragraph and Table 15, cumulative impact: PVID's Rannells Drain is about 1 mile from these wells. In Table 15, drawdown at 1 mile is 6.5 to 7.5 feet while in Table 9, page 4.9-34, it was 3.2 to 3.8 feet. This means that at Rannells Drain, about 1 mile of drain has water 8 plus feet higher than the drawdown curve. From the sides and bottom of the drain, about 84,500 square feet of surface area exists for water to infiltrate and flow down the cone of depression to the well. How much water did staff calculate Rannells Drain was providing as well recharge water and how much deep percolation of citrus irrigation water was recharging the wells for this set of calculations?

23] Page 4.9-60, 4th & 5th paragraphs, WCOP: These two paragraphs are identical. Is that necessary?

24] Page 4.9-60, last paragraph, brackish water: See **Comments # 14, and 16.**

25] Page 4.9-69, 2nd paragraph, WCOP: How will CEC insure that the water 'saved' by a WCOP stays in PVID for BEP II to use instead of a junior water right holder claiming the 'saved' water?

26] Page 4.9-88, item 5, reduced use : BEP II is in California. This water is being used in California.

27] Page 4.9-88, items 1 & 2, brackish water irreversibility: See **Comments #14, 16.**

28] Page 4.9-89, item 4, reduced water for state: California's consumptive use of Colorado River water is limited to 4.4 million acre feet regardless of how much water PVID uses. Coachella Valley Water District would not be impacted by this use in PVID.

29] Page 4.9-89, item 5, increased use: See **Comment # 18.**

30] Page 4.9-89, item 6, use most degraded water: See **Comment # 16**. The most degraded water is deep under the mesa, not Rannells Drain.

31] Page 4.9-89, item 8, increased use: See **Comments Issue B, # 18b, 25**.

32] Page 4.9-89, item 9, metered pumpage: Whether pumped from a drain or from a well, the meter reading will provide the amount of water used. There is no provision in the 'diversion less return' calculation method for water used in PVID to add or subtract water pumped by well or from a drain. The pumped water must be beneficially used in PVID.

33] Page 4.9-94, Soil & Water 8: During PVID's maintenance period, there is no 'irrigation supply' to be had. The portion of the sentence from 'except' on should be deleted.

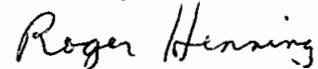
Comments on Appendix A:

34] Page 4.9A-5 and 8, last paragraphs: The \$85 per acre foot is PVID's Industrial Use Rate, not its irrigation rate.

35] Page 4.9A-6 part 2.1: The MWD Program recap of key elements were from the first draft, not the final version signed August 18th, 2004.

If you have any questions, please call.

Sincerely



Roger Henning
Chief Engineer