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97-AFC-1C	
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STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

In the Matter of:)	
)	
Application for Certification for the High Desert Power Project)	Docket No. 97-AFC-1C
)	
)	

Introduction

The High Desert Power Project (the "Facility") was originally certified by the Energy Commission in May 2000 to use State Water Project ("SWP") water as its sole source of industrial water supply. In fact, as originally certified, the HDPP was prohibited from using reclaimed water. Since 2007, the availability of SWP water has become less reliable.

On October 18, 2008 the project owner petitioned the CEC to allow the use of recycled water; which was prohibited by the May 2000 Certification. The applicant's petition for modification and the subsequent analysis by Staff lacks the required elements of 20 CCR Section 1769 (a) (1) (A-I). The petition must address:

§ 1769. Post Certification Amendments and Changes.

(a) Project Modifications

(1) After the final decision is effective under section 1720.4, the applicant shall file with the commission a petition for any modifications it proposes to the project design, operation,

or performance requirements. The petition must contain the following information:

(A) A complete description of the proposed modifications, including new language for any conditions that will be affected;

(B) A discussion of the necessity for the proposed modifications;

(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time;

(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted;

(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts;

(F) A discussion of the impact of the modification on the facility's ability to comply

with applicable laws, ordinances, regulations, and standards;
(G) A discussion of how the modification affects the public;
(H) A list of property owners potentially affected by the modification; and
(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.

While the petition and Staff's analysis are defective for many reasons, the absence of any discussion of Section 1769 (C), (D) is fatal. Section C requires a discussion of whether the petitioner knew at the time of certification that the water supply would be a problem. Intervener Gary Ledford accurately predicted that this project's proposed water supply would be inadequate. Mr. Ledford made a concerted effort with his own time and money and the record is replete with his testimony on the power plants inadequate water supply and the associated effects on the environment of the power plant's current water supply. Here is a sample of Mr. Ledford's Testimony from his comments on the RMPD:

"The Decision is contrary to the Warren-Alquist Act requiring the Energy Commission certify "reliable" power plants¹² and contrary to the stated purpose of deregulation.¹³ The Decision does not point to any evidence of a reliable water supply; without a reliable water supply there is no reliable energy ¹⁴ supply". The Energy Commission is mandated to prevent "delays and interruptions in the orderly provision of electrical energy, protection of environmental values, and conservation of energy resources¹⁵... to promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources... criteria used in analysis of proposed actions shall include lifecycle cost evaluation, benefit to taxpayers, reduced fossil fuel or REDUCED WATER CONSUMPTION DEPENDING ON THE APPLICATION..."¹⁶ ¹.

Mr. Ledford presented expert evidence that this project's proposed water supply was inadequate.² Mr. Ledford even petitioned the California Supreme Court for review of this project.³ The fact is that the use of fresh or recycled water in a desert setting is fundamentally flawed logic and contrary to State Water Law.

The applicant's and staff's solution is a complicated series of water transfers, feasibility studies and a host of competing water interests. The analysis even goes so far as to propose a water supply promised to another power project that the applicant has no agreement for.⁴ Condition Soil and Water 1 (c) as

¹ http://www.energy.ca.gov/sitingcases/highdesert/documents/intervenors/2000-06-01_LEDORFORD.PDF

² http://www.energy.ca.gov/sitingcases/highdesert/documents/intervenors/2000-02-10_ALMOND.PDF

http://www.energy.ca.gov/sitingcases/highdesert/documents/intervenors/2000-02-10_BEINSCHROTH.PDF

http://www.energy.ca.gov/sitingcases/highdesert/documents/intervenors/2000-02-10_LEDORFORD.PDF

³ http://www.energy.ca.gov/sitingcases/highdesert/documents/intervenors/2000-07-12_LEDORFORD_PETITION.PDF

⁴ http://www.energy.ca.gov/sitingcases/highdesert/compliance/2009-09-24_Revised_Staff_Analysis_of_Modifications.pdf

⁴ This project has a recycled water supply agreement with VVWRA for the delivery of 3,150 AFY of recycled water. Since certification, the city of Victorville has decided to sell the project and progress on Victorville 2 has slowed significantly. The time necessary for acquisition and construction of the project could be on the order of 2 to 3 years. Therefore, the recycled water supply dedicated to Victorville 2 may be available for interim use by HDPP.

http://www.energy.ca.gov/sitingcases/highdesert/compliance/2009-09-24_Revised_Staff_Analysis_of_Modifications.pdf

proposed by the applicant requires shutdown of the facility if proposed water sources aren't available.⁵ Staff's analysis is defective because it does not examine the full range of options for cooling this project. The most coherent approach, considering California's ongoing water crisis and the need to use recycled water for purposes that actually require water (crops, drinking), would be adding a dry cooling component to High Desert's cooling system. (See Attached Slides from Bill Powers) It would be simple and cost-effective to do so.

Staff should hold its promised public workshop on this proposal before submitting this to the full Commission for approval in order to gather public input and investigate the feasible and cost effective methods of cooling this power plant. Shutting the project down as suggested by Soil and Water Condition 1 (c) is unacceptable and a huge waste of ratepayer and taxpayer resources. If Staff chooses not to do so the amendment should be **DENIED**. The current proposal does not comply with State Water Policy. The staff analysis is defective in that it does not offer an alternative analysis as required by CEQA, does not examine other hybrid cooling technologies, and the amendment request is lacking all the required elements of Section 1769.

⁵ http://www.energy.ca.gov/sitingcases/highdesert/compliance/2009-10-20_High_Desert_Power_Project_Comments_on_September_Revised_Staff_Analysis_TN-53706.pdf page

Case Studies of Wet-Dry and Dry Cooled Combined-Cycle Power Plants

Bill Powers, P.E.

October 21, 2009

Tucuman (Ar.) 450 MW wet-dry cooled:
2 turbines, 15 dry cells, 4 wet cells



PAC System™
Tucuman 450 MW Combined Cycle Plant



Goldendale 270 MW wet-dry cooled: 1 turbine, 10 dry cells, 2 wet cells

sources: GEA Power Cooling Systems and Calpine Corp. <http://www.calpine.com/power/plants.asp#137>



CFE 630 MW air-cooled only high
desert plant: 3 turbines, 36 dry cells



Air Cooled Condenser
Samalayuca II 630 MW Combined Cycle Plant



Operational and proposed dry Nevada projects

Tom Maher, Southern Nevada Water Authority, *Water and Power in Southern Nevada*, May 31, 2002, presented at AWMA Dry Cooling Symposium, San Diego

Project	Capacity (MW)	Cooling
B. D. Power Partners	400	None
Calpine	760	Wet
Cogentrix	1100	Wet
Diamond Generating	500	Dry
Duke Energy	1150	Dry
F. Neil Smith & Assoc.	500	Dry
GenWest	500	Dry
Mirant	1100	Dry
Nevada Power	480 (2)	Dry
NV Cogeneration Assoc.	230	N/A
PG&E NEG	1200	Wet
Reliant	500	Dry
Reliant	500 (2)	Dry
Sempra/Reliant	600	Dry
Table Mountain	85	None
Williams Energy	1,000 (2)	Wet
Total	> 10,000	

Sempra 500 MW dry-cooled only El Dorado plant in Nevada desert: 2 turbines, 30 dry cells

Note: text and photo from air-cooled condenser (ACC) system manufacturer GEA PCS website, www.geaict.com

ACC is comprised of 30 cells in a 5x6 configuration and was built to meet the following conditions:

- plant came online in 2001;
- 160 MW steam turbine;
- peak site temperature of 117 °F;
- designed for full power output at 1% site temperature (108 °F).

