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November 10, 2009



Commissioner Jeffrey D. Byron, Presiding Member
Commissioner Julia Levin
Siting Policy Committee
California Energy Commission
1516 9th Street MS 32
Sacramento, CA 95814

Subject: High Desert Power Project (97-AFC-01C)
Response to Comments Submitted by Robert Sarvey

Dear Commissioner Byron and Commissioner Levin:

This letter addresses comments submitted to the Energy Commission by Mr. Robert Sarvey on October 21, 2009 in response to High Desert Power Project's ("HDPP") Petition for Modification ("Amendment'), filed August 14, 2009.

By way of background, Mr. Sarvey is a resident of Tracy, California, approximately 300 miles distant from the project site. Mr. Sarvey did not participate in the original licensing proceeding for this project. And while the current amendment was filed in August 2008, Mr. Sarvey did not file comments during the previously noticed public comment period on this amendment.

Mr. Sarvey's comments raise two issues: (1) Mr. Sarvey claims that the petition and Staff's analysis do not address the power plant siting regulations at 20 C.C.R. §1769 subsections (a)(1)(C) and (a)(1)(D); and (2) Mr. Sarvey requests that the Commission be required to "add…a dry cooling "component to the HDPP, an existing licensed power plant with an already approved wet cooling technology. Both comments are entirely without merit.

First, HDPP has adequately responded to 20 C.C.R. §1769 subsections (a)(1)(C) and (a)(1)(D). These subsections call for petitions seeking to modify final Energy Commission siting decisions to both explain why an issue was not raised during the certification proceeding if the modification is based on information that was known by the petitioner at that time (subsection

(C)), and to explain why a change should be permitted if the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision (subsection (D)).

These matters have clearly been addressed by the Petitioner. The Supplement to Petition for Modification to Use Reclaimed Water, filed June 4, 2009 ("Supplement"), directly addresses 1769(a)(1)(C) and (D). Specifically, the Supplement explains that the modification High Desert Power Project ("HDPP") seeks "is not based on information known to HDPP at the time of certification because the use of reclaimed water at the Facility was not permitted," and therefore no further explanation under §1769(a)(1)(C) is necessary. (Supplement at p. 10.) The Supplement also provides, "the proposed reclaimed water pipeline is not based upon new information that changes or undermines any basis for the Final Decision," and therefore HDPP has addressed §1769(a)(1)(D). (Supplement at p. 3.)

Second, Mr. Sarvey requests that the Commission require that HDPP "add" a dry cooling "component" to the existing plant. This request is inappropriate and untimely. CEQA requires consideration of mitigation for potentially significant impacts of a project. The "project" for purposes of this petition is to replace up to 1000 acre-feet per year of raw water with recycled water. The environmental impact of the requested modification is clearly beneficial, not adverse, and no consideration of dry cooling as a mitigation or alternative measure is required. (See 20 C.C.R. §1769(a)(3)(C).)

Moreover, even if dry cooling could be characterized as an alternative to recycled water, this alternative is not feasible. Mr. Sarvey, who has no expertise in these matters, asserts without any authority that adding a dry cooling "component" to the existing facility "would be simple and cost effective." In fact, retrofitting this existing power plant with dry cooling would be complex, difficult and costly. While the following discussion is not intended to be an exhaustive discussion of the many problems with the dry cooling option, we would like to highlight some of the most significant reasons why this option is not feasible.

Retrofitting the plant with dry cooling would require the conversion of the existing water cooled condenser – cooling tower system (WCC) to an air cooled condenser system (ACC). An ACC has several important differences from a WCC which make conversion of HDPP to an ACC infeasible and impractical.

The first major characteristic difference is that the cooling performance of an ACC is much more sensitive to ambient air temperatures than a WCC. High ambient air temperatures generate much higher condenser back pressures in an ACC. These higher back pressures are imposed on the steam turbine. The higher back pressures imposed on the steam turbine have two negative effects: (a) a reduction in the steam turbine output and steam cycle efficiency due to thermodynamic effects, and (b) an imposition of elevated forces and dynamic loading on the steam turbine blades, especially the last stage steam turbine blades. The thermodynamic effect

cannot be avoided nor mitigated as it is a result of the laws of nature. The steam turbine blade loading is a very critical aspect of steam turbine design and is not typically changed once the power plant design and condenser cycle are selected. In the case of a conversion of a WCC to an ACC, it would be necessary for the steam turbine manufacturer to determine what changes to the steam turbine blade design are needed to allow reliable continuous operation with the high back pressures imposed by the ACC. This evaluation has of course not been performed at HDPP but we expect that as a minimum the last stage steam turbine blade length would be reduced. Shorter blades are stiffer and better able to resist the increased loads, but at the same time will add to the reduced output of the steam turbine, thereby further reducing overall plant output even during cool ambient conditions when back pressures are not elevated.

The second major characteristic of an ACC is its physical size. An ACC for HDPP would be approximately two acres in size, which would require additional land in excess of two acres which HDPP does not currently have and which we believe would be difficult or impossible to obtain. Additionally the ACC would require a new steam duct to carry the steam turbine exhaust flow from the steam turbine to the ACC. This duct is a source of additional steam turbine back pressure and as a result is typically very large in diameter, approximately 18 to 20 feet. To minimize the exhaust duct back pressure, the ACC should be located as close as possible to the steam turbine. Because HDPP was not designed for an ACC, many very significant structures and components would need to be relocated in order to site the ACC adjacent to the steam turbine.

The extensive modifications that would be required for conversion of HDPP from a WCC to an ACC would, in addition to being very costly, require a very lengthy shutdown of the plant in order to remove existing structures and equipment and install the new structures and equipment.

Finally, pursuant to the Commission's decision approving HDPP, wet cooling is the authorized technology for this project. (Commission Decision on the Application for Certification for High Desert Power Project, Doc. No. 97-AFC-1, May 2000, p. 230.) The use of dry cooling technology at HDPP has already been considered by the Commission and found "not necessary in order to reduce any direct, indirect, or cumulative environmental impacts to below a level of significance. (*Id.* at p. 251.) Accordingly, an argument for implementation of dry cooling technology at HDPP is an untimely collateral attack on the prior Commission decision for HDPP. The question of the appropriate cooling technology for this already licensed, existing facility has been decided and Mr. Sarvey, who was not a party to the original proceeding, should not be permitted to reopen the Commission's prior decision on this matter.

For the foregoing reasons, we request that the Commission give no consideration to the comments filed by Mr. Sarvey.

Sincerely,

Greggory L. Wheatland
Attorney for High Desert Power Project LLC

Attachment