

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

July 30, 2012

Peter Godfrey, Project Manager
California Desert District Office, BLM
22835 Calle San Juan De Los Lagos
Moreno Valley, California 92553

Subject: Draft Environmental Impact Statement for the Haiwee Geothermal Leasing Area Inyo County, California and the Draft Proposed California Desert Conservation Area Plan Amendment (CEQ# 20120132)

Dear Mr. Godfrey:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Haiwee Geothermal Leasing Area Inyo County, California. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources in an expeditious and well planned manner. Using renewable energy resources such as geothermal energy can help the nation meet its energy requirements while minimizing the generation of greenhouse gases. While renewable energy facilities offer many environmental benefits, they are not without the potential for adverse impacts. Appropriate siting and design of such facilities is of paramount importance if the nation is to make optimum use of its renewable energy resources without unnecessarily depleting or degrading its water resources, wildlife habitats, recreational opportunities, and scenic vistas.

We have rated the preferred alternative (Alternative C) in the DEIS as *Lack of Objections - Adequate (LO)* (see enclosed "*Summary of EPA Rating Definitions*"). The EPA recommends that the Final EIS include additional clarifying information, particularly related to the mitigation measures for the potential impacts to water resources. Additionally, we recommend that the FEIS include detailed procedures for further NEPA analysis of subsequent site specific projects. Our enclosed detailed comments provide additional information regarding these concerns and recommendations.

We appreciate the opportunity to review this DEIS and are available to discuss our comments. Please send one hard copy and one CD ROM copy of the FEIS to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3521, or contact Scott Sysum, the lead reviewer for this project, at (415) 972-3742 or sysum.scott@epa.gov.

Sincerely,

/s/ Connell Dunning for

Kathleen Martyn Goforth
Manager
Environmental Review Office (CED-2)
Communities and Ecosystems Division

Enclosures:

- (1) Summary of EPA Rating Definitions
- (2) EPA's Detailed Comments

cc: Distribution List

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement.

ENVIRONMENTAL IMPACT OF THE ACTION

“LO” (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

“EC” (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

“EO” (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

“EU” (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. The EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality.

ADEQUACY OF THE IMPACT STATEMENT

Category “1” (Adequate)

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category “2” (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category “3” (Inadequate)

The EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE HAIWEE GEOTHERMAL LEASING AREA INYO COUNTY, CALIFORNIA AND THE DRAFT PROPOSED CALIFORNIA DESERT CONSERVATION AREA PLAN AMENDMENT, AUGUST 1, 2012

Water Resources

The Draft Environmental Impact Statement indicates that the Reasonably Foreseeable Development Scenario would require water for well drilling, dust control during construction, and makeup water to compensate for evaporative loss during plant operation if the plant designs include conventional cooling towers; however, under the preferred alternative, BLM would prohibit extraction of groundwater for consumptive use. The DEIS states that the source of the requisite water is “currently unknown” (p. 4-45). The DEIS also states that “[w]ater consumption and use would be evaluated during the NEPA process at the project level” (p. 2-53).

Recommendation:

The FEIS should identify the potential sources of water. We recommend that this discussion include consideration of whether it would be feasible to use sources such as wastewater for geothermal well drilling, injection and power plant operations.

Tiering and "Programmatic Like" Analysis

The DEIS states that the BLM’s purpose and need for granting the pending leases is to facilitate appropriate exploration and development of geothermal resources in the HGLA, consistent with the BLM’s management of other important resources in the HGLA. The BLM does not authorize any specific energy development or Federal Land Policy and Management Act right of way based on the decisions from this EIS. According to the DEIS:

Issuance of a lease for geothermal resources lays the groundwork for future exploration and development, but does not confer the right for any activities involving ground disturbance or activities that may impact the resources of the lease area. Any future geothermal project or other energy exploration and development that may be proposed within the HGLA will be evaluated under a separate National Environmental Policy Act analysis on a site and project-specific basis (p. 1-2).

The DEIS does not, however, describe the process, screening criteria, or thresholds that would be used to determine the level of subsequent NEPA analysis.

Recommendations:

The FEIS should clarify that any subsequent site specific geothermal exploration or development projects would require further environmental analysis, which could be conducted through either an environmental assessment or an EIS that could tier to the subject FEIS and the BLM’s Programmatic EIS for Geothermal Leasing in the Western United States (2008).

The BLM should elaborate on the process that individual offices will use to determine whether an EA or EIS will be prepared for subsequent projects, and identify the mechanism, screening

criteria, and/or thresholds that would be used to make these decisions. We recommend that consistent standards for determining the appropriate level of NEPA review for individual projects be identified and implemented to ensure that impacts are consistently identified, analyzed and disclosed.

Stipulations, Best Management Practices, and Procedures

The extent to which groundwater may be extracted for consumptive use during geothermal operations covered by the DEIS is not clear. For example, Stipulation SA-HGLA-10 states:

Groundwater extraction for consumptive use during geothermal project operations will be prohibited throughout the entire HGLA, except as allowed under item (c) below (p. 2-42).

The text for stipulation SA-HGLA-10 items (b), (c) and (d), however, all seem to allow consumptive use of groundwater for the exploration and development of geothermal projects.

The DEIS states, on pages 2-12, 2-17, and 2-20, that, for alternatives A, C and D, groundwater extraction for consumptive use may be allowed, with various restrictions. Elsewhere, the document states that, based on public concerns regarding the use and limited availability of groundwater, groundwater extraction for consumptive use would be prohibited under Alternatives C and D (pp. 4-51 to 4-52). These statements seem to be inconsistent.

The DEIS also states that, in addition to the various lease stipulations, the BLM may require a number of BMPs as conditions of any lease under the action alternatives, and that the mitigation measures and BMPs proposed in the California Renewable Energy Action Team Best Management Practices and Guidance Manual: Desert Renewable Energy Projects, September 2010 manual have been adopted for this EIS (p. 2-44). Please note that the final version of that manual is dated December 2010.

Recommendations:

The FEIS should correct any inconsistencies related to consumptive groundwater use in the text of the documents and, specifically, in the Special Administrative Stipulation SA-HGLA-10.

The FEIS should ensure that the BMPs that are adopted from the Renewable Energy Action Team Best Practices and Guidance Manual reflect any changes incorporated in the December 2010 version of that document.

Biological Resources, Habitat and Wildlife

Stipulation CSU-HGLA-2, item e) states that unless otherwise agreed to in writing by the Authorized Officer, power lines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power lines", Raptor Research Foundation, Inc., 1996 (p. 2-32).

Recommendation:

Include, in the FEIS, the most current practices that reduce the potential for raptor fatalities and injuries from power lines. These practices can be found in the “Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006”, Edison Electric Institute, Avian Power Line Interaction Committee and California Energy Commission.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. A report by the California Energy Commission indicates that observed changes in temperature, sea level, precipitation regime, fire frequency, and agricultural and ecological systems reveal that California is already experiencing the measurable effects of climate change¹. The report indicates that climate change could result in the following changes in California: poor air quality; more severe heat; increased wildfires; shifting vegetation; declining forest productivity; decreased spring snowpack; water shortages; a potential reduction in hydropower; a loss in winter recreation; agricultural damages from heat, pests, pathogens, and weeds; and rising sea levels resulting in shrinking beaches and increased coastal floods.

Recommendations:

The FEIS should discuss the potential impact of climate change on the effectiveness of proposed BMPs, lease stipulations and mitigation measures.

The NEPA analysis for each subsequent site specific project should discuss the potential impact of climate change on that project, and incorporate mitigation measures, as appropriate. The NEPA analyses for subsequent site specific projects should also assess how the projected impacts of each individual project could be exacerbated by climate change.

Emergency Planning and Community Right to Know Act, CAA §112(r), and California Accidental Release Prevention Program

The 2008 Geothermal PEIS provides a list of hazardous materials routinely found at geothermal plants. Hydrogen sulfide is a potential toxic gaseous pollutant that could be released during drilling, maintenance or as the result of an accident. The geothermal power plants will have to comply with CAA §112(r), and, as applicable, the Emergency Planning and Community Right to Know Act sections 303, 311, and 312, and the California Accidental Release Prevention Program. Additionally, the County's Local Emergency Planning Committee may require a facility to produce an emergency response plan whether or not such a plan is required under other regulations.

¹ Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071.

Recommendation:

The FEIS should discuss compliance with CAA §112(r), EPCRA §§ 303, 311, & 312 and the California Accidental Release Prevention (CalARP) program, as applicable.

Cultural Resources, National Historic Resources and Consultation with Tribal Governments

The EPA commends the BLM for early consultation for tribal cultural resources as required under Section 106 of the National Historic Preservation Act. The DEIS states that the BLM has initiated government-to-government consultation with the Big Pine Paiute Tribe, the Bishop Paiute Tribe, the Fort Independence Paiute Tribe, the Lone Pine Paiute-Shoshone Tribe, and the Timbisha Shoshone Tribe. EPA has identified additional tribes that may have cultural ties to the project area (see Recommendations, below).

According to the DEIS, the Tribes who have been consulted are concerned about extraction of resources from the land; the benefit to the Tribes from the proposed action; impacts on spiritually important sites; impacts to Coso Hot Springs; the effects of the proposed action on the water table; the need for new transmission lines; and whether the new facilities could prohibit access to traditional lands. They have expressed the perspective that the entire landscape is sacred; that geothermal development in the leasing area could conflict with their traditional values; and that impacts on Native American values are not amenable to mitigation. Also expressed was the desire to have tribal monitors present in the event of any surface disturbing activities (p. 5-8).

Recommendations:

Consider expanding the number of tribes invited for consultation to include the Battle Mountain Band Council, Big Sandy Rancheria, Bridgeport Paiute Tribe, Cold Springs Rancheria, Goshute Business Council, Duckwater Shoshone Tribe, Elko Band Council, Ely Shoshone Tribe, North Fork Rancheria, Picayune Rancheria, Santa Rosa Indian Community, South Fork Band Council, Table Mountain Rancheria, Tule River Indian Tribes, U Tu Utu Gwaitu Tribal Council and the Wells Band

Describe, in the FEIS, the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area, including any issues that were raised and how those issues were addressed in relation to the proposed action and selection of a preferred alternative.

Alternatives Analysis

The Haiwee Reasonably Foreseeable Development Scenario is based on a dual-flash cycle geothermal steam plant design utilizing wet cooling towers for steam condensation. According to the DEIS, the binary plant design was eliminated from further analysis because it utilizes lower temperature geothermal resources than those anticipated to occur within the HGLA. Elsewhere, however, the DEIS states that binary cycle geothermal power plants typically have lower evaporative losses (5 percent) and,

to mitigate impacts associated with evaporative water losses, appropriate technologies, such as binary cycle, may be implemented (p. 2-51).

Recommendation:

The FEIS should clarify whether a binary cycle plant may be implemented vice dual-flash steam, and if so, the binary plant design should be carried forward in the analysis. Binary plants typically require less water use and use a low boiling point organic working fluid.

Distribution List

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Big Pine Paiute Shoshone
Tribe

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