

APPENDIX A

Scoping Report

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CASA DIABLO 4 GEOTHERMAL DEVELOPMENT PROJECT

Scoping Report

Prepared for

Bureau of Land Management, United States Forest
Service, and Great Basin Unified Air Pollution Control
District

July 1, 2011

Prepared by

ESA

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1.0 Introduction and Background

1.1 Introduction

The Bureau of Land Management (BLM) Bishop Field Office, Bishop, California in coordination with the United States Forest Service (USFS) and the Great Basin Unified Air Pollution Control District (GPUAPCD), hereinafter “the Agencies,” intend to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the development of the Casa Diablo 4 (CD-4) Geothermal Development Project in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The BLM will be the NEPA Lead Agency; the USFS the NEPA Co-operating Agency; and the GBUAPCD, the CEQA Lead Agency. The agencies have initiated preparation of an EIS/EIR to evaluate the potential impacts of the CD-4 project on the environment.

As part of the EIS/EIR process, BLM, USFS and GBUAPCD conducted a public scoping effort to solicit input from agencies and the public regarding the scope and content of the EIS/EIR. This report describes the public scoping process and summarizes the comments received during scoping.

1.2 Purpose of the Scoping Process

The purpose of scoping is to solicit input from the public and resource agencies on the appropriate scope, focus, and content of the EIS/EIR. The Agencies will consider all of the input received during the scoping process during the preparation of the EIS/EIR.

The EIS/EIR will describe the existing environmental conditions of the area that could be affected by the proposed project and evaluate the potential effects of the CD-4 project in accordance with CEQA and NEPA. The comments provided by the public and resource agencies during scoping will help the Agencies identify pertinent issues, methods of analyses, and level of detail that should be addressed in the EIS/EIR. The scoping comments will also provide the basis for developing a reasonable range of feasible alternatives that will be evaluated in the EIS/EIR.

The scoping comments will augment the information developed by the EIS/EIR team, which includes specialists in each of the environmental subject areas covered in the EIS/EIR. This combined input will result in an EIS/EIR that is both comprehensive and responsive to issues raised by the public and resource agencies, and that meets CEQA and NEPA requirements.

In addition to facilitating public and resource agency input on the scope and focus of the EIS/EIR, scoping allows the Agencies to explain the EIS/EIR process to the public and to identify additional opportunities for public comment and public involvement during the EIS/EIR process. CEQA and NEPA require that the public be informed about the significant environmental effects of a proposed project before the project is approved.

2.0 Notification of Scoping

2.1 Notice of Intent

On March 25, 2010, BLM published in the Federal Register a Notice of Intent (NOI) to prepare an EIS/EIR for the CD-4 Project. The NOI initiated a 45-day public scoping and outreach process under NEPA, and provided information regarding the CD-4 project and details of how to obtain further information and submit scoping comments. A copy of the NOI is presented in **Appendix A**.

2.2 Notice of Preparation

As the first step in the CEQA process, on April 1, 2011, the GBUAPCD submitted a Notice of Preparation (NOP) to the State Clearinghouse, responsible and trustee agencies, and local jurisdictions announcing the anticipated preparation of the EIS/EIR for the project. A copy of the NOP is also presented in Appendix A. The NOP described the components of the proposed CD-4 Project, the purpose of the scoping process and information on the planned public scoping meetings. Entities that received the NOP are listed in **Table 1**.

2.3 Additional Public Notices

The scoping period began on March 25, 2011 with the issuance of the NOI. Two scoping meetings were conducted on April 18 and 19, 2011 and written comments were accepted through May 9, 2011. To notify appropriate parties of the project, a mailing list was compiled for affected federal, state, regional, and local agencies and elected officials; regional and local interest groups; local tribes; media contacts; and interested parties. **Table 2** summarizes the mailing list. The following methods were used to notify agencies and the public about the availability of the NOP, the scoping meeting dates and locations, and details on the comment process:

1. **NOP.** As discussed above, the NOP announced the public meeting dates and was distributed to responsible and trustee agencies, and various other parties.
2. **BLM Website.** Notice about the public scoping meetings was posted on the BLM's website (see the public meeting announcement in Appendix A).
3. **GBUAPCD Website.** On April 1, 2011 the NOP was posted on the Public Notices page of the GBUAPCD website; the CD-4 project was added to the GBUAPCD website home page on April 4, 2011.
4. **Meeting Flyer.** A flyer announcing the availability of the NOP and the dates of the public meetings was sent to various local community groups and organizations approximately two weeks prior to the public scoping meetings. A copy of the meeting flyer is included in Appendix A. Meeting flyer recipients are listed in Table 1.
5. **Media Notification.** The BLM public affairs department provided a news release (included Appendix A) on March 31, 2011 to various media outlets, including those shown in Table 1.

**TABLE 1
NOTIFICATION OF SCOPING**

NOP Recipients

- U.S. Environmental Protection Agency
- Caltrans District 9
- California Department of Conservation, Division of Oil, Gas and Geothermal Resources
- California Energy Commission
- Office of Historic Preservation
- Department of Water Resources
- Department of Parks and Recreation
- Department of Fish and Game, Region 6
- Native American Heritage Commission
- Public Utilities Commission
- California Highway Patrol
- Air Resources Board, Major Industrial Projects
- Regional Water Quality Control Board, Region 6
- Mono County Community Development Department
- Long Valley Fire Protection District
- Mammoth Lakes Fire Protection District
- Mammoth Community Water District
- Town of Mammoth Lakes

Meeting Flyer Recipients

- Mammoth Nordic
- Sierra Club
- Mammoth Lakes Trails and Public Access Foundation
- Bishop Paiute Tribe
- Eastern Sierra Land Trust
- Eastern Sierra 4WD Club
- High Sierra Equestrian Club
- 395 Fat Tire Council
- Advocates for Mammoth
- High Sierra Triathlon Club
- Disabled Sports Eastern Sierra
- Mammoth Powersports
- Mammoth Pet Shop
- Friends of the Inyo
- Mammoth Snowmobile Association and Town of Mammoth Lakes Tourism & Recreation Commission
- Town of Mammoth Lakes Planning Department

News Release Recipients

- A.C.E. — KMMT-FM Radio Station
- Eastern Sierra News at 11:00 — KSRW-TV
- KBOV-AM Radio Station
- KSRW-FM Radio Station
- KSRW-TV – Television Station
- Mammoth Sierra - Magazine
- Bob.Cochran@mail.house.gov
- bjbranson@lonepinetv.com
- kf6mgq@gbis.com
- sierrascoop@charter.net
- schwabjenell@yahoo.com
- Mammoth Times – Community Newspaper
- Mono Lake Newsletter - Magazine
- Sierra Wave – Online Broadcast Version
- The Spanish Show — KSRW-FM Radio Station Show
- The Sheet
- The Inyo Register
- newsradio@sbcglobal.net
- info@bloggingbishop.com
- colin@eenews.net

**TABLE 2
MAILING LIST FOR NOP AND NOTICE OF SCOPING MEETINGS**

Category	Number of Recipients
Responsible and Trustee Agencies, Other Agencies	14
Organizations and Interested Parties	15
Local and Bordering Jurisdictions	4
Media	21
TOTAL	57

3.0 Scoping Meetings

3.1 Public Scoping Meetings

The Agencies held two public scoping meetings near the CD-4 project area during April 2011, approximately two weeks after publication of the NOP, to present information regarding the CD-4 project and to solicit input from the public on potential impacts of the CD-4 project, the significance of impacts, the appropriate scope of the EIS/EIR, mitigation measures, and potential alternatives to the CD-4 project. The first meeting was held on Monday, April 18, 2011 at the Crowley Lake Community Center located at 458 South Landing Road, Crowley Lake, California. The second meeting was held on Tuesday, April 19, 2011 at the Mammoth Lakes Community Center located at 1000 Forest Trail, Town of Mammoth Lakes, California.

Each meeting began with a sign-in session, overview of the purpose of the scoping meeting and agenda by Austin McInerney (facilitator), and opening remarks by the BLM. Following the introductions, ESA Project Manager, Mike Manka, provided an overview of the CD-4 project and the NEPA/CEQA process. Mike also provided instructions to attendees on how to submit written comments during the scoping period. Individuals were invited to ask questions regarding the NEPA/CEQA process and for clarifications regarding the proposed project. The meetings concluded with an open house session which provided an opportunity for attendees to review display boards and discuss any questions regarding the project with the project team. Based on the meeting sign-in sheets, a total of 17 people attended the two scoping meetings (excluding Agency and consultant staff), and they represented the Town of Mammoth Lakes, local citizens, and community groups.

Following the formal meeting, attendees were once again invited to review project display boards, ask questions of the project team, and submit written comments. Appendix B includes copies of the scoping meeting agenda, handout, comment cards, and sign-in sheets.

3.2 Agency Scoping Meetings

During the scoping period for the proposed CD-4 project, the Agencies also conducted meetings with various agencies that had requested individual meetings. The purpose of these meetings was to explain the CD-4 project, the timeline for the environmental review process, and to discuss relevant issues and/or concerns that each agency had relative to the proposed project. Individual meetings were held with Mono County, Town of Mammoth Lakes, Mammoth Community Water District, and the Mammoth Lakes Trails and Public Access. While various concerns were discussed during these meetings, each agency was instructed to submit its scoping comments in writing; their comments are summarized in the following section.

4.0 Summary of Comments

The Agencies received a total of 19 comment letters (including emails) on the CD-4 project, comprising a total of 126 individual comments. **Table 3** lists agencies, organizations and individuals that provided comments. Copies of comment letters and emails are included in Appendix D.

**TABLE 3
INDEX OF WRITTEN COMMENTS**

Comment Letter No.	Commenter
1. Federal Agencies	
1A	U.S. Environmental Protection Agency
1B	National Park Service
2. State Agencies	
2A	State of California, Department of Fish and Game
2B	State of California, Department of Transportation, District 9
2C	State of California, Regional Water Quality Control Board, Lahontan Region
2D	State of California, Native American Heritage Commission
3. Local/Regional Agencies	
3A	Mammoth Community Water District
3B	Mono County Community Development Department
3C	Town of Mammoth Lakes, Office of the Mayor
4. Organizations	
4A	Advocates for Mammoth
4B	Mammoth Lakes Trails and Public Access Foundation
4C	Mammoth Nordic
4D	Sierra Club, Toiyabe Chapter (Range of Light Group)
5. Individuals	
5A	Malcolm Clark
5B	Lisa Isaacs
5C	Mirza Agha and Matthew Meuser
5D	Liz O'Sullivan
5E	Michael O'Sullivan
5F	Scott Sysum

This section summarizes the issues raised by comments during the scoping period. The comment summaries are presented in two categories: CEQA/NEPA and CD-4. The CEQA/NEPA category pertains to issues related to the environmental resource areas that will be discussed in the EIS/EIR. The CD-4 category refers to comments regarding the project itself. **Table 4** provides a summary of scoping comments by commenter. **Table 5** provides a summary of scoping comments by topic.

**TABLE 4
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
1A U.S Environmental Protection Agency	p. 2, paragraph 3	Identify the purpose and need of the project. Discuss the proposed project in the context of the larger energy market that the project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting renewable energy portfolio standards and goals.	Energy		Project Description	
1A U.S Environmental Protection Agency	p. 3, paragraph 1	Describe the development of each alternative was developed, how it addresses each project objective, and how it would be implemented. Identify and analyze an environmentally preferable alternative.		Alternatives		
1A U.S Environmental Protection Agency	p. 3, paragraph 6	Suggest coordination with the Corps to obtain a jurisdictional delineation and confirm the presence of waters of the U.S., in order to determine whether or not a CWA Section 404 permit is needed. If needed, project should comply with the CWA 404(b)(1) Guidelines.	Water Quality			Section 404 permit
1A U.S Environmental Protection Agency	p.4, paragraph 4	Describe the geographic extent of any waters of the U.S. at the project site, as well as drainage patterns at the project location.	Water Quality			Section 404 permit
1A U.S Environmental Protection Agency	p. 4, paragraph 5	Discuss steps that will be taken to avoid and minimize impacts to waters of the U.S.	Water Quality			Section 404 permit
1A U.S Environmental Protection Agency	p. 5, paragraph 2	Describe the availability of water supply for construction and operation of the project and evaluate impacts associated with the selected water supply.	Groundwater			
1A U.S Environmental Protection Agency	p. 5, paragraph 3	Explore the need for a groundwater monitoring plan as a mitigation measure for potential impacts on groundwater, springs, and other surface water features. The monitoring plans should address contingencies to be implemented (i.e., modification of geothermal pumping rates) to address any potential impacts that may be documented during the monitoring program plan for these water resources.	Groundwater			
1A U.S Environmental Protection Agency	p. 5, paragraph 5	Provide information on CWA Section 303(d) impaired waters in the project area and efforts to develop/revise TMDLs.	Water Quality			
1A U.S Environmental Protection Agency	p.5, paragraph 6	Provide discussion of ambient air conditions, NAAQS, criteria pollutant nonattainment areas, and potential air quality impacts including cumulative impacts for each alternative. Address the applicability of CAA Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93.	Air Quality			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
1A U.S Environmental Protection Agency	p.6, paragraph 3	Discuss if new source review (NSR) program permits will be required for the geothermal power plant. If so, the EIR/EIS should describe the permitting process and applicable information.	Air Quality			
1A U.S Environmental Protection Agency	p. 7, paragraph 1	Indicate if Title V operating permits will be required for the geothermal power plant proposed to be constructed in the leased areas. If so, describe permitting process.	Air Quality			
1A U.S Environmental Protection Agency	p. 7, paragraphs 2 and 3	Identify the need for an Equipment Emissions Mitigation Plan (EMMP) and Fugitive Dust Control Plan. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons and NO _x associated with construction activities.	Air Quality			
1A U.S Environmental Protection Agency	p. 8, paragraph 1	Evaluate the need for compliance with the Clean Air Act's Section 112 and the Emergency Planning and Community Right-to-Know Act (EPCRA) Section 303, 311, & 312. Requirements of the CA Hazardous Materials Business Plan may be applicable	Hazards and Hazardous Materials			
1A U.S Environmental Protection Agency	p. 8, paragraph 3	Discuss design and management measures to minimize adverse impacts to wildlife and native and rare plants. Identify specific measures to reduce impacts to eagles and clarify how the project would comply with the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.	Biological Resources			
1A U.S Environmental Protection Agency	p. 9, paragraph 2	Discuss need for an Avian Protection Plan for the transmission lines and equipment. The discussion may include the development of an APP using the Avian Power Line Interaction Committee best practices and FWS Avian Protection Plan Guidelines.	Biological Resources			
1A U.S Environmental Protection Agency	p. 9, paragraph 4	Recommends that there be full disclosure of impacts to recreational users in the project area. Clarify what general measures will be incorporated to ensure recreational users are not injured due to hazards associated with piping and transmission lines.	Recreation			
1A U.S Environmental Protection Agency	p. 9, paragraph 6	Include an invasive management plan to monitor and control noxious weeds.	Biological Resources			
1A U.S Environmental Protection Agency	p. 9, paragraph 7	Assess noise levels from the geothermal plant and well field. Decibel levels should be evaluated as should the effects of noise levels on a variety of species, as well as effects on property values, residences, and recreational use.	Noise			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
1A U.S Environmental Protection Agency	p. 9, paragraph 8	Steps should be taken to minimize the visual impacts associated with the new geothermal plant and well field.	Aesthetics			
1A U.S Environmental Protection Agency	p. 10, paragraph 2	Describe the process and outcome of government-to-government consultation between BLM and other tribal governments within the project area.	Cultural Resources			
1A U.S Environmental Protection Agency	p. 10, paragraph 5	Address the possibility of Indian sacred sites in the project area. Address Executive Order 13007 and distinguish it from Section 106 of NHPA; discuss how BLM will avoid adverse effects on the physical integrity of sacred sites, if they exist. Summarize coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.	Cultural Resources			
1A U.S Environmental Protection Agency	p. 11, paragraph 2	Identify projected hazardous materials and waste types and volumes, and expected storage, disposal, and management plans.	Hazards and Hazardous Materials			
1A U.S Environmental Protection Agency	p. 11, paragraph 3	Describe the health and safety aspects of all hazardous materials used, especially the working fluid.	Hazards and Hazardous Materials			
1A U.S Environmental Protection Agency	p. 11, paragraph 4	Evaluate appropriate mitigation, including measures to minimize the generation of hazardous waste.	Hazards and Hazardous Materials			
1A U.S Environmental Protection Agency	p. 11, paragraph 6	Discuss the potential for geological hazards (i.e., induced seismicity or subsidence) and describe how geological hazards would be monitored and mitigation measures.	Geology, Soils, and Seismicity			
1A U.S Environmental Protection Agency	p. 12, paragraph 1	Identify bonding or financial assurance strategies for decommissioning and reclamation.			Project Description	
1A U.S Environmental Protection Agency	p. 12, paragraph 3	Evaluate the conformance of the project with current and reasonably foreseeable land use plans	Land Use, Plans and Policies			
1A U.S Environmental Protection Agency	p. 12, paragraph 5	Include an evaluation of environmental justice populations within the geographic scope of the project.	Environmental Justice			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
1A U.S Environmental Protection Agency	p. 12 – 13, paragraph 6	Identify the following: current condition of the resource as a measure of past impacts; the trend in the condition of the resource as a measure of present impacts; all on-going, planned and reasonably foreseeable projects in the project area; future condition of the resource based on an analysis of impacts from cumulative projects.		Cumulative		
1A U.S Environmental Protection Agency	p. 13, paragraph 3	Describe reasonably foreseeable future land use and associated impacts that will result from additional power supply. Estimate the amount of growth, likely location, and biological and environmental resources at risk.		Cumulative		
1A U.S Environmental Protection Agency	p. 14, paragraph 1	Consider how climate change could potentially influence the proposed project (specifically sensitive areas) and assess how the projected impacts could be exacerbated by climate change.	Climate Change			
1A U.S Environmental Protection Agency	p. 14, paragraph 2	Quantify and disclose the anticipated climate change benefits of geothermal plant electrical energy. Suggest quantifying greenhouse gas emissions from different types of generating facilities (i.e., solar, wind, natural gas, coal-burning, and nuclear) and comprising these values.	Greenhouse Gas Emissions			
1A U.S Environmental Protection Agency	p. 14, paragraph 5	Consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure successful implementation of mitigation measures. Recommends BLM review the discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality (CEQ) on Modernizing NEPA Implementation.		Mitigation Measures		
1B National Park Service	p.1 paragraph 1	No comment at this time.				
2A State of California, Department of Fish and Game	p. 2, paragraph 9	Should address any potential to alter aquifer temperatures, pressures, surface waters, spring flows, and water quality.	Hydrology / Water Quality; Groundwater			
2A State of California, Department of Fish and Game	p.2, paragraph 10	Explain how the project comports with existing court orders and settlement agreements stemming from the development of the MP1 and PLES plants.			Project Description	

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
2A State of California, Department of Fish and Game	pp. 3 - 4, paragraphs 1 through 7 and 1 through 3	Include a complete assessment of the flora and fauna within and adjacent to the project area including special status species, locally unique species, and rare natural communities. Refer to the CDFG's November 2009 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (see Attachment 1 of scoping letter). Assessment should include rare, threatened, and endangered invertebrate, fish, wildlife, reptile, and amphibian species. The assessment should utilize the Department's California Natural Diversity Data Base (CNDDB).	Biological Resources			
2A State of California, Department of Fish and Game	p. 4, paragraph 4	Include a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources with specific measures to offset such impacts included.	Biological Resources	Cumulative Effects		
2A State of California, Department of Fish and Game	p. 5, paragraph 7	Analyze a range of project alternatives to ensure that the full spectrum of alternatives to the proposed project are fully considered and evaluated. Alternatives which avoid or minimize impacts to sensitive biological resources should be identified.		Alternatives		
2A State of California, Department of Fish and Game	p. 6, paragraph 2	Mitigation measures for adverse impacts to special-status species should be thoroughly discussed. Mitigation measures should first emphasize avoidance and reduction of project impacts. The feasibility of on-site habitat restoration or enhancement should be discussed for unavoidable impacts.	Biological Resources			
2A State of California, Department of Fish and Game	p. 7, paragraphs 1 through 3	State whether the project would result in incidental take of any CESA-listed organisms. To expedite the CESA permitting process, the DEIR should address CESA permit requirements.	Biological Resources			CESA permit
2A State of California, Department of Fish and Game	p. 8, paragraph 2	The EIR should demonstrate that the project will not result in a net loss of wetland habitat values or acreage. If the project site has potential to support aquatic, riparian, or wetland habitat, the project should include a jurisdictional delineation that includes wetland identification. The EIR should address the potential need for a Lake or Streambed Alteration Agreement.	Biological Resources			
2B State of California, Department of Transportation, District 9	p. 1, paragraph 2	Notes that the permitting process would be simplest if the Mammoth Community Water District serves as the owner/operator of the proposed recycled water pipeline. Ormat could be the permittee but Caltrans Headquarters involvement/approval would be required via the exception process.				Caltrans permitting process

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
2B State of California, Department of Transportation, District 9	p. 1, paragraph 3	The recycled water pipeline should be located farther from SR 203 to ensure that the pipe does not impede any future highway work/maintenance.			Project Description	
2B State of California, Department of Transportation, District 9	p. 1, paragraphs 4 and 5	Encroachment permits (for bore and jack work) would be required for SR 203 and US 395.				Encroachment permit
2C State of California, Regional Water Quality Control Board, Lahontan Region	p. 2, paragraph 3	Provide an analysis of potentially significant impacts to all drainages, wetlands, surface waters of the State, waters of the U.S., or blue-line streams in and around the Project. Project should also evaluate potential impacts to groundwater as a result of well installation activities and plant operation. The evaluation should also consider the cumulative impact of in-stream filling with regard to downstream development. Project proponent should comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan.	Hydrology / Water Quality	Cumulative Effects		
2C State of California, Regional Water Quality Control Board, Lahontan Region	p. 3, paragraph 1	The project should consider Low Impact Development principles to minimize surface runoff and reduce impacts to receiving waters.			Project Description	
2C State of California, Regional Water Quality Control Board, Lahontan Region	p. 3, paragraph 6	If the project results in disturbance of more than 1.0 acre, then the Project proponent must develop a Storm Water Pollution Prevention Plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Stormwater Permit. Obtaining a permit and conducting monitoring does not constitute adequate mitigation.	Hydrology / Water Quality			General Construction Permit
2C State of California, Regional Water Quality Control Board, Lahontan Region	p. 3, paragraph 8	Project should include using recycled wastewater in the evaporative cooling process of the power plant. Analysis should evaluate health impacts to site workers and off-site overspray from these activities. Note that the current State of California Recycling Criteria require submission of an engineering report to the RWQCB and the DHS prior to implementation of recycled water projects.	Hydrology / Water Quality		Project Description	
3A Mammoth Community Water District	p. 2, paragraph 1	Address potential interaction between existing aquifer levels based on public and ORMAT monitoring data. Address both qualitative and quantitative changes in interaction that would occur from long-term increases in brine pumping and re-injection.	Groundwater			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
3A Mammoth Community Water District	p. 2, paragraph 2	Determine whether the geothermal reservoir computer simulation model boundary conditions for the upper aquifer is consistent with those of the District's groundwater simulation model developed in 2009. Determine whether the models are consistent in terms of mass balance, vertical hydraulic conductivity, upper/lower aquifer boundary conditions, and primary recharge and extraction mechanisms.	Groundwater			
3A Mammoth Community Water District	p. 2, paragraph 3	Determine whether under sustained multi-year drought the contributing upper aquifer zones' decreased recharge to the thermal reservoir, combined with the increase in bring pumping, would cause inter-annual head changes that result in lowering of the overlying upper aquifer heads and water supply well pumping levels.	Groundwater			
3A Mammoth Community Water District	p. 2, paragraph 4	Will there be independent technical review to support conclusions presented by the project's technical specialists regarding impacts to groundwater hydrology? MCWD believes this could be achieved by having other technical staff from USGS, BLM, USFS to provide independent review.	Groundwater	Peer review		
3A Mammoth Community Water District	p. 2, paragraph 5	Determine if the location/selection of the 16 potential well sites influence the changes to the upper aquifer. Questions if the modeling analysis will consider through Monte-Carlo or similar uncertainty/sensitivity analysis, optimization analysis, or similar methods the long term differences in impacts of the final extraction/injection site locations out of the 16 possible locations.	Groundwater			
3A Mammoth Community Water District	p. 2, paragraph 6	Describe design, construction, permitting standards used for abandonment of monitoring, production, and injection wells to ensure there is no vertical "cross connection" between the aquifer layers which would negatively impact municipal water supply and/or shallow groundwater interactions with surface water features	Groundwater			
3A Mammoth Community Water District	p. 2, paragraph 7	Describe the impact of extracting 300 to 400 acre-feet per year from the geothermal reservoir, compared to the current "zero net extraction" practice under ambient cooling only and near 100% re-injection of brine (assuming 1 MG per day of consumptive extraction from the use of reverse osmosis brine supply for cooling water). Impacts of this net groundwater extraction on the aquifer should be evaluated.	Groundwater			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
3A Mammoth Community Water District	p. 2, paragraph 8	Describe potential impacts to surface water features in the central and eastern portions of Mammoth Creek based on the results of the groundwater hydrology analysis. Describe whether these changes would adversely affect aquatic habitat and/or water supply reliability to downstream surface water users.	Hydrology			
3A Mammoth Community Water District	p. 2, paragraph 9	Potential impacts associated with using recycled water for hybrid cooling and reduction of the net annual geothermal brine extraction levels. Determine the quantitative impact of this use as measured by the number of required brine extraction wells and resulting disturbance areas, and reduced parasitic loads at the power plant complex from reduced brine pumping loads and/or reduced RO treatment system power consumption.	Hydrology			
3A Mammoth Community Water District	p. 3, paragraph 1	Describe water use associated with construction of the new wells, pipelines, power plant, and related infrastructure. Describe whether construction-related water could be met through use of recycled water available from MCWD to reduce demands on potable supply.	Hydrology			
3A Mammoth Community Water District	p. 3, paragraph 2	Questions whether there are greater or lesser off-sets of carbon based power generation sources based on the future power plant's efficiency and ability to support both base and peak power demands compared to only base power generation. Questions if the power plant could be designed and operated in a manner to maximize off-set use of carbon emitting power sources, taking into account established patterns of regional power generation in relation to major power source types' carbon load per unit power generation. Refers to the National Renewable Energy Laboratory 2011 study (Hybrid Cooling Systems for Low Temperature Geothermal Power Production)	Greenhouse Gas Emissions			
3A Mammoth Community Water District	p. 3, paragraph 4	Evaluate socio-economic impacts of both the overall power generation revenue estimates and the revenue sharing agreements with Mono County to determine the relative impacts of viable revenue sharing options and power generation targets related to base and peak power generation.	Socio-economics			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
3A Mammoth Community Water District	p. 4, paragraphs 2 through 4	MCWD suggests that the following options be evaluated for the power plant use of hybrid cooling component: (1) No use of hybrid cooling, similar to existing power plant systems at the complex, (2) Seasonal use of hybrid cooling with recycled water only, (3) Use of treated geothermal brine only, using RO or similar on-site treatment, and (4) Use of combined RO treatment and recycled water supply.		Alternatives		
3B Mono County Community Development Department	p. 1, paragraph 2	Notes that a reclamation plan will be required for the proposed power plant and pipeline.			Project Description	
3B Mono County Community Development Department	p. 1, paragraph 3	Construction of any new wells would require permits from Environmental Health.			Project Description	Environmental Health permits
3B Mono County Community Development Department	p. 1, paragraph 4	Encroachment and/or grading permits may be needed from the Department of Public Works.			Project Description	Encroachment and grading permits
3C Town of Mammoth Lakes, Office of the Mayor	p. 1, paragraph 3	Analyze underground and at-grade pipeline options. The Town's General Plan specifically calls out undergrounding of utilities as a desired goal.			Project Description	
3C Town of Mammoth Lakes, Office of the Mayor	p. 1, paragraph 4	For the aboveground pipeline option, overpasses or buried sections of some type would be needed at 1,000-foot intervals beyond crossings at forest service roads so that trail users and future trail alignments will not have any barriers.			Project Description	
3C Town of Mammoth Lakes, Office of the Mayor	p. 1, paragraph 5	Analyze the snow melt rate for both underground and at-grade pipeline options.	Recreation			
3C Town of Mammoth Lakes, Office of the Mayor	p. 1, paragraph 6	Regardless of the location of pipe crossings, installation of aboveground pipelines would result in a significant impact on recreation as visitors and residents would lose their ability to use the Inyo National Forest lands as a whole.	Recreation			
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraph 1	Analyze needed warning signs, pipeline identifying markers and distance needed from the exposed pipes to prevent collisions amongst nordic skiers, snowmobilers, motorcyclists and other trail users not familiar with the pipe locations.	Recreation			
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraph 2	Analyze exposed pipes in the event of a pipe break or crack and the level that such a fracture could cause due to super heated steam or liquid escaping.	Hazards and Hazardous Materials			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraphs 4-5	Analyze the lowest possible background noise level associated with operational noise associated with the new well heads. Analyze the cumulative operational noise impacts associated with the new well heads.	Noise			
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraphs 7 to 8	Analyze options that limit the time period between drilling, construction and up until capping of the well head so that emissions are minimized. List all potential emissions associated with geothermal areas.	Air Quality			
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraph 9	Notes that the Town holds a Special Use Permit with the Inyo National Forest for operations at Shady Rest Park. The Town requests to be involved in identifying potential mitigation for any impacts to Shady Rest Park.	Recreation		Project Description	Special Use Permit with Inyo National Forest
3C Town of Mammoth Lakes, Office of the Mayor	p. 2, paragraph 10	Request that a clear understanding and outline of the approval process amongst the three decision-making bodies (BLM, Inyo National Forest, and Great Basin Unified Air Pollution Control District) be presented.			Project Description	
3C Town of Mammoth Lakes, Office of the Mayor	p.2, paragraph 11	Request that public field trips are held early within the 45-day comment period to explain the alternatives outlined in the Draft EIS/EIR		Alternatives		
3C Town of Mammoth Lakes, Office of the Mayor	p. 3, paragraph 1	Requests specific analysis of the amount of water needed for cooling, potential impacts related to the changing function of the Town's aquifer, and a feasibility study for the potential use of recycled water. Consider potential impacts to the aquifer and the immediate vicinity.	Groundwater			
3C Town of Mammoth Lakes, Office of the Mayor	p. 3, paragraph 2	Clearly describe any pre-existing stipulations from prior approvals for the entire proposed project.			Project Description	
4A Advocates for Mammoth	p. 2, paragraph 2	Suggests that a realistic estimate of the number of people utilizing Shady Rest Park be conducted. This information would help inform development of meaningful alternatives and mitigation measures.	Recreation			
4A Advocates for Mammoth	p. 2, paragraph 4	The pipeline alignment should be designed to allow for adequate access and to minimize impacts on wildlife.	Biological Resources		Design/ Project Description	
4A Advocates for Mammoth	p. 2, paragraph 5	Odors generated from the wells and pipelines would interfere with the enjoyment of the area and indicate possible hazardous conditions.	Air Quality			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
4A Advocates for Mammoth	p. 2, paragraph 6	Determine the current background sound level as part of the determination of acceptable sound levels for the operating wells.	Noise			
4A Advocates for Mammoth	pp. 2-3, paragraph 7	The addition of the proposed project to a recreation area with many diverse users (some which already have conflicts - i.e., motorized vs. quiet sports advocates) calls for development of a comprehensive plan for the area and not a piecemeal approach.	Recreation			
4A Advocates for Mammoth	p. 3, paragraph 1	Due to the project's close proximity to the town, the analysis of potential hazards related to public safety should be conservative. Concerns include potential well blowouts, pressurized pipe rupture, hazardous gas release, and initiation of wild fires.	Hazards and Hazardous Materials			
4A Advocates for Mammoth	p. 3, paragraph 2	Concerns about the appearance of project facilities in the vicinity of Shady Rest Park.	Aesthetics			
4A Advocates for Mammoth	p. 3, paragraph 4	Look at the cumulative effects of the proposed large expansion of the power plant with the continued operation of the existing plant.		Cumulative Effects		
4A Advocates for Mammoth	p. 3, paragraph 5	Concerns about the project's effects on the Town's water supply and local economy as the Town's groundwater represents a potential valuable resource to the Town.	Groundwater; Socio-economics			
4B Mammoth Lakes Trails and Public Access Foundation	p. 1, paragraph 3	Commenter expresses concern regarding potential conflicts between the proposed pipelines and facilities with current and future recreation opportunities in Shady Rest Park. Based on review of local planning documents, commenter produced a map with an accompanying list that identifies 18 potential conflicts.	Recreation			
4B Mammoth Lakes Trails and Public Access Foundation	pp. 1-2, paragraph 4	Recommends that public comments are documented in a report and be considered as part of the environmental process(s) and documented as part of the public record.			Project Description	
4C Mammoth Nordic	p. 1, paragraphs 3 and 4	Concerns regarding the project's impact on Nordic recreation in the Mammoth Lakes area. Implementation of additional wells and pipelines could impact the aesthetic quality, noise environment, and safety of the Nordic user experience.	Aesthetics; Recreation; Noise			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
4C Mammoth Nordic	p. 1, paragraph 5	Concerns regarding the project's need to re-route several established Nordic trail alignments. Concerns regarding Mammoth Nordic's ability to conduct their nightly grooming operations. Expresses concerns regarding both above-ground and below-ground pipeline options -- above-ground pipelines could create barriers while the belowground pipeline option could cook the ground above, creating low-snow conditions and could create "hollow snow" conditions and could compromise Nordic recreation safety.	Recreation			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 1, paragraph 1	Request that site visits are available during the early portion of the Draft EIS/EIR comment period.		Comment Period		
4D Sierra Club, Toiyabe Chapter, Range of Light Group	pp. 1-2, paragraph 2	Requests that the EIS/EIR considers hydrological effects associated with the continued operation of the current plant in combination with the proposed plant as well as the potential effects on stream, spring, seep flows, and temperatures.	Hydrology / Water Quality			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 2, paragraph 1	Due to the magnitude of the project and collection of over 30 years of hydrological and monitoring data, commenter requests there be an open review of the hydrological and environmental effects of the current plant along with the analysis of the proposed expansion. Requests that pertinent data from other facilities be included (i.e., ones pertaining to seismic activity, aquifer drawdown, and recharging).	Hydrology / Water Quality		Project Description; Project Background	
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 2, paragraph 2	Questions the applicant's proposed use of supplemental water cooling. Requests that the project description evaluate the following: (1) how much water or brine would be used, (2) the capacity of the RO plant and the recycled water pipeline's capacity, and (3) the alignment of the pipeline.			Project Description	
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 2, paragraph 3	Notes that the Basalt Canyon/Shady Rest area and the plant site were used by the Piate Tribes (and still may be). Requests that the local Piate tribe consulted with and that the required state and federal surveys, monitoring, and mitigation be conducted.	Cultural Resources			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 3, paragraph 1	Requests that construction activities involving tree removal and/or vegetation removal be prohibited during spring or early summer months when there are nesting birds or other animals present. Suggests that the Forest Service provide guidance regarding construction timing.	Biological Resources			

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 3, paragraph 2	Analyze the probability of earthquake activity due to a combination of the project area's recent history of earthquakes and the proposed plant's potential to precipitate an earthquake related to reinjecting water or brine into the wells.	Geology, Soils, and Seismicity			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 3, paragraph 3	Recommend that the maximum distance between passages be 1,000 feet and that the intervals be closer in areas of existing roads, trails or frequent use. Requests that informal access points to the project area near Nordic trails be considered in the analysis.	Recreation			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 3, paragraph 3	Consider impacts not on just the present recreational uses in the project area but the possible impact on the future expanded Nordic system.	Recreation	Cumulative Effects		
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 3, paragraph 4	Requests that visual impacts associated with the drill rigs, wells, fencing, plumes from heat exchangers, pipes, plowed roads, and plowing berms be minimized.	Aesthetics			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 1	Requests that appropriate mitigation be implemented to reduce noise associated with the production wells and drilling operations.	Noise			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 2	Requests that the release of, detection of, and control of noxious gases from wells and pipes be covered in the analysis with appropriate mitigation measures.	Air Quality			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 3	Requests that worst case catastrophic hazards be analyzed (i.e., blowouts, poisonous gas release, earthquake rupture of pipes and wells, drill rig explosion, hazardous materials spills). Use of the area by OSV and OHV vehicles could pose a threat to the integrity of high temperature brine pipes.	Hazards and Hazardous Materials			
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 4	Requests that appropriate mitigation measures including compensatory benefits to residents and visitors be implemented due to projected disruption to Town recreational uses. Requests that such mitigation is determined in consultation with the Town government and with all interested groups.	Recreation	Mitigation Measures		
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 5	Address eventual decommissioning of the facilities and restoration of project sites.	All resource topics		Project Description	

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
4D Sierra Club, Toiyabe Chapter, Range of Light Group	p. 4, paragraph 7	Requests that commitments for on-going monitoring throughout the life of the project be included in the final environmental document (i.e., on water levels, recreational access, etc.).		Mitigation Measures		
5A Malcolm Clark	p. 1, paragraph 1	Requests to be added to mailing list.		Mailing List		
5B Lisa Isaacs	p. 1, paragraph 2	Questions area of each well pad (0.4 acres) and urges that the applicant look for ways to reduce the surface area and or increase use of gravel around a reduced pad area.			Design / Project Description	
5B Lisa Isaacs	p. 1, paragraph 4	Requests for information about restoration and mitigation to offset impacts associated with well pad construction. Requests detailed information regarding restoration techniques.	Biological Resources	Mitigation Measures		
5B Lisa Isaacs	p. 1, paragraph 5	Requests information about the total length and surface area of proposed aboveground pipelines.			Design / Project Description	
5B Lisa Isaacs	p. 1, paragraph 6	Describe mitigation and methods used to offset impacts on the project area's viewshed from the proposed aboveground pipelines. Questions whether the pipeline could be installed belowground in areas of concentrated visual impacts and concentrated recreational areas.	Aesthetics; Recreation			
5B Lisa Isaacs	p. 1, paragraph 7	Questions if all new proposed transmission lines can be undergrounded as opposed to stringing new aboveground lines.		Alternatives	Project Description	
5B Lisa Isaacs	p. 2, paragraph 1	Will local, qualified workforce be given preference for construction and facility operations jobs created by the proposed project?		Not a CEQA/NEPA issue		
5B Lisa Isaacs	p. 2, paragraph 2	Requests that recycled water be used during the cooling process as opposed to potable, municipal water.			Project Description	
5B Lisa Isaacs	p. 2, paragraph 3	Describe how air quality impacts and potential leaks will be monitored in areas surrounding wells and new power plants. Describe whether monitoring will be ongoing in real time or occasional.	Air Quality			
5B Lisa Isaacs	p. 2, paragraph 3	Describe how impacts to archaeological resources will be mitigated by the proposed project.	Cultural Resources			
5B Lisa Isaacs	p. 2, paragraph 5	What public educational/interpretive programs and displays are planned to 'tell the story' to local residents and residents alike?			Project Description	

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**TABLE 4 (Continued)
SUMMARY OF COMMENTS BY COMMENTERS**

Commenter	Page (p.), Paragraph	Summary of Comment	CEQA/NEPA Comments		CD-4 Comments	
			Resource Topics	Other CEQA/NEPA Topics	Description of the Project	Agency Coordination (Permits and Approvals)
5B Lisa Isaacs	p. 2, paragraph 6	How much money will Mono County receive annually from new project revenues if the project is completed as proposed?		Not a CEQA/NEPA issue		
5B Lisa Isaacs	p. 2, paragraph 7	Describe how the additional noise generated by the project will be mitigated. Describe any studies that have been conducted to evaluate the effects of increased noise levels on local fauna.	Noise			
5B Lisa Isaacs	p. 2, paragraph 8	How will the local region and its residents be guaranteed to benefit from the project other than tax revenues paid to Mono County?		Not a CEQA/NEPA issue		
5C Mirza Agha and Matthew Meuser	p. 1, paragraph 1	Requests a copy of the project proposal and maps of project area		Not a CEQA/NEPA issue		
5D Liz O'Sullivan	p. 1, paragraph 3	Consider the development of a Mule deer herd range and migration corridor mitigation fund.	Biological Resources	Mitigation Measures		
5D Liz O'Sullivan	p. 1, paragraph 4	Consider additional geothermal energy production sites in the County.		Alternatives		
5E Michael O'Sullivan	p. 1, paragraph 1	Address impacts the project will have on the Sherwin Mule Deer herd migration corridor and describe mitigation measures that can be taken to lessen the impact on the deer herd.	Biological Resources	Mitigation Measures		
5F Scott Sysum	p.1, paragraph 1	Requests to be added to mailing list. Questions why the EIS is being initiated right now and requests environmental documentation for Casa Diablo units 1-3.			Project Description; Project Background	

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APPENDICES

- A. Notices
 - 1. BLM Notice of Intent (NOI) to prepare an EIS/EIR for the Casa Diablo Geothermal Project
 - 2. GBUAPCD Notice of Preparation (NOP) of an EIS/EIR for the Casa Diablo Geothermal Project
 - 3. Meeting Flyer announcing the EIS/EIR Public Scoping Meetings
 - 4. BLM Press Release
- B. Scoping Meeting Materials
- C. Comments Received During CD-4 EIS/EIR Scoping Process

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APPENDIX A

Notices

1. BLM Notice of Intent (NOI) to prepare an EIS/EIR for the Casa Diablo Geothermal Project
2. GBUAPCD Notice of Preparation (NOP) of an EIS/EIR for the Casa Diablo Geothermal Project
3. Meeting Flyer announcing the EIS/EIR Public Scoping Meetings
4. BLM Press Release

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ADDRESSES: Nominations should be sent to Teresa Raml, District Manager, Bureau of Land Management, California Desert District Office, 22835 Calle San Juan De Los Lagos, Moreno Valley, California 92553.

FOR FURTHER INFORMATION CONTACT: David Briery, BLM California Desert District External Affairs (951) 697-5220.

SUPPLEMENTARY INFORMATION: The Council is comprised of 15 private individuals who represent different interests and advise BLM officials on policies and programs concerning the management of 11 million acres of BLM-administered public land in southern California's Desert District. The Council meets in formal session three to four times each year in various locations throughout the California Desert District. Council members serve without compensation. Members serve three-year terms and may be nominated for reappointment for an additional three-year term. The terms of six Council members have recently expired. The purpose of this notice is to seek nominations for individuals to fill those positions.

Section 309 of the Federal Land Policy and Management Act (FLPMA) directs the Secretary of the Interior (Secretary) to involve the public in planning and issues related to the management of BLM-administered lands. The Secretary selects Council nominees consistent with the requirements of FLPMA and the Federal Advisory Committee Act (FACA), which require nominees appointed to the Council be balanced in terms of points of view and representative of the various interests concerned with the management of the public lands within the area for which the Council is established.

The Council also is balanced geographically, and the BLM will try to find qualified representatives from areas throughout the California Desert District. The District covers portions of eight counties, and includes more than 11 million acres of public land in the California Desert Conservation Area and 300,000 acres of scattered parcels in San Diego, western Riverside, western San Bernardino, Orange, and Los Angeles Counties (known as the South Coast).

Public notice begins with the publication date of this notice and nominations will be accepted until May 9, 2011. The three-year term would begin immediately upon confirmation by the Secretary.

The six positions to be filled include one representative of recreation groups or organizations, one representative of non-renewable groups or organizations,

one representative of wildlife groups or organizations, and three representatives of the public-at-large (including one elected official).

Any group or individual may nominate a qualified person, based upon education, training, and knowledge of the BLM, the California Desert, and the issues involving BLM-administered public lands throughout southern California. Qualified individuals also may nominate themselves.

The nomination form may be found on the Desert Advisory Council webpage: <http://www.blm.gov/ca/st/en/info/rac/dac.html>. The following must accompany the nomination form for all nominations:

Letters of reference from represented interests, or organizations, or elected officials;

A completed background information nomination form to include the nominee's work and home addresses and telephone numbers, a biographical sketch including the nominee's work, applicable outside interests, and public service records; and

Any other information that addresses the nominee's qualifications.

Nominees unable to download the nomination form may contact the BLM California Desert District External Affairs staff at (951) 697-5220 to request a copy.

Advisory Council members are appointed by the Secretary, and will be evaluated based on their education, training, and knowledge of the BLM, the California Desert District, and the issues involving BLM-administered public lands.

The Obama Administration prohibits individuals who are currently federally registered lobbyists to serve on any FACA and non-FACA boards, committees, or councils.

Teresa A. Raml,
California Desert District Manager.

[FR Doc. 2011-6994 Filed 3-24-11; 8:45 am]

BILLING CODE 4310-40-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

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Notice of Intent To Prepare an Environmental Impact Statement and Environmental Impact Report for the Proposed Casa Diablo IV Geothermal Development Project, Mammoth Lakes, Mono County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended, the Federal Land Policy and Management Act of 1976, as amended, and the California Environmental Quality Act of 1970, the Bureau of Land Management (BLM) Bishop Field Office, Bishop, California and the Great Basin Unified Air Pollution Control District (GBUAPCD) (a California state agency) intend to prepare a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) to consider approval of the development of a proposed 33-megawatt (MW) geothermal power plant and associated well field, internal access roads, pipelines, and a transmission line on public and private lands near the Town of Mammoth Lakes, California, and by this notice, are announcing the beginning of the scoping process to solicit public comments and identify issues.

DATES: This notice initiates the public scoping processes for the EIS/EIR. Comments on issues may be submitted in writing until April 25, 2011. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through local media, newspapers and the BLM Web site at: <http://www.blm.gov/ca/st/en/fo/bishop.html>. In order to be included in the Draft EIS/EIR, all comments must be received prior to the close of the scoping period or 15 days after the last public meeting, whichever is later. We will provide additional opportunities for public participation upon publication of the Draft EIS/EIR.

ADDRESSES: You may submit comments related to the Casa Diablo IV Geothermal Development Project by any of the following methods:

- *Web site:* <http://www.blm.gov/ca/st/en/fo/bishop.html>
- *E-mail:* cabipubcom@ca.blm.gov
- *Fax:* 760-872-5050
- *Mail:* BLM Bishop Field Office, 351 Pacu Lane, Suite 100, Bishop, California 93514, Attn: Casa Diablo IV Development Project, C/O Steven Nelson, Project Manager. Documents pertinent to this proposal may be examined at the BLM Bishop Field Office and the Mono County Library at 400 Sierra Park Road, Mammoth Lakes, California.

FOR FURTHER INFORMATION CONTACT: For further information and/or to have your name added to our mailing list, contact Margie DeRose, Minerals and Geology Program Manager, Inyo National Forest, telephone (760) 873-2424; or mail to: Steven Nelson, Project Manager, BLM

Bishop Field Office, 351 Pacu Lane, Suite 100, Bishop, California 93514; or e-mail cabipubcom@ca.blm.gov.

SUPPLEMENTARY INFORMATION: Mammoth Pacific, L.P. (MPLP) has submitted an application to the BLM to build and operate the Casa Diablo IV Geothermal Development Project in the immediate vicinity of the existing MPLP geothermal projects near the intersection of California State Route 203 and U.S. Highway 395 approximately 3 miles east of Mammoth Lakes, California. The proposed project would be located on Inyo National Forest lands and adjacent private lands within portions of Federal geothermal leases CACA-11667, CACA-11672 and CACA-14408. The proposed project would include construction of a new 33-MW binary geothermal power plant, which would be the fourth geothermal plant in the vicinity; up to 16 wells for production and reinjection, drilled to an approximate 1,600 to 2,000-ft depth; and associated pipelines. A 500-foot transmission line is proposed to interconnect the new power plant to the existing Southern California Edison (SCE) substation at Substation Road. The proposed Casa Diablo IV plant, access roads, well pads, pipelines and transmission line would occupy approximately 100 acres. Of the 16 proposed production/injection well locations, 14 were previously analyzed and approved as slim holes and exploration wells in EA-170-02-15 (2001) and EA-170-05-04 (2005). Three of these exploration wells have already been drilled as of the time of the publication of this notice. The proposed well field area contains two existing production wells and associated pipelines that currently serve three existing power plants in the area.

The leases being developed are already part of a geothermal unit, which is currently producing energy sufficient to operate three existing geothermal plants in the area: The 10-MW "MP-1/G1 plant," the 15-MW "MP-II/G2 plant," and the 15-MW "PLES-I/G3 plant."

The BLM Bishop Field Office will be the lead Federal agency responsible for coordinating the environmental analysis for the Casa Diablo IV project under the National Environmental Policy Act of 1969 (NEPA). Authorization of the proposed project would require approval from the BLM as the lead Federal agency responsible for geothermal leasing and development on Federal lands, in coordination with the U.S. Forest Service (FS) as a cooperating agency responsible for surface management and uses on Inyo National

Forest lands within the project area. If approved, permits and licenses to be issued by the BLM would include approval of the Plan of Utilization, Geothermal Sundry Notices, Geothermal Drilling Permits, a Commercial Use Permit, a Site License and a Facility Construction Permit. The BLM authorizations would include Conditions of Approval for surface use and occupancy based on recommendations from the FS to ensure consistency with the Inyo National Forest Land and Resource Management Plan. The FS would issue a special use permit for the transmission line. For the BLM, the Bishop Field Manager is the authorized officer. For the FS, the Inyo National Forest Supervisor is the authorized officer. The GBUAPCD will be the lead state agency responsible for coordinating the environmental analysis under the California Environmental Quality Act. The GBUAPCD would issue an Authority to Construct Permit and a Permit to Operate. The approving official is the Air Pollution Control Officer.

The purpose of the public scoping process is to determine relevant issues that will influence the scope of the environmental analysis, including alternatives, and guide the process for developing the EIS/EIR. The BLM, FS and GBUAPCD have identified the following preliminary issues: air quality; social and economic impacts; groundwater quantity and quality; surface water quantity and quality; geology and soils; plants and animals; cultural resources; transportation; noise and vibration; lands with wilderness characteristics; and recreation.

The BLM will use and coordinate the NEPA commenting process to satisfy the public involvement process for Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) as provided for in 36 CFR 800.2(d)(3). Native American tribal consultations will be conducted in accordance with policy, and tribal concerns will be given due consideration, including impacts on any Indian trust assets. Federal, State, and local agencies, along with other stakeholders that may be interested or affected by the BLM's decision on this project are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate as a cooperating agency.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment

to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1501.7.

Bernadette Lovato,
Bishop Field Manager.

[FR Doc. 2011-7012 Filed 3-24-11; 8:45 am]

BILLING CODE 4310-40-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLAKA02000-L12200000-EB0000]

Notice of Intent To Collect Fees on Public Land in Tangle Lakes, Alaska, Glennallen Field Office Under the Federal Lands Recreation Enhancement Act

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: Pursuant to applicable provisions of the Federal Lands Recreation Enhancement Act of 2004 (REA), the Bureau of Land Management (BLM) Glennallen Field Office will begin to collect fees in 2011 upon completion of construction at the Tangle Lakes Campground, mile 121.5 Denali Highway, Alaska (Section 34, T. 21 S., R. 9 E., Fairbanks Meridian).

DATES: Submit comments on or before April 25, 2011. The public is encouraged to comment. Effective 6 months after the publication of this notice and upon completion of construction, the BLM Glennallen Field Office will initiate fee collection in the Tangle Lakes Campground, unless the BLM publishes a **Federal Register** notice to the contrary. Future adjustments in the fee amount will be modified in accordance with the Glennallen Field Office's recreation fee business plan; consultation with the BLM Anchorage District Office; and the public being notified prior to any fee increase.

ADDRESSES: Field Manager, Glennallen Field Office, Bureau of Land Management, P.O. Box 147, Mile Post 186.5 Glenn Highway, Glennallen, Alaska 99588.

FOR FURTHER INFORMATION CONTACT: Elijah Waters, Recreation Branch Chief or Marcia Butorac, Outdoor Recreation Planner, 907-822-3217; *address:* P.O. Box 147, Mile Post 186.5 Glenn Highway, Glennallen, Alaska 99588; *e-mail:* AK_GFO_GeneralDelivery@blm.gov.



GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT

157 Short Street, Bishop, California 93514-3537 www.gbuapcd.org
Tel: 760-872-8211 Fax: 760-872-6109 info@gbuapcd.org

NOTICE OF PREPARATION

Date: April 1, 2011

To: State Clearinghouse, Responsible and Trustee Agencies, and Interested Individuals and Organizations

Subject: Notice of Preparation of an Environmental Impact Statement/Environmental Impact Report for the Casa Diablo IV Geothermal Development Project

Project Title: Casa Diablo IV Geothermal Development Project

The Great Basin Unified Air Pollution Control District (GBUAPCD) will be the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and will prepare an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Casa Diablo IV (CD-4) Geothermal Development Project. The Bureau of Land Management (BLM), Bishop Office will be the Lead Agency and the U.S. Forest Service will be a Cooperating Agency pursuant to the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended. The EIS/EIR is being prepared to evaluate potentially significant environmental effects related to approval of this project.

GBUAPCD is requesting the views of your agency as to the scope and content of the environmental information that is pertinent to your agency's statutory responsibilities in connection with the proposed project. To the extent that your agency has authority to issue permits or take other actions related to the project, your agency will be able to use the EIS/EIR when considering your permit or other approval for the project. GBUAPCD is also requesting comments regarding environmental issues associated with the proposed project from interested individuals and organizations.

As required by NEPA, the BLM published on March 25, 2011 in the Federal Register a Notice of Intent (NOI) to prepare a joint EIR/EIS for the Project. Similar to this NOP, the intent of the NOI will be to initiate the public scoping for the EIR/EIS, provide information about the proposed Project, and also serve as an invitation for other cooperating agencies to provide comments on the scope and content of the EIR/EIS.

PROJECT LOCATION

The CD-4 power plant would be located on public land (BLM Geothermal Lease # CA-11667 and CA-11667A) in Sections 29 and 32, Township 3 South, and Range 28 East MD B&M. This location is east of U.S. Highway 395 at Casa Diablo (SR 203), approximately two miles east of the town of Mammoth Lakes in Mono County, California. A location map of the project area is attached to this NOP as **Figure 1**. The Project would include construction, operation and maintenance of up to 18 geothermal resource wells (some new and some existing) and associated pipelines west of U.S. Highway 395 on portions of BLM Geothermal Leases CA-11667, CA-14408 and CA-11672 located within the Inyo National Forest in Section 25 of T3S, R27E and Sections 30, 31 and 32 of T3S, R28E, MD B&M. The Project would be located entirely within the Mono-Long Valley Known Geothermal Resource Area (KGRA) in Mono County, California.

PROJECT DESCRIPTION

Mammoth Pacific, L.P. (MPLP) proposes to build, and following the expected 30-year useful life, decommission the Casa Diablo IV Geothermal Development Project (CD-4) (“Project” or “Proposed Action”) in the vicinity of the existing MPLP geothermal project. The Project would consist of the following facilities:

- A geothermal power plant consisting of two (2) Ormat Energy Converters (OEC) binary generating units (21.2 MW gross each) with vaporizers, turbines, generators, air-cooled condensers, preheaters, pumps and piping, and related ancillary equipment. The gross power generation of the CD-4 plant would be 42.4 MW. The estimated auxiliary and parasitic loads (power used within the project for circulation pumps, fans, well pumps, loss in transformers and cables) is about 9.4 MW, thus providing a net power output of about 33 MW.
- A motive fluid system consisting of motive fluid (isopentane) storage vessels (either one or two vessels in the range of 9,000 to 12,000 gallons) and a motive fluid vapor recovery system (VRU). The VRU would consist of a diaphragm pump, a vacuum pump, and activated carbon canisters.
- An air cooling system for the power plant. The predominant method of cooling would be dry cooling which would be employed during most months and during cooler times of the day during warmer months. During the warmer months, the power plant may also employ an evaporative assist system to increase cooling efficiency. Evaporative assist involves spraying air-cooled condensers with water in order to decrease the temperature of air flowing through the air bays. The evaporative assist system would use either recycled water from the Mammoth Community Water District (MCWD) wastewater treatment plant, or treated brine (geothermal fluid). The use of recycled water would require installing a water supply pipeline from the MCWD treatment plant to the CD-4 plant. The use of treated brine would require installing an onsite reverse osmosis (RO) system to treat geothermal fluid.
- An RO water treatment facility and equalization storage tank. The RO water treatment facility would be intended to treat and desalinate a portion of the spent geothermal brine after it has passed through the OEC units. The RO process consists of a heat exchanger to cool the water, pretreatment train with chemical dosing and microfiltration, RO membranes, and a 350,000 gallon storage tank for storing the treated water. The RO capacity would be 225 gallons per minute (gpm) of product water.
- Up to 18 geothermal wells (some new and some existing) are proposed. Sixteen of the wells would be located in the Basalt Canyon Area and two wells would be located southeast of the proposed power plant east of Hwy 395. The specific locations for these wells would be selected out of the possible locations shown in Figure 2. The actual number of wells may be less depending upon the productivity of the wells. Approximately half of the wells would be production wells and the other half would be injection wells. Each production well would range in depth from 1,600 to 2,000 feet below ground surface (bgs), and each new injection well would be drilled to approximately 2,500 feet bgs. Production wells would be equipped with a down-hole pump powered by a surface electric motor.
- Piping from production wells to the power plant and from the power plant to the individual injection wells. Two main pipelines would parallel MPLP’s existing Basalt Canyon pipeline through Basalt Canyon, and would cross beneath U.S. Highway 395 between the well field and the CD-4 power plant site.
- A new substation that would be connected to the Southern California Edison Casa Diablo Substation at Substation Road with a half-mile-long buried 33 kilovolt (kV) transmission line.

POTENTIAL ENVIRONMENTAL EFFECTS

Based on the preliminary analysis, the potential environmental effects of the proposed project that will be addressed in the EIS/EIR will include, but may not be limited to, the following: air quality, social and economic impacts, groundwater and surface water quantity and quality impacts; geology and soils; plant and animal species; cultural resources; transportation; noise and vibration; and recreation.

PUBLIC COMMENT PERIOD

The public comment period for this NOP will commence on April 1, 2011 and conclude on May 9, 2011. Copies of the NOP will be available for review at the following locations:

- BLM Bishop Field Office, 351 Pacu Lane, Suite 100, Bishop CA 93514;
- Mono County Library, 400 Sierra Park Road, Mammoth Lakes, CA 93546
- GPUAPCD, 157 Short Street, Bishop, CA 93514

A copy of the NOP will be posted online at <http://www.gbuapcd.org>. Please submit comments in writing to the address below. Comment letters must be received by 5pm on May 9, 2011.

Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, CA 93514-3537
Contact: Ms. Jan Sudomier
Fax: 760-872-6109

If there are any questions regarding this NOP, please contact Ms. Jan Sudomier at (760) 872-8211.

PUBLIC MEETINGS

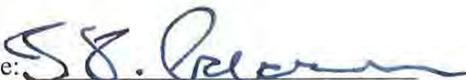
Two public scoping meetings will be held to solicit input from interested parties on the proposed content of the EIS/EIR. The scoping meetings will be held at the following:

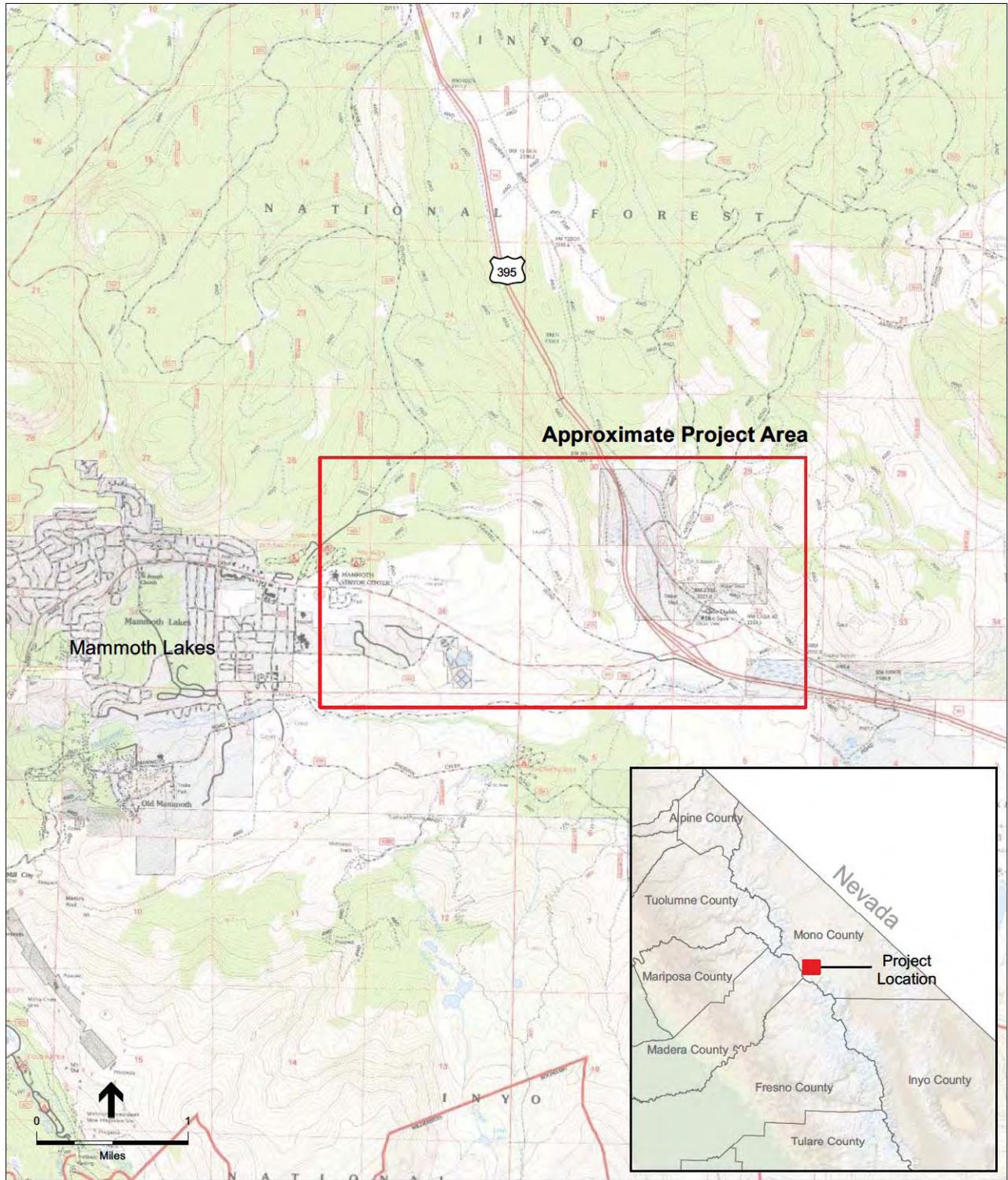
Crowley Lake: Monday April 18, 2011 at 6 p.m.
Crowley Lake Community Center
458 South Landing Road
Crowley Lake, California

Mammoth Lakes: Tuesday April 19, 2011 at 6 pm
Mammoth Lakes Community Center
1000 Forest Trail (adjacent to the Mono County Library)
Town of Mammoth Lakes, California

For more information, please contact Ms. Jan Sudomier at the phone number listed above.

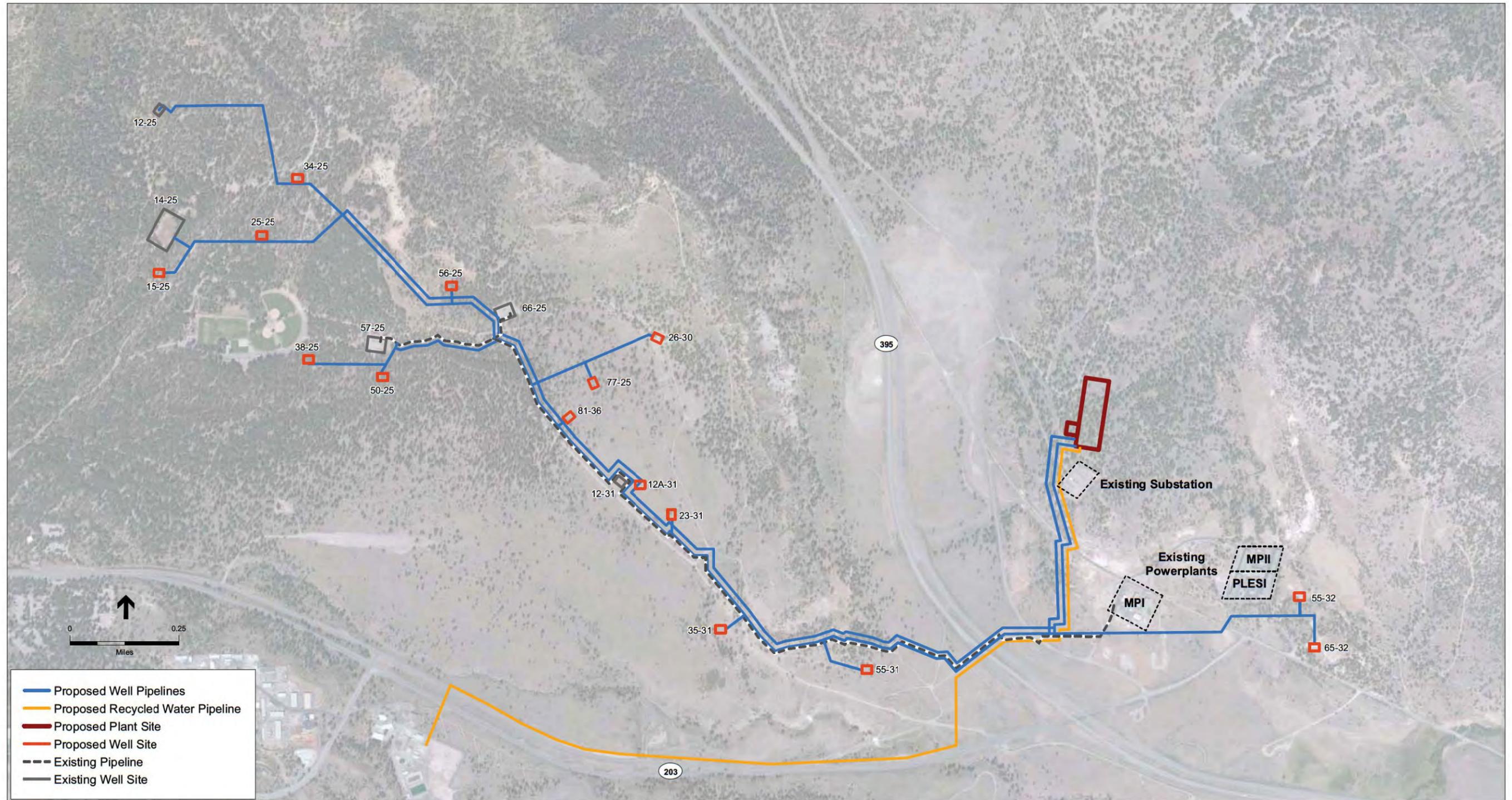
Date: 30 Mar 11

Signature: 



SOURCE: USGS 7.5- minute Old Mammoth topographic quadrangle, 1984

Casa Diablo IV Geothermal Project
Figure 1
 Project Vicinity Map
 Mono County, California



SOURCE: Ormat, 2010

Casa Diablo IV Geothermal Project
Figure 2
 Project Layout
 Preliminary - Subject to Revision

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CASA DIABLO 4 GEOTHERMAL DEVELOPMENT PROJECT

PUBLIC SCOPING MEETINGS

April 18, 2010, 6 pm

Crowley Lake Community Center, 458 South Landing Road, Crowley Lake

April 19, 2010, 6 pm

Mammoth Lakes Community Center, 1000 Forest Trail, Mammoth Lakes

All meetings will be held between 6:00 p.m. and 8:00 p.m. with a brief presentation at 6:10 p.m. and an opportunity to discuss the project with staff.

For more information on the project or how to submit comments, please visit <http://www.blm.gov/ca/st/en/fo/bishop.html> or phone Steven Nelson, Bureau of Land Management, Bishop Field Office at 760-872-5006 or snelson@blm.gov

The facility and its parking are wheelchair accessible. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or other services may be provided upon request. To ensure availability of services, please make your request no later than three working days (72 hours) prior to the meeting by calling 760-872-5006.

The Bureau of Land Management, Inyo National Forest, and Great Basin Unified Air Pollution Control District invite you to attend a scoping meeting to help identify the range or scope of issues related to the proposed Casa Diablo IV Geothermal Expansion Project. The issues identified during the scoping process will be considered and addressed during preparation of the joint Environmental Impact Statement/Report.

The proposed project includes construction of a new 33 net megawatt power plant east of Highway 395 and the Town of Mammoth Lakes and north of the existing facility. The project will also include an expanded geothermal well field, pipelines to bring the geothermal brine to the power plant, pipelines to take the cooled brine to injection wells, and an electric transmission line to interconnect to the existing substation at Substation Road.





U.S. Department of the Interior
Bureau of Land Management

News Release

For Immediate Release: March 31, 2011
Contact: David Christy (916) 941-3146

CA-CC-11-43

Public Scoping Meetings Scheduled, Comment Period Extended, on the Proposed Casa Diablo IV Geothermal Development Project

The Bureau of Land Management (BLM), in cooperation with the Inyo National Forest and the Great Basin Unified Air Pollution Control District, will hold two public scoping meetings to gather input on a proposal to develop additional geothermal resources near Mammoth Lakes in Mono County.

The BLM also has extended the public comment period 15 days to May 9, 2011.

These meetings will provide an opportunity for the public, interested groups and local, state and federal agencies to learn about the proposed project and comment on potential environmental issues or concerns. Information gathered during public scoping will help shape the content of a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that is being developed for the proposed project. Public scoping meetings have been scheduled for both the community of Crowley Lake and the Town of Mammoth Lakes.

The proposed Casa Diablo IV Geothermal Development Project would include construction of a new 33- megawatt geothermal power plant east of U.S. Highway 395 and the Town of Mammoth Lakes. The new plant would be located north of existing geothermal facilities in the area. The proposed project would also include an expanded geothermal well field, pipelines to transport geothermal brine to the new power plant and cooled brine to post-production injection wells, and an electric transmission line to interconnect to the existing Southern California Edison substation at Substation Road.

To learn more about the project proposal and to provide written comments in person, the public is encouraged to attend either of the following scheduled meetings:

Crowley Lake: April 18, 6 p.m.

Crowley Lake Community Center
458 South Landing Road
Crowley Lake

Mammoth Lakes: April 19, 6 p.m.

Mammoth Lakes Community Center
1000 Forest Trail (adjacent to the Mono County Library)
Town of Mammoth Lakes

For more information about these planned public scoping meetings please visit

<http://www.blm.gov/ca/st/en/fo/bishop.html> or contact Steven Nelson, BLM Supervisory Natural Resource Specialist at (762) 872-5006.

Written comments on the proposed Casa Diablo IV Geothermal Development Project may also be submitted to the BLM Bishop Field Office, Attn: Casa Diablo IV Geothermal Development Project, 351 Pacu Lane, Suite 100, Bishop, Calif. 93514; or by email to cabipubcom@ca.blm.gov; or by Fax to (760) 872-5050. Comments must be postmarked by May 9, 2011.

The BLM manages more land - more than 245 million acres - than any other Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western states, including Alaska. The Bureau, with a budget of about \$1 billion, also administers 700 million acres of sub-surface mineral estate throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

-BLM-

Central California District, 2800 Cottage Way, Sacramento, CA 95825



U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT NEWS RELEASE
Central California District

Release Date: 04/01/11
Contacts: David Christy, (916) 941-3146

News Release No. CC-11-43

Public Scoping Meetings Scheduled, Comment Period Extended for Proposed Geothermal Project near Mammoth

The Bureau of Land Management, in cooperation with the Inyo National Forest and the Great Basin Unified Air Pollution Control District, will hold two public scoping meetings to gather input on a proposal to develop additional geothermal resources near Mammoth Lakes in Mono County, California.

The BLM also has extended the public comment period 15 days to May 9, 2011.

The meetings will provide an opportunity for the public, interested groups and local, state and federal agencies to learn about the proposed project and comment on potential environmental issues or concerns. Information gathered during public scoping will help shape the content of a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) that is being developed for the proposed project. Public scoping meetings have been scheduled for both the community of Crowley Lake and the Town of Mammoth Lakes.

The proposed Casa Diablo IV Geothermal Development Project would include construction of a new 33- megawatt geothermal power plant east of U.S. Highway 395 and the Town of Mammoth Lakes. The new plant would be located north of existing geothermal facilities in the area. The proposed project would also include an expanded geothermal well field, pipelines to transport geothermal brine to the new power plant and cooled brine to post-production injection wells, and an electric transmission line to interconnect to the existing Southern California Edison substation at Substation Road.

To learn more about the project proposal and to provide written comments in person, the public is encouraged to attend either of the following scheduled meetings:

Crowley Lake: April 18, 6 p.m.

Crowley Lake Community Center
458 South Landing Road
Crowley Lake

Mammoth Lakes: April 19, 6 p.m.

Mammoth Lakes Community Center
1000 Forest Trail
Town of Mammoth Lakes

For more information about these planned public scoping meetings please visit <http://www.blm.gov/ca/st/en/fo/bishop.html> or contact Steven Nelson, BLM Supervisory Natural Resource Specialist at (760) 872-5006.

Written comments on the proposed Casa Diablo IV Geothermal Development Project may also be submitted to the BLM Bishop Field Office, Attn: Casa Diablo IV Geothermal Development Project, 351 Pacu Lane, Suite 100, Bishop, Calif. 93514; or by email to cabipubcom@ca.blm.gov; or by Fax to (760) 872-5050. Comments must be postmarked by May 9, 2011.

--BLM--

Central California District 2800 Cottage Way, Sacramento, CA 95825

Last updated: 04-07-2011

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APPENDIX B

Scoping Meeting Materials

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Casa Diablo IV Geothermal Development Project

Joint Environmental Impact Statement/Environmental Impact Report
Public Scoping Meeting



April 18-19, 2011

Public Scoping Meeting Agenda

B-4
A-48

Agenda

- Overview of Meeting Purpose and Agenda
- Welcome and Opening Remarks (BLM)
- Description of EIS/EIR Process and the Casa Diablo IV Geothermal Development Project (ESA)
- Questions and Answers
- Open House

Welcome & Opening Remarks

A-50
B-6

Participants and their Roles

Preparation of a Joint Environmental Impact Statement (NEPA) and Environmental Impact Report (CEQA)

- BLM - Manages subsurface mineral estate - Lead NEPA agency
- US Forest Service - Manages surface uses - Cooperating NEPA agency
- Great Basin Air Pollution and Control District - Lead CEQA agency
- Mammoth Pacific L.P. (Ormat Nevada subsidiary) - Project applicant
- ESA (Environmental Science Associates) - Consultant hired to prepare third party EIS/EIR*

* *Environmental Impact Statement/Environmental Impact Report*

Lead Agency Decisions

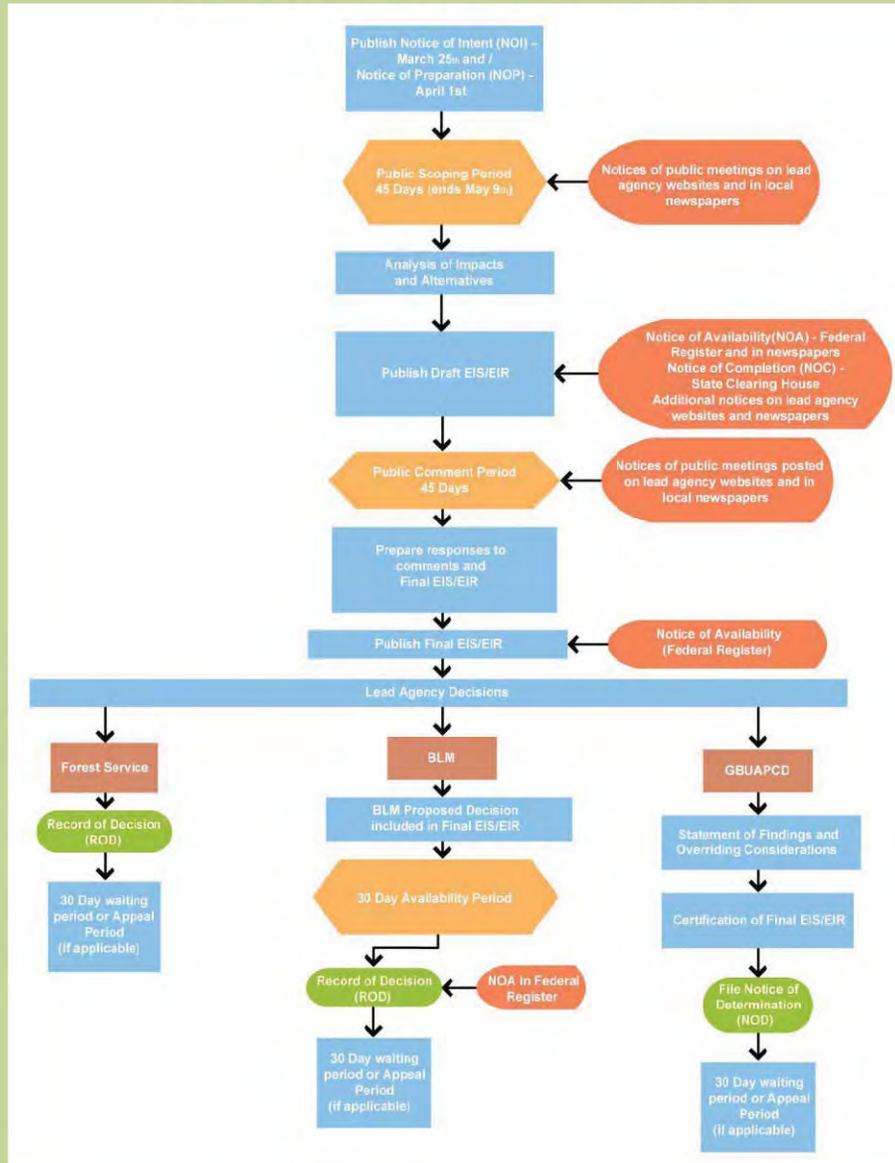
Three separate decisions will be made

- **BLM** – issuance of permit to construct Casa Diablo IV power plant and facilities, wells, and pipelines (including routes)
- **US Forest Service** – issuance of use permit for access routes (including any re-routing of existing roads)
- **Great Basin Unified Air Pollution and Control District** – issuance of an air permit for project construction and operation

Overview of the EIS/EIR Process

B-9
A-53

NEPA/CEQA Process



B-10
A-54

Draft EIS/EIR Analysis

- ✓ Aesthetics
- ✓ Air Quality
- ✓ Biological Resources
- ✓ Cultural Resources
- ✓ Geological Resources
- ✓ Land Use
- ✓ Hazardous Materials
- ✓ Hydrology and Water Quality
- ✓ Noise
- ✓ Traffic
- ✓ Recreation
- ✓ Public Services and Utilities

Purpose of Public Scoping

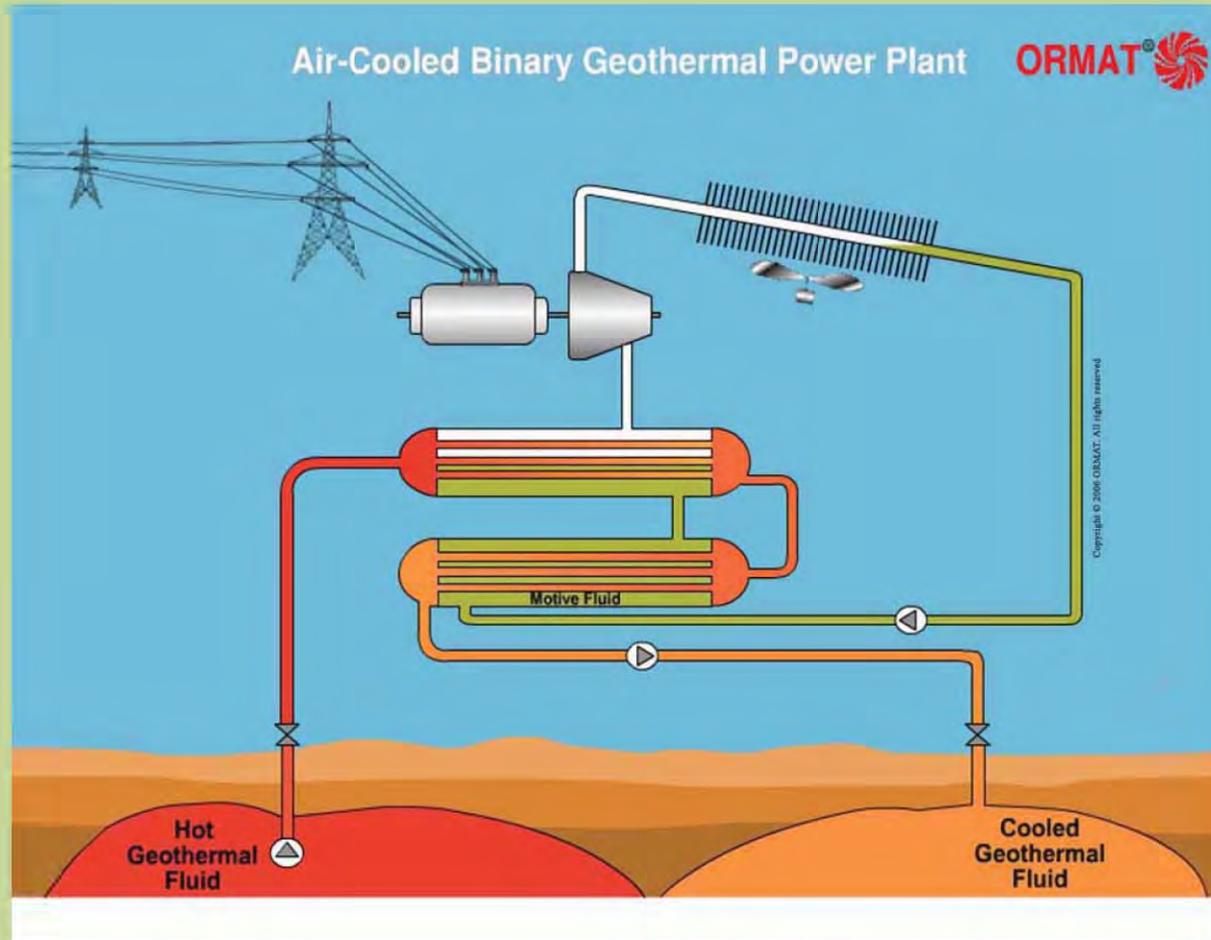
Provide the public and agencies an opportunity to provide input into the scope and content of the EIS/EIR by identifying:

- ✓ Specific environmental concerns to be analyzed
- ✓ Potential impacts resulting from project construction and increased geothermal production
- ✓ Scope and range of alternatives

Project Overview

B-13
A-57

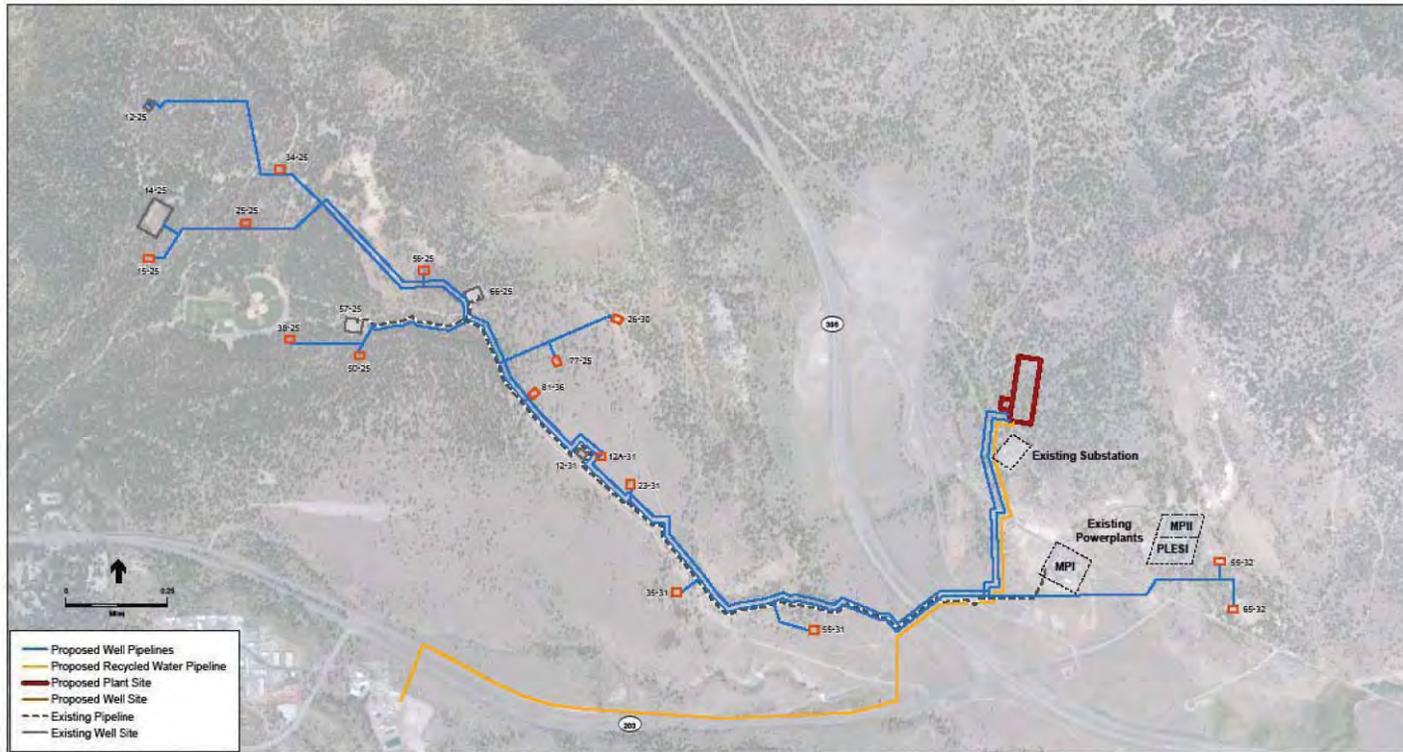
Geothermal Power



B-14
A-58

Key Project Components

- New Power Plant
- Geothermal Wells
- Pipelines
- Transmission Line



SOURCE: Ormat, 2010

Casa Diablo IV Geothermal Project
Figure
Project Layout

Power Plant

New 33 net megawatt (MW) binary power plant

- ✓ Located north of SCE Substation (not visible from Highway)
- ✓ Two (2) Ormat Energy Converters
- ✓ An underground electric transmission line to interconnect to the SCE Substation.

May include evaporative assist cooling in summer

- ✓ Reverse osmosis water treatment plant
- ✓ Recycled water pipeline from MCWD

Would supply enough electricity for approximately 33,000 people.

Wellfield

An expanded geothermal well field

- ✓ Total of up to 16 wells (18 potential locations being considered)
- ✓ Two of the 16 wells already exist (drilled in 2010 as part of exploratory project)
- ✓ Up to 14 new wells to be drilled

Well pads

- ✓ 120x150 feet (0.4 acre) completed size
- ✓ Fenced enclosure
- ✓ Wellhead and small control building
- ✓ 2.5-acre disturbance during construction

Typical Well Pad



B-19
A-63

Pipelines

Production and Injection Pipelines

- ✓ Similar to and parallel existing Basalt Canyon pipeline
- ✓ Up to 28 inches diameter with insulation
- ✓ 12 – 18 inches off the ground
- ✓ Buried beneath USFS roads, Highway 395

Pipeline Undercrossing



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A-65

Next Steps and How to Comment

B-22
A-66

Next Steps and Timeline

Public Scoping Period ends	May 9, 2011
Public Review of Draft EIS/EIR (including public hearings)	Summer 2011
Final EIS/EIR - Response to Comments	Early winter 2011
Certification of the EIS/EIR	Winter 2012
File Notice of Determination and Findings	Winter 2012
Agencies consider Project Approval	

How to Comment

- Place Scoping Comment Form in the boxes provided tonight or provide comments no later than **May 9, 2011**
- Send comments to:
 - Bureau of Land Management
 - Bishop Field Office
 - Attn: Casa Diablo IV Geothermal Development Project
 - 351 Pacu Lane, Suite 100
 - Bishop, CA 93514
 - FAX: (760) 872-5050
 - Email: cabipubcom@ca.blm.gov
 - Subject Line: Casa Diablo IV Project Scoping Comments
- Include name, address, and contact number for future correspondence related to the project (Be advised that your entire comment – including your personal information – may be made publicly available at any time. You can ask us to withhold from public review your personal identifying information, but we cannot guarantee that we will be able to do so.)

Effective Commenting

- Substantive and focused on the EIS/EIR analysis - what should be analyzed?
- Why you think the project has the potential to result in a significant environmental impact
- Scoping report will be prepared which summarizes comments received

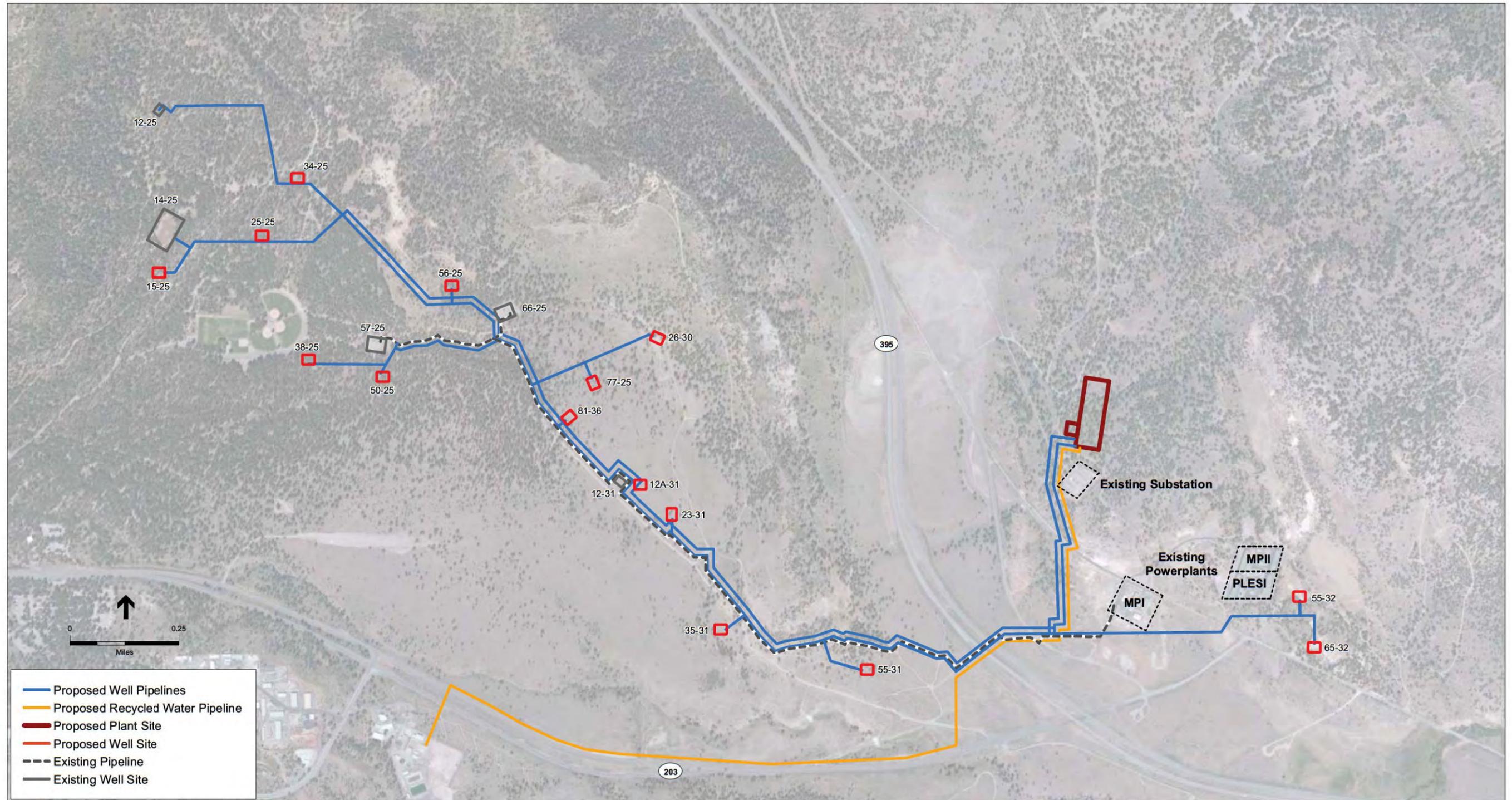
Questions and Answers

B-26
A-70

Open House

B-27
A-71

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SOURCE: Ormat, 2010

Casa Diablo IV Geothermal Project
Figure 2
 Project Layout
 Preliminary - Subject to Revision



Casa Diablo IV Geothermal Development Project Overview



* Photo is of two units on one site across from each other. CD-4 will be two units together lengthwise

Power Plant

33 net megawatt binary power plant located north of existing plant

- Two (2) Ormat Energy Converters
- May include evaporative assist cooling
- May include reverse osmosis treatment of geothermal brine for cooling water source



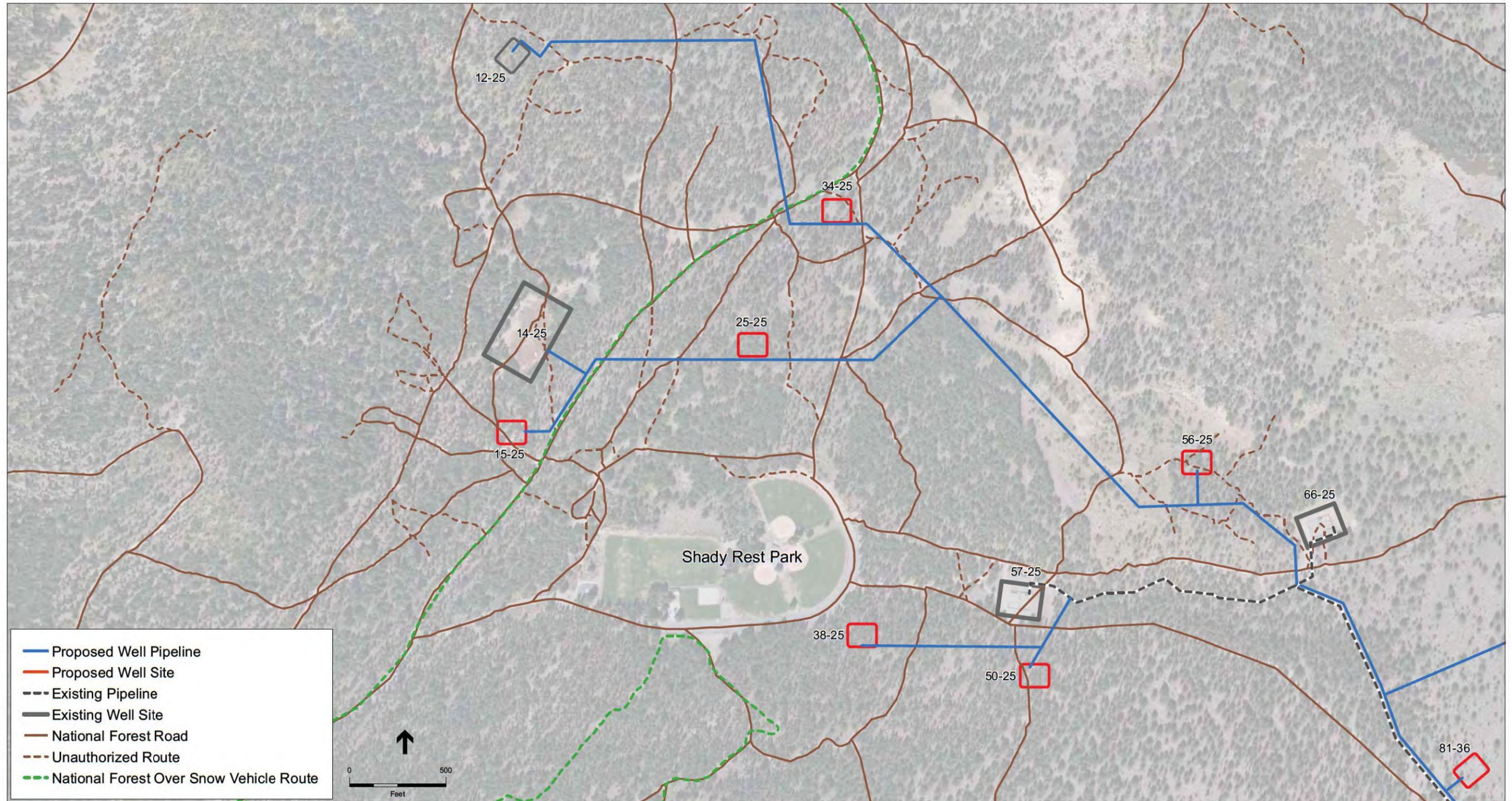
Wellfield

- Up to 16 new geothermal wells
- Completed well pads approximately 0.4 acre in size with well head, small control building and fencing



Pipelines

- Two pipelines parallel to the existing Basalt Canyon pipeline: one for produced geothermal fluid; one for brine to be reinjected to the reservoir

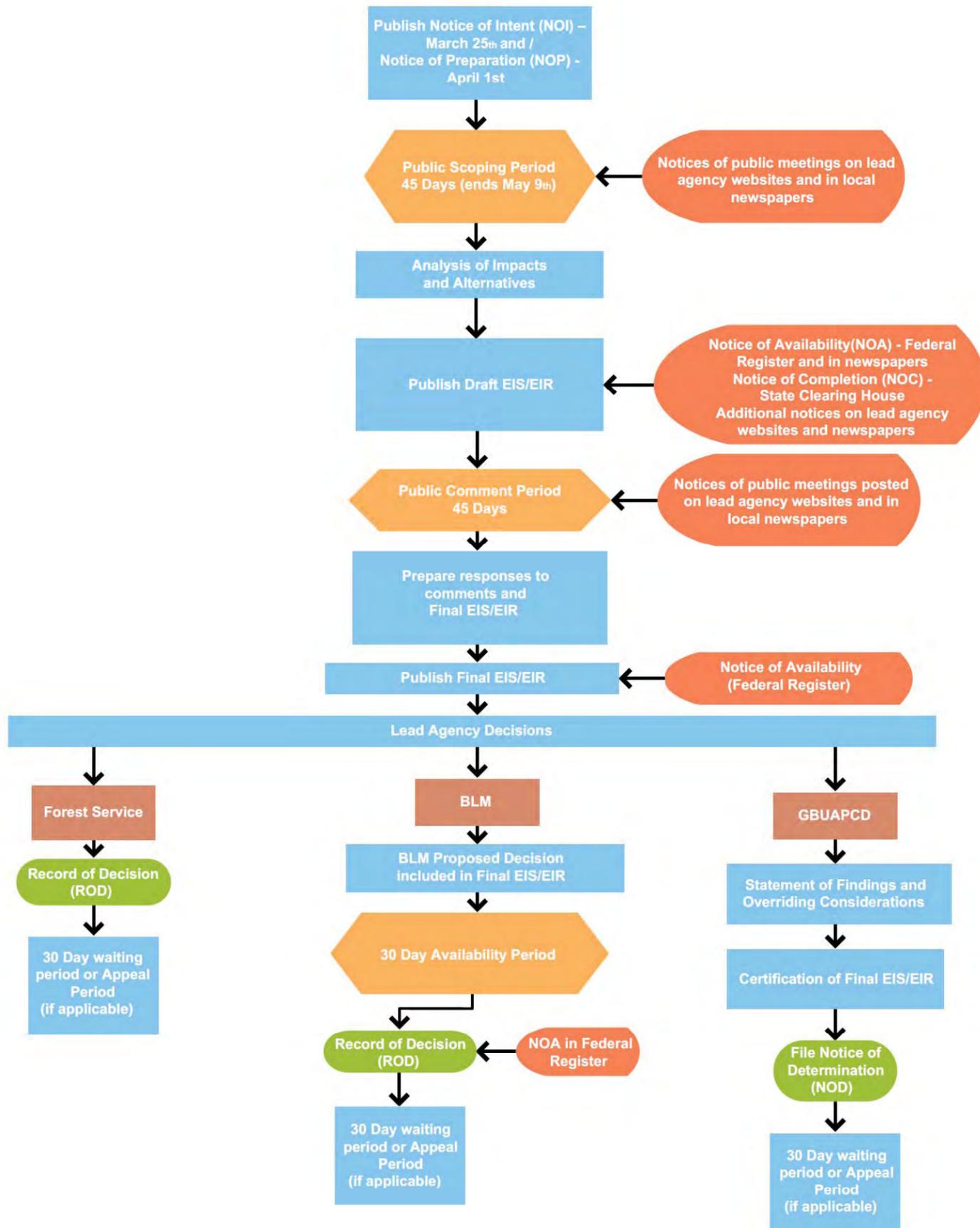


SOURCE: Ormat, 2010; USFS, 2010

Casa Diablo IV Geothermal Project
Figure
 Shady Rest Park Transportation Network



Casa Diablo IV Geothermal Power Plant Project NEPA/CEQA Process



CASA DIABLO 4 GEOTHERMAL DEVELOPMENT PROJECT

PROJECT FACT SHEET

For more information on the project, please visit

<http://www.blm.gov/ca/st/en/fo/bishop.html>

Documents pertinent to this proposal may be examined at the BLM Bishop office and the Mono County Library at 400 Sierra Park Road, Mammoth Lakes, California.

You may submit scoping comments related to the Casa Diablo IV Geothermal Development Project by any of the following methods:

- Submit a Comment Form at the scoping meetings
- Email: cabipubcom@ca.blm.gov
- Fax: 760-872-5050
- Mail: BLM Bishop Field Office, Attn: Casa Diablo IV Project
351 Pacu Lane, Suite 100
Bishop CA 93514

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, be advised that your entire comment - including your personal identifying information - may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Project Description

Mammoth Pacific, L.P. (MPLP) has applied to the Bureau of Land Management (BLM) to build, operate and, following the expected 30-year useful life, decommission the CD-4 geothermal development project in the vicinity of the existing MPLP geothermal project near the Town of Mammoth Lakes, California. The CD-4 Project would include the following:

- A new 33 MW geothermal power plant comprised of two binary generating units, turbines, condensers, reverse osmosis water treatment plant, pumps, piping, ancillary equipment, and an underground electric transmission line to interconnect to Southern California Edison substation.
- Up to 16 geothermal resource wells over the life of the project drilled to a depth of 1,500 to 2,500 feet below ground surface. Each well facility would be located on an approximately 0.4-acre well pad and include a small pump building.
- Pipelines to bring the geothermal brine to the power plant and to take cooled brine to the injection wells.

Environmental Review Process

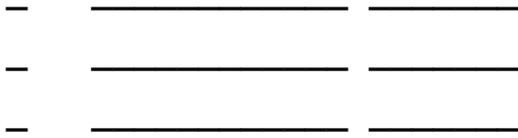
The BLM, Inyo National Forest Service, and Great Basin Unified Air Pollution and Control District (GBUAPCD) will prepare an Environmental Impact Statement/Environmental Impact Report (EIS/EIR) in order to assess the potential environmental effects of the project. This joint document will serve to meet the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) requirements for the three lead agencies. A preliminary review of the project identified the following issues: affects on air quality, social and economic impacts, groundwater and surface water quantity and quality impacts; geology and soils; plant and animal species; cultural resources; transportation; noise and vibration; hazards and hazardous materials and recreation.

The purpose of the public scoping process is to determine relevant issues that will influence the scope of the environmental analysis, including alternatives, and guide the process for developing the EIS/EIR.



B-33

A-77



Place
Stamp
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Bureau of Land Management
Bishop Field Office
Attn: Casa Diablo IV Geothermal Development Project
351 Pacu Lane, Suite 100
Bishop, CA 93514

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A-79

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APPENDIX C

Comment Letters Received During CD-4 EIS/EIR Scoping Process

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From: Sysum.Scott@epamail.epa.gov
To: cabipubcom@ca.blm.gov
Cc: Plenys.Thomas@epamail.epa.gov
Subject: EPA Region 9 NOI Comment Letter for the Casa Diablo IV Geothermal Development Project
Date: 05/09/2011 12:43 PM
Attachments: Casa Diablo IV EPAR9 NOI Comment letter May 9 2011.PDF

Dear Sir

I have been assigned as the lead reviewer for U.S. EPA Region 9 for the Casa Diablo IV Geothermal Development Project Notice of Intent (NOI) to prepare an EIS/EIR. I have attached a pdf file of our comments. The signed letter was mailed today to Mr. Steven Nelson.

Thanks for providing us the opportunity to comment on this interesting project.

v/r

Scott Sysum

NOWCC-Energy Specialist
U.S. EPA Region IX
Environmental Review Office
75 Hawthorne Street CED-2
San Francisco, CA 94105
voice-415-972-3742; fax-415-947-3562
Email: sysum.scott@epa.gov



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

MAY 09 2011

Steven Nelson, Project Manager,
Casa Diablo IV Development Project,
BLM Bishop Field Office
351 Pacu Lane, Suite 100,
Bishop, California 93514

Subject: Notice of Intent to prepare an Environmental Impact Statement and Environmental Impact Report for the Proposed Casa Diablo IV Geothermal Development Project, Mammoth Lakes, Mono County, California

Dear Mr. Nelson:

The Environmental Protection Agency (EPA) has reviewed the March 25, 2011 Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) and Environmental Impact Report (EIR) for the Proposed Casa Diablo IV Geothermal Development Project, Mammoth Lakes, Mono County, California. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

To assist in the scoping process for this project, we have identified several issues for your attention in the preparation of the Draft EIS/ EIR. We have identified the following issues for consideration: purpose and need, alternatives analysis, water resources, air quality, emergency planning, biological resources & habitat, recreational use, invasive species, noise & visual impacts, cultural resources, hazardous materials, solid & hazardous wastes, geological hazards, land use planning, environmental justice, indirect & cumulative impacts, climate change, and adaptive management. We believe that early analyses of key resource areas (e.g. estimation of the extent of state jurisdictional waters and Waters of the US, quantification of potential impacts to endangered species, identification of compensatory mitigation lands) should be completed as early as possible to determine the project's viability and avoid potential project delays.

We appreciate the opportunity to provide comments on the preparation of the Draft EIS/EIR and look forward to continued participation in the process. We are available to discuss our comments. Please send two hard copies of the Draft EIS/EIR and two CD- ROM copies 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) 972-3238, or contact Scott Sysum, the lead reviewer for this project. Scott can be reached at (415) 972-3742 or sysum.scott@epa.gov.

Sincerely,

Thomas Plenys
Environmental Review Office
Communities and Ecosystems Division

US ENVIRONMENTAL PROTECTION AGENCY (EPA) DETAILED COMMENTS ON THE NOTICE OF INTENT (NOI) TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT (EIS) AND ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE PROPOSED CASA DIABLO IV GEOTHERMAL DEVELOPMENT PROJECT, MAMMOTH LAKES, MONO COUNTY, CALIFORNIA, MAY 9, 2011

Project Description

Mammoth Pacific, L.P. (MPLP) proposes to build a new 33-megawatt (MW) geothermal power plant (Casa Diablo IV) in the immediate vicinity of its three existing power plants. The project will be on existing MPLP geothermal leases near the intersection of California State Route 203 and U.S. Highway 395 approximately 2.5 miles east of the town of Mammoth Lakes in Mono County, California. In addition to the construction of the power plant, there will be an associated well field (up to 16 wells), internal access roads, pipelines, and a 500 ft long transmission line that will connect to an existing substation. The proposed Casa Diablo IV plant, access roads, well pads, pipelines and transmission line would occupy approximately 100 acres. MPLP currently generates 45 MW from the existing power plants. This project will nearly double the MPLP geothermal development complex power output. The projected lifetime of the project is 30 years, at which time MPLP will decommission the project.

Authorization of the proposed project would require approval from the Bureau of Land management (BLM) as the lead Federal agency responsible for geothermal leasing and development on Federal lands, in coordination with the U.S. Forest Service (FS) as a cooperating agency responsible for surface management and uses on Inyo National Forest lands within the project area. The BLM Bishop Field Office will serve as the lead Federal agency responsible for compliance with the National Environmental Policy Act (NEPA). The Great Basin Unified Air Pollution Control District (GBUAPCD) will be the lead state agency responsible for complying with the California Environmental Quality Act (CEQA). A joint EIS/EIR will be the environmental document prepared for the project.

Statement of Purpose and Need

The Draft EIS/EIR should clearly identify the underlying purpose and need to which BLM and the FS are responding in proposing the alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Recommendation:

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The Draft EIS/EIR should discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting its renewable energy portfolio standards and goals.

Alternatives Analysis

NEPA requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of alternatives will include options for avoiding significant environmental impacts. The Draft EIS/EIR should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail. Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify and avoid environmentally sensitive areas or areas with potential use conflicts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (low, medium, and high).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.).

Recommendations:

The Draft EIS/EIR should describe how each alternative was developed, how it addresses each project objective, and how it would be implemented. The alternatives analysis should include a discussion of locations, including on-site alternatives that demonstrate a reduction of undesirable impacts. Options such as reducing the footprint of the proposed project within the project area or relocating sections/components of the project to other areas, including private land, to reduce environmental impacts should be examined.

The Draft EIS/EIR should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

EPA recommends that the Draft EIS/EIR identify and analyze an environmentally preferable alternative.

Water Resources

Clean Water Act Section 404

The project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill material into waters of the United States (WOUS), including wetlands and other *special aquatic sites*. The Draft EIS/EIR should describe all WOUS that could be affected by the project alternatives, and include maps that clearly identify all waters within the project area. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. In addition, EPA suggests

that BLM include a jurisdictional delineation for all WOUS, including ephemeral drainages, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the December 2006 *Arid West Region Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. A jurisdictional delineation will confirm the presence of WOUS in the project area and help determine impact avoidance or if state and federal permits would be required for activities that affect WOUS.

If a permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (“404(b)(1) Guidelines”). Pursuant to 40CFR 230, any permitted discharge into WOUS must be the least environmentally damaging practicable alternative (LEDPA) available to achieve the project purpose. The Draft EIS/EIR should include an evaluation of the project alternatives in this context in order to demonstrate the project’s compliance with the 404(b)(1) Guidelines. If, under the proposed project, dredged or fill material would be discharged into WOUS, the Draft EIS/EIR should discuss alternatives to avoid those discharges.

The Draft EIS/EIR should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations, and identify whether any components of the proposed project are within a 50 or 100-year floodplain. We also recommend the Draft EIS/EIR include information on the functions and locations of WOUS and their direct relationship to waters downstream.

Recommendations:

The applicant should coordinate with the Corps to obtain a jurisdictional delineation and confirm the presence of WOUS, in order to determine whether or not a CWA Section 404 permit is needed. If a permit is needed, the Draft EIS/EIR should demonstrate the project’s compliance with the CWA 404(b)(1) Guidelines.

The Draft EIS/EIR should describe the geographic extent of any WOUS at the project site, as well as drainage patterns at the project location.

The Draft EIS/EIR should discuss the steps taken to avoid and minimize impacts to WOUS. To the extent any aquatic features that could be affected by the project are determined not to constitute WOUS, EPA recommends that the Draft EIS/EIR characterize the functions of such features and discuss potential mitigation.

Water Supplies

Public drinking water supplies and/or their source areas often exist in many watersheds. Source water is water from streams, rivers, lakes, springs, and aquifers that is used as a supply of drinking water. Source water areas are delineated and mapped by the state for each federally-regulated public water system. The 1996 amendments to the Safe Drinking Water Act (SDWA) require federal agencies to protect sources of drinking water for communities. Therefore, EPA recommends that the EIS identify:

- a) source water protection areas within the project area;

- b) activities that could potentially affect source water areas;
- c) potential contaminants that may result from the proposed project; and
- d) measures that would be taken to protect the source water protection areas.

The Draft EIS/EIR should discuss the potential for impacts on groundwater, springs, and other surface water features during construction and operation of the project. Geothermal development activities have the potential for impacting groundwater unless proper controls are in place. This can be mitigated or monitored by development of monitoring plans for these water resources. The plans would provide for the collection and evaluation of data necessary to document baseline conditions and impacts on the resources (i.e., water quantity, quality, and temperature). Contingencies can be developed (e.g., modification of geothermal pumping rates) to address any potential impacts that may be documented during the monitoring program.

Recommendations:

The Draft EIS/EIR should describe the availability of a water supply for construction and operation of the proposed project and fully evaluate the environmental impacts associated with using the selected water supply.

The Draft EIS/EIR should explore the need for a groundwater monitoring plan as a mitigation measure for potential impacts on groundwater, springs, and other surface water features. The monitoring plans should address contingencies to be implemented (e.g., modification of geothermal pumping rates) to address any potential impacts that may be documented during the monitoring program plan for these water resources.

Clean Water Act Section 303(d)

The Clean Water Act (CWA) requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

Recommendation:

The Draft EIS/EIR should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The Draft EIS/EIR should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Air Quality

The Draft EIS/EIR should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the project (including cumulative and indirect impacts) for each fully evaluated alternative. Construction related impacts should also be discussed. Below are specific recommendations on general conformity, new source review, Title V operating permits and construction emissions.

General Conformity

Mono County is located within the Great Basin Valleys Air Basin (GBVAB), which also includes Inyo and Alpine Counties. Air quality in Mono County is governed by the Great Basin Unified Air Pollution Control District (GBUAPCD) and the California Air Resources Board (CARB). The Mono County portion of the GBVAB has a non-attainment status for ozone (State standards only); non-attainment of ozone is associated with the effect of transported pollution from outside of Mono County, rather than local generation of ozone or ozone precursors. All of the GBVAB is designated non-attainment for the PM10 State standard.

Recommendation:

The Draft EIS/EIR should address the applicability of CAA Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93. Federal agencies need to ensure that their actions, including construction emissions subject to state jurisdiction, conform to an approved implementation plan. Emissions authorized by a CAA permit issued by the State or the local air pollution control district would not be assessed under general conformity but through the permitting process.

New Source Review (NSR) Construction Permit Program

New major stationary sources of air pollution and major modifications to sources are required by the CAA to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas).

Permits for sources in attainment areas are referred to as prevention of significant air quality deterioration (PSD) permits, while permits for sources located in nonattainment areas are referred to as nonattainment (NAA) permits. The entire program, including both PSD and NAA permit reviews, is referred to as the NSR program and is established in Parts C and D of Title I of the CAA. Based upon an area's attainment/nonattainment designations and a proposed project's anticipated criteria pollutant emission rates, a project may require both a PSD and NAA permit.

Recommendation:

The Draft EIS/EIR should discuss if NSR program permits will be required for the geothermal power plant proposed for construction in the leased areas. If so, the Draft EIS/EIR should describe the permitting process and the information that must be addressed in the permits.

Title V Operating Permit

Title V of the CAA requires all new major sources and some minor sources of air pollution to apply for an operating permit within 12 months of commencing operation. When granted, the permit includes all air pollution requirements that apply to the source, including emissions limits and monitoring, record keeping, and reporting requirements. It also requires that

the source report its compliance status with respect to permit conditions to the agency that issued the permit and if the permit is issued by a state or local agency, reports should also be submitted to EPA.

Recommendation:

The Draft EIS/EIR should indicate if Title V operating permits will be required for the geothermal power plant proposed to be constructed in the leased areas. If so, it should describe which agency will issue the operating permit and should describe the permitting process, including opportunities for public involvement.

Construction Emissions Mitigation

EPA recommends an evaluation of the following measures to reduce construction emissions of criteria air pollutants and hazardous air pollutants (air toxics). The Draft EIS/EIR should address the use of these or similar measures during construction.

Recommendations:

- *Equipment Emissions Mitigation Plan (EEMP)* – The Draft EIS/EIR should identify the need for an EEMP. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NO_x associated with construction activities. We recommend that the EEMP require that all construction-related engines:
 - are tuned to the engine manufacturer’s specification in accordance with an appropriate time frame;
 - do not idle for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
 - are not tampered with in order to increase engine horsepower;
 - include particulate traps, oxidation catalysts and other suitable control devices on all construction equipment used at the project site;
 - use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
 - include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.
- *Fugitive Dust Control Plan* - The Draft EIS/EIR should identify the need for *Fugitive Dust Control Plan*. We recommend that it include these general recommendations:
 - Stabilize open storage piles and by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.

- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Emergency Planning and Community Right-to-Know Act and CAA §112(r)

The Draft EIS/EIR should evaluate the need for compliance with CAA §112(r), and, as applicable, Emergency Planning and Community Right-to-Know Act (EPCRA) § 303, 311, & 312. Additionally the requirements of the California Hazardous Materials Business Plan (CA HMBP) may be applicable.

Recommendation:

The Draft EIS/EIR should discuss compliance with CAA §112(r), EPCRA §§ 303, 311, 312, and CA HMBP if applicable.

Biological Resources, Habitat and Wildlife

During construction of the proposed project, vegetation would be cleared and soils moved during the construction of roads, well pads, substation, transmission line, and other facilities. The Draft EIS/EIR should describe the current quality and capacity of habitat and its use by wildlife in the proposed project area. The Draft EIS/EIR should describe the critical habitat for the species; identify any impacts the proposed project will have on the species and their critical habitats; and how the proposed project will meet all requirements under the Endangered Species Act, including consultation with the U.S. Fish and Wildlife Service (FWS) and California Department of Fish and Game (CDFG).

The Draft EIS/EIR should identify all petitioned and listed threatened and endangered species that might occur within the project area. The Draft EIS/EIR should identify and quantify which species might be directly or indirectly affected by each alternative. All raptor and owl species are protected under the Migratory Bird Treaty Act (MBTA). The golden eagle and bald eagle also receive protection under the Bald and Golden Eagle Protection Act (BGEPA). The MBTA, however, has no provision for allowing unauthorized take. In September 2009, the FWS finalized permit regulations¹ under the BGEPA for the take of bald and golden eagles on a limited basis, provided that the take is compatible with preservation of the eagle and cannot be practicably avoided.

Recommendations:

Discuss design and management measures to minimize adverse impacts to wildlife and native and rare plants.

¹ See Eagle Permits, 50 CFR parts 13 and 22, issued Sept. 11, 2009. See internet address: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/BaldEagle/Final%20Disturbance%20Rule%2009%20Sept%202009.pdf>

Identify specific measures to reduce impacts to eagles and clarify how the proposed project will comply with the MBTA and BGEPA.

The Draft EIS/EIR should discuss the potential need for an Avian Protection Plan (APP) for the transmission lines and equipment. The discussion may include the development of an Avian Protection Plan (APP) using the Avian Power Line Interaction Committee (APLIC) best practices and FWS Avian Protection Plan Guidelines.

Recreational Use

BLM is entrusted with the multiple-use management of natural resources on public land, and that public land must be managed for outdoor recreation and natural, scenic, scientific, and historical values.

Recommendation:

EPA recommends that there be full disclosure of the impacts to recreational users in the project area. The Draft EIS/EIR should clarify what general measures will be incorporated to ensure that recreational users are not injured due to hazards associated with piping, and transmission lines.

Invasive Species

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species.

Recommendation:

The Draft EIS/EIR should include an invasive plant management plan to monitor and control noxious weeds.

Noise Impacts

The Draft EIS/EIR should include an assessment of noise levels from the geothermal plant and well field. Decibel levels for the project should be evaluated as should the effects of noise levels on a variety of species, as well as effects on property values, residences, and recreational use, if applicable.

Visual Impacts

Careful attention should be given to how the geothermal plant and associated well field is set against the landscape. Steps should be taken to minimize the visual impacts and make the power plant and well field less obtrusive.

Coordination with Tribal Governments

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

The Draft EIS/EIR should describe the process and outcome of government-to-government consultation between BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

National Historic Preservation Act and Executive Order 13007

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act (NHPA). Historic properties under the National Historic Preservation Act (NHPA) are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity of such sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

Recommendation:

The Draft EIS/EIR should address the possibility of Indian sacred sites in the project area. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how BLM will avoid adversely affecting the physical integrity of sacred sites, if they exist. The Draft EIS/EIR should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.

Hazardous Materials/Hazardous Waste/Solid Waste & Health and Safety

Geothermal drilling, construction activities and plant operations involve the use of hazardous materials which could include: drilling additives and mud, diesel fuel, lubricants, solvents, oil, equipment/vehicle emissions, geothermal water, laboratory materials, and an organic working fluid for the binary plant Organic Rankine Cycle (ORC). The Draft EIS/EIR should address potential direct, indirect and cumulative impacts of hazardous waste from

construction and operation of the proposed project. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Mitigation measures should also be evaluated to reduce the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

Recommendations:

The Draft EIS/EIR should identify projected hazardous materials and waste types and volumes, and expected storage, disposal, and management plans.

The Draft EIS/EIR should describe the health and safety aspects of all hazardous materials used, especially the working fluid.

The Draft EIS/EIR should evaluate appropriate mitigation, including measures to minimize the generation of hazardous waste (i.e., pollution prevention and hazardous waste minimization) and alternate industrial processes using less toxic materials.

Geological Hazards

The same attributes that make the Casa Diablo area a prime area for geothermal energy generation also may raise geological hazard risks. Various studies² in other areas have raised concerns about induced seismicity and/or subsidence as a result of water injection and production. In the case of geothermal induced seismicity withdrawal of fluids as well as injection of fluids can cause seismicity, though there is not a strict one to one correlation with injection. In most regions where there are economic geothermal resources there is usually tectonic activity, such as in the western United States. These areas are more prone to induced seismicity than in more stable areas of the United States³. Potential geological hazards, in particular, induced seismicity and subsidence should be discussed in the Draft EIS/EIR

Recommendation:

The Draft EIS/EIR should discuss the potential for geological hazards such as induced seismicity or subsidence especially in light of the number of projects nearby and the evidence of geologic activity. The discussion should include how geological hazards would be monitored and mitigation measures would be employed if detrimental geological hazards are manifested by the operation of the plants.

Project Decommissioning

Geothermal power plants are designed for life spans of 20 to 30 years. With proper resource management the life can exceed design values. The life of the proposed project should be taken into consideration regarding decommissioning and reclamation.

² Oppenheimer, D. H. (1986). Extensional Tectonics at The Geysers Geothermal Area, California. *J. Geophys. Res.*, 91(B11), 11,463–11,476, doi:10.1029/JB091iB11p11463

³ Majer, E.L. 2008. White Paper: Induced Seismicity and Enhanced Geothermal Systems. Center for Computational Seismology, Ernest Orlando Lawrence Berkeley National Laboratory.

Recommendation:

EPA recommends that the Draft EIS/EIR identify bonding or financial assurance strategies for decommissioning and reclamation.

Coordination with Land Use Planning Activities

The Draft EIS/EIR should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project area. The term “land use plans” includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).

Recommendation:

The Draft EIS/EIR should evaluate the conformance of the project with current and reasonably foreseeable land use plans.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process. Guidance⁴ by CEQ clarifies the terms low-income and minority population (which includes American Indians) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

Recommendation:

The Draft EIS/EIR should include an evaluation of environmental justice populations within the geographic scope of the project. If such populations exist, the Draft EIS/EIR should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the project's impact on minority and low-income populations should reflect coordination with those affected populations.

Indirect and Cumulative Impacts

This will be the fourth geothermal plant in the immediate MPLP facility. The cumulative impacts analysis should provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety (CEQ's Forty Questions, #18). The Draft EIS/EIR should clearly identify the resources that may be cumulatively impacted, the time over which impacts are going to occur, and the geographic area that will be impacted by the proposed project. The Draft EIS/EIR should focus on resources of

⁴Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.

concern – those resources that are “at risk” and/or are significantly impacted by the proposed project, before mitigation. In the introduction to the *Cumulative Impacts Section*, identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the Draft EIS/EIR should:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify opportunities to avoid and minimize impacts, including working with other entities.

As an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendations:

The Draft EIS/EIR should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, its likely location, and the biological and environmental resources at risk.

The Draft EIS/EIR should consider the direct and indirect effects of the inter-connecting transmission line for the proposed project, as well as the cumulative effects associated with the transmission needs of other reasonably foreseeable projects.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. Global warming can affect weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates, resulting in climate change. Reports also indicate that deserts may store as much carbon as temperate forests.

Recommendations:

The Draft EIS/EIR should consider how climate change could potentially influence the proposed project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

The Draft EIS/EIR should quantify and disclose the anticipated climate change *benefits* of geothermal plant electrical energy. We suggest quantifying greenhouse gas emissions from different types of generating facilities including solar, wind, natural gas, coal-burning, and nuclear and compiling and comparing these values.

Implementation of Adaptive Management Techniques for Mitigation Measures

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. The effectiveness of adaptive management monitoring depends on a variety of factors including:

- a) The ability to establish clear monitoring objectives;
- b) Agreement on the impact thresholds being monitored;
- c) The existence of a baseline or the ability to develop a baseline for the resources being monitored;
- d) The ability to see the effects within an appropriate time frame after the action is taken;
- e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
- f) The resources needed to perform the monitoring and respond to the results.

Recommendation:

EPA recommends that BLM consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure the successful implementation of mitigation measures. EPA recommends that BLM review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality (CEQ) on Modernizing NEPA Implementation⁵.

⁵ Council on Environmental Quality (U.S.). Modernizing NEPA Implementation. Washington D.C. NEPAnet web site. <http://ceq.hss.doe.gov/ntf/report/finalreport.pdf>. Accessed April 28, 2011.

From: Debbie_Allen@nps.gov
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Subject: Re: DEC-11/0079:Casa Diablo IV Geothermal Development Project (CACA 11667), Mammoth Lakes
Date: 05/06/2011 06:45 PM

PWR has no comment regarding subject document.

Debbie Allen
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"Don't dwell on what went wrong. Instead, focus on what to do next. Spend your energies on moving forward toward finding the answer." -- Denis Waitley

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05/03/2011 07:53 AM

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To

cc

Subject

DEC-11/0079:Casa Diablo IV
Geothermal Development Project
(CACA 11667), Mammoth Lakes

NPS External Affairs Program: ER2000 Program Email Instruction Sheet
United States Department of the Interior
National Park Service Environmental Quality Division
7333 W. Jefferson Avenue
Lakewood, CO 80235-2017

EIS/Related Document Review: Detail View
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Document Information

Record #15597

ER Document Number

DEC-11/0079

Document Title

Casa Diablo IV Geothermal Development Project (CACA 11667),
Mammoth Lakes

Location

State

California

County

Mono County

Document Type

Notice of Intent, Prepare Environmental Impact Statement,
Environmental Report

Doc. Classification

Applicant

Bureau of Land Management

Web Review Address

<http://edocket.access.gpo.gov/2011/2011-7012.htm>

<http://www.blm.gov/ca/st/en/prog/energy/fasttrack/casadiablo.html>

<http://www.blm.gov/ca/st/en/fo/bishop.html>

<http://www.blm.gov/ca/st/en/prog/energy/fasttrack/casadiablo/fedstatus>

.html

Document Reviewers

WASO Lead Reviewer

WASO Reviewers

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Action

Lead Bureau

Bureau of Land Management

Response Type

Regional Response

Instructions

Comments to Lead DOI Bureau. NPS Lead consolidates NPS comments, prepares comment/no comment memo, and emails to Lead DOI Bureau with copy to EQD (WASO-2310). See DI Remarks Section below for specifics.

Topic Context

Mammoth Pacific, L.P. (MPLP) has submitted an application to the BLM to build and operate the Casa Diablo IV Geothermal Development Project in the immediate vicinity of the existing MPLP geothermal projects near the intersection of California State Route 203 and U.S. Highway 395 approximately 3 miles east of Mammoth Lakes, California.

The proposed project would be located on Inyo National Forest lands and adjacent private lands within portions of Federal geothermal leases CACA-11667, CACA-11672 and CACA-14408.

A 500-foot transmission line is proposed to interconnect the new power plant to the existing Southern California Edison (SCE) substation at Substation Road.

The development will include a 33-megawatt (MW) geothermal power plant and associated well field, internal access roads, pipelines, and a transmission line on public and private lands near the Town of Mammoth Lakes, California.

DI Remarks

Public Comment: Scoping period ends 5/9/11.

Interagency cooperation: USFS, FWS, BLM and NPS.

Reviewers: Please Email comments to NPS Lead Alan Schmierer (PWR-O), Alan_Schmierer@nps.gov by May 5, 2011.

NPS Lead: Alan Schmierer please consolidate NPS comments (no comment) in memo format and send directly to FWS, Willows, CA, cabipubcom@ca.blm.gov by May 9, 2011, with copy to: waso_eqd_extrev@nps.gov, Susmita_Pendurthi@ios.doi.gov and oepcsfn@aol.com

Applicant Address for Alan Schmierer: BLM Bishop Field Office, 351 Pacu Lane, Suite 100, Bishop, California 93514, Attn: Casa Diablo IV Development Project, C/O Steven Nelson, Project Manager.

BLM CONTACT: Steven Nelson, Project Manager.

USFS CONTACT: Margie DeRose, Minerals and Geology Program Manager,
Inyo National Forest.

* Telephone: (760) 873-2424.

* FAX: (760) 872-5050.

* e-mail cabipubcom@ca.blm.gov

Comment Web Address
<http://www.blm.gov/ca/st/en/fo/bishop.html>
Email Comment Address
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Workflow

Send Comments to Lead Office: PWR-O
Send to: Alan Schmierer (PWR-O) by 05/05/11

Lead DOI Bureau: Bureau of Land Management
DUE TO: Lead Bureau by 05/09/11
DATE DUE OUT: 05/09/11

OEPC Memo to EQD: 05/03/11
Comments Due To Lead WASO Div:
Comments Due Out to
OEPC/Wash or Applicant: 05/09/11

Comments Due To Lead Region: 05/05/11
Comments Due in EQD:
Comments Due to REO:

Tracking Dates

Rcvd. Region Comments:
Comments Sent to OEPC, REO, or Applicant:
New Instructions:
Rcvd. Ext. Letter:
Reg. Cmts. to Bureau:
Cmts. Called In:

Comments Sent to EQD Chief:
Comment Letter/Memo Signed:
Rcvd. Extension:
Sent Add. Info:
Reg. Cmts. Listed:
Rcvd. Bureau Cmts:

Tracking Notes

Reviewer Notes

Documentation

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Inland Deserts Region (IDR)
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May 2, 2011

Ms. Jan Sudomier
Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, CA 93514

**Subject: Casa Diablo IV Geothermal Development Project, Notice of Preparation
(State Clearinghouse Number: 2011041008)**

Dear Ms. Sudomier:

The Department of Fish and Game, hereinafter referred to as Department has reviewed the Notice of Preparation (NOP) of the Draft Environmental Impact Report (DEIR) for the above mentioned project relative to impacts to biological resources. The Department appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources.

The Department is a Trustee Agency pursuant to the California Environmental Quality Act (CEQA). A Trustee Agency has jurisdiction over certain resources held in trust for the people of California. Trustee agencies are generally required to be notified of CEQA documents relevant to their jurisdiction, whether or not these agencies have actual permitting authority or approval power over aspects of the underlying project (CEQA Guidelines, Section 15386). As the trustee agency for fish and wildlife resources, the Department provides requisite biological expertise to review and comment upon CEQA documents, and makes recommendations regarding those resources held in trust for the people of California.

The Department may also assume the role of Responsible Agency. A Responsible Agency is an agency other than the lead agency that has a legal responsibility for carrying out or approving a project. A Responsible Agency actively participates in the Lead Agency's CEQA process, reviews the Lead Agency's CEQA document and uses that document when making a decision on the project. The Responsible Agency must rely on the Lead Agency's environmental document to prepare and issue its own findings regarding the project (CEQA Guidelines, Sections 15096 and 15381). The Department most often becomes a responsible agency when a 1600 Streambed Alteration Agreement or a 2081(b) California Endangered Species Act Incidental Take Permit is needed for a project. The Department relies on the environmental document prepared by the Lead Agency to make a finding and decide whether or not to issue permit or agreement. It is important that the Lead

Agency's EIR considers the Department's responsible agency requirements. For example, CEQA requires the Department to include additional feasible alternatives or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment (CEQA Guidelines, section 15096 (g) (2)). In rare cases, the Department may need to prepare additional CEQA analysis.

Pursuant to California Fish and Game Code section 711.4, the Department collects a filing fee for all projects subject to CEQA. These filing fees are collected to defray the costs of managing and protecting fish and wildlife resources including, but not limited to, consulting with public agencies, reviewing environmental documents, recommending mitigation measures, and developing monitoring programs. Project applicants need not pay a filing fee in cases where a project will have no effect on fish and wildlife, as determined by the Department, or where their project is statutorily or categorically exempt from CEQA.

Mammoth Pacific, LP, hereinafter referred to as MPLP, proposes to build, and following the expected 30-year useful life, decommission the Casa Diablo IV Geothermal Development Project in the vicinity of the existing MPLP geothermal project. The Project would consist of the following facilities:

- A geothermal power plant consisting of two Ormat Energy Converts binary generating units (21.2 MW gross each) with vaporizers, turbines, generators, air-cooled condensers, preheaters, pumps and piping, and related ancillary equipment.
- A motive fluid system consisting of motive fluid (isopentane) storage vessels, either one or two vessels in the range of 9,000 to 12,000 gallons) and a motive fluid vapor recovery system (VRU).
- An air cooling system for the power plant.
- An RO water treatment facility and equalization storage tank.

To enable Department staff to adequately review and comment on the proposed project, we recommend the following information be included in the DEIR, as applicable:

1. The project description should address any potential to alter aquifer temperatures, pressures, surface waters, spring flows, and water quality.
2. Explain how the proposed project comports with existing court orders and settlement agreements stemming from the development of the MP1 and PLES plants.

3. A complete assessment (direct, indirect, and cumulative impacts) of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying special status species including, but not limited to rare, threatened, and endangered species. This assessment should also address locally unique species and rare natural communities.
 - a. A thorough assessment of potential impacts to the sage grouse (*Centrocercus urophasianus*), a Federal Candidate species, and the Federal and State endangered Owens tui chub (*Siphateles bicolor snyderi*).
 - b. A thorough site-specific study for mule deer (*Odocoileus hemionus* ssp. *hemionus*) conducted during the appropriate time of year (April 15-June 15) by a qualified biologist. The purpose is to quantify the timing and amount of migratory deer use and to determine potential impacts to deer foraging and summer range fawning habitat.
 - c. The DEIR should include survey methods, dates, and results; and should list all plant and animal species detected within the project study area. Special emphasis should be directed toward describing the status of rare, threatened, and endangered species in all areas potentially affected by the project. All necessary biological surveys should be conducted in advance of DEIR circulation, and should not be deferred.
 - d. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380).
 - e. Species of Special Concern status applies to animals generally not listed under the federal Endangered Species Act or the California Endangered Species Act, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. At a minimum, Species of Special Concern are considered to be “rare” under CEQA.
 - f. A thorough assessment of rare plants and rare natural communities, following the Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (Attachment 1).

- c. Impacts associated with initial project implementation as well as long-term operation and maintenance of a project should be addressed in the EIR.
 - d. In evaluating the significance of the environmental effect of a project, the Lead Agency should consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project. Expected impacts should be quantified (e.g., acres, linear feet, number of individuals taken, volume or rate of water extracted, etc. to the extent feasible).
 - e. Project impacts should be analyzed relative to their effects on off-site habitats. Specifically, this may include public lands, open space, downstream aquatic habitats, or any other natural habitat that could be affected by the project.
 - f. Impacts to and maintenance of wildlife corridor/movement areas and other key seasonal use areas should be fully evaluated and provided.
 - g. A discussion of impacts associated with increased lighting, noise, human activity, changes in drainage patterns, changes in water volume, velocity, quantity, and quality, soil erosion, and/or sedimentation in streams and water courses on or near the project site, with mitigation measures proposed to alleviate such impacts should be included. Special considerations applicable to linear projects include ground disturbance that may facilitate infestations by exotic and other invasive species over a great distance.
 - h. A cumulative impacts analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts to similar plant communities and wildlife habitats.
5. A range of project alternatives should be analyzed to ensure that the full spectrum of alternatives to the proposed project are fully considered and evaluated. Alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be identified.

- a. If the project will result in any impacts described under the Mandatory Findings of Significance (CEQA Guidelines, § 15065) the impacts must be analyzed in depth in the EIR, and the Lead Agency is required to make detailed findings on the feasibility of alternatives or mitigation measures to substantially lessen or avoid the significant effects on the environment. When mitigation measures or project changes are found to be feasible, the project should be changed to substantially lessen or avoid the significant effects.
6. Mitigation measures for adverse project-related impacts to special status species including, but not limited to rare, threatened and endangered species, sensitive plants, animals, and habitats should be thoroughly discussed. Mitigation measures should first emphasize avoidance and reduction of project impacts. For unavoidable impacts, the feasibility of on-site habitat restoration or enhancement should be discussed. If on-site mitigation is not feasible, off-site mitigation through habitat creation, enhancement, land acquisition and preservation in perpetuity should be addressed.
 - a. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.
 - b. Areas reserved as mitigation for project impacts should be legally protected from future direct and indirect impacts. Potential issues to be considered include limitation of access, conservation easements, monitoring and management programs, water pollution, and fire.
 - c. Plans for restoration and revegetation should be prepared by persons with expertise in the eastern Sierra environment, and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for long-term conservation of the mitigation site.

7. Take of species of plants or animals listed as endangered or threatened under the California Endangered Species Act (CESA) is unlawful unless authorized by the Department. However, a CESA 2081(b) Incidental Take Permit may authorize incidental take during project construction or over the life of the project. The DEIR must state whether the project would result in incidental take of any CESA listed organisms. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit.

The Department's issuance of a CESA Permit for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. The Department may issue a separate CEQA document for the issuance of a CESA Permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA Permit.

To expedite the CESA permitting process, the Department recommends that the DEIR addresses the following CESA Permit requirements:

- a. The impacts of the authorized take are minimized and fully mitigated;
 - b. The measures required to minimize and fully mitigate the impacts of the authorized take and: (1) are roughly proportional in extent to the impact of the taking on the species; (2) maintain the applicant's objectives to the greatest extent possible, and (3) are capable of successful implementation;
 - c. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and
 - d. Issuance of the permit will not jeopardize the continued existence of a State-listed species.
8. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat

values or acreage. The EIR should demonstrate that the project will not result in a net loss of wetland habitat values or acreage.

- a. If the project site has the potential to support aquatic, riparian, or wetland habitat, a jurisdictional delineation of lakes, streams, and associated riparian habitats potentially affected by the project should be provided for agency and public review. This report should include a jurisdictional delineation that includes wetlands identification pursuant to the U. S. Fish and Wildlife Service wetland definition¹ as adopted by the Department². Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers. The jurisdictional delineation should also include mapping of ephemeral, intermittent, and perennial stream courses potentially impacted by the project. In addition to federally protected wetlands, the Department considers impacts to wetlands (as defined by the Department) potentially significant.

- b. The project may require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a Lake or Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to Section 1600 et seq. and/or under CEQA, the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement.

¹ Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

² California Fish and Game Commission Policies: Wetlands Resources Policy; Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Strategy; Amended 1994

Ms. Jan Sudomier
May 2, 2011
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Thank you for the opportunity to comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Steve Parmenter, Senior Biologist, at (760) 872-1123 or by email at spar@dfg.ca.gov.

Sincerely,



for Brad Henderson
Habitat Conservation Supervisor

Attachment 1: Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.

cc: Department of Fish and Game
Chron, Bishop
William Condon, Renewable Energy Program, CDFG
State Clearinghouse, Sacramento

Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities

State of California
CALIFORNIA NATURAL RESOURCES AGENCY
Department of Fish and Game
November 24, 2009¹

INTRODUCTION AND PURPOSE

The conservation of special status native plants and their habitats, as well as natural communities, is integral to maintaining biological diversity. The purpose of these protocols is to facilitate a consistent and systematic approach to the survey and assessment of special status native plants and natural communities so that reliable information is produced and the potential of locating a special status plant species or natural community is maximized. They may also help those who prepare and review environmental documents determine when a botanical survey is needed, how field surveys may be conducted, what information to include in a survey report, and what qualifications to consider for surveyors. The protocols may help avoid delays caused when inadequate biological information is provided during the environmental review process; assist lead, trustee and responsible reviewing agencies to make an informed decision regarding the direct, indirect, and cumulative effects of a proposed development, activity, or action on special status native plants and natural communities; meet California Environmental Quality Act (CEQA)² requirements for adequate disclosure of potential impacts; and conserve public trust resources.

DEPARTMENT OF FISH AND GAME TRUSTEE AND RESPONSIBLE AGENCY MISSION

The mission of the Department of Fish and Game (DFG) is to manage California's diverse wildlife and native plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. DFG has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat necessary to maintain biologically sustainable populations (Fish and Game Code §1802). DFG, as trustee agency under CEQA §15386, provides expertise in reviewing and commenting on environmental documents and makes protocols regarding potential negative impacts to those resources held in trust for the people of California.

Certain species are in danger of extinction because their habitats have been severely reduced in acreage, are threatened with destruction or adverse modification, or because of a combination of these and other factors. The California Endangered Species Act (CESA) provides additional protections for such species, including take prohibitions (Fish and Game Code §2050 *et seq.*). As a responsible agency, DFG has the authority to issue permits for the take of species listed under CESA if the take is incidental to an otherwise lawful activity; DFG has determined that the impacts of the take have been minimized and fully mitigated; and, the take would not jeopardize the continued existence of the species (Fish and Game Code §2081). Surveys are one of the preliminary steps to detect a listed or special status plant species or natural community that may be impacted significantly by a project.

DEFINITIONS

Botanical surveys provide information used to determine the potential environmental effects of proposed projects on all special status plants and natural communities as required by law (i.e., CEQA, CESA, and Federal Endangered Species Act (ESA)). Some key terms in this document appear in **bold font** for assistance in use of the document.

For the purposes of this document, **special status plants** include all plant species that meet one or more of the following criteria³:

¹ This document replaces the DFG document entitled "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened and Endangered Plants and Natural Communities."

² <http://ceres.ca.gov/ceqa/>

³ Adapted from the East Alameda County Conservation Strategy available at http://www.fws.gov/sacramento/EACCS/Documents/080228_Species_Evaluation_EACCS.pdf

- Listed or proposed for listing as threatened or endangered under ESA or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12).
- Listed⁴ or candidates for listing by the State of California as threatened or endangered under CESA (Fish and Game Code §2050 *et seq.*). A species, subspecies, or variety of plant is **endangered** when the prospects of its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors (Fish and Game Code §2062). A plant is **threatened** when it is likely to become endangered in the foreseeable future in the absence of special protection and management measures (Fish and Game Code §2067).
- Listed as rare under the California Native Plant Protection Act (Fish and Game Code §1900 *et seq.*). A plant is **rare** when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens (Fish and Game Code §1901).
- Meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - ♦ Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (Lists 1A, 1B and 2);
 - ♦ Species that may warrant consideration on the basis of local significance or recent biological information⁵;
 - ♦ Some species included on the California Natural Diversity Database's (CNDDDB) *Special Plants, Bryophytes, and Lichens List* (California Department of Fish and Game 2008)⁶.
- Considered a **locally significant species**, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Special status natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status species or their habitat. The most current version of the Department's *List of California Terrestrial Natural Communities*⁷ indicates which natural communities are of special status given the current state of the California classification.

Most types of wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. These natural communities often contain special status plants such as those described above. These protocols may be used in conjunction with protocols formulated by other agencies, for example, those developed by the U.S. Army Corps of Engineers to delineate jurisdictional wetlands⁸ or by the U.S. Fish and Wildlife Service to survey for the presence of special status plants⁹.

⁴ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

⁵ In general, CNPS List 3 plants (plants about which more information is needed) and List 4 plants (plants of limited distribution) may not warrant consideration under CEQA §15380. These plants may be included on special status plant lists such as those developed by counties where they would be addressed under CEQA §15380. List 3 plants may be analyzed under CEQA §15380 if sufficient information is available to assess potential impacts to such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts to a List 4 plant are significant even if individual project impacts are not. List 3 and 4 plants are also included in the California Natural Diversity Database's (CNDDDB) *Special Plants, Bryophytes, and Lichens List*. [Refer to the current online published list available at: <http://www.dfg.ca.gov/biogeodata>.] Data on Lists 3 and 4 plants should be submitted to CNDDDB. Such data aids in determining or revising priority ranking.

⁶ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

⁷ <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf>. The rare natural communities are asterisked on this list.

⁸ <http://www.wetlands.com/regs/tlpage02e.htm>

⁹ U.S. Fish and Wildlife Service Survey Guidelines available at <http://www.fws.gov/sacramento/es/protocol.htm>

BOTANICAL SURVEYS

Conduct botanical surveys prior to the commencement of any activities that may modify vegetation, such as clearing, mowing, or ground-breaking activities. It is appropriate to conduct a botanical field survey when:

- Natural (or naturalized) vegetation occurs on the site, and it is unknown if special status plant species or natural communities occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- Special status plants or natural communities have historically been identified on the project site; or
- Special status plants or natural communities occur on sites with similar physical and biological properties as the project site.

SURVEY OBJECTIVES

Conduct field surveys in a manner which maximizes the likelihood of locating special status plant species or special status natural communities that may be present. Surveys should be **floristic in nature**, meaning that every plant taxon that occurs on site is identified to the taxonomic level necessary to determine rarity and listing status. "Focused surveys" that are limited to habitats known to support special status species or are restricted to lists of likely potential species are not considered floristic in nature and are not adequate to identify all plant taxa on site to the level necessary to determine rarity and listing status. Include a list of plants and natural communities detected on the site for each botanical survey conducted. More than one field visit may be necessary to adequately capture the floristic diversity of a site. An indication of the prevalence (estimated total numbers, percent cover, density, etc.) of the species and communities on the site is also useful to assess the significance of a particular population.

SURVEY PREPARATION

Before field surveys are conducted, compile relevant botanical information in the general project area to provide a regional context for the investigators. Consult the CNDDDB¹⁰ and BIOS¹¹ for known occurrences of special status plants and natural communities in the project area prior to field surveys. Generally, identify vegetation and habitat types potentially occurring in the project area based on biological and physical properties of the site and surrounding ecoregion¹², unless a larger assessment area is appropriate. Then, develop a list of special status plants with the potential to occur within these vegetation types. This list can serve as a tool for the investigators and facilitate the use of reference sites; however, special status plants on site might not be limited to those on the list. Field surveys and subsequent reporting should be comprehensive and floristic in nature and not restricted to or focused only on this list. Include in the survey report the list of potential special status species and natural communities, and the list of references used to compile the background botanical information for the site.

SURVEY EXTENT

Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Adjoining properties should also be surveyed where direct or indirect project effects, such as those from fuel modification or herbicide application, could potentially extend offsite. Pre-project surveys restricted to known CNDDDB rare plant locations may not identify all special status plants and communities present and do not provide a sufficient level of information to determine potential impacts.

FIELD SURVEY METHOD

Conduct surveys using **systematic field techniques** in all habitats of the site to ensure thorough coverage of potential impact areas. The level of effort required per given area and habitat is dependent upon the vegetation and its overall diversity and structural complexity, which determines the distance at which plants can be identified. Conduct surveys by walking over the entire site to ensure thorough coverage, noting all plant taxa

¹⁰ Available at <http://www.dfg.ca.gov/biogeodata/cnddb>

¹¹ <http://www.bios.dfg.ca.gov/>

¹² Ecological Subregions of California, available at <http://www.fs.fed.us/r5/projects/ecoregions/toc.htm>

observed. The level of effort should be sufficient to provide comprehensive reporting. For example, one person-hour per eight acres per survey date is needed for a comprehensive field survey in grassland with medium diversity and moderate terrain¹³, with additional time allocated for species identification.

TIMING AND NUMBER OF VISITS

Conduct surveys in the field at the time of year when species are both evident and identifiable. Usually this is during flowering or fruiting. Space visits throughout the growing season to accurately determine what plants exist on site. Many times this may involve multiple visits to the same site (e.g. in early, mid, and late-season for flowering plants) to capture the floristic diversity at a level necessary to determine if special status plants are present¹⁴. The timing and number of visits are determined by geographic location, the natural communities present, and the weather patterns of the year(s) in which the surveys are conducted.

REFERENCE SITES

When special status plants are known to occur in the type(s) of habitat present in the project area, observe reference sites (nearby accessible occurrences of the plants) to determine whether those species are identifiable at the time of the survey and to obtain a visual image of the target species, associated habitat, and associated natural community.

USE OF EXISTING SURVEYS

For some sites, floristic inventories or special status plant surveys may already exist. Additional surveys may be necessary for the following reasons:

- Surveys are not current¹⁵; or
- Surveys were conducted in natural systems that commonly experience year to year fluctuations such as periods of drought or flooding (e.g. vernal pool habitats or riverine systems); or
- Surveys are not comprehensive in nature; or fire history, land use, physical conditions of the site, or climatic conditions have changed since the last survey was conducted¹⁶; or
- Surveys were conducted in natural systems where special status plants may not be observed if an annual above ground phase is not visible (e.g. flowers from a bulb); or
- Changes in vegetation or species distribution may have occurred since the last survey was conducted, due to habitat alteration, fluctuations in species abundance and/or seed bank dynamics.

NEGATIVE SURVEYS

Adverse conditions may prevent investigators from determining the presence of, or accurately identifying, some species in potential habitat of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any given year. Discuss such conditions in the report.

The failure to locate a known special status plant occurrence during one field season does not constitute evidence that this plant occurrence no longer exists at this location, particularly if adverse conditions are present. For example, surveys over a number of years may be necessary if the species is an annual plant having a persistent, long-lived seed bank and is known not to germinate every year. Visits to the site in more

¹³ Adapted from U.S. Fish and Wildlife Service kit fox survey guidelines available at www.fws.gov/sacramento/es/documents/kitfox_no_protocol.pdf

¹⁴ U.S. Fish and Wildlife Service Survey Guidelines available at <http://www.fws.gov/sacramento/es/protocol.htm>

¹⁵ Habitats, such as grasslands or desert plant communities that have annual and short-lived perennial plants as major floristic components may require yearly surveys to accurately document baseline conditions for purposes of impact assessment. In forested areas, however, surveys at intervals of five years may adequately represent current conditions. For forested areas, refer to "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at <https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf>

¹⁶ U.S. Fish and Wildlife Service Survey Guidelines available at http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/botanicalinventories.pdf

than one year increase the likelihood of detection of a special status plant especially if conditions change. To further substantiate negative findings for a known occurrence, a visit to a nearby reference site may ensure that the timing of the survey was appropriate.

REPORTING AND DATA COLLECTION

Adequate information about special status plants and natural communities present in a project area will enable reviewing agencies and the public to effectively assess potential impacts to special status plants or natural communities¹⁷ and will guide the development of minimization and mitigation measures. The next section describes necessary information to assess impacts. For comprehensive, systematic surveys where no special status species or natural communities were found, reporting and data collection responsibilities for investigators remain as described below, excluding specific occurrence information.

SPECIAL STATUS PLANT OR NATURAL COMMUNITY OBSERVATIONS

Record the following information for locations of each special status plant or natural community detected during a field survey of a project site.

- A detailed map (1:24,000 or larger) showing locations and boundaries of each special status species occurrence or natural community found as related to the proposed project. Mark occurrences and boundaries as accurately as possible. Locations documented by use of global positioning system (GPS) coordinates must include the datum¹⁸ in which they were collected;
- The site-specific characteristics of occurrences, such as associated species, habitat and microhabitat, structure of vegetation, topographic features, soil type, texture, and soil parent material. If the species is associated with a wetland, provide a description of the direction of flow and integrity of surface or subsurface hydrology and adjacent off-site hydrological influences as appropriate;
- The number of individuals in each special status plant population as counted (if population is small) or estimated (if population is large);
- If applicable, information about the percentage of individuals in each life stage such as seedlings vs. reproductive individuals;
- The number of individuals of the species per unit area, identifying areas of relatively high, medium and low density of the species over the project site; and
- Digital images of the target species and representative habitats to support information and descriptions.

FIELD SURVEY FORMS

When a special status plant or natural community is located, complete and submit to the CNDDDB a California Native Species (or Community) Field Survey Form¹⁹ or equivalent written report, accompanied by a copy of the relevant portion of a 7.5 minute topographic map with the occurrence mapped. Present locations documented by use of GPS coordinates in map and digital form. Data submitted in digital form must include the datum²⁰ in which it was collected. If a potentially undescribed special status natural community is found on the site, document it with a Rapid Assessment or Relevé form²¹ and submit it with the CNDDDB form.

VOUCHER COLLECTION

Voucher specimens provide verifiable documentation of species presence and identification as well as a public record of conditions. This information is vital to all conservation efforts. Collection of voucher specimens should

¹⁷ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>. For Timber Harvest Plans (THPs) please refer to the "Guidelines for Conservation of Sensitive Plant Resources Within the Timber Harvest Review Process and During Timber Harvesting Operations", available at <https://r1.dfg.ca.gov/portal/Portals/12/THPBotanicalGuidelinesJuly2005.pdf>

¹⁸ NAD83, NAD27 or WGS84

¹⁹ <http://www.dfg.ca.gov/biogeodata>

²⁰ NAD83, NAD27 or WGS84

²¹ http://www.dfg.ca.gov/biogeodata/vegcamp/veg_publications_protocols.asp

be conducted in a manner that is consistent with conservation ethics, and is in accordance with applicable state and federal permit requirements (e.g. incidental take permit, scientific collection permit). Voucher collections of special status species (or suspected special status species) should be made only when such actions would not jeopardize the continued existence of the population or species.

Deposit voucher specimens with an indexed regional herbarium²² no later than 60 days after the collections have been made. Digital imagery can be used to supplement plant identification and document habitat. Record all relevant permittee names and permit numbers on specimen labels. A collecting permit is required prior to the collection of State-listed plant species²³.

BOTANICAL SURVEY REPORTS

Include reports of botanical field surveys containing the following information with project environmental documents:

- **Project and site description**
 - ♦ A description of the proposed project;
 - ♦ A detailed map of the project location and study area that identifies topographic and landscape features and includes a north arrow and bar scale; and,
 - ♦ A written description of the biological setting, including vegetation²⁴ and structure of the vegetation; geological and hydrological characteristics; and land use or management history.
- **Detailed description of survey methodology and results**
 - ♦ Dates of field surveys (indicating which areas were surveyed on which dates), name of field investigator(s), and total person-hours spent on field surveys;
 - ♦ A discussion of how the timing of the surveys affects the comprehensiveness of the survey;
 - ♦ A list of potential special status species or natural communities;
 - ♦ A description of the area surveyed relative to the project area;
 - ♦ References cited, persons contacted, and herbaria visited;
 - ♦ Description of reference site(s), if visited, and phenological development of special status plant(s);
 - ♦ A list of all taxa occurring on the project site. Identify plants to the taxonomic level necessary to determine whether or not they are a special status species;
 - ♦ Any use of existing surveys and a discussion of applicability to this project;
 - ♦ A discussion of the potential for a false negative survey;
 - ♦ Provide detailed data and maps for all special plants detected. Information specified above under the headings "Special Status Plant or Natural Community Observations," and "Field Survey Forms," should be provided for locations of each special status plant detected;
 - ♦ Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms should be sent to the CNDDDB and included in the environmental document as an Appendix. It is not necessary to submit entire environmental documents to the CNDDDB; and,
 - ♦ The location of voucher specimens, if collected.

²² For a complete list of indexed herbaria, see: Holmgren, P., N. Holmgren and L. Barnett. 1990. Index Herbariorum, Part 1: Herbaria of the World. New York Botanic Garden, Bronx, New York. 693 pp. Or: <http://www.nybg.org/bsci/ih/ih.html>

²³ Refer to current online published lists available at: <http://www.dfg.ca.gov/biogeodata>.

²⁴ A vegetation map that uses the National Vegetation Classification System (<http://biology.usgs.gov/npsveg/nvcs.html>), for example *A Manual of California Vegetation*, and highlights any special status natural communities. If another vegetation classification system is used, the report should reference the system, provide the reason for its use, and provide a crosswalk to the National Vegetation Classification System.

- **Assessment of potential impacts**

- ♦ A discussion of the significance of special status plant populations in the project area considering nearby populations and total species distribution;
- ♦ A discussion of the significance of special status natural communities in the project area considering nearby occurrences and natural community distribution;
- ♦ A discussion of direct, indirect, and cumulative impacts to the plants and natural communities;
- ♦ A discussion of threats, including those from invasive species, to the plants and natural communities;
- ♦ A discussion of the degree of impact, if any, of the proposed project on unoccupied, potential habitat of the species;
- ♦ A discussion of the immediacy of potential impacts; and,
- ♦ Recommended measures to avoid, minimize, or mitigate impacts.

QUALIFICATIONS

Botanical consultants should possess the following qualifications:

- Knowledge of plant taxonomy and natural community ecology;
- Familiarity with the plants of the area, including special status species;
- Familiarity with natural communities of the area, including special status natural communities;
- Experience conducting floristic field surveys or experience with floristic surveys conducted under the direction of an experienced surveyor;
- Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- Experience with analyzing impacts of development on native plant species and natural communities.

SUGGESTED REFERENCES

- Barbour, M., T. Keeler-Wolf, and A. A. Schoenherr (eds.). 2007. Terrestrial vegetation of California (3rd Edition). University of California Press.
- Bonham, C.D. 1988. Measurements for terrestrial vegetation. John Wiley and Sons, Inc., New York, NY.
- California Native Plant Society. Most recent version. Inventory of rare and endangered plants (online edition). California Native Plant Society, Sacramento, CA. Online URL <http://www.cnps.org/inventory>.
- California Natural Diversity Database. Most recent version. Special vascular plants, bryophytes and lichens list. Updated quarterly. Available at www.dfg.ca.gov.
- Elzinga, C.L., D.W. Salzer, and J. Willoughby. 1998. Measuring and monitoring plant populations. BLM Technical Reference 1730-1. U.S. Dept. of the Interior, Bureau of Land Management, Denver, Colorado.
- Leppig, G. and J.W. White. 2006. Conservation of peripheral plant populations in California. *Madroño* 53:264-274.
- Mueller-Dombois, D. and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc., New York, NY.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed plants on the Santa Rosa Plain. Sacramento, CA.
- U.S. Fish and Wildlife Service. 1996. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Sacramento, CA.
- Van der Maarel, E. 2005. Vegetation Ecology. Blackwell Science Ltd., Malden, MA.

DEPARTMENT OF TRANSPORTATION

District 9
 500 South Main Street
 Bishop, CA 93514
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 FAX (760) 872-0754
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BUREAU OF LAND MANAGEMENT

April 19, 2011

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Bernadette Lovato, Field Manager
 Bureau of Land Management (BLM)
 351 Pacu Lane, Suite 100
 Bishop, California 93514

File: 09-FED
 NOI/NOP
 SCH #: 2011041008

Jan Sudomier
 Great Basin Air Pollution Control District (GBUAPCD)
 157 Short Street
 Bishop, California 93514

Dear Ms. Lovato and Ms. Sudomier:

Casa Diablo Geothermal IV - Notice of Intent/Preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS)

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the geothermal power project, for which the BLM and GBUAPCD are Lead Agencies, located near US-395 and State Route 203 (SR-203). We interacted with project proponents last year. We offer the following regarding environmental analysis and design.

- SR-203 Recycled Water Pipeline - In March 2011 we had provided comments for the route currently shown. The Caltrans permitting process would be simplest if the Mammoth Community Water District (a public utility) was the owner/operator (e.g. permittee) of the water line, instead of a private utility company (i.e. ORMAT). ORMAT could be the permittee, but Caltrans Headquarters involvement/approval would be required via the exception process.

Although ground has already been disturbed closer to the highway shoulder, the pipeline must be located farther from the highway - near the edge of the right-of-way (R/W). This ensures the pipe would not impede any future highway work/maintenance. However, such a location could trigger more environmental clearance and have some terrain challenges (hill/rocky outcrops, etc.).

A transverse Caltrans encroachment (via bore and jack) for SR-203 would be required.

- US-395 Recycled Water and Well Pipelines - For the transverse crossing under US-395, the design, permitting and construction (bore and jack) would be similar to what was done for the existing pipeline. A new encroachment permit would be required.

Bernadette Lovato
Jan Sudomier
April 19, 2011
Page 2

- All work within State R/W shall be to Caltrans standards under encroachment permit. You may contact Mark Reistetter, our Encroachment Permit Engineer at (760) 872-0674 or mark.reistetter@dot.ca.gov. Also see:

Caltrans Encroachment Permits page (manual - esp. chapter 600, application, etc.):
<http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Caltrans Highway Design Manual (esp. chapter 800):
<http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>

We value a cooperative working relationship regarding project impacts upon State highways. If you have any questions, please call me at (760) 872-0785.

Sincerely,



GAYLE J. ROSANDER
IGR/CEQA Coordinator

c: State Clearinghouse
Steve Wisniewski, Caltrans



California Regional Water Quality Control Board
Lahontan Region



Linda S. Adams
Acting Secretary for
Environmental Protection

Victorville Office
14440 Civic Drive, Suite 200, Victorville, California 92392-2306
(760) 241-6583 • Fax (760) 241-7308
<http://www.waterboards.ca.gov/lahontan>

Edmund G. Brown Jr.
Governor

FAX TRANSMITTAL PAGE

DATE: May 9, 2011

TO: JAN SUDOMIER

ORGANIZATION: GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT

PHONE NO: 760-872-8211

FAX NO: 760 872-6109

FROM: CHRISTY HUNTER PHONE: 760 241-7373

SUBJECT: COMMENTS - NOTICE OF PREPARATION FOR THE CASA DIABLO IV
GEOTHERMAL DEVELOPMENT PROJECT OF AN ENVIRONMENTAL IMPACT
STATEMENT/ENVIRONMENTAL IMPACT REPORT, MONO COUNTY, STATE
CLEARINGHOUSE NO. 2011041008

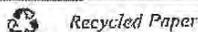
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PER YOUR REQUEST
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 INFORMATION
 RETURN COMMENTS
 SIGNATURE

COMMENTS:

x: Forms/ FAX FRM

California Environmental Protection Agency



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California Regional Water Quality Control Board

Lahontan Region



Linda S. Adams
Acting Secretary for
Environmental Protection

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Edmund G. Brown Jr.
Governor

May 9, 2011

File: Environmental Doc Review
Mono County

Jan Sudomier
Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, CA 93514-3537

COMMENTS - NOTICE OF PREPARATION FOR THE CASA DIABLO IV GEOTHERMAL DEVELOPMENT PROJECT OF AN ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT, MONO COUNTY, STATE CLEARINGHOUSE NO. 2011041008

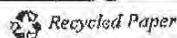
California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received a Notice of Preparation (NOP) of an environmental document for the above-referenced project (Project) on April 5, 2011. The Great Basin Air Pollution Control District will be the lead agency and preparer of the environmental document pursuant to the California Environmental Quality Act (CEQA). The U.S. Bureau of Land Management (BLM), Bishop Office, will be the lead agency and the U.S. Forest Service will be the Cooperating Agency pursuant to the National Environmental Policy Act (NEPA), as amended. The resulting environmental document is anticipated to be a joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) to satisfy the requirements of CEQA and NEPA, respectively.

Water Board staff provide the following comments in compliance with CEQA Guidelines, California Code of Regulations (CCR), title 14, section 15096, which requires responsible agencies to specify the scope and content of the environmental information germane to their statutory responsibilities. We request that the following comments be addressed and incorporated into the draft and final environmental documents prepared for the Project.

Project Description

As summarized, the Project involves building and operating a geothermal power plant (with a net power output of about 33 megawatts), a motive fluid system that uses a motive fluid (isopentane) and storage vessels (9,000 to 12,000 gallons), an air cooling system, a reverse osmosis (RO) water treatment facility and storage tank (treatment of geothermal brine for reuse), eighteen geothermal wells, associated geothermal pipelines, and a reclaimed wastewater pipeline. This Project also includes

California Environmental Protection Agency



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decommissioning of the power plant following the plants' 30-year operation. The air cooling system would rely on dry cooling during most months; however an evaporative assist system would also be used during the warmer months. The evaporative assist system would involve spraying air-cooled condensers with either recycled water from the Mammoth Community Water District (MCWD) wastewater treatment plant, or treated brine (geothermal brine). Recycled wastewater would be piped from the MCWD plant through a pipeline.

The Project would be located on public land managed by the BLM on leases No. CA-11667 and CA-11667A and in sections 29 and 32, Township 3 South, and Range 28 East MD Base and Meridian. This site is east of U.S. Highway 395 at State Route 203, about two miles east of the Town of Mammoth Lakes in Mono County.

Basin Plan

State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect water quality within the region. All surface waters are considered waters of the State, which include, but are not limited to, drainages, streams, washes, ponds, pools, or wetlands, and may be permanent or intermittent. All waters of the State are protected under California law. Additional protection is provided for waters of the United States (U.S.) under the Federal Clean Water Act (CWA). For Project activities that involve alteration, dredging, filling, and/or excavating activities in waters of the State, such activities may constitute a discharge of waste¹, as defined in California Water Code (CWC), section 13050, and could affect the quality of waters of the State.

The EIR should provide an analysis of potentially significant impacts to all drainages, wetlands, surface waters of the State, waters of the U.S., or blue-line streams in and around the Project. Activities associated with this project should also be evaluated with respect to potential impact to groundwaters beneath the Project as a result of well installation activities and plant operation. Impacts to surface water bodies should be evaluated with regard to changes in channel form, flow regime, and sediment supply, as appropriate. Mitigation measures must be identified and discussed in the environmental document. The evaluation should also consider the cumulative impact of in-stream filling with regard to down stream development. For more information, please see the Basin Plan, which can be accessed through our website at <http://www.waterboards.ca.gov/lahontan>.

We request that the environmental documents reference the Basin Plan in the water quality impact analysis for the Project and require that the Project proponent comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan.

¹ "Waste" is defined in the Basin Plan to include any waste or deleterious material including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code, section 13050(d).

Low-Impact Development

The foremost method of reducing impacts to watersheds from development is "Low Impact Development" (LID), the goals of which are to maintain a landscape functionally equivalent to predevelopment hydrologic conditions and to minimize generation of non-point source pollutants. LID results in less surface runoff and potentially less impacts to receiving waters, the principles of which include:

- Maintaining natural drainage paths and landscape features to slow and filter runoff and maximize groundwater recharge;
- Reducing the impervious cover created by development and the associated transportation network; and,
- Managing runoff as close to the source as possible.

Planning tools and manuals to implement the above principles are readily available to provide specific guidance regarding LID.

Permitting Requirements

If this Project involves land disturbance of more than 1.0 acre in aerial extent, then the Project proponent must develop a Storm Water Pollution Prevention Plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit and/or NPDES General Industrial Storm Water Permit (for commercial projects). For activities that involve discharge of fill material in water bodies, then water quality certification for federal waters; or Waste Discharge Requirements for non-federal waters may be required. Waters of the State or waters of the U.S. may be permanent or intermittent. Waters of the State may include waters determined to be isolated or otherwise non-jurisdictional by the USACE.

We request that appropriate sections of the environmental documents be revised to reflect the potential permitting requirements, as outlined above. Information regarding these permits, including application forms, can be downloaded from our website at <http://www.waterboards.ca.gov/lahontan>.

Recycled Wastewater Reuse

The Project would include using recycled wastewater in the evaporative cooling process of the power plant. Environmental impacts from this use should evaluate health impacts to site workers and off-site overspray from these activities. Also please note that the current State of California Water Recycling Criteria (adopted in December 2000) require the submission of an engineering report to the California Regional Water Quality Control Board (RWQCB) and the Department of Health Services (DHS) before recycled water projects are implemented. These reports must also be amended prior to any modification to existing projects. The purpose of an engineering report is to

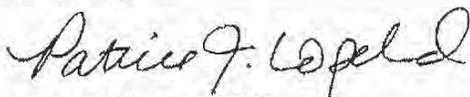
May 9, 2011

describe the manner by which a project will comply with the Water Recycling Criteria. The Water Recycling Criteria are contained in Sections 60301 through 60355, inclusive, of the California Code of Regulations, Title 22.

Please note that obtaining a permit and conducting monitoring does not constitute adequate mitigation. Development and implementation of acceptable mitigation is required.

Thank you for providing Water Board staff with the opportunity to review and comment on this document. If you have any questions or need more information, please contact me at (760) 241-7373 or chunter@waterboards.ca.gov, or Patrice Copeland, Senior Engineering Geologist at (760) 241-7404 or pcopeland@waterboards.ca.gov.

Sincerely,



for: Christy Hunter, P.G.
Engineering Geologist

cc: State Clearinghouse

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MAMMOTH COMMUNITY WATER DISTRICT

Post Office Box 597
Mammoth Lakes, California 93546
(760) 934-2596 ext. 222
Website: www.mcwd.dst.ca.us



May 10, 2011

Great Basin Unified Air Pollution Control District
Attention: Ms. Jan Sudomier
157 Short Street
Bishop, CA. 93514

Dear Ms. Sudomier,

The Mammoth Community Water District (MCWD) is submitting the following scoping comments for the ORMAT Casa Diablo VI Development Project (Project), in response to the federal Notice of Intent published March 25, 2011. MCWD is responsible for safe, reliable, affordable water supply to the community of Mammoth Lakes and the surrounding area. MCWD provides municipal drinking water supply, wastewater collection and treatment, and recycled water supply services within its service area. Our primary areas of concern regarding the resource studies (scoping) and Project alternatives involve potential impacts to regional hydrology and groundwater resources, and the potential benefits to both the Project owner and the local community from the use of recycled water as a component of the Project alternatives. This letter provides comments on scoping and Alternatives below.

Resource Categories for Analysis, Project Linkage, and Potential Impacts of Concern

Hydrology and Water Quality

Groundwater hydrology: Based on the approximately 200% increase in power production noted in the Project Description (NOI/NOP), the project is expected to result in a proportional increase (with some-setting reductions through more efficient power plant design) in the extraction and re-injection of a large volume of geothermal brine from the deep layers of the Mammoth Groundwater Basin. This level of pumping and re-injection, in differing areas of the aquifer, has the potential to cause negative impacts by changes in hydraulic head between upper and lower aquifer layers. This in turn could cause changes in water quality and water supply availability to MCWD water supply wells which operate in the upper (approximately 700 feet) layers of the aquifer. The MCWD groundwater wells are a critical part of the current and long term water supply for the community of Mammoth Lakes. Questions to be addressed should include:

- Do public and proprietary ORMAT monitoring data show a potentially significant interaction between the aquifer levels under current conditions? What changes in inter-action, both qualitative and quantitative, will occur from the long term increase in brine pumping and re-injection?
- Are the geothermal reservoir computer simulation model boundary conditions for the upper aquifer consistent with those of the District's groundwater simulation model developed in 2009? Are the models consistent in terms of mass balance, vertical hydraulic conductivity, upper/lower aquifer boundary conditions, and primary recharge and extraction mechanisms?
- Under sustained multi-year drought, will the contributing upper aquifer zones' decreased recharge to the thermal reservoir, combined with the large increase in brine pumping, cause inter-annual head changes that result in lowering of the overlying upper aquifer heads and water supply well pumping levels?
- Will there be independent technical review to support conclusions presented by the project owner's contracted or in-house technical specialists regarding impacts to groundwater hydrology? MCWD believes that this could be achieved by having the respective technical staff of the USGS, BLM, and USFS who support the Long Valley Hydrologic Advisory Committee (LVHAC) provide this independent review.
- Will the final location / selection of the 16 potential extraction / re-injection well sites influence the changes to the upper aquifer in the context of the above questions? Will the modeling analysis consider through Monte-Carlo or similar uncertainty / sensitivity analysis, optimization analysis, or similar methods the long term differences in impacts of the final extraction / injection site locations, out of the 16 possible locations?
- What design, construction, and permitting standards will be followed for abandonment of monitoring, production, and injection wells to ensure there is not vertical "cross connection" between the aquifer layers which would negatively impact municipal water supply and / or shallow groundwater interactions with surface water features?
- Assuming about 1 MG per day of consumptive extraction from the use of Reverse Osmosis (RO) brine supply for cooling water supply, what would be the impact of extracting 300 to 400 ac-ft per year from the geothermal reservoir, compared to the current "zero net extraction" practice under ambient cooling only and near 100% re-injection of brine? For context, the current average annual groundwater pumping by MCWD is approximately 1,600 ac-ft. Therefore, a 25% increase in net extraction of groundwater resources would be expected with the consumptive use of brine for evaporative cooling. The impacts of this net groundwater extraction on the aquifer should be evaluated.
- Surface Water Hydrology- Based on the results of the groundwater hydrology analysis, will there be impacts to surface water features in the central and eastern portions of Mammoth Creek, due to lowered seasonal groundwater levels? Will these changes in turn impact aquatic habitat and/or water supply reliability to downstream surface water users?
- Use of Recycled Water for Hybrid Cooling- could the use of recycled water for hybrid cooling reduce the net annual geothermal brine extraction levels (for the target annual power production), and utilize the brine resource more efficiently to off-set any of the above potential impacts from net consumptive geothermal brine use? What is the quantitative impact of this use as measured by the

number of required brine extraction wells and resulting disturbance areas, and reduced parasitic loads at the power plant complex from reduced brine pumping loads and / or reduced RO treatment system power consumption?

- Use of Recycled Water for Construction- will the construction of the new wells, pipelines, power plant, and related infrastructure result in a significant amount of consumptive water use? Can that water supply need be met through use of recycled water available from MCWD, to reduce demands on potable supply?

Greenhouse Gas Emissions and Climate Variability

Based on the future power plant's efficiency and ability to support both base and peak power demands compared to only base power generation, are there greater or lesser off-sets of carbon based power generation sources? GHG emissions, climate variability, and water supply in the Easter Sierra are firmly linked by established climate models. Can the power plant be designed and operated in a manner to maximize off-setting use of carbon emitting power sources, taking into account established patterns of regional power generation in relation to major power source types' carbon load per unit power generation (tons of GHS emission per MW-hr)? For example, the past study by Mammoth Pacific for this same power plant complex, submitted several years ago to the California Energy Commission, estimated that increased power production of 15 Giga-watt hours (GWh) from use of recycled water for hybrid cooling could offset 7,700 tons of carbon dioxide emissions annually, compared to conventional natural gas power plant emissions.

Please see the National Renewable Energy Laboratory 2011 study executive summary (*Hybrid Cooling Systems for Low Temperature Geothermal Power Production*), attached, for conclusions supporting the increased efficiency and favorable financial payback for use of hybrid cooling systems. The "project fact sheet" for the previously noted CEC/Mammoth Pacific study is also attached.

Socio-Economic Impacts

Based on the future power plant's power generation profile and revenue generation, there may be some change to the financial impact of the project through the federal royalties allocation to Mono County. MCWD is located in and serves a significant portion of the population of Mono County. The socio-economic condition of the Mono County population, and the District's service area, is potentially influenced by the socio-economic impacts of the project through its financial impacts to Mono County. Although future power revenues can only be estimated at this time, it is assumed that they have already been roughly estimated by the Project owner in order to confirm the financial viability of the Project. The responsible federal agency should evaluate the socio-economic impacts of both the overall power generation revenue estimates and the revenue sharing agreements with Mono County to determine the relative impacts of viable revenue sharing options and power generation targets related to base and peak power generation. This evaluation should consider the impacts of both peak power generation targets and base load generation targets and the related fiscal impacts to Mono County.

Again, please see the attached National Renewable Energy Laboratory 2011 study executive summary, attached, for conclusions supporting the financial payback for use of hybrid cooling systems relative to time of use (TOU) power pricing and financial benefits to the Project owner.

Project Alternatives

Regarding the scope and range of Project Alternatives, MCWD believes the following alternatives should be considered.

- Power plant use of hybrid cooling- the following options should be evaluated, each of which has the potential to significantly impact the power plant's overall efficiency and use of limited resources. These options would be expected to influence power production for a fixed level of brine pumping, or conversely, reduce brine pumping and parasitic plant loads for a fixed power output target.
 - No use of hybrid cooling, similar to existing power plant systems at the complex.
 - Seasonal use of hybrid cooling with recycled water only, during times when ambient air temperatures support water-based evaporative cooling. Up to 1 million gallons per day (1 MGD) of cooling water may be needed, based on information released to date.
 - Use of treated geothermal brine only, using RO or similar on-site treatment.
 - Use of combined RO treatment and recycled water supply.

MCWD and ORMAT have had preliminary discussions in 2009 and 2010 regarding the feasibility and benefits of recycled water use for hybrid cooling. However, the detailed technical analyses to confirm the infrastructure features, capital and operating costs, and related regulatory clearances has not been completed.

MCWD looks forward to working with the BLM, USFS, ORMAT, and the various state and local agencies in their respective efforts in support of the NEPA EIS for this Project. Please contact me at 760-934-2596 or gnorby@mcwd.dst.ca.us if you have questions or would like to discuss further any of the information presented in this letter.

Sincerely,

MAMMOTH COMMUNITY WATER DISTRICT


Gregory J. Norby
General Manager

Attachments (2)

CC: Mr. Steve Nelson
US Bureau of Land Management



Hybrid Cooling Systems for Low-Temperature Geothermal Power Production

Andrea Ashwood and Desikan Bharathan

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Technical Report
NREL/TP-5500-48765
March 2011

Contract No. DE-AC36-08GO28308



Hybrid Cooling Systems for Low-Temperature Geothermal Power Production

Andrea Ashwood and Desikan Bharathan

Prepared under Task No. ARG.T.0910

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

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Acknowledgements

The authors would like to thank Dr. Chuck Kutscher, Mike Wagner, and Tom Williams of the National Renewable Energy Laboratory for their constructive comments and suggestions. This project was funded under the American Recovery and Reinvestment Act of 2009, with funding provided by Dr. Jay Nathwani, Program Manager, U. S. Department of Energy Geothermal Technologies Program.

List of Acronyms

ACC	air-cooled condenser
ACHX	air-cooled heat exchanger
C	Celsius
DCC	direct-contact condenser
EPRI	Electric Power Research Institute
Hg	Mercury
kg/s	kilograms per second
kW	kilowatt
kW/K	kilowatt per Kelvin
kWe	kilowatt electric
m ²	meter squared
MPR	market price reference
MW	megawatt
MWe	megawatt electric
MW/K	megawatt per Kelvin
NERC	North American Electric Reliability Corporation
RMOTC	Rocky Mountain Oilfield Testing Center
Pa	Pascal (metric unit for pressure)
psi	pounds per square inch
TOD	time-of-delivery
TMY	Typical Meteorological Year
UA	overall heat transfer coefficient times the heat transfer area
µm	micrometer
WCHX	water-cooled heat exchanger
W/m ² K	watt per meter squared Kelvin

Executive Summary

The overall objective of this investigation is to identify and evaluate methods by which the net power output of an air-cooled geothermal power plant can be enhanced during hot ambient conditions using minimal amounts of water.

Geothermal power plants that use air-cooled heat rejection systems experience a decrease in power production during hot periods of the day. This decrease in power output typically coincides with the time when utilities need power to address high air conditioning loads. Hybrid cooling options, which use both air and water, have been studied for this report to assess how they might mitigate the net power decrease.

Hybrid cooling options can be used in sites where some water is present for supplemental cooling, though not enough for a fully wet-cooled system. This report addresses binary power plants that use a hydrocarbon as the working fluid and utilize an air-cooled condenser (ACC) for heat load rejection. We considered two configurations to mitigate losses in power production: 1) evaporative pre-cooling of the ACC inlet air (without the use of any added heat exchanger) and 2) the use of a water-cooled condenser/heat exchanger in parallel or series with the ACC (or an air-cooled heat exchanger (ACHX)) to split the total condenser load.

Steam cycles, though not currently used in industry for low temperature geothermal resources, were also analyzed.

An indirect method of cooling, called the Heller system (which is currently not utilized in geothermal power production), was analyzed for both steam and binary plants. In the wet-cooling assisted Heller system, an ACHX is placed in series with a water-cooled heat exchanger. The Heller system can also be used with pre-cooled inlet air, though it was not explicitly studied in this analysis. This report contains analyses of the following:

- 1) ACC and Heller dry-cooled systems. These options were modeled for both binary and steam power plants as baseline cases. Water-assisted systems were then modeled for comparison to the baseline.
- 2) Systems that pre-cool the inlet air to the ACC, such as using wetted-media, fogging, and spray systems. The deluging of an ACC was also studied. These methods do not use an added heat exchanger. Since low temperature geothermal plants are typically binary cycle power plants, these analyses were only performed for the binary cycle power plants.
- 3) An ACC in parallel with a wet-cooled surface condenser (hybrid ACC system) was studied for both the binary and steam cycle power plants.
- 4) A wet-cooled heat exchanger in series with the ACHX used in the Heller system (hybrid Heller system) was analyzed for both the binary and steam cycle power plants.

In this study, we looked at using water to carry a nominal 30% of the heat rejection load from the power plant. By limiting the duration of operation with wet-assist to 1,000 hours during a year, the overall water consumption by the plant was capped at less than 3.5% of the water use in a fully wet-cooled power system.

A basic air-cooled plant requires added equipment to implement wet-assist schemes. For the various schemes, we evaluated the cost for the added equipment. We also evaluated the incremental power produced and the associated incremental revenue for these schemes. The overall benefit of the wet-assist is evaluated in terms of payback periods. The shorter the payback, the better the system is in an economic sense.

The payback periods for each system are detailed below.

Binary Systems

- **Hybrid ACC System:** The payback period for the hybrid ACC 125°C resource temperature plant varies from 4.5 to 4.7 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons). For the 158°C resource temperature hybrid ACC plant the payback periods are longer, varying from 5.7 to 6.1 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons).
- **Hybrid Heller System:** The payback for the 158°C resource temperature hybrid Heller plant varies from 3.8 to 4.0 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons). For the colder resource temperature plant, the payback periods are somewhat longer, ranging from 6.6 to 7.2 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons).
- **Fogging System:** The high cost of the system results in payback periods of 6.1 years (assuming a water cost of \$1.38 per thousand gallons and that time-of-delivery (TOD) rates apply) for the 158°C resource temperature. The payback period for the 125°C resource temperature plant was 6.5 years (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply).
- **Spray System:** The payback period for the 158°C resource temperature plant was 0.60 years (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply). The payback for the 125°C resource temperature plant was 1 year (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply).
- **Deluge System:** The payback period for the 158°C resource temperature deluge system plant was 0.13 years (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply). The payback period for the 125°C resource temperature plant was 0.10 years (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply).
- **Wetted-Media System:** Payback periods were 9.4 years for the 158°C resource temperature plant and 7.4 years for the 125°C resource temperature plant (assuming a water cost of \$1.38 per thousand gallons and that TOD rates apply).

Steam Systems

- **Hybrid ACC System:** The payback period for the hybrid ACC system varies from 1.12-1.14 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons).
- **Hybrid Heller System:** The payback period from the hybrid Heller plant is 1.2-1.24 years (as the water cost was varied from \$0.3-\$2.46 per thousand gallons).

The payback period, however, does not tell the whole story. For each of the evaluated schemes, there are many advantages and disadvantages. One of the key considerations in our evaluation is that the wet-assist system should not interfere with the normal plant operation when the wet-assist is not operational (or needed).

With these criteria in mind, we find the following two systems as the most practical for use.

- 1) Pre-cooling the inlet air to the air-cooled heat rejection system using sprays. In this scheme, commercially available misting nozzles are placed in a grid in the path of the intake air. Mist eliminators are introduced downstream of the sprays to capture un-evaporated water droplets. The mist eliminators must be carefully selected to minimize air-side pressure loss. Pre-cooling of the inlet air has the potential to cool the air down close to its wet-bulb temperature with an effectiveness of about 75%. This scheme is effective in dry climates where there is a large difference between the air dry-bulb and wet-bulb temperatures. Payback for these systems was less than 2 years for both resource temperatures, assuming TOD rates are applicable.
- 2) Introduction of a wet-assist heat exchanger/surface condenser (hybrid ACC). In this scheme a conventional wet cooling tower is added to the system. Water from the tower takes heat away from either an added surface condenser or from the hot coolant. The tower and water streams are sized to handle about 30% of the overall heat rejection load from the plant. The other 70% of the load is carried by the air-cooled heat rejection system. This scheme uses conventional technology with readily available off-the-shelf commercial equipment. It is easy to implement. The payback period for this type of system was estimated to range from 4.5 to 6.1 years.

Considering the above two schemes, we find that the second approach requires little in terms of research and development. The first scheme, however, is suitable as a retrofit to existing air-cooled power plants. It requires evaluation of spray nozzles, manifolding, mist eliminators, and their effectiveness in actual plant operation. We propose to implement the pre-cooling inlet air approach at the air-cooled power plant currently operational at the Rocky Mountain Oilfield Testing Center (RMOTC).



Project Fact Sheet

Evaporative Cooling of Geothermal Power Plants with Recycled Water

GOAL

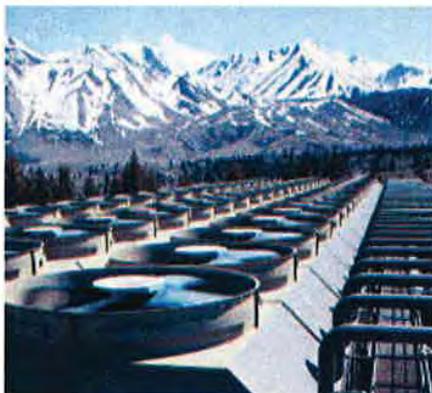
- Increase power production by up to 10 MWe during the summer months by utilizing evaporative cooling.



PROJECT DESCRIPTION

This project will increase power production of the combined G1/G2/G3 power plants by up to 10 MWe during the summer months by modifying the existing power plants to utilize evaporative cooling. Phase 1 testing of this project will include the evaluation of three different evaporative cooling technologies. Phase 2 of this project is the construction of permanent power plant modifications and the needed support systems to utilize evaporative cooling. Mammoth

Pacific Limited Partnership (MPLP) owns and operates three geothermal binary power plants with a combined on-line power generation of 32 MWe.



BENEFITS TO CALIFORNIA

This project benefits California and electricity customers by providing increased production of up to 15 GWhs of emission free electricity per year. The increased generation will come from a clean, renewable, non-fossil fuel source. California's air quality will be improved, saving the equivalent emissions of 15,450,000 lbs., of CO₂ from a gas turbine. This increased output will not emit any sulfur or nitrogen oxide emissions.

This project will improve California's electricity reliability in the near term by 1) supplying increased power, 2) reducing consumption by lowering electrical demand, 3) reducing the state's reliance on fossil fuels; and, 4) supplying more electricity from an existing facility, mitigating environmental impacts of new plant construction. The project has the potential to supply sufficient electricity for up to 10,000 households during the hottest hours of the day. The pipeline will also supply MPLP more than 800 gpm of secondarily treated waste water during the summer months for the power plants and evaporative cooling systems.

The modification of the existing power plants is of high interest to the entire power industry and may lead to a new more efficient use of water, and construction of more efficient power plants. The demonstration of this technology can significantly increase cost/value, reliability and quality of electricity.

The project also adds value added components to geothermal power development by using power plant rejection heat. During the winter months, recycled wastewater from Mammoth Community Water District's (MCWD) will be pumped to MPLP facilities. The recycled waste water will be heated and returned as supplemental heat to the MCWD digesters. In addition, the recycled wastewater will be piped to the City of Mammoth Lakes as a heat source for district heating. District heating can reduce electrical resistive power consumption and improve local air quality.

Project construction, such as the evaporative cooling system, pipeline, building foundations, interiors, painting, landscaping, paving, grading, fencing and general labor will be done with local labor. Payroll is estimated to be slightly below \$1,000,000. Local purchases of supplies and services would exceed \$100,000. Tax revenues to the county would also increase.

FUNDING AMOUNT

Commission	\$1,000,000
Match	\$4,571,678

PROJECT STATUS

Ongoing.

FOR MORE INFORMATION

Pablo Gutiérrez S.
California Energy Commission
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916-654-4663
pgutierr@energy.state.ca.us

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760.932.5420, fax 932.5431
www.monocounty.ca.gov

May 9, 2011

To: Jan Sudomier
Great Basin Air Pollution Control District
171 Short Street
Bishop, CA 93514-3537

Re: Casa Diablo IV Geothermal Development Project Notice of Preparation

Dear Ms. Sudomier:

Mono County has the following comments to make regarding the Notice of Preparation for the Casa Diablo IV Geothermal Development Project:

- 1) A reclamation plan will be required for the proposed power plant and pipeline;
- 2) Any new wells are required to be permitted by Environmental Health ; and
- 3) Encroachment and/or grading permits may be necessary from the Department of Public Works.

We look forward to participating as this project moves forward. Please contact me by e-mail at gfrancois@mono.ca.gov or by phone at 760 924-1810 if you have any questions.

Sincerely,



Gerry Le Francois, Principal Planner



OFFICE OF THE MAYOR

Skip Harvey, Mayor

***P.O. Box 1609, Mammoth Lakes, CA 93546
(760) 934-8989 x267 Fax: (760) 934-8608***

May 4, 2011

Bureau of Land Management
Bishop Field Office
Attn: Casa Diablo IV Scoping Comments
351 Pacu Lane, Suite 100
Bishop, Ca 93514

To Whom It May Concern:

As an active participant and partner in the proposed Casa Diablo IV Geothermal Development Project, the Town of Mammoth Lakes submits the following scoping comments for consideration in the drafting of the NEPA/CEQA documents.

The proposed pipeline alignment, both those crossing land within the Town's Municipal Boundary and those within the Town's Planning Area have the potential to directly impact recreational opportunities. Maintaining open access to the Inyo National Forest lands is a major component in our recognition of recreation as the economic engine for our community. In light of this, the following comments are submitted:

- Options need to be included to analyze underground and at grade options for the pipelines within any alternatives presented. The Town sees both alternatives as necessary options to reduce the barriers created by the existing above ground pipeline. The Town's General Plan has specifically called out undergrounding of utilities as a desired goal.
- In analyzing above ground pipelines, overpasses or buried sections of some type at 1,000 foot intervals will be needed beyond crossings at forest service roads so that existing user paths and future trail alignments will not face barriers.
- It has been noted that where the current pipeline is buried, the winter recreational opportunities are limited due to these sections melting faster than the surrounding snow coverage, which has directly impacted both motorized and non-motorized recreation. Further, the above ground sections also melt faster, presumably due to absorbing heat. Please analyze the snow melt rate for all alternatives.
- Regardless of the location of pipe crossings, if the pipes are above ground there will be a significant impact on recreation. Visitors and residents will lose their ability to use the entire area as a whole, as the purpose of recreating in this area is not to get over the pipes to recreate on one side or the other, it's to enjoy the entire area for recreation. The goal should not be to find a way to merely cross over the pipes just to get someplace else.

- Exposed pipes potentially pose health and safety hazards to a snowmobiler, Nordic skier, motorcycle rider or trail user not familiar with the location of the pipes who may ride into a pipe or pipe well during flat light or inclement weather conditions. Please analyze needed warning signs, pipeline identifying markers and distance needed from the pipe to prevent collisions.
- Exposed pipes also need to be analyzed for the event of a pipe break or crack and the level that such a fracture could cause due to super heated steam or liquid escaping.

Operational noise issues are also of concern to our community. Please include analysis of the following:

- Operational noise at the two existing well heads is noticeable now, due to the difference between a very low background level due to the absence of any noise sources in the forest. Please analyze against the lowest possible background noise level.
- Cumulative operational noise as additional well heads are put into operation must also be analyzed in light of the surrounding recreational uses at the lowest possible background noise level.

Air Quality at the well heads is of concern for residents and visitors recreating in this area year-round.

- Please analyze options that limit the time period between drilling, construction and up until capping of the well head so that emissions are minimized.
- Also, please list all potential emissions associated with geothermal areas.

The Town also holds a Special Use Permit with the Inyo National Forest for operations at Shady Rest Park. This facility is used for activities ranging from picnics and community gatherings to organized recreational team sports. The Town will expect to be involved in identifying potential mitigations for any impacts to Shady Rest Park that may be identified through the NEPA/CEQA process.

A clear understanding and outline of the approval process for the three decision-making bodies (BLM, Inyo National Forest, Great Basin Unified Air Pollution Control District) must be presented. During the public scoping meeting in Mammoth Lakes on April 19th, the diagram provided and the consultant response to a question did not fully explain how the potential for differing preferred alternatives among these three bodies would be resolved. This is of direct importance to the Town, as one Council member sits on the Great Basin Unified Air Pollution Control District, as well as our community representation by the two Mono County Board of Supervisors members who also sit on that Board.

We also officially request that public field trips to explain the alternatives that will be outlined in the draft EIS/EIR documents be held early within the 45 day comment period which will start once the draft documents are released. This is of vital importance to our residents and recreational user groups to fully understand and be able to fully comment on the identified alternatives.

Our community is also concerned with impacts to our groundwater wells, having adequate supplies of water to support our economic interests, and proposed uses of water by the project. The Town would like to request specific analysis of the amount of water needed for cooling, the potential impact to the charging function of our aquifer, and a feasibility study for the potential use of recycled water. The analysis should also consider the potential impacts to the aquifer in general and at the immediate vicinity. We anticipate supporting the Mammoth Community Water District in any additional concerns they identify as part of our continuing liaison with this special district whose boundaries and sphere of influence encompass nearly all of the Town's Municipal boundary.

Finally, any pre-existing stipulations from prior approvals for the entire geothermal project need to be clearly stated within the draft documents. The Town understands that there might have been such stipulations either within documents prepared for the leasing and exploration phases, which need to be fully understood.

Please note that the Town has reviewed the Pre-Scoping Stakeholder Assessment prepared by Austin McInerney Consulting, November 2010, and is in agreement with the issues noted in that document. We have included sections of that report as an attachment to this letter, so that all of those comments will be part of the official record.

In later discussions throughout the community, it has been noted that impacts on summer recreation need to be more fully identified. This area is used for a variety of recreational activities ranging from passive recreation to mountain biking, hiking and running groups/camps hosted by elite athletes.

The scoping comments detailed in this letter are a result of community meetings and the Town's on-going collaboration with many of the jurisdictions involved in this project. We look forward to working towards realization of this important renewable energy project without significant impacts to our Town and community.

Sincerely,

Skip Harvey,
Mayor, Town of Mammoth Lakes

Excerpted from Casa Diablo 4 Geothermal Development Project Pre-Scoping Stakeholder Assessment – November 2010 [edited to remove references to figures in that document.]

Major Concerns

Most interviewees expressed a need for consideration of the already completed comprehensive recreation planning that considered the needs of both summer and winter visitors to the geographic area surrounding both the proposed CD-4 power plant and its ancillary facilities.

Citing the Town of Mammoth Lakes' General Plan (2007), Draft Parks and Recreation Master Plan (January 2008), and Trail System Master Plan (2009) which all lay out goals and policies directed towards providing for a comprehensive integrated trail system, individuals wonder how the proposed geothermal project might potentially hinder future opportunities and needs, as identified by the public, for the Shady Rest Park area. Interviewees stressed that the Shady Rest Park area is open to the public and consists of motorized and non-motorized trails and that Sawmill Cutoff Road is groomed and designated for motorized and non-motorized use and provides access to an extensive network of trails and there is concern regarding potential impacts to this system.

Stakeholders are very concerned that the proposed project's piping will result in impacts to current and planned trails in and around Shady Rest Park. Stakeholders from all interest groups articulated a strong need to understand the alignment of the proposed geothermal piping from production wells to the power plant and from the power plant to the individual injection wells. With both existing summer (mountain biking, hiking, and dog walking) and winter (snowmobile, cross country skiing, and snowshoeing) activities increasing, the pipe alignment has the potential to negatively affect users of the existing trails.

Moreover, a number of interests are pursuing and have desires to see enhanced winter recreation trail opportunities and facilities for all users in the area of the proposed wells. Specifically, there are concerns with locations for the proposed wells causing conflicts in an open area, as cross country skiers do not have to follow signed trails.

Recreation interests share concerns with how the snowplowing was conducted last winter season and would like to see improvements in the future if this activity is to be included in proposed project. According to some interviewees, the snow removal along and at the end of the access road to Shady Rest Park caused both dangerous situations

for snowmobilers and parking challenges for larger vehicles. Conversely, a few respondents stated that the plowing provided for increased separation between snowmobilers and quiet sport enthusiasts and they would like to see more of this. One interviewee stated that extension of the plowed road to the test wells made access to the territory to the northeast more difficult and that it was also challenging for skiers to access the blue diamond trails that go up the knolls.

Recreation interests are concerned that the CD-4 proposed transmission pipes will force increased mixing of various user groups and produce undesirable conflicts. Shady Rest is seen as a key area of user conflict and some interviewees expressed a desire for greater separation of motorized and non-motorized uses. As stated in the Trail System Master Plan, a number of interviewees expressed their belief that separation of users was seen as a key way to have everyone's needs equitably and aesthetically met. As part of this discussion, some expressed a desire for increased discussion and consideration of possible new and expanded motorized staging areas at various locations near Shady Rest Park as well as concerns regarding the tunnel near the present courthouse construction site that provides connectivity between the north and south sides of Highway 203.

Potential future land-use changes in proposed project area raise concern. The Town of Mammoth Lakes Boundary extends beyond the Urban Growth Boundary and covers an area of approximately 25 square miles. The area within the Town Boundary, but outside the UGB includes Shady Rest Park. While the majority of the land in this area is administered by the U.S. Forest Service, the Town's General Plan does consider possible future annexation of lands within the larger planning area and, thus, there is concern about proposed uses in these areas (Goal L.6). As one interviewee observed, "we do not want to pre-empt the best use and design of the area by allowing this project before the needs of the community are taken into account."

Participants question the cumulative effects from increased water use that the CD-4 Project will require. Stakeholders are unclear as to how much water will be required for the proposed CD-4 Plant and where this water will come from. In addition, the interaction between the thermal aquifer and the somewhat shallower cool water aquifer is not well understood and increased groundwater pumping could affect the shallower aquifer which provides a significant amount of the Town's water.

Stakeholders would like to see enhanced water management integrated into the overall planning considerations for the CD-4 Project. Many interviewees stressed that the CD-4 Project might provide an opportunity to use reclaimed water from Mammoth Community Water District instead of relying on groundwater pumping. Additionally, some wondered

if the project might be able to provide heat at a reduced cost to certain buildings within the Town of Mammoth Lakes.

Need for regional look at renewable energy resources. Environmental and energy interests agree that renewable energy resources should be explored and utilized to the greatest extent practicable, but question the pace at which various efforts are currently being pursued in the Eastern Sierra region. Stating that several proposals are currently winding their way through the review and approval process, a couple interviewees wondered how the CD-4 Project fits within the context of the larger region and how this would be explored in the forthcoming NEPA/CEQA process. What are the potential cumulative effects resulting from the various projects if they were all implemented?

Information Gathering and Data Analysis

Participants were asked about technical information needed to facilitate a comprehensive public review of the proposed project. While all interviewees understood that the NEPA/CEQA environmental review process must disclose and evaluate potential impacts to a standard list of resource topics, a few participants expressed keen interest in a range of questions, highlighted below.

- What might the impacts from the increased geothermal production be on the Long Valley Caldera? Citing previous hydrologic studies undertaken by the Long Valley Hydrologic Advisory Committee Monitoring Program, one interviewee noted that decreases in thermal-spring discharge at sites within about 5 km to the east of Casa Diablo were determined to be caused by subsurface pressure declines at the geothermal well field. This study apparently also detected an increase in steam discharge at Casa Diablo and sites farther west due to increased boiling in the geothermal reservoir caused by geothermal production.
- What role with the Long Valley Hydrologic Advisory Committee play in developing and reviewing the water related needs of the proposed project?
- Exactly how much water will be required and where will needed water for the CD-4 Project come from? What is the potential for increased use of recycled water?
- How is wastewater from the CD-4 going to be being handled?
- How would decommissioned wells and the surrounding lands be restored?
- What are the potential visual/aesthetic impacts resulting from construction of the new CD-4 plant and the supporting facilities? Will the plant be visible from Highway 395?
- Exactly how large are the well pads and what will the proposed facilities look like? Will the transmission pipes be run underground?
- What is the timing of and impacts resulting from necessary construction?

- Will there be any increased noise resulting from either construction or plant operations?
- Will there be any air quality impacts resulting from either construction or plant operation?
- Will the project produce any greenhouse gases?
- What cultural resources and practices might be disturbed by the placement of the proposed plant and pipelines? How will tribal interests be involved in construction monitoring?
- What flora and fauna exist in the proposed developed areas and what are the proposed mitigations for any impacts to these species? Are sage grouse present in any of the areas?
- Does the proposed project present any impacts to public roads, including Highway 395?
- Might the proposed plant be able to provide heat for general use within the Town of Mammoth Lakes?
- What level of increased fire protection and emergency response services will be required as a result of the proposed CD-4 project?
- How might the project be affected by earthquakes and is there any chance that the increased geothermal extraction could cause an earthquake?
- Will there be any increase in surface water runoff from any of the proposed project facilities and, if so, what will be done to protect receiving waters and the surrounding lands? What is the direct effect on Mammoth Creek?
- What is the proposed snowplowing program to access the new facilities and how will this impact winter recreationalists? Will a contingency plowing program/funding be established in case Ormat ceases to plow?
- Will the project include any improvements to the Shady Rest Park? What are the anticipated levels of future recreation use in the impacted areas?
- What role is the Town of Mammoth Lakes and Mono County playing in the review of the project?

Interviewees' Suggestions

In response to questions aimed at learning what stakeholders could offer to help enhance the likelihood of successfully reviewing and implementing the proposed project, a number of useful ideas were raised, including:

- Interviewees asked for an open and collaborative process aimed at developing a comprehensive recreation plan for Shady Rest Park that provides for the many differing recreational needs. One recommended related idea is to develop motorized recreation staging at the north side of Shady Rest and non-motorized to the south side while snowplay could occur on the site of the actual park.

- There is a strong desire from all participants to see a comprehensive snow removal program that increases parking opportunities as well as provides for increased “line of sight” at crossing of the plowed routes.
- Some suggested that the community has a need for education to raise awareness about the benefits of geothermal power so concerned parties can understand what might be achieved by successfully implementing the proposed project.
- Share technical information early to help build understanding as to any potential impacts and how these have been evaluated and would be mitigated.
- Involve and expand membership of the Long Valley Hydrologic Advisory Committee in undertaking relevant analysis to estimate potential impacts to Long Valley Caldera.
- Get interested parties involved early, seek consensus and compromise. Consider undertaking a sub-regional planning effort for Shady Rest similar to what was completed for the Sherwins Area and is being initiated for the Lakes Basin area.
- Need for more outreach to engage the community and ensure participation at all future public meetings.
- Help interested parties understand technical findings and analysis by providing easy to comprehend materials.

From: [john walter](#)
To: [CasaDiabloScoping](#)
Subject: Casa Diablo IV Geothermal Development Project
Date: 05/09/2011 03:33 PM
Attachments: Scoping for Shady Rest Park area-2.doc
Scoping for Shady Rest Park area-2.pdf

Attached are the scoping comments from the Advocates for Mammoth on the Casa Diablo IV Geothermal Development Project. We Will Follow up with a hard copy by snail mail. One of the files is MS Word and the other PDF- same content. If you have any trouble with the files or have any questions feel free to contact me at 760-934-1767 or at Salt1143@gmail.com. John Walter Chairperson AfM

ADVOCATES FOR MAMMOTH

PO BOX 2005 MAMMOTH LAKES CA 93546

May 9, 2011

Bureau of Land Management
Bishop Field Office
351 Pacu Lane
Bishop, CA 93514

Attn. Casa Diablo Scoping Comments

To Whom it May Concern:

The Advocates for Mammoth is an informal organization with an emailing list of about 700 Mammoth Lakes residents and second home owners. We are dedicated to trying to preserve the quality of life for the residents and second home owners while keeping Mammoth a welcoming place for our visitors. In the past we have worked closely with the Town on zoning and planning issues with an emphasis on smart growth and strong citizen involvement in planning issues. The proposed Casa Diablo IV project has the potential to strongly impact the Town of Mammoth Lakes, hopefully for the better but possibly for the worse. We are therefore pleased to be able to offer the following scoping comments on the proposed Casa Diablo IV project.

One of the focal points for the resident's and second home owner's recreation the year around is the Shady Rest Park and the area around it. The park itself is used for a host of organized sports, principally soccer and baseball, and unorganized activities, such as skateboarding and picnicking. On a typical weekend day the number of people participating and watching must number in the many hundreds and over the course of the year they must reach the high five digits. Radiating out from the park are roads and trails, both officially recognized and user created, that receive heavy use during all seasons of the year. Other users include cyclists, OHVs, hikers, skiers, snowshoers, snowmobilers, dog walkers, birders, animal watchers, and peace-and- quiet seeking strollers. During the winter the parking lot for the park serves as a major staging area for snowmobiles who generally exit to the north. A groomed cross country ski trail system lies to the south of the park and many groups and individuals

that prefer off trail exploration exit this area to the north and east. The area is also a gateway to the forest for the users of the large Inyo National Forest Campgrounds to the south of the park. There are not many alternatives for residents and visitors who want to enjoy the public lands to the north of Mammoth Lakes since much of the northern Town boundary is privately owned with no public access.

Placing a major expansion of wells and connecting pipes into this setting represents a challenge if it is to be done without causing major impacts on the residents and visitors to Mammoth Lakes. These impacts must be fully evaluated, all reasonable alternatives considered, and meaningful mitigations adopted if there is a hope of achieving an acceptable situation of coexistence.

A good starting point would be a realistic estimation of the number of people utilizing the area for both formal and informal activities. The anecdotal data gathered by Austin McInerny Consulting is a good starting point but it should be expanded to arrive at numerical year round estimates by activity. Then meaningful alternatives or adaptations to allow for continued use and or mitigations can be planned.

Some of our specific areas of interest on the interaction of the proposed project and recreation that we think should be extensively covered in the analyses are as follows:

Pipe routing: Pipes should be designed so as not to limit access and to minimize their impact on wildlife.

Odors: Any noticeable odors from the wells and pipes would interfere with the enjoyment of the area and indicate a possible hazardous conditions.

Noise: Part of the enjoyment of an area like that around Shady Rest Park is a sense of solitude. The current background sound level should be determined as part of the determination of acceptable sound levels from the operating wells.

Recreation and Access planning: The addition of the proposed project to a recreation area with many diverse users, some of which already have

conflicts (i.e. motorized vs quiet sports advocates) calls for the development of a comprehensive plan for the area, not a piecemeal approach.

Hazards to public: The large number of people utilizing the area and the proximity to the Town should demand an extremely conservative approach to potential hazards to the public safety. Our concerns include, but are not limited to well blowouts, pressurized pipe rupture, hazardous gas release, and initiation of wild fires.

Visual: An unobtrusive and attractive appearance is one the concerns most often expressed to us by citizens and second home owners.

These above comments are concentrated on the situation around Shady Rest Park, but should also be considered all along the pipelines and well fields stretching down to US 395 as this entire area is utilized for recreation.

We think that due to the extreme environmental sensitivity of the region and since Mammoth Lakes is the center of a major recreation area for the state of California, all the normal NEPA/CEQA subjects need to be completely covered, considering the well field, the pipelines and the new generating plant. It is particularly important to look at the cumulative effects of the proposed large expansion added to the continued operation of the existing plant. Wherever possible the analyses should consider the data from the many decades of operation of the existing plant and any environmental changes that have occurred during this long term operation.

As Advocates for the citizens of Mammoth Lakes we are particularly concerned with anything that would effect the quantity and quality of our water supply and impacts on our local economy. We and many others will look forward to the complete analysis and evaluation of the effects of the cumulative brine withdrawals and re-injections on the hydrology of the basin. The hot water under the Town also represents a potential valuable resource to the Town. It has potential for use as community heating, for snow melt on streets and sidewalks and/or in large hot water spas such as those in Glenwood Springs Colorado. Effects of the Project on this potential Town resource should be included in the evaluations.

We look forward to reviewing the results of the studies, particularly in the area of proposed mitigations to the conflict between the Project and the vital Town recreation area. Any significant hazard to the citizens that can not be mitigated should be considered unacceptable. We consider mitigation of any negative impacts on the potential Town use of the hot water under the town to also be a subject of high interest. If you have any questions on these scoping comments or if we can help in any way in insuring that this project is fully evaluated feel free to contact us.

Sincerely yours,

JOHN WALTER

Chair, Advocates for Mammoth

From: [MLTPA - John Wentworth](#)
To: cabipubcom@ca.blm.gov
Cc: [Drew Blankenbaker](#); [Bill Taylor](#)
Subject: MLTPA - Comments on Casa Diablo IV Geothermal Development Project - Attention Steve Nelson
Date: 05/09/2011 10:28 PM
Attachments: 025_MLTPA_CD4_110509.zip
mltpa_emaillogo.jpg

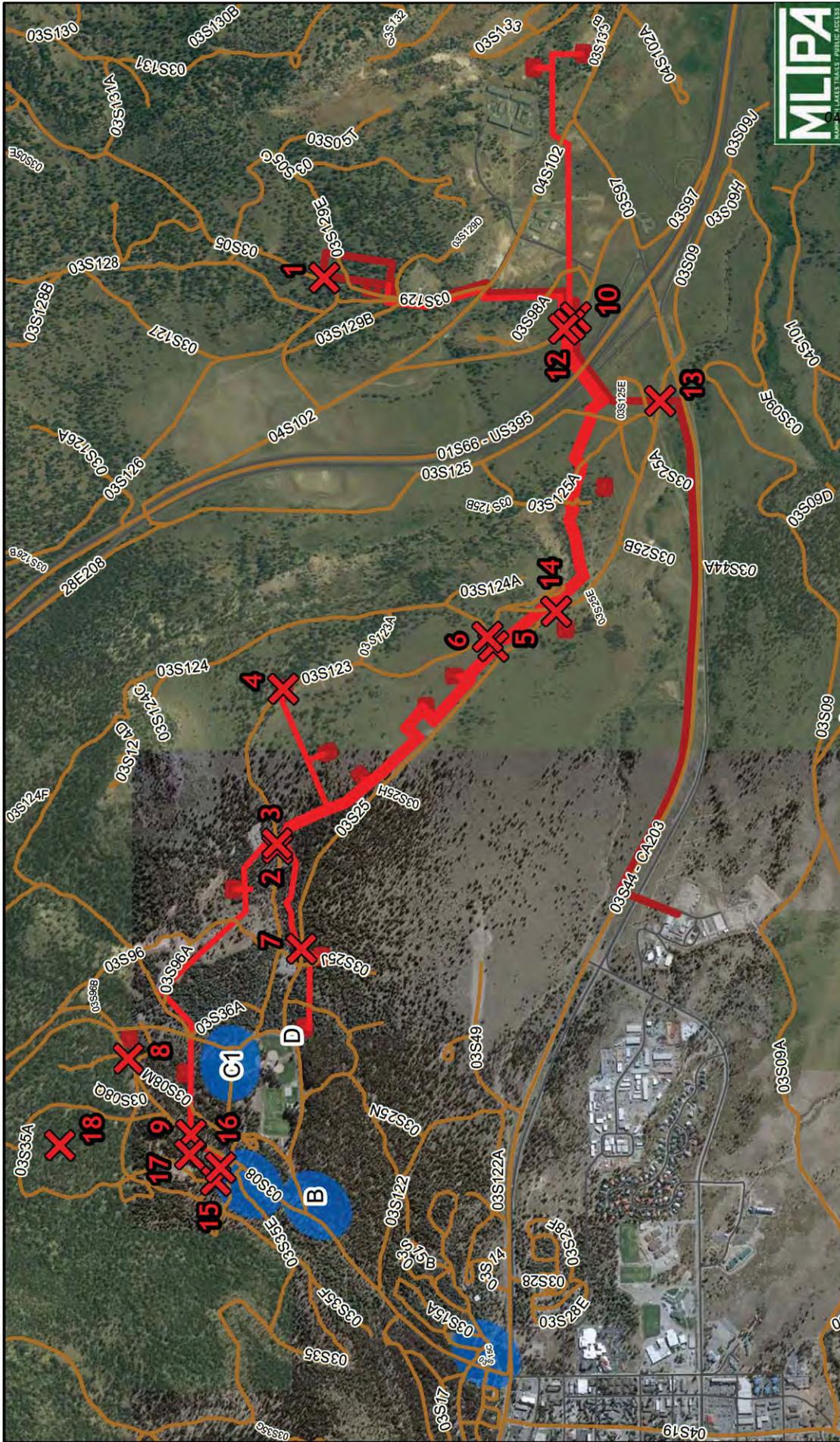
Dear BLM -

Please find attached a Zip file containing a comment letter from MLTPA (Mammoth Lakes Trails and Public Access Foundation) and three reference documents that constitute MLTPA's comments on the Cas Diablo IV Geothermal Development Project. The attached ZIP file is about 2.5 MB.

Please acknowledge receipt of this email - I will try to call in the morning as well - thanks!

john

John Wentworth
CEO/Board President
Mammoth Lakes Trails and Public Access Foundation
www.mltpa.org
(760) 934 3154 [office]
(760) 934 1279 [direct]
(213) 309 5637 [cel]



Mammoth Trails - Casa Diablo 4 Potential Recreation Conflicts Analysis

- Potential Mammoth Trails Recreation Conflicts
- Potential Shady Rest Motorized Staging Area Locations
- CD4 Proposed Pipelines
- Proposed Well and Plant Locations
- Inyo National Forest Roads

04S101A

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MAMMOTH TRAILS
RECREATION FOR ALL

Potential Conflict Number	Description
1	The proposed Plant site is adjacent to High sierra striders Route "Chalk Bluff Run", "Sunday Run", "Little Antelope Valley", and a Snowmobile "Unsigned Route"
2	Proposed facility crosses the High Sierra Striders "Shady Rest Park 4K Loop" and "Knolls Loop"
3	Proposed facility crosses the High Sierra Striders "Shady Rest Park 4K Loop" and "Knolls Loop"
4	Proposed facility crosses the High Sierra Striders "Shady Rest Park 4K Loop" and "Knolls Loop"
5	Proposed facility crosses the High Sierra Striders "Shady Rest Park 4K Loop"
6	Proposed facility crosses the High Sierra Striders "Shady Rest Park 4K Loop"
7	High Sierra Striders "Shady Rest Park 4K Loop" and "Footloose Sports Loop" and snowmobile "unsigned route"
8	Proposed Facility crosses the High Sierra Striders "Lookout/Chalk Bluff Long Run" and snowmobile "A" and is adjacent to "Knolls Loop"
9	The proposed facility crosses the High Sierra Striders "Lookout/Chalk Bluff Long Run" as well as the Snowmobile "A" route
10	The proposed facility crosses High Sierra Striders "Geothermal short loop"
11	The proposed facility crosses High Sierra Striders "Geothermal short loop"
12	The proposed facility crosses High Sierra Striders "Geothermal short loop"
13	The proposed facility crosses High Sierra Striders "Footloose Sports Loop" and a snowmobile "unsigned route"
14	the proposed facility crosses the High Sierra Striders "Footloose Sports Loop" and snowmobile "unsigned route"
15	The proposed facility is adjacent to "Knolls Loop"
16	The proposed facility crosses TSMP Recommended Trails "Shady Rest-West"
17	The proposed facility crosses TSMP Recommended Trails "Shady Rest-West"
18	The proposed facility crosses TSMP Recommended Trails "Shady Rest-West"



May 9, 2011

Bureau of Land Management
Bishop Field Office, Attn: Casa Diablo IV Geothermal Development Project
351 Pacu Lane, Suite 100
Bishop, CA 93514

Subject: Casa Diablo IV Geothermal Development Project

Dear Bureau of Land Management

On behalf of the Mammoth Lakes Trails and Public Access Foundation (MLTPA), thank you for the opportunity to provide comments at the initiation of the drafting of relevant CEQA/NEPA environmental documents regarding the proposed Casa Diablo IV Geothermal Development Project.

Shady Rest (the proposed location of the project) is home to a plethora of recreation opportunities. MLTPA is providing as comments on this initial phase of the project three documents that articulate issues that MLTPA believes should be addressed and analyzed as the project's design may be further refined in anticipation of implementation.

“Identified Potential Conflicts between proposed Casa Diablo 4 Infrastructure and Existing and Proposed Recreation Opportunities in Shady Rest” – (2_MLTPA_CD4_ConflictAnalysis_110509) MLTPA

Using data collected from a variety of user groups through “Mammoth Trails”, a confederation of local user groups, as well as analysis of the Town's draft “Trail System Master Plan” and other planning documents, MLTPA has produced a map and an accompanying list that identifies 18 potential conflicts between the proposed Casa Diablo 4 pipelines and infrastructure and current and future recreation opportunities in Shady Rest. The identified potential conflicts should be reviewed and analysis of the opportunities for potential mitigation measures should be undertaken so as to successfully accommodate existing and proposed future recreation activity and opportunities.

“Casa Diablo 4 Geothermal Development Project Pre-Scoping Stakeholder Assessment” – (3_CD-4_Pre-scoping_Summary_Final) Austin McInerney Consulting

MLTPA believes that the “Interview Findings” section of this document is excellent documentation of a full variety of the potential issues and concerns that should be considered as the project moves forward.

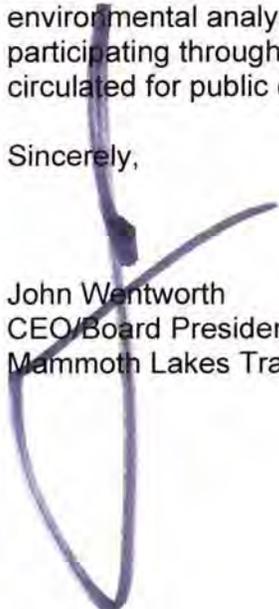
MLTPA recommends that the full variety of concerns documented in this report be reviewed and considered as part of the environmental process(s) and documented as part of the public record.

“Comments from the Town of Mammoth Lakes” –
(4_TOML_DraftCD4Comments_110430.pdf) - Town of Mammoth Lakes

MLTPA has had the opportunity to review the Town’s letter of comment dated May 4, 2011 as it was part of the Town Council agenda on May 4, 2011. MLTPA supports the comments made by the Town, believing that the Town’s comments adequately represent the interests and needs of the community and its recreation opportunities and infrastructure. MLTPA supports the analysis and response by the project to the concerns and issues identified in the Town’s letter of comment.

Many thanks for this opportunity to be involved in the initial stages of the environmental analysis of the Casa Diablo 4 project, and we look forward to participating throughout the process as draft documents are prepared and circulated for public comment.

Sincerely,



John Wentworth
CEO/Board President
Mammoth Lakes Trails and Public Access Foundation

From: [Brian Knox](#)
To: cbipubcom@ca.blm.gov; jan@gbuapcd.org
Cc: ['Kim Stravers'](#)
Subject: Mammoth Nordic comments, re: Casa Diablo IV
Date: 05/09/2011 11:17 AM
Attachments: Casa Diablo IV comments-4.28.11.pdf

Good morning BLM & Great Basin Unified Air Pollution Control District:
May 9, 2011

Please find attached our comments concerning the proposed Casa Diablo IV Geothermal Development Project.

- Your reply to confirm receiving this email is appreciated.

Thank you, & sincerely,

Brian Knox,
Mammoth Nordic Foundation
P.O. Box 1046
Mammoth Lakes, CA 93546
760.914.2637 cel
brian@mammothnordic.com



Supporting, Developing & Promoting
Nordic Recreation



Cross Country
Skiers



Snowshoeing



Dog
Trails



Winter
Walkers

Your Club for Nordic Pursuits

Bureau of Land Management
Bishop Field Office
Attn: Casa Diablo IV Project
351 Pacu Lane, Suite 100
Bishop, CA 93514
760.872.5006
cabipubcom@ca.blm.gov

RE: Casa Diablo IV Geothermal Development Project

Good afternoon:

April 28, 2011

On behalf of our community and our membership, thank you for the opportunity to provide comments regarding the proposed Casa Diablo IV Geothermal Development Project.

I was interviewed by Austin McInerney last fall regarding this proposal by Mammoth Pacific, L.P. and provided input for a Pre-Scoping Stakeholder Assessment Report, dated November 2010. Since that time, more project information has become available, allowing me to be more specific in addressing our concerns.

Our primary concern is the overall degree of impact this proposal will have on Nordic recreation in the Mammoth Lakes area. Due to the very limited area designated for non-motorized winter recreation, the impact of additional wells and pipelines will, on a percentage basis of the approximately 300 acres available for our Community Nordic Trail System, seriously impact the aesthetic quality and safety of the Nordic user experience.

Two wells currently installed, #57-25 and #66-25, are audible and visible to XC skiers using the Nordic Trail System. Proposed wells #55-31, #35-31, #23-31, #12A-31, #81-36 and #77-25 will also impact the Nordic experience in similar ways.

More significantly, proposed wells #38-25, #50-25 and #15-25 will require re-routing several established Nordic trail alignments. The installation of pipelines will create serious limitations to the manner in which we conduct our nightly grooming operations. Above-ground pipelines create barriers that cannot be navigated around. Below-ground pipelines effectively cook the ground above them, creating low-snow conditions that make our grooming operations much more costly. The installation of pipeline infrastructure, whether above or below ground, also creates "hollow snow" conditions: a false sense of stable snowpack underneath XC skis or snowshoes that can suddenly break and cause the person to abruptly stop or fall to the pipe or ground level, seriously compromising Nordic recreation safety.

Please find included our Map of the Nordic Trail System as a reference to our comments. We appreciate the opportunity to provide our input, and trust it will lead to the best outcome for all concerned. Please feel free to contact me with any questions you may have.

Sincerely,

Brian Knox
760.914.2637 cel
brian@mammothnordic.com

From: [Malcolm Clark](#)
To: cabipubcom@ca.blm.gov
Subject: Attn: Casa Diablo IV Geothermal Development Project
Date: 05/09/2011 04:26 PM
Attachments: MP Geothermal Expansion ROLG scoping letter.pdf

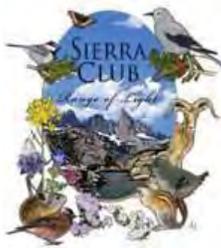
To whom it may concern:

Attached are the scoping comments of the Range of Light Group, Toiyabe Chapter, Sierra Club on the Casa Diablo IV Geothermal Development Project.

I will also follow-up with a snail mail copy for your written records.

Sincerely,

Malcolm Clark, chair
Range of Light Group
Toiyabe Chapter, Sierra Club
rangeoflight.sc@gmail.com
760-924-5639



*Range of Light Group
Toiyabe Chapter, Sierra Club
Counties of Inyo and Mono, California
P.O. Box 1973, Mammoth Lakes, CA, 93546
Rangeoflight.sc@gmail.com*



May 9, 2011

Bureau of Land Management
Bishop Field Office
Attn: Casa Diablo IV Scoping Comments
351 Pacu Lane, Suite 100
Bishop, CA 93514

To whom it may concern:

Thank you for the opportunity to comment on the proposed Casa Diablo IV Geothermal Development project. The lack of specific details concerning the final well locations, pipeline details, and plant flow rates and mass balances makes it difficult to make many detailed recommendations on the effects of the proposed expansion on the local environment or the Town of Mammoth Lakes prime recreation area. As I am sure you are aware, both the National Organization of the Sierra Club and our local Range of Light Group are firmly committed to the development of renewable energy resources. We are equally committed to working with agencies and project developers to minimize any negative impacts of such development. While we are pleased that the proponent, BLM and INF are participating in the development of alternative non-greenhouse gas producing energy sources, we feel this proposed project raises many potential problems that should be fully evaluated and resolved before it proceeds at the scope proposed. The principal potential problems revolve around conflict with the Town of Mammoth Lakes recreation areas, potential hydrological impacts of doubling the amount of water withdrawn and reinjected into the local aquifers and conducting potentially hazardous operations in an area used for large organized youth sports activities. Use of supplemental cooling water either from MLCWD or processed brine is a new feature not fully evaluated in the past and therefore should be carefully analyzed. We hope the following scoping comments will assist you in your detailed design and analysis of the project and the preparation of the NEPA/CEQA documents. It would have been useful if there had been a site visit prior to the scoping meetings as had been held prior to past Casa Diablo Geothermal Plant Expansions. We hope that the comment sessions on the draft NEPA/CEQA documents will include site visits early in the comment period.

Hydrological Effects: The analyses, studies and recommended mitigations must take into account the continued operation of the current plant. The combination of the two plants will essentially double the amount of water withdrawn from the various aquifers and reinjected into different aquifers (if the mode of operation done at the existing plant

is continued at the new facility) in addition to introducing new production wells removing water from new depths and locations. This situation should demand a complete rework and revalidation of the hydrological models used. We are particularly concerned about potential effects on stream, spring and seep flows and temperatures. In the time that the current plant has been operating, there have been specific changes in the visible activity (tree kills and vapor vents) in the Basalt Canyon area. How do these fit into the models used? The operation of the current plant has been closely followed by the Long Valley Hydrological Advisory Committee; unfortunately, much of this data and analysis is considered proprietary and is not even shared by all of the committee members. Due to the magnitude of the changes proposed (essentially doubling everything and reinjecting less water) and the collection of over 30 years of hydrological and other monitoring data, it is time for a major open review of the hydrological and environmental effects of the current plant along with the analysis of the proposed expansion. Pertinent data and studies from other facilities (Coso, Geysers, Imperial Valley etc.) should be included on critical areas such as induced earthquake activity and aquifer drawdown and recharging. Sufficient data should be made available to allow the studies, conclusions, models, designs and proposed mitigations to be independently peer reviewed. Recent questioning of the adequacy of the engineering and procedures associated with the Gulf of Mexico deep water well blowout and the fracking of natural gas wells show the wisdom of making sure everything is being done right and in an open process.

Supplemental Wet Cooling: The proposed use of supplemental water cooling raises new questions that should be carefully studied and the effects mitigated if significant. During a recent speech at the Andrea Lawrence memorial dinner the new General Manager of LADWP made a strong point that they were going completely away from wet cooling to 100% dry cooling. Casa Diablo I seems to be going the opposite direction. Why? We would like to see the following evaluated on the proposed supplemental cooling. How much water or brine will be used? What will be the capacity of the RO plant and the capacity of the recycled pipe from Town? Where will the pipe from MLCWD be run? The same comments as those in the following sections concerning the effect of pipe routing on recreation opportunities apply to the routing of supplemental water pipes. What will be the effect on the wildlife, particularly birds, if water is diverted from the Sherwin Ponds? (Take into account the water committed to future gulf courses and the conservation plans of MLCWD). What will be the visual and physical impacts of the potential plume from the supplemental cooling? If brine is used after treatment by the OS plant, less water will be injected compared to the amount of water withdrawn. What will the effect of this change be on springs, seeps, stream flows and draw down of aquifers? Please recommend appropriate mitigations for any negative impacts.

Cultural Recourses: In addition to being in close proximity to identified Native American village and obsidian quarry sites, the Basalt Canyon/Shady Rest area and the proposed new Casa Diablo plant site were used (and still may be) by the local Piate Tribes to gather and prepare Piagi, the larva of the Pandora Moth. The local Piate tribe should be consulted, and in addition to the State and Federal statutorily required surveys, monitoring, and mitigations it is recommended that local tribal monitors be used whenever there is vegetation clearing or ground disturbance.

Nesting Birds and other fauna: Activities that involve tree clearances and/or vegetation removal should be prohibited when there are tree or ground nesting birds or other critters nesting their young. This will be in the spring or early summer and the local Forest Service should provide guidance as to the exact timing.

Earthquakes from reinjecting water or brine: Going back to the discovery that injecting fluid into wells at Rocky Mountain Arsenal near Denver was causing earthquakes there have been scattered reports of this phenomena occurring. Since our local area has a history of earthquakes, the probability of the combination of the existing and the proposed plant precipitating an earthquake should be analyzed. Hopefully the data USGS and others have been collecting with down hole seismographs will assist this analysis.

Impacts on Town Recreation: The proposed well field and associated pipes essentially blanket a Town prime recreation area. As many others including the Town will be commenting on the specifics of these impacts we will limit our comments to the areas where we feel there may be specific interference with our Club activities and/or may cause environmental impacts. In addition to the use of this area by our members in their individual activities, we lead summer hikes and winter ski tours in the immediate area of the proposed project. These activities are advertised and are available free to the general public. Over the course of a year several hundred people participate in these activities in the immediate area of the proposed project. Unless there are frequent ways of getting over or under the pipes and across the canyons created by plowed roads used to access the wells it will be impossible for us to continue these activities as we have in the past. Frequent burial of the pipe at all potential crossing has been recommended by many. Some have suggested that these passage spots be at 1000 foot intervals. We recommend that the maximum distance between passages be 1000feet and that the intervals be closer in areas of existing roads, trails or frequent use. Separation between motorized and non-motorized use should be considered mandatory. Consideration of the effect on trail use (especially winter) should include recognition that while some trails are mainly within the project areas, others have their traditional points of departure in or near the project area in order to access more outlying areas. Also because various groups are concerned to expand the Nordic trails as part of a more comprehensive Nordic system in Mammoth and beyond, consideration should be given to impact on not just present use but possible impact on expanded Nordic system. Since the exact number and location of production wells will not be known until the test wells are completed, what is needed is a commitment by the operator to insure proper access and the establishment of an empowered user group to work out the details and monitor the operation of an access plan.

Visual: Particularly consider the impacts on the Town's prime recreation area -- drill rigs, wells, fencing, plumes from heat exchangers, pipes, plowed roads, and plowing berms all represent negative impacts on the residents and visitors recreation experience. Minimalizing these impacts should have a high priority.

Noise: Again consider particularly the impacts on the Town's prime recreation area. Quiet solitude is one of the treasured features of our forest around the proposed drill and production sites. The two new production wells have a distinct hum that penetrates the quiet particularly in winter. The drilling operations also produce noise and it appears that drilling will take place over a considerable time span. Please propose appropriate mitigations.

Odors: The smell of noxious gases not only indicates a potentially hazardous situation it detracts from the usefulness of the area as a recreation resource. Distinct odors were evident near the two new production wells this winter. The release of, detection of, and control of noxious gases from wells and pipes should be covered in the analyses and proposed mitigations.

Major Catastrophic Hazards: Although a major incident that would cause potentially catastrophic environmental effects or threats to the health and safety of the population is probably unlikely, the pristine and sensitive nature of the local environment and the close proximity to the general population, a major Town youth sports center and an area of widespread general recreation area; the worst case situations need to be analyzed, emergency procedures developed and mitigations proposed if warranted. Blowouts, poisonous gas release, earthquake rupture of pipes and wells, drill rig explosion, and hazardous materials spills should be included. The uncontrolled use of the area by OSV and OHV vehicles may represent a unique threat to the integrity of the high temperature brine pipes.

In view of the significant disruption to Town recreational possibilities even when the best efforts are made in layout of pipelines and roads, appropriate mitigation measures that offer some compensatory benefit to the residents and visitors should be implemented. These should be determined in consultation with the Town government but also in consultation with all interested user groups and individuals in the area.

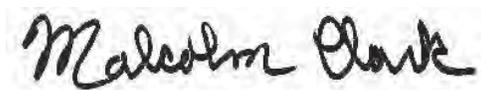
Although there is a projected life span, we realize that this span is uncertain but finite. Therefore attention should be given at this time to eventual decommissioning of the facilities. Given the impact on trail use and the visual impact in the immediate area of the Town, removal of pipelines, and restoration of well pads and roads to their pre-construction state should be ensured.

Although additional wells will be phased in over time, to minimize impact on the Town and local users it is desirable that initial construction and start of operation of the new and expanded facilities be completed within as short a time as possible. One year would be ideal although the uncertainty of the winter snow season and the possible need to avoid construction in some areas during nesting times may make this unfeasible.

Specific procedures and commitments for on-going monitoring during the life of the project should be included in the final environmental documents – e.g., on water levels, recreational access, etc.

We will be happy to discuss any of these concerns in detail with you and thank you again for the opportunity to comment. Our thanks also go to Mammoth Pacific's outreach in meeting with us both individually and at one of our monthly group meetings and for the opportunity given to discuss our concerns of our members who were among those interviewed by the consultant, Austin McNerny.

Sincerely,

A handwritten signature in black ink that reads "Malcolm Clark". The signature is written in a cursive style and is centered on the page.

Malcolm Clark, chair
Range of Light Group
Toiyabe Chapter, Sierra Club
760-924-5639

From: [Malcolm Clark](#)
Reply To: wmalcolm.clark@gmail.com
To: cabipubcom@ca.blm.gov
Subject: Casa Diablo Geothermal Project
Date: 04/18/2011 02:46 PM

Please add my email contact to your mailing list for the Casa Diablo Geothermal Project. I already have the NOP (GBUAPCD) and the NOI, and intend to attend tonight's public scoping meeting.

Thank you,

Malcolm Clark
Wmalcolm.clark@gmail.com
PO Box 3328, Mammoth Lakes, CA 93546
760-924-5639

To: cabipubcom@ca.blm.gov

Attention: Casa Diablo IV Geothermal Development Project

Re. Casa Diablo IV Geothermal Development Project Scoping Comments

➤ **Submitted May 9, 2011**

Submitted by: Lisa Isaacs
Mailing Address: P.O. Box 1303, Mammoth Lakes, CA 93546
Email Address: lisaaisaacs@earthlink.net

To whom it may concern,
After attending the April 18th and April 20th public scoping meetings addressing the EIR/EIS process for the above project, I have the following comments and questions for your attention and consideration:

1. Why are the proposed finished production and injection well pad areas as large as ~.4 acres each? Considering the total amount of 16 proposed well sites, what can be done to reduce the total area of permanent impacts? How can the surface area of each finished well site be reduced? Can the pad surface area be reduced and/or permeable in areas that don't support direct weight or machinery? Can gravel be used around a reduced pad area vs. paving the whole area? .4 acres per pad seems a bit large considering the use.
2. Is it necessary to disturb and negatively impact a total area of ~2.5 acres per well pad during construction? What practices can be employed to reduce this impact area?
3. What will be done to restore/mitigate the impacted construction area of each well pad once completed? Can flora and other natural materials that are disturbed, scraped and removed during construction be replaced/replanted once pad is completed? What techniques are being considered for construction area restoration?
4. What is the total length and surface area of proposed above-ground pipelines?
5. Considering the negative impacts on the local viewshed from the proposed above-ground pipelines, how will Ormat offset this impact? Can pipelines be undergrounded in areas of concentrated visual impacts, such as within the Hwy. 395 viewshed corridor, and/or in areas adjacent to concentrated recreation uses, such as near established biking, XC skiing and walking corridors and trails? If not, what will be done to mitigate and offset this negative viewshed impact?
6. Can all new necessary proposed transmission lines be undergrounded as other Mammoth Lakes power lines are, as opposed to stringing new lines?

7. Will local, qualified workforce be given preference for construction and facilities operations jobs created by proposed project? How will this be accomplished?
8. Can reclaimed/recycled water be used in cooling process vs. potable, municipal water source?
9. How will air quality impacts and potential leaks be monitored in areas surrounding wells and new power plants? Will monitoring be ongoing in real time or occasional?
10. Considering the archeological significance and richness of proposed pipeline and power plant sites, how will impacts to archeological resources be mitigated?
11. What public educational/interpretive programs and displays are planned to 'tell the story' to local residents and visitors alike?
12. How much money will Mono County annually receive from new project revenues if completed as proposed?
13. Considering current levels of auditory impacts created by existing Ormat geothermal facilities, how will additional, increased noise impacts be offset? What studies have been completed to assess increased noise levels on local fauna? What were the findings?
14. Considering the Casa Diablo project's large monetary value to the project proponent, Ormat, how will the local region and its residents be guaranteed to benefit from the project other than tax revenues paid to Mono County?

Thank you very much for your time and consideration. I look forward to your response.

Respectfully submitted,
Lisa Isaacs

From: [Agha, Mirza](#)
To: cabipubcom@ca.blm.gov
Subject: Casa Diablo IV Project 2011
Date: 04/07/2011 08:05 PM

Dear Steven Nelson,

We are an Environmental Assessment group of students from the University of Redlands conducting a class study for your new Casa Diablo IV Geothermal Development Project (CACA 11667). If possible we would like access to the project proposal, and maps of the area. We plan to use the information to better our understanding of Geothermal Development Projects in the state of California.

Your help would be greatly appreciated,

Mirza Agha and Matthew Meuser



May 9, 2011

Ms. Bernadette Lovato
Field Office Manager
Bureau of Land Management
351 Pacu Lane, Suite 100
Bishop, CA 93514

Dear Ms. Lovato:

I strongly support the expansion of geothermal energy in the Eastern Sierra. Binary geothermal energy production is one of the most benign ways of producing energy in California and in the Eastern Sierra.

This form of energy production is most in keeping with the wild nature of our area and far surpasses wind farms on the ridges of the Eastern Sierra or a solar farm on the dry Owens Lake. Unlike these proposed wind and solar energy alternatives, Mammoth Pacific Geothermal blends into the landscape and operates almost unnoticed in the background of the Mammoth Lakes area.

While any energy production facility is going to have impacts on the area, this is the most benign alternative. I want to urge the Mono County Supervisors to consider the development of a Mule deer herd range and migration corridor mitigation fund. This fund would provide developers in or adjacent to the Mule deer winter range, summer range, and migration corridors a way to meaningfully mitigate their projects' impacts on deer mortality by funding highway fencing and undercrossings.

I also want to urge BLM and Mono County to consider other geothermal energy production sites in the County. This kind of development will provide County residents with green jobs in the future while retaining the wild and natural qualities that make the Eastern Sierra such a unique landscape.

Thank you,

Liz O'Sullivan

From: [Michael O'Sullivan](#)
To: cabipubcom@ca.blm.gov
Subject: Casa Diablo IV Project Scoping Comments
Date: 05/09/2011 10:10 AM

BLM
Bishop Office

Hello:

The public scoping period for the Casa Diablo IV Project ends today. I would like the EIR to address impacts the project will have on the Sherwin Mule Deer herd migration corridor and what mitigations can be taken to lessen the impact on the deer herd.

Other than the deer herd issue, which I think can be mitigated, I am an enthusiastic supporter of the proposed geothermal power well field and new power plant. While I do not normally endorse industrial development on our public lands, I feel that the geothermal resources in our area should be used to maximum capacity for electrical generation. The current Mammoth Pacific geothermal well sites, pipeline, and power plant are blended into the landscape so well that most tourists are not even aware of the plant.

I will comment once the EIR is released for public comment.

Michael O'Sullivan
133 Summit Road
Bishop, CA 93514
toucan@endemic.com

From: Sysum.Scott@epamail.epa.gov
To: cabipubcom@ca.blm.gov
Subject: Mailing List
Date: 04/01/2011 06:55 AM

Hi

I would like my name added to your mailing list for the Casa Diablo IV Development Project. Also we were wondering why you are initiating and EIS now, and what environmental documents were prepared for Casa Diablo units 1-3.

v/r
Scott Sysum

NOWCC-Energy Specialist
U.S. EPA Region IX
Environmental Review Office
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San Francisco, CA 94105
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