

# **RECORD OF DECISION**

## **Casa Diablo IV Geothermal Development Project**

### **Mono County, California**

Lead Agency:

*United States Department of the Interior  
Bureau of Land Management*

Case File Number: CACA 054722

### **Casa Diablo IV Geothermal Development Project Decision to Approve Application for Geothermal Drilling, Commercial Use, Site License, and Construction Permit**

*United States Department of the Interior  
Bureau of Land Management  
Bishop Field Office  
351 Pacu Lane, Suite 100  
Bishop, CA 93514*

**August 12, 2013**



Cooperating Federal Agency:

*United States Forest Service, Inyo National Forest*

Cooperating State Agency:

*Great Basin Unified Air Pollution Control District*

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# 1.0 Introduction

The purpose and need for action by the United States Department of the Interior (DOI), Bureau of Land Management (BLM), considered in this Record of Decision (ROD) is to respond to an application filed by Mammoth Pacific, L.P. (MPLP) to construct, operate and maintain, and decommission the Casa Diablo IV Geothermal Development Project (CD-IV Project) as described in the “Application for Geothermal Drilling, Commercial Use, Site License, and Construction Permit; Plan of Development (POD), Plan of Operation and Plan of Utilization (POU)” submitted to the BLM on February 17, 2010 and revised on June 5, 2012 (MPLP, 2010 and 2012). Subsequent to the application being filed, MPLP was acquired by Ormat Nevada Inc., which has formed a wholly owned subsidiary (ORNI 50, LLC) to implement the CD-IV Project. As proposed, the CD-IV Project would be constructed on BLM-administered federal geothermal leases located on National Forest System lands managed by the U.S. Forest Service, Inyo National Forest, in compliance with the Geothermal Steam Act of 1970, Section 103(c) of the Federal Land Policy and Management Act of 1976, as amended (FLPMA) and other applicable laws, policies, and regulations.

Specifically, ORNI 50, LLC is requesting authorization to construct, operate and maintain, and decommission the CD-IV Project, a proposed commercial geothermal power generation facility that would include a power plant, well field, pipelines, and associated infrastructure on portions of BLM-administered federal geothermal leases CACA-11667, CACA 11672, CACA-14407, and CACA-14408. The proposed CD-IV Project is located in the vicinity of the existing Casa Diablo geothermal complex near Mammoth Lakes in Mono County, California.

This ROD documents the decision of the BLM to allow geothermal development and related use and occupancy on the affected federal geothermal leases. This ROD approves the construction, operation and maintenance, and decommissioning of a 33 net megawatt (MW) binary power plant composed of two Ormat Energy Converters (OECs); the development of an expanded geothermal well field; and, the construction of pipelines to bring the geothermal brine to the power plant and pipelines to take the cooled brine to injection wells.

The analysis of potential effects of the applicant’s proposed action and alternatives on the human environment was documented in the Final Environmental Impact Statement/Environmental Impact Report (Final EIS/EIR) for the CD-IV Project prepared by the BLM Bishop Field Office, Inyo National Forest, and Great Basin Unified Air Pollution Control District. The cooperating agencies prepared the Final EIS/EIR in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), the FLPMA, the California Environmental Quality Act of 1970 (CEQA), and other applicable authorities. The selected alternative for implementation of the CD-IV Project is Alternative 3, the Modified Pipeline Alternative, which was analyzed as the Agency Preferred Alternative in the Final EIS/EIR.

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The selected alternative will assist the BLM in meeting the following management objectives:

- Executive Order 13212, dated May 18, 2001, which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the “production and transmission of energy in a safe and environmentally sound manner.”
- The Energy Policy Act of 2005, which sets forth the “sense of Congress” that the Secretary of the Interior should seek to have approved non-hydropower renewable energy projects on the public lands with a generation capacity of at least 10,000 MW by 2015.
- Secretarial Order 3285A1, dated March 11, 2009, and amended on February 22, 2010, which “establishes the development of renewable energy as a priority for the Department of the Interior.”
- The President’s Climate Action Plan, released June 25, 2013, which is intended to reduce carbon pollution, prepare the U.S. for the impacts of climate change, and lead international efforts to address global climate change. To ensure America's continued leadership in clean energy, the Climate Action Plan set a new goal for the Department of the Interior to permit enough renewable electricity generation from the public lands to power more than 6 million homes by 2020. This goal will require the approval of 20,000 MWs of renewable energy projects on the public lands by 2020.

## 2.0 Overview of Alternatives

In the EIS/EIR, the BLM and cooperating agencies evaluated three action alternatives, each of which contemplated the construction of a 33-MW geothermal power plant, an expanded well field with up to 16 geothermal wells, and associated pipelines and infrastructure. The action alternatives differ in the location of the power plant and the location of one well and pipelines. A No Action alternative was also considered. Alternative 3, the Modified Pipeline Alternative, was identified as the Agency Preferred Alternative in the Final EIS/EIR.

The **Proposed Action** would consist of the following facilities:

1. A geothermal power plant consisting of two Ormat Energy Converter (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-IV 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. Additional components of the power plant would include:
  - a) A motive fluid system consisting of motive fluid (n-pentane) storage vessels (either one or two vessels in the range of 9,000 to 12,000 gallons) and motive fluid vapor recovery systems (VRUs). Each VRU would consist of a diaphragm pump and a vacuum pump.

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- b) A new substation that would be constructed on the power plant site and would be connected to the existing Southern California Edison (SCE) Casa Diablo Substation at Substation Road.
  - c) An overhead 33 kV transmission line approximately 650 feet (198 meters) long that would connect the power plant substation with the SCE Casa Diablo Substation.
2. Up to 16 geothermal wells are proposed. Fourteen (14) of the wells would be located in the Basalt Canyon area and 2 wells would be located southeast of the proposed power plant east of U.S. Highway 395. The specific locations for these wells would be selected out of 18 possible locations. The actual number of wells required may be less depending on the productivity of the wells. The final number and location of wells would be determined by modeling and actual drilling results. 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 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. Thirteen (13) of the 18 proposed well locations in the project area were analyzed and approved for exploratory well development during previous environmental reviews (BLM 2001 and BLM 2005). Two (2) of these previously approved exploratory wells were drilled in 2011.
  3. Piping would extend from the production wells to the power plant and from the power plant to the individual injection wells. Two main pipelines would parallel the existing Basalt Canyon pipeline and would cross beneath U.S. Highway 395 between the well field and the CD-IV power plant site. Where pipelines must cross another pipeline or a road, the crossings would be underground.
  4. Power and control cables for the wells would be installed in above-ground cable trays placed on the pipeline supports. Ancillary facilities would include pumps, tanks, valves, controls, and flow monitoring equipment.

**Alternative 2, Plant Site Alternative**, would have located the CD-IV power plant and related facilities to the east of the existing Casa Diablo geothermal complex power plant facilities. Geothermal production and injection pipelines to Basalt Canyon that are located west of U.S. Highway 395 would be the same as the Proposed Action. East of U.S. Highway 395, the pipelines would proceed east to the Alternative Plant Site rather than north as under the Proposed Action. Where pipelines must cross another pipeline, the crossings would be underground. Power plant and well field construction, operation and maintenance, and decommissioning would be the same as the Proposed Action.

**Alternative 3, Modified Pipeline Alternative (Selected Alternative)**, modifies the geothermal production and injection pipeline alignments in Basalt Canyon, slightly alters the location of proposed well 26-30, and places pipeline crossings underground. The purpose of the pipeline alignment changes and the well location change under this alternative is to minimize and avoid potential effects on biological and cultural resources and to reduce potential visual effects. Power plant and well field construction, operation and maintenance, and decommissioning would be the same as the Proposed Action. This alternative was identified as the Agency Preferred Alternative in the Final EIS/EIR.

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**Alternative 4, No Action Alternative**, would not authorize the construction, operation and maintenance, and decommissioning of the CD-IV Project. Therefore, no currently unauthorized CD-IV-related geothermal production or injection wells, or new pipelines, would be constructed in Basalt Canyon, Upper Basalt Canyon, or east of U.S. Highway 395. In addition, the proposed geothermal power plant, substation and transmission line would not be constructed.

It is important to note that the operation of existing geothermal facilities will be unaffected by any final decision on the CD-IV Project. The three existing geothermal power plants (MP-I, MP-II and PLES-I), the existing pipeline from Basalt Canyon, and two existing production wells will continue operating in accordance with their respective permits. Similarly, under the No Action Alternative, previously approved geothermal exploration in Basalt Canyon and Upper Basalt Canyon is expected to continue. Specifically, there are prior approvals that authorize up to 10 slim hole (small diameter) and 6 large diameter exploratory geothermal wells in Basalt Canyon and Upper Basalt Canyon.

## **2.1 Environmentally Preferred Alternative**

In accordance with 40 CFR 1505.2(b), the BLM has identified Alternative 4, the No Action Alternative, as the environmentally preferred alternative because it would not create any new surface disturbance in the project area and therefore would not result in any adverse environmental impacts.

Of the action alternatives, the BLM has identified Alternative 3, the Modified Pipeline Alternative (Selected Alternative), as the environmentally preferred alternative because of the reduced environmental impacts on biological, cultural and visual resources relative to both the Proposed Action and Alternative 2, the Plant Site Alternative.

## **3.0 Decision**

The BLM's decision is to approve Alternative 3, the Modified Pipeline Alternative, which was analyzed as the Agency Preferred Alternative in the Final EIS/EIR. This decision constitutes approval of the "Application for Geothermal Drilling, Commercial Use, Site License, and Construction Permit; Plan of Development (POD), Plan of Operation and Plan of Utilization (POU)" submitted by MPLP on February 17, 2010 and revised on June 5, 2012. This decision will allow for the construction, operation and maintenance, and decommissioning of the CD-IV Project on portions of BLM-administered federal geothermal leases CACA-11667, CACA 11672, CACA-14407, and CACA-14408 located on National Forest System lands managed by the Inyo National Forest in Mono County, California.

The authorized power plant site is located on federal geothermal lease CACA-11667 in Sections 29 and 32, of Township 3 South, Range 28 East, MDB&M, located northeast of the intersection of U.S. Highway 395 and California State Route 203, approximately 2 miles east Mammoth Lakes, California. The authorized geothermal resource well locations and pipeline alignments are located on portions of federal geothermal leases CACA-11667, CACA-11672, CACA-14407,

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and CACA-14408 in Sections 25, 26, and 36 of Township 3 South, Range 27 East and Sections 30, 31, and 32 of Township 3 South, Range 28 East, MDB&M. Up to 16 wells (14 new and 2 existing), selected from 18 possible locations, could be developed for geothermal production and injection. Up to 14 wells could be located in Basalt Canyon west of U.S. Highway 395 and 2 wells could be located southeast of the authorized power plant site east of U.S. Highway 395. The authorized location of well 26-30 and the authorized alignment of production and injection pipelines shall conform to the specifications in Section 2.4 of the Final EIS/EIR. Figure 1 and Figure 2, provided in Appendix 1 of this ROD, show the approximate locations of authorized project facilities.

The approved CD-IV project is subject to the following measures, terms, and conditions:

- 1) All Project Design Measures (Section 2.2.9) and Mitigation Measures (Section 2.2.10) contained in the Final EIS/EIR and the Mitigation, Monitoring and Reporting Program attached to this ROD as Appendix 2;
- 2) The Memorandum of Agreement (MOA) between the BLM Bishop Field Office, Inyo National Forest, California State Historic Preservation Officer, and the applicant (ORNI 50, LLC) attached to this ROD as Appendix 3, as such may be amended over time;
- 3) The BLM Geothermal Leasing Regulations (43 CFR 3200 *et seq.*); and
- 4) The issuance of all other necessary local, state, and federal approvals, authorizations, and permits.

Prior to the initiation of construction for any phase or partial phase of the CD-IV Project, the applicant must obtain a Utilization Plan and Facility Construction Permit (43 CFR 3272) from the BLM. The applicant must also obtain a Site License (43 CFR 3273) and a Commercial Use Permit (43 CFR 3274) from the BLM prior to operation of the power plant. BLM approved Geothermal Drilling Permits (Form 3260-2) will be required for all drilling operations. BLM approved Geothermal Sundry Notices (Form 3260-3) will be required to conduct subsequent well operations or to make changes in any previously approved permit.

Construction would occur over 24 months. Phase I will begin within the soonest construction season after the permitting process is complete as weather allows. The start date of Phase II is uncertain until further well field testing and development has been completed. Construction of the power plant will require approximately 16 months, pending winter weather and snow conditions, in two phases (8 months each).

Construction of Phase I and well testing will occur first. If the approved project does not progress to construction and operation, or if it is modified to the extent that it appears to be a new project proposal, additional review under the NEPA could be required.

This ROD applies only to BLM authorizations for the CD-IV Project on the affected BLM-administered federal geothermal leases. It does not apply to other authorizations, or to private

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lands or other lands, that are not under jurisdiction of the BLM. Other agencies, including but not limited to, the Inyo National Forest, Great Basin Unified Air Pollution Control District, and Mono County are responsible for issuing their own decisions and applicable authorizations associated with the CD-IV Project.

### **3.1 Management Considerations**

Based on the analysis in the Final EIS/EIR, the BLM has determined that implementation of the Agency Preferred Alternative, described in the Final EIS/EIR as Alternative 3, the Modified Pipeline Alternative, will not cause unnecessary or undue degradation of public lands.

Authorization of the CD-IV Project will assist the BLM with implementation of Executive Order 13212, The Energy Policy Act of 2005, and Secretarial Order 3285A1. Authorization of the CD-IV Project will also assist the BLM in meeting the Department of the Interior goal to permit enough renewable electricity generation from the public lands to power more than 6 million homes by 2020 in accordance with the President's 2013 Climate Action Plan.

The CD-IV Project has been thoroughly analyzed and found to comply with the applicable requirements of Section 102(c) of the NEPA (42 USC 4321 *et seq.*) and its implementing regulations (40 CFR Parts 1500-1508 and 43 CFR Part 46). The NEPA process is intended to assist federal officials in making decisions that are based on an understanding of the environmental consequences of their decisions, and in identifying actions that protect, restore, and enhance the environment. The CD-IV Project is also consistent with Section 2 of the Mining and Mineral Policy Act of 1970 and Sections 102(a)(7), (8), and (12) of the FLPMA (43 USC 1701 *et seq.*), which encourage the development of mineral resources, including geothermal resources, on the public lands.

The BLM has decided to approve Alternative 3, the Modified Pipeline Alternative, because it reflects a careful balance of the varied and competing public interests in managing the public lands in accordance with the multiple use mandate and other agency obligations under the FLPMA. It is also based on a comprehensive environmental review and full public involvement in accordance with the NEPA.

The selected alternative includes all the primary components of the applicant's proposed action, but with a modified pipeline alignment to minimize environmental impacts. The modified alignment was developed in consultation with the cooperating agencies specifically to address concerns regarding biological, cultural and visual resources. The total length of the pipeline under the selected alternative would be 5.42 miles in comparison to 5.68 miles under the proposed action. In addition to having a shorter overall pipeline length, the selected alternative would also involve up to 3.7 miles of double pipeline in comparison to 3.5 miles of double pipeline under the proposed action.

Implementation of the selected alternative would result in reduced impacts to biological resources as a result of the reduced pipeline length and associated surface disturbance and vegetation removal (see Sections 4.3, Biological Resources - Vegetation and 4.4, Biological

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Resources - Wildlife of the Final EIS/EIR for a complete analysis of impacts). The total acreage of impacts to native vegetation communities would decrease under the selected alternative as would impacts to special status plants. Potential impacts from the introduction, establishment and spread of noxious weeds would also be reduced as compared to the proposed action.

The selected alternative would have minimal effects on cultural resources and would avoid adverse effects to known Historic Properties (see Section 4.6, Cultural Resources of the Final EIS/EIR). Under the selected alternative, the location of well 26-30 would be moved slightly to avoid known cultural resources. While project facilities, primarily pipelines, may cross or overlap Historic Properties in some locations, engineering plans for the selected alternative have not been finalized, and adjustments to the project layout and design will be made to further avoid impacts to such resources. There is considerable flexibility of location and design for most project facilities (well pads, pipelines, new access roads, transmission line) that allows for avoidance of known cultural resources. Potential inadvertent effects on cultural resources would be resolved through compliance with the terms and conditions of the MOA (ROD Appendix 3) developed and signed in accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800).

Impacts to visual resources would also be reduced under the selected alternative as less geothermal piping would be constructed parallel to Sawmill Cutoff Road (NFSR 03S08) in comparison to the proposed action. In addition, at locations where a new pipeline must cross the existing pipeline, a production pipeline, or both, the pipeline crossings would be underground. In comparison to the proposed action, installation of new pipeline below-ground at specific pipeline crossings would reduce visual impacts. Specifically, under the selected alternative, the production pipeline from well 26-30 and well 77-25 would be moved to the south, connecting near well 81-36. In Upper Basalt Canyon, the production pipeline from well 12-25 would proceed south towards wells 14-25 and 15-25, rather than east and south to well 34-25. Furthermore, the production and injection pipeline corridor would be narrowed to the east of Sawmill Road (03S25) and well 81-36. As described in Section 2.4.3.2 of the Final EIS/EIR, if the 2 injection wells 55-32 and 65-32 are sufficient for reinjection of spent geothermal brine, the injection pipeline to Basalt Canyon would not be constructed at all. Consequently, wells and reinjection pipeline in the western portion of the project area may not be needed under the selected alternative.

Based on the foregoing, the BLM has determined that the selected alternative will best assist the agency in addressing several management and policy objectives while minimizing environmental impacts, particularly with regards to biological, cultural and visual resources. The CD-IV Project will generate up to 33 MW of electricity annually and is expected to provide climate, employment, and energy security benefits to California and the nation. The CD-IV Project will also provide clean electricity for homes and businesses and bring desirable jobs to the Eastern Sierra region. Employment of workers for project construction will have a beneficial effect in helping to reduce unemployment. As described in Section 2.2.6.3 of the Final EIS/EIR, construction employment is estimated to peak at a maximum of 120 workers on site at any one time. The total construction employment is anticipated to create the equivalent of 180 full time

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jobs, of which 46 are expected to be held by residents of Mono or Inyo counties (Final EIS/EIR Section 4.15, Socioeconomics and Environmental Justice).

## **4.0 Cooperating Agencies and Consultation**

### **4.1 Cooperating Federal Agency**

The Inyo National Forest was a cooperating federal agency with the BLM during the environmental review for the CD-IV Project. As a cooperating agency, the Inyo National Forest was involved in the development of both the Draft and the Final EIS/EIR prior to their publication. The Inyo National Forest will use the Final EIS/EIR to decide whether to approve a special use authorization(s) for road use, road construction, and road maintenance to access project facilities and for the construction of a transmission line between the new power plant and the existing SCE Casa Diablo Substation. The Inyo National Forest will issue a separate ROD specific to the surface use and occupancy of National Forest System lands for these aspects of the CD-IV Project.

### **4.2 Cooperating State Agency**

The Great Basin Unified Air Pollution Control District (GBUAPCD) was the lead state agency and a cooperating agency with the BLM during the environmental review for the CD-IV Project. As the lead state agency for the environmental review, the GBUAPCD was responsible for ensuring compliance with the CEQA during the development of both the Draft and the Final EIS/EIR prior to their publication. The GBUAPCD is also responsible for reviewing applications and issuing air permits within the air basin. The GBUAPCD will use the Final EIS/EIR to decide whether to approve, approve with conditions, or deny an air permit for the project. The GBUAPCD will issue a separate authorization specific to an air permit for the CD-IV Project.

### **4.3 Tribal Consultation**

The BLM and Inyo National Forest consulted with Indian tribes in the vicinity of the CD-IV Project on a government-to-government basis in accordance with several authorities including the NEPA, the National Historic Preservation Act (NHPA), the American Indian Religious Freedom Act, and Executive Order 13007 (Final EIS/EIR Chapter 6). The BLM and Inyo National Forest invited Indian tribes to consult on a government-to-government basis during the earliest stages of project planning, and the agencies and the applicant have followed up with additional correspondence, communication, and other information throughout the environmental review process.

Under Section 106 of the NHPA, the BLM and Inyo National Forest consulted with Indian tribes as part of our responsibilities to identify, evaluate and resolve potential adverse effects on cultural resources that may result from this undertaking. Tribes from Mono and Inyo counties were formally contacted based on the known extent and location of their aboriginal homeland,

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their involvement in earlier consultations related to the project area, and from interest expressed during phone calls. The Inyo National Forest sent scoping letters to these tribal governments in April 2010. These letters provided background information about the proposed project, detailed the planned content of the EIS/EIR, and solicited tribal participation in the planning and environmental review process. The Tribal Governments and interested members were invited to consult at a meeting held on May 27, 2010 at the BLM/Inyo National Forest office. Tribes and interested groups present at the meeting included the Bishop Paiute, Benton Paiute, Mono Lake Kutzadikaä, Big Pine Paiute-Shoshone and Lone Pine tribes, and the California Indian Basketmakers Association.

After alternatives were developed during the NEPA process, the BLM sent certified letters to the Tribal Chairs and Tribal Historic Preservation Officers from the Bishop Paiute, Benton Paiute, Mono Lake Kutzadikaä, Big Pine Paiute-Shoshone and Lone Pine Paiute tribes. These letters detailed the proposed project and alternatives and asked the tribes to identify any cultural resources within the project area to which they attached cultural or religious affiliation. No replies to these letters were received. The letters were followed up with phone calls to each tribal office in order to continue the consultation process.

In August of 2012, the BLM and Inyo National Forest conducted a field trip to the project area to discuss the results of the cultural resource inventory and BLM recommendations for avoiding site impacts. Tribal leadership from the Bishop Paiute, Benton Paiute, Mono Lake Kutzadikaä, Big Pine Paiute-Shoshone and Lone Pine Paiute were invited via phone. Tribal leadership from the Bishop Paiute and the Mono Lake Kutzadikaä attended this outing. During this field review both tribal entities voiced approval of the efforts taken by the BLM to use resource avoidance as the primary measure to prevent impacts to cultural resources. Some concern regarding potential impacts to the geothermal reservoir was expressed. The BLM committed to holding an informational meeting to explain the binary geothermal process and to detail how the binary process differs from the flash process used at the Coso Geothermal facility located in Inyo County. That same evening the BLM met with the entire Bishop Paiute Tribal Council and the Vice-Chair of the Mono Lake Kutzadikaä to discuss the proposed project in detail. This meeting also addressed the findings of the cultural resource inventory report and the concerns that had been raised earlier.

On September 5, 2012, the BLM held a consultation meeting with the Bishop Paiute Tribe to provide project updates and to solicit further input on the environmental review. The focus of this meeting was to address the potential for negative impacts to the geothermal reservoir. No other concerns were elicited. The Vice-Chair and the Tribal Historic Preservation Officer again voiced their approval of BLM efforts to avoid cultural resource impacts.

On December 12, 2012, the BLM meet with the tribal council for the Big Pine Paiute-Shoshone. During this meeting the tribe was informed of the results of the cultural resource inventory and the proposed site avoidance measures. The council did not voice any concerns and stated that they would likely defer to the Bishop Tribe given the range of their aboriginal homeland.

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On February 2, 2013 and May 14, 2013, the BLM met with the tribal council of the Bishop Paiute Tribe. The tribe was informed of the agreement to move well 26-30 to avoid a known cultural site and the determination that no known Historic Properties would be affected. The council agreed to participate in the cultural resource Memorandum of Agreement (MOA) that was being developed for the project as a Concurring Party.

During development of the MOA to address cultural resource compliance, both the Bishop Paiute and Big Pine Paiute-Shoshone were invited to provide comments and to sign onto the MOA as Concurring Parties. The Bishop Tribe provided comments on the draft MOA and agreed to sign as a Concurring Party. The Big Pine Tribe provided a single comment regarding tribal monitoring and deferred to the Bishop Paiute Tribe. On August 8, 2013, the MOA was signed by the BLM, Inyo National Forest, and the applicant (ORNI 50, LLC). The Bishop Paiute Tribe and the Great Basin Unified Air Pollution Control District also signed onto the MOA as Concurring Parties.

Additional information can be found in Chapter 6, Consultation, Coordination, and Public Participation in the Final EIS/EIR.

#### **4.4 Section 106 Consultation**

Section 106 of the National Historic Preservation Act (NHPA)(16 USC 470 *et seq.*) requires federal agencies to take into account the effects that their approvals and federally funded activities and programs have on significant historic properties. “Significant historic properties” are those properties that are included in, or eligible for, the National Register of Historic Places, and can include cultural resources.

The BLM and Inyo National Forest conducted intensive pedestrian surveys of the entire Area of Potential Effect (APE) for the CD-IV Project in order to identify Historic Properties that were located within the project area. This survey area included the footprint for all of the alternatives developed and considered during the NEPA process, including all proposed access routes, all proposed construction and staging areas, and a buffer sufficient to allow for flexibility during project implementation. After the survey was completed, the findings and recommendations were compiled into a cultural resource inventory report. The results of this report were then shared with the consulting tribal governments and the California Office of Historic Preservation.

As the lead federal agency for the CD-IV Project, the BLM in cooperation with the Inyo National Forest initiated consultation with the California State Historic Preservation Officer (SHPO) for the project pursuant to Section 106 of the NHPA. The basic steps in the Section 106 process are described in Section 3.6, Cultural Resources of the Final EIS/EIR. Additional information can also be found in Chapter 6, Consultation, Coordination, and Public Participation in the Final EIS/EIR.

Section 4.6, Cultural Resources, of the Final EIS/EIR describes the potential effects of the applicant’s proposed action and alternatives on historic and cultural resources. The Agency Preferred Alternative/Selected Alternative (Alternative 3, the Modified Pipeline Alternative) was

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designed specifically to avoid impacts to known cultural resources. Inadvertent effects on cultural resources will be resolved through compliance with the terms and conditions of the Memorandum of Agreement (MOA) developed and signed in accordance with Section 106 of the NHPA and its implementing regulations (36 CFR 800).

The MOA was prepared to resolve potential adverse effects associated with the CD-IV Project and to develop permit stipulations to avoid, minimize, or mitigate adverse effects to Historic Properties. The MOA for the project was executed by signature between the BLM Bishop Field Office, Inyo National Forest, and the applicant (ORNI 50, LLC) on August 8, 2013 and by the California SHPO the following day. The fully executed MOA is attached to this ROD as Appendix 3. The analysis of impacts in Final EIS/EIR and the execution of the MOA provide evidence of SHPO concurrence that the BLM and Inyo National Forest have satisfied their obligations under Section 106 of NHPA with respect to cultural resources and Historic Properties.

## 4.5 Section 7 Consultation

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA)(16 USC 1531 *et seq.*), a federal agency that “authorizes, funds, or carries out” a project that “may affect” a listed species or its designated critical habitat must consult with the U.S. Fish and Wildlife Service (FWS) to ensure the proposed agency action will not jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat for any listed species.

As the lead federal agency for the CD-IV Project, the BLM in cooperation with the Inyo National Forest conducted a biological assessment and initiated informal consultation with the FWS concerning the potential effects on the federally endangered Owens tui chub (*Siphateles bicolor snyderi*) that could occur from implementation of the Agency Preferred Alternative/Selected Alternative (Alternative 3, the Modified Pipeline Alternative). In conducting the biological assessment, the BLM compiled and considered the best available data regarding Owens tui chub status and occurrence, designated critical habitat, and habitat suitability in the project area. The BLM also considered the best available information specific to the risk of changes in hydrologic characteristics that could result from implementation of the proposed project. Based on the Bureau’s assessment of the predicted effects of the proposed project, the BLM determined that implementation of the Agency Preferred/Selected Alternative “may affect, but is not likely to adversely affect” Owens tui chub or their designated critical habitat. In conformance with law and policy, the BLM requested concurrence from the FWS for this may affect, not likely to adversely affect determination on July 12, 2013.

On August 2, 2013, the FWS concurred with the Bureau’s determination that the Agency Preferred Alternative/Selected Alternative for the CD-IV Project is not likely to adversely affect Owens tui chub or its designated critical habitat. The FWS found that implementation of the proposed project “will not directly affect either Owens tui chub or its critical habitat.” The FWS also found that “indirect effects to Owens tui chub would only occur through changes to the primary consistent elements” of its habitat and that the potential changes “would be so minor that

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we [FWS] could not meaningfully measure, detect, or evaluate any change in the function of the primary consistent elements” at either AB and CD springs or the Little Hot Creek Pond. The FWS concurrence memorandum is attached to this ROD as Appendix 4.

The purpose of the biological assessment and the associated consultation with the FWS was to ensure that the Agency Preferred Alternative/Selected Alternative developed and analyzed under the NEPA also conforms to the requirements of the ESA and the guidance provided by the Bureau’s special status species management policy. Consultation with the FWS concerning the CD-IV Project has been completed and further consultation pursuant to Section 7 of the ESA is not required at this time.

## 5.0 Mitigation and Monitoring

As required in the BLM *NEPA Handbook H-1790-1* and consistent with 40 CFR 1505.2(c), all practicable means to avoid or minimize environmental harm from the CD-IV Project have been adopted in this ROD. There are no project design measures, mitigation measures, or other terms and conditions identified in the Final EIS/EIR that have not been adopted.

The Mammoth Community Water District (MCWD) has expressed concern that uncertainty remains regarding the potential impact of the CD-IV project on their domestic water supply. As described in the Final EIS/EIR, currently available data indicate that the shallow Mammoth Groundwater Basin is physically isolated from the deeper geothermal system and therefore the project is unlikely to affect the quality or availability of shallow groundwater resources. Nonetheless, the BLM recognizes the importance of ongoing data collection and monitoring related to the municipal water supply for the Mammoth Lakes community. Therefore, as a condition of approval for the CD-IV Project, the BLM will require the development and implementation of a cooperative shallow ground water monitoring plan focused on detecting any direct or indirect effects on the municipal water supply that may occur from geothermal production and injection in coordination with the Long Valley Hydrologic Advisory Committee. The MCWD will be invited to participate in the development and implementation of this BLM required cooperative shallow groundwater monitoring plan.

Pursuant to 43 CFR 2805.10(a)(1), the BLM has determined that these measures, terms, and conditions are in the public interest. As the federal lead agency for the CD-IV Project, the BLM is responsible for ensuring compliance with the project design measures, mitigation measures, and other terms and conditions adopted in this ROD. Failure on the part of ORNI 50, LLC to adhere to these measures, terms, and conditions could result in various administrative actions up to, and including, the termination of all approvals and the requirement to remove the facilities and rehabilitate disturbances.

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## **6.0 Public Involvement**

### **6.1 Scoping**

A Notice of Intent (NOI) for the proposed CD-IV Project was published in the Federal Register on March 25, 2011 (76 FR 1686). The NOI was also posted on the BLM website and notice of scoping meetings was sent to local agencies and community organizations, Indian tribes, and radio, television, print, and internet news sources. Public scoping meetings were conducted on April 18 and 19, 2011 and written scoping comments were accepted through May 9, 2011. Following the scoping period, a scoping report was prepared in July 2011 that compiled and summarized the issues, impacts, and potential alternatives suggested for consideration and analysis in the Draft EIS/EIR. The primary issues and concerns identified during public scoping focused on potential effects on air quality, archeological and cultural resources, biological resources, surface and groundwater hydrology, public health and safety, recreational resources, aesthetics and noise. These issues were considered and analyzed in the EIS/EIR.

### **6.2 Public Comments on the Draft EIS/EIR**

A Notice of Availability (NOA) of the Draft EIS/EIR for the CD-IV Project was published in the Federal Register on November 16, 2012 (77 FR 68813) and the draft was distributed for a 60-day public and agency review and comment period scheduled to end on January 15, 2013. Following release of the Draft EIS/EIR, informational public meetings were also held on December 5 and 6, 2012 to provide an overview of the environmental review processes and to facilitate public comment on the draft document. In response to a request from the Mammoth Community Water District (MCWD) and others, the official comment period was extended for an additional 15 days until January 30, 2013. At the close of the 75-day comment period, 27 comment letters had been received. One additional comment letter, from the MCWD, was received after the close of the official comment period. All 28 comment letters were considered and incorporated into the environmental review and responses to all 28 comment letters (Appendix G) and each individual comment (Appendix H) were provided in the Final EIS/EIR.

The nature of comments received on the Draft EIS/EIR primarily pertained to the NEPA and CEQA process, project alternatives, and impacts to various resources and uses. The cooperating agencies also received comments in support of the proposal. Public comments on the Draft EIS/EIR were incorporated into the Final EIS/EIR and resulted in corrections and clarifying text but did not substantively change the impact analysis for any of the alternatives considered. Comments concerning decommissioning, recirculation, biological resource project design measures, hydrologic monitoring, and ground water resources were received from various agencies, organizations and individuals. These comments were grouped together and provided a common response in section 6.4.3 of the Final EIS/EIR.

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## 6.3 Public Comments on the Final EIS/EIR

A Notice of Availability (NOA) of the Final EIS/EIR for the CD-IV Project was published in the Federal Register on July 5, 2013 (78 FR 40497). Pursuant to 40 CFR 1506.10(a)(2), the BLM is required to wait a minimum of 30 days following release of a Final EIS before issuing a decision on the action under environmental review. During this 30-day period, the BLM received comment letters from 6 separate entities on the Final EIS/EIR:

- Town of Mammoth Lakes Community and Economic Development Department, dated July 10, 2013;
- Jo Bacon, dated July 10, 2013;
- Adams Broadwell Joseph & Cardozo on behalf of the Coalition for Responsible Mammoth Development and the California Unions for Reliable Energy, dated July 12, 2013 (including attachments A-C);
- Mammoth Community Water District, dated July 12, 2013 (including attachments dated July 12, 2013 from Wildermuth and Schmidt);
- Lozeau Drury, LLP on behalf of Bishop residents Russell Covington, Robert A. Moore, Randy Sipes, and Randal Sipes ("Bishop Residents"), Laborers International Union of North America, Local Union 783, and its members living in Mono County ("LiUNA" or "Commenters"), dated July 15, 2013 (including exhibits A-D);
- U.S. Environmental Protection Agency Region IX, dated July 19, 2013;
- Lozeau Drury, LLP on behalf of Bishop residents Russell Covington, Robert A. Moore, Randy Sipes, and Randal Sipes ("Bishop Residents"), Laborers International Union of North America, Local Union 783, and its members living in Mono County ("LiUNA" or "Commenters"), dated July 23, 2013;
- Mammoth Community Water District, dated August 2, 2013 (including attachments dated July 12, 2013 from Wildermuth and Schmidt); and
- Lozeau Drury, LLP on behalf Bishop residents Russell Covington, Robert A. Moore, Randy Sipes, and Randal Sipes ("Bishop Residents"), Laborers International Union of North America, Local Union 783, and its members living in Mono County ("LiUNA" or "Commenters"), dated August 5, 2013 (including exhibits A-D).

Publication of the Final EIS/EIR did not include a formal comment period. Nonetheless, the BLM reviewed and considered these letters during the preparation of this ROD to the extent practicable. None of the letters identified significant new circumstances or significant new information relevant to environmental concerns that bear on the project and its effects.

Therefore, consideration of these comments did not result in any changes in the design, location, or timing of the project in a way that would cause significant effects to the human environment outside of the range of effects already analyzed in the Final EIS/EIR.

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## 6.4 Availability of the Record of Decision

Electronic copies of this ROD are available on the Internet at [www.blm.gov/ca/st/en/fo/bishop/casadiabloIV.html](http://www.blm.gov/ca/st/en/fo/bishop/casadiabloIV.html). Paper and electronic copies (CD ROM format) will also be available at the following locations:

BLM Bishop Field Office  
351 Pacu Lane, Suite 100  
Bishop, California 93514

Mono County Library  
400 Sierra Park Road  
Mammoth Lakes, California 93546

## 7.0 Final Agency Action

### 7.1 Authority

The authority for this decision is contained in the Geothermal Steam Act of 1970, the Federal Land Policy and Management Act of 1976, and the Code of Federal Regulations at 43 CFR 3200.

### 7.2 Administrative Remedies

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in strict compliance with the regulations contained in 43 CFR Part 4. The appellant must follow the procedures outlined in Form 1842-1, Information on Taking Appeals to the Interior Board of Land Appeals (Appendix 5). If an appeal is taken, your notice of appeal must be filed with the Bishop Field Office within 30 days from receipt of this decision. The appellant has the burden of showing that the decision being appealed is in error. If your notice of appeal does not include a statement of reasons, such statement must be filed with this office and the Interior Board of Land Appeals within 30 days after the notice of appeal is filed. Your notice of appeal and any statement of reasons, written arguments, or briefs must also be served upon the Regional Solicitor, Pacific Southwest Region, U.S. Department of the Interior, 2800 Cottage Way, Room E-1712, Sacramento, California 95825. Please consult the appropriate regulations (43 CFR Part 4 Subpart E) for further appeal requirements.

If you wish to file a petition pursuant to 43 CFR 4.21(b) for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Interior Board of Land Appeals, the petition for a stay must accompany your Notice of Appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the Notice of Appeal and Petition for a Stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

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### Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- (1) the relative harm to the parties if the stay is granted or denied,
- (2) the likelihood of the appellant's success on the merits,
- (3) the likelihood of immediate and irreparable harm if the stay is not granted, and
- (4) whether the public interest favors granting the stay.

### **7.3 Contact Person**

For further information concerning the CD-IV Project or this decision, please contact:

Collin Reinhardt  
Geologist/Project Manager  
(760) 872-5024  
[creinhardt@blm.gov](mailto:creinhardt@blm.gov)

U.S. Department of the Interior  
Bureau of Land Management  
Bishop Field Office  
351 Pacu Lane, Suite 100  
Bishop, CA 93514

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## 7.4 Approval

It is my decision to approve the CD-IV Project. This 33-MW binary power plant, expanded geothermal well field, and associated pipelines and infrastructure will be on portions of BLM-administered federal geothermal leases CACA-11667, CACA 11672, CACA-14407, and CACA-14408 located on National Forest System lands managed by the Inyo National Forest in Mono County, California. The authorized project was described and analyzed under the Agency Preferred Alternative (Alternative 3) in the Final EIS/EIR, and is subject to the project design measures, mitigation measures, and other terms and conditions developed by the BLM and cooperating agencies during the environmental review as outlined in this ROD.

The effective date of this decision and the date initiating the appeal period will be the date this decision is posted on the BLM California website.

Approved by:

    /s/ Steven L. Nelson      
Steven L. Nelson  
Field Manager

    08/12/2013      
Date

U.S. Department of the Interior  
Bureau of Land Management  
Bishop Field Office

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## 8.0 Appendices

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