DECISION AND FINDINGS – CASA DIABLO IV GEOTHERMAL PROJECT

DECISION AND FINDINGS OF THE GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT, AIR POLLUTION CONTROL OFFICER CERTIFYING THE ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT AND SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT FOR THE CASA DIABLO IV GEOTHERMAL DEVELOPMENT PROJECT

For reasons detailed below, as lead agency under the California Environmental Quality Act (CEQA) (Public Resources Code §21000 *et seq*.) and its implementing regulations (CEQA Guidelines, 14 Cal. Code Regs. §15000 *et seq*.), the Great Basin Unified Air Pollution Control District (GBUAPCD) Air Pollution Control Officer (APCO) certifies the 2014 Environmental Impact Statement/Environmental Impact Report (EIS/EIR) as supplemented by the 2021 Final Supplemental Environmental Impact Report (SEIR)(together referred to as the EIS/EIR/SEIR) prepared for the Casa Diablo IV Geothermal Development Project (State Clearinghouse No. 2011041008). The APCO finds that: 1) the EIS/EIR/SEIR has been completed in compliance with CEQA; 2) the APCO was presented with, and has reviewed and considered the information and analysis contained in the EIS/EIR/SEIR; and 3) the EIS/EIR/SEIR reflects the independent judgment of the GBUAPCD;

WHEREAS, the EIS/EIR/SEIR consists of the Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) issued in June 2013 and certified July 17, 2014; and the Final Supplemental EIR issued January 27, 2021;

WHEREAS, the GBUAPCD prepared the EIS/EIR/SEIR, supported by consultants, with the GBUAPCD remaining responsible for managing the preparation of the EIS/EIR/SEIR and subjecting the consultant's drafts to its own independent review and analysis;

WHEREAS, the GBUAPCD, supported by consultants, prepared Findings of Fact and Statement of Overriding Considerations in compliance with CEQA as contained in attached Exhibit 1;

WHEREAS, the GBUAPCD, supported by consultants, prepared a Mitigation Monitoring and Reporting Program (MMRP) summarizing the proposed Project Design Measures and all mitigation measures contained in the EIS/EIR/SEIR in compliance with CEQA as contained in attached Exhibit 2;

WHEREAS, the APCO has reviewed the EIS/EIR/SEIR in its entirety, has considered its contents, and has determined that the EIS/EIR/SEIR for the Casa Diablo IV Geothermal Development Project meets all the requirements for certification under CEQA and reflects the independent judgment of the GBUAPCD;

WHEREAS, pursuant to CEQA, the lead agency shall ensure the EIS/EIR/SEIR is compliant with the requirements of CEQA, that the decision-making body or "decision-maker" (here, the APCO) shall review and consider the information in the EIS/EIR/SEIR, and ensure that the EIS/EIR/SEIR reflects the lead agency's independent judgment and analysis;

WHEREAS, the APCO is the body vested by law with the authority and responsibility to issue the air pollution control permits required by law for the Casa Diablo IV Geothermal Power Plant and associated facilities;

WHEREAS, the APCO is the body vested by law with the authority and responsibility to make findings of fact pursuant to CEQA and the State CEQA Guidelines; and

WHEREAS, the APCO is the body vested by law with the authority to make a Statement of Overriding Considerations, pursuant to the requirements of Section 15093 of the State CEQA Guidelines and CEQA Public Resource Code Section 21081, concerning the project's remaining unavoidable significant impacts and overriding considerations reflecting the balancing of project benefits that outweigh the project's significant unavoidable impacts.

NOW, THEREFORE, BE IT DECIDED by the GBUAPCD APCO as follows:

1. Each of the above recitals is incorporated by this reference as if fully set forth herein;

2. It is hereby certified that the Casa Diablo IV Geothermal Development Project EIS/EIR/SEIR has been completed in compliance with CEQA;

3. It is hereby certified that the Findings of Fact and Statement of Overriding Considerations (Exhibit 1) have been prepared in compliance with CEQA and the State CEQA Guidelines;

4. It is hereby certified that the Mitigation Monitoring and Reporting Program (Exhibit 2) has been prepared pursuant CEQA and the State CEQA Guidelines;

5. It is hereby certified that the EIS/EIR/SEIR, Proposed Findings of Fact and Statement of Overriding Considerations (Exhibit 1), and the Mitigation Monitoring and Reporting Program (Exhibit 2) have been presented to the APCO, who has reviewed and considered the information and analysis contained therein. Both Exhibits 1 and 2 are attached to and made part of this decision;

6. It is hereby certified that the Proposed Findings of Fact and Statement of Overriding Considerations and the Mitigation Monitoring and Reporting Program reflect the decision maker's independent judgment and analysis; and

7. This certification does not represent approval or disapproval of the Casa Diablo IV Geothermal Development Project and does not constitute final action on the project.

APPROVED by the Great Basin Unified Air Pollution Control District Air Pollution Control Officer this **11th day of March 2021**

Phillip Kiddoo, Air Pollution Control Officer

ATTEST:

Tori DeHaven
Clerk of the Governing Board

EXHIBIT 1

FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

EXHIBIT 1

FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT CASA DIABLO IV GEOTHERMAL DEVELOPMENT PROJECT PERMIT – Application #1623

I. OVERVIEW

A. Purpose of the Findings

The purpose of these findings ("Findings") is to satisfy the requirements of section 21081 of the California Environmental Quality Act (CEQA, Pub. Res. Code §21000 *et seq*.) and sections 15091, 15092, and 15093 of the CEQA Guidelines (14 Cal. Code Regs. §§15000 *et seq*.), regarding the consideration for certification of the Environmental Impact Report (EIR) and Supplemental Environmental Impact Report (SEIR), and adoption of a permit to construct and operate the Casa Diablo IV Geothermal Development Project (the "Project"). These Findings incorporate by reference the July 17, 2014, findings of the Great Basin Unified Air Quality Pollution Control District (GBUAPCD) for the Project (the 2014 Findings), and supplements them to describe the GBUAPCD's analysis and conclusions in the SEIR regarding the feasibility of two potential and additional mitigation measures to address fugitive reactive organic gas (ROG) emissions from the Project, *i.e.,* (1) a stronger leak detection and repair (LDAR) program, and (2) the additional use of leakless or low-leak technology. At times, these Findings refer to materials in the record of proceedings, which materials are available for review at the GBUAPCD Bishop, California, office.

These Findings are divided into the same 13 sections by which the 2014 Findings were organized, *i.e*.:

Section I:	Overview
Section II:	Findings are Determinative
Section III:	Concurrence with Potential Impacts Determined to be Less-Than-Significant
Section IV:	CEQA Section 21081(a) Requirements regarding Significant Impacts
Section V:	Significant Unavoidable, Growth Inducing and Significant Irreversible Impacts
Section VI:	Potentially Significant Impacts Mitigated to a Less-Than-Significant Level
Section VII:	Mitigation Monitoring and Reporting
Section VIII:	Project Alternatives
Section IX:	Statement of Overriding Considerations
Section X:	Recirculation Not Required; Additional Subsequent/Supplemental EIR Not Required
Section XI:	Record of Proceedings
Section XII:	Fish and Game Fee
Section XIII:	Conclusion

B. CEQA Context

As the CEQA Lead Agency, the GBUAPCD has principal responsibility for approving the Project as a whole and would approve necessary permits for the Project before any other state or local agency. The

GBUAPCD's Air Pollution Control Officer (APCO) has sole responsibility for the issuance of the Authority to Construct (ATC), which is necessary before any Project component could be constructed or operated.

The Project was the subject of a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) circulated in November 2012 and a Final EIS/EIR certified on July 17, 2014. The Final EIS/EIR was the subject of a Petition for Writ of Mandate alleging in relevant part that additional discussion of the feasibility of fugitive emission mitigation measures was required under CEQA. The trial court ruled in favor of the GBUAPCD on all claims finding that the GBUAPCD's "process was proper," the "findings were supported by substantial evidence" and, despite contentions to the contrary, "the administrative record demonstrates a thorough and exhaustive study by various experts based on complete data from the past decades to the present."

Petitioners appealed the decision of the trial court. Upon review, the appellate court affirmed the trial court's decision on all grounds except two. The appellate court concluded "[t]hat the District was the proper lead agency, and that the permit limiting the daily ROG [reactive organic gas] emissions is sufficient evidence of the amount of the emissions." However, it also concluded that "the District did not adequately analyze whether the additional mitigation measures proposed by petitioners were feasible to limit ROG emissions." Specifically, the appellate court ordered "[t]he District to provide a reasoned analysis supported by factual information in response to the mitigation measures proposed by the petitioners..." *Covington v. Great Basin Unified Air Pollution Control District* (2019) 43 Cal.App.5th 867. The GBUAPCD did so in an August 27, 2020, Draft Supplemental Environmental Impact Report (Draft SEIR) and January 27, 2021, Final Supplemental Environmental Impact Report (Final SEIR).

For purposes of these Findings and the GBUAPCD's decision-making process for the Project, the EIR consists of the Final EIS/EIR, the Draft SEIR, and the Final SEIR. The conclusion in the Final EIS/EIR and SEIR is that the Project would result in unavoidable significant effects on the environment.

The GBUAPCD's conclusion that the Modified Pipeline Alternative (Alternative 3) is the Environmentally Superior Alternative remains unchanged. The GBUAPCD's decision to adopt Alternative 3 also remains unchanged. These Findings are made and adopted by the GBUAPCD in satisfaction of State and local requirements relative to the environmental review, analysis, and consideration of the Environmentally Superior Alternative.

C. Project Proponent

The Project Proponent identified in Section I.C of the 2014 Findings (i.e., ORNI 50 LLC, a wholly owned subsidiary of Ormat Nevada Inc.) remains unchanged.

D. Location

The location of the Project identified in Section I.D of the 2014 Findings and in the EIR remains unchanged.

E. Project Objectives

The CEQA objectives and Applicant objectives for the Project identified in Section I.E of the 2014 Findings remain unchanged. Briefly, they are to develop the geothermal resources in the Mono-Long Valley area within the Bureau of Land Management (BLM)-issued geothermal leases at Casa Diablo to produce commercially viable electricity from clean and renewable resources. This would support California's goals for reducing greenhouse gas (GHG) emissions and dependency on fossil fuels.

F. Preferred Alternative – Modified Pipeline Alternative

The GBUAPCD's identification in Section I.F of the 2014 Findings of the Modified Pipeline Alternative (Alternative 3) as the Preferred Alternative remains unchanged. Relative to the applicant-proposed Alternative 1, Alternative 3 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 alignment changes and well location change under this alternative is to minimize potential effects on biological and cultural resources and reduce potential visual effects. Power plant and wellfield construction, operation, and decommissioning would be the same as Alternative 1.

G. Public Review Process

The public review process described in Section I.G the 2014 Findings was followed by additional public review for purposes of the SEIR.

To comply with the trial court's peremptory writ of mandate, the District began preparation of the SEIR in 2020. Scoping activities were conducted by GBUAPCD in accordance with CEQA. The GBUAPCD submitted the Notice of preparation (NOP) to prepare the SEIR to the State Clearinghouse, responsible and trustee agencies, and local jurisdictions on February 26, 2020. A corrected NOP was submitted on March 6, 2020, that corrected some aspects of the project description provided in the February 26 notice. The NOPs were also posted on the GBUAPCD website. Written scoping comments were accepted through March 27, 2020.

The Draft SEIR was circulated for public review on August 27, 2020. The comment period concluded on October 13, 2020. One comment letter was received, submitted by the law firm of Adams Broadwell Joseph & Cardozo on behalf of Coalition for Responsible Mammoth Development. This group previously filed an unsuccessful lawsuit under CEQA in Mono County Superior Court seeking to delay the Project, resulting in a judgment in favor of the GBUAPCD on all counts. Responses to each individual comment in the letter are provided in Final SEIR Section 2.2. In January 2021, GBUAPCD provided an electronic copy of the Final SEIR to the commenter.

H. Defined Terms

The terms defined in Section I.H of the 2014 Findings remain unchanged except to add the following definition of SEIR:

> **SEIR -** The term "SEIR" (supplemental environmental impact report) is a general reference to the Final SEIR prepared pursuant to the direction of the Court of Appeal and CEQA.

I. Severability

If any term, provision, or portion of these Findings or the application of same to a particular situation is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of these Findings, or the application of the same to other situations, shall continue in full force and effect unless amended or modified by the GBUAPCD.

II. FINDINGS ARE DETERMINATIVE

The rationale and conclusion in Section II of the 2014 Findings, as supplemented by the analysis and information in the SEIR, that the Findings are determinative, apply equally to these Findings, which also are based on the sources of information and opinions offered in the documents and testimony that make up the SEIR. In sum, by these Findings, the Decision Maker ratifies, clarifies, and/or makes insignificant

modifications to the EIR and resolves that these Findings and the MMRP shall control and are determinative of the significant impacts of the Project, as further mitigated by the Preferred Alternative. In addition, the Decision Maker declares that except as otherwise provided herein, in the event of any discrepancy between the wording of a policy or program in these Findings and the wording in either the Project or the MMRP, the wording in the Project or MMRP is in error and shall be replaced with the wording in these Findings.

III. CONCURRENCE WITH POTENTIAL IMPACTS DETERMINED TO BE LESS-THAN-SIGNIFICANT WITHOUT NEED FOR IMPOSITION OF MITIGATION

Section III of the 2014 Findings as supplemented by the analysis and information in the SEIR remains unchanged by these Findings with respect to concurrence with potential impacts determined to be less than significant without need for the imposition of mitigation.

IV. CEQA §21081(a) REQUIREMENTS REGARDING SIGNIFICANT IMPACTS

As noted in Section IV of the 2014 Findings, and as continues to be true, the EIR and SEIR identify certain significant environmental impacts and recommends specific Mitigation Measures to reduce those impacts to a less-than-significant level. In making these Findings, the Decision Maker has certified the EIR and SEIR as being adequate according to CEQA and has reviewed and considered the information in the EIR, SEIR and in the entire record. The summary of Public Resources Code section 21081's requirements regarding significant impacts and the Decision Maker's specific findings in the 2014 Findings remain unchanged except as set forth in the sections that follow.

V. SIGNIFICANT UNAVOIDABLE, GROWTH INDUCING, AND SIGNIFICANT IRREVERSIBLE IMPACTS

A. Significant Unavoidable Impacts

The summary of the three significant and unavoidable impacts that would result from Alternative 3 that was provided in Section V.A of the 2014 Findings is supplemented by the SEIR. The EIS/EIR identified three significant unavoidable impacts associated with approval of Alternative 3: short-term NOx construction emissions; long-term operational fugitive ROG emissions; and a substantial adverse effect on the visual character and quality of the site and its surroundings. These impacts were identified as potentially significant in the EIS/EIR and feasible Mitigation Measures were identified. The SEIR identified revised Mitigation Measure AQ-6, which superseded EIS/EIR Mitigation Measure AQ-6. The APCO finds that these impacts will remain significant after the identified Mitigation Measures, including Mitigation Measure AQ-6 as set forth in the SEIR, are implemented. See EIS/EIR Chapter 4 and SEIR Chapter 2. The APCO's findings and determinations in the 2014 Findings remain unchanged: 1) these significant and unavoidable adverse impacts are acceptable, 2) Alternative 3 may be approved despite these impacts for the reasons specified below in the Statement of Overriding Considerations, and 3) there are no additional feasible Mitigation Measures or alternatives that could be adopted at this time that would reduce the impacts to less than significant.

The following potentially significant impacts will remain significant even after implementation of Mitigation Measures identified in the EIS/EIR and SEIR.

CONSTRUCTION IMPACT ON AIR RESOURCES: Maximum daily construction emissions of nitrogen oxides (NOx) would exceed the respective significance threshold; therefore, it can be concluded that Alternative 3 could result in or contribute to an exceedance of the state 1-hour and/or 8-hour ozone ambient air quality standards (AAQS). Although temporary in nature,

construction-related NOx emissions would be considered Significant and Unavoidable, though temporary, even with mitigation. This impact is also cumulatively considerable, and the associated cumulative impact is Significant and Unavoidable.

The facts, CEQA Section 21081(a) finding, evidence supporting the finding, and the APCO's adoption of Mitigation Measures AQ-1 and AQ-2 as proposed in the EIS/EIR and SEIR to address the construction impact on air resources are contained in the discussion in the 2014 Findings, EIR and the SEIR and are adopted and incorporated herein.

OPERATION AND MAINTENANCE IMPACT ON AIR RESOURCES: Operation and maintenance emissions of reactive organic gases (ROG) would exceed the respective significance threshold; therefore, it can be concluded that Alternative 3 could result in or contribute to an exceedance of the state 1-hour and/or 8-hour ozone ambient air quality standards. This operation and maintenance-related impact would be considered Significant and Unavoidable, even with mitigation. This impact is also cumulatively considerable, and the associated cumulative impact is Significant and Unavoidable.

Facts

The EIS/EIR found that ROG emissions associated with Alternative 3 would be approximately 410 pounds per day and would exceed the significance threshold of 75 pounds per day; therefore, it can be concluded that operation of Alternative 3 could result in or contribute to an exceedance of the state 1-hour and/or 8-hour ozone AAQS. The ROG operation and maintenance emissions associated with the project would be almost exclusively related to fugitive n-pentane at the power plant. The project would include state of the art equipment and best available technology designed to limit fugitive n-pentane emissions; therefore, there is no additional feasible mitigation that can be applied to the Project to substantially reduce the long-term fugitive ROG emissions. EIS/EIR Mitigation Measure AQ-5 and SEIR Mitigation Measure AQ-6 are required to ensure that fugitive releases of n-pentane are limited to 410 pounds per day.

This long-term increase in ROG emissions could cause or contribute to an exceedance of the state ozone 1-hour or 8-hour ambient air quality standards and is considered a significant impact. This impact is discussed on EIS/EIR pages 4.2-16 and 4.2-17 and SEIR pages 2-105 through 2-129.

CEQA §21081(a) Finding

The 2014 Findings, EIS/EIR and SEIR support this CEQA §21081(a) Finding. Finding 3: The impact would be mitigated, but not to a less-than-significant level. Special considerations make further mitigation measures or alternatives infeasible.

Evidence Supporting the Finding

Based on the EIS/EIR with the SEIR and the entire record, this significant and unavoidable impact is mitigated with imposition of Mitigation Measure AQ-5 (found on EIS/EIR page 4.2-21) and Mitigation Measure AQ-6 (found on SEIR pages 2-128 and 2-129), but not to a level less than significant. Because the project will include state of the art equipment and best available technology that would limit fugitive ROG (i.e., n-pentane) emissions, no additional feasible mitigation measures are available to further substantially reduce fugitive ROG emissions. Even with imposition of Mitigation Measures AQ-5 and AQ-6, this impact would remain significant and unavoidable.

> **Adopted Mitigation Measure AQ-5:** The APCO's adoption of Mitigation Measures AQ-5 as set forth in the 2014 Findings remains unchanged, and are adopted and incorporated herein.

Adopted Mitigation Measure AQ-6: Implementation of Enhanced Leak Detection and Repair (LDAR) Program. ORNI 50, LLC shall obtain a portable Volatile Organic Compound (VOC) leak detector capable of meeting the performance specifications described in USEPA's Method 21. This instrument shall be properly maintained, calibrated, and made readily available at all times on the property site. Inspections utilizing the instrument shall be conducted at a minimum on a monthly basis to assist ORNI 50, LLC personnel in detecting n-pentane leaks from all flanges, valves, pump seals, safety relief valves, n-pentane accumulator vessels, turbine gland seals, and other components with the potential for fugitive emissions. In addition to a USEPA Method 21 portable analyzer, monthly inspections shall include the use of a held infrared camera and visual inspection and observation. Pumps shall be visually inspected weekly. Whenever a leak is detected that is greater than 2,000 ppmv for pumps or 500 ppmv for valves, pressure relief valves, flanges, n-pentane accumulator vessels, turbine gland seals, and all other components with the potential for fugitive emissions, ORNI 50, LLC shall initiate repairs as soon as possible. Once a leak is discovered, ORNI 50, LLC shall tag and log its location, record the leak concentration, record the date, and record the dates of each repair attempt. Minimization of a leak shall occur as soon as possible and no later than 24 hours after the leak discovery. Repair of a leak shall occur as soon as possible and no later than 7 days after the leak discovery. A report that includes the six-month average daily emission calculations and n-pentane purchases shall be submitted electronically to the GBUAPCD within 30 days from the end of each calendar quarter. A summary record of the leak repairs made shall also be submitted to the GBUAPCD when reporting n-pentane losses.

The Decision Maker adopts Mitigation Measure AQ-6 as proposed in the SEIR.

IMPACT ON VISUAL CHARACTER AND QUALITY: The three parallel 24-inch pipelines and the new well facilities would be highly visible along the majority of Sawmill Road (03S25), SR 203 (county designated scenic route) and U.S. Highway 395 (State designated scenic highway). Given the high visual sensitivity of this area, Alternative 3 would result in a substantial adverse effect on the visual character and quality of the site and its surroundings, resulting in a Significant and Unavoidable impact, even with mitigation.

The facts, CEQA Section 21081(a) finding, evidence supporting the finding, and the APCO's adoption of Mitigation Measure VIS-1 as proposed in the EIS/EIR to address the impact on visual character and quality, and SEIR, support the same discussion in the 2014 Findings which are adopted and incorporated herein.

B. Growth Inducing Impacts

Section V.B of the 2014 Findings with respect to growth inducing impacts are supported by the EIS/EIR, SEIR and are adopted and incorporated herein. In sum, implementation of the Project would be in response to anticipated future load growth and would be consistent with current regional planning projections. These findings are also applicable to Alternative 3.

C. Significant Irreversible Impacts

Section V.C of the 2014 Findings with respect to significant irreversible impacts are supported by the EIS/EIR, SEIR and are adopted and incorporated herein. In sum, neither the proposed project nor Alternative 3 would result in significant irreversible impacts.

D. Cumulative Impacts

Significant Unavoidable Impacts

The 2014 Findings with respect to significant unavoidable cumulative impacts are supported by the EIS/EIR, SEIR and are adopted and incorporated herein. Cumulative air quality impacts will remain significant even after implementation of mitigation measures identified in the EIS/EIR and SEIR Mitigation Measure AQ-6.

CUMULATIVE AIR QUALITY IMPACTS: Short-term construction emissions of NOx and operational fugitive emissions of ROG would be cumulatively considerable.

Facts

Under CEQA, the cumulative impacts related to short-term emissions of NOx and operational fugitive emissions of ROG would be significant and unavoidable, and cumulatively considerable (see discussions under V(A), *Significant Unavoidable Impacts*, above). Therefore, when considered together with the emissions of other projects, the Project-specific impact under CEQA would be cumulatively considerable and the cumulative impact would be significant and unavoidable.

CEQA §21081(a) Finding

Finding 3: The impacts would be mitigated, but not to less-than-significant levels. Special considerations make further mitigation measures or alternatives infeasible.

Evidence Supporting the Finding

Based on the EIS/EIR, SEIR and the entire record, these significant and unavoidable impacts are mitigated with imposition of Mitigation Measures AQ-1, AQ-2, and AQ-5 (found starting on EIS/EIR page 4.2-20) and Mitigation Measure AQ-6 (found starting on SEIR page 2-128), but not to a level less-than-significant because no additional Mitigation Measures are available to further reduce the emissions from the Project or from reasonably foreseeable future projects. Even with imposition of Mitigation Measures AQ-1, AQ-2, AQ-5, and AQ-6, these impacts would remain significant and unavoidable.

Adopted Mitigation Measures

The APCO's adoption in the 2014 Findings of Mitigation Measures AQ-1, AQ-2. AQ-5 and AQ-6 are supported by the EIS/EIR, SEIR and are adopted and incorporated herein. Mitigation Measure AQ-6 was revised in the SEIR as set forth above.

VI. POTENTIALLY SIGNIFICANT IMPACTS MITIGATED TO A LESS THAN SIGNIFICANT LEVEL

Section VI of the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein with respect to potentially significant impacts mitigated to a less-than-significant level.

VII. MITIGATION MONITORING PROGRAM

Section VII of the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein with respect to the finding and evidence supporting the finding regarding the mitigation monitoring program.

VIII. PROJECT ALTERNATIVES

A. Environmentally Superior Alternative

The discussion in Section VIII.A of the 2014 Findings about the Environmentally Superior Alternative are supported by the EIS/EIR, SEIR and are adopted and incorporated herein.

B. CEQA Alternatives Analysis

The discussion in Section VIII.B of the 2014 Findings about the CEQA alternatives analysis are supported by the EIS/EIR, SEIR and are adopted and incorporated herein, with the additional modifications as noted below.

Proposed Action Alternative (Alternative 1)

Description of the Alternative

The "Proposed Action Alternative" (or Alternative 1) is discussed starting on page 2-4 of the EIS/EIR (see EIS/EIR page 2-46 for Project Design Measures; see EIS/EIR page 2-53 for Mitigation Measures, except for Mitigation Measure AQ-6, which is superseded by SEIR Mitigation Measure AQ-6; see SEIR page 2-128) and has been summarized in Section I.E of this Exhibit 1.

Reasons for Rejecting the Alternative

The reasons for the APCO's rejection of Alternative 1 are supported by the EIS/EIR, SEIR and are adopted and incorporated herein.

Plant Site Alternative (Alternative 2)

The description and rationale for the APCO's rejection of the Plant Site Alternative (Alternative 2) as set forth in the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein.

Modified Pipeline Alternative (Alternative 3)

The description and discussion of the Modified Pipeline Alternative (Alternative 3) as set forth in the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein.

No Project Alternative (Alternative 4)

The description and rationale for the APCO's rejection of the No Project Alternative (Alternative 4) as set forth in the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein.

IX. STATEMENT OF OVERRIDING CONSIDERATIONS

The statement of overriding considerations provided in Section IX of the 2014 Findings are supported by the EIS/EIR, SEIR and are adopted and incorporated herein These Findings also are based on the sources of information and opinions offered in the documents and testimony that make up the SEIR.

X. RECIRCULATION NOT REQUIRED; ADDITIONAL SUBSEQUENT/SUPPLEMENTAL EIR NOT REQUIRED

The discussion in Section X of the 2014 Findings regarding the EIS/EIR is supplemented as follows.

In the course of responding to comments received during the public review and comment period on the SEIR, certain portions of the SEIR were modified and some new information amplifying and clarifying information in the SEIR were added. See SEIR Section 2.3. No significant new information, as defined in section 15088.5(a) of the CEQA Guidelines, was added to the SEIR after the Draft SEIR was issue for public review and before certification. "Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR." CEQA Guidelines § 15088.5(b).

As discussed in Section I.B, above, after certification, the EIS/EIR was litigated resulting in a trial court-issued peremptory writ of mandate directing the District to rescind the District's certification of the EIS/EIR, vacate any approvals for the Project, and prepare a reasoned analysis supported by factual information in response to the mitigation measures proposed by the petitioners. To comply, the District rescinded its original certification of the EIS/EIR for the Project, vacated its past approval for the Project, and prepared the SEIR. Subsequently, the District recertified the EIS/EIR and certified the SEIR.

No substantial changes, as defined in section 15162 of the CEQA Guidelines, which will require major revisions of the certified EIS/EIR/SEIR: (i) have been proposed since certification of the EIS/EIR/SEIR or (ii) have occurred with respect to the circumstances under which the Project is undertaken. Further, there has been no new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence on March 11, 2021 (when the EIS/EIR/SEIR was recertified/certified), showing that: (i) The Project will have one or more significant effects not discussed in the EIS/EIR/SEIR; or (ii) Significant effects previously examined will be substantially more severe than shown in the EIS/EIR/SEIR. The project proponents have not declined to adopt any feasible mitigation measure or alternative that would substantially reduce one or more significant effects of the project.

The APCO hereby finds, based on the standards provided in the CEQA Guidelines, that (i) recirculation of the EIS/EIR/SEIR is not required and (ii) no further CEQA documentation is required.

Evidence

A. The Draft EIS/EIR for the Project was circulated in November 2012. The Final EIS/EIR was issued in June 2013. The APCO certified the EIS/EIR on July 17, 2014. The APCO rescinded its certification of the EIS/EIR on January 27, 2021.

B. The Draft SEIR for the Project was circulated in August 2020. The Final SEIR was issued in January 2020. The APCO recertified the EIS/EIR and certified the SEIR on March 11, 2021.

B. No substantial changes to the EIS/EIR/SEIR or the Project were proposed after release of the Draft SEIR, and before recertification of the EIS/EIR and certification of the SEIR. In the course of responding to comments received during the public review and comment period on the SEIR, certain portions of the SEIR were modified and some new information amplifying and clarifying information was added. The changes, clarifications, and additions to the SEIR do not identify or result in any new significant impacts or substantial increase in the severity of any environmental impacts. The APCO finds that none of the information contained in the SEIR or comments received prior to recertification/certification of the EIS/EIR/SEIR necessitated recirculation pursuant to Public Resources Code section 21092.1 and section 15088.5 of the CEQA Guidelines.

C. No substantial changes to the EIS/EIR/SEIR or the Project were proposed after the EIS/EIR/SEIR was recertified/certified. Subsequently, GBUAPCD staff refined the MMRP in preparation for adoption of the final MMRP at the time of permit issuance/approval of the Project. The content of the MMRP was revised to include Mitigation Measure AQ-6 as set forth in the SEIR. The GBUAPCD finds that none of the refinements made following recertification/certification of the EIS/EIR/SEIR

requires a subsequent or supplemental EIR pursuant to section 15162 or 15163 of the CEQA Guidelines.

XI. RECORD OF PROCEEDINGS

The discussion in Section XI of the 2014 Findings regarding the record of proceedings and related evidence is supplemented by the record of proceedings and related evidence for the SEIR. In sum, the GBUAPCD files, staff reports to the Board, minutes and records of Board proceedings, and other documents and materials constitute the record of proceedings upon which the Board bases its actions contained herein. Further, the documents and other material that constitute the record of proceedings are located at Great Basin Unified Air Pollution Control District Office, 157 Short Street, Bishop, California 93514.

XII. FISH AND GAME FEE

The discussion and evidence in Section XII of the 2014 Findings regarding the Fish and Game Fee remains unchanged by these Findings except to note that payment of the fee was made at the time the Notice of Determination was filed in connection with the EIS/EIR. No further fee, and no payment of an additional fee, is required in connection with the GBUAPCD's recertification/certification of the EIS/EIR/SEIR.

XIII. CONCLUSION

In accordance with Public Resources Code section 21081 and section 15091 of the CEQA Guidelines, the Decision Maker finds as follows:

The EIS/EIR/SEIR for the Casa Diablo IV Geothermal Development Project was prepared pursuant to CEQA, the CEQA Guidelines and the GBUAPCD's Environmental Impact Review Guidelines. The Decision Maker has exercised its independent judgment and determined that the EIS/EIR/SEIR fully and adequately addresses the impacts of the proposed Project.

The range of project alternatives identified and considered in the EIS/EIR/SEIR meets the test of "reasonable" analysis and provides the Decision Maker with important information from which to make an informed decision on the Project.

Substantial evidence in the record demonstrates various economic, legal, social, environmental and other benefits that would be achieved achieve from the implementation of the Project.

The APCO has balanced the Project's benefits and other considerations against the Project's significant unavoidable environmental impacts identified in the EIS/EIR/SEIR, and has concluded that such impacts are outweighed by the Project's benefits.

In accordance with Public Resources Code section 21081 and CEQA Guidelines section 15091, the APCO finds as follows:

A. Based on the foregoing Findings and information contained in the record of proceedings, the APCO hereby makes one or more of the following findings with respect to the significant environmental effects of the Preferred Alternative:

    1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

2. Specific economic, legal, social, technological or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible some of the mitigation measures or alternatives identified in the EIS/EIR/SEIR.

B. Based on the foregoing Findings and information contained in the record of proceedings, the APCO finds that:

1. All significant effects on the environment due to the approval of the Project, as approved, will be eliminated or substantially lessened where feasible through the incorporation and implementation of Mitigation Measures.

2. Any remaining significant effects of the Project, as approved, on the environment found to be unavoidable are acceptable due to the factors described in the Statement of Overriding Considerations, above.

C. These Findings are based on the EIS/EIR, the SEIR, the MMRP, comments from responsible and other public agencies and the public, information received from the applicant, staff analysis and commentary, and the record of proceedings as a whole.

The APCO therefore concludes that the Casa Diablo IV Geothermal Development Project, Preferred Alternative should be adopted with conditions of approval as contained in the MMRP.

EXHIBIT 2

MITIGATION MONITORING AND REPORTING PROGRAM

Adopted Project Design Measures and Mitigation Measures

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures adopted as part of the environmental review process to avoid or reduce the severity and magnitude of potentially significant environmental impacts associated with project implementation. Specifically, Public Resources Code Section 21081.6(a)(1) requires that a mitigation monitoring or reporting program be adopted at the time that the agency determines to carry out a project for which an EIR has been prepared, to ensure that mitigation measures identified in the EIR are fully implemented. This Mitigation Monitoring and Reporting Program (MMRP) is a working guide to facilitate the implementation of mitigation measures by the Applicant and the monitoring, compliance assurance and reporting activities of the Great Basin Unified Air Pollution Control District (GBUAPCD) and any monitors it may designate.

The following table presents a compilation of the Project Design Measures (PDMs) and mitigation measures adopted by the GBUAPCD from the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and Supplemental Environmental Impact Report (SEIR) prepared for the Casa Diablo IV Geothermal Development Project (CD-IV Project). The table provides a comprehensive list of the measures that will be implemented to avoid or reduce impacts of the CD-IV Project on the human environment, the timing for their implementation, and the related monitoring and reporting requirements.

ORNI 50, LLC is responsible for adhering to, and implementing the adopted PDMs and mitigation measures that will govern both construction and future operation of the CD-IV Project. All approvals and permits required by ORNI 50, LLC for implementation of the CD-IV Project shall be submitted to the GBUAPCD, BLM, Inyo National Forest, and/or other appropriate regulatory authorities as denoted in the table below before commencing the activity for which the approval or permit is required.

The GBUPACD will continue to act as the lead state agency for the project under CEQA. The BLM will continue to act as the lead federal agency for the CD-IV Project, and Inyo National Forest will continue to act as a cooperating federal agency under NEPA. The cooperating agencies are responsible for ensuring compliance with the provisions of this Mitigation, Monitoring and Reporting Program and have the primary responsibility for ensuring conformance to, and implementation of the adopted PDMs and mitigation measures as outlined in the table. Where the BLM is identified as the responsible agency to monitor compliance for measures designed to avoid or reduce impacts to resources for which the Inyo National Forest is the responsible surface management agency, the BLM will coordinate compliance monitoring with the Forest Service.

The GBUAPCD, BLM, and Inyo National Forest may authorize qualified individuals and agencies to perform monitoring activities as deemed necessary. The agencies retain the authority to halt any activity associated with the CD-IV Project if the activity is determined to be a deviation from the approved project or the adopted PDMs and mitigation measures.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Resources			
PDM AQ-1: ORNI 50, LLC will apply water during the construction and utilization of pads and access roads as necessary to control dust. Dust shall not be discharged into the air for a period or periods aggregating more than three minutes in any one-hour that is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to monitor compliance.	During construction.
PDM AQ-2: ORNI 50, LLC shall comply with any requirements prescribed by the Great Basin Unified Air Pollution Control District (GBUAPCD) concerning emissions of air pollutants from construction engines or hydrogen sulfide from operating geothermal wells. The drilling rigs shall be registered in the California Air Resources Board (CARB) Portable Engine Registration Program.	ORNI 50, LLC and its contractors to implement and comply with prescribed construction and operation air emissions reduction procedures, and register drilling rigs with the CARB Portable Engine Registration Program.	GBUAPCD to review and approve required permits, and confirm drilling rig registration with CARB.	Prior to construction.
PDM AQ-3: ORNI 50, LLC shall utilize best available equipment and design to minimize emissions of n-pentane.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve a summary of proposed equipment and design.	Sufficient time for review prior to start of construction.
PDM AQ-4: ORNI 50, LLC shall apply for an air permit to construct and operate the wells and power plant. The project shall conform to GBUAPCD requirements for controlling emissions.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to monitor compliance.	Sufficient time for review prior to start of construction.
Mitigation Measure AQ-1: ORNI 50, LLC shall develop and implement a plan that demonstrates that the mobile off-road equipment (more than 50 horsepower) to be used for the CD-IV Project (i.e., owned, leased, and subcontractor vehicles) shall achieve a project wide fleet-average 20 percent NO_x reduction compared to the most recent CARB fleet average. The plan shall be approved by the GBUAPCD prior to the commencement of construction activities. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve submitted plan.	Submit plan to the GBUAPCD with sufficient time for review prior to the start of construction, and during construction if modified.
Mitigation Measure AQ-2: ORNI 50, LLC shall require that all drill rig engines meet either USEPA and CARB Tier 2 or higher emissions standards for off-road engines. Prior to commencement of drilling, ORNI 50, LLC shall provide documentation to the GBUAPCD that demonstrates that each drill rig shall be equipped with Tier 2 and Tier 3 engines.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve proposed drill rigs.	Submit documentation to the GBUAPCD with sufficient time for review prior to the start of drilling.
Mitigation Measure AQ-3: ORNI 50, LLC shall develop a Fugitive Dust Control Plan to be implemented during construction of the CD-IV Project. The plan shall be submitted to the GBUAPCD for review and approval prior to the commencement of construction activities. The plan shall include, but not be limited to, the following dust control measures: • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized to control dust emissions using water. • All ground disturbance, including land clearing, grubbing, scraping, excavation, grading, and cut & fill activities shall effectively control fugitive dust emissions by utilizing application of water or by presoaking. • Limit traffic speed on unpaved access roads to 15 miles per hour (mph) and post visible speed limit signs at construction site entrances. • Suspend excavation and grading activity when gusts produce wind speeds exceeding 20 mph. • Reduce land disturbance activities as much as possible so that natural, stable soil conditions remain. • The plan shall include provisions for monitoring fugitive dust based on the requirements of PDM AQ-1, and if the requirements identified in PDM AQ-1 are exceeded, construction activities shall cease until it can be determined that the requirements can be achieved.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve fugitive dust control plan.	Submit plan to the GBUAPCD with sufficient time for review prior to the start of construction and during construction if modified.
Mitigation Measure AQ-4: ORNI 50, LLC shall monitor hydrogen sulfide (H_2S) concentrations during all well drilling and testing at GBUAPCD-approved locations for each well location. If the well H_2S emissions exceed 2.5 kg/hr or the State's H_2S ambient air quality standard for one hour is exceeded, further venting shall be curtailed until an H_2S Abatement Plan, approved by the GBUAPCD, is implemented to reduce H_2S well emissions below 2.5 kg/hr and the ambient concentrations below the State standard of 0.03 parts per million. The plan shall include (1) a description of the abatement technology, the degree of control expected from such technology, and the test data indicating that such degree of control can be expected in a geothermal well application; and (2) air quality analysis showing that the use of such abatement technology shall not result in any violation of the State ambient air quality standard for H_2S.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review H_2S concentrations and an H_2S abatement plan.	Submit monthly monitoring reports to the GBUAPCD. If H_2S concentrations exceed 2.5 kg/hr or the State's H_2S ambient air quality standard for one hour, the GBUAPCD must be notified within 24 hours. If an H_2S abatement plan is required, construction must halt until approved by the GBUAPCD.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Air Resources (cont.)			
Mitigation Measure AQ-5: ORNI 50, LLC shall prepare and implement an Emission Management Plan for review and approval by the GBUAPCD Air Pollution Control Officer, which shall contain the following: • A description of the method to determine the daily n-pentane volume in the plant. • An explanation of how to calculate n-pentane loss rates over a given period. • An action plan for detecting and reporting breakdown events under GBUAPCD Rule 403.B, when n-pentane leaks emit more than 410 pounds per day. • An action plan for repairing leaks associated with breakdown events. A maintenance plan for routine monitoring and prevention of n-pentane leaks. • A format for quarterly reports on n-pentane losses and purchases. The Emissions Management Plan shall be updated as necessary in order to ensure compliance with federal, state, and/or district rules and to incorporate management plan improvements if necessary.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve submitted plan.	Submit plan to the GBUAPCD with sufficient time for review prior to the start of operation and during operation if modified.
Mitigation Measure AQ-6: Implementation of Enhanced Leak Detection and Repair (LDAR) Program. ORNI 50, LLC shall obtain a portable Volatile Organic Compound (VOC) leak detector capable of meeting the performance specifications described in USEPA's Method 21. This instrument shall be properly maintained, calibrated, and made readily available at all times on the property site. Inspections utilizing the instrument shall be conducted at a minimum on a monthly basis to assist ORNI 50, LLC personnel in detecting n-pentane leaks from all flanges, valves, pump seals, safety relief valves, n-pentane accumulator vessels, turbine gland seals, and other components with the potential for fugitive emissions. In addition to a USEPA Method 21 portable analyzer, monthly inspections shall include the use of a held infrared camera and visual inspection and observation. Pumps shall be visually inspected weekly. Whenever a leak is detected that is greater than 2,000 ppmv for pumps or 500 ppmv for valves, pressure relief valves, flanges, n-pentane accumulator vessels, turbine gland seals, and all other components with the potential for fugitive emissions, ORNI 50, LLC shall initiate repairs as soon as possible. Once a leak is discovered, ORNI 50, LLC shall tag and log its location, record the leak concentration, record the date, and record the dates of each repair attempt. Minimization of a leak shall occur as soon as possible and no later than 24 hours after the leak discovery. Repair of a leak shall occur as soon as possible and no later than 7 days after the leak discovery. A report that includes the six-month average daily emission calculations and n pentane purchases shall be submitted electronically to the GBUAPCD within 30 days from the end of each calendar quarter. A summary record of the leak repairs made shall also be submitted to the GBUAPCD when reporting n-pentane losses.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to review and approve the n-pentane emissions calculations and purchases report.	During operation, n-pentane leaks to be checked monthly. A report including the six-month average daily emission calculations and n-pentane purchases shall be submitted electronically to the GBUAPCD within 30 days from the end of each calendar quarter.
Biological Resources			
PDM BIO-1: A qualified wildlife biologist shall walk the pipeline route once each year for the first three years following completion of construction to survey for any signs that the pipeline is impeding wildlife movement. If such evidence is found, the USFS may require ORNI 50, LLC to clear one or more areas under the pipeline of at least 16 inches height, or a height sufficient to allow wildlife to pass under the pipeline, at the points where movement is impeded.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to review annual survey summary report.	For the first three years after construction, within 30 days of completing the annual surveys a summary report shall be submitted to the USFS for review.
PDM BIO-2: After construction is complete, erosion control measures including revegetation and periodic maintenance activities shall be implemented. Disturbed areas that will not be used after construction shall be revegetated with the proper seed mixture and planting procedures prescribed by the USFS. Any topsoils enriched in organic material stockpiled from previously disturbed areas (see GEO-1) may be applied to enhance areas to be reclaimed by revegetation.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance in coordination with the USFS.	After construction.
PDM BIO-3: During construction, prior to entering and upon exiting the project area, all trucks and construction equipment that will operate off of previously existing roads shall be washed to remove soil and plant parts. A central washing facility shall be provided for this purpose, either at the ORNI 50, LLC equipment area at Casa Diablo on private land, or at a location approved by the authorized officer.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM BIO-4: All materials used in erosion control and/or rehabilitation efforts (e.g. straw bales, seeds, etc.) on the project shall be certified as being free of noxious weed materials.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM BIO-5: New non-native species introduced as a result of the project shall be eradicated (i.e., 0 percent cover). Where this standard is not met, appropriate weed control measures shall be implemented in order to comply with the standard for a period of three years following project completion.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance in coordination with the USFS.	Prior to, during, and after construction.
PDM BIO-6: With the exception of cheatgrass, all non-native weed species already present in the project area may account for no more than 5 percent total of the relative cover of the disturbed areas, including roadsides at the end of the 3-year evaluation period following completion of revegetation measures. Weed control shall be implemented immediately following implementation of the project, and throughout the project life to meet this standard.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance in coordination with the USFS.	After construction and during operation.
PDM BIO-7: Cheatgrass is largely absent from the forested portions of the project area. In order to maintain this condition, cheatgrass shall be removed from all areas where ground disturbance occurs west of drill sites 56-25, 57-25 or 58-25. Appropriate weed control measures shall be implemented as necessary, in order to prevent the invasion and spread of cheatgrass, throughout the life of the project, and for a period of three years following project completion.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance in coordination with the USFS.	Throughout the life of the project and for three years following project completion (decommissioning).

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)			
Mitigation Measure VEG-1: ORNI 50, LLC shall undertake the following measures to manage the construction site and related facilities in a manner to avoid or minimize impacts to vegetation resources: 1. ***Limit Disturbance Areas.*** The boundaries of all disturbed areas (including staging areas, access roads, and sites for temporary placement of spoils) shall be delineated with stakes and flagging prior to construction activities. Spoils and topsoil shall be stockpiled in disturbed areas lacking native vegetation that do not provide habitat for special-status species. The stockpiles shall not be placed in areas with existing weed populations. All disturbances, CD-IV Project vehicles and equipment shall be confined to the flagged areas. All personal vehicles shall be parked off-site or at existing MPLP facilities. All above ground pipelines and transmission lines shall be installed using low pressure tracked equipment to minimize impacts on vegetation. Understory vegetation and surface soils may be trampled during pipeline and transmission line installation but not removed. All Jeffrey pine trees in the installation routes outside of the footprint of the power plant site and the well pad sites shall be preserved where feasible. For construction activities outside of the plant site (transmission line, pipeline alignments, well pad sites) access roads, pulling sites, and storage and parking areas shall be designed, installed, and maintained with the goal of minimizing impacts to native plant communities and sensitive biological resources. 2. ***Minimize Road Impacts.*** New and existing roads that are planned for construction, widening, or other improvements shall not extend beyond the flagged impact area as described above. All vehicles passing or turning around shall do so within the planned impact area or in previously disturbed areas. Where new access is required outside of existing roads or the construction zone, the route shall be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. 3. ***Implement Erosion Control Measures.*** Standard erosion control measures shall be implemented for all phases of construction and operation where sediment run-off from exposed slopes threatens to enter “Waters of the State”. All disturbed soils and roads within the project site shall be stabilized to reduce erosion potential, both during and following construction. Areas of disturbed soils (access and staging areas) that slope toward a drainage, shall be stabilized to reduce erosion potential. Water used for dust suppression purposes may not come from Casa Diablo power plant geothermal injection fluids. 4. ***Revegetation of Temporarily Disturbed Areas.*** Per PDM BIO-2, ORNI 50, LLC shall prepare and implement a Revegetation Plan to restore all areas subject to temporary disturbance to pre-project grade and conditions. The Revegetation Plan may not be implemented until it is approved by an Inyo National Forest botanist who is familiar with the project environment and the District Ranger. Temporarily disturbed areas within the project area include, but are not limited to: the transmission line corridor, construction staging areas for well pad sites, and temporary access roads. The Revegetation Plan shall include a description of topsoil salvage and seeding techniques and a monitoring and reporting plan. The following success standards shall be met at the end of the third growing season following seed application. a. Success standards for revegetation in the Jeffrey pine forest are as follows: i. At least 1 tree, 1 shrub, and 6 perennial native grasses and/or forbs per 4 square meters shall be established on site. ii. Perennial grasses shall account for at least 10 percent of the relative cover. iii. All non-native weed species that are already present in the area may account for no more than 5 percent total of the relative cover at the end of a three-year evaluation period. New non-native species introduced as a result of the project shall be eradicated (i.e., 0 percent cover). b. Success standards for revegetation in the Sagebrush Scrub are as follows: i. At least 3 shrubs and 8 perennial native grasses and/or forbs per 4 square meters shall be established on site. ii. Perennial grasses shall account for at least 10 percent of the relative cover. iii. All non-native weed species that are already present in the area may account for no more than 5 percent total of the relative cover at the end of a three-year evaluation period. New non-native species introduced as a result of the project shall be eradicated (i.e., 0 percent cover). 5. ***Landscaping.*** Any vegetation planted for landscaping or visual shielding purposes shall be reviewed by USFS personnel prior to installation. 6. ***Grazing.*** The USFS shall ensure that grazing in the Sherwin/Deadman Sheep and Goat Allotment avoids active or revegetation monitoring areas in Basalt Canyon and Upper Basalt Canyon, as required by the Revegetation Plan (see **Mitigation Measure VEG 1.4,** above). Avoid Grazing in Revegetation Areas.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS, District Ranger, and BLM shall review the Revegetation Plan. The USFS and District Ranger will approve the Revegetation Plan.	ORNI 50, LLC to submit plan to the USFS and BLM at least 30 days prior to the start of construction and during construction if modified.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)			
Mitigation Measure VEG-2: *Weed Management Plan*. ORNI 50, LLC shall implement a Weed Management Plan that meets the approval the USFS. The objective of the Weed Management Plan shall be to prevent the introduction of any new weeds and the spread of existing weeds as a result of project construction, operation, and decommissioning. The Weed Management Plan shall include at a minimum the following information: specific weed management objectives and measures for each target non-native weed species; baseline conditions; a map of existing weed populations; weed risk assessment and measures to prevent the introduction and spread of weeds; monitoring and surveying methods; and reporting requirements. The Weed Management Plan shall include specific implementation requirements for each phase of the project. The plan shall be consistent with USFS practices and shall be implemented by ORNI 50, LLC to reduce the potential for the introduction of invasive species during construction, operation and maintenance, and decommissioning of the CD-IV Project. The draft plan shall be reviewed and approved by the USFS. The following measures are required in the plan and shall be implemented by ORNI 50, LLC to monitor and control invasive species: 1. ***Preventative Measures During Construction. Equipment Cleaning:*** To prevent the spread of weeds into new habitats, prior to entering the project work areas, construction equipment and personal vehicles shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed seeds and the tracks, feet, tires, and undercarriage shall be carefully washed, with special attention paid to axles, frame, cross members, motor mounts, underneath steps, running boards, and front bumper/brush guard assemblies. Other construction vehicles (e.g. pick-up trucks) and vehicles from different areas of the project that frequently enter and exit the site shall be inspected and washed on an as-needed basis. A vehicle log shall be maintained at the washing facility to document vehicle cleaning. a. All vehicles shall be washed off-site when possible. Should off-site washing prove infeasible, an on-site cleaning station shall be set up to clean equipment before it enters the work area. Either high-pressure water or air shall be used to clean equipment and the cleaning site shall be situated away from any sensitive biological resources. If possible, water used to wash vehicles and equipment shall be collected and re-used. Before re-using the vehicle wash water, any vegetative matter or soil shall be removed. b. Site Soil Management: Ground disturbance shall be limited to the minimum necessary for construction activities, using dust suppressants to minimize the spread of seeds. Disturbed vegetation and topsoil shall be re-deposited at or near the removal area to eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes. Areas of topsoil removal shall be surveyed for weeds pre-project. If weeds are present, the topsoil may not be re-used for revegetation purposes. Use of BLM-approved dust suppressants (e.g. water) shall be minimized on the site as much as possible, but shall be used during construction to minimize the spread of airborne weed seeds, especially during very windy days. c. Weed-free Products: Any use of hay or straw bales on the project site shall be limited to certified weed-free material. Other products such as gravel, mulch, and soil may also carry weeds and these products, too, shall be certified weed-free. If needed, mulch shall be made from the local, on-site native vegetation cleared from the project area. Soil may not be imported onto the project site from off-site sources. 2. ***Containment and Control Measures***. When project monitoring (see below) indicates that invasive species are spreading, invasive species shall be removed using mechanical or manual removal methods. During eradication activities, care shall be taken to have the least effect on native plant species. Chemical control is not included as part of these containment and control measures because site specific information on target weed species are not known at this time. 3. ***Monitoring.*** Baseline weed conditions shall be assessed during the pre-construction phase of the CD-IV Project, during pre-construction surveys and staking and flagging of construction areas. A stratified random sampling technique shall be used to identify and count the extent of weeds on the site. Monitoring shall take place each year during construction, and annually for the lifespan of the project following the completion of construction. The purpose of annual monitoring will be to determine if weed populations identified during baseline surveys have increased in density or are spreading as a result of the CD-IV Project. With the exception of cheatgrass, all non-native weed species already present in the project area may account for no more than 5 percent total of the relative cover of the disturbed areas, including roadsides. Control methods shall be implemented when measurable weed increases, or visually verified increases occur that span two or more consecutive years of monitoring results collected at the end of the growing season. General management and monitoring of the project area shall be conducted by designated site personnel each year during both the germinating and early growing season (November through April) to eliminate new weed individuals prior to seed set. Throughout construction and long-term monitoring, personnel shall be trained to identify weedy and native species and work with a trained vegetation monitor to determine where elimination is necessary. 4. ***Reporting.*** Results of monitoring and management efforts shall be included in annual reports. Copies of these reports shall be kept on file at the site. Copies of each annual report shall be sent to the BLM and USFS for review and comment. BLM and USFS shall use the results of these reports to determine if any additional monitoring or control measures are necessary.	ORNI 50, LLC and its contractors to prepare and implement a Weed Management Plan.	USFS and BLM to review and approve the Weed Management Plan. BLM to monitor compliance in coordination with the USFS.	ORNI 50, LLC to submit plan to the USFS and BLM at least 30 days prior to the start of construction and during construction if modified. Annual reports shall be submitted to the USFS and BLM.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)			
Mitigation Measure VEG-2 (cont.): ***Weed Management Plan*** 5. ***Success Criteria.*** Weed control shall be ongoing on the project site for the life of the CD-IV Project, but plan success will be determined by BLM and USFS after three years of operations monitoring through the reporting and review process. Success criteria shall be defined as the following: a. Non-native weed species that are already present in the area may account for no more than 5 percent total of the relative cover at the end of a three-year evaluation period. b. New non-native species introduced as a result of the project shall be eradicated (i.e., 0 percent cover).			
Mitigation Measure VEG-3: This mitigation measure shall modify PDMs BIO-5, BIO-6, and BIO-7: All weed monitoring and weed control remediation efforts shall commence at the start of construction activities and shall continue for the duration of the permit.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to review and approve the Weed Management Plan. BLM to monitor compliance.	Prior to construction and during operation and maintenance.
Mitigation Measure WIL-1: Avoid Active Nesting Season. To avoid and minimize impacts to tree and shrub nesting species, the following measures shall be implemented by ORNI 50, LLC according to the timeframes shown below: 1. If feasible, conduct all tree and shrub removal and grading activities during the non-breeding season (generally September 1 through January 31). 2. If grading and tree removal activities are scheduled to occur during the breeding and nesting season (February 1 through August 31), pre-construction surveys shall be performed prior to the start of project activities. ***Conduct Pre-construction Nesting Bird Surveys.*** If construction, grading or other project-related activities are scheduled during the nesting season (February 1 to August 31), pre-construction surveys shall be conducted prior to the initiation of construction by a qualified wildlife biologist to identify active hawk nests within ½-mile of proposed construction activities and nests of other species within 500 feet of proposed construction activities. The surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of each phase of construction. The results of the survey shall be emailed to the BLM, USFS, CDFW and USFWS at least three days prior to construction. Surveys shall be conducted by a qualified biologist in accordance with the following protocols: 1. Surveys for northern goshawk shall include at least two preconstruction surveys (separated by at least two weeks). Surveys must include both stand search and broadcast acoustical survey methodologies as described in 2000 USDA Forest Service Protocol for the Northern Goshawk in the Pacific Southwest Region. 2. Surveys for other migratory bird species shall take place no less than 14 days and no more than 30 days prior to the beginning of each phase of construction that would be located within 500 feet of suitable nesting habitat. If the pre-construction surveys do not identify any nesting raptors or other nesting migratory bird species within areas potentially affected by construction activities, no further mitigation will be required. If the pre-construction surveys do identify nesting raptors or other nesting bird species within areas that may be affected by site construction, the following measures shall be implemented: **Avoid Active Bird Nest Sites.** Should active nest sites be discovered within areas that may be affected by construction activities, additional measures shall be implemented as described below, prior to the initiation of construction: **Northern Goshawk and other Migratory Birds:** If active nests are found, project-related construction impacts shall be avoided by establishment of appropriate no-work buffers to limit project-related construction activities near the nest site. The size of the no-work buffer zone shall be determined in consultation with the BLM, USFS, CDFW and USFWS although a 500-foot buffer may be used initially prior to agency consultation. For northern goshawk nests, the buffer shall be 1/4 mile. The no-work buffer zone shall be delineated by highly visible temporary construction fencing. In consultation with BLM, USFS, CDFW and USFWS, monitoring of nest activity by a qualified biologist may be required if the project-related construction activity has potential to adversely affect the nest or nesting behavior of the bird. No project-related construction activity shall commence within the no-work buffer area until a qualified biologist and USFS, CDFW and USFWS confirm that the nest is no longer active.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to submit survey results to the USFS and BLM. BLM to monitor compliance.	Submit survey results to USFS and BLM at least 30 days prior to the start of construction and during construction, if modified.
Mitigation Measure WIL-2: Water which may accumulate in geothermal well site basins from precipitation shall be removed to a standing depth of 2 inches or less from the respective basins on a daily basis or as soon as operationally feasible; and liquids deposited into the basins shall either be removed daily to a standing depth of 2 inches or less, or the basins shall be made wildlife-escapable by creating earthen ramps at slopes of 1:3 or less at intervals of 100 feet apart or less around the perimeter of the standing depth of the liquid stored in the basin. The basins shall be monitored during well drilling to determine if these measures are effective, and monitored during spring months to ensure that water does not accumulate as snow melts. If monitoring determines that these measures are ineffective in preventing wildlife from drowning in the basins, an alternative deterrent or escape structure such as netting shall be implemented. Alternatives for providing equally effective measures which would allow wildlife to escape unharmed from the well site basins may be authorized subject to USFS, USFWS and CDFW approval. If indications of a hazardous materials release such as oils or surface films are observed in basins, netting or screening shall be used when basins are unstaffed to prevent access by birds and other wildlife.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance of mitigation measure. ORNI 50, LLC to submit documentation of wildlife drowning to USFS and BLM for review. If needed, ORNI 50, LLC shall propose plans for earthen ramps or other alternatives for review and approval by USFS and BLM.	During construction and operation.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)			
Mitigation Measure WIL-3: Within the Jeffrey pine forest habitat within the project area, retain as many snags, downed logs, coarse woody debris and brush piles as possible, and use cleared trees, woody vegetation, and brush materials to retain existing habitat and provide new Sierra marten hunting and denning opportunities.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to summarize retention of Jeffrey pine forest habitat and reuse of woody material in a document for submittal to USFS.	During construction.
Mitigation Measure WIL-4: A new deer crossing shall be constructed over the proposed pipeline running south of the power plant site between the existing substation and the existing MP I power plant to enhance mule deer and other wildlife movement through the project area. The new crossing shall be designed with input from the CDFW but will resemble the existing crossing at the SCE easement.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to submit crossing design to CDFW for input. USFS to monitor compliance in cooperation with CDFW.	Prior to and during construction.
Mitigation Measure WIL-5: The proposed pipelines running parallel to the existing Basalt Canyon pipeline shall be installed underground in alignment with the existing underground sections in order to provide a clear visual corridor for migrating deer. The underground sections shall be a minimum of 30 feet in length. In most cases these segments occur at existing roads, which mule deer habitually use for movement. Segments that are parallel to the existing Basalt Canyon pipeline in areas where there are currently no underground segments shall be installed underground at a prescribed frequency. These underground segments shall be located in alignment with suspected traditional migratory routes (see Figure 4.4-1). At this time, constructing underground segments in the existing Basalt Canyon pipeline is not proposed, as deer readily pass over the single pipeline. In addition to these underground segments, underground pipeline segments shall be installed at high movement areas identified to the immediate south of Highway 395 and between well pad sites 57-25 and 66-25 (see Figure 4.4-5). If used, overhead segments shall be of sufficient height to allow wildlife and people (or vehicles) to pass under the pipeline. Alternately, underground segments shall be a minimum of 30 feet in length. It should be noted that these proposed migratory crossing requirements should be viewed primarily as conceptual and should be used to guide final design of the pipelines.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to review and approve pipeline plans to ensure compliance with this measure. BLM and USFS to monitor compliance.	Prior to and during construction.
Mitigation Measure WIL-6: ORNI 50, LLC shall prepare and implement a Migratory Deer Monitoring Plan that meets the approval of BLM and USFS. The objective of the Migratory Deer Monitoring Plan shall be to monitor the pipeline routes for evidence of movement corridors not currently identified. The migratory deer monitoring shall follow the methodology used for the deer track crossing studies performed in 2011 (Paulus 2011a; 2012a; 2012b). If previously unidentified movement corridors are found during monitoring, remedial actions, such as installation of earthen ramps over the pipeline, shall be implemented in order to facilitate deer crossings. The monitoring plan shall also include details regarding methodologies to determine if the pipeline corridors are impeding wildlife movement (per PDM BIO-1) (e.g., if tracks do not cross designated crossing areas), and shall include remedial actions if impedance of wildlife movements is detected, or if the various measures proposed to promote deer crossings are not being utilized by migrating deer (e.g., installing at-grade or similar crossing structures). The monitoring plan shall also include performance measures for determining if the various deer crossing measures proposed are meeting their goals. At a minimum, monitored elements shall include: 1) a pre- and post- construction deer movement study that employs remote camera stations that are capable of determining whether or not deer use remains relatively constant or declines measurably following construction; 2) an assessment of available crossing sites to determine whether or not deer are using the provided above ground or underground sections; and 3) the success of any remedial actions, if needed (for example, the success of additional created at-grade structures), to facilitate deer movement through the Casa Diablo complex. As a result of post-project monitoring studies, any indications that changes to the environment resulting from the project result in significantly greater (e.g., >25 percent above baseline) vehicle-related mule deer mortality or significantly reduced on-site deer population size or habitat use that cannot otherwise be explained by environmental factors shall warrant the incorporation of additional measures such as the one-by-one construction of at-grade or similar deer crossing structures at key locations to reduce impacts on deer movement.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS shall review and approve Migratory Deer Monitoring Plan. BLM and USFS to monitor compliance.	At least 30 days prior to construction.
Mitigation Measure WIL-7: The following measures are required to protect mule deer and general wildlife: a) External safety lighting associated with project construction and operations shall be designed to minimize effects to wildlife and lighting of natural habitat at night. Operational lighting at the plant site and well sites shall be directed downward and shielded, or directed inward away from natural habitat and wildlife movement corridors. b) To the maximum extent feasible, all noise-generating construction activities on project linear corridors shall be limited to daylight hours. c) During construction and decommissioning, solid waste materials (trash) shall be stored in containers that are inaccessible to wildlife. Trash shall be routinely collected and deposited at an authorized landfill to avoid attracting predators to the project area.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to review and approve safety lighting and monitor compliance with all safety lighting, noise, and waste requirements. BLM will also monitor during construction.	During construction and operation.
Mitigation Measure WIL-8: Conduct Pre-construction Bat Surveys. If construction, grading or other project-related activities are scheduled during the breeding season of native bat species (April 1 to August 31), pre-construction surveys shall be conducted prior to the initiation of construction by a qualified wildlife biologist to determine whether active roosts are present on site or within 50 feet of project activities. Field surveys shall be conducted early in the breeding season before any construction activities begin, when bats are establishing maternity roosts but before pregnant females give birth (April through early May). If no roosting bats are found, then no further mitigation is required. If roosting bats are found, then disturbance of the maternity roosts shall be avoided by halting construction until the end of the breeding season or a qualified bat biologist removes and relocates the roosting bats in consultation with CDFW.	ORNI 50, LLC and its contractors shall ensure the completion of required surveys to CDFW protocol standards.	CDFW to review and approve surveys, if necessary.	Prior to construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Biological Resources (cont.)			
Mitigation Measure WIL-9: ***Conform to Avian Power Line Interaction Committee Guidelines.*** Electric distribution poles or towers being modified or integrated with the project shall be compliant with measures defined by the Avian Power Line Interaction Committee (APLIC).	ORNI 50, LLC and its contractors shall ensure that APLIC Guidelines are incorporated into construction plans, details, shop drawings and specifications.	USFS to review and approve all construction plans, details, shop drawings and specifications to ensure compliance.	Prior to and during construction.
Mitigation Measure WIL-10: Prior to commercial production or injection of geothermal resources, the applicant shall develop and implement an Owens Tui Chub Population and Habitat Monitoring Plan and amend the existing Remedial Action Plan, in coordination with the BLM and USFS. CDFW and USFWS will be invited to participate in the development and implementation of the plan. The Population and Habitat Monitoring Plan and amendment to the Remedial Action Plan shall be approved by BLM, CDFW, and USFWS prior to implementation. The plans are intended to identify and quantify potential changes to fish habitat and populations at AB and CD springs and Little Hot Creek Pond. The plans shall include the following measures: a) Conduct baseline (year zero) and ongoing fish surveys using CDFW and USFWS approved survey methods in portions of the AB/CD springs, and Little Hot Creek Pond where water quality changes could potentially affect Owens tui chub habitat or populations. b) Collect baseline (year zero) benthic macroinvertebrate (BMI) samples at the same sampling sites and dates as the fish surveys described above, and periodically concurrent with fish surveys after the initial collection. c) Conduct a baseline (year zero) and periodic stream habitat assessments in accordance with agency-approved survey protocols. These assessments shall include a quantitative evaluation of physical stream characteristics, and aquatic and riparian vegetation. d) Incorporate the collected population and habitat data into an analysis and discussion of water quality data collected in AB and CD springs, and Little Hot Creek Pond such as field measurements for air and water temperature, conductivity, dissolved oxygen (concentration and percent saturation), flow, turbidity, and hydrogen ion concentration (pH). Additional parameters may include, but are not limited to, sampling for total suspended solids (TSS), hardness, aluminum, and chromium to be collected, preserved, and sent to a certified analytical laboratory for analysis. e) Prepare an annual data report summarizing the current year's survey and sampling results, including analyses of trends and conditions. A draft report shall be made available for BLM review by December 31 of each year. The summary report shall include an analysis and discussion of water quality data. The report will be provided to CDFW and USFWS for review. f) Amend the existing Remedial Action Program to include measures specific to changes in Owens tui chub populations and primary constituent elements, such as aquatic vegetation, water quality, and an adequate insect prey base.	ORNI 50, LLC and its contractors shall integrate Tui Chub Population and Habitat Monitoring Plan measures into construction plans, details, shop drawings and specifications. ORNI 50, LLC and its contractors shall comply with Owens Tui Chub Population and Habitat Monitoring Plan measures.	BLM to approve Owens Tui Chub Population and Habitat Monitoring Plan in coordination with USFS, CDFW and USFWS. BLM to monitor compliance.	Prior to and during construction. Draft report submitted to USFS and BLM by December 31 of each year.
Climate Change			
Mitigation Measure GHG-1: ORNI 50, LLC shall put forth a good-faith effort to obtain and install hermetically sealed circuit breakers and gas insulated switches for all sulfur hexafluoride (SF_6) containing equipment associated with the CD-IV Project.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to submit a summary of SF_6 containing equipment to GBUAPCD for review and approval. Where hermetically sealed equipment is not proposed include a detailed explanation of why not.	Prior to and during construction.
Cultural Resources			
PDM CUL-1: All grading and site construction activities shall avoid, to the extent possible, all cultural resource sites identified in the cultural resource survey report prepared for the project area. If identified cultural resource sites cannot be avoided, ORNI 50, LLC shall comply with all requirements of the BLM, USFS and California State Office of Historic Preservation (SHPO) prior to any grading or site construction activities which may affect the cultural resources.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to and during construction.
PDM CUL-2: If buried cultural deposits are discovered during site construction activities which were not identified in earlier cultural resource surveys for the project, grading and site construction activities in the vicinity of the cultural deposit will be evaluated by the Inyo National Forest archaeologist, or by a cultural resource specialist pursuant to the requirements of Memorandum of Agreement (MOA) with the SHPO.	ORNI 50, LLC and its contractors to implement measure as defined and to notify the Inyo National Forest and SHPO as required.	USFS and BLM to monitor compliance.	During construction.
PDM CUL-3: ORNI 50, LLC employees, contractors, and suppliers shall be informed about the sensitivity of the cultural resources in the project area and reminded that all cultural resources are protected and, if uncovered, shall be left in place and reported to the ORNI 50, LLC representative and/or their supervisor.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to and during construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Cultural Resources (cont.)			
Mitigation Measure CUL-1: A Memorandum of Agreement (MOA) shall be prepared and shall detail: 1) procedures to resolve adverse effects under Section 106 of the National Historic Preservation Act; 2) coordination between the CEQA process and Section 106 compliance; 3) procedures for treatment of inadvertent discoveries; 4) procedures for determining treatment and disposition of human remains; 5) compliance monitoring; 6) dispute resolution; 7) development of an Historic Properties Avoidance Plan; and 8) Tribal consultation and participation.	ORNI 50, LLC and its contractors to prepare the MOA.	USFS and BLM to review and approve the MOA.	At least 90 days prior to construction.
Mitigation Measure CUL-2: On the basis of preliminary National Register eligibility assessments made under the MOA, particularly concerning contributing resources to the Casa Diablo Obsidian Quarry District, the BLM and USFS may require the relocation of project components to avoid or reduce damage to cultural resource values. Where operationally feasible, potentially National Register-eligible resources shall be protected from direct project impacts by project redesign within previously surveyed and analyzed area.	ORNI 50, LLC and its contractors to comply with project component relocation requirements.	USFS and BLM to require the relocation of project components as needed.	At least 90 days prior to construction.
Mitigation Measure CUL-3: The CD-IV Project Alternative 3 design of September 19, 2012, was in part developed to avoid historic properties. Where the USFS and BLM decide that National Register-eligible or -listed cultural resources cannot be protected from direct impacts by project redesign, ORNI 50, LLC shall comply with appropriate mitigative treatment(s) that will be detailed in the MOA.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to ensure compliance with the MOA.	At least 90 days prior to and during construction.
Mitigation Measure CUL-4: A Historic Properties Avoidance Plan shall be developed and included in the MOA that defines and maps all known cultural resources within 150 feet of the project APE. That plan shall also detail how resources will be marked and protected as Environmentally Sensitive Areas during construction. The plan shall detail provisions for monitoring construction in locations deemed to be high-sensitivity areas for buried sites currently without surface manifestations. It shall also detail procedures for halting construction, making appropriate notifications to agencies, officials, and Native Americans, and assessing register-eligibility in the event that unknown cultural resources are discovered during construction. For all unanticipated cultural resource discoveries, the Historic Properties Avoidance Plan shall detail the methods, consultation procedures, and timelines for assessing register-eligibility, formulating a mitigation plan, and implementing treatment. Mitigation and treatment plans for unanticipated discoveries shall be approved by the USFS, BLM, and the SHPO prior to implementation.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS, BLM, and the SHPO shall review and approve plan.	At least 90 days prior to construction.
Mitigation Measure CUL-5: Archaeological monitoring shall be conducted by a qualified archaeologist familiar with the types of historic and prehistoric resources that could be encountered within the APE, and under direct supervision of a principal archaeologist. All cultural resources personnel shall be approved by the BLM and USFS. A Native American monitor may be required at culturally sensitive locations specified by the USFS following government-to-government consultation with Indian tribes. The Historic Properties Avoidance Plan shall indicate the locations where Native American monitors will be required and shall specify the tribal affiliation of the required Native American monitor for each location. ORNI 50, LLC shall retain and schedule any required Native American monitors.	ORNI 50, LLC to retain a qualified archaeologist, as described, to conduct the required archaeological monitoring.	BLM and USFS to approve cultural resources personnel and review monitoring results.	Prior to and during construction.
Mitigation Measure CUL-6: Prior to construction, the BLM shall ensure that the boundaries of historic properties for which project facilities appear to overlap are clearly marked on the ground with wood lathe and flagging set no more than 10 meters apart. Historic properties planned for avoidance and protection shall be designated as Environmentally Sensitive Areas (ESAs). Historic properties that are within 20 meters (65 feet) of the Direct APE will be identified and labeled as ESAs on engineering plans. ORNI 50, LLC shall retain a qualified archaeologist to conduct mandatory cultural sensitivity training for all project staff and contractors prior to construction activities associated with this undertaking.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to construction.
Mitigation Measure CUL-7: In the event of inadvertent discoveries during construction, operation and maintenance, or decommissioning, procedures outlined in the MOA and the HPTP shall be adhered to. At a minimum this shall include: 1) stop work orders in the vicinity of the find; 2) recordation and evaluation of the find by a qualified archaeologist; 3) notification of the find to BLM and USFS; 4) and implementation of appropriate treatment measures, such as avoidance or data recovery.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	During construction, operation, and decommissioning.
Mitigation Measure CUL-8: Following language developed in the MOA, the BLM shall continue to consult with Indian tribes to identify sacred sites, properties of traditional religious and cultural importance, and traditional use areas that might be affected by the CD-IV Project. If such places are identified, the BLM shall consult further with tribes to resolve access impediments or other identified impacts.	BLM to continue consultation with Indian tribes as described.	USFS and BLM to monitor compliance.	Prior to and during construction.
Geothermal Resources			
PDM HYD-8: The well bores shall be cased with steel casing to prevent interzonal migration of the fluids, protect groundwater, and reduce the possibility of uncontrolled well flow (“blowouts”).	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM HYD-9: Containment basins/sumps constructed at each drill site for the containment and temporary storage of all drilling fluid, drilling mud and cuttings and stormwater runoff shall be constructed to meet RWQCB requirements. Upon completion of drilling activities, the solids remaining in the pit will be dried and tested in accordance with the requirements of the SWRCB Water Quality Order No. 2003-0003 – Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality or the project-specific requirements of the LRWQCB and, if authorized by the Regional Water Quality Control Board, USFS and BLM, buried in the pit.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM, USFS, and RWQCB to monitor compliance.	Prior to, during, and after construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Geothermal Resources (cont.)			
PDM HYD-10: The power plant site shall be constructed to prevent offsite discharge from accidental spills of geothermal fluid, binary working fluid, or other materials stored or used on the site. The plant and well pads shall be designed so that spills shall be contained on site.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM HYD-11: Isolation valves shall be located within the pipeline to prevent any backflow of geothermal fluid, should a pipeline rupture or major leak occur.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM HYD-12: In-line sensing equipment and automatic shutdown controls shall be installed to detect pipeline leaks or ruptures and shut in the wells in the event of an electric failure or detected sudden drop in pipeline pressure.	ORNI 50, LLC and its contractors to implement measure as defined.	GBUAPCD to monitor compliance.	During construction.
PDM HYD-13: ORNI 50, LLC shall prepare and implement a "Spill or Discharge Contingency Plan" and "Well Blowout Contingency Plan" to prevent, control, contain, clean up and mitigate the impacts of any large spills of geothermal fluid.	Prepare and implement a Spill or Discharge Contingency Plan and Well Blowout Contingency Plan	BLM and USFS to review and approve the "Spill or Discharge Contingency Plan" and "Well Blowout Contingency Plan". BLM to monitor compliance.	Prior to and during construction.
Geologic, Soil and Mineral Resources			
PDM GEO-1: Topsoil shall be salvaged, as feasible, and stockpiled (no more than two feet high) for use during subsequent reclamation of the disturbed areas.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.
PDM GEO-2: Subsoils shall be de-compacted as part of reclamation prior to the replacement of topsoil.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.
PDM GEO-3: ORNI 50, LLC shall construct the project in conformance with recommendations by the geotechnical engineer.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM GEO-4: ORNI 50, LLC commits to continuing to operate the existing geothermal projects in conformance with the Plans of Operation for Development, Injection and Utilization, approved by the BLM and USFS, as well as in conformance with monitoring through the Long Valley Hydrologic Advisory Committee, and remedial action programs, which are designed to prevent, or mitigate, potential hydrothermal impacts to Owens tui chub critical habitat, the Hot Creek Hatchery and Hot Creek Gorge springs from geothermal operations conducted on federal geothermal leases in the Mono-Long Valley area. ORNI 50, LLC also commits to operating the project in conformance with these requirements.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	Prior to and during operation.
PDM GEO-5: The CD-IV plant shall be constructed to handle the maximum credible earthquake in the project area. The power plant and all project construction shall comply with Seismic Zone D standards, the most stringent under the International Building Code.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM GEO-6: The CD-IV power plant and pipelines shall be designed and constructed to reasonably minimize the potential for failure or rupture in the event of fault offset in these zones.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to and during construction.
PDM GEO-7: The Emergency Contingency Plans shall include actions to be taken in the event responsible agencies declare a volcanic hazard warning or alert, or in the event of a volcanic eruption.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to construction.
Mitigation Measure GEO-1: ***Soil Erosion Control Plan Review and Approval.*** PDM HYD-1, HYD-3, and HYD-5 shall be reviewed and approved by a USFS watershed specialist before implementation. Erosion control and drainage plans for new and existing roads to be utilized for the project shall be aimed at maintaining to the greatest extent feasible the soil quality objectives contained in the USFS Pacific Southwest Region (Region 5) Watershed and Air Management Manual (Supplement R5-2500-50-2012-1). In developing the plan, ORNI 50, LLC and/or its contractor shall consult with the USFS to determine the appropriate soil quality objective(s) to be met following construction (for temporary construction disturbances), and following decommissioning (for total site restoration). As part of the erosion control and drainage plans, ORNI 50, LLC and/or its contractor shall implement an appropriate combination of BMPs, selected from the USFS Water Quality Management Handbook (R5 FSH 2509.22, Chapter 10, Amendment 2509.22-2011-1), that are necessary to meet or exceed the applicable soil quality objective(s) (i.e., maintain or enhance soil quality and function).	ORNI 50, LLC and its contractors to prepare and implement an erosion control and drainage plan.	BLM and USFS to review and approve submitted plan. BLM to monitor compliance.	At least 30 days prior to construction.
Mitigation Measure GEO-2: ***Soils and Geotechnical Investigation.*** Prior to issuance of a grading permit or use permit, a qualified California-licensed geotechnical engineer shall prepare and submit to the BLM and USFS a final geotechnical investigation that provides recommendations to address seismic safety, including determination of the appropriate IBC Seismic Performance Category for the site, and design requirements for foundations, retaining walls/shoring and excavation. The scope of the geotechnical report shall include the plant site as well as the pipeline route and well sites. The geotechnical investigation shall identify and evaluate the presence of expansive, compressible or liquefiable soils and, if present, shall make recommendations for site preparation or design necessary to avoid or reduce adverse structural impacts. Structural foundations shall not be founded on engineered fill, nor on native soil, unless it is demonstrated that the soils will be adequate to support the foundation. A California-licensed geotechnical engineer shall be retained by ORNI 50, LLC to be present on the project site during excavation, grading, and general site preparation activities to monitor the implementation of the recommendations specified in the geotechnical investigation. When/if needed, the geotechnical engineer shall provide structure-specific geologic and geotechnical recommendations that shall be documented in a report approved by the permitting agency.	ORNI 50, LLC shall retain a qualified California-licensed geotechnical engineer to prepare a final geotechnical investigation, as described.	BLM to review and approve the final geotechnical investigation, and monitor compliance.	At least 30 days prior to construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Geologic, Soil and Mineral Resources (cont.)			
Mitigation Measure GEO-3: ***Subsidence Monitoring and Mitigation.*** The existing subsidence monitoring program conducted by the USGS shall be reviewed by the USGS and LVHAC to ensure adequate subsidence monitoring is conducted for the CD-IV project. Based on recommendations by the USGS and LVHAC, the subsidence monitoring program may be expanded to include additional monitoring in the CD-IV Project area and any areas outside the project area that may be impacted by the expanded geothermal development. If additional subsidence monitoring is deemed necessary, the project applicant shall develop a monitoring plan. The monitoring plan shall include subsidence and uplift tolerances for potential impacts to infrastructure and resources, and shall prescribe particular actions (e.g., require discontinued or reduced pumping rates) in the event tolerances are exceeded. Additional monitoring may include installation of new or updated monitoring equipment and use of current methods that can detect small-scale changes (for example utilizing InSAR data or high precision leveling methods).	USGS and LVHAC to review the existing subsidence monitoring program. The existing program will be expanded to include additional monitoring, as appropriate and necessary.	BLM to monitor compliance.	At least 30 days prior to construction.
Mitigation Measure GEO-4: ***Surface Fault Rupture Hazard Investigation.*** ORNI 50, LLC shall include in PDM GEO-7 a requirement to provide the BLM and USFS the results and findings of the surface fault rupture hazard investigation and demonstrate that such findings have been incorporated where necessary into the final layout and design of the project. The Surface Fault Rupture Hazard Investigation shall conform to California Geological Survey Note 49, Guidelines for Evaluating the Hazard of Surface Fault Rupture (CGS, 2002) and shall be prepared and certified by a California-licensed geotechnical engineer.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to review the surface fault rupture hazard investigation and approve, if adequate, the applicant's demonstration that findings were incorporated into the final layout and design of the CD-IV Project.	At least 30 days prior to construction.
Grazing, Wild Horses and Burros			
Mitigation Measure GRZ-1: To facilitate livestock management, upon submission of the Utilization Plan, the USFS Authorized Officer shall review the affected grazing allotments and recommend appropriate locations for additional under-crossings, if any, in any continuous segment of above-ground pipeline extending one-half mile or longer.	ORNI 50, LLC and its contractors to prepare a Utilization Plan.	BLM and USFS to review and approve, if adequate, the Utilization Plan.	Prior to construction.
Mitigation Measure GRZ-2: The USFS may seek reimbursement from the geothermal lessee for the permanent loss of 15.3 acres of grazing habitat and for the costs of implementing the livestock escape management plan if it is demonstrated that the lessee's project operations directly result in stray livestock. The USFS Authorized Officer shall coordinate with the Term Grazing Permittee to mitigate the loss.	USFS to monitor livestock for stray animals.	USFS to determine if a livestock escape management plan and/or reimbursement is required.	During construction and operation.
Land Use			
PDM LU-1: Geothermal exploration and development projects shall be carried out with the fewest visual intrusions reasonably possible (consistent with Mono County Conservation/Open Space Element, Goal I, Objective F).	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to and during construction.
PDM LU-2: Prior to operation of the project, ORNI 50, LLC shall prepare a Site Abandonment-Reclamation Plan in conformance with BLM and USFS requirements. When project operations are complete, ORNI 50, LLC shall restore the site to approximate pre-Project land uses according to the plan requirements.	ORNI 50, LLC to prepare and implement a Site Abandonment-Reclamation Plan.	USFS and BLM to monitor compliance.	Prior to decommissioning.
Noise			
PDM NOI-1: Mufflers shall be used on all drilling rig engines.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.
PDM NOI-2: Construction noise shall be minimized through operational practices which avoid or minimize those practices which may typically generate greater noise levels, or generate distinctive impact noise.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.
PDM NOI-3: Prior to commencing any construction activity associated with the project, ORNI 50, LLC shall submit, and secure the approval of the BLM and USFS, a program designed to adequately respond to noise complaints. As part of the program, ORNI 50, LLC shall publish a telephone number for use by individuals for filing of complaints or inquiries regarding the level of noise from construction operations. A designated representative of the permittee shall be available 24 hours a day to record any filed complaints or inquiries, and ORNI 50, LLC shall make reasonable efforts to investigate and respond to any such complaint or inquiry within 24 hours of the complaint or inquiry. ORNI 50, LLC shall record each filed complaint or inquiry, and the results of its investigation and response, on a form, a copy of which shall be delivered to the BLM and USFS staff designated to receive these forms within 24 hours of the complaint or inquiry.	ORNI 50, LLC and its contractors to implement measure as defined. USFS and BLM to review and approve noise complaint response program.	ORNI 50, LLC to ensure compliance.	Prior to and during construction. Submit copy of complaint/inquiry to USFS and BLM within 24 hours of receipt of complaint /inquiry.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Noise (cont.)			
Mitigation Measure NO-1: ORNI 50, LLC shall prepare and implement a Noise Management Plan to ensure that operational noise levels associated with CD-IV Project well pumps do not increase ambient noise levels at Shady Rest Park by more than 3 dBA. The plan shall be submitted to the BLM and USFS for review and approval prior to the commencement of well pump operations. The plan shall include a proposal designed by an acoustical engineer to perform baseline noise measurements at Shady Rest Park at locations developed through consultation with USFS and the Town of Mammoth Lakes. The plan shall include a requirement for an acoustical engineer to collect additional measurements at the same locations as the baseline survey once the well pumps are operational to verify that well pump noise levels do not increase ambient noise levels by more than 3 dBA.	ORNI 50, LLC to prepare and implement a Noise Management Plan as described.	BLM and USFS to review and approve Noise Management Plan, and monitor compliance.	Within 30 days of operation commencing.
Mitigation Measure NO-1 (cont.): The plan shall identify specific acoustical engineer-recommended measures to be implemented by ORNI 50, LLC in order to reduce noise levels to within 3 dBA of baseline conditions if the measurements that include pump operations exceed the baseline measurements by more than 3 dBA. Noise control techniques may include, but not be limited to: locating the well pump within an enclosed concrete building, use of noise walls or equivalent sound attenuation structures, and the use of pumps and equipment with special noise control specifications designed to specifically achieve the desired noise reductions. The plan shall require an acoustical engineer to take additional noise measurements after the noise reduction improvements are implemented to ensure the required noise level is met. In the event that the measured noise levels still exceed the baseline level by more than 3 dBA, additional noise control techniques shall be initiated to correct the violation.			
Population and Housing			
No Mitigation Measures	N/A	N/A	N/A
Public Safety, Hazardous Materials and Fire			
PDM HAZ-1: ORNI 50, LLC shall comply with all local, state, and federal regulations regarding the use, transport, storage, and disposal of hazardous materials and wastes. Its Hazardous Materials Business Plan shall be updated to incorporate the new power plant.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to review the Hazardous Materials Business Plan and monitor compliance.	During construction and operation.
PDM HAZ-2: N-pentane usage and storage at the CD-IV facility shall be incorporated into ORNI 50, LLC's Risk Management Plan and Process Safety Management program.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	Prior to operation.
PDM HAZ-3: All construction equipment shall be equipped with spark arresters. All vehicles shall be equipped with fire extinguishers and shovels.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to and during construction.
PDM HAZ-4: Fire extinguishers shall be available during all construction activities. Water that is used for construction and dust control shall be available for fire-fighting.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to and during construction.
PDM HAZ-5: The power plant shall have an emergency fire pump to provide water for fire suppression.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	Prior to operation.
PDM HAZ-6: Cooking, campfires, or fires of any kind shall not be allowed.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and BLM to monitor compliance.	During construction and operation.
PDM HAZ-7: Personnel shall be allowed to smoke only in designated areas, and they shall be required to follow applicable Inyo National Forest regulations regarding smoking.	ORNI 50, LLC and its contractors shall enforce measure.	USFS to monitor compliance.	During construction and operation.
PDM HAZ-8: Any special permits required for welding or other similar activities shall be applied for through, and received from, the District Ranger before these operations are conducted.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to monitor compliance.	Prior to construction.
PDM HAZ-9: ORNI 50, LLC shall prepare an Emergency Plan to provide guidance to field personnel and management in the event of an uncontrolled well flow, pipeline break or other field related emergency. The plan shall address the various hazards or problems that might be encountered and it will specify appropriate preventive or anticipatory actions, equipment requirements, as well as specific responses, notifications and follow up procedures in the event of such a field emergency. The plan shall include emergencies such as accidents and injuries.	ORNI 50, LLC to prepare and implement an emergency plan.	BLM and USFS to review and approve the emergency plan. BLM to monitor compliance.	Prior to construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Public Safety, Hazardous Materials and Fire (cont.)			
PDM HAZ-10: ORNI 50, LLC and/or its contractors shall conduct daily routine visual inspections of the construction areas during construction to identify and correct any operational problems that could lead to a hazardous materials release. ORNI 50, LLC operators stationed at the Casa Diablo operations center shall continuously monitor the well and pipeline operations through the data transmitted to the center by the well and pipeline monitoring sensor. In addition, these operators shall also conduct regular, routine visual inspections of the well sites and pipeline.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to submit bi-monthly report to BLM and USFS for review.	During construction and operation.
PDM PSU-1: Solid waste materials generated during project construction shall either be collected by a licensed waste hauler or transported by ORNI 50, LLC and deposited at a facility authorized to receive and dispose of these materials. Portable chemical sanitary facilities shall be used by all personnel. These facilities shall be maintained by a local contractor.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.
Mitigation Measure PHS-1: ORNI 50, LLC shall prepare emergency contingency plans, including a Spill or Discharge Contingency Plan, a Hazardous Gas Contingency Plan, and an Injury Contingency Plan, and submit these plans for technical review to the USFS, the BLM, the LVFPD, and the MLFPD prior to construction. The Spill or Discharge Contingency Plan shall be designed to apply to spills or other releases at all project facilities where potential water quality pollutants shall be utilized or stored, including geothermal fluid pipelines, the power plant, the substation, and other facilities where fuels, oils, and other chemicals may be stored or utilized. In consultation with the local agencies, the BLM and USFS shall determine any additional measures that shall be included in the emergency contingency plans and these measures shall be implemented by ORNI 50, LLC. The emergency contingency plans shall include, but not be limited to, the following: 1. Identification of blowout prevention equipment and emergency containment equipment that shall be maintained and readily accessible at all times. Equipment could include construction equipment, water trucks, tanks, and absorbents. 2. Specific procedures to shut-in or control the flow, and appropriate control procedures if the means to control the flow is lost. 3. Specific procedures and equipment to construct sumps, dikes and contain flows, spills or leaks of geothermal fluid, drilling mud, and petroleum products. 4. Hazardous gas monitoring, action levels, and emergency procedures. 5. Identification of emergency response providers and appropriate regulatory agencies to be notified in the event of an emergency. 6. Training of all site personnel and construction workers in emergency contingency procedures described in the plans and maintenance of records of worker training.	ORNI 50, LLC to prepare and implement an emergency contingency plans.	ORNI 50, LLC to submit emergency contingency plans to the USFS, BLM, LVFPD, and the MLFPD for review and approval.	Prior to construction.
Mitigation Measure PHS-2: ORNI 50, LLC shall prepare a Fire Protection and Prevention Plan for construction, operation, and maintenance activities. The Fire Protection and Prevention Plan must be submitted to and approved by the Inyo National Forest, the LVFPD, and the MLFPD prior to construction. In consultation with the local agencies, the USFS shall determine any additional BMPs that shall be implemented. The Fire Protection and Prevention Plan shall include, but not be limited to, the following: 1. A requirement for the number and size of water trucks equipped with 50 feet of fast response hose with fog nozzles that shall be maintained on-site during construction for immediate response to fire incidents. 2. Training of all construction workers on fire prevention methods, the proper use of firefighting equipment and procedures to be followed in the event of a fire. 3. Maintenance of fire extinguishers and fire-fighting equipment at each construction site sufficient to extinguish small fires. **4.** Definition of appropriate defensible spaces that shall be maintained around permanent structures for acceptable wildland fire protection	ORNI 50, LLC and its contractors to implement measure as defined.	USFS, the LVFPD, and the MLFPD to review and approve submitted plan.	Prior to construction.
Recreation			
PDM REC-1: Sections of the pipeline route not located next to existing roads shall be monitored for evidence of use by off-highway vehicles (OHVs). If such evidence is found, ORNI 50, LLC shall notify the USFS and comply with its requirements for funding or implementation of actions to prevent use by OHVs, such as the posting of signs and the physical blocking of access.	ORNI 50, LLC and its contractors to implement measure as defined and notify USFS if evidence of OHV use is observed in areas where the pipeline route is not located adjacent to existing roads.	USFS to ensure that ORNI 50, LLC implements measure if evidence of OHV use is observed in areas where the pipeline route is not located adjacent to existing roads.	During construction and operation.
PDM REC-2: ORNI 50, LLC shall prepare and implement a Winter Access Contingency Plan in accordance with the requirements of the USFS. The plan shall be designed to ensure that there is at least one location along Sawmill Road which is maintained to provide a safe and easy crossing by cross country skiers.	ORNI 50, LLC and its contractors to prepare and implement a winter access contingency plan upon USFS approval.	USFS to review and approve submitted plan.	Prior to construction.
PDM REC-3: For public safety, an appropriate temporary fence shall be constructed around each drilling sump/pit when the associated drill site is not continuously staffed by personnel and until the pit is backfilled. See also TR-6.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM to monitor compliance.	During construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Recreation (cont.)			
Mitigation Measure REC-1: ORNI 50, LLC shall post informational materials about the CD-IV Project at, but not limited to: nearby recreation sites/campgrounds, access points, the Mammoth Lakes Trail System website, and the Mammoth Welcome Center. This material shall include construction schedules and safety information regarding trucks and other heavy equipment use on local roads and NFSRs, and identify route closures. Signage shall be designed to function during winter and non-winter conditions, and shall be consistent with USFS and Town of Mammoth signage requirements, as appropriate. In addition, construction vehicle speed shall be limited to 15 miles per hour; with temporary signage warning construction vehicles to reduce speeds in areas with blind corners, narrow roads, or hills.	ORNI 50, LLC and its contractors to prepare and distribute interpretive materials upon USFS review and approval.	USFS and Town of Mammoth Lakes to review and approve informational materials.	Prior to and during construction.
Mitigation Measure REC-2: ORNI 50, LLC shall monitor all pipeline routes for evidence of OHV use and if such use is identified, further OHV use shall be prevented through posting of signs and the physical blocking of access, or other restriction measures. ORNI 50, LLC shall also monitor revegetation of pipeline alignments and replant vegetation if necessary.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to monitor compliance.	During construction and operation.
Mitigation Measure REC-3: ORNI 50, LLC shall provide information regarding pipeline crossing locations and road closures at, but not limited to: nearby recreation sites/campgrounds, access points, the Mammoth Lakes Trail System website, and the Mammoth Lakes Visitor Center. Signage shall be designed to function during winter and non-winter conditions, and shall be consistent with USFS and Town of Mammoth signage requirements, as appropriate. In addition, operational vehicle speed shall be limited to 15 miles per hour and road and signage shall be installed, consistent with USFS and County requirements. ORNI 50, LLC shall also coordinate with the Town of Mammoth Lakes and the USFS to ensure that a Shady Rest OSV staging area and access to the staging area is plowed to provide winter access. In addition, banks formed by road plowing shall be shaped such that crossing grade changes are gradual in areas where cross country use is prevalent. In addition, implement **Mitigation Measures VIS-1** though **VIS-3**.	ORNI 50, LLC and its contractors to prepare and distribute interpretive materials after USFS, Town of Mammoth Lakes, and County approvals. ORNI 50, LLC shall coordinate with USFS and Town of Mammoth Lakes to provide winter access and snow plowing.	USFS, Town of Mammoth Lakes, and County to review and approve informational signage. USFS and Town of Mammoth Lakes will review and approve winter access activities.	Prior to and during construction.
Socioeconomics and Environmental Justice			
No Mitigation Measures	N/A	N/A	N/A
Traffic/Access/Circulation			
PDM TR-1: ORNI 50, LLC shall meet Caltrans' encroachment permit requirements in order to construct the pipeline under U.S. Highway 395.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS and Caltrans to monitor compliance.	Prior to construction
PDM TR-2: project vehicles shall not block Sawmill Road (03S25) or Sawmill Cutoff Road (03S08) by either waiting or parking on either road.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance during construction. USFS to monitor during operation.	During construction and operation
PDM TR-3: Where the pipeline shall be constructed under existing roads by open trench construction and restricting public access, appropriate traffic control measures shall be established to warn traffic of temporary road closures.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	Prior to and during construction.
PDM TR-4: For those sections of the pipeline not immediately adjacent to an access road, pipeline construction equipment shall "catwalk" over the top of the existing vegetation without removing it to avoid the need to grade the pipeline route or an access road and minimize both ground disturbance and visual impact. Vehicle access to these off road construction areas shall be limited to that specifically necessary for construction. No vehicles shall be allowed to turn or drive in any area beyond a 20 foot wide temporary construction corridor along the pipeline route.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	During construction.
PDM TR-5: ORNI 50, LLC shall attempt to work with the Town of Mammoth Lakes and the USFS to plow the road to and the parking lot at Shady Rest Park in the winter to better accommodate recreational traffic and parking for cross-country skiers and snowmobilers. This plan shall provide the majority of the winter access for the new well pads for the project.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to monitor compliance.	During construction and operation.
PDM TR-6: All vehicle traffic shall be restricted to designated access roads. project-related vehicles shall be restricted to travelling no faster than 25 mph on Sawmill Cutoff Road (03S08) and on other unimproved roads in the project area.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance during construction. USFS to monitor during operation.	During construction and operation.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Traffic/Access/Circulation (cont.)			
Mitigation Measure TRA-1: Prior to construction and/or decommissioning, ORNI 50, LLC shall develop a Coordinated Transportation Management Plan and work with Mono County to prepare and implement a transportation management plan for roadways adjacent to and directly affected by the planned CD-IV Project facilities, and to address the transportation impact of the overlapping construction projects within the vicinity of the CD-IV Project in the region. The transportation management plan shall include, but not be limited to, the following requirements: 1. Coordination of individual traffic control plans for the project and nearby projects. 2. Coordination between the contractor and Mono County in developing circulation and detour plans that include safety features (e.g., signage and flaggers). The circulation and detour plans shall address: a. Full and partial roadways closures. b. Circulation and detour plans to include the use of signage and flagging to guide vehicles through and/or around the construction zone, as well as any temporary traffic control device. c. Bicycle/Pedestrian detour plans, where applicable. d. Parking along public roadways. e. Haul routes for construction trucks and staging areas for instances when multiple trucks arrive at the work sites. f. Repairing and restoring affected roadway rights-of way to their original condition or better after construction and decommissioning are completed, where applicable. Protocols for updating the transportation management plan to account for delays or changes in the schedules of individual projects.	ORNI 50, LLC to prepare and implement a Coordinated Transportation Management Plan.	Mono County and USFS to review and approve Coordinated Transportation Management Plan. Mono County, USFS, and BLM to monitor compliance.	Prior to construction and/or decommissioning.
Utilities and Public Services			
No Mitigation Measures	N/A	N/A	N/A
Visual/Aesthetics			
PDM VIS-1: Any pipeline route selected within the pipeline corridor shall be located at least 300 feet from the developed portions of Shady Rest Park or substantially screened from view from the developed portions of the park by topography or vegetation.	ORNI 50, LLC and its contractors to integrate measure into the construction plans, details, drawings and specifications.	USFS to monitor compliance.	Prior to construction.
PDM VIS-2: In sections of the project area with a USFS Visual Quality Objective (VQO) of “partial retention,” ORNI 50, LLC shall, with the approval of the USFS, locate the pipeline so that it is not immediately adjacent to existing roads where possible, and takes advantage of existing vegetation or terrain screening opportunities to reduce the visibility of the pipeline from these roads.	ORNI 50, LLC and its contractors to integrate USFS VQO of “partial retention” and topographical mapping into construction plans, details, drawings and specifications to identify screening opportunities. ORNI 50, LLC to implement measure upon USFS approval.	USFS to review and approve pipeline alignment.	Prior to construction.
PDM VIS-3: The pipeline segments to be constructed (a) in areas with a VQO of “retention” in the vicinity of Sawmill Cutoff Road, and (b) in Inyo National Forest managed-land in areas with the VQO of “retention” and visible from State Route 203 and/or U.S. Highway 395 shall use texture and color or colors (approved by the authorized officer) selected to blend with the color and texture of the characteristic landscape.	ORNI 50, LLC and its contractors to integrate USFS VQO of “retention” into the construction plans, details, drawings and specifications to identify pipeline segments at which this measure will be implemented. ORNI 50, LLC to implement measure upon USFS approval.	USFS to approve of texture and color(s) to be used for pipeline segments in areas identified in the measure.	Prior to construction.
PDM VIS-4: All power plant and well pad facilities shall be painted a neutral color to blend in with the environment, using a color that was approved and used for the existing Basalt Canyon facilities and/or another color scheme approved by the USFS.	Use USFS-approved paint on all power plant and well pad facilities. ORNI 50, LLC to implement measure upon USFS approval.	USFS to confirm paint color. ORNI 50, LLC to implement measure upon USFS approval.	During construction and operation.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Visual/Aesthetics (cont.)			
Mitigation Measure VIS-1: *Landscape Plan.* Prior to construction, ORNI 50, LLC shall prepare, submit for approval by the USFS, and implement a landscape plan that includes planting of native trees and shrub vegetation at select locations to further screen well site facilities and the geothermal pipeline from view from Sawmill Cutoff Road (NFSR 03S08), Sawmill Road (03S25), Shady Rest Park, U.S. Highway 395, SR 203, and the Knolls Loop. The landscape plan shall be coordinated with the revegetation plan (refer to **Mitigation Measure VEG-1**) including a monitoring and reporting plan. Permanent fencing shall be precluded to reduce potential barriers to wildlife. To minimize adverse visual effects from the above mentioned roads and park, ORNI 50, LLC shall landscape the following areas such that direct views and corners of the well facilities and pipeline are at least 65% obstructed from any location within a ten-year period. Monitoring at the end of the third growing season shall be conducted to determine if success standards are being met. If it is determined that success standards are not being met, ORNI 50, LLC shall take immediate action to re-implement the Landscape Plan to ensure compliance by the tenth-year period. At the following sites, ORNI 50, LLC shall also surround landscaped sites during construction with dark colored protective fencing: a. The northern side of well facility site 38-25 (near Shady Rest Park). b. Along Sawmill Cutoff Road (NFSR 03S08) (between well facility sites 15-25 and 14 25, and at the pipeline crossing near well facility site 34-25). c. Along Sawmill Road (03S25) (between well facility sites 81-36, 12A-31, 23-31, 35 31, and 55-31). d. At pipeline crossover near the Knolls Loop (approximately 700 feet southeast of well facility site 34-25). e. At pipeline crossovers adjacent to Sawmill Road (03S25) and Pole Line Road (NFSR 03S123) (near well facility sites 56-25,66-25, 77-25, 81-36, 12A-31, 23-31, 35-31, and 55-31). Once the locations of crossovers and expansion loops are determined, the need for implementing this measure shall be determined.	ORNI 50, LLC to prepare and implement a Landscape plan. ORNI 50, LLC to implement measure upon USFS approval. If landscaping does not meet success standards by the end of the third growing season, ORNI 50, LLC to re-implement measure.	USFS to review and approve submitted plan. USFS to monitor landscaped areas to determine success of measure at the end of the third growing season.	Prior to and after construction.
Mitigation Measure VIS-2: *Pipeline Crossovers and Expansion Loops.* At locations where one pipeline crosses over another adjacent to Sawmill Road (03S25) and Pole Line Road (NFSR 03S123) (near well facility sites 56-25,66-25, 77-25, 81-36, 12A-31, 23-31, 35-31, and 55-31) and where the terrain is not a constraining factor, ORNI 50, LLC shall reduce the height of crossovers and expansion loops by: a. Lowering the existing pipeline or new pipeline (whichever is easiest) belowground or within a 3-foot deep trench and design the pipeline crossover with pairs of 30, 45 or 90 degree ells to ensure that the overall height of the crossover is at or below 5.5 feet aboveground. b. All expansion loops shall be horizontal to minimize overall height of installed pipelines to less than 5.5 feet aboveground.	ORNI 50, LLC and contractor to integrate measures into the construction plans, details and specifications to identify locations of pipeline crossovers. ORNI 50, LLC to implement measure as defined.	USFS to review plans and specifications of pipeline crossovers.	Prior to construction.
Mitigation Measure VIS-3: *Power Plant Landscape Plan.* Prior to construction, ORNI 50, LLC shall prepare, submit for approval by the USFS, and implement a landscape plan that includes planting of native trees, shrubs, and perennial vegetation to screen views from Antelope Springs Road (03S05). The landscape plan shall be coordinated with the revegetation plan (refer to Mitigation Measure VEG-1) including a monitoring and reporting plan. ORNI50, LLC shall landscape the area immediately adjacent to Antelope Springs Road and at select locations such that direct views and corners of the power plant are at least 65% obstructed from any location within a ten-year period. Monitoring shall be conducted at the end of the fifth growing season to determine whether success standards are being met. If it is determined that success standards are not being met, ORNI 50, LLC shall take immediate action to re-implement the landscape plan to ensure compliance by the tenth-year period.	ORNI 50, LLC to prepare and implement a landscape plan for the power plant. Upon USFS approval, ORNI 50, LLC to implement measure. If landscaping does not meet success standards by the end of the third growing season, ORNI 50, LLC to re-implement measure.	USFS to review and ensure landscape plan is consistent with Mitigation Measure VEG-1. USFS to monitor landscaped areas to determine success of measure at the end of the third growing season.	Prior to and after construction.
Water Resources			
PDM HYD-1: Appropriate erosion control measures shall be used to control any offsite discharges, and the project shall adopt any relevant Lahontan Regional Water Quality Control Board (LRWQCB) and USFS best management practices to prevent soil erosion, including the preparation of a Storm Water Pollution Prevention Plan.	ORNI 50, LLC and its contractors to implement measure as described.	BLM and USFS to monitor compliance.	Prior to and during construction.
PDM HYD-2: To the extent possible, the pipeline route and any access roadways shall be located outside of any riparian conservation areas (RCAs) delineated by the USFS.	ORNI 50, LLC and its contractors to implement measure as described.	BLM and USFS to monitor compliance.	Prior to and during construction.
PDM HYD-3: Existing roads shall be evaluated and properly graded and repaired in areas that show evidence of enhanced erosion.	ORNI 50, LLC and its contractors to implement measure as described.	BLM and USFS to monitor compliance.	During construction and operation.
PDM HYD-4: Exposed, disturbed soils in construction areas shall be watered to minimize wind erosion and dust. Topsoil piles shall be covered to minimize erosion during wind storms. See also AQ-1.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	During construction.
PDM HYD-5: A site drainage and runoff management plan shall be prepared. All new access roads shall comply with the plan to minimize erosion and off-site sedimentation. Off-site stormwater shall be intercepted in ditches and channeled around the well sites to energy dissipaters as necessary to minimize erosion.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	Prior to construction.

Adopted Project Design Measures and Mitigation Measures	Implementing Actions	Monitoring/Reporting Requirements	Timing
Water Resources (cont.)			
PDM HYD-6: The pipeline route shall not be cleared or graded to minimize soil disturbance.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	During construction.
PDM HYD-7: The project shall obtain coverage under, and comply with, the California Construction General Storm Water Permit.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	Prior to construction.
Mitigation Measure SW-1: Comprehensive Site Drainage and Runoff Management Plan (Drainage Plan). According to PDM HYD-5, the applicant shall prepare a Drainage Plan. Additionally, the applicant shall ensure that the prepared plan adheres to the following: The applicant shall prepare and submit to the LRWQCB, BLM and USFS for review a Drainage Plan that shall encompasses all project facilities. The Drainage Plan shall evaluate potential changes in stormwater flow that may result from implementation of the project, to the extent required to determine implementation of appropriate measures to minimize, avoid, retain, or otherwise prevent increases in stormwater runoff from leaving the site, and minimize potential for associated erosion or sedimentation. The Drainage Plan shall also delineate the location and sizing for stormwater retention facilities, on-site drainages, and other required facilities as warranted to ensure that stormwater facilities are sized appropriately. All stormwater and drainage facilities shall be sized to ensure that the implementation of the project shall result in no net increase in stormwater discharge from the site during at least a 20-year, 24-hour storm event. With respect to decommissioning, a Drainage Plan shall be included in the reclamation plan, which shall be submitted to relevant agencies for approval prior to the initiation of the decommissioning process. This shall ensure that final post-decommissioning grading reflects natural site contours and minimizes potential for concentration of stormwater flows, erosion, and sedimentation. All facilities shall comply with the all aspects of the Drainage Plan as indicated here and in PDM HYD-5, including existing and new access roads and roads that shall be plowed during the winter due to project operations.	ORNI 50, LLC and its contractors shall develop and implement a Site Drainage and Runoff Management Plan.	LRWQCB, BLM and USFS to review and approve Drainage Plan and monitor compliance.	At least 30 days prior to construction.
Mitigation Measure SW-2: To ensure that sediment and other pollutants contained in well construction period containment basins/sumps shall not be released into downstream waters, the applicant shall ensure that all containment basins/sumps are constructed so as to be able to contain anticipated drill cuttings, drilling mud, other drilling liquids, and on-site flows anticipated from a 100-year event with at least one foot of freeboard to prevent overtopping. Upon completion of drilling activities and disposal of drill cuttings, all containment basins/sumps shall be backfilled and graded to match natural topography.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	During construction.
Mitigation Measure SW-3: Following well completion, in the event that coverage under the Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality cannot be acquired in support of disposal of drill cuttings, the applicant shall remove all drill cuttings from each well site where on-site disposal is not available. Removed drill cuttings shall be disposed of in a landfill or other facility approved to accept hazardous wastes (or in accordance with classification of drill cutting waste from the site), in accordance with local and state law. Remaining pits on-site shall be filled and graded to match natural conditions.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	Following well completion.
Mitigation Measure SW-4: During well testing, the applicant shall ensure that all storage tanks and piping for geothermal fluid storage and conveyance at the well pad site shall be contained within a temporary facility that would contain spilled fluid on-site. Containment structures may include berms, containment basins, sumps, or other structures with sufficient capacity to contain the maximum volume of geothermal fluid stored on-site, with sufficient freeboard to prevent accidental release.	ORNI 50, LLC and its contractors to implement measure as defined.	BLM and USFS to monitor compliance.	During construction.
Mitigation Measure SW-5: Prior to the initiation of operations, the applicant shall ensure that spill containment facilities at the power plant site incorporate measures to prevent the infiltration to groundwater of spilled fluids at the plant site, including geothermal fluid and n-pentane. In accordance with the Mono County General Plan, the capacity of containment facilities shall be equal to at least twice the volume of the entire fluid contents of the power plant facility, including pipeline capacity and the amount that would flow onto the site until automatic shutdown devices would stop the flow. Spill containment facility design shall be reviewed by the USFS and BLM prior to the initiation of construction activities for the power plant.	ORNI 50, LLC and its contractors to implement measure as defined.	ORNI 50, LLC to submit to BLM and USFS the spill containment facility design for review and approval.	Prior to operation.
Mitigation Measure SW-6: During project operation, the applicant shall ensure that equipment and vehicles are routinely inspected for fluid leaks. Equipment and vehicles shall be maintained so as to prevent equipment leaks from infiltrating into soils or being washed off-site during storm events. When discovered, the applicant shall repair fluid leaks prior to use on the project site. If fluids do leak onto the project site, contaminated soil shall be removed immediately and disposed of at an approved facility, in accordance with federal, state, and local requirements.	ORNI 50, LLC and its contractors shall routinely inspect equipment and vehicles for fluid leaks for fluid leaks.	BLM and USFS to monitor compliance.	During operation.
Mitigation Measure SW-7: This mitigation measure shall modify PDM HYD-2 – To the extent feasible, the pipeline route and any access roads shall avoid RCAs. Any additional action, requirements, and/or designations with respect to RCAs shall be based upon guidance from USFS staff and consistent with the relevant USFS policy.	ORNI 50, LLC and its contractors to implement measure as defined.	USFS to review and approve final plans for the pipeline route and proposed access roads, which shall clearly indicate all RCAs and avoidance measures.	At least 60 days prior to construction.