PMC-EF2a

(2.04.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Ormat Nevada, Inc **STATE:** CA

PROJECT TITLE : Recovery Act: Conducting a 3D Converted Shear Wave Project to

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000109	DE-EE0002838	GFO-0002838-002	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

B3.1 Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) of characterization and monitoring devices and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

B3.7 Siting, construction, and operation of new infill exploratory and experimental (test) oil, gas, and geothermal wells, which are to be drilled in a geological formation that has existing operating wells.

Rational for determination:

Ormat Nevada, Inc. (Ormat) proposes to use DOE and cost share funding to develop and demonstrate geothermal resource near Wister in Imperial County, California on private properties that are currently or formerly in agricultural production. Phase 1 was approved on 4/23/2010 by GFO-10-138.002. Ormat proposes to drill up to six exploratory geothermal wells with DOE funding only two of the wells. The project is divided into eight tasks:

Phase 1: Resource Evaluation
Task 1.0 Obtain log data and prepare forward models (AVO and converted-wave)
Task 2.0 Conducting 3-D seismic survey
Task 3.0 Interpretation of the 3-C, 3-D survey data and other data
Task 4.0 Synthesize Phase 1 data into a working exploration model for well-siting
Stage-gate decision after completion of task.

Phase 2: Completion of Exploration Data Analysis and Drilling
Each exploration well site would be ~350 feet by 350 feet (for a total surface area of ~2.8 acres). Pad preparation activities would include clearing, earthwork, drainage and other improvements necessary for efficient and safe operation. Each site would be cleared of organic material in preparation of drilling. Each site has been located to minimize loss of agricultural production. Cleared organic material would be transported to an authorized offsite landfill for disposal. Cut and fill were minimized in the site selection process. Each site would be prepared to create a level pad for the drill rig, and a graded surface for the support equipment. Runoff from undisturbed areas around the constructed sites would be directed into ditches and energy dissipaters (if needed) around the site, consistent with Imperial County, Imperial Irrigation District and California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB) best management practices for storm water. All machinery, drilling platforms, and oil and fuel storage would be in areas tributary to the containment basin in order to prevent the movement of storm water from these areas off of the constructed site. The sites would be graded to direct runoff from the pad into the cellar which would be pumped to the containment basin. Containment basins would be constructed at each site for the containment and temporary storage of drilling mud and cuttings and storm water runoff from the constructed site. Each containment basin would be ~100 feet by 250 feet by 7 feet deep, and hold ~420,000 gallons and two feet of freeboard. Each containment basin would be lined with a 40 mil synthetic liner, in accordance with requirements of the CRWQCB. There would be NO excavation of material from waters of the United States, nor filling into waters of the United States to change the bottom elevation. Earthwork for the project would be minimal, as all the sites are flat and on solid ground, not affect waters of the US.
Task 5.0 Site, permit and drill the first full-sized production hole
Go/No-Go decision after completion of task.
Task 6.0 Drilling of the second full-sized production hole

Phase 3: Well Testing
Task 7.0 Assess potential for geothermal reservoir post-drilling
Task 8.0 Project Management and Reporting

The Project area is located in the Salton Sea Air Basin (SSAB) and is under the regulatory jurisdiction of the Imperial County Air Pollution Control District (ICAPCD) for air quality. The SSAB is classified as "non attainment" for ozone and small particulate matter (PM10) under both state and federal ambient air quality standards. The Project region is classified as "non attainment" under both the federal and state ambient air quality standards for ozone and PM10. Precursors to ozone would be released during drilling operations; however, these emissions would either be below ICAPCD thresholds and/or best available control technology would be used to control these emissions. The Project would emit PM10 during drill site construction, drilling and flow testing. Measures have been adopted by the Project to water the drill sites and roads, as necessary, and implement speed limits for travel on unpaved roads to further reduce PM10 emissions. As such, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is "non attainment."

The Farmland Mapping and Monitoring Program of the California Resources Agency identified areas of farmland of statewide importance within the Project area. Three of the well sites, located on the Beach Line and High Line Citrus properties, are under Williamson Act contracts. Two of the well sites have not been farmed for many years. All the well sites have surface use agreements between Ormat and the surface owners.
a) At least some of the proposed well sites are located on lands mapped as Farmland of Statewide Importance by the Farmland Mapping and Monitoring Program of the California Resources Agency. However, the Project is temporary in nature and the disturbed lands would be returned to agricultural use once the wells were abandoned and the well pads reclaimed. As such, the Project would not convert to non agricultural use any prime farmland, unique farmland or farmland of statewide importance as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. The proposed project is consistent with the County's long-range land use policies for this agricultural/geothermal-designated area as expressed in the General Plan and zoning maps.
b) Three of the well sites are zoned for agricultural/geothermal use, one as S-2 which allows geothermal with a conditional use permit, and the other three zoned for A-2. Those three sites zoned for A-2, all of which have one landowner. The exploration wells would not conflict with any of these zoning designations nor cause a significant impact to Williamson Act lands as the acreage for each well site is relatively small, and not interfere with the agricultural uses of the properties. The well sites were purposefully located within the large properties to avoid or minimize disruption to the existing operations.
c) The well sites would each occupy approximately 2.8 acres of current or past agricultural land. If the exploration wells are successful in locating potentially commercial geothermal fluids, then the well sites would be expected to be converted to geothermal production or injection wells and continue to occupy the farmland through development of the geothermal resources. If the wells are not successful, then the wells would be abandoned in conformance with CDOGGR requirements and the land restored to approximate pre Project conditions. Similarly, at the end of potential geothermal development activities, the well would be abandoned and the well sites restored to approximate pre Project conditions. In the long term, the Project would not adversely affect the agricultural potential of lands mapped as farmland of statewide significance by the Farmland Mapping and Monitoring Program of the California Resources Agency. The Project would not involve other changes in the environment that would convert farmland into non agricultural use.

An archaeological resources survey was performed for the proposed well sites with the following summary:
a) No historic resources on the proposed well sites; therefore, there is no impact.
b) The Project well sites would be located on developed land that is currently used for agricultural purposes. The potential for the Project to cause a substantial adverse change of an archaeological resource is considered to be negligible.
c) There no known fossil-bearing surficial sediments in the Project area and there are no known unique geological features within the vicinity of the Project area. There is no potential for the Project to directly or indirectly destroy a unique paleontological resource site or unique geologic feature.
d) There are no known cemeteries or prehistoric burials in the Project area. The potential for the Project to disturb any human remains, including those interred outside of formal cemeteries is considered negligible.

A California Natural Diversity Data Base (CNDDB) report was prepared for the entire Wister and Niland quadrangles, in which the Project area is located. The findings of that report are found in the "Biological Technical Report; Ormat Geothermal Wellpad Sites Wister Project Imperial County, California Prepared For: ORMAT NEVADA, INC" by BARRETT'S BIOLOGICAL SURVEYS December, 2008; Revised January 4, 2009. No threatened or endangered species were found in the surveys for the proposed project sites. No candidate, sensitive, or special status species have been identified in the Project area that has the potential to be significantly impacted by the Project.

According to Federal Emergency Management Agency (FEMA) maps, the proposed geothermal wells are located outside flood plains. No Project activities would impede or redirect flood flows. As such, the Project has no potential to place structures within a 100-year flood hazard area that would impede or redirect flood flows. None of the proposed well sites or access roads would be located on wetland areas as defined by Section 404 of the Clean Water Act. As

such, the Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

Imperial County has jurisdiction for the state on this project. Imperial County completed a State Environmental Review using an Environmental Checklist Form which includes Mitigated Negative Declaration (Project #G09-0001) signed April 2009 which included the construction, drilling, testing, and plugging and abandonment, maintenance of the proposed exploratory geothermal wells mentioned above.
Tasks identified in the Statement of Project Objectives (SOPO) submitted to the DOE were analyzed in the Imperial County California Environmental Review to determine if the project would have a large and important impact. The entire GEOTHERMAL WELLPAD SITES WISTER PROJECT was analyzed in the Environmental Checklist as part of the Mitigated Negative Declarations (Project #G09-0001; April 2009) therefore the DOE is in agreement with CA's Mitigated Negative Declarations.
Condition of Approval: Mitigation measures identified in the Imperial County, California Mitigated Negative Declaration Project #G09-0001 is applicable to this proposal. This project comprises of developing geothermal resource using various techniques while collecting well data and construction of exploratory geothermal wells, making onsite characterizations, evaluations and required monitoring, therefore this project is categorized into CX A9, B3.1, and B3.7.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:
Condition of Approval: Mitigation measures identified in the Imperial County, California Mitigated Negative Declaration Project #G09-0001 is applicable to this proposal

Note to Specialist :

This EF2A was written by Christopher Carusona II.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 10/18/10

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____

Field Office Manager