

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



RECIPIENT: Surprise Valley Electrification Corporation

STATE: OR

PROJECT TITLE : Recovery Act: Rural Electric Cooperative Geothermal Development

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-000318	DE-EE0003006	GFO-0003006-005	GO3006

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:

B4.12 Construction of powerlines	Construction of electric powerlines approximately 10 miles in length or less, or approximately 20 miles in length or less within previously disturbed or developed powerline or pipeline rights-of-way.
B5.15 Small-scale renewable energy research and development and pilot projects	Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rational for determination:

Surprise Valley Electrification Corporation (SVEC) would demonstrate the potential geothermal resource near Paisley, Oregon. Phase I (exploration and geothermal modeling) was partially awarded by GFO-10-344 on 4/27/2010. Tasks 1.3 and 1.4 (rework of existing wells) were authorized by GFO-0003006-002 on 11/24/2010. However, the existing irrigation wells were found unsafe and could not be used for the project. Therefore, Tasks 1.3 and 1.4 were modified to drilling of new wells and approved by GFO-0003006-003 on 1/27/2011. Subsequent to the third determination, one of the locations of the new wells to be drilled was modified from an existing well pad to an adjacent road running through previously disturbed agricultural land, therefore an additional NEPA determination was completed (GFO-0003006-004) and approved on 4/12/2011. This NEPA determination analyzes all remaining project tasks not previously approved (pilot-scale geothermal power plant installation, commissioning, and operation).

Previous project work has led to the characterization of the geothermal resource which has been proven as viable for the installation of a pilot-scale geothermal power plant. A power plant has now been designed and located, therefore can be reviewed under NEPA. The power plant would be a commercially available Organic Rankine Cycle (ORC) unit. The ORC unit's gross power output is expected to be approximately 3 MW, assuming a flow rate of 3000 gpm and an input temperature of 232.0 F which would be sourced from two production wells and returned to the geothermal reservoir via one injection well. Within the range of geothermal power plant sizing, 3 MW of output is considered small-scale. Once assembled on-site, the power plant itself would be approximately 142 feet long and 108 feet wide (approximately one-third of an acre). The tallest component of the power plant would be the cooling towers, which would reach a height of approximately 41 feet. Cooling water would be sourced from either an existing irrigation well or from the City of Paisley's municipal water line. Approximately 2000 feet of pipeline (above-ground) would be installed to connect the power plant to both the production wells and injection well and approximately one mile of new transmission line (above-ground) would be installed to tie the pilot-scale power plant into the existing electrical grid.

A biological survey conducted as part of a previous NEPA review prior to wellpad and access road improvements, which included the area of the proposed activities, was completed by Wildlife Resource Consultants on November 16, 2010. The survey determined that the only federally listed threatened or endangered species that could occur within the project area were fish. Although the project area contains aquatic habitat, it is not suitable for fish, thus no federally listed fish species would be affected by the project. The survey report summarized the findings as follows: "No special status species were identified during the baseline wildlife survey although potential habitat is present for the following species: burrowing owl, silver-haired bat, small-footed myotis, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis. The six bat species could potentially roost in trees within and near the project area. Due to the disturbed nature of the project area (i.e., used for farming and ranching, and traffic and equipment), it is unlikely that any special status wildlife species will be adversely affected by the proposed improvements to the current wellpad and the addition of gravel overlay to the access road." DOE has determined that the findings of the previous

biological survey would also apply to the proposed activities analyzed as part of this NEPA determination due to the close proximity and nature of the proposed work.

An archaeological survey was also conducted by ASM Affiliates, Inc. as part of a previous NEPA review on November 12, 2010. While the on-site pedestrian survey was confined to an area located slightly west of the present proposed activities, the review of the regulatory framework, environmental setting, cultural background, and archival records for the presently proposed project area were analyzed as part of that archaeological survey. The survey found that no previously recorded archaeological resources were within or in the vicinity of the project area. Although no archaeological resources were found as part of the archival records search and none are expected due to the extent of the previous ground disturbance from vehicle and farm equipment traffic, DOE requires the following as part of best management practices for any project with ground disturbing activities: If during project activities the recipient or their staff encounters any cultural material (i.e. historic or prehistoric), all activities should cease in the vicinity of the discovery immediately. The recipient must inform the DOE Project Officer of the discovery and contact an archaeologist to evaluate the discovery prior to continuing activities in that area. DOE has determined that with the lack of known archaeological resources, the previously disturbed nature and small extent of the project area, and the above best management practice, it is unlikely that any archaeological resources will be adversely affected by the proposed activities.

Remaining project activities are part of an overall small-scale renewable energy research and development project, as well as being a small-scale pilot project. The purpose of the project is to develop and bring online renewable, base load power; to promote the development of small geothermal resources which are not considered viable by larger developers at this time; to encourage rural electric cooperatives to develop resources in their service territory; and to create cascaded businesses with landowners and communities (a first of its kind development/pilot project). It is also located within previously disturbed and developed land at an existing ranch in Paisley, Oregon.

Based on review of the project information and the above analysis, DOE has determined that the remaining proposed project activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the remaining proposed project activities are consistent with actions contained in DOE categorical exclusions B4.12 "Construction of powerlines," and B5.15 "Small-scale renewable energy research and development and pilot projects," and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

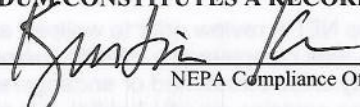
Insert the following language in the award:

You are required to:
If during project activities the recipient or their staff encounters any cultural material (i.e. historic or prehistoric), all activities should cease in the vicinity of the discovery immediately. The recipient must inform the DOE Project Officer of the discovery and contact an archaeologist to evaluate the discovery prior to continuing activities in that area.

Note to Specialist :

Casey Strickland 06/04/13

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: 
NEPA Compliance Officer

Date: 6/4/2013

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

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