PMC-EF2a
(2.04.02)

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

RECIPIENT: Governor's Energy Office **STATE:** CO

PROJECT TITLE : COLORADO SEP ARRA - Renewable Energy Rebates and Grants - Wuanita Hot Springs

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	DE-EE0000082	GFO-09-205-004	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.

B1.18 Siting, construction, and operation of additional water supply wells (or replacement wells) within an existing well field, or modification of an existing water supply well to restore production, if there would be no drawdown other than in the immediate vicinity of the pumping well, no resulting long-term decline of the water table, and no degradation of the aquifer from the new or replacement well.

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:

Rational for determination:

The U.S. Department of Energy (DOE) provided funding to the Colorado Governor's Energy Office (GEO) under the DOE's American Recovery and Reinvestment Act of 2009 State Energy Program (SEP). GEO selected Waunita Power Company, LLC (WPC) to receive $134,884 in SEP funding to partially fund the following tasks:

Task 1: Comprehensive Literature Review: WPC will compile geologic, geophysical, and hydrogeologic information. This includes raw gravity data , aeromagnetic data, ground water and surface water data, and reproduction of electrical geophysical survey maps.

Task 2: Geologic Mapping and Cross Sections: WPC will conduct geologic mapping at 1:24,000 scale for a 6 square miles area centered on Waunita Hot Springs. WPC will also conduct 1:12,000 or 1:6,000 scale mapping for a 1 square mile area surrounding the hot springs and along Hot Springs Creek. This mapping will identify any landslide features, Pleistocene to Holocene geomorphic history along Hot Springs Creek, Quaternary faulting, and any paleo hot spring deposits. Geologic cross sections will be generated to understand structure and hydrogeology and interpret geophysical survey information.

Task 3: Regional Stratigraphic Reconnaissance: WPC will conduct a reconnaissance of Pennsylvanian and Permian stratigraphy northeast of the area.

Task 4: Fluid Isotope Characterization: WPC will conduct fluid sampling for 15 thermal and non-thermal waters.

Task 5: Whole Rock Isotope Characterization: WPC will analyze whole rock isotopes for the Tomichi Dome intrusion and at least 4 different Precambrian units in the area. Two feldspar separates from the Precambrian units will be analyzed along with whole rock sedimentary units and will include limestone and sandstone in the Morrison Formation, sandstone of the Dakota Formation, and shale in the Mancos Formation.

Task 6: Ar/Ar Age Dates: WPC will send three whole rock Ar/Ar age dates for Tomichi Dome to the Ar/Ar chronology lab at the New MexicoBureau of Geology and Mineral Resources for analysis.

Task 7: Comprehensive Well and Borehole Database.: WPC will identify and compile a database of all known water wells and mineral exploration boreholes. This database will include the location, depth, well construction, water level, owner, associated water rights, chemistry, lithology for an area extending out to 5 miles radial distance from Waunita Hot Springs. Task 7 may identify other wells than can be temperature logged or sampled for chemistry.

Task 8: Temperature Gradients and Heat Flow: WPC will obtain temperature logs of existing boreholes in the area and drill 4 additional shallow temperature gradient boreholes. There are six shallow domestic water wells without pumps in the immediate vicinity of the Waunita Hot Springs.

Four temperature gradient boreholes will be drilled to a depth of at least 150 ft to a maximum depth of 300 ft. Small-diameter rotary tools will be used. Borehole completion is with a 1 to 2-inch iron pipe or PVC, capped at the bottom and filled with fresh water and allowed to thermally equilibrate. The annulus of each borehole will be backfilled with a grout. Each hole will have cemented surface casing to insure hole stability while drilling.
Cutting samples will be geologically logged and selected formation samples may be analyzed for thermal conductivity.

Tasks 1 through 7 are consistent with the actions covered by categorical exclusion A9 "information gathering." These tasks consist of data analysis, document preparation and site characterization; therefore, DOE has determined that Tasks 1 – 7 are categorically excluded from further NEPA under CX A9.

Temperature logging and restoration of production of the six existing wells in Task 8 is consistent with the actions covered by categorical exclusion B1.18. Therefore, DOE has determined that restoration of production of the six existing wells is categorically excluded under CX B1.18.

Four new wells will also be drilled as part of Task 8. The boreholes will be located next to existing roads/trails and no new roads will be constructed. The wells will be drilled with a small, track-mounted air compressor. The land is privately owned and the owner has consented to drilling. A state permit will be obtained prior to drilling and drilling will take place in compliance with Federal BLM drilling rules and the Geothermal Resource Operations Orders. After drilling the site will be returned to its original condition. After completion, the temperature gradient boreholes will be permitted as test wells with the Colorado Department of Water Resources.

The Colorado State Historic Preservation Officer has issued a determination of no adverse effect. The Colorado Department of Wildlife found that the nearest sage grouse lek is approximately 4.5 miles from the project site. There are no known Gunnison's prairie dogs in the project vicinity. There are no avian species of concern. The project is in the range of mule deer, elk, mountain lion, and black bear. To limit disturbance to these species, WPE will limit new roads, control noxious weeds, and drill between April 15th and December 1st. DOE has determined that this project will have No Effect on any threatened or endangered species.

Drilling four new wells in Task 8 is consistent with the activities covered by categorical exclusion B3.1(c), drilling wells for sampling/monitoring. Therefore, DOE has determined that drilling four new wells is categorically excluded under CX B3.1(c).

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.

Note to Specialist :

EF2a prepared by Melissa Rossiter.
DOE funds - $134,884

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 10/14/11
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