

PMC-EF2a

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



(2.04.02)

RECIPIENT: Desert Research Institute

STATE: CO

PROJECT TITLE : Nevada Renewable Energy Consortium

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
EE00000272	EE0000272	GFO-10-027	EE272

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:
- B3.6** Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

Rational for determination:

Nevada Renewable Energy Integration and Development Consortium would use DOE CDP funding to demonstrate the feasibility in developing a renewable energy research work force. Funding from this project would be used to expand and accelerate renewable energy research and development and to coordinate these efforts across the three research institutions.

Active renewable energy research programs currently exist at each institution, each with different focal areas: solar energy and energy conservation (UNLV), geothermal energy (UNR), and wind energy, hydrogen systems, and biomass (DRI).

Tasks include:

*Task 1.0 Advancing Biofuels Research and Development (B3.6 and B3.1)

Subtask 1.1 Pre-treatment of lignocellulosic biomass

Subtask 1.2 Thermal treatment of biomass

Subtask 1.4 Chemically promoted mechanical dewatering of wastewater sludge

*Task 2.0 Solar

Subtask 2.1 Low cost, high capacity, visible light efficient, flexible solar cell (B3.6)

Subtask 2.2 Hydrogen generation using molten salt solar thermal storage (B3.6)

Subtask 2.3 Solar research tower design: UNLV researchers would draft a preliminary design (but not construct) for a 1-15 MW solar tower research facility to be located in or near Las Vegas, as well as investigate several novel solar tracker mechanisms to incorporate and test at the facility. (A9)

Subtask 2.4 High performance wall section and windows: A cargo sized container will be placed outside the lab facility, on an existing paved a parking lot. It will be enclosed with different building skins based on a glass-steel shell and will contain instruments for measuring and monitoring the inside environment and the PV performance of the skin. (B3.6)

*Task 3.0 Geothermal Prospecting

Subtask 3.1 Hyperspectral remote sensing (B3.6)

Subtask 3.2 Shallow temperature and soil gas surveys (B3.1 and B3.6)

Subtask 3.3 Relationships between regional heat flow and isostatic rebound (B3.6)

Subtask 3.4 Life cycle analysis for geothermal energy exploration (A9)

*Task 4.0 Education & Workforce Development (A9)

*Task 5.0 Project Management and Reporting (A9)

Laboratory work would take place in various labs at the DRI Reno (2215 Raggio Parkway, Reno, Nevada) and Las Vegas (755 E Flamingo Road, Las Vegas, Nevada) campuses and at the University of Nevada, Las Vegas and Reno campuses. An R&D questionnaire has been filled out for all locations.

DSI, UNLV and UNR indicate that no new permits are needed for this proposal; there would be no generation of air emissions; hazardous/toxic/effluent waste would be disposed of properly in accordance to the Universities' Chemical Hygiene Plans (OSHA compliant), local, state, providence, and federal laws as appropriate; safety protocols are in place as required by the Universities' Environmental Health and Safety policies (OSHA compliant).

Field work will be involved where native algae samples will be collected, and the environmental conditions attributable to the algae growth will be observed and documented. Additional field work will also be required for the geothermal prospecting objectives. In this case, soil samples will be collected and natural off-gassing will be measured.

Task 1 activities involve conventional research and development activities in existing facilities and field sampling of local algae and site assessment activities algae habitat; therefore a CX B3.6 and B3.1 applies.

Task 2 involves conventional research and development, activities and preliminary feasibility and design planning for a solar research facility; therefore a CX A9 and B3.6 apply.

Task 3 involves field studies and conventional laboratory research; therefore a CX B3.1 and B.3 apply.

Tasks 4-5 involve information gathering, dissemination and curriculum development; therefore a CX A9 applies.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

none

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:


NEPA Compliance Officer

Date:

2/22/10

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:

Field Office Manager

Date:
