

PMC-EF2a

(204.02)

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



RECIPIENT: University of Arizona

STATE: AZ

PROJECT TITLE : Regional Algal Feedstock Testbed Partnership

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000615	DE-EE0006269	GFO-0006269-001	EE6269

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, analysis, and dissemination | Information gathering (including, but not limited to, literature surveys, inventories, site visits, and audits), data analysis (including, but not limited to, computer modeling), document preparation (including, but not limited to, conceptual design, feasibility studies, and analytical energy supply and demand studies), and information dissemination (including, but not limited to, document publication and distribution, and classroom training and informational programs), but not including site characterization or environmental monitoring. (See also B3.1 of appendix B to this subpart.) |
| B3.6 Small-scale research and development, laboratory operations, and pilot projects | Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment. |

Rational for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the University of Arizona to develop the Regional Algal Feedstock Testbed Partnership (RAFT). DOE funding would be used to create a network of testbeds with the intent to collect long-term algal cultivation data across multiple regions in three phases. RAFT would make available algal research community facilities, equipment, materials and expertise to facilitate efforts to advance the state of the technology. Early work would focus on standardization across the RAFT Partnership of data collection methodology and analytical techniques. Operation activities would include hosting research activities from the algal research community as well as beginning long-term growth trials at seven of the RAFT facilities. This NEPA determination applies to Phase 1 and Phase 2 activities only. Phase 3 activities are dependent on results from the initial phases and are not defined to the extent DOE can make a NEPA Determination.

RAFT would leverage existing traditional and innovative raceway/photobioreactors to cultivate the algae at four existing sites. The scale of the cultivation systems ranges between 200L and 4000L. The testbeds would be utilized for 9 to 12 months annually.

The long-term cultivation would be conducted at the following locations:

- University of Arizona-Pima County, Tucson, AZ (32.280069, -110.936256)
- Texas AgriLife Research Station at Pecos -Reeves County, Pecos, TX (31.42291, -103.49323)
- Pacific Northwest National Laboratory's (PNNL) Marine Sciences Lab (MSL-1)- Clallam County, Sequim, WA (48.07916, -123.045739)
- New Mexico State University- Las Cruces, New Mexico (32.283611, -106.752222)

The laboratory work would involve analysis of nutrients, biomass and lipids, and maintenance of algal cultures. Laboratory experiments would be conducted at the following locations:

- University of Arizona- Ogden, Brown, Ryan, and Waller Laboratories, Pima County, Tucson, AZ
- Texas AgriLife Laboratory- Galveston County, Galveston, Texas

Data management and modeling would be conducted at the following locations:

- New Mexico State University- Van Voorhies, Schaub, Unc and Deng Laboratories, Las Cruces, New Mexico
- PNNL 's main campus- Benton County, Richland, Washington

The University of Arizona testbed site is located in a non-attainment area for particulate matter (PM) 10. The proposed

testbeds are currently in place and no construction would be needed. Based on the nature of the project, DOE has determined that the testbed would not have any adverse impacts to emission levels of PM10.

The University of Arizona completed an R&D questionnaire for all RAFT facilities addressing the protocols for laboratory safety, risk management and waste disposal. The laboratories/sites comply with standard safety procedures and all processes and procedures are monitored by the Environmental Health and Safety staff. The laboratories/sites have all applicable permits in place to conduct research. Over 90% of the water used to cultivate algae in the ponds would be recycled. The other 10% that is not recycled would be disposed of according to the applicable state agricultural chemical regulations. Non-potable water and liquid waste would be disposed of following the appropriate state and local regulations.

The proposed project would involve the use and handling of various hazardous materials, including industrial solvents for lipid analysis. All handling and disposal of hazardous waste would be executed by trained professionals and disposed of in accordance with applicable state and federal regulations.

All work completed at DOE National Laboratories (PNNL) may be subject to additional NEPA review by the appropriate DOE NEPA Compliance Officer.

Based on review of the project information and the above analysis, DOE has determined the establishment of a testbed network, long term cultivation feedstock trials and subsequent research and analysis would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed project is consistent with actions contained in DOE categorical exclusion A9 "information gathering, analysis and dissemination," and B3.6 "small-scale research and development, laboratory operations and pilot projects" and is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

Phase 3 activities

This restriction does not preclude you from:

Phase 1 and Phase 2 activities

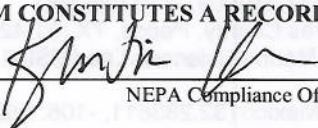
If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

Kelly Daigle 7/15/2013

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



NEPA Compliance Officer

Date:

7/18/2013

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.