

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
NEPA DETERMINATION**



RECIPIENT:AZ Board of Regents on behalf of Arizona State University

STATE: AZ

PROJECT TITLE
: Atmospheric CO2 Capture and Membrane Delivery

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001162	DE-EE0007093	GFO-0007093-001	GO7093

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.)

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Arizona State University (ASU) to demonstrate their innovative system (ACED) for boosting the productivity of microalgae growth systems by delivering concentrated CO2 captured directly from ambient air.

Proposed project activities would include the design, construction, and testing of the four subsystems required for the complete ACED system and the fabrication, performance review, and techno-economic evaluation of feasibility for large-scale implementation of two complete ACED systems.

This NEPA review is limited to process and data validation activities as they are described in Task 0 of the Statement of Project Objectives. The initial validation includes the Validation Team and the Project Team meeting and working together on campus at ASU in Tempe, AZ to complete the technical/financial data sheet and milestones and metrics that would be used to track project progress throughout the life of the project. Upon completion of this task there would be a go/no go decision made as to whether or not the remaining tasks will be undertaken. If the decision to move the project forward is made, all activities proposed would require additional NEPA review.

Process and data validation would involve the exchange of information, data, and paperwork. No site work, experimentation, or any of the proposed scope would be performed during the meeting. All proposed activities would take place in existing facilities designed for this type of activity; therefore, no new construction, modifications or new permits, additional licenses and/or authorizations would be necessary.

Based on review of the project information and the above analysis, DOE has determined the research, development and testing activities 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 exclusions A9 "information gathering, analysis and dissemination," 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:

- Task 1: Define system integration and safety requirements
- Task 2: Design and testing of MSS in continuous-operation mode
- Task 3: Design and testing of bicarbonate storage and CO2 delivery
- Task 4: Characterize CO2-delivery rate of MC membranes in PBR
- Task 5: Scale up MC to outdoor 75-L PBRs
- Task 6: Preliminary Techno-Economic Analyses
- Task 7: Replicate MSS gas mixture into MC membranes in PBR
- Task 8: Scale up MC to outdoor 1500-L raceway pond
- Task 9: Design and construction of integrated ACED system into PBR and continuous operation.
- Task 10: Design, construction, and operation of an integrated ACED system into an open raceway pond
- Task 11: Final Techno-Economic Analyses
- Task 12: Performance evaluation, modeling, and final display

This restriction does not preclude you from:

Task 0: Process and Data Validation

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 :

Bioenergy Technologies Office

This NEPA determination requires a tailored NEPA provision.

Review completed by Rebecca McCord 09/17/2015.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____



Electronically Signed By: Kristin Kerwin

Date: 9/21/2015

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