

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** The University of Tulsa**STATE:** OK

PROJECT TITLE: GEN3D – Experimental and Numerical Development of Gen3 Durability Life Models

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001697	DE-EE0008370	GFO-0008370-001	GO8370

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the University of Tulsa to examine particle and containment durability for high temperature materials which could be used in the Generation 3 Concentrating Solar Power systems (GEN3 CSP). The project would be completed over three Budget Periods (BP). This NEPA determination is for all BPs and all tasks and subtasks as identified in the Statement of Project Objectives.

Work would occur at two locations: the University of Tulsa in Tulsa, Oklahoma and Sandia National Labs (SNL) in Albuquerque, New Mexico.

Work at the University of Tulsa would include project management and reporting, development and fabrication of a high temperature testing system, and high temperature testing of containment particles. Academic activities would occur at university office facilities. Fabrication and testing activities would occur at dedicated university laboratory and research facilities. This would include using up to 5 kilograms of stainless steel, iron, and fire brick to fabricate a testing containment device. It would also include using up to 10 kilograms of sand bauxite and ceramic mixtures which would be tested at high temperatures in the containment device. Testing would include the use of high temperatures, up to 700 degrees Celsius. The primary hazard would be operating systems at high temperatures. Existing university health and safety policies and procedures would be followed, including employee training, proper protective equipment, engineering controls, monitoring, and internal assessments.

Work at SNL would include testing particles in a solar simulator and conducting analysis of the results. This would include the use of up to 1 kilogram of sand bauxite and ceramic. Particles would be tested in an existing solar simulator at high temperatures, up to 700 degrees Celsius. Existing SNL safety and health procedures would be followed including employee training, proper protective equipment, engineering controls, monitoring and internal assessments.

All work would be conducted in existing facilities and no change in the use, mission, or operation of any existing facilities would be required for or result from any of the proposed project activities.

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Based on the review of the proposal, DOE has determined that the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410(2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal 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 the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

Solar Energy Technology Office
This NEPA determination requires a tailored NEPA provision
NEPA review completed by Roak Parker 8/20/2018

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 **Electronically Signed By: Kristin Kerwin**
NEPA Compliance Officer

Date: 8/20/2018

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: _____