PMC-ND
(1.08.09.13)

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

RECIPIENT: Aerojet Rocketdyne **STATE:** CA

PROJECT TITLE : One Step Hydrogen Reforming through Sorption Enhanced Reforming

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000560	DE-EE0005770	GFO-0005770-001	GO5770

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 Aerojet Rocketdyne (AR) to develop one-step hydrogen generation through a Sorption Enhanced Reforming (SER) process that provides significant improvements in energy productivity, environmental performance, product yield, and economic benefit for advanced manufacturing as compared to the Steam Methane Reforming process.

Proposed activities associated with this project include system analysis updates, recommissioning of the Feasibility Demonstration Unit (FDU), and testing of three catalyst substrates. The system analysis updates would consist of the conversion of the system model from ChemCAD to Aspen Plus. Recommissioning of the FDU would be performed by the Energy & Environmental Research Center (EERC) with oversight from AR personnel. Some component testing of existing hardware may be done to ensure each equipment unit is functioning properly. Once recommissioning is complete, each of three candidate catalyst substrates would undergo various test conditions to determine their performance. All testing would be performed at EERC in Grand Forks, ND. All research and development activities would take place in existing facilities designed for this type of research; therefore, no modifications or new permits, additional licenses and/or authorizations would be necessary.

The proposed testing would involve hazards to workers that include high temperatures, combustible materials and inhalable particulates. Mitigation would be achieved through PPE, procedural steps and warnings, as well as equipment rated for hydrogen environment use, and detection of hydrogen (H2) or Carbon Dioxide (CO2) with automatic process shutdown. H2 and CO2 produced would be vented to atmosphere. Used catalyst and sorbent is not hazardous and would be disposed of through normal solid waste haul-off.

Based on review of the project information and the above analysis, DOE has determined the proposed project would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined that this project is consistent with actions outlined in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination" and B3.6 "Small-scale research and development, laboratory operations, and pilot projects" and is therefore 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 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 :

Advanced Manufacturing Office
This NEPA determination does not require a tailored NEPA provision.
Review completed by Rebecca McCord 03/12/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 3/16/2015
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