PMC-ND
(1.08.09.13)

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

RECIPIENT: Gas Technology Institute **STATE:** IL

PROJECT TITLE: Compressor-less Hydrogen Refueling Station

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000966	DE-EE0006966	GFO-0006966-001	

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:

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 Gas Technology Institute to demonstrate the technical and economic feasibility of the thermal compression concept for compressor-less fuel cell refueling stations with the expected outcome of total station cost (capital and operating) reduction of at least 15%.

The proposed project activities include design, analysis, fabrication and testing of a small-scale (163 liter, 700 bar) prototype of a thermal compression H2 fueling station. Design activities would be conducted by Shell Hydrogen in Houston, TX and analysis activities would take place primarily at Oak Ridge National Lab (ORNL) in Oak Ridge, TN with support from Shell Hydrogen. Assembly and testing of the prototype would be completed at the Lawrence Livermore National Laboratory (LLNL) in Livermore, CA. All research and development activities would take place in existing facilities designed for this type of research; therefore, no new construction, new or modified permits, additional licenses and/or authorizations would be necessary.

The proposed project would involve the use and handling of high-pressure gases and cryogenic liquids. All hazardous materials would be managed in accordance with federal, state, and local environmental regulations according to safety protocols defined by LLNL. Mitigation of these hazards includes: outdoor and remote operation, a venting stack designed to Compressed Gas Association (CGA) code, safety distance following National Fire Protection Association (NFPA) code, and Department of Transportation (DOT) certified pressure vessels. For all work conducted at DOE laboratories, project activities may be subject to additional NEPA review by the cognizant NEPA Compliance Officer for the lab and would be required to meet the labs health and safety requirements.

Completion of this project would require the use of approximately 200 kilograms of cryogenic H2 which would be delivered to the test facility by a commercial entity using liquid H2 trailers. All waste produced would be non-hazardous scrap metals. Stainless steel and aluminum would be recycled and carbon fiber would be sent to a local, approved landfill. Therefore, no siting, construction or major expansion of storage, disposal, recovery, or treatment actions/facilities would be required.

Based on review of the project information and the above analysis, DOE has determined that the activities associated with the proposed project 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 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 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 :

Fuel Cell Technologies Office
This NEPA determination does not require a tailored NEPA provision.
Review completed by Rebecca McCord, 04/20/2015

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/20/2015

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