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PMC-ND

(1.08.09.13)

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



RECIPIENT: Wiretough Cylinders LLC

STATE: VA

PROJECT TITLE:

Low Cost Hydrogen Storage at 875 bar by using steel liner and steel wire wrap

Funding Opportunity Announcement Number DE-FOA-0000821

Procurement Instrument Number DE-EE0006668

NEPA Control Number CID Number GFO-0006668-001

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:

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, 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) laboratory operations, 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 Wiretough Cylinders, LLC to develop a low-cost, high-pressure hydrogen storage cylinder for use at hydrogen refueling stations.

The proposed project would design, fabricate and test steel cylinders that would be wrapped with high strength steel wires/cables, fiberglass and resin to achieve a working pressure of 875 Bar. Tasks undertaken through the course of this project would include computer stress analysis (CAD), modeling, fabrication and preliminary testing of short cylinders measuring 16 inches in diameter and 75 inches in length; CAD analysis, modeling, fabrication and testing of long cylinders measuring 16 inches by 30 feet; and testing of the long cylinders and final reporting. Fabrication and testing of all cylinders would occur at the existing CP Industries facilities located at 2214 Walnut Street, McKeesport, PA 15132. Wrapping the cylinders in wire would occur at the existing Wiretough facilities located at 14570 Industrial Park Road, Bristol, VA 24202. There would be minor modifications to the equipment used at the facilities to complete the tasks for the proposed project.

All facilities comply with federal fire, safety, hazardous waste removal, and emergency plan regulations. Both project partners currently develop high pressure tanks and products and possess the necessary equipment to safely test high pressure hydrogen storage tanks. Epoxy and resins would be used in the manufacturing process and proper ventilation and environmental controls are in place to handle any emissions. Tanks would not be tested outside of the identified facilities or around untrained personnel. There would be no new construction or facilities modifications and no new or modified permits would be required for the proposed project.

Based on review of the project information and the above analysis, DOE has determined the research, development and testing activities associated with this 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 outlined 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 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:

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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: This NEPA determination does not require a tailored provision. Review completed by Rebecca McCord 07/28/2014. SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION. NEPA Compliance Officer Signature: Date: 7/29/2014 NEPA Compliance Office 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