Department of Energy
Argonne Site Office
9800 South Cass Avenue
Argonne, Illinois 60439

SEP 2 6 2014

Dr. Peter B. Littlewood
Director, Argonne National Laboratory
President, UChicago Argonne, LLC
9700 South Cass Avenue
Argonne, IL 60439

Dear Dr. Littlewood:

SUBJECT: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DETERMINATION FOR ARGONNE NATIONAL LABORATORY (ARGONNE)

The Argonne Site Office (ASO) has approved the following as a categorical exclusion (CX) under Appendix B (to 10 CFR Part 1021, Subpart D, Integrated DOE NEPA Implementing Procedures, December 1996), Category B 5.15 "Small-scale renewable energy research and development, and pilot projects" applicable to:

- Nationwide Alternate Fuel Vehicle (AFV) Emergency Responder, Recovery, Reconstruction and Investigation (ASO-CX-308)

Therefore, no further NEPA review is required. However, if any modification or an expansion of the scope is made to the above project, additional NEPA review will be necessary.

Enclosed please find a copy of the approved Environmental Review Form (ERF) for the project. If you have any questions, please contact Kaushik Joshi of my staff at (630) 252-4226.

Sincerely,

Joanna M. Livengood
Manager

Enclosure:
As Stated

cc: J. Stauber, ANL, w/encl.
W. Brocker, ANL, w/encl.
G. Keller, ANL, w/encl.
M. McKown, SC-CH, w/encl.
P. Siebach, SC-CH, w/encl.
K. Joshi, ASO, w/encl.

Argonne NATIONAL LABORATORY

Environmental Review Form for Argonne National Laboratory

Project/Activity Title: Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation

ASO NEPA Tracking No. ASO-CX-308 **Type of Funding**: FOA

B&R Code _____

Identifying number: _____ WFO proposal # _____ CRADA proposal # _____

Work Project # _____ ANL accounting # (item 3a in Field Work Proposal) _____

Other (explain) FOA DE-0000951

Project Manager: Glenn Keller Signature: Glenn F. Keller Date: 9-23-14

NEPA Owner: William Brocker Signature: William Brocker Date: 9-23-14

ANL NEPA Reviewer: Joel Stauber Signature: Joel V. Stauber Date: 9/23/14

I. Description of Proposed Action:

All work activity will be performed in an office environment. Argonne's role is as subject matter expert for providing technical input and guidance on gaseous fueled vehicle and electric vehicle hazards and infrastructure safety for the purpose of developing safety procedures and training materials for addressing hazards with gaseous fuels and stranded energy in electrical vehicles.

II. Description of Affected Environment:

III. There is no effect on environment. The task deliverables is the collection of information and safety data. No experimental work is involved. All work will be indoors in an office environment.

IV. Potential Environmental Effects: (Attach explanation for each "yes" response. **See Instructions for Completing Environmental Review Form**)

A. Complete Section A for all projects.

1. Project evaluated for Pollution Prevention and Waste Minimization opportunities and details provided under items 2, 4, 6, 7, 8, 16, and 20 below, as applicable — Yes ____ No X
2. Air Pollutant Emissions — Yes ____ No X
3. Noise — Yes ____ No X

4. Chemical/Oil Storage/Use — Yes ____ No X

5. Pesticide Use — Yes ____ No X

6. Polychlorinated Biphenyls (PCBs) — Yes ____ No X

7. Biohazards — Yes ____ No X

8. Effluent/Wastewater (If yes, see question #12 and contact Gregg Kulma (FMS-SEP) at 2-9147 or gkulma@anl.gov — Yes ____ No X

9. Waste Management

   a) Construction or Demolition Waste — Yes ____ No X

   b) Hazardous Waste — Yes ____ No X

   c) Radioactive Mixed Waste — Yes ____ No X

   d) Radioactive Waste — Yes ____ No X

   e) PCB or Asbestos Waste — Yes ____ No X

   f) Biological Waste — Yes ____ No X

   g) No Path to Disposal Waste — Yes ____ No X

   h) Nano-material Waste — Yes ____ No X

10. Radiation — Yes ____ No X

11. Threatened Violation of ES&H Regulations or Permit Requirements — Yes ____ No X

12. New or Modified Federal or State Permits — Yes ____ No X

13. Siting, Construction, or Major Modification of Facility to Recover, Treat, Store, or Dispose of Waste — Yes ____ No X

14. Public Controversy — Yes ____ No X

15. Historic Structures and Objects — Yes ____ No X

16. Disturbance of Pre-existing Contamination — Yes ____ No X

17. Energy Efficiency, Resource Conserving, and Sustainable Design Features — Yes ____ No X

B. For projects that will occur outdoors, complete Section B as well as Section A.

18. Threatened or Endangered Species, Critical Habitats, and/or other Protected Species — Yes ____ No ____
19. Wetlands — Yes ____ No ____
20. Floodplain — Yes ____ No ____
21. Landscaping — Yes ____ No ____
22. Navigable Air Space — Yes ____ No ____
23. Clearing or Excavation — Yes ____ No ____
24. Archaeological Resources — Yes ____ No ____
25. Underground Injection — Yes ____ No ____
26. Underground Storage Tanks — Yes ____ No ____
27. Public Utilities or Services — Yes ____ No ____
28. Depletion of a Non-Renewable Resource — Yes ____ No ____

C. For projects occurring outside of ANL complete Section C as well as Sections A and B.

29. Prime, Unique, or Locally Important Farmland — Yes ____ No ____
30. Special Sources of Groundwater (such as sole source aquifer) — Yes ____ No ____
31. Coastal Zones — Yes ____ No ____
32. Areas with Special National Designations (such as National Forests, Parks, or Trails) — Yes ____ No ____
33. Action of a State Agency in a State with NEPA-type Law — Yes ____ No ____
34. Class I Air Quality Control Region — Yes ____ No ____

V. Subpart D Determination: (to be completed by DOE/ASO)

Are there any extraordinary circumstances related to the proposal that may affect the significance of the environmental effects of the proposal? — Yes ____ No X

Is the project connected to other actions with potentially significant impacts or related to other proposed action with cumulatively significant impacts? Yes ____ No X

If yes, is a categorical exclusion determination precluded by 40 CFR 1506.1 or 10 CFR 1021.211? Yes ____ No ____

Can the project or activity be categorically excluded from preparation of an Environment Assessment or Environmental Impact Statement under Subpart D of the DOE NEPA Regulations? Yes X No ____

If yes, indicate the class or classes of action from Appendix A or B of Subpart D under which the project may be excluded. Appendix B, B5.15 Small-scale renewable energy research and development and pilot projects.

If no, indicate the NEPA recommendation and class(es) of action from Appendix C or D to Subpart D to Part 1021 of 10 CFR.

ASO NEPA Coordinator Review: Kaushik Joshi

Signature: KJoshi Date: 9-24-2014

ASO NCO Approval of CX Determination:

The preceding pages are a record of documentation that an action may be categorically excluded from further NEPA review under DOE NEPA Regulation 10 CFR Part 1021.400. I have determined that the proposed action meets the requirements for the Categorical Exclusion identified above.

Signature: Peter R. Siebach Date: 9/24/2014

Peter R. Siebach
Acting Argonne Site Office NCO

ASO NCO EA or EIS Recommendation: NOT APPLICABLE

Class of Action: _____

Signature: _____ Date: _____

Peter R. Siebach
Acting Argonne Site Office NCO

Concurrence with EA or EIS Recommendation: NOT APPLICABLE

CH GLD: _____

Signature: _____ Date: _____

ASO Manager Approval of EA or EIS Recommendation: NOT APPLICABLE

An ☐ EA ☐ EIS shall be prepared for the proposed _____ and

_____ shall serve as the document manager.

Signature: _____ Date: _____

Dr. Joanna M. Livengood
Manager

VERIFICATION OF NEPA APPROVAL

Release of Funds is Contingent on Approval

A. DESCRIPTION

Name of project or activity Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation

Division ES

Project Manager/or Project Investigator Glenn Keller/Eric Rask (name)

Identifying numbers (enter all that apply):

_____ WFO proposal number

_____ CRADA proposal number

_____ Field Work Proposal (enter the number in Item 3a on the FWP)

FOA Other (explain) FOA DE-0000951

_____ LDRD number

_____ B&R Code

CONTINUE

B. APPROVAL FOR OFFICE ACTIVITIES (If not applicable, GO TO Section C.)

The activity(s) described above will be wholly confined to conducting "office work" (e.g. program planning, management and administration; information gathering; information/data analysis; preparation and dissemination of reports; modeling; conceptual design; software development).

For any off-site or on-site activities ANL personnel will not be responsible for directing or conducting: laboratory work, field sampling, geophysical or geological characterization, installation of field instruments, drilling or digging, or any other activities with potential for disturbing the existing ecological/environmental conditions.

Project Manager Glenn Keller/Eric Rask (name) Glenn F. Keller (signature) 9/18/2014 (mm/dd/yyyy)

Environ. Compl. Rep. Amy Harris/Bryan Wozny (name) Amy Harris (signature) 09/18/2014 (mm/dd/yyyy)

STOP if Section B is applicable. No lab work is required for this project. All work will be providing technical assistance for the purpose of developing safety procedures and training materials for addressing hazards with gaseous fuels and stranded energy in electrical vehicles. AH 09/18/2014

C. APPROVAL FOR OTHER ACTIVITIES (Complete either item 1 or 2.)

1. ☐ The activities will fully conform with the criteria defined in the ANL-specific site-wide categorical exclusions for bench-scale research and development in established facilities. and training materials for addressing hazards with gaseous fuels and stranded energy in electrical vehicles

2. ☐ Other applicable NEPA documentation has been approved by (check all that apply):

   ☐ NEPA Owner ☐ ANL NEPA Coordinator ☐ DOE-ASO

   Most recent approval _____ (date) (ANL determination or ASO number)

Environ. Compl. Rep. _____ (name) (signature) (mm/dd/yyyy)

NEPA Owner _____ (name) (signature) (mm/dd/yyyy)

Control Number: 0951-1579

Cover Page (1 of 1)

U.S. Department of Energy Vehicle Technologies "Alternative Fuel Vehicle Deployment Initiatives" FOA Number: DE-FOA-0000951
Concept Paper
Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation Training
Applicant Name: Electric Vehicle Safety Training National Fire Protection Association 1 Batterymarch Park, Quincy MA 02169-7471
Control Number: 0951-1579
Project Title: *"Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation Training"*
Area of Interest: Alternative Fuel Training for First Responders, Public Safety Officials, and Critical Service Providers
Point of Contact: Barbara Maskell Senior Grants Administrator National Fire Protection Association 1 Batterymarch Park, Quincy MA 02169-7471 (617) 984-7236 bmaskell@nfpa.org
Principal Investigator: Andrew Klock Senior Project Manager Electric Vehicle Safety Training National Fire Protection Association 1 Batterymarch Park, Quincy MA 02169-7471 (617) 984-7089 aklock@nfpa.org
Date Submitted: 31 July 2014 Control Number: 0951-1579
Product Description (1 of 2)

CONCEPT PAPER: PRODUCT DESCRIPTION

Nationwide AFV Emergency Responder, Recovery, Reconstruction & Investigation Training

A prominent barrier that could inhibit the adoption of Alternative Fuel Vehicles (AFVs) in the US is a lack of safety knowledge by the fire service, law enforcement, tow and salvage communities, crash reconstruction teams, and fire investigators when dealing with AFVs that have been involved in a crash, fire, or recharging/refueling incident.

Today, the US is seeing an increasing interest and movement to AFVs, utilizing not only electric and hybrid drive systems, but also LNG, CNG, LPG, biodiesel, and hydrogen. In order to continue the development and dissemination of cutting-edge AFV safety training programs, it is necessary for NFPA to continue enhancing and disseminating its codes and standards-compliant safety programs and reference materials across the country to all emergency responder, recovery, reconstruction, and investigation communities in need of this vital safety knowledge. NFPA considers this education critical for long-term AFV acceptance and the best guarantee for safety for those involved in emergency response, recovery, reconstruction, and investigation.

Background:

NFPA was awarded a three-year DOE grant in 2010 and a one-year FEMA grant in 2013 to create and expand its well-respected classroom and online Electric/Hybrid/Fuel Cell Vehicle Safety Training programs—including a web portal, on-scene responder guide, and app—which covers emergency responder safety regarding high-voltage trucks, buses, commercial fleets, passenger vehicles, and their charging/refueling infrastructures. The fire service training is being enhanced to include LNG, CNG, LPG, and biodiesel vehicles. These programs have trained over 38,000 first responders in 50 states on AFV potential hazards, best practices, and fire tactics. Although this achievement is significant, there are approximately 1.1 million members of the fire service and 1 million members of law enforcement alone in the US; it is evident that this AFV training needs to continue expansion to extend its reach to all first and second responders.

Project Goals and Scope:

NFPA is focused on establishing classroom and online training programs and on-scene reference material for the continuum of responder, recovery, reconstruction and investigation operations. NFPA will request DOE funding over two years to develop and deliver free AFV safety training programs across the country in order to ensure a fundamental understanding of the anticipated hazards and recommended best practices for both during and after incidents.

NFPA's first project goal is to enhance its preexisting AFV safety training for first and second responders by including gaseous fuels and refueling infrastructures into all programs, and expand our safety training courses to all persons who come into contact with AFVs involved in an incident. NFPA will partner with Argonne National Laboratory, Pacific Northwest National Laboratory, the California Fuel Cell Partnership and the Fire Protection Research Foundation to obtain research for the training programs. Classroom/online training programs and reference materials for law enforcement, EMS, tow and salvage, crash reconstruction, and fire investigators will be developed and/or expanded upon to include the latest safety concepts and standards on AFVs. This continued development will expand the current scope beyond initial on-scene assessment and interaction to include towing/storage, determining incident cause, and best practices when addressing charging/refueling infrastructure involvement.

Control Number: 0951-1579
Product Description (2 of 2)

NFPA's second project goal is to widely disseminate free classroom training through partnerships with multiple Clean Cities Coalitions, the State Fire Training Directors, the IAFC/Metropolitan Fire Chiefs, the National Volunteer Fire Council, and an advisory panel consisting of representatives from all the major US fire service, law enforcement, EMS, and tow/salvage organizations. A minimum of 20 states with the highest AFV population will be offered train-the-trainer sessions. Eight of the targeted states—CA, NY, MA, MD, OR, CT, RI, and VT—have joined together to establish the Zero Emission Vehicle (ZEV) program. The remaining 12 states will be chosen based on the highest concentration of AFVs according to DOE statistics. The trainers in each state will be provided with all the course materials to allow for continuous training in their departments. In addition, all online AFV programs and videos will be offered on NFPA's web portal for free to the targeted responder, recovery, reconstruction and investigation communities in all 50 states.

Project Steps & Deliverables:

1) Convene standing AFV technical advisory committee for continued development, direction, and review of deliverables. Representatives will be from major US fire service, EMS, law enforcement, tow and salvage, crash reconstruction, and fire investigation organizations.
2) Retain currently contracted subject matter experts specializing in emergency response to AFVs, extrication, firefighting, battery/fire investigation, reconstruction, and towing.
3) Visit OEMs, conduct research and data collection of latest safety information on AFV technology, best practices on stranded energy, discharging, fueling, high voltage battery & gaseous fuel firefighting, towing procedures, salvage yard storage and fire inspection protocol.
4) Host AFV Summit Workshop. Attendees and presentations made will include representatives from vehicle OEMs, technicians, dealers, and members of the electrical, fire, law enforcement, and EMS communities. The Summit will identify first and second responder safety issues and share best practices regarding AFV technology, to be considered for inclusion in NFPA's training. Topics will include stranded energy (HV battery—intact, damaged, destroyed), best practices for recognizing/handling/cleanup of AFVs, safe gaseous fueling, battery discharging, gaseous fuel firefighting, tow procedures, and salvage yard storage.
5) Develop classroom, online, & train-the-trainer AFV courses for EMS, crash reconstruction, & fire investigators. Enhance existing fire service/law enforcement AFV training.
6) Update the latest AFV trucks, buses, commercial fleets, passenger vehicles, and responder tactical best practices into NFPA's *Emergency Field Guide* and all training courses.
7) Fire Service: Partner with Clean Cities Coalitions, National Volunteer Fire Council, and IAFC/Metropolitan Fire Chiefs Association to provide updated free online programs to all 50 states. Provide 1-3 train-the-trainer courses free to each of the 20 targeted states with AFVs.
EMS: Work with National Association of State EMS Officials and National Association of EMTs to provide new free online program to all 50 states. Provide 1-3 train-the-trainer courses free to each of the 20 identified states most active with AFVs.
Law Enforcement & Crash Reconstruction Teams: Create and host free online training of best safety practices for emergency response, recovery, and reconstruction of accident scenes.
Tow/Salvage: Provide free online AFV safety training for US tow/salvage communities.
Fire Investigators: Provide 1 free train-the-trainer class for each of the 20 states identified with the highest concentration of AFVs.

CONCEPT PAPER: ADDENDUM

Nationwide AFV Emergency Responder, Recovery, Reconstruction and Investigation Training
The National Fire Protection Association (NFPA) is the ANSI-accredited national codes and standards developer for emergency responder qualifications, equipment, and tactics, as well as the codes and standards developer for vehicle fueling. NFPA's *National Electrical Code®* has established standards for electric vehicle charging stations, electrified truck parking spaces, and the impact of EV charging infrastructures on power consumption and emergency responders. *NFPA 2, Hydrogen Technologies Code*, *NFPA 30A, Motor Fuel Dispensing Facilities* and *NFPA 52, Vehicle Gaseous Fuel Systems Code* define our nation's standards on vehicle gaseous fuel systems design and installation—including hydrogen, CNG, LNG, and LPG—and the dispensing facilities codes that coincide with these gases.

Qualifications and Experience:
NFPA has served on six sub-groups of the SAE J2990/J2991 EV safety committees and has co-hosted three Electric Vehicle Summit workshops with SAE. NFPA is currently partnered with 20 hybrid/electric vehicle manufacturers, all major US fire service associations, the California Fuel Cell Partnership, the Fire Protection Research Foundation, the New York State Police, the International Association of Chiefs of Police (IACP), the National Sheriffs Association (NSA), and the Towing and Recovery Association of America (TRAA). NFPA has also worked extensively with the US Departments of Energy (DOE) and Transportation (DOT) as well as the National Highway Traffic Safety Administration (NHTSA) in developing responder guidelines for vehicles with high voltage batteries. Additionally, NFPA co-wrote the ANSI EV roadmap, and is currently partnered with the Alliance of Auto Manufacturers and Pacific Northwest National Laboratory to obtain the latest EV/hybrid/fuel cell safety data. Argonne National Laboratory will partner with NFPA on this project, working on high voltage battery vehicle architecture and stranded energy research. These relationships prove essential to the project's success by giving NFPA a large and diverse group of organizations from which it can obtain research and assistance in the project's development.
NFPA has a recent successful track record with conceptualizing, developing, and maintaining safety training for emergency responders and managing large government grant initiatives, and has 100 years of experience in developing and delivering emergency responder standards and training, allowing it to precisely forecast the necessary resources, tasks, and milestones that will guarantee a budgeted and timely completion of this project. To accomplish this initiative, NFPA will capitalize on the successful strategies of its rapidly expanding safety programs for firefighters, law enforcement, and tow/salvage operators on electric/hybrid/fuel cell trucks, buses, and passenger vehicles. This high-quality respected series of trainings has reached over 38,000 emergency responders in all 50 states.
All of NFPA's grant funding, contracts, disbursements, and budgets are closely monitored by a Senior Grants and Contracts Administrator. Compliance with federal regulations and adherence to budget restrictions are also monitored by the Administrator.

Partnerships:
The following organizations have agreed to work with NFPA on this project: the Pacific Northwest National Laboratory, the California Fuel Cell Partnership, Argonne National Laboratory, Virginia Clean Cities Coalition, the Fire Protection Research Foundation, the New York State Police, the Towing and Recovery Association of America, and the Statewide Towing Association of Massachusetts.

Additional Pending Partnerships:
The following organizations have shown interest in assisting NFPA with this project: the National Volunteer Fire Council, International Association of Fire Fighters, NFPA/International Association of Fire Chiefs/Metropolitan Fire Chiefs, State EMS directors, State Fire Training Directors, National Association of Emergency Medical Technicians.

Key Personnel:

- Andrew Klock has the expertise and skills necessary to execute this project through to its completion. He has five years of experience at NFPA, where he has successfully served as the Senior Project Manager for the Electric Vehicle department in Product Development. He has overseen NFPA's Electric/Hybrid Vehicle Safety Training program since its inception nearly five years ago and was the DOE project principle under the 2010 grant. Prior to coming to NFPA, Klock held corporate director, management, and project management positions in IS for several international firms where he was responsible for setting up and overseeing worldwide technology and training structures. He holds degrees from Harvard and BU.
- Jason Emery is a Captain with over 25 years of experience in Waterbury, CT's Fire Department. He became a certified fire service instructor in 1997 and is NFPA's lead electric and hybrid vehicle instructor.
- Ron Moore is a retired Division Chief from the McKinney, TX Fire Department. He is the author of over 130 published articles on extrication and the most definitive training manual in this field, *Vehicle Rescue and Extrication.*
- Billy Leach has been in the volunteer and career emergency services since 1976 and serves as the senior presenter and planner for BIG RIG RESCUE™. He has co-authored a book on the topic of heavy truck anatomy and extrication.
- Todd Mackintosh has been a battery SME for over 17 years and is currently a technical specialist working with GM in their Global Vehicle Electrification Group. He chairs the SAE J2990 task force "Hybrid and EV Recommendations for First and Second Responders," serves as a program manager for the USABC recycling workgroup, and sits on the Portable Rechargeable Battery Association Board of Directors.
- Chris Pepler, a career firefighter with over 18 years of experience, is currently the Deputy Chief of Operations with the city of Torrington, CT. He became a certified fire service instructor in 1997 and has lectured extensively on hybrid and electric vehicle safety, vehicle occupant protection systems, and vehicle extrication.
- James Plaster, a career firefighter with 20 years of experience, is a lieutenant in the Bristol, CT Fire Department. He is a certified fire instructor for the CT Fire Academy and the Wolcott State Fire School.