

PMC-ND
(1.08.09.13)

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



RECIPIENT: Nikola Motor Company

STATE: AZ

PROJECT TITLE: Durable MEAs for Heavy-Duty Fuel Cell Electric Trucks

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002044	DE-EE0008820	GFO-0008820-001	

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Policy 451.1), 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.

B3.15 Small-scale indoor research and development projects using nanoscale materials Siting, construction, modification, operation, and decommissioning of facilities for indoor small-scale research and development projects and small-scale pilot projects using nanoscale materials in accordance with applicable requirements (such as engineering, worker safety, procedural, and administrative regulations) necessary to ensure the containment of any hazardous materials. Construction and modification activities would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible).

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Nikola Motor Company (Nikola) to fabricate, characterize and evaluate membrane electrode assemblies (MEAs) with novel catalyst layer structures to improve performance and durability. Nikola would perform MEA tests using existing component accelerated stress tests (ASTs) and performance test protocols to verify the minimum platinum group metal (PGM) loading required for 25,000 hours of operation for heavy-duty truck applications. This work would be performed by Nikola under a service contract at Arizona State University (ASU) laboratories. Nikola is working to develop the capability to complete these activities at their own facility so these activities may also occur at Nikola's dedicated laboratory facility in Phoenix, AZ later in the project. Commercial and experimental catalysts would be developed at Georgia Institute of Technology in Atlanta, GA and Northeastern University in Boston, MA. Catalyst layer model development and analysis would take place at Carnegie Mellon University in Pittsburgh, PA. Additionally, collaboration is expected to occur with the Fuel Cell Consortium for Performance and Durability (FC-PAD).

Activities such as modeling, design, fabrication, characterization, chemical synthesis, and testing within the project would occur in existing laboratories designed for this type of work that would utilize standard laboratory equipment. An approved vendor would complete small modifications for upgrading an ASU lab's electrical system to accommodate a 480V outlet for a fuel cell test station, along with the required water and compressed gas lines. No

modifications to other labs involved in the project, new permits, additional licenses and/or authorizations would be necessary. No ground disturbing activities, no changes in the operation of existing facilities, and no installation of equipment outdoors would occur for project activities.

Laboratory work would involve the use and generation of small quantities of hazardous materials, including powders, corrosive acids, chemical reagents, catalysts, and organic and inorganic solvents. Research activities would also involve the use of compressed gases. All such handling would occur in labs where there are dedicated proper hazardous material handling and disposal practices to ensure the project activities would pose no risk to the public. All hazardous materials would be managed in accordance with Federal, State, and local environmental regulations. Existing policies and procedures including personal protective equipment (PPE) use, hazardous materials management, hydrogen safety, personnel training, operations and maintenance, and emergency plans would be implemented as needed to minimize health and safety risks to employees and the public. The project does involve the use of nanopowders and nanocrystals that could pose an inhalation risk to project personnel. Risks associated with these materials would be mitigated by the proper use of PPE and by employing safe best practices such as the use of fume hoods during dry handling of particles and preparation of samples. These best practices would be followed during collection, packaging, transportation and disposal of nanomaterials. All hazardous and non-hazardous waste would be collected, handled, and dispositioned in accordance the each lab's established procedures and protocols as well as all Federal, state, and local regulations. DOE does not anticipate any impacts to resources of concern due to the proposed activities of the project.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Fuel Cell Technologies Office

This NEPA determination does not require a tailored NEPA provision.

FOR CATEGORICAL EXCLUSION DETERMINATIONS

The proposed action (or the part of the proposal defined in the Rationale above) fits within a class of actions that is listed in Appendix A or B to 10 CFR Part 1021, Subpart D. To fit within the classes of actions listed in 10 CFR Part 1021, Subpart D, Appendix B, a proposal must be one that would not: (1) threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health, or similar requirements of DOE or Executive Orders; (2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities (including incinerators), but the proposal may include categorically excluded waste storage, disposal, recovery, or treatment actions or facilities; (3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that preexist in the environment such that there would be uncontrolled or unpermitted releases; (4) have the potential to cause significant impacts on environmentally sensitive resources, including, but not limited to, those listed in paragraph B(4) of 10 CFR Part 1021, Subpart D, Appendix B; (5) involve genetically engineered organisms, synthetic biology, governmentally designated noxious weeds, or invasive species, unless the proposed activity would be contained or confined in a manner designed and operated to prevent unauthorized release into the environment and conducted in accordance with applicable requirements, such as those listed in paragraph B(5) of 10 CFR Part 1021, Subpart D, Appendix B.

There are no extraordinary circumstances related to the proposed action that may affect the significance of the environmental effects of the proposal.

The proposed action has not been segmented to meet the definition of a categorical exclusion. This proposal is not connected to other actions with potentially significant impacts (40 CFR 1508.25(a)(1)), is not related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27(b)(7)), and is not precluded by 40 CFR 1506.1 or 10 CFR 1021.211 concerning limitations on actions during preparation of an environmental impact statement.

The proposed action is categorically excluded from further NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:



Casey Strickland

NEPA Compliance Officer

Date: 2/18/2020

FIELD OFFICE MANAGER DETERMINATION

- Field Office Manager review not required
- Field Office Manager review required

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____
Field Office Manager

Date: _____