

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



RECIPIENT: NeoGraf Solutions, LLC

STATE: OH

PROJECT TITLE : Development of Low Cost, Thin Flexible Graphite Bipolar Plates for Heavy Duty Fuel Cell Applications

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002446	DE-EE0009615	GFO-0009615-001	

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.

**B5.15 Small-scale renewable energy research and development and pilot projects** Small-scale renewable energy research and development projects and small-scale pilot projects, provided that the projects are located within a previously disturbed or developed area. Covered actions would be in accordance with applicable requirements (such as local land use and zoning requirements) in the proposed project area and would incorporate appropriate control technologies and best management practices.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to NeoGraf Solutions, LLC (NeoGraf) to develop and manufacture flexible graphite that would be integrated into fuel cell bipolar plate assemblies (BPAs) intended for heavy-duty applications.

Award activities would be completed over two budget periods (BPs). These activities would include data analysis, computer modeling, design, preliminary engineering, device fabrication, and laboratory research and experimentation. Early award (BP1) activities would focus on development of flexible graphite with reduced levels of impurities that would be compatible with roll-to-roll manufacturing methods. These activities would include material evaluation and selection, optimization of manufacturing conditions and methods, and experimentation with alternative materials during the manufacturing process. Flexible graphite produced during early award activities would be used in the creation of BPAs at pilot scale. Later award (BP2) activities would transition production of flexible graphite to full manufacturing scale to produce more BPAs for assembly into small stack (i.e. multi-plate) configurations for testing and evaluation. Development and manufacturing of flexible graphite would occur at the NeoGraf facility in Lakewood, OH. Fabrication and testing of BPAs would occur at the Ballard Power Systems, Inc. (Ballard Power) facility in Burnaby, British Columbia (Canada).

The NeoGraf and Ballard Power facilities are preexisting purpose-built facilities for the type of work to be conducted for this project. Modifications would not be required for either facility. Award activities would involve the use and handling of hazardous materials and equipment, including chemicals, industrial solvents, metals, furnaces, and machinery with moving parts. All such handling would occur within the facilities and would follow existing policies and procedures. Existing corporate health, safety, and environmental policies and procedures consistent with industry-standard best practices would be followed at both facilities, including: employee training, proper personal protective equipment (PPE), engineering controls, monitoring, and internal assessments. Handling and disposal of hazardous materials at the NeoGraf facility would be done in accordance with existing federal, state, and local laws and regulations. NeoGraf would use preexisting, on-site wet scrubber and waste water treatment systems to mitigate potential hazards. NeoGraf would operate under preexisting Title V and waste discharge permits. New or modified permits are not anticipated.

Manufacturing cost analysis activities would be conducted by Strategic Analysis, Inc. (Arlington, VA) throughout the award performance period. These activities would be of an intellectual, academic, and analytical nature that would produce findings to inform personnel responsible for development and manufacturing activities.

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Hydrogen and Fuel Cell Technologies Office (HFTO)

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Dan Cahill, 11/10/2021.

## 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.

DOE has determined that work to be carried out outside of the United States, its territories and possessions is exempt from further review pursuant to Section 5.1.1 of the DOE Final Guidelines for Implementation of Executive Order 12114; "Environmental Effects Abroad of Major Federal Actions."

The proposed action is categorically excluded from further NEPA review.

## SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:

 Electronically  
Signed By: Kristin Kerwin  
NEPA Compliance Officer

Date: 11/17/2021

**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: \_\_\_\_\_