

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



RECIPIENT: Caterpillar Inc.

STATE: IL

PROJECT TITLE : LEAST: Leverage Engine Air System Technology for fuel cell system cost reduction

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002446	DE-EE0009620	GFO-0009620-001	G09620

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.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide funding to Caterpillar, Inc. to design, fabricate, and test an air-boosting device for heavy-duty vehicle fuel cells.

This project would be completed over three budget periods (BPs) with the first two budget period activities restricted to deskwork, including: literature reviews, computer modeling, computer simulations, design development, and data analysis. BP1 activities would focus on developing preliminary concepts and designs that would later be refined during BP2 and BP3 of the project. Deskwork activities would occur at the Caterpillar Technical Center (Mossville, IL), Ballard Power Systems, Inc. (Ballard) facility (Burnaby, British Columbia, Canada), and BorgWarner Turbo Systems (BorgWarner) facility (Arden, NC).

In addition to deskwork, BP3 project activities would include device fabrication and testing. All device fabrication and testing activities would occur indoors at the BorgWarner facility. Device testing would involve the consumption of hydrocarbon products (e.g. gasoline) and chemical coolants.

The Caterpillar, Ballard, and BorgWarner facilities are preexisting purpose-built facilities for the type of work to be conducted for this project. Modifications would not be required for any facility. The BorgWarner facility would continue to operate under a Title V permit issued by the Western North Carolina Regional Air Quality Agency. New or modified permits are not anticipated. Project activities would involve the use and handling of various hazardous materials and equipment, including hazardous chemicals, hydrocarbon products, and heavy machinery with moving parts. All such handling would occur within the facilities and would follow existing policies and procedures. Handling and disposal of hazardous materials at the BorgWarner facility would be done in accordance with existing federal, state, and local laws and regulations. Existing corporate health, safety, and environmental policies and procedures consistent with industry-standard best practices would be followed at the BorgWarner facility, including: employee training, proper personal protective equipment (PPE), engineering controls, monitoring, and internal assessments.

NEPA PROVISION

DOE has made a final NEPA determination.

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: Casey Strickland
NEPA Compliance Officer

Date: 10/27/2021

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: _____