

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** Caterpillar Inc.**STATE:** IL

PROJECT TITLE: System Demonstration for Supplying Clean, Reliable and Affordable Electric Power to Data Centers using Hydrogen Fuel

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002229	DE-EE0009252	GFO-0009252-001	

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.)

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to Caterpillar, Inc. for the design, development, fabrication, and field testing of a 1.5 MW hydrogen fuel cell power system for a datacenter application. Design and subcomponent testing would occur at Caterpillar's Technical Center in Mossville, IL and Ballard Fuel Cell Systems Inc. in Bend, OR. The assembled full system would be tested at Microsoft's data center development facility in Quincy, WA. Throughout the program, modeling, analysis, and safety plan development would occur at the National Renewable Energy Laboratory in Golden, CO. Project work would occur over three Budget Periods (BPs) with a Go/No Go decision between each BP. Only BP1 is being reviewed at this time as BP1 activities would define the remaining work that would occur in BP2 and BP3. Additional NEPA review will be required once the remainder of the project activities are defined.

BP1 activities would include determination of the engineering and customer requirements (site, safety, and performance) for the data center demonstration. The project team would explore a techno-economic analysis of using fuel cells as backup and prime power at data centers. Activities would also focus on component simulation, controls strategy, component sizing, cyber security, and site layout and permitting. Simulation results would be reviewed with stakeholders and pending a design review, the design details would be finalized around the data center site and the related infrastructure including the hardware sub-systems, controls platform integration, and safety aspects encompassing the final demonstration. BP1 activities consist exclusively of intellectual, academic, or analytical activities such as information gathering, data analysis, and data dissemination.

NEPA PROVISION

DOE has made a conditional NEPA determination.

The NEPA Determination applies to the following Topic Areas, Budget Periods, and/or tasks:

Budget Period 1

The NEPA Determination does not apply to the following Topic Area, Budget Periods, and/or tasks:

Budget Period 2

Budget Period 3

Notes:

Hydrogen and Fuel Cell Technologies Office
This NEPA determination requires 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.

A portion of the proposed action is categorically excluded from further NEPA review. The NEPA Provision identifies Topic Areas, Budget Periods, tasks, and/or subtasks that are subject to additional NEPA review.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Casey Strickland Date: 11/30/2020
NEPA Compliance Officer

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: _____ Date: _____
Field Office Manager