

PMC-ND
(1.08.09.13)

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



RECIPIENT: University of Vermont

STATE: VT

PROJECT TITLE : Robust and Resilient Coordination of Feeders with Uncertain Distributed Energy Resources: from real-time control to long-term planning

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001495	DE-EE0008006	GFO-0008006-001	GO8006

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), 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 federal funding to the University of Vermont to develop the theory, analysis tools, and open-source software for simulating grid operations and response under high PV penetration conditions in order to address challenges associated with renewable energy resource integration.

The proposed project would involve emulating real-time conditions with grid simulators employing digital data received from an established utility partner. Associated activities would include data analysis, computer modeling, software development, and hardware design/laboratory scale validation. Data analysis, software development, and hardware validation would occur at the University of Vermont in Burlington, VT. Additional analysis, modeling, software development, and hardware validation would be undertaken at Johns Hopkins University in Baltimore, MD and Pacific Northwest National Laboratory in Richland, WA. Validation activities would also be carried out using small-scale load emulators at the National Institute of Standards and Technology's purpose-built Smart Grid Test Bed in Gaithersburg, MD. Project partners would meet periodically for updates at the offices of Orange and Rockland Utility in Rockland, NY.

All work would occur indoors in dedicated research facilities that would not require any new construction, physical modifications, or additional permits for the proposed activities. No change in the use, mission or operation of existing facilities would arise out of these efforts. Physical materials used and produced by the proposed project would be limited to basic office supplies including software and documents. Validation experiments would utilize previously installed grid emulators and no equipment would need to be decommissioned at the conclusion of the proposed project.

The proposed project would not involve the use, handling, or disposal of hazardous materials. Low-voltage experiments on laboratory scale grid emulators would be conducted following all pertinent health and safety policies and procedures in accordance with electrical lab safety standards. The simulators are electrically similar to a desktop computer during operation and thus would not pose a significant risk to project workers. Project locations at which such work would occur have professional trained electricians on-site to further mitigate any risk.

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work

conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Based on the review of the proposal, DOE has determined the proposal fits within the class of action(s) and the integral elements of Appendix B to Subpart D of 10 CFR 1021 outlined in the DOE categorical exclusion(s) selected above. DOE has also determined that: (1) there are no extraordinary circumstances (as defined by 10 CFR 1021.410 (2)) related to the proposal that may affect the significance of the environmental effects of the proposal; (2) the proposal has not been segmented to meet the definition of a categorical exclusion; and (3) the proposal is not connected to other actions with potentially significant impacts, related to other proposals with cumulatively significant actions, or an improper interim action. This proposal is categorically excluded from further NEPA review.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If the Recipient intends to make changes to the scope or objective of this project, the Recipient is required to contact the Project Officer, identified in Block 15 of the Assistance Agreement before proceeding. The Recipient must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved. If the Recipient moves forward with activities that are not authorized for Federal funding by the DOE Contracting Officer in advance of a final NEPA decision, the Recipient is doing so at risk of not receiving Federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

Any work proposed to be conducted at a DOE laboratory may be subject to additional NEPA review by the cognizant DOE NEPA Compliance Officer for the specific DOE laboratory prior to initiating such work. Further, any work conducted at a DOE laboratory must meet the laboratory's health and safety requirements.

Note to Specialist :

Solar Energy Technologies Office
This NEPA determination requires a tailored NEPA Provision.
NEPA review completed by Whitney Doss, 5/31/2017

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature:  Lori Gray  Date: 5/31/2017
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

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

Field Office Manager's Signature: _____ Date: _____
Field Office Manager