

PMC-ND

(1.08.09.13)

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

**RECIPIENT:** University of California, Riverside**STATE:** CA

PROJECT TITLE: Integration of a DER Management System in Riverside

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0001495	DE-EE0008001	GFO-0008001-002	GO8001

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.)

B1.31 Installation or relocation of machinery and equipment Installation or relocation and operation of machinery and equipment (including, but not limited to, laboratory equipment, electronic hardware, manufacturing machinery, maintenance equipment, and health and safety equipment), provided that uses of the installed or relocated items are consistent with the general missions of the receiving structure. Covered actions include modifications to an existing building, within or contiguous to a previously disturbed or developed area, that are necessary for equipment installation and relocation. Such modifications would not appreciably increase the footprint or height of the existing building or have the potential to cause significant changes to the type and magnitude of environmental impacts.

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 California, Riverside (UCR) to develop and validate a distributed energy resource (DER) management system that automates integration and control of DER clusters with advanced sensor data. A previous NEPA determination (GFO-0008001-001; CXs A9, B3.6; 04/28/2017) reviewed Tasks 1-3 (Budget Period 1) and Task 4 (Budget Period 2), but restricted Tasks 5-7 (Budget Period 2) and Tasks 8-9 (Budget Period 3) pending the identification of sites for an initial pilot field test (Task 5) followed by a larger-scale full pilot field validation (Task 8). Since that time, locations for both the initial and full pilot field tests have been identified. This NEPA determination is to review all remaining project activities.

Continuing activities associated with the project would include the design and laboratory development of software and hardware devices. Design and development activities would occur in dedicated research facilities at UCR in Riverside, CA, Lawrence Berkeley National Laboratory (LBNL) in Berkeley, CA, and Lawrence Livermore National Laboratory (LLNL) in Livermore, CA. Hardware testing would take place in the purpose-build research and development facility of Pacific Gas & Electric in San Ramon, CA. Additional strictly computer-based design and simulation activities would be conducted by Smarter Grid Solutions in New York, NY and GridBright, Inc. in Alamo, CA. No change in the use, mission or operation of existing facilities would arise out of these efforts. The facilities in which design and laboratory development work would occur have all applicable permits in place, and would not need additional permits for the proposed activities.

Activities associated with Tasks 5-7 would include data collection and analysis, detailed site studies, documentation, computer modeling, software development and deployment, in addition to hardware installations (limited to sensors and metrology equipment) and subsequent testing of the control platform at the initial pilot site. Installation and testing activities would occur at the UCR College of Engineering Center for Environmental Research and Technology (CE-CERT) in Riverside, CA. CE-CERT is a dedicated university facility equipped with a 480 kW solar panel for small-scale field research, located within the service territory of project partner Riverside Public Utilities (RPU). No new construction or physical modifications to this facility would be required to accommodate the proposed activities, which are consistent with the current use, mission, and operation of CE-CERT. Installed equipment would include an outdoor GPS receiver and indoor MicroPMU meter within an existing electrical room. The dimensions of these compact, commercially-available hardware devices would not exceed approximately 12.5 in. x 13.5 in. x 6.5 in. Supplementary design, development, and laboratory testing activities associated with these tasks would take place in previously reviewed research facilities on campus at UCR.

Activities associated with Tasks 8-9 would include data collection and analysis, detailed site studies, documentation and reporting, computer modeling, software development and deployment, in addition to hardware installations and subsequent testing of the interfaced control platform at two full pilot sites. Installation and testing activities would occur at Hunter Substation and University Substation, both located in Riverside, CA. Some testing activities would continue to take place at CE-CERT in connection with the system installed there during Task 5. The Hunter and University sites are previously developed, working electrical substations with distribution lines owned and operated by RPU. UCR has access and ownership of the switching station at University Substation. No new construction or physical modifications to these facilities would be required to accommodate the proposed activities, which would not interfere with the current use, mission, and operation of RPU. At both sites, installed equipment would include the GPS receiver and MicroPMU meter described above. Line sensors (approximately 8 in. x 4.5 in. x 5.5 in.) would also be installed on existing distribution lines. At Hunter Substation only, a number of commercially-available switches and controls devices may be added to facility infrastructure by experienced RPU engineers as deemed necessary to enhance existing systems used for purposes other than the proposed project. These installations would have independent utility. No ground disturbing activities would be required to complete any of the aforementioned installations. Supplementary analysis and paper studies associated with Tasks 8-9 would take place in previously reviewed research facilities on campus at UCR.

Based on current project plans, and ultimately dependent on the results of future site studies, it is possible that additional installations consisting simply of a GPS receiver and MicroPMU meter(s) would occur at Winston Chung Hall on UCR's campus during the course of Tasks 5-8. As with CE-CERT, this is a dedicated university research facility with existing outdoor and indoor electrical space that can accommodate such hardware without any physical modifications. No change in the use, mission, or operation of this building would result from the potential installations at this location.

The proposed project would not involve the use, handling, or disposal of hazardous materials. Minor quantities of non-hazardous solid waste generated by installation and testing activities (e.g. packing materials) would be discarded on-site via the appropriate recycling or disposal service already in-place at each facility. Upon completion of the proposed project, installed equipment at CE-CERT, Winston Chung Hall, and University Substation would either remain in place and be repurposed by UCR, or removed and stored for future research. At Hunter Substation, the installed equipment would be transferred to RPU to either integrate with their standard operation units or be removed and repurposed to future site(s) outside this project. Any hardware and/or materials that need to be fully decommissioned would be recycled as e-waste.

Project participants have all applicable permits in place, and do not anticipate additional permit requirements for the proposed activities. The facilities in which project work would occur were purpose-built for the type of activities being proposed; therefore, no adverse impacts to sensitive resources are expected as a result of the proposed activities at this location. 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.

NEPA PROVISION

DOE has made a final NEPA determination.

Include the following condition in the financial assistance agreement:

Any work proposed to be conducted at a federal facility may be subject to additional NEPA review by the cognizant federal official and must meet the applicable health and safety requirements of the facility.

Notes:

Solar Energy Technologies Office
This NEPA determination requires a tailored NEPA Provision.
NEPA review completed by Whitney Doss, 11/19/18

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 Date: 11/21/2018
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