

PMC-ND

(1.08.09.13)

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



**RECIPIENT:** NV Energy

**STATE:** NV

**PROJECT TITLE:** Optimization of Excess Solar and Storage Capacity for Grid Services

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002064	DE-EE0009022	GFO-0009022-001	

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.)

**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 NV Energy to develop machine learning software applications for demand response operations in solar photovoltaic (PV) applications. The software would coordinate and integrate behind-the-meter (BTM) solar PV systems and energy storage, with the goal of improving management and service efficiency relating to these systems. The project would be completed over three Budget Periods (BPs), with a Go/No-Go Decision Point in between each BP.

BP1 activities would focus on initial research and development. Specifications (e.g. algorithms, use-cases) would be defined for the various platforms that would be developed as part of the software suite, including a distributed control and communication architecture, a grid services set, and energy storage-as-a-service, among others. Computer modeling and performance simulations would be run during this period.

BP2 activities would center on software development/coding, as well as application testing. Testing would consist of hardware-in-the-loop testing in laboratory settings, as well as field testing, with a limited set of customers using existing distributed energy resource (DER) assets.

BP3 would consist of a larger-scale demonstration test. For the demonstration, approximately 80 - 100 existing NV Energy customer households, with solar PV systems, would be recruited in the Summerlin West area of Las Vegas, NV to participate in testing. Of these, at least 10 would be customers that have both solar PV systems and energy storage systems. Selected participants would have a small computing device (i.e. interface gateway) integrated into the smart inverter of their solar photovoltaic (PV) systems or battery storage devices. The device would be used to apply and test the grid management software applications developed as part of the project. The solar PV or battery storage devices onto which the devices would be installed would be existing, customer-owned hardware. No new solar PV or energy storage hardware would be installed as part of the project. Upon completion of demonstration testing, the installations would either be left connected, for those customers who wish to continue to participate in the grid services facilitated by the device, post demonstration, or the device would be removed for those customers

not wishing to participate.

NV Energy would also install computing equipment at two existing substations that it operates. Equipment to be deployed at the substations would consist of intelligent servers/routers to be installed on computer racks within the existing control house of the substations. These equipment installations would not require facility modifications.

All project activities would be coordinated by NV Energy. NV Energy would also complete research and development (R&D) activities at its corporate offices in Las Vegas, NV, which would include office based research, program management, and software development. R&D activities would also be performed by project partner, eVolution Networks at its corporate office space in Ramat Gan, Israel. Laboratory testing would be performed at existing, purpose-built facilities at the campuses of University of Nevada Reno (UNR) and University of Nevada Las Vegas (UNLV) in Reno, NV and Las Vegas, NV, respectively. Both facilities regularly perform electric power testing. Laboratory testing would require minor modifications to the existing testing equipment. These modifications would be limited to the reconfiguration of existing equipment and the incorporation of new components into existing hardware. No ground disturbing activities would be required for laboratory testing.

Project work would include the use and handling of high-powered electrical equipment. Risks associated with the handling of this equipment would be mitigated through adherence to established health and safety policies and procedures. Protocols would include personnel training, the use of personal protective equipment, engineering controls, monitoring, and internal assessments. NV Energy and its project partners would observe all applicable Federal, state, and local health, safety, and environmental regulations.

There are no historic properties listed with the National Register of Historic Places in Summerlin West and, therefore there is no potential for proposed activities to result in adverse impacts to historic properties.

It is not anticipated that any additional permits or authorizations would be needed for laboratory testing or for the BP3 demonstration activity. NV Energy would properly notify and/or obtain any required authorizations from customers participating in the demonstration activity.

## NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Solar Energy Technologies Office

This NEPA determination does not require a tailored NEPA Provision.

NEPA review completed by Jonathan Hartman, 02/05/2020

## 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** Date: **2/6/2020**  
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