

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



RECIPIENT: Native Village of Noatak

STATE: AK

PROJECT TITLE : High Penetration Solar and Battery Project in Noatak, Alaska

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0002317	DE-IE0000146	GFO-0000146-001	

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.)
B5.16 Solar photovoltaic systems	The installation, modification, operation, and removal of commercially available solar photovoltaic systems located on a building or other structure (such as rooftop, parking lot or facility, and mounted to signage, lighting, gates, or fences), or if located on land, generally comprising less than 10 acres 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 the Native Village of Noatak (Noatak) to design and install a hybrid solar photovoltaic (PV) system and battery energy storage system (BESS). Once installed, the solar PV/BESS would be connected to the existing power grid. The hybrid system would enable increased diesel-off operation.

Proposed project activities would include stakeholder engagement, project planning/administration, system design development, equipment procurement, equipment installation, grid interconnection, system commissioning, and post-installation monitoring.

Two primary pieces of equipment would be installed as part of the project. The first would consist of a 275 kW solar PV system, consisting of racking, panels, inverters, microgrid controllers and modules. The system would have a panel footprint of approximately 14,858 sq. ft. The solar PV system would be installed in a field near an existing landfill, away from other residential or commercial facilities. The second would consist of a 384 kW BESS, which would be contained within a housing structure to be built outdoors adjacent to an existing power plant, owned, and operated by the Alaska Village Electric Cooperative (AVEC). The housing structure would measure approximately 8' x 20' x 8.5' and would contain the BESS, microgrid controls, and a three-phase isolation transformer. A concrete pad would be installed prior to installation of the equipment. All equipment and the housing structure would be erected on the concrete pad. Installation work would require the use of helical micro-piles, which would be driven into the ground approximately 8 feet to secure hardware. Installation of the piles would be done in a manner to diminish or prevent impacts to permafrost. Some minor tree/shrub removal may also be performed. No dirt fill would be required.

Once installed, the equipment would be connected to the existing power grid. For the solar PV system, which would be further away from the existing power plant, new overhead powerlines would be erected at the site of the new system and would be tied into existing powerlines leading to the power plant (approximately 200 ft. from solar PV site). Some minor trenching may be required in the areas between the panels and the distribution poles.

All project activities would be administered by Noatak in coordination with its project partner, the Northwest Arctic Borough. Installation work would be performed by a qualified, third-party contractor. Installation would occur on land owned and operated by the NANA Regional Corporation. NANA Regional Corporation has provided a letter of support for the project. Noatak would coordinate grid connections, a power purchase agreement, and system administration with AVEC.

Noatak would obtain any and all required permits and authorizations needed for the project prior to performing applicable project activities. These may include a Title 9 Land Use permit from the Northwest Arctic Borough. Noatak has communicated with the U.S. Army Corp of Engineers (USACE) and it is not anticipated that any USACE permit or authorizations would be required for the project.

Some project installation would occur near an existing airport runway. Specifically, the solar PV array would be installed approximately 1000 feet northwest of Runway 1/19 at the Noatak Airport. To ensure that the proposed project would not result in an impact on aviation safety as a result of the potential for glare and ocular impacts, a glare and ocular impact analysis was completed in accordance with Federal Aviation Administration (FAA) guidelines and policy. The exact tilt angle for the PV array modules were not known so a range of discrete tilts from 30 to 65 degrees with a due south orientation were analyzed in considering the potential for glare and ocular impacts. To demonstrate that a proposed solar project would not result in an impact to aviation safety, the FAA stipulates there should be no potential for glare or "low potential for after-image" along the final approach path for any existing or future landing thresholds (including any planned interim phases). The final approach path is defined as 2 miles from 50 feet above the landing threshold using a standard 3° glide path. At the Noatak Airport the final approach paths for incoming aircraft are for Runways 1 and 19 (Noatak Airport does not have an Air Traffic Control Tower). The conclusion of the analysis was that the PV installation would not cause glare to incoming aircraft on final approach at an intensity above a "low potential for after-image" regardless of tilt angle considered, with no glare predicted at tilt angles of 63 degrees and below. This level of glare meets the FAA standard for no objection to construction of the project if it were occurring on-airport. Based on this analysis, DOE does not anticipate any adverse impacts to incoming aircraft along the final approach path as a result of project activities.

DOE also conducted a review of potential issues relating to other resources of concern and found that no effects would be expected to result from the project.

Project work would involve the use and handling of power tools and heavy machinery. All such handling would be performed by qualified third-party contractors in compliance with established institutional health and safety policies and procedures. All waste materials generated by the project would be disposed of properly. Noatak and its project partners would observe all applicable Federal, state, and local health, safety, and environmental regulations.

NEPA PROVISION

DOE has made a final NEPA determination.

Notes:

Office of Indian Energy Policy and Program
This NEPA determination does not require a tailored NEPA Provision.
NEPA review completed by Jonathan Hartman, 10/04/2021

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: _____



Electronically Signed By: Casey Strickland

NEPA Compliance Officer

Date: 10/25/2021

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: _____