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

RECIPIENT: Virginia Department of Mines, Minerals and Energy **STATE:** VA

PROJECT TITLE : Installation of Solar Energy Systems at Virginia State Facilities

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	EE-0006589	GFO-0006589-001	

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.)
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.
B3.1 Site characterization and environmental monitoring	Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck- or mobile-scale equipment, and modification, use, and plugging of boreholes); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

Rationale for determination:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Virginia Department of Mines, Minerals, and Energy (DMME) to install commercially available solar photovoltaic (PV) systems at three state-owned facilities occupied by Commonwealth of Virginia.

The proposed project would involve installing a rooftop PV system at the Department of Forestry (DOF) Headquarters in Charlottesville, and ground-mounted PV systems at the Department of Juvenile Justice (DJJ) Virginia Public Safety Training Center in Hanover and the Department of Corrections (VADOC) Haynesville Correctional Center in Haynesville (an unincorporated town east of Warsaw). No change in the use or mission of existing facilities would arise out of this effort. Project sites would utilize commercially available solar PV systems rated between 250 to 315 Kilowatts and sized to offset a portion of each facility's electric usage. Each PV system would be smaller than two

megawatts and would be interconnected behind-the-meter. The systems would be designed to not produce more electricity than used at each facility; however, should excess generation occur it would be sold to Dominion Virginia Power. No additional power poles or transformers would need to be installed.

Activities associated with the proposed work at DOF's commercial-style office building would include installation of solar PV panels flush-mounted to the roof plus electrical modifications to the facility. The system would be approximately 410 solar panels and 103 kilowatts (kW). Physical modifications to the facility would be limited to the installation of conventional PV mounting components on the metal roof, and installation activities would not involve penetration of the roof itself. Electrical modifications would consist of electric wiring and a PV inverter to interconnect to the building's electric supply. The construction staging area would be located within the directly adjacent paved parking lot and there would be no ground disturbing activities. Due to the relatively small footprint of this rooftop installation located entirely on an existing building or pavement, DOE has concluded that no impacts to sensitive environmental resources are to be expected.

Activities associated with proposed work at the Haynesville and Hanover sites would include installation of ground-mounted PV systems and corresponding vertical racking/framing supports for the solar panels. The proposed systems may also require the installation of concrete pads for additional support. There would be no physical modifications to surrounding facilities. Existing roads and right of ways would be used to access field work locations. Geotechnical testing including soil core samples may be required to determine the number and embedment depth of support posts/piers. Soil testing would be performed by a drill rig with a split spoon core sampling boom to take borings approximately 4 in wide and 10 ft deep. Design survey compilation would include subsurface utility location services to identify any utilities within these areas. Ground disturbances during installation would include vertical framing supports installed by either vibratory piling or using screw style anchor piers, trenching for PV array cabling, and possible installation of a concrete pad for the PV inverter. During soil testing, subsurface surveying and the installation of field equipment, if cultural or archaeological artifacts are encountered, the recipient would cease work immediately and inform the DOE Project Officer of the finding.

The VADOC property in Haynesville contains four potential areas of land identified for the proposed project. The currently preferred area consists of around 5.5 acres. This project area has existing infrastructure that includes transformers, stand-by generators, and utility poles with overhead wiring. The proposed solar array would consist of approximately 5,700 solar panels and 1,425 kW installed on previously disturbed land associated with the construction of the facility and currently covered in mowed grass. Installation activities may include the removal of several decorative crepe myrtle trees less than 10 feet in height. Above ground cabling would likely be used to interconnect the PV inverter to the building's electric supply at a single point along an existing 34 kilovolt electric line adjacent to the proposed PV array.

At the DJJ facility in Hanover, the proposed solar array would consist of approximately 1,500 panels and 375 kW installed on 3.15 acres of open fallow field, which had previously been farmed but is currently covered in mowed grass. No tree clearing would take place and little or no grading would be required. Above ground cabling may be used to interconnect the PV inverter to the building's electric supply. Alternatively, the proposed system may require installation of an underground cable, which would involve digging a trench approximately 150 feet long from the solar array to an existing power pole that feeds the facility.

The proposed ground-mounted PV sites at the Haynesville and Hanover project locations have been reviewed by DOE and found not to contain prime farmland or wetlands. Neither site would be located in the 100-year floodplain. The U.S. Fish and Wildlife Service Endangered Species Program website (IPaC) identifies one threatened species that has the potential to occur near both proposed project locations. However, due to the lack of critical habitat, DOE has determined the proposed project would have no effect on the threatened northern long-eared bat (Myotis septentrionalis). IPaC identifies 29 and 21 Migratory Birds that are listed as species of conservation concern in the Haynesville and Hanover areas, respectively. Several of these species may use the proposed project sites as wintering habitat; however, due to plentiful availability of similar foraging habitat in the surrounding areas, impacts to individuals or populations of these species are not expected as result of construction of the proposed ground-mounted PV systems. Additionally, ground-nesting bird species may use the proposed project sites during the breeding season. If site preparation and/or construction would occur between March and September at the Haynesville or Hanover locations, a ground nesting bird survey at that site must be completed by a qualified professional no more than one week in advance of beginning work.

The DDJ complex in Hanover, recorded in the Virginia Cultural Resource Information System (VCRIS) as the Hanover Learning Center (DHR ID: 042-0128), is potentially eligible for the National Register of Historic Places. DMME consulted with the State Historic Preservation Office (SHPO) on the proposed project activities and received a letter stating the proposed installation would not adversely affect the qualities that make the DJJ property significant, provided the following conditions are met. These conditions shall be incorporated into the terms and conditions of the DOE funding agreement with the Commonwealth of Virginia as requirements for funding. Subsequently, DOE has no further obligations under the National Historic Preservation Act.

1. The solar installation should be as low in profile as possible and the installation framing and mounting equipment associated with the installation must be treated to be as visually unobtrusive as possible.
2. The pitch, elevation and position relative to any existing architectural features should be adjusted to reduce visibility of the feature.
3. Cut sheets of the solar installation equipment are requested prior to construction in order to review and comment.

Best management practices and appropriate control technologies would be implemented to minimize health and safety risks to personnel and the public in the proposed project areas. Electrical modifications at the facilities would include a utility-lockable external disconnect switch to ensure power lines can be physically decoupled from the utility's distribution system to guarantee electric lineman safety in the event of power outages. No hazardous materials would be utilized at any site during the course of this project. No siting, construction or major expansion of waste storage, disposal, recovery, or treatment actions/facilities would be required. Emissions sources for the proposed project would be temporary and limited to a gasoline generator for electric power tools and equipment used to drive framing posts/piers. Neither of the sites are located in a non-attainment area.

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:
During soil testing, subsurface surveying and the installation of field equipment, if cultural or archaeological artifacts are encountered, the recipient must cease work immediately and inform the DOE Project Officer of the finding.

If site preparation and/or construction would occur between March and September at the Haynesville or Hanover locations, the recipient must complete a ground nesting bird survey at that site using a qualified professional no more than one week in advance of beginning work.

In accordance with the Commonwealth of Virginia Department of Historic Resources letter dated September 2, 2016, the recipient must ensure the following conditions are met at the Department of Juvenile Justice Virginia Public Safety Training Center in Hanover, VA:
1. The solar installation should be as low in profile as possible and the installation framing and mounting equipment associated with the installation must be treated to be as visually unobtrusive as possible.
2. The pitch, elevation and position relative to any existing architectural features should be adjusted to reduce visibility of the feature.
3. Cut sheets of the solar installation equipment must be provided to Commonwealth of Virginia Department of Historic Resources prior to construction in order to review and comment.

Note to Specialist :

State Energy Program
http://energy.gov/eere/wipo/state-energy-program
This NEPA determination requires a tailored NEPA Provision.
NEPA review completed by Whitney Doss, 09/21/16

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By: Lori Gray Lori Gray Date: 9/22/2016
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