PMC-EF2a
(2/4/02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: NREL **STATE:** FL

PROJECT TITLE : DeSoto PV Variability Study; NREL Tracking No. 12-009

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-12-009	GO10337

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:

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.

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.)

B1.11 Fencing
Installation of fencing, including, but not limited to border marking, that would not have the potential to significantly impede wildlife population movement (including migration) or surface water flow.

Rational for determination:

BACKGROUND
This proposed project would involve the deployment of instrumentation for solar measurement at the DeSoto Next Generation Solar Energy Center in DeSoto County near Arcadia, Florida. Two types of solar monitoring stations would be deployed, one type within the fenced area of the photovoltaic (PV) plant and the other within a ~ 3 mile x 5 mile swath of land adjacent to the plant. See the Google Earth file (KMZ) uploaded into the PMC database for the monitoring locations. The PV plant and the adjacent land are owned by Subcontractor, Florida Power and Light (FPL).

The Project goal would be for this site to be instrumented and used for research into PV variability and forecasting. Specifically, the goals of this project would be to:
(1) Understand how PV plant output variability is impacted by change in the physical size and production capacity of a power plant;
(2) Investigate the possibility of using satellite based information to estimate PV plant production especially larger plants comparable to the satellite footprint; and
(3) Determine the minimum sensor configuration needed to model plant output and its variability.

PROPOSED ACTION
This work would include installation instrumentation at the DeSoto 25 MW PV plant with fixed radiometers, tracking radiometers; and power sensors; instrumentation of surrounding land with fixed radiometers; data acquisition,

archiving, and retrieval; and analysis of data to achieve multiple goals.

The monitoring station installation work would be done under the supervision of NREL instrument expert with assistance by the Subcontractor (FPL). The first type of monitoring station (referred to as Type B in the checklist attached) would be installed at the FPL plant and would have the PV Panel installed on the existing tracker arm followed by the ballasted anchoring of the tripod and finally the mounting and wiring of the components (Low voltage – 24V)). This equipment is therefore installed in previously disturbed areas on existing equipment within the PV plant grounds and therefore has no environmental impacts.

The second type of monitoring station (referred to as Type A in the checklist attached) would consist of a tripod and monitoring equipment. There are 12 sites where the Type A stations would be deployed, and as these sites are located in an area being actively grazed, the stations need to be fenced so that cattle would not damage the equipment. At each site a tripod would be anchored by installing a 2 to 4 ft grounding rod that would double as a static guard. The monitoring equipment would be mounted on the tripod. Three to 4 of the 12 Type A stations would have an additional antenna, the remaining 8 to 9 stations would not. Therefore, the stations with the antennas would be enclosed by a square 8'X8' fence constructed of 6" posts and hog panel. The stations without the antennas would be enclosed by a square 4'X4' fence constructed in the same manner. The fencing would be approximately 4 feet tall and include a gate. Access to the 12 sites would be by existing dirt roads and then a 4x4 truck in off-road areas. All monitoring sites would be self-contained and would not require any trenching or excavation for utilities. No additional roads, grading, or improvements would be required to access the proposed monitoring sites. Finally, a rotating shadowband radionometer (RSR2) station would be relocated to the DeSoto plant from a nearby location owned by FPL. Installation would occur in a previously disturbed location.

The solar sensors would be maintained on a monthly basis by the Subcontractor. This would consist of cleaning and leveling the 15 LI-POD and 3 RSR2 stations. Maintenance would consist of leveling and cleaning the solar sensors. This activity would only require water and would not utilize any oils, lubricants, solvents, or other chemicals. NREL would provide the necessary maintenance equipment and maintenance forms. Maintenance forms would be saved in a digital storage location and the Subcontractor would maintain hardcopies for NREL for use a later date. The data loggers on the monitoring stations would transmit the data to NREL data collection computers.

The work is scheduled to begin the week of December 5th, 2011 and is proposed to meet DOE program objectives for PV variability. The monitoring stations would be in use for 1-2 years at which time the fences and equipment would be removed.

IMPACTS OF PROPOSED ACTION
The proposed monitoring locations outside of the DeSoto PV facility would be temporary in nature and consist of tripod mounted monitoring equipment, grounding rods, and temporary fence enclosures.

Per data obtain from the USDA NRCS Web Soil Survey and uploaded to the PMC database, there are soils of an agricultural importance in the vicinity where the monitoring locations are proposed. However, this proposed action would not result in a loss of prime farmland or diminish the land's ability to sustain agriculture. The only ground disturbing activity would be installation of grounding rods and fence posts, which have a small footprint and would not result in a permanent impact. The area where in which the monitoring locations would be located would be continued be to be utilized as cattle grazing lands during and after the course of this proposed project.

Within the land area owned by the Subcontractor where the monitoring stations would be deployed are areas within 100-year floodplains and with designated wetlands present. The Subcontractor is aware of the locations of these resources and would avoid them during the installation and monitoring activities. Therefore, no impact to floodplains and wetlands is anticipated. The proposed project would not occur within a Coastal Management Zone.

In DeSoto County, U.S. Fish & Wildlife Service has listed several species on the threatened and endangered species list, which is uploaded to the PMC database. Based upon the research conducted by the NREL wildlife biologist, the proposed monitoring locations would not meet the habitat requirements for any of these species. Furthermore, the lands in questions are actively used as pastureland. The installation of the monitoring stations would occur from December 2011 to January 2012, and this is not the time of year in which migratory bird species typically nest in Florida. However, field crews would be aware to look for nests prior to equipment and fence installation, and adjust monitoring locations as appropriate.

The proposed locations of all of the monitoring have been submitted to Subcontractor's environmental council for review. To best of their knowledge, there are no cultural or historic resources present on their lands. The proposed action would only involve temporary, minor, and shallow ground disturbing activities. Impacts to cultural and historical resources are not anticipated.

This proposed project would not result in the emissions of air pollutants, the utilization of hazardous materials, or the generation of hazardous waste.

NEPA DETERMINATION
Based upon the information above, the proposed action would qualify for Categorical Exclusions (CXs) A9, B1.11, and B3.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

EF2a created by Rob Smith on 12/1/11.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Lori Gray / Lori Gray Date: 12/1/2011
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