PMC-EF2a
(2.06.02)

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

RECIPIENT: NREL **STATE:** CO

PROJECT TITLE : Regional Test Center Project: Solar Technology Acceleration Center (SolarTAC); NREL Tracking No. 12-007

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-12-007	0

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:

B1.15 Support buildings
Siting, construction or modification, and operation of support buildings and support structures (including, but not limited to, trailers and prefabricated and modular buildings) within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible). Covered support buildings and structures include, but are not limited to, those for office purposes; parking; cafeteria services; education and training; visitor reception; computer and data processing services; health services or recreation activities; routine maintenance activities; storage of supplies and equipment for administrative services and routine maintenance activities; security (such as security posts); fire protection; small-scale fabrication (such as machine shop activities), assembly, and testing of non-nuclear equipment or components; and similar support purposes, but exclude facilities for nuclear weapons activities and waste storage activities, such as activities covered in B1.10, B1.29, B1.35, B2.6, B6.2, B6.4, B6.5, B6.6, and B6.10 of this appendix.

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.

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.

Rational for determination:

The National Renewable Energy Laboratory (NREL) Concentrating Photovoltaics (CPV) and Concentrating Solar Power (CSP) programs are collaborating with MRI to expand the Solar Technology Acceleration Center (SolarTac) Site Use Agreement to include 20 additional acres on the SolarTAC site for the proposed CPV Regional Test Center and CSP Power Tower and Heliostat Field.

SolarTAC is an existing 76-acre privately funded demonstration and test site for solar technologies operated by Midwest Research Institute (MRI), owned by the City of Aurora, Colorado, and serves several founding organizations including NREL. SolarTAC is located near Denver International Airport at the Aurora Energy Campus, which is northeast of the intersection of East 26th Avenue and North Hudson Road.

This proposed project would establish new facilities at SolarTAC for a Regional Test Center for high thermal cycle and UV climate testing of PV and CPV systems. NREL would design, equip, and operate the test center for validating DOE selected PV and CSP technologies. The proposal is separated into two design efforts from two separate funding sources, the Regional Test Center from the CPV Program and the Power Tower and Heliostat Field from the CSP Program. Drawing - NREL01 [attached in the Project Management Center (PMC)] presents the two project areas including the 16-acre CPV program parcel and the 4-acre CSP program parcel.

Based on the information below, this proposed action would qualify for Categorical Exclusions B1.15, B1.31 and B5.15.

CPV PROGRAM - REGIONAL TEST CENTER
NREL would design, equip, and operate the test center for validating DOE selected PV and CPV technologies. The 16-acre parcel would be occupied with 2 megawatts (MW) of PV and CPV technologies in total. The total land area

would be divided into eight plots which would be individually developed by PV and CPV product manufacturers for technology testing and validation. The NREL project scope for the Regional Test Center project would include:
• Design and construction administration services for a support building, utilities and infrastructure required to meet the needs of the CPV Regional Test Center.
• Preparation of construction documents including approved Storm Water Pollution Prevention Plan (SWPPP).
• A metal pre-fabricated support building to be constructed of approximately 650 square feet (approximately 30 feet by 22 feet) to hold testing and laboratory equipment and provide working space for NREL CPV personnel.
•Installation of infrastructure to include a gravel access road (12 feet by 1,300 feet for a total area of 15,600 square feet).
• The utilities to include electrical and mechanical lines (under the proposed access road) to support the building.
• Infrastructure to include fencing. An 8-foot high chain link fence would be constructed around the southern and western boundaries of the NREL parcels to tie into existing fence and enclose the parcels (approximately 2,700 linear feet),
• Installation of a 300 kva transformer on each of the eight test plots. These would be purchased from, installed and managed by Xcel Energy through a separate agreement.
• Each of the eight (8) test center plots to remain undisturbed until use by product manufacturers (as yet undetermined).

CSP PROGRAM - POWER TOWER AND HELIOSTAT FIELD
The remaining four acres would be used to develop infrastructure to build a heliostat field and power tower. The four-acre parcel would need electrical infrastructure and a gravel road. The entire heliostat field would be covered with compacted gravel. The CSP heliostat field and associated towers have been donated to MRI by Sundrop Fuels. The equipment is currently located at the Sundrop Fuels test site in Broomfield, CO. This includes various components of the heliostat system: heliostat field (the array of mirrors); two camera towers; and two target towers. The heliostat field and towers would be disassembled, packaged and relocated to SolarTAC by an MRI contractor and stored until CSP program funds are available to reassemble the system and build the power tower. The two camera towers and two target towers would be located at the four outside corners of the project site, surrounding the heliostat field. The heliostat towers would be 65 feet high and are supported by concrete foundations. The heliostat field would encompass the entire four acre parcel. The donated equipment (i.e., the heliostat field and associated towers) would be owned by MRI and operated by NREL. Funds for this work may become available in FY 2012. Once assembled, the system would be used by industry partners to test and validate CSP technologies.

The power tower, would be located midway between the two target towers. The footprint of the heliostat field would likely be covered with a layer of gravel. The design and construction of the power tower is undetermined, at this time, but would be designed and constructed by an industry partner under a separate agreement or an already constructed tower could be brought in from a different location. Additional information concerning the power tower (i.e. height, footprint, associated chemicals, etc.) is forthcoming. DOE HQ would facilitate a private party agreement and complete the NEPA analysis of the scope of work for the development and construction of the power tower to be located within the heliostat field. Since the final height of the power tower (anticipated to be approximately 130 feet) is unknown at this time, consultation with FAA and DOE would be required, if the tower is greater than 200 feet, since SolarTac is located within seven miles of Denver International Airport and Buckley Air Force Base.

The CPV and CSP projects would be designed in accordance with NREL's Site Operations Standard Construction Specifications and Design Guidelines. If the proposed project would disturb more than 1.0 acre of land, NREL (or its construction contractor) would need to obtain permit coverage under the Colorado Discharge Permit System General Permit for Stormwater Discharges Associated with Construction Activity (COR-030000) and a City of Aurora Stormwater Quality Discharge Permit for Construction Activities, in accordance with the City of Aurora Rules and Regulations Regarding Stormwater Discharges Associated with Construction Activities, adopted in 2009. A stormwater management plan would need to be developed and implemented prior to construction and NREL staff would oversee project activities. A Spill Prevention, Control, and Countermeasures Plan (SPCC) would be required if the oil storage capacity of the site exceeds 1,320 gallons, which is limited to fuels/oils in tanks, transformers and containers 55-gallons and larger.

Any potential chemicals brought on site during construction and for research would comply with site policies dictated by MRI and SolarTAC management. All SolarTAC policies and procedures would be followed. Consideration to NREL policies and procedures would be included especially when NREL requirements are more stringent.

It is anticipated that this proposed action would not result in any impacts to endangered species, critical habitats, prime farmlands or archeological/cultural resources. This proposed project would result in minimal increases to air pollutants during construction.

Dependent on the time-frame for ground disturbing activities, a ground nesting bird survey might need to be conducted prior to work commencing. Mowing may occur prior to construction to maintain low ground cover and discourage nesting.

The extent of Coyote Run Creek 100-year floodplain is illustrated in the map attached in the PMC. The 100-year

floodplain exists on both proposed sites. At this time, no infrastructure development is proposed within the 100-year floodplain. Prior to the development of the parcels including the eight plots, which would be individually developed by PV and CPV product manufacturers, each industry partner/manufacturer would need to submit a site development plan to NREL for review to ensure that the activities at the site remain within the scope of this project and NEPA determination. Areas within the 100-year floodplain are "no build zones." In the future, if developing land in the floodplain is proposed, the proper studies and permits would be utilized and NREL may or may not be a party to such agreements, as is appropriate. The industry partner/manufacturer would be required to consult with FEMA, as any floodplain activities would be regulated by FEMA. These processes may include Conditional Letter of Map Revision to amend the floodplain and any Clean Water Act wetland permitting, as required.

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 :

Prepared 12.20.11 by Amy VanDercook, NEPA Specialist

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Lori Gray /Lori Gray/ Date: 12/20/2011
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