PMC-EF2a

(2.06.02)

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

RECIPIENT: NREL 303-384-7339 **STATE:** CO

PROJECT TITLE : Outdoor Test Facility Building Expansion; NREL Tracking No. 12-014

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-12-014	GO28308

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:

DOE/EA 1440 (NREL STM) Final Site-Site Wide Environmental Assessment of the National Renewable Energy Laboratory's (NREL) South Table Mountain Complex (February 2003)

Rational for determination:

BACKGROUND

This proposed project would be a two-story, 16,000 square-foot addition to the existing 11,247 SQFT Outdoor Test Facility (OTF) located at the National Renewable Energy Laboratory's (NREL's) South Table Mountain (STM) campus in the Golden, Colorado. The addition would maintain the exterior design of the existing building and the proposed addition would include office/administrative space, wet labs, dry labs, control rooms, storage areas, receiving area, restrooms, mechanical and electrical rooms, freight elevator, site work and paving of sidewalk, a loading dock and a driveway. This project would occur within Campus Development Zone 3 - West Campus, which is 20 acres in size and includes the OTF, Thermal Test Facility (TTF), Integrated Biorefinery Research Facility (IBRF), Shipping & Receiving (S&R), Maintenance, Bulk Storage, and West Entrance buildings.

PROPOSED ACTION

The National Center for Photovoltaics (NCPV) currently operates out of the Outdoor Test Facility (OTF) with access to the recently renovated array field. A portion of the NCPV has research facilities in other NREL buildings, such as the Field Test Laboratory Building (FTLB) and the Solar Energy Research Facility (SERF). The researchers desire to consolidate these operations while alleviating overcrowding of the office space in the OTF. The purpose of the OTF has been and would continue to be the testing of full-sized module solar test panels from industry. Currently, other related research conducted in a lab of the FTLB and SERF E216 lab would be transferred to the expanded OTF facility. No new research would occur, only consolidation for related research done in other buildings on the STM campus.

The project would consist of a two-story, 16,000 SQFT addition to the existing OTF. The structure would consist of reinforced concrete foundation, composite steel and concrete floors and a structural steel frame. The exterior would be stucco walls with parapets and a flat membrane roof meeting "Cool Roof" requirements. The roof would be adequate to support the weight of solar test panel arrays and the personnel conducting those tests. Mechanical systems would provide both heating and cooling, including a scheme for heat recovery of high output heat-producing laboratory equipment. Details of the project design can found uploaded to the PMC.

The major components of the project would be:

- Site work to accommodate foundations and additional driveway;
- Construction of steel/concrete structure having expanded load capacities;
- General construction of ground floor, second floor, and roof integrated into the same levels of the existing building;
- Plumbing for water and laboratory gasses;
- Outfitting lab spaces with fume hoods and case work;
- Interior demolition and reconstruction to accommodate repurposing of some spaces in the existing facility; and

• Facilitating the installation and moving of oversized equipment

The existing OTF building has several shortcomings that would be addressed by this proposed expansion effort. Currently, the only means of travel between the floors are a stairwell or an outside driveway. Thus, there is no accessible route between the floors for heavy loads. Heavy loads typically moved on carts must either travel outside and around the building or be off loaded and carried up the stairs. Another issue is the need for additional office and laboratory work space. The existing offices cannot accommodate the current population. The busy receiving, shipping and storage space on the lower floor does not meet current needs. Finally, the machine shop is sized and configured in a manner that limits users' ability to work with long pieces of material.

Construction activities would include the removal of the west driveway and parking area in favor of building footprint, and the relocation of a telephone room. The south facade of the addition would be stepped as in the current facility and would have a more diverse pattern of fenestration, which would be framed in clear anodized aluminum. The new driveway to the west side of the addition would share the exiting driveway now servicing the TTF next door. The west facade and driveway of the OTF addition would be the most active side of the building, with the door to the loading dock receiving and shipping containers of all sizes daily. A freight elevator would be added to the facility to allow movement of heavy articles to and from the loading dock to the roof. This would be placed at the north side of the building to preclude the elevator penthouse from shading experiment areas on the roof.

PRIOR NEPA DETERMINATIONS

The proposed area for this development is one of the areas of the STM campus identified in the NREL Master Plan as developable. The development of this area, within Site Development Zone 3 – West Campus, modification of existing facilities, and the expansion of administrative, testing, and laboratory space was included and assessed in the July 2003 Site-Wide Environmental Assessment of the National Renewable Energy Laboratory's South Table Mountain Complex (DOE/EA-1440) with a Finding of No Significant Impact (FONSI) determined in July 2003. DOE/EA-1440 is hereby are incorporated by reference.

IMPACTS OF PROPOSED ACTION

The proposed building expansion footprint would be 16,000 SQFT, which would necessitate an excavation and site clearing of approximately 26,000 SQFT. Current stormwater conveyances may need to be enlarged. However, the lower west parking lot footprint would be incorporated into the expanded building so only a portion of permeable surfaces would be affected. If the total disturbed land area exceeds greater than one acre, an EPA Construction General Stormwater Permit would be obtained. The construction and restoration activity would abide by NREL Lab Level Procedure 6-2.15 Stormwater Pollution Prevention for Construction Activities: South Table Mountain Site. Compliance with Section 438 of the Energy Security and Independence Act of 2007 would be achieved by: (1) project design team must verify capacity in the Central Arroyo Detention Basin for the additional runoff that would be generated by the project; (2) that pervious materials would be used to the maximum extent possible, such as porous pavers on the fire loop road and the driveway; (3) and that additional stormwater runoff directed to the neighborhood to the south would be minimized to the maximum extent possible.

There are no floodplains, wetlands, or Waters of the United States (WOUS) in the vicinity of the OTF and the proposed project area. NREL has received a Jurisdictional Determination from the U.S. Army Corps of Engineers for the ephemeral drainages on the STM campus.

Fugitive particulate air emissions from the construction would be controlled in accordance with the existing STM land disturbance air permit (APCD# 08JE0889L), including mitigation measures like dust suppression. The construction phases would require the utilization of mobile point emission sources, such as front-end loaders, scrapers, paving machines, and dump trucks, but these emissions would be negligible given the size and duration of the construction activity.

In the 2010-2011 site-wide wildlife survey, no threatened, endangered, or candidate wildlife species were observed at STM, nor was habitat for such species identified. Similarly, the vegetation survey during the same time period found no rare plants or habitat that may support federally protected plant species in the area proposed for this project. A migratory bird nesting survey would be conducted prior to any ground or vegetation disturbing activities if these activities are conducted after March 15th and before September 15th. This would ensure that no migratory birds, nests or eggs are destroyed during construction.

Archeological and cultural resources have been assessed and were discussed in DOE/EA-1440 and in subsequent Supplement EAs (DOE/EA-1440-S-I and DOE/EA-1440-S-II). However, excavation contractors will be briefed to be aware of the possibility of resources being unearthed and to contact EHS should any features or structures be discovered during excavation.

There would be noise typical of construction equipment, such as front-end loaders, graders, paving machines, dump trucks and pickup trucks during construction. Work would be conducted only during daylight hours. Construction-related noise would consist of a short-term increase in ambient noise levels. Noise impacts would vary with the phase of construction and occur intermittently. Construction activities would comply with applicable noise ordinances.

Construction and operation of the proposed OTF expansion would comply with existing NREL safety protocols and procedures.

Impacts to visual quality by this proposed action are not significant and are bounded by the visual impact analysis of the development of Campus Development Zone 3 discussed in Section 4.5.1 of DOE/EA-1440.

NEPA DETERMINATION
Based upon the information above, the proposed action is within the bounds of the DOE/EA-1440, and its FONSI would apply.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

EF2a prepared by Rob Smith on 06/07/2012

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Electronically Signed By Lori Gray /Lori Gray/ Date: 6/8/2012
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