

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



RECIPIENT: Desert Research Institute

STATE: NV

PROJECT TITLE : Tall Tower Wind Energy Monitoring and Numerical Model Validation in Southern Nevada; NREL Tracking No. 11-012

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
		NREL-11-012	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:

- A9** Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.
- B3.1** Onsite and offsite site characterization and environmental monitoring, including siting, construction (or modification), operation, and dismantlement or closing (abandonment) 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. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

Rational for determination:

This proposed project is for a regional wind energy assessment in Southern Nevada utilizing U.S. Department of Energy (DOE) funds through the National Renewable Energy Laboratory (NREL) to the selected Subcontractor, Desert Research Institute (DRI). To assess regional wind energy potential, a 120 meter (m) meteorological (met) tower would be installed by DRI near Searchlight, Nevada to provide continuous wind monitoring data at wind turbine hub and blade heights. Data from the platform and the evaluation of numerical model accuracy would improve wind resource maps, and identify the wind shear and turbulence regimes at the wind turbine hub and blade heights. The results of this project would be transferable to other Southwestern areas whose climates are similar to southern Nevada and facilitate wind energy development in Nevada and the surrounding region.

PREVIOUS NEPA DETERMINATIONS

In a previous DOE NEPA review (NREL Tracking Numbers 08-017 and 08-017a), several potential locations were evaluated for the erection of met towers. At that time, the DOE/NREL provisional NEPA determination authorized literature surveys, analysis of existing data, and preparation of conceptual design and feasibility studies. Installation of met towers was not authorized until the final sites were selected. Since the sites being evaluated were located on BLM property, it was determined by BLM that an EA would be required.

As part of the BLM review process, Oak Creek Energy Systems (OCES) submitted a BLM SF-299 application for a Site Type II right-of-way (ROW) for wind resource monitoring & testing. BLM completed all the NEPA compliance requirements documented in a 2008 Environmental Assessment (EA). BLM approved a total of nine (9) met towers in February 2009, and the ROW authorization will expire on December 31, 2011. Of the nine (9) met towers approved, OCES installed five (5) in March 2009 in accordance with the ROW grant stipulations. Data collected in the first few months indicated that further data collection was warranted.

In August 2009, OCES submitted an amendment to the initial application, proposing to relocate two (2) of the previously approved (but not yet installed) met tower sites to more accessible terrain. Two of the sites that were initially chosen, NV-06 and NV-07, were not adequate for OCES needs. As a result, OCES proposed to amend the existing ROW grant that would allow OCES to:

- Move met tower sites NV-06 and NV-07 to two new locations (ALT NV-06 and ALT NV-07 (ALT NV-07 is located approximately 8 miles west of the original Searchlight location - T. 28 S., R. 62 E., Sec. 18: SW1/4 (within) 35.50399 - 115.093978)
- Change the height of ALT NV-07 to 120m (394 feet)
- Add Sonic Detection And Ranging (SODAR) units at each location

To address these changes of the proposed action, BLM completed an EA update (DOI-BLM-NV-S010-0018-EA) in

October 2010 (uploaded to the PMC database). This resulted in a FONSI being signed in November 2010 (also uploaded to the PMC). Much of the information provided in those two documents form the basis for this NEPA review. Only the guyed 120-m met tower that would be installed at ALT NV-07 and its associated SODAR unit are addressed in this DOE NEPA review.

PROPOSED ACTION

The guyed lattice tower would be installed using a tilt-up installation process. Depending on soil conditions, either screw-in anchors or concrete anchors would be used. The SODAR unit would occupy a 10 ft. x 10 ft. fenced area and would be located a distance at least equal to the tower height from the nearby met tower and within the tower footprint. The Subcontractor (DRI) would hire a company licensed for tower climbing for equipment installation and tower maintenance. The primary installation vehicle would be one 4 x 4 truck with a 9 ton winch mounted on the front bumper. A base plate, anchors and anchor wires along with the tower parts required to assemble and install the met tower typically would be the only equipment onsite. All remaining equipment would be staged on the access road. The met tower and SODAR unit would be situated within previously surveyed biological and cultural areas. Access to the site would be via a marked BLM-designated route of travel.

Because of steep terrain, the safest access route to ALT NV-07 would be through the Eldorado/Piute Valley Area of Critical Concern (ACEC) area, and onto a closed BLM designated road. This access point would be one-time usage for construction purposes only. Upon completion of construction, portions of the 0.58 mile closed access road to ALT NV-07 (which extends from the designated route within the ACEC to the point at which that road exits the ACEC) would be reclaimed by roughing/ripping the western and eastern end of the closed road for 500 ft. from either end of that closed segment of road. This would be done utilizing a tooth-ripper attached to a bulldozer. This "roughing and ripping" technique would make the road rough enough to make it clear that the road is closed, to discourage usage of the road by off-road motorized activities, and would allow natural revegetation to occur.

IMPACTS ANALYSIS

As documented in the BLM EA, the area disturbed by installation of meteorological towers would be kept to a minimum, and existing roads would be used to the maximum extent feasible. It is anticipated that the total disturbed area for the tower base, guy anchors, SODAR unit, and access path would be approximately 0.012 acres. In the event the soil composition does not allow for screw-in anchor installation, concrete anchors would be installed. In this circumstance a hole would be dug at the anchor points using a back-hoe. Reinforcing steel would be placed in the hole with a screw-in anchor tied to the reinforced steel, and the rod and eye in the proper angle above-ground to attach the guys. Concrete would be poured over the ground, leaving approximately 12 inches between the cement and the ground surface for native soil backfill. All remaining soils would either be scattered around the site or removed per BLM's instructions. Site access for construction purposes, follow-up reclamation, and other construction mitigation measures as discussed in the October 2010 BLM EA would be followed by DRI and its contractors.

An intensive archeological inventory to identify districts, sites, or other properties eligible for listing to or included on the National Register of Historic Places (NRHP) was completed for the proposed action. The area of potential effect for both tower locations and their access route has been inventoried and documented in BLM Cultural Resource Report No. 5-2646. There were no districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP that would be impacted by the proposed action. Furthermore, a Class III cultural resources inventory (uploaded into the PMC) was conducted for the construction and access footprints of ALT NV-07. No cultural resources were noted, thus none would be affected by this proposed project. No further evaluation is required.

The proposed project would occur in the vicinity of public lands that are ecologically critical areas and protected with special designations, including the South McCullough Wilderness, the Wee Thump Joshua Tree Wilderness, the Mojave National Preserve, and the Piute-Eldorado Valley Area of Critical Environmental Concern (ACEC). Additionally, the proposed project would be utilizing an existing closed road for met tower (ALT NV-07) site access that crosses the Piute-Eldorado ACEC and is designated desert tortoise critical habitat. As proposed, there would be no new surface disturbance associated with the proposed action within the Piute-Eldorado ACEC and therefore no impacts to ACEC are anticipated. Additionally following use of this road for construction purposes, the proponent has proposed to roughen the road and place rock barriers and/or signs to discourage future usage of this road. Since desert tortoise sign has been found in the vicinity and undisturbed habitat exists in the area, there is potential for desert tortoises to wander into the proposed project area. This proposed action was analyzed by the BLM in their October 2010 EA and its November 2010 FONSI. The BLM references in their EA and FONSI that Section 7 of the Endangered Species Act (ESA) consultation for their proposed action was covered under the Programmatic Biological Opinion for Multiple Use Activities (1-5-97-F-251). DOE began informational Section 7 consultations with the U.S. Fish and Wildlife Service (USFWS) in January 2011. While the DOE/NREL scope/nexus of this project would be slightly different than the BLM's (funding and data analysis vs. land management), the essence of the action is identical. Based upon this relationship and as documented in the January 13, 2001 email between Mr. Rob Smith of the DOE and Mr. Michael Burrows of the USFWS, USFWS agreed that DOE/NREL could utilize the BLM's Programmatic Biological Opinion for Multiple Use, provided that BLM agrees as the lead agency. On February 10, 2011, Mr. Bob Ross of the BLM authorized DOE/NREL's use of BLM's Programmatic Biological Opinion for Multiple Use Activities (1-5-97-F-251) to satisfy Section 7 of the ESA. Copies of these email correspondence is included in the PMC. In doing so, DOE/NREL agrees to abide by the terms and conditions of the Programmatic Biological Opinion for Multiple Use

Activities, as well as to include those conditions in the award language to DRI to ensure their compliance with the terms and conditions of Programmatic Biological Opinion for Multiple Use Activities, as well as the mitigation measures specified in the October 2010 EA and its associated FONSI.

The FAA has issued a Determination of No Hazard to Air Navigation for the proposed project on July 9, 2010 (permit request case number ASN 2010-WTW-7928-OE). The Determination of No Hazard to Air Navigation provided that OCES follow the lighting and marking requirements identified by the FAA and as identified in Chapter 4 of the BLM EA. In addition, the BLM EA and FONSI specify that the tower must use an Audio/Visual Warning System in order to keep flashing lights in a passive mode until aircraft are detected within the range of the automated radar detection system, thus allowing the proposed tower to meet BLM Visual Resource Management Class II Objectives.

Implementation of this proposed action would not impact prime farmland, floodplains, or wetlands. Furthermore, this proposed project would not result in the utilization of hazardous materials or the generation of hazardous waste.

Based on the information above and the BLM's NEPA analysis, this project's impacts to the human and natural environment can be deemed less than significant and this project would qualify for Categorical Exclusions A9 and B3.1(h).

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Insert the following language in the award:

You are required to:

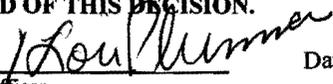
DRI and its contractors shall abide by specified mitigation measures pursuant to the October 2010 BLM EA (DOI-BLM-NV-S010-0018-EA), its associated November 2010 FONSI, and the Programmatic Biological Opinion for Multiple Use Activities (1 -5-97-F-25 1) contingent on compliance with the terms and conditions for Area C. Specific measures that DRI and its contractors shall implement include:

- a. The proponent is required to have an authorized biologist monitor routes that do not follow existing roads to prevent crushing of tortoises and burrows. Specifically, the authorized biologist will walk in front of vehicles while travelling over undisturbed habitat.
- b. The authorized biologist will survey areas prior to surface disturbance wherein vegetation will be removed and remain onsite during construction/installation operations.
- c. The proponent or the contract biologist must receive approval from the Fish and Wildlife Service prior to start of construction activities. The Fish and Wildlife Service has 30 days to respond once request to approve tortoise biologist is received.

Note to Specialist :

EF2a prepared by Rob Smith on 02/14/2011

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Lori Plummer  Date: 2/14/2011
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 :