

PMC-ND  
(1.08.09.13)

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



**RECIPIENT:**NREL

**STATE:** CO

**PROJECT TITLE :** NREL - Bangladesh Wind Resource Assessment Project; NREL Tracking No. 14-020

<b>Funding Opportunity Announcement Number</b>	<b>Procurement Instrument Number</b>	<b>NEPA Control Number</b>	<b>CID Number</b>
	DE-AC36-08GO28308	NREL-14-020	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:

- 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.)
- 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:**

**A14 Approval of Technical Exchange Arrangements**  
Approval of technical exchange arrangements for information, data, or personnel with other countries or international organizations (including, but not limited to, assistance in identifying and analyzing another country's energy resources, needs and options).

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) proposes a project in support of United States Agency for International Development (USAID)'s Bangladesh Mission in conducting a national wind energy assessment of the People's Republic of Bangladesh (Bangladesh).

**PROPOSED ACTION**

This proposed action is an expansion of an ongoing NREL wind resource assessment of Bangladesh that had been previously reviewed under NEPA. Phase I activities were reviewed under DOE determination NREL-13-011 and Phase II activities were reviewed under DOE determination NREL-14-002. The proposed expanded scope (Phase III) would include the procurement, installation and instrumentation, maintenance, and decommissioning of four additional meteorological (met) towers at locations specified in the Supplemental page to IEE Checklist – Bangladesh–2014–Phase II, uploaded to the PMC.



would be required for each concrete pad and anchor point. All soil spoils generated would either be spread around the base of the met tower or used onsite per the landowner's preference to shore up any pre-existing erosion issues. At Parky Beach NREL is planning on using the existing concrete foundations from a former communication tower.

Being situated in the low-lying Ganges Delta, Bangladesh is the most flood-prone country in the world in terms of proportion of risk to total area. Most of the country is less than 40 feet above sea level and 70 percent of the country is prone to either flooding or tidal surges. Maps of the flood prone areas are uploaded to the PMC database. Since 70 percent of the country of Bangladesh is prone to flooding or tidal surges, equipment for this project would be located in or near marshy areas, such as rice paddies. Final siting for the four additional met tower locations would be coordinated with GOB, Districts, and local authorities to ensure compliance with any floodplain or coastal management requirements. Any applicable floodplain or coastal management permits or authorization would be obtained.

Per NREL discussions with GOB personnel and in-country USAID personnel, none of the proposed sites are within 1 km of a designated Ecologically Critical Area, National Park, Wildlife Sanctuary, or other ecologically sensitive area. A map of designated areas is uploaded to the PMC. It is not anticipated that the installation and operation of the equipment on the sites would adversely affect any threatened and endangered or otherwise protected species. Guyed met towers have the potential to result in avian fatalities due to bird collisions. Negative impacts would be minimized by siting the met towers in open and existing agricultural areas, away from designated ecologically sensitive areas, and not in areas designated as critical habitat for protected species. Bird diverters or other demarcation methods would be installed if required by USAID or GOB to improve visibility of the guy wires and potentially reduce the likelihood bird strikes. It should be noted that scientific studies have not conclusively proven that this type of application of diverters to be effective.

Per NREL discussions with GOB personnel and in-country USAID personnel, none of the proposed sites are located within any cultural resource areas. All of the proposed sites have been previously disturbed through agricultural or other activity. GOB would have the final approval over any required environmental permitting, including cultural resources.

This proposed project would not involve any type of stationary point air emission sources. Only sources of air pollutants anticipated would be from trucks and common construction equipment, such as backhoes, bulldozers, etc. Air emissions would negligible given their short and periodic duration.

If GOB and USAID decides to have the towers and equipment decommissioned and removed, NREL would then develop a restoration plan acceptable to GOB. Under this scenario, the towers and equipment would be removed and recycled as scrap metal. Any non-recyclable equipment or material would be properly disposed of in accordance with applicable GOB, District, or local regulations. The concrete foundations and anchors would be removed and excavations would be backfilled with native soil. The removed concrete foundations would be reused elsewhere as fill.

#### NEPA DETERMINATION

Pursuant with 10 CFR 1021.102(b), DOE's NEPA implementing regulations do not technically apply to DOE actions having environmental effects outside the United States, its territories or possessions. DOE actions having environmental effects outside the United States are subject to Executive Order 12114, Environmental Effects Abroad of Major Federal Actions and DOE guidelines implementing EO 12114 (46 FR 1007). However, DOE has determined that this proposed action would be consistent with the actions contained in DOE categorical exclusions A9 "Information Gathering, Analysis, and Dissemination," A14 "Approval of Technical Exchange Arrangements," and B3.1 (h) "Installation and Operation of Meteorological Towers and Associated Activities (Such as Assessment of Potential Wind Energy Resources)."

This action is exempt from further review under EO 12114 per Section 5.1.1 (Actions not having a significant effect on the environment outside the US) of the DOE EO 12114 Implementing Guidelines, as well as Section 6.1 and Appendix B.3 (Classes of actions which DOE has determined do not have significant environmental impacts requiring review under these guidelines):

Appendix B.3 - Approval of arrangements to assist other countries in identifying and analyzing their energy resources, needs, and options.

#### 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.

