

PMC-EF2a

(20+02)

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



RECIPIENT: NREL

STATE: VA

PROJECT TITLE : NREL - Chesapeake Light Tower Survey, Assessment, and Cost Estimate; NREL Tracking No. 13-005

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-13-005	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.
- B3.16 Research activities in aquatic environments** Small-scale, temporary surveying, site characterization, and research activities in aquatic environments, limited to: (a) Acquisition of rights-of-way, easements, and temporary use permits; (b) Installation, operation, and removal of passive scientific measurement devices, including, but not limited to, antennae, tide gauges, flow testing equipment for existing wells, weighted hydrophones, salinity measurement devices, and water quality measurement devices; (c) Natural resource inventories, data and sample collection, environmental monitoring, and basic and applied research, excluding (1) large-scale vibratory coring techniques and (2) seismic activities other than passive techniques; and (d) Surveying and mapping. These activities would be conducted in accordance with, where applicable, an approved spill prevention, control, and response plan and would incorporate appropriate control technologies and best management practices. None of the activities listed above would occur within the boundary of an established marine sanctuary or wildlife refuge, a governmentally proposed marine sanctuary or wildlife refuge, or a governmentally recognized area of high biological sensitivity, unless authorized by the agency responsible for such refuge, sanctuary, or area (or after consultation with the responsible agency, if no authorization is required). If the proposed activities would occur outside such refuge, sanctuary, or area and if the activities would have the potential to cause impacts within such refuge, sanctuary, or area, then the responsible agency shall be consulted in order to determine whether authorization is required and whether such activities would have the potential to cause significant impacts on such refuge, sanctuary, or area. Areas of high biological sensitivity include, but are not limited to, areas of known ecological importance, whale and marine mammal mating and calving/pupping areas, and fish and invertebrate spawning and nursery areas recognized as being limited or unique and vulnerable to perturbation; these areas can occur in bays, estuaries, near shore, and far offshore, and may vary seasonally. No permanent

facilities or devices would be constructed or installed. Covered actions do not include drilling of resource exploration or extraction wells.

Rational for determination:

U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) proposes to reuse the existing Chesapeake Light Tower (CLT) and repurpose it into the Reference Facility for Offshore Renewable Energy (RFORE). The CLT is located in the federally-administered Outer Centennial Shelf (OCS) of the Atlantic Ocean approximately 14 miles (22.531 kilometers) east of Cape Henry, Virginia at coordinates 36°54'17"N, 75°42'46"W (See Figure 1 uploaded to the PMC database), at a water depth of approximately 47 feet (14.326 meters).

BACKGROUND

The Chesapeake Light Tower (CLT) asset was transferred to the DOE from the U.S Coast Guard in September 2012. The light tower was installed in 1965 and was historically used to mark the opening of Chesapeake Bay. In more recent years, the platform has served as a structure on which scientific monitoring equipment owned by NOAA and NASA have been placed (See Figure 2 uploaded to the PMC database).

The CLT is a 4-legged jacket design known as the "Texas Tower" and consists of two primary components, the jacket and the deck. The jacket is in two parts, the lower structure which is primarily below water and the upper structure which is above the water surface and includes the maintenance deck and the boat landing. The deck occupies an area of approximately 3,600 square feet and consists of a light tower, a helicopter deck, and a machinery and quarters deck.

PROPOSED ACTION

The main objective of the RFORE platform would be to collect engineering, environmental and ecological measurements that would aid ocean energy technology developers and research institutions in the design, erection, and operation of offshore wind turbines. The platform may also house measurement systems for other programs and agencies.

DOE proposes to reuse the existing jacket structure, remove the existing deck, install a new 80 to 100 meter tall self-supporting meteorological tower, add dry work space and boat and helicopter access. The platform would be primarily automated with personnel onboard for maintenance only. As such, the platform would be designed to the American Petroleum Institute (API) L3 standard for unmanned platforms (API RP2A-WSD, 21st edition). This standard does allow for emergency and other short duration stays should the need arise. A conceptual design of RFORE is presented in Figure 3 (uploaded to the PMC database).

The National Renewable Energy Laboratory (NREL) has been assigned the lead for the proposed evaluation of the existing structure, refurbishing and operating the renovated platform. The Pacific Northwest National Laboratory (PNNL) has been assigned the role of identifying the instrumentation that would be installed on the meteorological tower as well as managing the data generated at the facility during operation.

The proposed action is broken into two phases of activities. Phase I would include activities necessary to determine the feasibility of the refurbishment of the CLT into the envisioned RFORE facility, such as coordination, planning, assessments, and design. Phase II would encompass all refurbishment, equipment installation, operation and maintenance activities for RFORE. Depending upon the results of Phase I activities, DOE will determine whether or not to continue with Phase II activities. This determination is specific to Phase I activities and a subsequent NEPA determination would be required if Phase II activities were to proceed.

Phase I

Proposed Phase I activities would include the following activities:

1. Coordination and planning. NREL would communicate and conduct planning activities with DOE, PNNL, and regulatory agencies with potential jurisdiction over RFORE activities. This includes desktop-based work from NREL facilities as well as telecons, meetings, etc.

2. Acquisition of a qualified contractor to conduct a structural and hazardous materials assessment for the existing CLT. A statement of work dated 4/7/2013 has been uploaded to the PMC database. This would include the following tasks:

- a. Spectral fatigue analysis to identify fatigue hotspots on the jacket and substructure to guide the survey. This task would involve the development of a computer model and subsequent use of the model to perform a spectral fatigue assessment to guide the physical survey.

- b. Physical survey. A survey of the above and below water structure as per API RP2A-WSD Sections 14 and 15 would be conducted. This task would involve an evaluation of the load-bearing and fatigue capabilities of the jacket structure

above and below the water surface. Work below the water surface would include a limited number of divers visually evaluating the structural members. Divers would also remove rust coating from several small isolated areas to obtain measurements of the structural integrity of the underlying metal. No excavation or other disturbance of the sea floor would occur. Above the water surface, investigators would grind or sandblast rust coating from several small isolated areas of the jacket to again assess the structural integrity of the underlying metal.

c. Hazardous material survey and assessment of the deck and jacket structure. This task would include a hazardous material survey of the structure, an asbestos containing building materials (ACBM) survey of the deck, a Lead-Based Paint (LBP) survey of the deck and jacket structure above the water surface, and inventory of other materials/chemicals that would require special handling or disposal. It would also provide guidance on the need for LBP remediation of the jacket structure should restoration activities be required.

d. A conceptual level remediation plan and cost estimate for remediation of the identified hazardous materials. This task would create a conceptual level remediation plan and a conceptual level cost estimate for remediation and/or disposal of the identified hazards based on two scenarios that are being considered for the fate of the existing deck.

e. Assess feasibility of continued use of the platform. This task would provide a qualitative assessment of the structural feasibility to re-use the platform per the conceptual design.

f. Teleconference to brief NREL and DOE on findings. When above tasks are complete, this task would provide for a web-type meeting to discuss the project findings and conclusions.

3. RFORE design. Based upon the results of the above activities, NREL would develop design plans for the proposed RFORE improvements to the platform.

Phase II

Based on the results of the engineering and hazardous material assessments on the existing platform, DOE would determine whether or not to proceed further with RFORE project. If the project moves forward, a second NEPA determination would be developed to address the following activities:

- Refurbishment of the existing jacket structure (removal and transport of the helicopter deck, and a machinery and quarters deck and all associated equipment and materials to an onshore shipyard/other facility for remediation, recycling and/or disposal);
- Repairs/refurbishment of the jacket structure;
- Installation of a new deck structure;
- Installation of an 80-100 meter self-supporting meteorological tower;
- Placement of scientific monitoring equipment both above and below the water surface; and
- Facility operation and maintenance.

IMPACTS OF PROPOSED ACTION

The proposed action would require the utilization of mobile sources of air pollutants, such as helicopters and vessels. The generation of air pollutants would be de minimis given the small number of craft involved and the short duration of their use.

The proposed Phase I activities would not impact water quality. No regulated discharges to waters of the United States are anticipated. Any unanticipated discharges would be properly managed in accordance with applicable federal, state, and local regulations. The CLT is located in navigable waters of the United States and therefore is under jurisdiction of the U.S. Army Corps of Engineers pursuant with Section 10 of the Rivers and Harbors Act of 1899. As the proposed Phase I activities would not physically alter the CLT, an existing structure in navigable waters, or otherwise obstruct or alter navigable waters, coverage under a Section 10 Nationwide or Individual Permit is not required.

DOE initiated consultations with the Virginia Department of Historic Resources (Virginia SHPO) for potential impacts to cultural resources pursuant with Section 106 of the National Historic Preservation Act. Virginia SHPO concurred with DOE's No Effect to historic resources determination for Phase I activities in a February 15, 2013 correspondence, which is uploaded to the PMC. Virginia SHPO also concurred that the CLT itself is currently not eligible for inclusion into the National Register of Historic Places. Phase I activities will not disturb the seabed, and therefore would not have any impact on potential submerged ancestral lands, ship wrecks, or other cultural resources.

Per Section 7 of the Endangered Species Act and the Marine Mammal Protection Act, DOE initiated consultations with the National Oceanic Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS). Consultations concluded that the proposed Phase I activities would not affect federally-listed threatened or endangered species, critical habitat, or marine mammals. A copy of the April 19, 2013 NMFS concurrence with DOE's No Effect determination has been uploaded to the PMC database. NREL and its contractors would abide by NMFS' North Atlantic Right Whale protection regulations, including but not limited to North Atlantic Right Whale approach and avoidance regulations at 50 CFR 224.103(c) and North Atlantic Right Whale speed restriction regulations of 50 CFR

224.105. Additionally, the proposed Phase I activities would not physically alter the existing CLT structure or include other activities that would have the potential to impact avian and bat species under the jurisdiction of the U.S. Fish & Wildlife Service.

The hazardous materials survey and assessment portion of the proposed Phase I activities would have the potential to generate extremely small quantities of hazardous materials or waste in the form of lead-based paint chip or asbestos containing building material samples. The structural assessment portion of the proposed Phase I activities also would have the potential to generate small quantities of lead-based paint debris. All hazardous materials or wastes generated during the hazardous materials survey or structural assessment would be properly managed and disposed of in accordance with applicable federal, state, and local regulations.

NREL and its contractors would abide by applicable safety regulations in addition NREL's existing safety programs and policies. There are no auditory sensitive receptors or communities in the vicinity of the CLT. Additionally, auditory impacts of the structural assessment, such as sandblasting, would be limited and short in duration. The proposed Phase I activities would not alter the physical appearance of the existing CLT, and therefore would not impact visual resources or viewsheds from the Virginia coastline.

NEPA DETERMINATION

Based on review of the project information and the above analysis, DOE has determined that proposed Phase I activities would not have a significant individual or cumulative impact to human health and/or environment. DOE has determined the proposed Phase I activities are consistent with the actions contained in DOE categorical exclusions A9 "Information gathering, analysis, and dissemination," B3.1 "Site characterization and environmental monitoring" and B3.16 "Research activities in aquatic environments," and therefore is categorically excluded from further NEPA review. However this is a conditional NEPA determination for Phase I activities only, and a subsequent NEPA determination will be required for prior to the commencement of Phase II activities.

NEPA PROVISION

DOE has made a conditional NEPA determination for this award, and funding for certain tasks under this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NNSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

DOE does not authorize any activities captured under Phase II of this project, including but not limited to platform demolition and refurbishment, installation of the new deck structure, placement of the meteorological tower, installation of monitoring equipment, and operation and maintenance of the platform until the environmental impacts of the proposed modifications to CLT and operation of the RFORE facility can be analyzed in a subsequent NEPA determination.

This restriction does not preclude you from:

NREL/DOE is authorized to proceed with Phase I activities of the proposed project including coordination and planning, execution of the uploaded scope of work for the structural and hazardous material assessments of the existing platform by a qualified engineering firm, and design of the RFORE improvements.

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Insert the following language in the award:

You are required to:

NREL and its contractors are obligated to abide by the National Oceanic Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) North Atlantic Right Whale protection regulations, including but not limited to North Atlantic Right Whale approach and avoidance regulations at 50 CFR 224.103(c) and North Atlantic Right Whale speed restriction regulations of 50 CFR 224.105.

Note to Specialist :

EF2a created by Rob Smith on 05/22/2013.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

 Electronically Signed By: Lori Gray
NEPA Compliance Officer

Lori Gray

Date: 5/23/2013

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: _____

Field Office Manager

Date: _____