Finding of No Historic Properties Affected
for the
Approval of the Deepwater Wind Site Assessment Plan
on the Outer Continental Shelf Offshore Rhode Island

SEP 21 2016

Finding

The Bureau of Ocean Energy Management (BOEM) has made a Finding of No Historic Properties Affected for this undertaking, pursuant to 36 CFR § 800.4(d)(1). No historic properties have been identified within the area of potential effects.

Documentation in Support of the Finding

I. Description of the Undertaking

Summary

This document describes the Bureau of Ocean Energy Management's (BOEM) compliance with Section 106 of the National Historic Preservation Act and documents the agency's finding of No Historic Properties Affected (Finding) under 36 CFR § 800.4 (d)(1) for the undertaking of approving the Deepwater Wind Site Assessment Plan (SAP) on the Outer Continental Shelf (OCS) offshore Rhode Island. BOEM has prepared this documentation in support of the Finding following the standards outlined at 36 CFR § 800.11(d) and as fulfillment of Stipulation I of the *Programmatic Agreement among BOEM, the State Historic Preservation Officers (SHPO) of Massachusetts and Rhode Island, the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), and the Advisory Council on Historic Preservation (ACHP) Regarding the "Smart from the Start Atlantic Wind Initiative: Leasing and Site Assessment Activities offshore Massachusetts and Rhode Island.* This Finding and supporting documentation are being provided to all signatories to this agreement. Additionally, this Finding and supporting documentation will be made available for public inspection by placement on BOEM's website prior to the bureau approving the undertaking.

Federal Involvement

The Energy Policy Act of 2005, Pub. L. No. 109-58, added Section 8(p)(1)(C) to the Outer Continental Shelf Lands Act, which grants the Secretary of the Interior the authority to issue leases, easements, or rights-of-way on the OCS for the purpose of renewable energy development, including wind energy development. See 43 U.S.C. § 1337(p)(1)(C). The Secretary delegated this authority to the former Minerals Management Service, now BOEM. On April 22, 2009, BOEM promulgated final regulations implementing this authority at 30 CFR § 585.

Under the renewable energy regulations, the issuance of leases and subsequent approval of wind energy development on the OCS is a staged decision-making process. BOEM's wind energy program occurs in four distinct phases, as described below.

- *Planning and Analysis*. The first phase is to identify suitable areas to be considered for wind energy leasing through collaborative, consultative, and analytical processes; including input from state Renewable Energy Task Forces, public information meetings, and other stakeholders.

- *Lease Issuance*. The second phase, issuance of a commercial wind energy lease, gives the lessee the exclusive right to subsequently seek BOEM approval for the development of the leasehold. The lease does not grant the lessee the right to construct any facilities; rather, the lease grants the lessee the right to use the leased area to develop its plans, which must be approved by BOEM before the lessee can move on to the next stage of the process (see 30 CFR § 585.600 and § 585.601).

- *Approval of a Site Assessment Plan (SAP)*. The third stage of the process is the submission of a SAP, which contains the lessee's detailed proposal for the construction of a meteorological tower, installation of meteorological buoys, or a combination of the two on the leasehold. The SAP allows the lessee to install and operate site assessment facilities for a specified term. The lessee's SAP must be approved by BOEM before it conducts these "site assessment" activities on the leasehold. BOEM may approve, approve with modification, or disapprove a lessee's SAP (see 30 CFR § 585.605–585.618).

- *Approval of a Construction and Operation Plan (COP)*. The fourth stage of the process is the submission of a COP, a detailed plan for the construction and operation of a wind energy project on the lease. A COP allows the lessee to construct and operate wind turbine generators and associated facilities for a specified term. BOEM approval of a COP is a precondition to the construction of any wind energy facility on the OCS. As with a SAP, BOEM may approve, approve with modification, or disapprove a lessee's COP (see 30 CFR § 585.620–585.638).

On August 18, 2011, BOEM also published a "Notice of Intent (NOI) to Prepare an Environmental Assessment (EA) for Commercial Wind Lease Issuance and Site Characterization Activities on the Atlantic OCS Offshore Rhode Island and Massachusetts" under Docket ID: BOEM-2011-0063. On June 4, 2013, BOEM made available a revised EA for commercial wind lease issuance and site assessment activities on the Atlantic OCS offshore Rhode Island and Massachusetts. As a result of the analysis in the revised EA, BOEM issued a "Finding of No Significant Impact." A commercial lease sale for Rhode Island was held July 31, 2013. Deepwater Wind New England LLC was the winner of two leases, Lease OCS-A 0486 and Lease OCS-A 0487, comprising the entirety of the Rhode Island and Massachusetts Wind Energy Area. (See: http://www.boem.gov/Commercial-Wind-Lease-Rhode-Island-and-Massachusetts/).

Deepwater Wind has subsequently submitted a SAP describing the proposed construction, operation, maintenance, and decommissioning of a stand-alone offshore meteorological data collection system referred to as the AXYS Floating Light Detection and Ranging 6M (FLiDAR) meteorological buoy, along with the results of site characterization studies, including archaeological survey and historic property identification reports. BOEM approval, approval with modifications, or disapproval of this SAP is the subject of this Finding. If approved, the meteorological buoy would be located in the Lease OCS-A 0486. Deepwater Wind has stated that they do not intend to install site assessment facilities in Lease OCS-A 0487.

BOEM has determined that the approval of a SAP constitutes an undertaking subject to Section 106 of the National Historic Preservation Act (54 U.S.C. 306108) and its implementing regulations (36 CFR § 800). BOEM implemented a Programmatic Agreement pursuant to 36 CFR § 800.14(b) to fulfill its obligations under Section 106 for the undertakings of lease issuance and approval of site assessment activities on the OCS offshore Rhode Island and Massachusetts. BOEM's Massachusetts and Rhode Island Programmatic Agreement was executed May 23, 2012, among the SHPOs of Massachusetts and Rhode Island, the ACHP, the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, and the Wampanoag Tribe of Gay Head (Aquinnah). See: http://www.boem.gov/MA-RI-PA-Executed/.

This agreement provides for Section 106 consultation to continue through both the commercial leasing process and BOEM's decision-making process regarding the approval, approval with modification, or disapproval of lessees' SAPs, and will also allow for a phased identification and evaluation of historic properties (36 CFR § 800.4(b)(2)). Furthermore, the agreement establishes the process to determine and document the area of potential effects (APE) for each undertaking; to identify historic properties located within each undertaking's APE that are listed in or eligible for listing in the National Register of Historic Places (National Register); to assess potential adverse effects; and to avoid, reduce, or resolve any such effects through the process set forth in the agreement.

The Undertaking

Deepwater Wind proposes to install, operate, and maintain a meteorological buoy at 41° 05' 16"N 71° 13' 22" W of the Official Protraction Diagram Providence NK19-07, within the boundary of Lease OCS-A 0486, approximately 37 kilometers (km; 20 nautical miles [nmi]) off the coast of Rhode Island and 28 km (15 nmi) off the coast of Block Island, in Rhode Island Sound (Figure 1). The purpose of the proposed project is to measure and collect site-specific wind resource, metocean, and biological data in the lease area that is necessary for the design and construction of an offshore wind facility (Tetra Tech 2016).

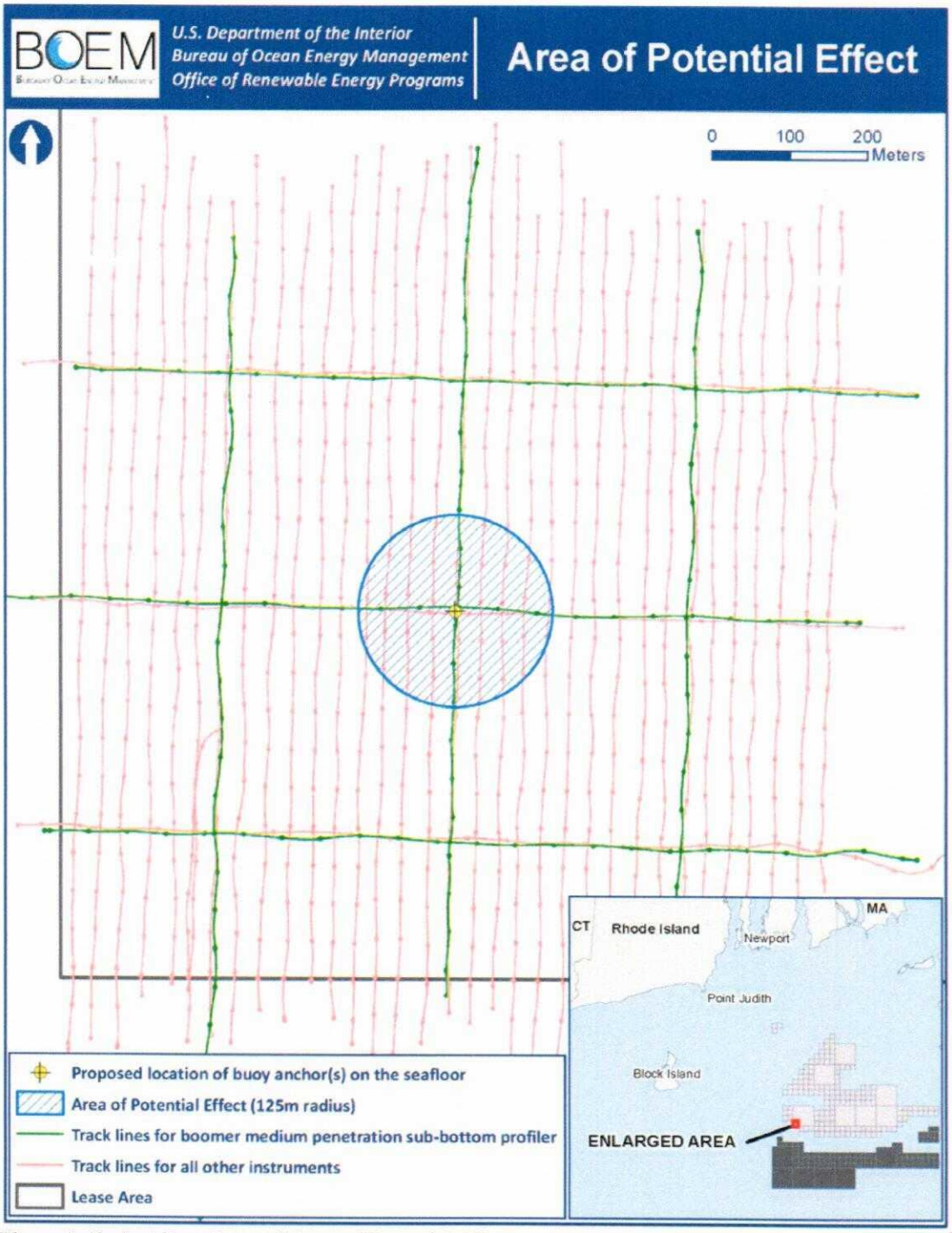

Figure 1. Project Location and Area of Potential Effects.

The meteorological buoy will consist of instrumentation systems and supporting systems atop a floating moored buoy platform (Figure 2). The floating platform consists of the AXYS Navy Oceanographic Meteorological Automated Device (NOMAD) hull, mooring chain, and clump weight anchor. The hull would be moored to the seabed using a steel chain attached to 1 or 2 concrete clump weight anchors (Figure 3). The anchors would weigh a total of up to 10 metric tons and sit on the seabed for an area of up to 108 feet squared (ft^2 (10 meters squared [m^2]). The chain would be attached to the base of the hull via the steel mooring yoke. The area of the anchor chain sweep associated with the long-term operation of the meteorological buoy is anticipated to be approximately 12 acres (based on an anchor chain radius of approximately 410 ft (125 m) on the sea floor. (Tetra Tech 2016). There are no cables or connections to shore associated with the installation or operation of the meteorological tower.

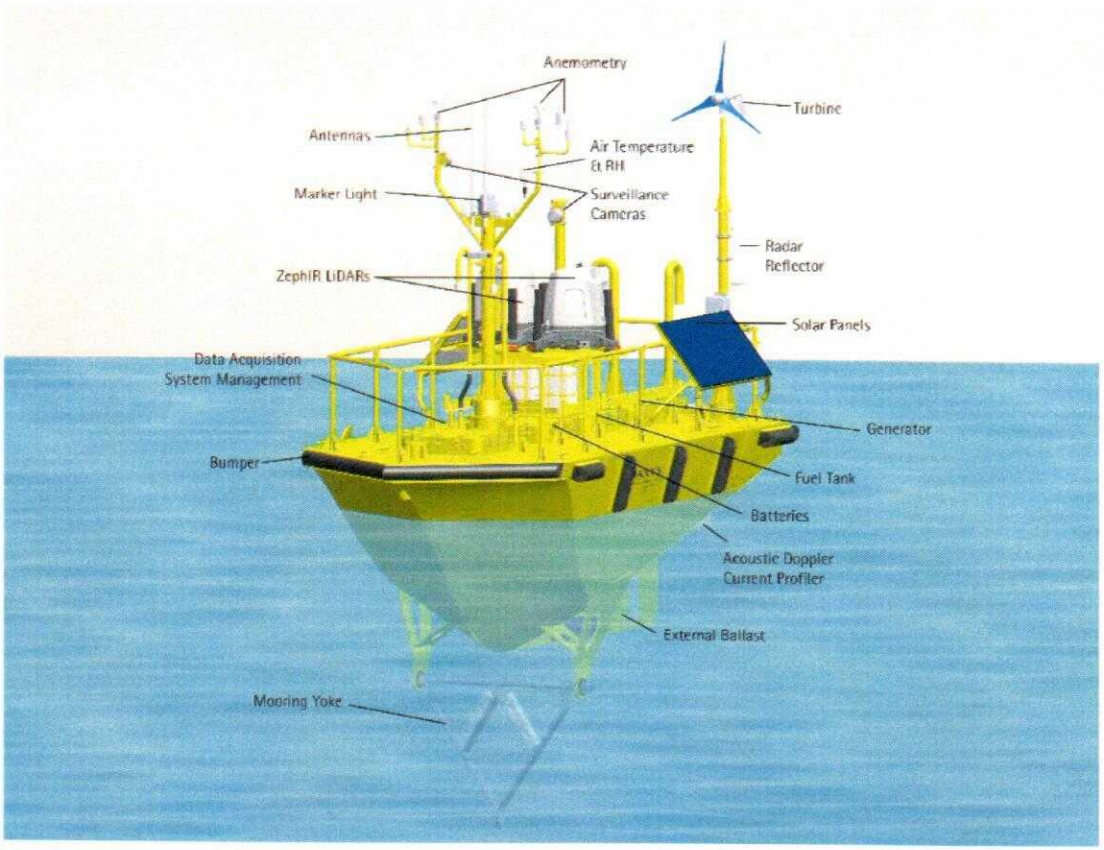

Figure 2. Illustration of the AXYS FLiDAR 6M™ Meteorological Buoy Proposed for Deepwater Wind (Tetra Tech 2016).

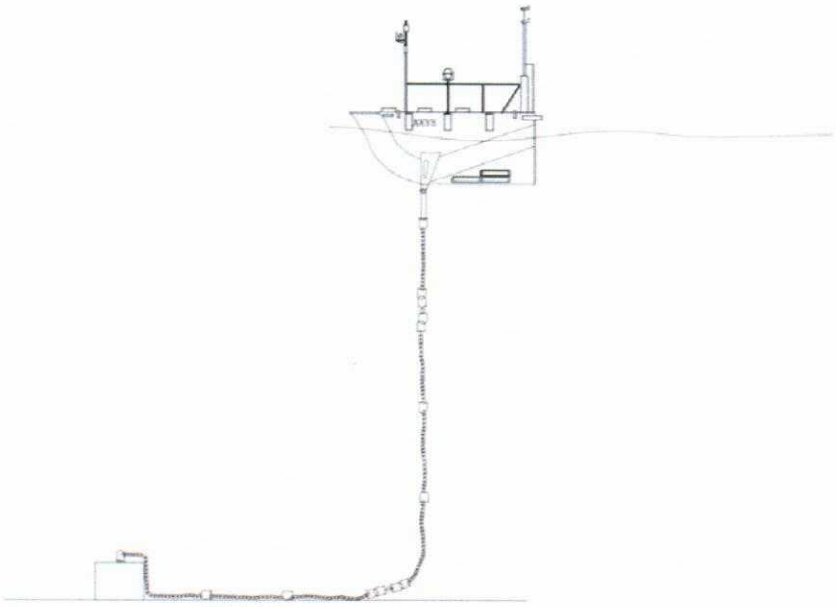

Figure 3. Mooring Arrangement for the Meteorological Buoy (Tetra Tech 2016).

Area of Potential Effects

As defined in the Section 106 regulations at 36 CFR § 800.16(d), the APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

As defined by the signatories in the Programmatic Agreement the APE for the approval of a SAP is considered as:

1. The depth and breadth of the seabed potentially impacted by proposed seafloor/bottom-disturbing activities associated with the activities; and
2. The onshore viewshed from which lighted meteorological structures would be visible.

Seabed APE

The offshore APE is defined by a horizontal extent of approximately 12 acres positioned around the buoy in a circle approximately 410 ft (125 m) in radius on the sea floor. The vertical extent of the APE varies according to the distance from the centerpoint of this circle. Directly under the concrete clump weight anchors, the anchor(s)'s vertical penetration into the seabed is estimated to be approximately 6.6 to 9.8 ft (2 to 3 m). This depth is based on the anchor(s)' size, shape, weight, and an analysis of the seabed morphology, which consists of compact sands and gravels interspersed with glacial erratics, and boulders (HRA Gray & Pape 2016). Beyond the horizontal extent of the anchor(s), the APE is associated only with the anchor chain sweep (see Figure 1), the

depth of which will be limited to surficial impacts only. Please note that the APE defined by BOEM, in consultation with the signatories and presented in this Finding, differs in geographic extent from the proposed APE discussed by the report authors (HRA Gray & Pape 2016).

Onshore Viewshed APE

The vertical profile of the met buoy, including instrumentation, will be approximately 13.8 ft (4.2 m) from the sea surface to the top of the hull mast. The maximum distance that the meteorological buoy can be seen is approximately 8.0 km (4.3 nmi) on a clear day, and much less when conditions are hazy. This distance is derived by multiplying the square root of the height of the meteorological buoy in feet with the commonly used formula of 1.17, which produces the maximum distance in nautical miles that an object can be observed due to the curvature of the earth. The proposed placement of the meteorological buoy is approximately 28 km (15.0 nmi) (over three times its observable distance) from the nearest land at Block Island, and therefore the buoy will not be visible from shore (HRA Gray & Pape 2016). Thus, there is no onshore viewshed APE for the proposed meteorological buoy.

Consultation with Appropriate Parties and the Public

BOEM initiated consultation for the development of the Programmatic Agreement in 2011 and 2012 through letters of invitation, telephone calls, emails, meetings, webinars, and the circulation and discussion of the agreement that guides the Section 106 consultation for the undertaking considered in this Finding. This outreach and notification included contacting over 66 individuals and entities, including federally-recognized tribes, local governments, SHPOs, state-recognized tribes, and the public (Table 1). Additionally, in June-July 2011, September 2011, and April-May 2012, BOEM conducted formal government-to-government consultation with the Mashpee Wampanoag Tribe, the Narragansett Indian Tribe, and the Wampanoag Tribe of Gay Head (Aquinnah), all of whom chose to consult with BOEM and participate in the development of the Programmatic Agreement.

BOEM completed Section 106 consultation prior to the issuance of commercial leases within the Rhode Island and Massachusetts Wind Energy Area as part of the development of the Programmatic Agreement. On December 14, 2011, and February 21, 2012, BOEM held Section 106 consultation webinars to discuss the proposed undertakings and BOEM's intention to prepare a Programmatic Agreement. BOEM provided a draft of the Programmatic Agreement to the consulting parties on March 26 and May 8, 2012, BOEM held another webinar to review comments on the draft Agreement, discuss changes, and prepare a revised draft in preparation for signing. Information and comments provided by the parties as part of this consultation were also considered for the undertaking of SAP approval as reviewed in this Finding. This correspondence is provided as Appendices A through G.

Table 1. Entities Solicited for Information and Comments Regarding Historic Properties within the Rhode Island and Massachusetts Wind Energy Areas During Development of the Programmatic Agreement.

Local Governments	**State and Federal Agencies**
Barnstable County	Advisory Council on Historic Preservation
Cape Cod Commission	Connecticut SHPO
City of Cranston	Massachusetts SHPO
City of East Providence	New York SHPO
City of New Bedford	Rhode Island SHPO
City of Pawtucket	
City of Providence	
City of Warwick	**Federally-recognized Tribes**
Dukes County Commission	Mashantucket Pequot Indian Tribe
Martha's Vineyard Commission	Mashpee Wampanoag Tribe
Nantucket Planning and Economic Development Commission	Mohegan Tribe of Indians of Connecticut
Nantucket Planning Board	Oneida Nation of New York
Town of Aquinnah	Narragansett Indian Tribe
Town of Barrington	Shinnecock Indian Nation
Town of Bristol	Wampanoag Tribe of Gay Head Aquinnah
Town of Charlestown	
Town of Chilmark	
Town of Dartmouth	
Town of East Greenwich	
Town of Edgartown	
Town of Gosnold	
Town of Jamestown	
Town of Little Compton	
Town of Middleton	
Town of Nantucket	
Town of Narragansett	
Town of New Shoreham	
Town of Oak Bluffs	
Town of Portsmouth	
Town of South Kingston	
Town of Tisbury	
Town of Tiverton	
Town of Warren	
Town of West Tisbury	
Town of Westerly	
Town of Westport	

On October 27, 2011, BOEM requested public input on the potential impacts on historic properties from commercial wind lease issuance and site characterization and site assessment activities on the Atlantic OCS. The comment period on the proposed undertaking as it pertained to historic properties closed on November 10, 2011. BOEM received three comments in response to this solicitation. The Offshore Wind Development Coalition commented that the effects on historic properties are negligible until BOEM approves a Construction and Operations Plan, and that BOEM should issue a Finding of "No Adverse Effect" and proceed with issuing leases and approving SAPs in the Rhode Island and Massachusetts Call Area. Mainstream Renewable Power commented that "potential impacts on individual properties can only be properly assessed on a case-by case basis, taking into account the specifics of development. This suggests that it will not be possible to fully assess these issues prior to the COP stage of the permitting process." Finally, the Alliance to Protect Nantucket Sound commented that BOEM should reconsider its decision to approve the Construction and Operations Plan for the Cape Wind Energy Project, sited in Horseshoe Shoal, and exchange the Cape Wind lease for the ones that were being offered within the Rhode Island and Massachusetts Wind Energy Area. These comments from the Alliance to Protect Nantucket Sound, Mainstream Renewable Power, and Offshore Wind Development Coalition can be viewed at regulations.gov by searching for Docket ID BOEM-2011-0115.

II. Description of the Steps Taken to Identify Historic Properties

BOEM's renewable energy regulations require a lessee to provide the results of surveys with its SAP for the areas affected by the activities proposed in the plan (*see* 30 CFR 585.610(b)), including the results of an archaeological resource identification survey. BOEM provides guidelines for acquiring this information and documenting the results of these activities. *See Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585* at: http://www.boem.gov/Guidelines_for_Providing_Archaeological_and_Historic_Property_Information_Pursuant_to_30CFR585/, which advise lessees to survey the entirety of the area they propose to impact. Additionally, BOEM requires lessees to provide the results of onshore historic property identification activities conducted in accordance with the standards and guidelines of the relevant SHPOs or Tribal Historic Preservation Officers, if on tribal lands when the APE extends into this area. For the purposes of this undertaking, the APE did not extend beyond Federal waters.

BOEM has reviewed both Deepwater Wind's SAP and a Marine Archaeological Resources Assessment Report presented as an appendix to the SAP. These include *Site Assessment Plan, Deepwater Wind, North Lease OCS-A 0486* (Tetra Tech 2016) and *Geophysical Survey for Cultural Resources in Support of Deepwater One Offshore Wind Energy Met Buoy Placement Area Project, Rhode Island Sound, Rhode Island* (HRA Gray & Pape 2016). These reports are attached to this Finding (Appendices H and I, provided in electronic format) and the results are summarized below.

Marine Archaeological Resources Assessment

A high resolution geophysical survey utilizing a multibeam echo sounder, side scan sonar, magnetometer, CHIRP sub-bottom profiler, and medium penetration boomer profiler was conducted within the APE in accordance with BOEM's *Guidelines for Providing Archaeological and Historic Property Information Pursuant to 30 CFR Part 585*. A Qualified Marine Archaeologist conducted line-by-line analyses of the post-processed data to identify anomalies with potential to represent submerged cultural resources within the APE. This included assessing the data for both submerged paleolandforms with potential for the presence of drowned pre-contact archaeological sites and historic period shipwrecks. In addition, background research was conducted to develop pre-contact and historic period contexts and provide a study of local geomorphic processes. "Background research included a review of historic documents, previous research reports, a site file check, shipwreck inventories, and historic map analysis. Archives at the Rhode Island Historical Preservation and Heritage Commission were accessed" (HRA Gray & Pape 2016).

A 930-meter by 930-meter (0.5-nautical mile) block around the APE was surveyed using a magnetometer, side scan sonar, CHIRP high resolution sub-bottom profiler and multibeam sonar at 30-m line spacing. Additional medium penetration boomer sub-bottom profiler data was collected at 300-m line spacing, with two intersecting boomer lines being positioned directly atop the proposed buoy placement location (HRA Gray & Pape 2016).

Data collected was analyzed for both potential materials of prehistoric and historic origin that might be affected by project activities. Although the magnetometer detected 69 distinct magnetic anomalies within the survey area and side scan sonar indicated over 1,060 contacts within the survey area, no contacts or anomalies were identified within the APE. Additionally, sub-bottom profiler data did not indicate any paleo-channels or other features that might indicate the potential for prehistoric sites. Thus, there were no historic properties identified within the APE. Please note that the APE defined by BOEM, in consultation with the signatories and presented in this Finding, differs in geographic extent from the proposed APE discussed by the report authors (HRA Gray & Pape 2016).

III. The Basis for the Determination of No Historic Properties Affected and Fulfillment of Section 106 Responsibilities

Pursuant the Programmatic Agreement, "Before making a decision on a SAP from a lessee, BOEM will treat all potential historic properties identified as a result of site characterization studies and consultations as historic properties potentially eligible for inclusion on the National Register and avoid them by requiring the lessee to relocate the proposed project, resulting in a finding of No historic properties affected (36 CFR § 800.4(d)(1))."

BOEM has considered information gathered during consulting with the appropriate parties and the public and through review of the marine archaeological resource assessment report provided in support of the Deepwater Wind SAP. A good faith effort

has been made to identify historic properties within the APE. The results of these identification surveys are documented in HRA Gray & Pape 2016 and Tetra Tech 2016. No historic properties have been identified within the APE.

Although effects to historic properties may occur from an unanticipated, post-review discovery during placement of the meteorological buoy, the required implementation of the unanticipated discoveries clause at 30 CFR § 585.802 and the inclusion of a post-review discoveries clause as a condition of SAP approval, ensures that any discoveries are reported and reviewed under the National Historic Preservation Act.

Pursuant to the Programmatic Agreement, execution and implementation of the agreement evidences that BOEM has satisfied its Section 106 responsibilities for all aspects of the proposed undertakings by taking into account the effects of the undertakings on historic properties and affording the ACHP a reasonable opportunity to comment with regard to the undertakings.

REFERENCES

Tetra Tech, Inc. 2016. Site Assessment Plan, Deepwater Wind, North lease OCS-A 0486. Prepared for Deepwater Wind New England, LLC. Submitted July 18, 2016.

HRA Gray & Pape, LLC. 2016. Geophysical Survey for Cultural Resources In Support of Deepwater One Offshore Wind Energy Met Buoy Placement Area Project, Rhode Island Sound, Rhode Island. Prepared for Tetra Tech, Inc. Submitted July 18, 2016.

APPENDICES

Appendix A: Letter initiating Government-to-Government consultation with Federally Recognized Tribes, example. Similar letters were sent to all Federally Recognized Tribes listed in Table 1 in June 2011.

Appendix B: Letter initiating Section 106 consultation for lease issuance, site characterization, and site assessment activities, example. Similar letters were sent to all entities listed in Table 1 in August and September 2011.

Appendix C: Initial responses from SHPOs, September 2011 (three exhibits).

Appendix D: Initial responses from Local Governments, October and November 2011 (three exhibits).

Appendix E: Letter inviting consultation on the development of a Programmatic Agreement for Lease Issuance and Site Assessment Activities, January 2012, example. Similar letters were sent to all signatories.

Appendix F: Letter from ACHP accepting invitation to participate in the development of the Programmatic Agreement, January 2012.

Appendix G: Letters from Massachusetts Historical Commission (MHC) commenting during the development of the Programmatic Agreement, March, April, and May 2012.

Appendix H: Deepwater Wind Site Assessment Plan (enclosed on CD).

Appendix I: Deepwater Wind Marine Archaeological Resources Assessment Report (enclosed on CD).