### U.S. Department of the Interior Minerals Management Service

NOV - 1 2009

OMB Control Number 1010-0175 OMB Approval Expires 31 July 2011

Office

Washington, DC

Lease Number OCS-A-0474

Rental Rate

\$3 per acre per year

LEASE OF SUBMERGED LANDS FOR ALTERNATIVE ENERGY ACTIVITIES ON THE OUTER CONTINENTAL SHELF

**UNITED STATES** 

DEPARTMENT OF THE INTERIOR MINERALS MANAGEMENT SERVICE

This lease is made under the authority of Section 43 U.S.C. 1337, subsection 8(p) of the Outer Continental Shelf Lands Act of August 7, 1953 (43 U.S.C. 1331 et seq.), as amended, (hereinafter called the "Act"), between the United States of America, (hereinafter called "Lessor") acting through the Minerals Management Service, its authorized officer, and Bluewater Wind Delaware LLC (hereinafter, whether one or more, called "Lessee"). In consideration of the promises, terms, conditions, covenants, and stipulations contained herein or attached hereto, the parties mutually agree as follows:

Section 1. Rights of Lessee. Lessor hereby grants and leases to Lessee the exclusive right, subject to the terms and conditions of this lease, to conduct the alternative energy activities described in Exhibit "B" on the area of submerged lands of the Outer Continental Shelf (OCS) described in Exhibit "A" hereof, such area hereinafter referred to as the "leased area." Except for the Initial Survey Activities described below, The rights granted Lessee herein are limited to the activities described in Exhibit "B" hereof and confer no preferential right to acquire, develop or operate commercially any alternative energy project on the OCS.

Upon execution of this lease and before submittal of the Project Plan required under Section 8, Lessee is authorized to conduct Initial Survey Activities including geotechnical, geophysical or shallow hazard surveys as Lessee deems necessary to identify the appropriate location on the leased area for placement of any facilities or other structures. The results of such-Initial Survey Activities shall be provided to Lessor.

- Section 2. <u>Designation of Operator</u>. When there is more than one Lessee, Lessees must designate an Operator. The designated Operator will have authority to act on behalf of all Lessees and to fulfill all of Lessees' obligations under this lease. Lessor must approve the designated Operator before the designated Operator may act on the Lessees' behalf.
- Section 3. Reservations to Lessor. All rights in the leased area not expressly granted to Lessee by the Act or this lease are hereby reserved to Lessor. Lessor reserves the right to authorize other uses on the leased area that will not unreasonably interfere with activities authorized under this lease.
- Section 4. <u>Effective Date and Lease Term.</u> This lease shall be effective on the date that it is signed by both parties (hereinafter "effective date"). Except as otherwise provided in Section 8

below, this lease shall expire five years from the effective date unless the Lessor, acting at its sole discretion upon the written request of Lessee, extends the term of this lease. Any request for an extension of the lease term shall be submitted to Lessor by Lessee not less than 30 days but not more than 90 days prior to the expiration of the lease. The request for extension of the lease term shall demonstrate to Lessor's satisfaction that Lessee reasonably needs more time to conduct the alternative energy activities described in Exhibit "B."

- Section 5. Statutes and Regulations. This lease is issued subject to the Act, all applicable regulations, orders, guidelines, and directives issued pursuant to the Act.
- Section 6. Rentals. Lessee shall pay Lessor on or before the first day of each lease year a rental as shown on the face hereof.
- Section 7. Notice of Commencement or Termination of Activities. Lessee shall notify Lessor at least 72 hours prior to commencing installation of facilities. Lessee shall notify Lessor any time a facility is out of service for a period greater than 7 days and when the facility is returned to service.
- Section 8. <u>Project Plan.</u> All activities in the leased area, except the Initial Survey Activities described in Section 1, shall be conducted in accordance with a Project Plan (hereinafter called the "Plan") prepared by Lessee and submitted to Lessor.
- (a) Except for the Initial Survey Activities described in Section 1, Lessee may not conduct activities under this lease until Lessor has acknowledged receipt of the Plan and has raised no objections within 60 calendar days of receipt, or Lessor notifies I essee that subsequent modifications to the plan have satisfied Lessor's initial objections.
- (b) This lease shall terminate one year following the effective date if prior to that time, (1) Lessee has not submitted to MMS a Plan as provided in this section, or (2) otherwise notified Lessor of the reasons why a Plan has not been submitted. Lessor, at its sole discretion, may grant Lessee additional time to submit a Plan.
- (c) The Plan shall include the following information in form and content satisfactory to Lesson:
  - (1) A description of the proposed activities, including the technology intended to be utilized in conducting activities authorized by this lease and all surveys Lessee intends to conduct;
  - (2) The surface location and water depth for all proposed facilities to be constructed in the leased area;
  - (3) General structural and project installation information:
  - (4) A description of the safety, prevention and environmental protection features or measures that Lessee will use;
  - (5) A brief description of how facilities on the leased area will be removed and the leased area restored as required by Section 18 below; and
  - (6) Any other information reasonably requested by Lessor to ensure Lessee's activities on the OCS are conducted in a safe and environmentally sound manner.

- (d) Lessee agrees to conduct periodic reviews and inspections of activities under the lease to ensure compliance with the provisions of the Plan and the terms and conditions of this lease.
- (e) Any proposed modifications to the Plan shall be submitted to Lessor and Lessor shall have 30 calendar days to raise any objection to the proposed modification prior to implementation.
- Section 9. Compliance. Lessee shall not conduct any activities on the leased area until it has obtained all necessary governmental approvals. Futhermore, Lessee agrees to conduct all activities in the leased area in accordance with all applicable laws, rules and regulations.

Lessee further agrees that no activities authorized by this lease will be carried out in a manner that: (1) could interfere with or endanger activities or operations under any lease issued or maintained pursuant to the Act or under any other license or approval issued by any Federal agency in accordance with applicable law prior to the issuance of this lease; (2) could cause any undue harm or damage to marine life; (3) could create hazardous or unsafe conditions; (4) could unreasonably interfere with or harm other uses of the leased area; or (5) could adversely affect sites, structures, or objects of historical or archaeological significance without notice to and direction from the Lessor on how to proceed.

### Section 10. Progress Reports.

- (a) Lessee shall submit to Lessor a quarterly progress report that shall include a brief narrative of the overall progress since the beginning of the lease term or since the last progress report.
- (b) Lessee shall make available to Lessor upon request all studies, surveys, inspections or test reports compiled or completed during the duration of the lease term and three years thereafter and all raw data, and analyses and computational models used by Lessee to interpret such data.
- (c) At the conclusion of the activities covered by this lease, or at the termination of this lease, whichever comes first, Lessee shall submit a final progress report. The final progress report shall include, at a minimum, a comprehensive narrative of Lessee's activities and results from testing, surveys and inspections.
- (d) Lessee shall retain copies of all such progress and other reports for the duration of the lease term and three years thereafter.
- Section 11. Confidentiality. To the extent permitted by applicable law, in particular the Freedom of Information Act and implementing regulations, Lessor shall keep confidential all information, including but not limited to studies, surveys, or test reports, received from Lessee for the duration of the lease term and three years thereafter, unless disclosure is agreed to by the lessee(s) and all relevant third parties. The Lessor will follow the procedures set forth in 43 CFR § 2.23 with respect to objections to requests for commercial or financial information. Lessor shall be entitled to retain all reports and similar work product delivered to it by Lessee.
- Section 12. <u>Inspections.</u> Lessee shall: (1) allow prompt access to any authorized Federal inspector to the site of any activities conducted pursuant to this lease; and (2) provide any

documents and records that are pertinent to occupational or public health, safety, or environmental protection that may be requested by MMS or other authorized Federal inspectors. Lessee shall incorporate these requirements in any contract between Lessee and third parties conducting activities on the leased area.

- Section 13. Violations, Suspensions and Cancellations. If Lessee violates any provision of this lease, Lessor may, after giving written notice ordering lessee to cease and remedy all such violations, suspend any further activities of Lessee under this lease. Lessee may continue activities that are necessary to remedy any violation. If Lessee fails to remedy all violations within 30 days after receipt of a suspension notice, Lessor may, by written notice, cancel this lease and take appropriate action to recover all costs incurred by Lessor by reason of such violation(s). Cancellation of this lease due to any violation of the provisions of this lease by Lessee shall not entitle Lessee to compensation. Lessor, by written notice, may also suspend or cancel this lease when it is necessary (1) to comply with judicial decrees; (2) to respond to a serious threat of imminent harm or injury to human life, or natural, historical or archaeological resources; and (3) to respond to national security or defense requirements.
- Section 14. <u>Indemnification</u>. Lessee shall indemnify Lessor for, and hold Lessor harmless from, any claim, including claims for loss or damages suffered or costs or expenses incurred by Lessor arising out of any activities conducted by Lessee or its employees, contractors, subcontractors, or their employees, under this lease whenever such damage, cost or expense results from any breach of this lease by Lessee or its employees, contractors, subcontractors, or their employees, or from the wrongful or negligent act or omission of Lessee or its employees, or Lessee's contractors, subcontractors, or their employees, which causes death, personal injury or damage to property. Lessee shall pay Lessor for such damage, cost, or expense attributable to its breach or negligence or that of its employees, contractors, subcontractors, or their employees within 90 days after a written demand therefore by Lessor.
- Section 15. <u>Financial Assurance</u>. Lessee shall maintain at all times a surety bond or other form of financial assurance approved by Lessor in the amount of \$300,000 and shall furnish such additional financial assurance as may be required by Lessor if, at any time during the term of this lease, Lessor deems such additional financial assurance to be necessary.
- Section 16. <u>Assignment or Transfer of Lease.</u> This lease may not be assigned or transferred in whole or in part without prior written approval of Lessor. Lessor reserves the right, in its sole discretion, to deny approval of any transfer or assignment.
- Section 17. <u>Surrender of Lease</u>. Lessee may surrender this lease by filing with Lessor a written relinquishment that shall be effective on the date of filing, subject to the responsibility to remove property and restore the leased area pursuant to section 18.
- Section 18. Removal of Property and Restoration of the Leased Area on Termination of Lease. Within a period of 1 year after cancellation, expiration, relinquishment or other termination of this lease, unless Lessor approves a longer period, Lessee shall remove all devices, works and structures from the leased area and restore the leased area to its original condition before issuance of the lease in accordance with the conditions in Exhibit "B." Within 90 days following the removal of property and restoration of the leased area, Lessee shall provide Lessor with a written report summarizing its facility removal and site restoration activities.

Section 19. Debarment Compliance. Lessee shall comply with the Department of the Interior's nonprocurement debarment and suspension regulations as required by 2 CFR Parts 180 and 1400 and shall communicate the requirement to comply with these regulations to persons with whom it does business related to this lease by including this term in its contracts and transactions.

Section 20. Notices. Except for notices required under Section 7, which Lessee may provide orally, all notices or reports provided under the terms of this lease shall be in writing. Notices shall be delivered to the Lease Representative electronically, by hand, by facsimile, or by United States first class mail, adequate postage prepaid, to the specific persons listed below. Any party's address may be changed from time-to-time by such party giving notice as provided above. Until notice of any change of address is delivered as provided above, the last recorded address of either party shall be deemed the address for all notices required under this lease. For all operational matters, notices shall be provided to the party's Operations Representative as well as the Lease Representative.

# (a) Lessor's Contact Information

### Lease Representative

Name: Maureen A. Bornholdt

Title: Program Manager Address: 381 Elden Street

Address: MS 4090 Phone: 703-787-1300 Fax: 703-787-1708

E-mail: Maureen Bornholdt@mms.gov

### (b) Lessee's Contact Information

### Lease Representative

Name: DOUG PETISTER

Title: CHEF OF STIME PROMITIME

Address: BLUMWATER WIND

Address: 22 Houseon PLACE, HOSOKEN, NJ D7050

Phone: 201-748-5023 Fax: 201-748-5020

E-mail: DOWN @ SUBUMBUND. LONG

### Operations Representative:

Operations Representative:

Same as Lease Representative

BUDNATAL WIND DELAUAGE (Lessee) UCC	THE UNITED STATES OF AMERICA, Lessor
(Signature of Authorized Officer)	Chris C. Oynes
	(Signature of Authorized Officer)
PETOLID. MANDELTAM (Name of Signatory)	Chris C. Oynes (Name of Signatory)
PRELIDENT (Title)	Associate Dipostor -OEMM (Title)
OCTORNE 30, 2009 (Date)	Nov. 1, 2009 (Date)
22 Hy DEON PLACE HDBOKEN, NJ 07030  (Address of Lessee)	

If this lease is executed by a corporation, it must bear the corporate seal.

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et seq.) requires us to inform you that we collect this information as part of authorizing respondents to conduct data collection and/or technology testing on the OCS. The MMS uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed activities in an environmentally responsible manner. Responses are required for benefit. Proprietary data are covered under the Freedom of Information Act (5 U.S.C. 552) and its implementing regulations (43 CFR part 2). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting burden for this form is estimated at 1 hour per response. This includes the time for completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Mail Stop 5438, Minerals Management Service, 1849 C Street, NW, Washington, DC 20240.

OMB Control Number 1010-0175 OMB Approval Expires 31 July 2011

# EXHIBIT "A" DESCRIPTION OF LEASE AREA

Lease Number OCS-A-04/4

U.S. DEPARTMENT OF THE INTERIOR MINERALS MANAGEMENT SERVICE

### LEASE OF SUBMERGED LANDS FOR ALTERNATIVE ENERGY ACTIVITIES ON THE OUTER CONTINENTAL SHELF

The MMS, as Lessor, hereby grants to Lessee the right to conduct the alternative energy data collection activities described in Exhibit "B" for wind resources on the leased area. The MMS is leasing all whole and partial blocks described in (a) below and shown on the attached OCS Official Protraction Diagram (OPD).

(a) Salisbury NJ 18-05 Block 6325

# EXHIBIT "B" DATA COLLECTION ACTIVITIES WIND RESOURCES

Lease Number OCS-A-0474

# U.S. DEPARTMENT OF THE INTERIOR MINERALS MANAGEMENT SERVICE

### LEASE OF SUBMERGED LANDS FOR ALTERNATIVE ENERGY ACTIVITIES ON THE OUTER CONTINENTAL SHELF

The MMS, as Lessor, hereby grants to Lessee the right to conduct the following alternative energy data collection activities for wind resources on the leased area. "Wind resources" means the wind moving across the leased area. These rights include:

- (a) constructing, installing, using, upgrading, maintaining, and removing meteorological towers to study wind speed, wind direction, and other meteorological data in order to determine the potential of the wind resources on the leased area for the production of energy;
- (b) accessing the leased area for permit applications, site analysis, extraction of soil and water samples, and other geotechnical, geophysical and hydrological analyses and tests necessary to determine the feasibility of converting the wind resources to electricity;
- (c) any other activities necessary to establish the nature and extent of the wind resources on the leased area and to establish whether the leased area has sufficient wind resources for the commercial production and distribution of electricity; and
- (d) any activities relating to assessing biological resources, including avian, marine mammal, or other living resources identifiable from the leased area.

Lessee's rights to conduct the aforesaid alternative energy activities are subject to the following stipulations:

### I. General Stipulations

## 1. Applicability of MMS Renewable Energy Regulations

Per Section 5 of this lease, upon their effective date, the Lessee shall be fully subject to \*\*MMS\*\*Form MIMS\*\*-0001 (July 2008)\*

\*\*Page B-1\*\* applicable MMS offshore renewable energy and alternate use regulations as published in Title 30 of the Code of Federal Regulations (CFR) on April 29, 2009 to the extent such regulations do not expressly conflict with the terms, conditions and stipulations of the lease. Where the lease terms conflict with the regulations, the Lessee shall be governed by the terms of the lease.

### 2. Payments

For rent paid during the term of the lease, the Lessee shall make payments in accordance with 30 CFR 218.51. The Lessee shall pay the first year's rent at the time when the lease becomes effective. Subsequent annual rent shall be paid each year on the anniversary date of lease issuance.

# 3. Submission of Data to the National Data Buoy Center (NDBC)

The Lessee shall coordinate with the National Oceanic and Atmospheric Administration (NOAA) National Data Buoy Center (NDBC) and submit all oceanographic data that is collected (e.g., wave heights and periods, water levels, currents, salinity, temperature) to the NDBC and meet the standards and protocols outlined by the NDBC for data gathering, reporting, dissemination, and quality assurance/quality control. The Lessee also shall coordinate with the NDBC and submit processed meteorological data (e.g., air pressure, air temperature, averaged wind speed) at intervals determined by the Lessee. The Lessee shall ensure that all data is archived. Guidance for submitting information to the NDBC can found at the following web page: <a href="http://www.ndbc.noaa.gov/faq.shtml">http://www.ndbc.noaa.gov/faq.shtml</a> under the heading "Observation Data from Other Providers." The NDBC can be contacted at <a href="mainteobs@noaa.gov">mainteobs@noaa.gov</a>.

### II. Environmental Stipulations

### 4. Biological Surveys and Reports

If seafloor characteristics are identified during review of available information that suggest the presence of biologically sensitive habitats near proposed lease activities, a biological survey of the seabed must be conducted and a biological survey report prepared and submitted before conducting lease activities that would disturb the seafloor. Information from all available sources relevant to the region of influence should be analyzed to detect such seafloor characteristics. These sources include the Lessee's geophysical hazard surveys, scientific literature, and all other sources available. Areas of suspected or observed biologically sensitive habitats must be targeted for site-specific surveys. These include areas where information suggests the presence of exposed hard bottoms of high, moderate, or low relief; hard bottoms covered by thin, ephemeral sand layers; rocky outcrops; surf clam habitat; scallop habitat; or seagrass patches.

A biological survey is designed to determine the presence and extent of biologically sensitive habitats near proposed lease activities. Appendix A provides guidelines for conducting surveys for biologically sensitive habitats and for preparing the survey report. Results of the surveys shall be submitted to the Lessor as part of the Project Plan.

- 5. Reduction or Elimination of the Potential for Adverse Impact Activities on Protected Species from Construction
  - A. <u>Pre-Construction Briefing</u>: Prior to the start of construction, a briefing will be held between the construction supervisors and crews, the marine mammal and sea turtle visual observer(s) (see II.5.B.c.), and Lessee. The purpose of the briefing will be to establish responsibilities of each party, define the chains of command, discuss communication procedures, provide an overview of monitoring purposes, and review operational procedures. The Resident Engineer will have the authority to stop or delay any construction activity, if deemed necessary. New personnel will be briefed as they join the work in progress.
  - B. Requirements for Pile Driving: The following measures will be implemented by the Lessee during the conduct of pile-driving activities related to meteorological towers:
    - a. Establishment of Exclusion Zone: A preliminary 1,000 meter (1,640.4 feet) radius exclusion zone for listed marine mammals and sea turtles will be established around each pile-driving site in order to reduce the potential for serious injury or mortality of these species. Once pile driving begins, the actual generated sound levels will be measured per requirements provided in II.5.B.b. of this lease and a new reduced or expanded exclusion zone will be established based on the results of these field-verified measurements. This new exclusion zone will be established based on data collected in the field and used to calculate the actual distance from the pile-driving source where underwater sound levels are anticipated to equal 160 dB re 1 microPa root-mean-square (rms) (impulse). Based on the outcome of the field-verified sound levels and the calculated or measured distances as noted above, the Lessee may either: (1) retain the 1,000 meter (1,640.4 feet) zone or (2) establish a new zone based on field-verified measurements demonstrating the distance from the pile-driving source where underwater sound pressure levels (SPLs) are anticipated to equal the received 160 dB re 1 µPa rms (impulse). Any new exclusion-zone radius must be based on the most conservative measurement (i.e., the largest safety zone configuration).
    - b. Field Verification of Exclusion Zone: Field verification of the exclusion zone will be conducted by the Lessee during the first three pile strikes following completion of the ramp up. The results of the measurements from the first three pile strikes after ramp up can then be used to establish a new exclusion zone which is greater than or less than the 1,000 meters (1,640.4 feet) depending on the results of the field tests.
    - c. Visual Monitoring of Exclusion Zone: The Lessee shall conduct visual monitoring of the exclusion zone during driving of all piles. To ensure proper monitoring of the exclusion zone around the entire pile, the protected species observers shall be either on the vessel that is driving the pile or on a vessel that is in close proximity to the pile driving. Should the Lessee decide to use multiple observing locations (e.g., several boats), those locations should be spaced in a manner that ensures observation coverage of the entire exclusion zone.

      Monitoring of the exclusion zones will be conducted by qualified NMFS-approved observers. Observer qualifications will include direct field experience on a marine mammal/sea turtle observation vessel and/or aerial surveys in the

Atlantic Ocean/Gulf of Mexico. Multiple monitors will be required if pile driving is occurring at multiple locations at the same time.

d. Initiation and Duration of Observation: Observer(s) shall begin monitoring at least 30 minutes prior to soft start of the pile driving. Pile driving will not begin until the zone is clear of all listed marine mammals and sea turtles for at least 30 minutes. Monitoring will continue through the pile-driving period and end approximately 30 minutes after pile driving is completed.

e. Recording Observations: The Lessee shall make visual observations using binoculars or other suitable equipment of sufficient power to monitor the exclusion zone during daylight hours. Data on all observations will be recorded based on standard marine mammal observer collection data. This will include: dates and locations of construction operations; time of observation, location and weather; details of marine mammal sightings (e.g., species, age class (if known), numbers, behavior); and details of any observed taking (i.e., behavioral disturbances, injury, mortality). Any observed significant behavioral reactions (e.g., fleeing the area) or injury or mortality to any marine mammals or sea turtles must be communicated to NMFS and the Lessor as listed below within 24 hours.

Minerals Management Service (MMS)
Kimberly Skrupky
Marine Biologist
Branch of Environmental Assessment
Environmental Division
381 Elden Street, MS 4042
Herndon, VA 20147
Phone: 703-787-1807

Phone: 703-787-1807 Fax: 703-787-1026

Email: kimberly.skrupky@mms.gov

Minerals Management Service (MMS)
Program Manager
Office of Offshore Alternative Energy Programs
381 Elden Street, MS 4090
Herndon, VA 20170

Phone: 703-787-1300 Fax: 703-787-1708 Email: ren@mms.gov

National Marine Fisheries Service (NMFS)
Julie Crocker
Fishery Biologist
Northeast Regional Office (NERO)
Protected Resources Division
55 Great Republic Drive
Gloucester MA 01930
Phone: 978-282-8480

Fax: 978-281-9394

Email: julie.crocker@noaa.gov

NOAA Fisheries Service
Protected Resource Division
Marine Mammal and Sea Turtle Stranding and Disentanglement Program
Northeast Region Stranding Hotline (note: this is a 24-hour hotline)
Phone: 978-281-9351

- f. Required Mitigation Should Listed Marine Mammals or Sea Turtles Enter the Exclusion Zone Before Pile Driving Begins: The exclusion zone around the pile-driving activity must be monitored for the presence of listed marine mammals or sea turtles before, during and after any pile-driving activity. The exclusion zone will be monitored for 30 minutes prior to the soft start of pile driving. If the safety radius is obscured by fog or poor lighting conditions, pile driving will not be initiated until the entire safety radius is visible for the 30-minute period. If listed marine mammals or sea turtles are observed within the zone during the 30-minute period and before the soft start begins, pile driving of the segment will be delayed until they move out of the area and until at least an additional 30 minutes have passed without a listed marine mammal or sea turtle sighting. Monitoring of the exclusion zone will continue for 30 minutes following completion of the pile-driving activity.
- g. Required Mitigation Should Listed Marine Mammals or Sea Turtles Enter the Exclusion Zone After Pile Driving Begins: If listed marine mammals or sea turtles enter the exclusion zone after pile driving of a segment has begun, pile driving will cease until the listed marine mammal or sea turtle leaves the exclusion zone. Observers will monitor and record listed marine mammal and sea turtle numbers and behavior. Pile driving may not resume until at least 30 minutes have passed without a listed marine mammal or sea turtle siting within the exclusion zone. If pile driving of a segment ceases for 30 minutes or more and a listed marine mammal or sea turtle is sighted within the designated zone prior to commencement of pile driving, the observer(s) must notify the Resident Engineer (or other authorized individual) that an additional 30-minute visual and acoustic observation period will be completed by the Lessee, as described above, before resuming pile-driving activities.
- h. Dark or Inclement Weather Conditions: The Lessee shall not begin pile driving during night hours or when the safety radius can not be adequately monitored (e.g., obscured by fog, inclement weather, poor lighting conditions) unless the applicant implements an alternative monitoring method that is agreed to by the Lessor and NMFS. However, if a soft start has been initiated before dark or the onset of inclement weather, the pile driving of that segment may continue through these periods. Once that pile has been driven, the pile driving of the next segment cannot begin until the exclusion zone can be visually or otherwise monitored.
- i. Implementation of Soft Start: A soft start will be required at the beginning of each pile installation in order to provide additional protection to listed marine mammals and sea turtles near the project area by allowing them to vacate the area

- prior to the commencement of pile driving activities. The soft start requires an initial set of three strikes from the impact hammer at 40-percent energy with a one minute waiting period between subsequent three-strike sets. If listed marine mammals or sea turtles are sighted within the exclusion zone prior to pile-driving or during the soft start, the Resident Engineer (or other authorized individual) will delay pile-driving until the animal has moved outside the exclusion zone.
- j. Compliance with Equipment Noise Standards: All construction equipment used by the Lessee will comply with applicable equipment noise standards of the U.S. Environmental Protection Agency (EPA), unless directed otherwise by the Lessor. All construction equipment, even if modified from the original, will have noise-control devices no less effective than those provided on the original equipment.
- C. Reporting for Construction Activities: The following reports must be submitted during construction:
  - a. Field Verification Measurements: After any re-establishment of the exclusion zone, the Lessee shall provide a report to the Lessor and NMFS detailing the field-verification measurements within 7 days. This includes information, such as: a detailed account of the levels, durations, and spectral characteristics of the impact and vibratory pile driving sounds; and the peak, rms, and energy levels of the sound pulses and their durations as a function of distance, water depth, and tidal cycle. MMS should be notified within 24 hours whenever any new exclusion zone is implemented by the Lessee.
  - b. Weekly Reports: The Lessee shall provide weekly status reports to the Lessor and NMFS that include a summary of the previous week's monitoring activities and an estimate of the number of listed marine mammals and sea turtles that may have been taken as a result of pile-driving activities. These reports will include: dates and locations of construction operations, details of listed marine mammal or sea turtle sightings (e.g., dates, times, locations, activities, associated construction activities), and estimates of the amount and nature of listed marine mammal or sea turtle takings. NMFS and the Lessor may reduce or increase the frequency of this reporting throughout the time period of pile-driving activities dependent upon the outcome of these initial weekly reports.
  - c. Observed Injuries or Mortalities: Any observed injury or mortality to a listed marine mammal or sea turtle must be reported to NMFS or USFWS and the Lessor by the Lessee within 24 hours of observation.
  - d. Final Technical Report: A final technical report will be provided by the Lessee to the Lessor, NMFS, and USFWS, as well as the New Jersey Department of Environmental Protection (DEP) or the Delaware Department of Natural Resources and Environmental Control (DNREC) within 120 days after completion of the pile-driving and construction activities. The report will provide full documentation of methods and monitoring protocols, summarize the data recorded during monitoring, estimate the number of listed marine mammals and sea turtles that may have been taken during construction activities, and provide an interpretation of the results and effectiveness of all monitoring tasks.
  - e. Agency Contact Information:

Minerals Management Service (MMS)

Program Manager

Office of Offshore Alternative Energy Programs

381 Elden Street, MS 4090

Herndon, VA 20170 Phone: 703-787-1300 Fax: 703-787-1708 Email: ren@mms.gov

National Marine Fisheries Service (NMFS)

Julie Crocker
Fishery Biologist

Northeast Regional Office (NERO)

Protected Resources Division

55 Great Republic Drive

Gloucester MA 01930 Phone: 978-282-8480

Fax: 978-281-9394

Email: julie.crocker@noaa.gov

U.S. Fish and Wildlife Service (FWS)

Region 5 - Northeast

Chief, Division of Endangered Species

U.S. Fish and Wildlife Service

300 Westgate Center Drive Hadley, MA 01035-9589

Phone: 413-253-8628

Fax: 413-253-8482

New Jersey Department of Environmental Protection (NJ DEP)

Coastal Program Manager

Coastal Management Office

P.O. Box 418

401 E. State Street, 7th Floor

Trenton, NJ 08625 Phone: 609-633-2201 Fax: 609-292-4608

Email: ruth.ehinger@dep.state.nj.us

Delaware Department of Natural Resources and Environmental Control (DNREC)

Program Administrator
Delaware Coastal Programs

DNREC Division of Soil & Water Conservation

5 East Reed Street, Suite 201

Dover, DE 19901 Phone: 302-739-9283 Fax: 302-739-2048

Email: sarah.cooksey@state.de.us

# 6. Reduction or Elimination of the Potential for Adverse Impacts from Pile Driving

A. The Lessee shall implement the following specific measures to reduce or eliminate the potential for adverse impacts from pile driving:

a. Use a vibratory hammer when driving piles. Under conditions where impact hammers are required for reasons of seismic stability or substrate type, it is recommended that the pile be driven as deep as possible with a vibratory hammer prior to the use of the impact hammer.

b. Monitor peak SPLs during pile driving to ensure that they do not exceed the 160

dB re: 1 μPa threshold for injury to marine mammals.

Implement measures to attenuate the sound should SPLs exceed the 160 dB re: 1  $\mu Pa$  threshold. If sound-pressure levels exceed 160 dB re: 1  $\mu Pa$  threshold, implement mitigation measures. Methods to reduce the sound pressure levels include, but are not limited to, the following:

i. Surround the pile with an air bubble curtain system or air-filled coffer dam.

ii. Since the sound produced has a direct relationship to the force used to drive the pile, a smaller hammer should be used to reduce the sound pressures.

iii. Use a hydraulic hammer if impact driving cannot be avoided. The force of the hammer blow can be controlled with hydraulic hammers; reducing the

impact force will reduce the intensity of the resulting sound.

d. Implement a soft start at the beginning of each pile installation allowing marine mammals and sea turtles to leave the area before noise levels reach their maximums. The soft start requires an initial set of three strikes from the impact hammer at 40-percent energy with a one-minute waiting period between subsequent three-strike sets.

### 7. Vessel Strike Avoidance

A. The Lessee shall implement the following specific measures meant to reduce the potential for vessel harassments or collisions with ESA-listed marine mammals or sea turtles during all phases of the project.

a. All vessels and aircraft associated with the construction, operation/maintenance

and/or decommissioning of the project will be required to abide by the:

(1) NOAA Fisheries Northeast Regional Viewing Guidelines, as updated through the life of the project (http://www.nmfs.noaa.gov/pr/pdfs/education/viewing northeast.pdf); anđ

(2) MMS Gulf of Mexico Region's NTL No. 2007-G04 (http://www.gomr.mms.gov/homepg/regulate/regs/ntls/2007NTLs/07g04.pdf), or any superseding NTL.

- b. All vessel and aircraft operators must undergo training to ensure they are familiar with the guidance specified in II.7.A.a. above. These training requirements must be written into any contractor agreements.
- c. Upon receipt of a permit, all companies will instruct all personnel associated with the project construction and operation of the potential presence of manatees and the need to avoid collisions with manatees.
- d. All personnel and contractors will be advised that there are civil and criminal penalties for harming, harassing, or killing marine mammals and sea turtles, which are protected under the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). The company may be held responsible for any manatee or other marine mammal harmed, harassed, or killed as a result of the company's activity.
- B. All vessels associated with the project will operate at idle speed at all times while in shallow waters where the draft of the vessel provides less than a four foot clearance from the bottom.
- C. If manatees are sighting within 100 yards of the project, all appropriate precautions shall be implemented to ensure protection of the manatees. These precautions shall include operating all equipment in such a manner that moving equipment does not come any closer than 50 feet of any manatee. Any collision with any manatee must be reported immediately to the USFWS at 904-731-3103.
- D. Any collision with any other marine mammal must be reported. More information can be found at <a href="http://www.nmfs.noaa.gov/pr/shipstrike/msr/">http://www.nmfs.noaa.gov/pr/shipstrike/msr/</a>.
  - a. Vessels transiting mandatory ship reporting (MSR) areas are required to report their course, speed, position, destination, and route to the U.S. Coast Guard (USCG) upon entry into the reporting area. Vessels should report via INMARSAT C to one of the following addresses:

    Email: rightwhale.msr@noaa.gov; Telex: 236737831
  - b. Vessels not equipped with INMARSAT C should report via alternate satellite communications equipment to one of the following addresses:

    Email: rightwhale.msr@nona.gov; Telex: 236737831. Vessels unable to use satellite communications equipment should contact the USCG Communication Area Master Station, Chesapeake, Virginia via SITOR/NBDP on 8426.3 kHz, 12590.8 kHz, 16817.8 kHz twenty four hours per day, or 6314.3 kHz from 2300 GMT until 1100 GMT and 22387.8 kHz from 1100 GMT until 2300 GMT.
  - c. Vessels unable to use satellite communications or SITOR/NBDP should contact the USCG Communication Area Master Station, Chesapeake, Virginia via published voice frequencies.
  - d. Mariners can learn more about steps to avoid collisions with whales at: <a href="http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/marinersweatherlog\_shipstrike.pdf">http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/marinersweatherlog\_shipstrike.pdf</a>
- E. The Lessee will maintain a log detailing manatee sightings, collisions, or injuries should they occur during operations. Following project completion a report summarizing incidents and sightings of manatees must be submitted to:

U.S. Fish and Wildlife Service (FWS) Region 5 - Northeast Chief, Division of Endangered Species U.S. Fish and Wildlife Service 300 Westgate Center Drive Hadley, MA 01035-9589 Phone: 413-253-8628

Fax: 413-253-8482

### 8. Marine Trosh and Debris Awareness and Elimination

All vessel operators, employees and contractors actively engaged in offshore operations must be briefed on marine trash and debris awareness and elimination. The Lessee is required to ensure that its employees, contractors, and any agents acting on behalf of the Lessee are made aware of the environmental and socioeconomic impacts associated with marine trash and debris and their responsibilities for ensuring that trash and debris are not intentionally or accidentally discharged into the marine environment.

Marine trash and debris pose a threat to fish, marine mammals, sea turtles, and other marine animals; cause costly delays and repairs for commercial and recreational boating interests; detract from the aesthetic quality of recreational shore fronts: and increase the cost of beach and park maintenance.

Special caution should be carried out when the Lessee or its contractors handle and dispose of small items and packaging materials, particularly those made of non-biodegradable, environmentally persistent materials such as plastic or glass that can be lost in the marine environment and washed ashore. Increasing the Lessee's individual workers' awareness of the problem and emphasizing their responsibilities will help reduce the litter problem further and control the unintended loss of items such as empty buckets, hard hats, shrink wrap, etc.

#### 9. Oil Spill Response Plan

As part of preparing the Project Plan, the Lessee shall prepare an Oil Spill Response Plan (OSRP) in a manner that demonstrates that the Lessee has planned for and is prepared to conduct an efficient, coordinated, and effective response to an oil spill. In addition, the OSRP must be consistent with the National Response Plan (NRP), the National Incident Management System (NIMS), the National Contingency Plan (NCP), and the appropriate Area Contingency Plans (ACP). The OSRP shall be submitted to the Lessor as part of the Lessee's Project Plan. If the Lessee does not house or use oil or other fuel on the meteorological tower, the Lessee shall indicate this in the Project Plan.

#### 10. Reduction or Elimination of the Potential for Adverse Impacts to Birds and Bats

The Lessee shall implement the following specific measures to reduce or eliminate the potential for adverse impacts to birds and bats:

A. Anti-Perching Devices: The Lessee is required, to the maximum extent possible, to use anti-perching material and/or devices in areas where they are likely to be effective (e.g., horizontal surfaces, diagonal bars).

- B. Restricted Use of Guy Wires: Meteorological towers shall be designed so as to preclude the necessity for guy wires.
- C. Lighting: Lights shall be installed in compliance with the Federal Aviation Administration (FAA) guidelines and USCG navigational safety lighting requirements. The Lessee shall leave any additional lights (e.g., work lights) on only when necessary and downshield when possible, to reduce upward illumination and illumination of adjacent waters. Downshielding would involve "hooding" the lamps such that the light is shielded to minimize visibility from above. These requirements apply to lighting on the meteorological tower as well as all support vessels.

### 11. Archeological Resources

As part of preparing the Project Plan, the Lessee shall conduct an archaeological resource survey and submit a report of the findings. Guidelines for the archeological resource survey and report are provided in Appendix B.

If the Lessor's review of Lessee's archaeological report concludes that an archaeological resource may be present, the Lessor will specify a minimum distance by which all proposed seafloor-disturbing activities must avoid the potential archaeological resource, unless the Lessee can demonstrate through further investigations that an archaeological resource either does not exist or will not be adversely affected by the activities covered by this lease proposed seafloor-disturbing activities.

If the Lessee chooses to conduct further archaeological investigations, rather than avoid the potential resource, the Lessor will specify the appropriate personnel, equipment, and techniques to be used. The report of additional investigations must be submitted to the Lessor for review. The Lessor will notify the Lessee if it determines that an archaeological resource exists and may be adversely affected by the proposed activities covered by the lease seafloor-disturbing activities. The Lessee (and all subcontractors or agents acting on behalf of the Lessee) shall keep the location of the discovery confidential and not take any action that may adversely affect the archaeological resource until the Lessor makes an evaluation and notifies the Lessee on how to proceed.

If the Lessee, the Lessee's subcontractors, or any agent acting on the behalf of the Lessee, discover a potential archaeological resource while conducting surveys, construction activities, or any other activity related to the Lessee's project; all must:

- (1.) Immediately halt all seafloor-disturbing activities within the area of the discovery;
- (2.) Notify the MMS Director of the discovery within 72 hours; and
- (3.) Keep the location of the discovery confidential and take no action that may adversely affect the archaeological resource until the Lessor has made an evaluation and notified the Lessee on how to proceed.

The Lessor may require the Lessee to conduct additional investigations to determine: (1) if the resource is eligible for listing on the National Register of Historic Places under 36 CFR 60.4; (2) if the site has been impacted by the Lessee's project activities; or (3) if impacts to the site or to the area of potential effect cannot be avoided. If further investigations indicate that the resource

is potentially eligible for the National Register of Historic Places, the Lessor will notify the Lessee on how to protect the resource, or how to mitigate adverse effects to the site. Section 110(g) of the National Historic Preservation Act authorizes Lessor to charge licensees and permittees reasonable costs for carrying out preservation responsibilities under the OCS Lands Act.

# 12. Geophysical and Geotechnical Survey Reports

As part of preparing the Project Plan, the Lessee shall conduct geophysical and geotechnical resource surveys and submit reports of the findings. Guidelines for the geophysical and geotechnical resource surveys and reports are provided in Appendix C.

#### 13. Notification of Fishermen

The Lessee shall put a notice in the USCG Local Notice to Mariners, a free publication available to all fishermen, regarding the timeframe and location of construction and decommissioning activities in advance of mobilization. The Lessee shall also send daily updates for broadcast on Marine Channel 16 describing the construction and decommissioning activities for that day as well as upcoming days.

### 14. Site Clearance

The Lessee shall provide objective evidence that the area used for data collecting facilities and structures is returned to its original state after decommissioning and removal of the facilities and structures from the site. Any trash or bottom debris introduced as a result of the Lessee's operations shall be removed. Objective evidence would normally consist of a photographic bottom survey, site-clearance trawling, or high-resolution sidescan or sector-scanning sonar survey.

### 15. Decommissioning

- A. Removal of Foundation: The Lessee shall remove all facilities/bottom-founded components to a depth of 15 feet (5 meters) below the mudline, unless otherwise authorized by the Lessor, to ensure that nothing is exposed that could interfere with future Lessees and other activities in the area. Site-specific geophysical and geotechnical survey data supplied by the applicant will be used by the Lessor to determine if there are mobile sediments and, if so, to what depth. During its review of the Lessee's Project Plan, the Lessor may require, based on site-specific data, that the Lessee remove the structure deeper than 15 feet (5 meters). Within 60 days after the Lessee has removed the facility, the Lessee shall provide documentation to the Lessor verifying that the Lessee has cleared the site.
- B. Use of Explosive Severing Methods: The Lessor assumes the meteorological towers proposed off of Delaware and New Jersey will be removed using non-explosive severing methods. This issuance of a lease does not grant authorization or constitute approval of explosive severing methods for the purposes of decommissioning. However, if the Lessee intends to use explosive severing methods, the Lessee shall submit details of such

methods in a Decommissioning Plan, in addition to other requirements of the lease, to the Lessor for approval. Proposed use of explosives will require supplemental NEPA analysis and re-initiation of relevant consultations as may be required by law. The Decommissioning Plan shall include, but may not be limited to, the following information in form and content satisfactory to the Lessor:

a. A description of the explosive severing method to be used including: a) type of explosives; b) number and sizes of charges; c) whether using single shot or multiple shots; d) if multiple shots, the sequence and timing of detonations; e) whether using a bulk or shaped charge; f) depth of detonation below the mud line; and g) whether placing the explosives inside or outside of the pilings;

b. If divers or acoustic devices will be used to conduct a pre-removal survey to detect the presence of turtles and marine mammals, a description of the proposed detection

method;

c. A statement of whether or not transducers will be used to measure the pressure and impulse of the detonations.

d. A noise analysis derived through appropriate modeling of the proposed decommissioning activities, including a project-specific estimate of the sound levels likely to be generated from the use of explosives as a function of pulse intensity and distance from source at 160dB, 180dB and 190dB.

e. If available, the results of any recent biological surveys conducted in the vicinity of the structure and recent observations of turtles or marine mammals at the structure

site.

- f. Lessee's plans to protect archaeological and sensitive biological features during removal operations, including proposed anchor patterns and sweeps for the requisite lift vessel and a brief assessment of the environmental impacts of the removal operations and procedures and mitigation measures the Lessee will take to minimize such impacts.
- g. Any other information reasonably requested by the Lessor to ensure Lessee's activities on the OCS are conducted in a safe and environmentally sound manner.

### 16. Scour Prevention and Monitoring

- A. Scour Information: As part of preparing the Project Plan, the Lessee shall gather and provide the following information to the Lessor:
  - a. A desktop or computational study to assess the magnitude of potential seabed scour anticipated at the site;
  - b. How scour potential was determined;
  - c. A scour monitoring plan (e.g., methodology, frequency of monitoring and reporting, etc.); and
  - d. The specific devices, if any, that will be installed to address the worst-case anticipated conditions per II.16.B.
- B. Scour Control System: If necessary, the Lessee shall install an adequate scour control system during installation of the meteorological tower or later if significant scouring is discovered during monitoring. Prior to installation, the Lessee shall provide, for the Lessor's review, a detailed description of the proposed system including the sea-bottom footprint, composition, and installation and removal methods.

- C. Monitoring and Response: The Lessee shall monitor the installed structure throughout its life for scour in accordance with the Lessee's Project Plan. If a scour control system is installed, the Lessee also must monitor the scour control system in accordance with the Lessee's Project Plan.
  - a. If artificial seagrass mats are used as part of the scour control system, the Lessee shall monitor the fronds for evidence that they are being consumed by sea turtles or marine mammals. If there is evidence that the scour mats are being consumed by sea turtles or marine mammals, the Lessee shall consult NMFS and the Lessor, which will determine further mitigation and monitoring measures.
  - b. Agency Contact Information:

Minerals Management Service (MMS)
Program Manager
Office of Offshore Alternative Energy Programs
381 Elden Street, MS 4090
Herndon, VA 20170
Phone: 703-787-1300

Fax: 703-787-1708 Email: ren@mms.gov

National Marine Fisheries Service (NMFS)
Julie Crocker
Fishery Biologist
Northeast Regional Office (NERO)
Protected Resources Division
55 Great Republic Drive
Gloucester MA 01930

Phone: 978-282-8480 Fax: 978-281-9394

Email: julie.crocker@noaa.gov

### 17. Access, Instrumentation, and Data Collection

- A. Access for Studies: The Lessee shall provide access to the meteorological tower to the Lessor and/or the Lessor's contractors to collect data and/or deploy instruments for data collection. Data-collection instrumentation deployed by the Lessor and or its contractors shall not interfere with or limit the ability of the Lessee to collect or conduct activities authorized by this lease nor will the instrumentation unduly burden the Lessee's facilities or resource needs (e.g., space, power, structural integrity, health and safety).
- B. Ecological and Environmental Information: Upon request by the Lessor, the Lessee shall provide the Lessor and the appropriate State agency listed below, subject to Section 11 of this lease and all other applicable law, with any ecological or environmental information collected in a mutually acceptable digital format once it is collected, assessed and compiled.

Minerals Management Service (MMS)

Program Manager
Office of Offshore Alternative Energy Programs
381 Elden Street, MS 4090

Herndon, VA 20170 Phone: 703-787-1300 Fax: 703-787-1708 Email: ren@mms.gov

Delaware Department of Natural Resources and Environmental Control (DNREC)

Program Administrator Delaware Coastal Programs

DNREC Division of Soil & Water Conservation

5 East Reed Street, Suite 201

Dover, DE 19901 Phone: 302-739-9283 Fax: 302-739-2048

Email: sarah.cooksey@state.de.us

New Jersey Department of Environmental Protection (NJ DEP)

Coastal Program Manager Coastal Management Office P.O. Box 418 401 E. State Street, 7th Floor Trenton, NJ 08625

Phone: 609-633-2201 Fax: 609-292-4608

Email: ruth.ehinger@dep.state.nj.us

C. Coordination: The Lessee shall coordinate with the Lessor and/or its contractors, as well as the New Jersey Department of Environmental Protection (DEP) and/or the Delaware Department of Natural Resources and Environmental Control (DNREC) on any studies to be conducted or carried out from the meteorological tower.

### 18. Installation of Visibility Sensor

The Lessee shall install a visibility sensor that provides measures of visibility. Visibility is a meteorological parameter addressed in the Federal Meteorological Handbook No. 1 (FMH-1) – Surface Weather Observations and Reports, September 2005. On a quarterly basis, the Lessee shall provide the Lessor and the FWS, as listed below, with any visibility information collected in a mutually acceptable digital format once it is collected, assessed and compiled.

Minerals Management Service (MMS)
Program Manager
Office of Offshore Alternative Energy Programs
381 Elden Street, MS 4090

MMS-0001 (July 2008)

Herndon, VA 20170 Phone: 703-787-1300 Fax: 703-787-1708 Email: ren@mms.gov

U.S. Fish and Wildlife Service (FWS) Julie (Thompson) Slacum Biologist 177 Admiral Cochrane Drive Annapolis, MD. 21401

Phone: 410-573-4517
Fax: 410-269-0832
julie thompson@fws.gov

### III. Engineering and Navigation Stipulations

### 19. Certified Verification Agent (CVA)

- A. Requirement of a CVA: Following submission of the Lessee's Project Plan, the Lessor may require that a CVA review and approve the Lessee's engineering design, fabrication, and installation plans as outlined in the Project Plan. Should a CVA be required by the Lessor, the Lessee shall nominate a CVA for the Lessor's approval.
- B. Nomination of a CVA: For each CVA that the Lessee nominates, the Lessee must submit to the Lessor a list of documents used in the Lessee's design that the Lessee will forward to the CVA, and a qualification statement that includes the following:
  - a. Previous experience in third-party verification or experience in the design, fabrication, installation, or major modification of offshore energy facilities.
  - b. Technical capabilities of the individual or the primary staff for the specific project.
  - c. Size and type of organization or corporation.
  - d. In-house availability of, or access to, appropriate technology (including computer programs, hardware, and testing materials and equipment).
  - e. Ability to perform the CVA functions for the specific project considering current commitments.
  - f. Previous experience with MMS requirements and procedures, if any.
  - g. The level of work to be performed by the CVA.
- C. Rules Applicable to CVAs: The following rules apply when using a CVA.
  - a. Individuals or organizations acting as CVAs must not function in any capacity that will create a conflict of interest, or the appearance of a conflict of interest.
  - b. The verification must be conducted by or under the direct supervision of registered professional engineers.
  - c. Lessee must nominate a new CVA for the Lessor's approval if the previously approved CVA:
    - i. Is no longer able to serve in a CVA capacity for the project; or
    - ii. No longer meets the requirements for a CVA set forth in this lease.

### 20. Navigation

- A. Private Aids to Navigation Application: Four months prior to the beginning of construction activity, the Lessee shall submit a Private Aids to Navigation Application to the USCG 5th District Aids to Navigation Office for the permanent aids to navigation that will be installed on the meteorological tower. A Private Aid to Navigation is a buoy, light or daybeacon owned and maintained by any individual or organization other than the USCG. These aids are designed to allow individuals or organizations to mark privately owned marine obstructions or other similar hazards to navigation.
- B. Navigation Lights and Fog Signal: Lessee shall operate navigation lights and a fog signal with sufficient backup power and redundancy to assure a minimum availability rate of 99.7%. The navigation light shall be seen in a 360-degree arc. Due to the presence of the meteorological tower, two lights must be installed, 180-degrees apart, at an elevation of 20 feet (6.1 meters) mean high water (MHW), each with an operational range of three nautical miles, 90% of the nights. The lights shall display a quick red characteristic and flash synchronously. The fog signal shall have a range of 0.5 nautical miles and shall activate whenever the visibility drops below three nautical miles. The structure shall be color-coded yellow (i.e., Munsell Chip number 2.5Y 8/12), from the water line to the base of the tower.
- C. Local Notice to Mariners: Three weeks prior to construction the meteorological tower, the Lessee shall provide the following information to Commander (dpw) 5th USCG District for publication in the Fifth District Local Notice to Mariners:
  - a. Start date of construction:
  - b. Names of vessels/call signs and VHF-FM channels that will be guarded in addition to Channels 16 and 13;
  - c. Hours of operation; and
  - d. A Private Aids to Navigation Application for the crown buoys that may be used during construction activity.
- D. Crown Buoys: If crown buoys are employed, Lessee shall paint them Yellow (i.e., Munsell Chip number 2.5Y 8/12) and display a slow flashing amber light with an operational range of one nautical mile.
- E. Additional Lighting in Lieu of Attendant Vessel: During construction, no additional lighting is required for the structure as long as an attendant vessel is adjacent to the structure. If the attendant vessel departs or is not immediately adjacent to the structure, the structure shall be lighted with a slow flashing yellow light visible in a 360-degree arc for a distance of three nautical miles.
- F. FAA Lighting Requirements: The Lessee shall comply with all lighting requirements specified by the Federal Aviation Administration (FAA) for the meteorological tower.