



Massachusetts Intergovernmental Renewable Energy Task Force Meeting

April 29, 2015

1:00 PM

Office of Renewable Energy Programs
(OREP)

Office of Renewable Energy Programs (OREP)

The mission of the Bureau of Ocean Energy Management's Office of Renewable Energy Programs (OREP) is to regulate environmentally-responsible offshore renewable energy development activities.

- Offshore Wind
- Hydrokinetics
- Associated transmission
- Determining and evaluating the effects on natural, historical, and human resources



Agenda

- Welcome & Introductions
 - *James Bennett, Chief, Office of Renewable Energy Programs (OREP)*
- Overview of the Massachusetts Auction
 - *Bill Anderson, Economist, Economics Division*
- Next Steps for the Commercial Leases
 - *Jessica Stromberg, Project Coordinator, OREP*
- Overview of Environmental Stipulations & Next Steps for Environmental Review of Plans
 - *Brian Krevor, Environmental Protection Specialist, OREP*

Agenda

- Update on State Initiatives and Studies
 - *Bruce Carlisle, Director, Office of Coastal Zone Management*
 - *Bill White, Senior Director Offshore Wind Sector Development, Massachusetts Clean Energy Center*
- Task Force Member Updates
- Introduction of Commercial Lessees
 - *Dr. Carolyn Heeps, RES America Developments Inc.*
 - *Mr. Erich Stephens, Offshore MW LLC*
- Action Items/Next Steps

Next Steps for Commercial Leases OCS-A 0500 and OCS-A 0501

Jessica Stromberg

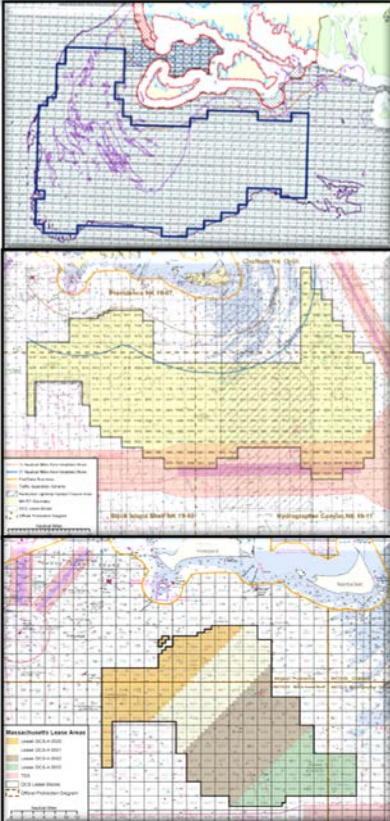
Project Coordinator

Office of Renewable Energy Programs

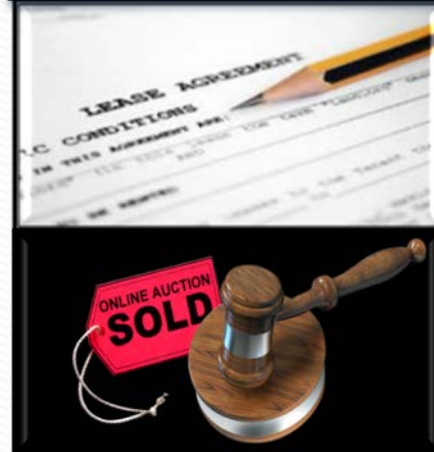
Offshore Wind

Authorization Process Stages

Planning and Analysis



Leasing



Site Assessment



Construction and Operations



Offshore Wind

Authorization Process Stages

Stage 1: Planning & Analysis

- Establish Task Force (*Nov. 2009*)
- Request for Interest (*Dec. 2010*)
- Call for Info. and Nominations (*Feb. 2012*)
- Area Identification of the MA WEA (*May 2012*)
- Environmental Assessment (*Nov. 2012*)

Stage 2: Leasing

- Proposed Sale Notice (*June 2014*)
- Revised EA and FONSI (*June 2014*)
- Final Sale Notice (*Nov. 2014*)
- Auction ATLW4 (*Jan. 2015*)
- Commercial leases OCS-A 0500 & 0501 effective (*April 1, 2015*)

Stage 3: Site Assessment

Stage 4: Construction and Operations

Lease OCS-A 0500:

RES America Developments, Inc.

<p>UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF OCEAN ENERGY MANAGEMENT</p> <p>COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF</p> <p><i>Paperwork Reduction Act of 1995 statement: This form does not constitute an information collection as defined by 44 U.S.C. § 3501 et seq. and therefore does not require approval by the Office of Management and Budget.</i></p>	Office	Renewable Energy Lease Number
	Herndon, VA	OCS-A 0500
	Cash Bonus and/or Acquisition Fee \$281,285	Resource Type Wind
	Effective Date April 1, 2015	Block Number(s) See Addendum A

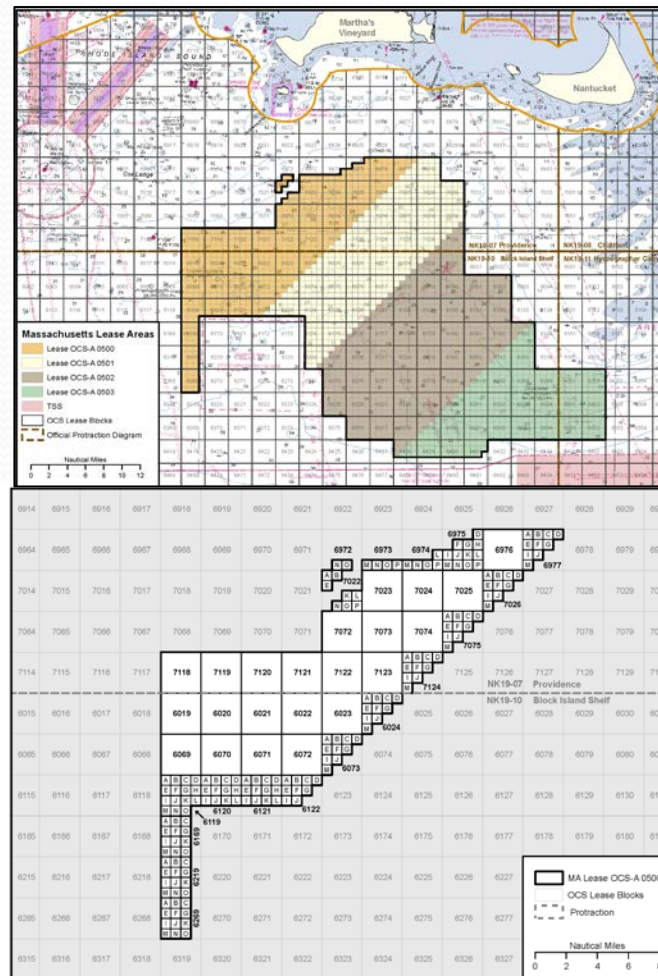
This lease, which includes any addenda hereto, is hereby entered into by and between the United States of America, ("Lessor"), acting through the Bureau of Ocean Energy Management ("BOEM"), its authorized officer, and

Lessee	Interest Held
RES America Developments Inc.	100%

("Lessee"). This lease is effective on the date written above ("Effective Date") and will continue in effect until the lease terminates as set forth in Addendum "B." In consideration of any cash payment heretofore made by the Lessee to the Lessor and in consideration of the promises, terms, conditions, covenants, and stipulations contained herein and attached hereto, the Lessee and the Lessor agree as follows:

Section 1: Statutes and Regulations.

This lease is issued pursuant to subsection 8(p) of the Outer Continental Shelf Lands Act ("the Act"), 43 U.S.C. §§ 1331 et seq. This lease is subject to the Act and regulations promulgated pursuant to the Act, including but not limited to, offshore renewable energy and alternate use regulations at 30 CFR Part 585 as well as other applicable statutes and regulations in existence on the Effective Date of this lease. This lease is also subject to those statutes enacted (including amendments to the Act or other statutes) and regulations promulgated thereafter, except to the extent that they explicitly conflict with an express provision of this lease. It is expressly understood that amendments to existing statutes, including but not limited to the Act, and regulations may be made, and/or new statutes may be enacted or new regulations promulgated, which do not explicitly conflict with an express provision of this lease, and that the Lessee bears the risk that such amendments, regulations, and statutes may increase or decrease the Lessee's obligations under the lease.



Lease OCS-A 0501: Offshore MW LLC

<p>UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF OCEAN ENERGY MANAGEMENT</p> <p>COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF</p> <p><i>Paperwork Reduction Act of 1995 statement: This form does not constitute an information collection as defined by 44 U.S.C. § 3501 et seq. and therefore does not require approval by the Office of Management and Budget.</i></p>	Office	Renewable Energy Lease Number
	Herndon, VA	OCS-A 0501
	Cash Bonus and/or Acquisition Fee \$150,197	Resource Type Wind
	Effective Date April 1, 2015	Block Number(s) See Addendum A

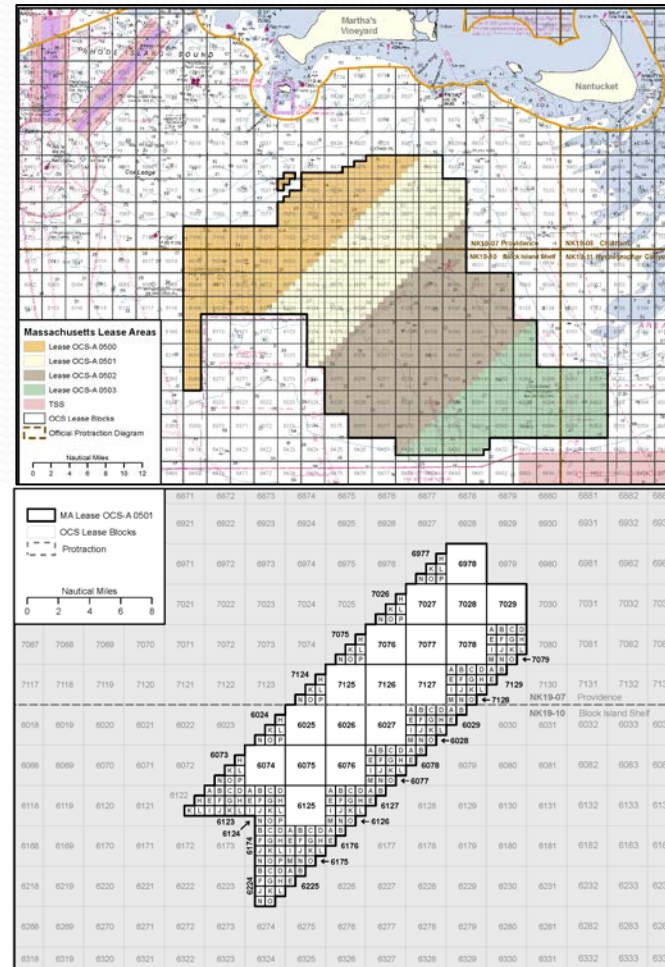
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Lessee	Interest Held
Offshore MW LLC	100%

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Elements of the Lease

- Outlines specific statutes and regulations that define the responsibilities of the lessee during the lease term, including:
 - Rights of the Lessee and Reservations of the Lessor
 - Payments & Financial Assurance
 - Plans & Activities
 - Suspensions & Cancellations
 - Assignments, Transfers, or Relinquishments
 - Removal & Restoration

Addenda to the Lease

- Provide site-specific requirements and regulations for each leasing area
 - Addendum A: Description of Leased Area and Lease Activities
 - Addendum B: Lease Term and Financial Schedule
 - Addendum C: Lease-Specific Terms, Conditions, and Stipulations
 - Addendum D: Project Easement (TBD)
 - Addendum E: Rent Schedule (TBD)

Lease Terms & Conditions

- Specified in Addendum B, and at 30 CFR 585.235
- Each lease includes a preliminary term of 12 months in which the lessee must submit a Site Assessment Plan (SAP) to BOEM
- Upon approval of the SAP, the lessee will have up to 4 ½ years in which to submit a Construction and Operations Plan (COP) to BOEM
- Upon approval of the COP, the lessee will have up to 25 years to construct and operate their proposed wind facility

Lease Term	Duration
Preliminary Term	1 year
Site Assessment Term	5 years
Operations Term	25 years

Site Assessment Plan

- A SAP describes:
 - the activities (e.g., installation of meteorological towers, meteorological buoys) the lessee plans to perform for the characterization of the commercial lease, or to test technology devices
- The SAP must include results of the following surveys to support the installation of the site assessment facilities:
 - Physical characterization surveys (e.g. geological and geophysical surveys or hazards surveys)
 - Baseline environmental surveys (e.g. biological or archaeological surveys)

Site Assessment Activities

- Installation of a data collection device (e.g., meteorological tower or buoy) to assess the wind resources and ocean conditions of the commercial lease area.
- Purpose is to determine whether the area is suitable for wind energy development.



Source: Cape Wind Associates, LLC, 2012a
Figure 3-2. Example of monopile mast meteorological tower



Source: GL Garrad Hassan, 2012
Figure 3-3. Example of a lattice mast meteorological tower with a monopile foundation

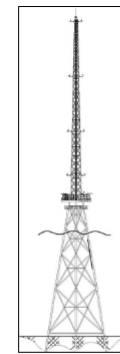


Figure 3-4(a). Lattice-type mast mounted on a steel jacket foundation

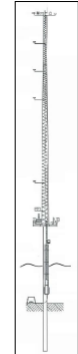


Figure 3-4(b). Lattice-type mast mounted on a monopile foundation

Source: Deepwater Wind, LLC as cited in BOEM, 2012

Figure 3-4. Example of a lattice-type mast mounted on a steel jacket foundation



Source: National Data Buoy Center, 2012

Figure 3-6(a). 10-meter disc-shaped hull buoy



Source: National Data Buoy Center, 2012

Figure 3-6(b). 6-meter boat-shaped hull buoy

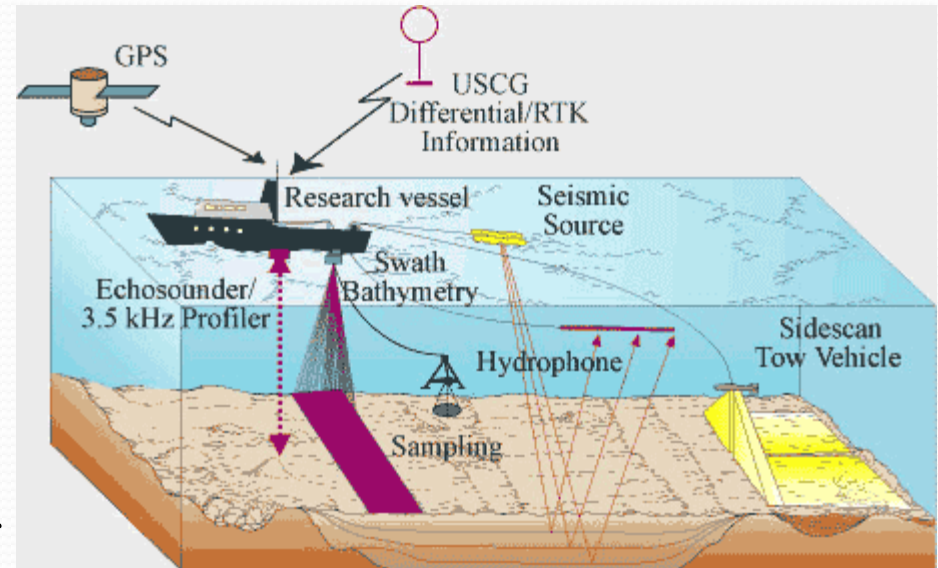


Source: Australian Maritime Systems, 2012

Figure 3-6(c). Spar buoy

Site Characterization Activities

- Site-specific surveys conducted to collect information regarding existing resources and conditions above the water, within the water column, and on & below the seafloor.
- Enables the lessee to characterize existing seafloor and sub-seafloor conditions to select and propose appropriate design, construction, and installation techniques.
- Results required to be submitted with SAP & COP.



Example: Schematic Drawing of the various systems used by the Woods Hole Science Center.

Source:

http://woodshole.er.usgs.gov/operations/sfmapping/s_eafloor.htm

Contents of a SAP

Project information	Including
(1) Contact information	The name, address, e-mail address, and phone number of an authorized representative.
(2) The site assessment or technology testing concept	A discussion of the objectives; description of the proposed activities, including the technology you will use; and proposed schedule from start to completion.
(3) Designation of operator, if applicable	As provided in § 585.405.
(4) Commercial lease stipulations and compliance	A description of the measures you took, or will take, to satisfy the conditions of any lease stipulations related to your proposed activities.
(5) A location plat	The surface location and water depth for all proposed and existing structures, facilities, and appurtenances located both offshore and onshore.
(6) General structural and project design, fabrication, and installation ...	Information for each type of facility associated with your project.
(7) Deployment activities	A description of the safety, prevention, and environmental protection features or measures that you will use.
(8) Your proposed measures for avoiding, minimizing, reducing, eliminating, and monitoring environmental impacts.	A description of the measures you will use to avoid or minimize adverse effects and any potential incidental take, before you conduct activities on your lease, and how you will mitigate environmental impacts from your proposed activities, including a description of the measures you will use as required by subpart H of this part.
(9) CVA nomination, if required	CVA nominations for reports in subpart G of this part, as required by § 585.706, or a request to waive the CVA requirement, as required by § 585.705(c).
(10) Reference information	A list of any document or published source that you cite as part of your plan. You may reference information and data discussed in other plans you previously submitted or that are otherwise readily available to BOEM.
(11) Decommissioning and site clearance procedures	A discussion of methodologies.
(12) Air quality information	Information as described in § 585.659 of this section.
(13) A listing of all Federal, State, and local authorizations or approvals required to conduct site assessment activities on your lease.	A statement indicating whether such authorization or approval has been applied for or obtained.
(14) A list of agencies and persons with whom you have communicated, or with whom you will communicate, regarding potential impacts associated with your proposed activities.	Contact information and issues discussed.
(15) Financial assurance information	Statements attesting that the activities and facilities proposed in your SAP are or will be covered by an appropriate bond or other approved security, as required in §§ 585.515 and 585.516.
(16) Other information	Additional information as requested by BOEM.

Survey Results & Supporting Data

Information	Report contents	Including
(1) Geotechnical	The results from the geotechnical survey with supporting data.	A description of all relevant seabed and engineering data and information to allow for the design of the foundation for that facility. You must provide data and information to depths below which the underlying conditions will not influence the integrity or performance of the structure. This could include a series of sampling locations (borings and in situ tests) as well as laboratory testing of soil samples, but may consist of a minimum of one deep boring with samples.
(2) Shallow hazards	The results from the shallow hazards survey with supporting data.	A description of information sufficient to determine the presence of the following features and their likely effects on your proposed facility, including: <ul style="list-style-type: none"> (i) Shallow faults; (ii) Gas seeps or shallow gas; (iii) Slump blocks or slump sediments; (iv) Hydrates; and (v) Ice scour of seabed sediments.
(3) Archaeological resources	The results from the archaeological survey with supporting data, if required.	<ul style="list-style-type: none"> (i) A description of the results and data from the archaeological survey; (ii) A description of the historic and prehistoric archaeological resources, as required by the National Historic Preservation Act (NHPA) of 1966, as amended.
(4) Geological survey	The results from the geological survey with supporting data.	A report that describes the results of a geological survey that includes descriptions of: <ul style="list-style-type: none"> (i) Seismic activity at your proposed site; (ii) Fault zones; (iii) The possibility and effects of seabed subsidence; and (iv) The extent and geometry of faulting attenuation effects of geologic conditions near your site.
(5) Biological survey	The results from the biological survey with supporting data.	A description of the results of a biological survey, including descriptions of the presence of live bottoms; hard bottoms; topographic features; and surveys of other marine resources such as fish populations (including migratory populations), marine mammals, sea turtles, and sea birds.

Additional Information

Type of information	Including
(1) Hazard information	Meteorology, oceanography, sediment transport, geology, and shallow geological or manmade hazards.
(2) Water quality	Turbidity and total suspended solids from construction.
(3) Biological resources	Benthic communities, marine mammals, sea turtles, coastal and marine birds, fish and shellfish, plankton, seagrasses, and plant life.
(4) Threatened or endangered species	As required by the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531 <i>et seq.</i>).
(5) Sensitive biological resources or habitats	Essential fish habitat, refuges, preserves, special management areas identified in coastal management programs, sanctuaries, rookeries, hard bottom habitat, chemosynthetic communities, and calving grounds; barrier islands, beaches, dunes, and wetlands.
(6) Archaeological resources	As required by the NHPA (16 U.S.C. 470 <i>et seq.</i>), as amended.
(7) Social and economic resources	Employment, existing offshore and coastal infrastructure (including major sources of supplies, services, energy, and water), land use, subsistence resources and harvest practices, recreation, recreational and commercial fishing (including typical fishing seasons, location, and type), minority and lower income groups, coastal zone management programs, and viewshed.
(8) Coastal and marine uses	Military activities, vessel traffic, and energy and nonenergy mineral exploration or development.
(9) Consistency Certification	As required by CZMA, as appropriate: (i) 15 CFR part 930, subpart D, for noncompetitive leases; (ii) 15 CFR part 930, subpart E, for competitive leases.
(10) Other resources, conditions, and activities	As identified by BOEM.

Site Assessment Plan Review

- BOEM will review the SAP and determine whether it contains all of the information required (completeness) and whether it is adequate for conducting technical and environmental reviews (adequacy)
- After conducting technical and environmental reviews, BOEM may approve, disapprove, or approve the SAP with modifications
- Lessee has up to 5 years to conduct site assessment activities upon BOEM's approval of the SAP

Required Survey Plans

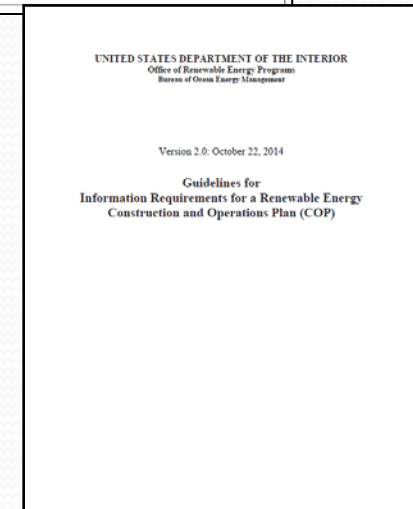
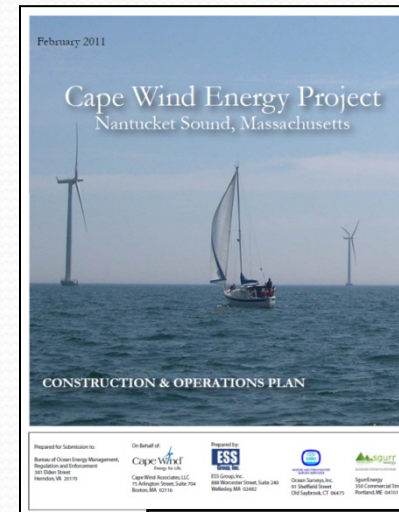
- Prior to conducting surveys in support of submission of the SAP or COP, each lessee is required to submit survey plans for BOEM's review and hold a pre-survey meeting with BOEM
- Two types of survey plans:
 - **SAP Survey Plan** – for surveys proposed to be conducted in support of SAP submission
 - **COP Survey Plan** – for surveys proposed to be conducted in support of COP submission

Required Survey Plans

- The lessee must submit the respective survey plan (SAP or COP) to BOEM at least 30 calendar days prior to the pre-survey meeting.
- The lessee must hold a pre-survey meeting with BOEM at least 60 calendar days in advance of proposed survey activities.
- The lessee must address BOEM's comments prior to commencing survey activities.

Construction and Operations Plan

- Describes the construction, operations, and conceptual decommissioning plans under the commercial lease, including any project easement(s)
- The COP must include the results of the following surveys to support facility siting:
 - Shallow hazards, geological survey, biological survey, geotechnical survey, archaeological resource survey, and an overall site investigation report



Construction and Operations Plan

- Additional information required for the COP is outlined in 30 CFR 585.621, 626, and 627
- BOEM will review the submitted COP and the information provided to determine whether it contains all of the information required (completeness) and whether it is adequate for conducting technical and environmental reviews (adequacy)
- After conducting technical and environmental reviews, BOEM may approve, disapprove, or approve the COP with modifications

Guidelines

- Guidelines for Information Requirements for a Renewable Energy Construction and Operations Plan (Oct. 2014)
- Guidelines for Submission of Spatial Data (Feb. 2013)
- Guidelines for Providing Avian Survey Information (Nov. 2014)
- Guidelines for Providing Geological and Geophysical, Hazards, and Archaeological Information (Nov. 2012)
- Guidelines for Providing Information on Fisheries (Aug. 2013)
- Guidelines for Providing Benthic Habitat Survey Information (Nov. 2013)
- Guidelines for Providing Information on Marine Mammals and Sea Turtles (July 2013)

<http://www.boem.gov/National-and-Regional-Guidelines-for-Renewable-Energy-Activities/>

Summary of Next Steps

- SAP due April 1, 2016
 - SAP Survey Plan due 30 days prior to pre-survey meeting
 - Pre-survey meeting 60 days prior to surveys
- COP due 4 ½ years after SAP is approved by BOEM
 - COP Survey Plan due 30 days prior to pre-survey meeting
 - Pre-survey meeting 60 days prior to surveys

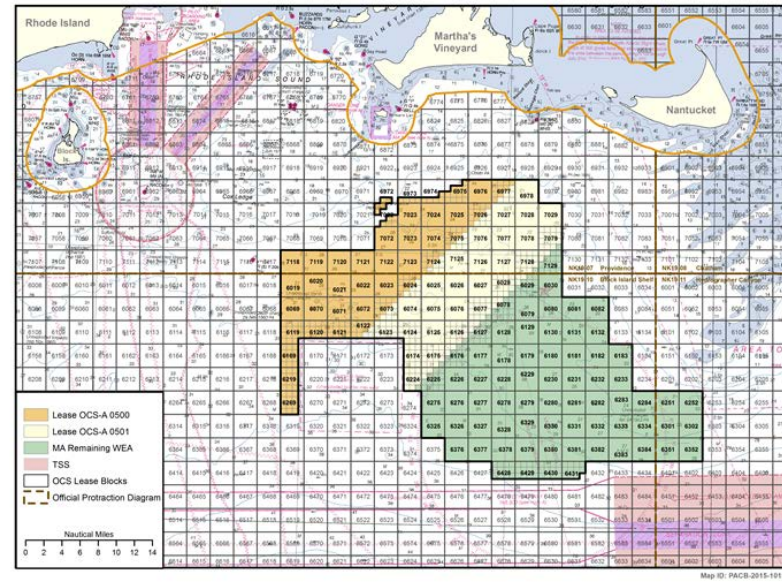
Questions?

Contact:

Jessica Stromberg
Project Coordinator

703-787-1730

jessica.stromberg@boem.gov



Additional Information:

<http://www.boem.gov/Commercial-Wind-Leasing-Offshore-Massachusetts/>