

Overview of the Environmental Assessment for Commercial Wind Lease Issuance and Site Assessment Activities Offshore Massachusetts

November 13-15, 2012

Boston, New Bedford, Vineyard Haven, Nantucket

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Office of Renewable Energy Programs
Bureau of Ocean Energy Management



Major Milestones (to date)

- December 2010- Request for Interest (RFI)
- February 2012 – Call for Information and Nominations and Notice of Intent to prepare an environmental assessment (EA)
- May 2012 – Area Identification of MA Wind Energy Area (WEA)
- November 2012 - Notice of Availability of the EA

Outline

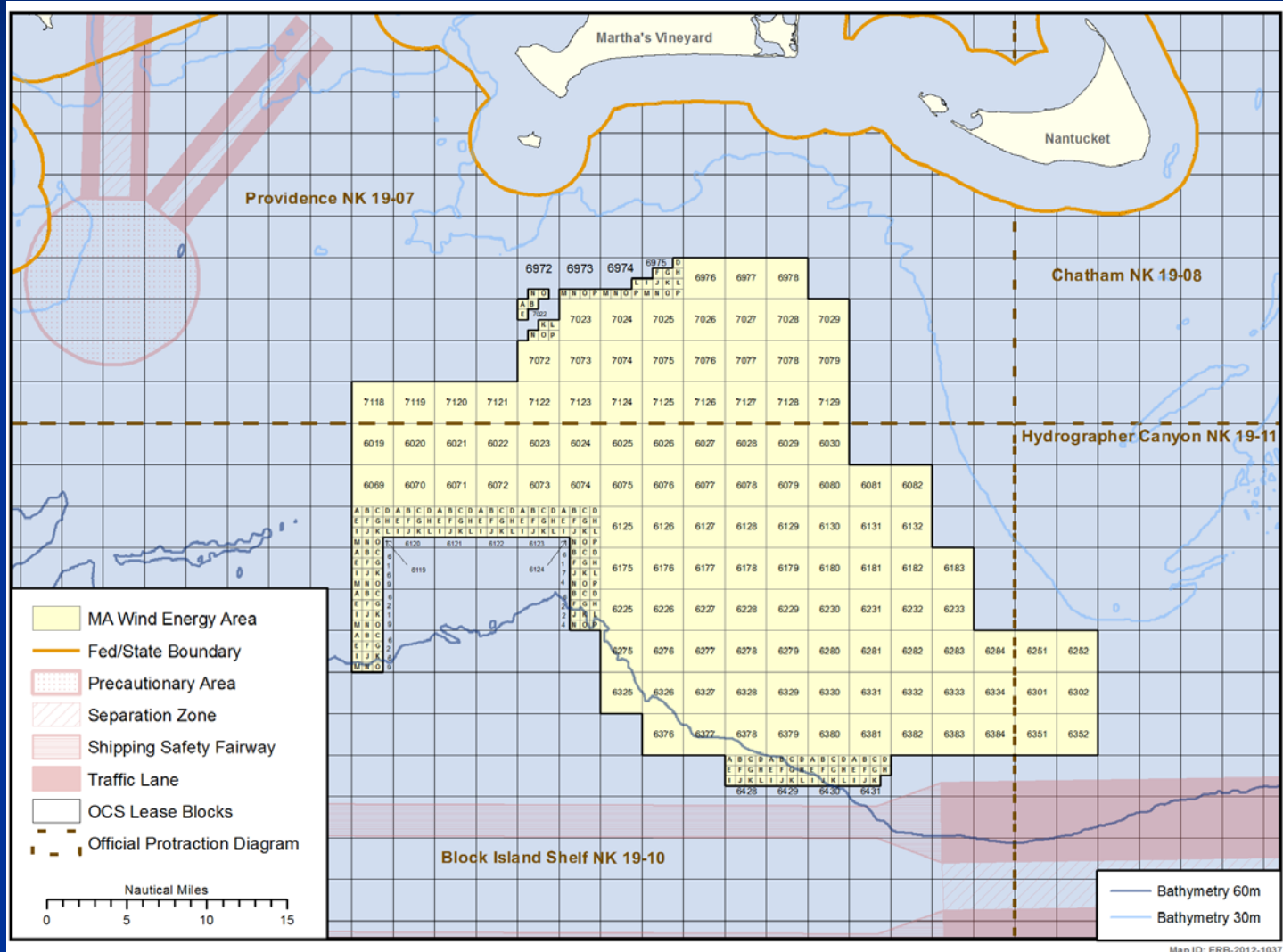
- Overview of the Environmental Assessment (EA):
 - Proposed action and alternatives
 - Resources considered
 - Resource highlights
 - Marine Mammals
 - Commercial Fishing
 - Visual Impacts
 - Standard operating conditions
- Next Steps and How to Comment

Proposed Action (Alternative A) and Activities Considered

- Lease issuance of the entire WEA
- Associated site characterization surveys (e.g., shallow hazards, geological, geotechnical, archaeological, and biological surveys)
- Subsequent site assessment activities (e.g., construction and operation of meteorological towers and/or buoys)

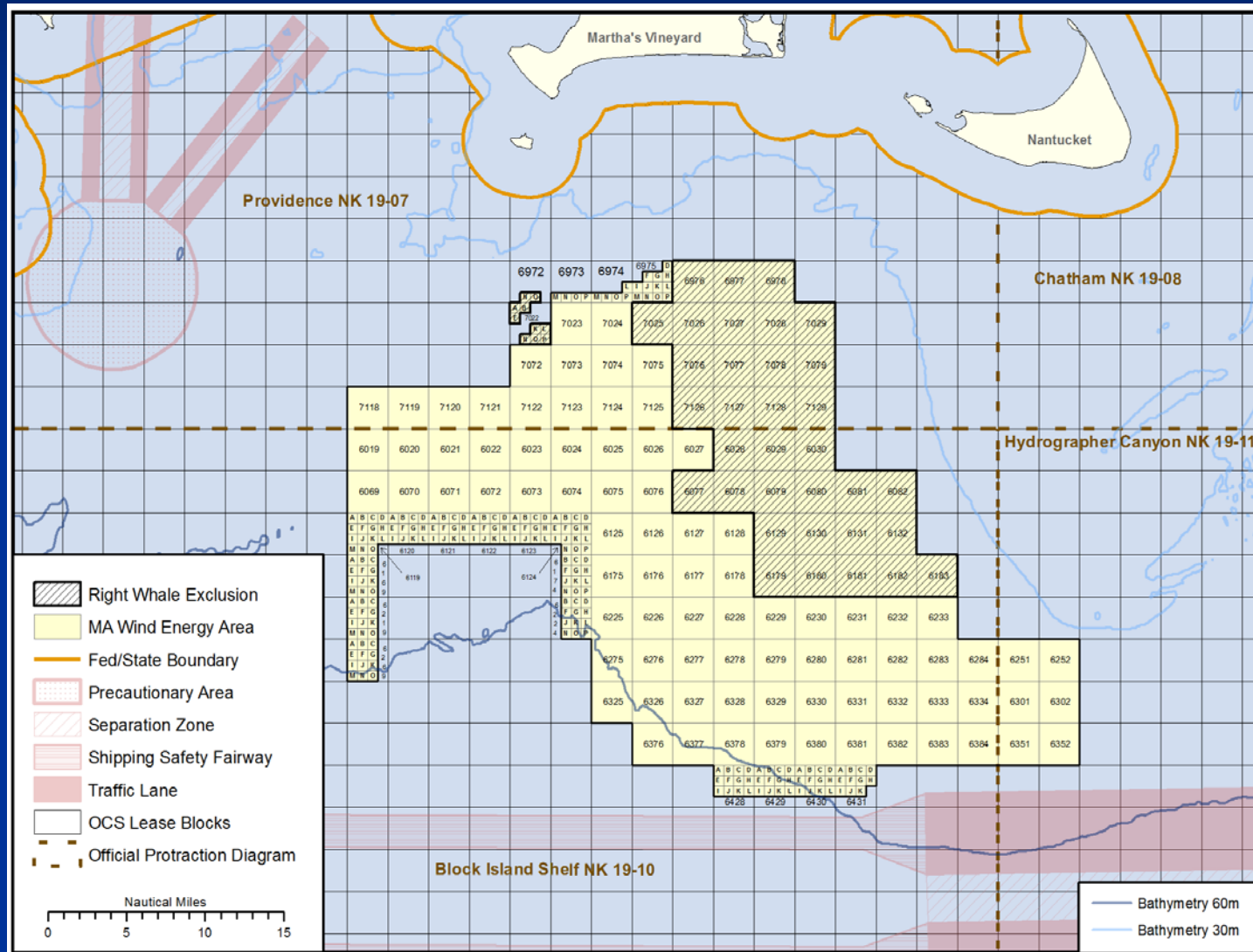
Alternative A

Proposed Action – MA Wind Energy Area



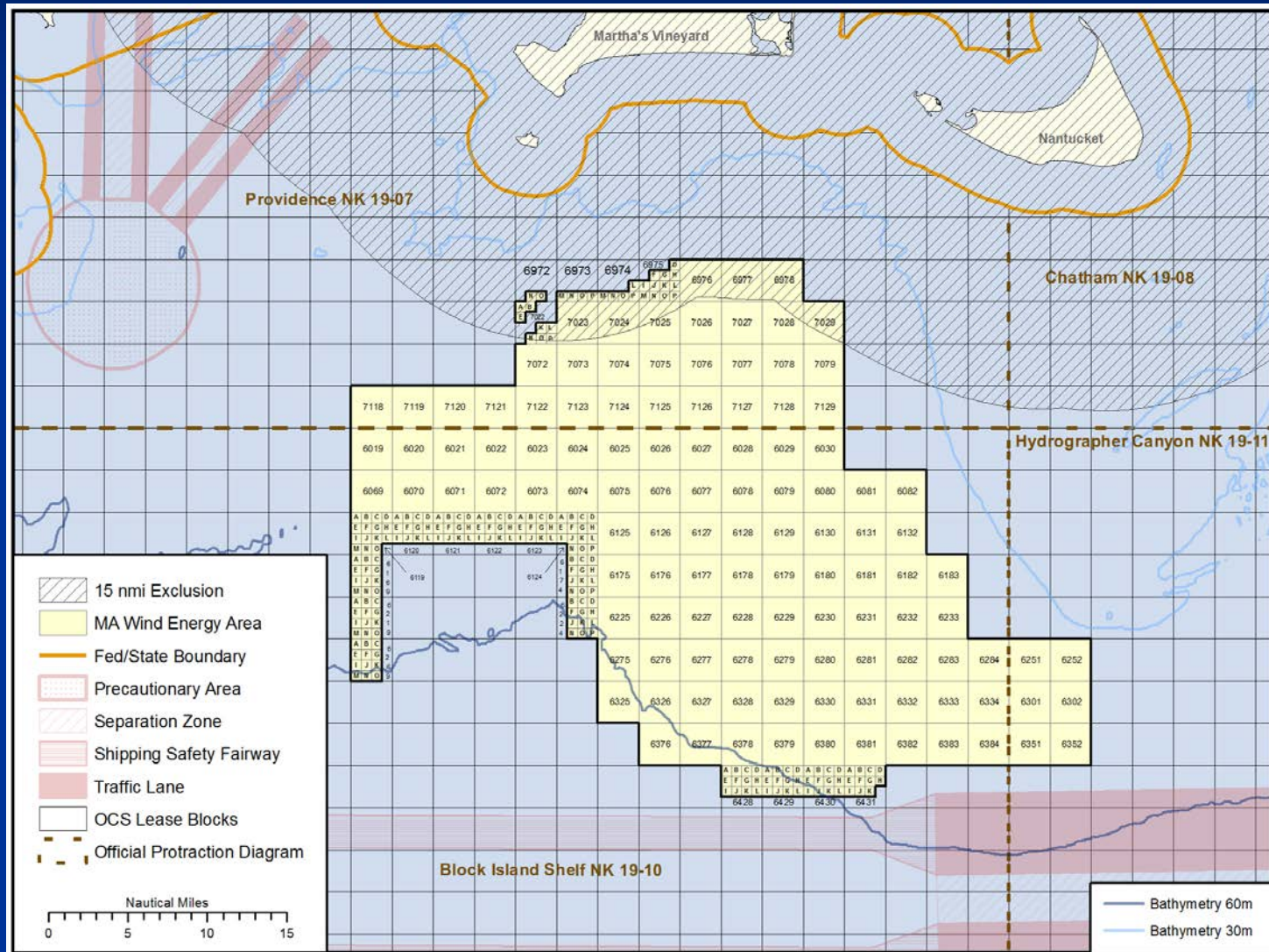
Alternative B

Exclusion for North Atlantic Right Whales



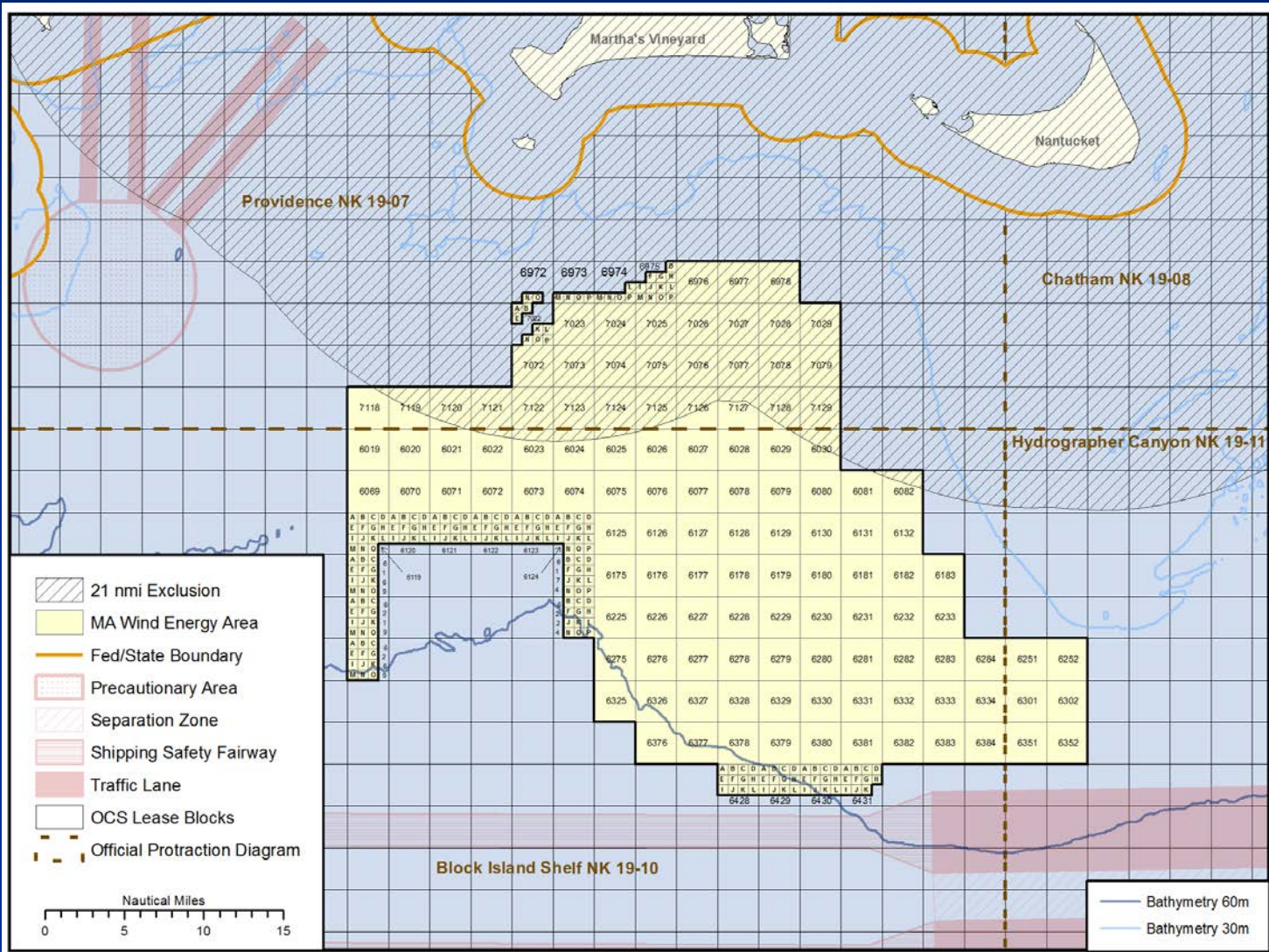
Alternative C

Exclusion of 15 nmi from inhabited MA Coast



Alternative D

Exclusion of 21 nmi from inhabited MA Coast



Alternative E

No Action

- No wind energy leases would be issued and no site assessment activities would be approved in the WEA at this time.
- Data needed to successfully determine the feasibility of potential proposed lease areas for commercial wind energy development would not be collected.

Environmental and Socioeconomic Resources Considered

- **Physical**

- Air Quality
- Water Quality

- **Biological**

- Marine Mammals
- Sea Turtles
- Fish and Essential Fish Habitat (EFH)
- Coastal Habitats
- Benthic Resources
- Avian and Bat Species

- **Socioeconomic**

- Commercial and Recreational Fishing Activities
- Aesthetics and Visual Impacts
- Cultural Resources
- Military Uses
- Environmental Justice
- Land Use and Coastal Infrastructure
- Tourism and Recreation
- Demographics and Employment

Overall EA Conclusions

- With standard operating conditions in place, no reasonably foreseeable significant impacts identified
- Negligible to minor impacts expected

Resource Highlights

- Marine Mammals
- Commercial Fishing
- Visual Impacts

Marine Mammals

(Including North Atlantic Right Whales)

- Potential acoustic impacts to marine mammals from proposed action:
 - Pile driving
 - High-resolution Geophysical Surveys (HRG)
 - Boomer, Side-scan sonar, Sub-bottom profiler, Multi-beam depth sounder)
 - Geotechnical sampling
 - Bottom sampling devices, Vibracores, Deep boring, Core Penetration Test (CPT)

Marine Mammals

(Including North Atlantic Right Whales)

- Potential non-acoustic impacts to marine mammals from proposed action:
 - Benthic Habitat Effects
 - Vessel Collision Effects
 - Spills
 - Waste Discharges and Accidental Fuel Leaks
 - Meteorological Tower Decommissioning

Marine Mammals

(Including North Atlantic Right Whales)

- Standard operating conditions adopted as part of the proposed action
- Include the following provisions to reduce or eliminate potential impacts to marine mammals (specifically North Atlantic Right Whales):
 - Vessel strike avoidance measures
 - Establishing and monitoring exclusions zones
 - Electronic survey equipment ramp-up
 - Seasonal prohibition on pile driving (Nov-Apr)
 - Pile driving soft start

Marine Mammals: EA Conclusion

- SOCs are expected to minimize potential impacts to marine mammals
- Reasonably foreseeable adverse impacts may still exist for the following activities under certain circumstances: 1) acoustic effects from pile-driving and HRG surveys, and 2) vessel strikes. However, impacts from these circumstances are expected to be minor.
- As a result of the SOCs, no significant impacts on marine mammals are anticipated.

Commercial Fishing

- Potential impacts to commercial fishing from the proposed action:
 - Displacement of fishing activities
 - Alteration of species availability

Commercial Fishing: EA Conclusion

- Areas where commercial fishermen would be excluded are small (Meteorological Tower locations) in relation to overall fishing grounds
- Any fishing displacement and/or changes to target species availability would be confined to the immediate area of the proposed activities and would be temporary. The result would be a negligible, if detectable, impact to fishing.

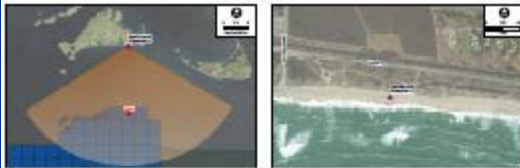
Visual Impacts: South Beach Early Morning, Existing Conditions

South Beach – 8:17 AM

Existing Conditions



Photograph is intended to be viewed approximately 33.6 inches from viewer's eyes when image is printed 18 inches tall by 55 inches long.



- Legend**
- Meteorological Tower
 - South Beach Pierhead
 - Field of View
 - MW Wind Energy Area

Photographic Information

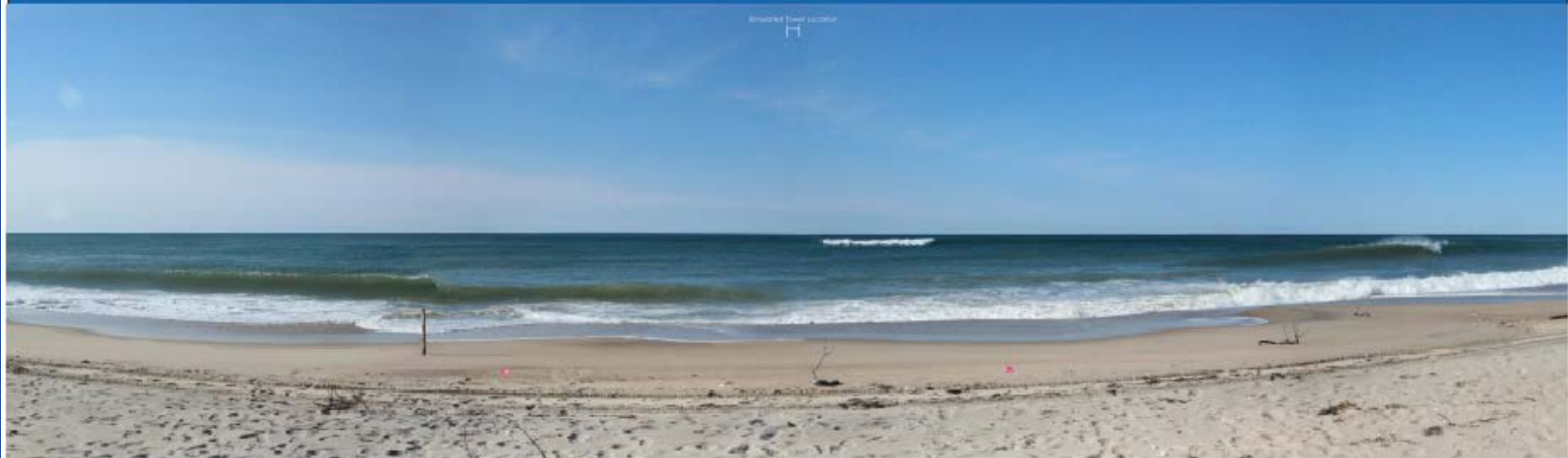
Time of photograph	8:17 AM
Date of photograph	9/18/12
Weather condition	Partly Cloudy
Viewing direction	South
Latitude	41°15'18.4217N
Longitude	71°28'18.037W
Camera model	Canon EOS Rebel T3i
Digital focal length	35mm
Shutter speed/aperture	f/5.6
Lighting condition	Daylight
Distance to tower	NA
Horizontal field of view	11.7°
Vertical field of view	33°
Camera heading	180°



Visual Impacts: South Beach Early Morning, Simulation

South Beach – 8:17 AM

Simulation of Meteorological Tower Placed in OCS Block 6977



Legend

- Meteorological Tower
- ▲ South Beach Viewpoint
- Field of View
- MA Wind Energy Area

Photograph is intended to be viewed approximately 33.0' inches from viewer's eyes when image is printed 14 inches tall by 28 inches long.

Photographic Information

Time of photograph	8:17 AM
Date of photograph	9/18/12
Weather condition	Partly Cloudy
Viewing direction	South
Latitude	41°18'24.017N
Longitude	73°25'58.287W
Camera model	Canon EOS Rebel T3
Digital focal length	35mm
Shutter speed	3000
Aperture	f/8.0
Distance to tower	14 nautical miles
Horizontal field of view	11.7°
Vertical field of view	33°
Camera bearing	183°



Visual Impacts: Madaket Beach Afternoon, Existing Conditions

Madaket Beach Dunes – 12:25 PM

Existing Conditions



Photograph is intended to be viewed approximately 33.6 inches from viewer's eye when image is printed 18 inches tall by 33 inches long.



- Legend**
- Meteorological Tower
 - Madaket Beach Viewing Point
 - Field of View
 - MA Wind Energy Area

Photographic Information

Time of photograph	12:25 PM
Date of photograph	8/20/12
Weather condition	Cloudy
Viewing direction	Southeast
Latitude	41°19'44.6227N
Longitude	70°11'12.287W
Camera model	Canon EOS Rebel T5
Digital focal length	35mm
35mm equivalent	35mm
Lighting condition	Natural
Distance to tower	N/A
Horizontal field of view	11.7°
Vertical field of view	3.0°
Camera bearing	210°



Visual Impacts: Madaket Beach Afternoon, Simulation

Madaket Beach Dunes – 12:25 PM

Simulation of Meteorological Tower Placed in OCS Block 7029



Photograph is intended to be viewed approximately 33.6 inches from viewer's eye when image is printed 18 inches tall by 55 inches long.



- Legend**
- Meteorological Tower
 - Madaket Beach Overpass
 - Field of View
 - MA Wind Energy Area

Photographic Information

Time of photograph	12:25 PM
Date of photograph	8-20-12
Weather condition	Cloudy
Viewing direction	Southeast
Latitude	41°18'04.8027N
Longitude	70°11'12.3870W
Camera model	Canon EOS Rebel T5i
Digital focal length	35mm
Shutter speed	500ms
Lighting condition	Natural
Distance to tower	18.7 vertical miles
Horizontal field of view	11.7°
Vertical field of view	3.0°
Camera bearing	217°




Visual Impacts: EA Conclusion (Daytime)

- The widest portion of the meteorological tower (the deck) would be below the visual horizon and would not be visible from shore.
- The mast of the tower would not be discernible by the naked eye in the best visibility conditions (a clear day, high visibility).

South Beach Nighttime Video

South Beach – 10:08 PM

Existing Viewpoint 1 in Call Area 7029



Madaket Beach Nighttime Video

Madaket Beach Dunes – 10:12 PM



Existing Viewpoint 2 in Call Area 7029

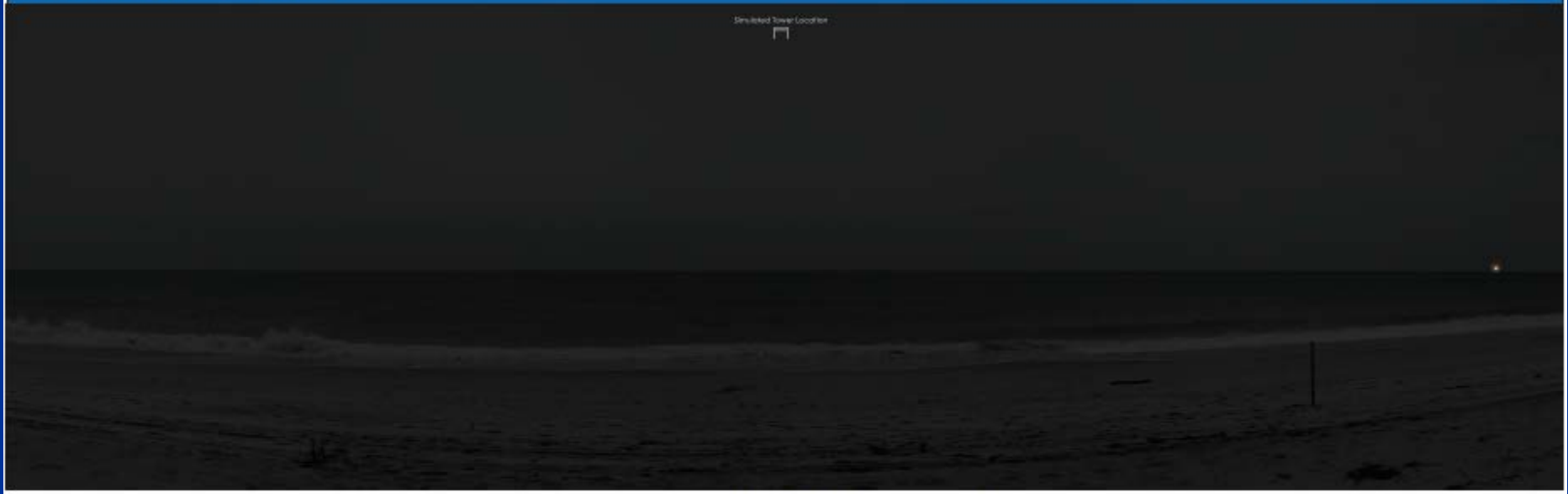
Visual Impacts: EA Conclusion (Nighttime)

- Lighting markers at the top of the tower would likely be visible on clear nights from the shoreline.
- Boats and ships frequently appear on the horizon and the tower light would be difficult to distinguish from the other lights (as shown in the Martha's Vineyard simulation).

South Beach Nighttime Simulation

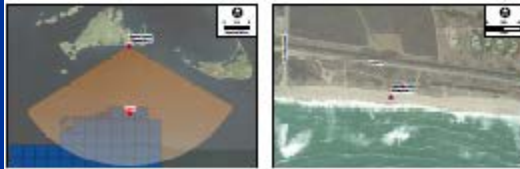
South Beach – 10:08 PM

Simulation of Meteorological Tower Placed in OCS Block 6977



Simulated Tower Location

Photograph is intended to be viewed approximately 33.6 inches from viewer's eye when image is printed 18 inches tall by 33 inches long.



- Legend**
- Meteorological Tower
 - ▲ South Beach Viewpoint
 - Field of View
 - MA Wind Energy Area

Photographic Information

Time of photograph	10:08 PM
Date of photograph	8/18/12
Weather condition	Cloudy
Viewing direction	South
Latitude	41°37'18.4317"N
Longitude	73°24'38.2387"W
Camera model	Canon EOS Rebel T3
Digital focal length	35mm
Shutter speed/aperture	3/8000 f/5.6
Lighting condition	None
Distance to tower	10 vertical miles
Horizontal field of view	11.7°
Vertical field of view	3.0°
Camera bearing	167°



Standard Operating Conditions

- Based on previous and ongoing consultations with NOAA NMFS and FWS
- Part of the proposed action or “in place”
- Developed to reduce or eliminate the potential environmental risks
- Will be enforced through lease stipulations or terms and conditions of plan approval

Consultations

- National Historic Preservation Act (NHPA)
- Endangered Species Act (ESA)
- Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat (EFH))

Next Steps

Based on the nature and extent of comments received, we may:

- Publish a Finding No Significant Impacts (FONSI);
- Revise the EA; or
- Determine that an Environmental Impact Statement (EIS) is required.

How to Comment

- Comment period closes **December 3, 2012**
- On www.regulations.gov use Keyword :
BOEM-2012-0086
- In written form either by hand or by mail:

Program Manager

Office of Renewable Energy Programs

Bureau of Ocean Energy Management

381 Elden Street, HM 1328

Herndon, Virginia 20170-4817

For further information please visit our website at:
[http://www.boem.gov/Renewable-Energy-Program/
State-Activities/Massachusetts.aspx](http://www.boem.gov/Renewable-Energy-Program/State-Activities/Massachusetts.aspx)

Or, contact:

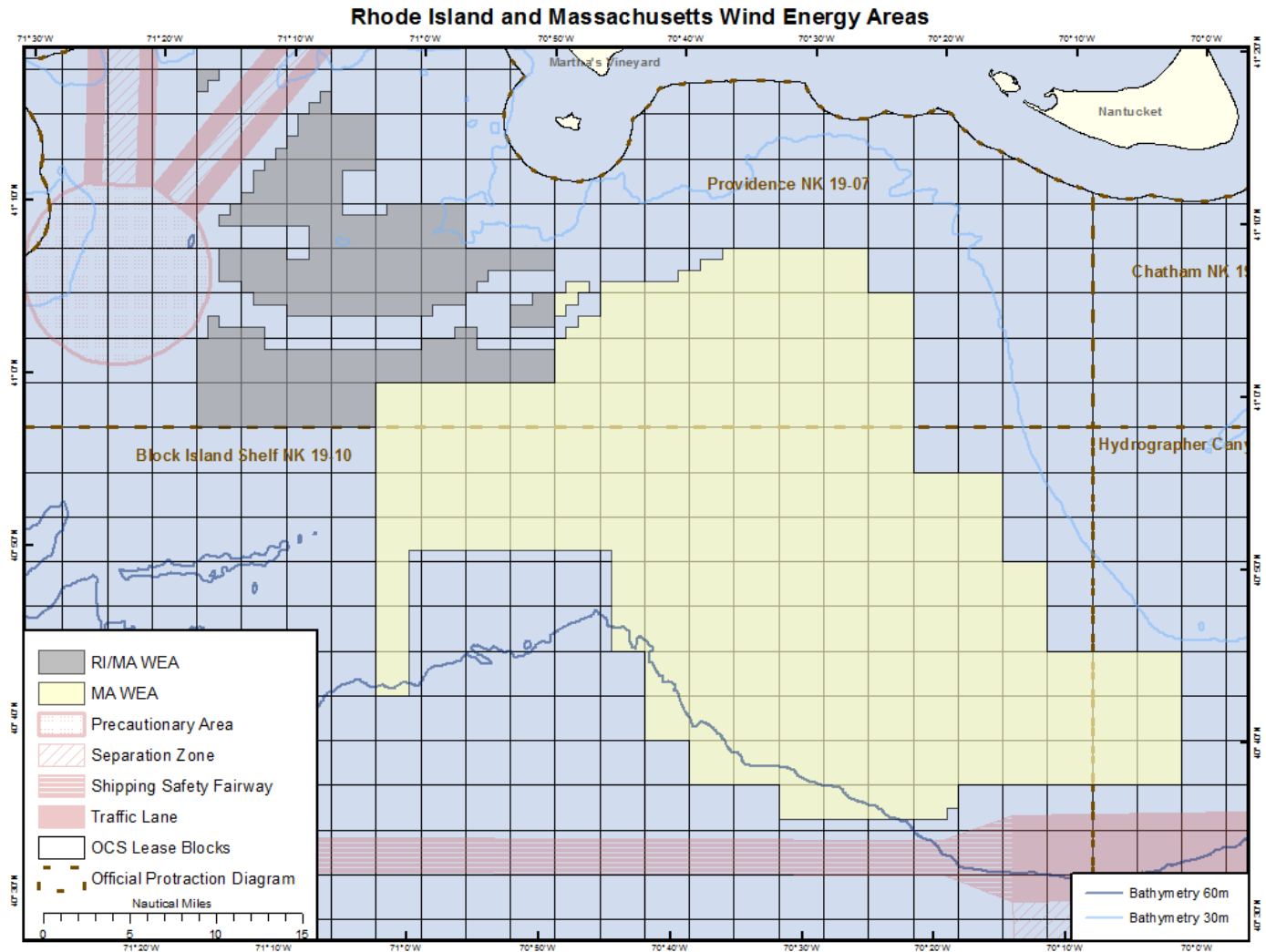
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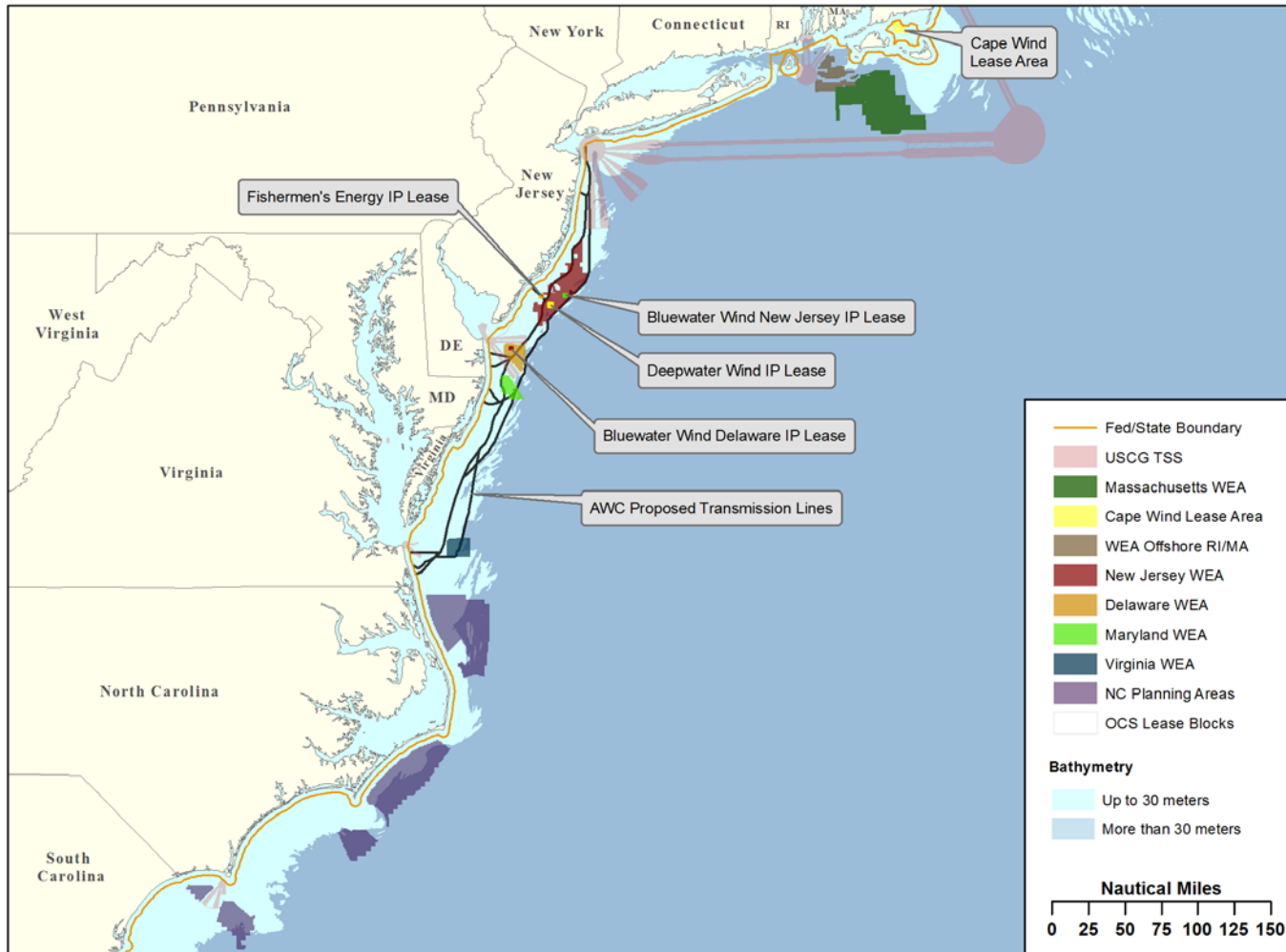


RI/MA and MA WEAs



Wind Energy Planning Areas

Wind Energy Planning Areas - Massachusetts to North Carolina



November 2009

Initial Task Force (TF) meeting held to introduce members, discuss regulatory and environmental review process



2009

January 2010

Second Massachusetts TF meeting to present and discuss the draft Request for Interest (RFI)



2010

September 2010

BOEM MA Renewable Energy TF meeting to review and discuss the revised draft RFI



October 2010

Second revised draft RFI presented to TF resulting from consultation with NMFS, DoD, and MA



December 2010

- Joint MA and RI Offshore Renewable Energy (ORE) TF meeting to discuss the Area of Mutual Interest
- Third revised draft RFI sent to TF resulting from consultation with NMFS, DoD and MA
- RFI published on December 29 with a 60-day comment period



February 2011

- Public information sessions in Martha's Vineyard, MA
- RFI comment period extended



2011

May 2011

- Joint MA and RI ORE TF meeting
- Massachusetts Habitat Working Group (HWG) on Offshore Renewable Energy in Boston, MA
- BOEM reduced the area under consideration in response to MA's request



June 2011

- TF and HWG meetings
- Draft Call for Information and Nominations area developed



October 2011

BOEM MA Renewable Energy TF meeting



February 2012

- Call and NOI to prepare EA published
- HWG meeting
- Public information sessions in MA



2012

May 2012

After considering comments from the RFI, public meetings, Call, and NOI, BOEM announced the WEA

