Liabilities Facing Developers of Wind Farms on the Outer Continental Shelf

By John J. Reilly and Carine M. Williams

The focal point of offshore wind energy projects, debated and litigated for many years, now appears to be moving from court rooms to construction sites; and there are many lessons to be learned in this new phase. The Cape Wind Energy Project off the coast of Massachusetts demonstrates that wind farm projects on the outer continental shelf involve significant risks and liabilities.

Cape Wind will be on a site with some of the strongest sustained winds and shallowest waters in the United States.[1] With a $2–$3 billion construction budget,[2] it will produce 182 MW of electricity, enough power for 200,000 homes.[3] The project proposed in 2001 was finally approved in February 2011 and will start building by the end of this year, producing commercial electricity by 2013.[4]

Background: The Evolution of a Renewable Energy Policy

A major barrier to the offshore wind farm industry in the United States was confusion over controlling law, the absence of strong policy support for renewable energy initiatives generally, and a lack of regulatory guidance until the Energy Policy Act of 2005 (Pub. L. No. 109-58) (EPAct), which encourages mass-scale development of renewable energy sources and includes a tax credit for the production of electricity from wind power.

Prior to the passage of the EPAct, considerable debate existed as to whether the Outer Continental Shelf Lands Act (OCSLA)—codified in 1953 to assert federal ownership and jurisdiction over minerals in and under the continental shelf—contemplated the lease of space for the development of wind energy *over* it. Section 388 of EPAct added section 8(p) to OCSLA. Under this new authority, the secretary of the Department of the Interior (DOI) was permitted to grant, in consultation with other federal agencies, leases, easements, or right-of-ways on the Outer Continental Shelf (OCS) for previously unauthorized activities that involved: (1) the production, transportation, and transmission of energy from sources other than oil and gas; and (2) the alternate use of energy-related or marine-related facilities for activities authorized under the OCSLA.

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In 2006, the DOI delegated to the Minerals Management Service (MMS) exclusive authority to issue leases, easements, and right-of-ways for renewable energy projects on the OCS.

In 2009, MMS—now renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE)—issued regulatory guidance for the review and approval of offshore wind farm development proposals. The new authority, the Final Renewable Energy Framework, embraces five mandates: (1) safety; (2) protection of the environment; (3) coordination with federal agencies and affected state and local governments; (4) fair return for use of OCS lands; and (5) equitable revenue sharing with states.[5] Subsequently, the DOI signed a memorandum of understanding with 11 coastal states pledging to facilitate offshore wind power development.

In 2010, on the heels of these major regulatory changes, The National Ocean Council was established to implement a new national ocean policy. Working in

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coordination with the National Ocean Council, the DOI launched the "Smart From the Start" initiative, which aims to expedite wind farm development on the Atlantic OCS. DOI adopted a policy streamlining the proposal approval process and implemented an expedited leasing framework for wind farm projects. Under the Smart From the Start platform, the DOI also organized an interagency process to gather information regarding environmental and physical attributes of wind areas, to identify their other uses, as well as to make that information publicly available so that the feasibility and risks associated with wind farm development in identified areas can be readily assessed. Contemporaneously, the DOE launched the 2010 Offshore Wind Innovation and Demonstration (OSWInD) initiative.

In 2011, the DOE published: *A National Offshore Wind Strategy: Creating an Offshore Wind Energy Industry in the United States*. OSWind sets a goal of 10 GW of offshore wind generating capacity by 2020, at a cost of $.10/kWh, and targets a production of 54 GW by 2030, at a cost of $.07/kWh.[6] The report states that the current projections of wind energy cost must be cut by more than 50 percent to reach the OSWInD targets. Reducing capital costs—including lowering financial risks and minimizing insurance and warranty premiums—will be vital to making this cut. The DOE plans to help reduce perceived project risks by: (1) developing validated turbine performance models that predict output; (2) helping to develop design codes and standards that protect turbine sustainability; and (3) partnering in demonstrations of offshore wind technology.[7] The DOE plans to support analysis of regulatory uncertainties, and to mitigate environmental and social science risks.[8] The DOE's Smart From the Start initiative also aims to reduce regulatory uncertainty by clarifying how its offshore regulatory framework will be implemented and by convening interagency data-gathering and data-sharing. Research will focus on environmental risks, including before-and-after control-impact studies of relevant marine ecology in key areas, and study the impact on marine operations, looking at how the electromagnetic interference from offshore facilities might affect electronic navigation, detection, or communication equipment.[9]

DOE's "Smart From the Start" initiative aims to reduce regulatory uncertainty.

Recent revisions to, or interpretations of, controlling rules also make leasing and construction of OCS wind farms less difficult. For example, BOEMRE recently finalized a rule that speeds up the lease permit process by allowing the bureau to skip a second notice request for interest if, after the first request, only one entity expressed interest.[10] Customs and Border Protection published a recent ruling that allowed foreign flag vessels—which would otherwise be barred from transporting passengers or merchandise between points in the United States under maritime cabotage laws[11]—to work on turbine installation, as well as the drilling and pile-driving activities precedent to the installation of wind towers.[12]

Cape Wind Lease as a Road Map: Issues of Liability and Risk in Wind Farm Development

Horseshoe Shoal's shallow waters—depths range between 12 and 50 feet—and high winds are ideal.[13] The environmental and land-use profile of the area, however, has stoked many of the controversies. As detailed in the MMS's final environmental impact statement (FEIS) assessment, Horseshoe Shoal includes areas of important submerged aquatic vegetation, including eelgrass, considered to provide a "habitat area of particular concern" for certain fish.[14] Water birds fly through the sound year-round, and terrestrial birds migrate over the fall and spring. Bat species may likewise migrate through the area. Commercial and recreational fishing is popular; and seals, dolphins, whales, and sea turtles, including endangered species, can be found in these waters. As the FEIS observes, Nantucket Sound is a tourist draw, and tourism is vital to the economy in the area. Apart from the swimming, boating, and other water sports, charter fishing, whale watching tours, birding, kayaking, scuba diving, and canoeing can bring people into the project area. Two Native American tribal territories are located nearby—the Mashpee Wampanoag Tribe and the Wampanoag Tribe of Gay Head (Aquinnah); the Cape Wind project will apparently alter the view from at least one sacred site. Ninety-five shipwrecks are reportedly in the area. The Hyannis-Nantucket ferry regularly crosses the waterway, and planes to or from one of three airports in the area fly overhead.

The 130 turbines of Cape Wind will spread in a pattern across 25 square miles of Horseshoe Shoal. Proposals indicate that the 130 turbines will each reach 417 feet above sea level, be mounted on monopole foundations that are 16 to 21 feet in diameter, and be sunk

approximately 80 feet into the seabed.[15] One-hundred-thirty 33-kilovolt submarine cables must be laid between each turbine generator and the offshore electrical service platform. In turn, the electrical service platform will transmit the energy generated by each turbine to landfall via another 115-kilovolt submarine cable.[16] This transmission cable, approximately 12.5 miles long and running through 7.6 miles of state waters before hitting land, will be buried six feet below the sea floor.

The Lease

The lease grants Cape Wind exclusive right to harvest wind energy in the project area and is subject to myriad terms and conditions, as well as the applicable laws and regulations, as set forth by federal, state, and local authorities.[17] The lease explicitly provides that Cape Wind is not authorized to conduct activity on the OCS related to the exploration for, or development of, oil, gas, seabed minerals, or other renewable energy resources besides wind,[18] and it reserves to the federal government all rights not expressly granted to Cape Wind, including a right to suspend operations on the OCS in the interests of national security.[19]

The lease also provides that, where lease terms conflict with regulations, Cape Wind will be governed by the terms of the lease.[20] Thus BOEMRE can use contract terms to enforce a liability regime against Cape Wind that is more comprehensive than anything set forth in case law, statutes, or regulatory authority.

Indeed, the lease casts an expansive net of contractual liability over Cape Wind. In specific detail, the lease prohibits Cape Wind from conducting operations in the project area in a manner that could cause harm to the environment; create unsafe conditions; or adversely affect sites of historical, cultural, or archaeological significance without notice to and direction from BOEMRE.[21] Cape Wind must indemnify the federal government from any claim for "environmental injury of any kind" including the release of any petroleum, or other hazardous material, and for any "injury to persons" or costs incurred as a result of activities on the project area or because of conduct of Cape Wind employees, contractors, or subcontractors.[22] Under these broad categories of liability, the lease identifies risks Cape Wind has assumed in 14 subcategories and specifies how Cape Wind must mitigate risks and respond in the event that risk becomes reality.

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Risks Relating to Environmental Injury

The bulk of the best practices that Cape Wind must adopt under the lease focus on mitigating specifically identified environmental risks associated with the construction and operation of the facility, as well as its eventual decommission.

Cape Wind must also follow an avian and bat monitoring plan pre- and postconstruction, install antiperching mechanisms, adjust lighting to minimize bird collisions, and report on avian mortality attributable to the project, including the mortality of specified species.

To protect endangered species, Cape Wind must (1) follow conservation measures recommended by the National Marine Fisheries Service (NMFS), (2) hire endangered species monitors approved by the NMFS, and (3) monitor the area for any endangered species at least 60 minutes prior to certain activities—including pile driving relating to the installation of turbines and of the electrical service platform, and high-resolution geophysical surveying. Since the Marine Mammal Protection Act (MMPA) makes it illegal to "take" or "harass" any marine mammal, Cape Wind will apply for an MMPA incidental harassment authorization.

The lease also requires Cape Wind to mitigate impacts on essential fish habitat, as designated by the Magnuson-Stevens Fishery Conservation and Management Act, by following several MMS mandates developed in consultation with the NMFS. These requirements include a time-of-year restriction on work producing water silt to protect flounder spawning in winter; a soft-start for installations that gives fish time to leave the area; periodic inspection of scour mats and cables to assess deterioration, and armoring if necessary; monitoring of the lowest water level, including sediments and some subsurface layers known as the benthic zone, and recovery of the benthic ecosystem; as well as monitoring and replanting eelgrass. To mitigate the effects of electric and magnetic fields on fish, all of the offshore, high-voltage conductors for circuits will be shielded in cable so that no external electric and magnetic field will be produced.[23]

Risks Relating to Injuries to People

Many of the competing land uses of Horseshoe Shoal are expected to continue after Cape Wind is erected. Although traffic of commercial and recreational vessels

through the project area will be prohibited during construction of Cape Wind, after construction is completed this ban will be lifted.[24] Fishing in the area will not be prohibited. Cape Wind anticipates creating 391 full-time jobs during the manufacturing/assembly and construction stages of the project, and estimates that, ultimately, between 142 and 215 permanent employees will be required to run the wind farm.[25] People engaging in competing land uses in the project area and the employees (as well as contractors and subcontractors) who will make up Cape Wind's work force are all exposed to some degree of risk for which Cape Wind could be liable.

Cape Wind must use off-white paint on offshore structures to improve visibility, and night time lighting must be provided in accordance with the FAA and the US Coast Guard. There will be helipad lighting, and all construction structures and equipment will be lit at night.[29] Lighting location, color, intensity and flash patterns will be designed to minimize impacts and address potential hazards.

During construction, monthly status reports will be submitted to BOEMRE and the US Coast Guard. In this time period, Cape Wind will be prohibited from using certain radio frequencies, and watercraft will be advised to keep a two wavelengths' distance from the construction cranes at the lowest frequency of interest.

Marine and port facility traffic management measures will be adopted with the Coast Guard and a control center will monitor traffic. Cape Wind will have to work with appropriate entities to make sure that mariners are educated on navigational safety issues related to the wind farm. And safety lines, mooring attachments, and access ladders will be placed on each turbine as approved by the Coast Guard.

Utimately, it will require 142–215 permanent employees to run the wind farm.

Employee, Contractor, and Subcontractor Uses. To protect employees, the lease requires that Cape Wind: (1) operate in compliance with occupational safety and health standards, free from recognized hazards; (2) operate in compliance with regulations and orders intended to protect persons, property, and the environment; and (3) allow prompt access to any safety inspector authorized by any relevant federal agency and produce any relevant records.[30]

Risks Relating to Geological and Historical, Cultural, or Archaeological Resources

Although geological risks have been assessed to be minimal, Cape Wind is required to conduct preconstruction surveys to record the baseline conditions of rock and sediment in the project area.[31] Protection from erosion that could be caused by slip between rock natural to the area and construction, or scour protection, will be installed around the turbine foundations as needed. Postconstruction monitoring will continue to periodically assess scouring and cable exposure. Preconstruction surveys and monitoring will also be conducted to further archaeological resource assessment. From each turbine location, at least one core will be taken for geological and archaeological analysis. Buffer zones will be enforced around potential ship wreck or cultural resource sites, and likely archaeological resources will be avoided. If survey results indicate the potential presence of a cultural resource, Cape Wind is required to avoid the potential resource by a buffer distance, or study it to determine it is not an actual cultural resource.[32] In the event that a cultural resource or human remains are discovered, Cape Wind must stop work and report the find to BOEMRE. Cape Wind must allow nearby indigenous tribal authorities and a qualified archaeologist to monitor sea bottom disturbing activities.

Conclusion

The controversies regarding renewable energy are essentially political and should be resolved by federal and state legislators and regulators. However, for energy developers, the details of resource allocation and risk distribution will be hashed out in contractual clauses, and courts will ultimately decide who bears the costs of accidents. Cape Wind has benefited from recent legislative and regulatory changes that have made it easier for wind farm projects to set up shop on the OCS. In working through these new statutory and regulatory schemes, the Cape Wind project cleared the brush—or laid the buoys—for other future offshore OCS wind farm developments. Analysis of the Cape Wind lease provides a blueprint to inform future offshore wind developers about the risks and liabilities they will be required to bear.

Endnotes

1. Mineral Management Services (MMS) record of decision at 3, *available at* http://www.nae.usace.army.mil/projects/ma/CapeWind/ROD.pdf.

2. *Id.*

3. Steve LeBlanc (AP), *John Kerry Urges Feds to OK*

Loans for Cape Wind Project, Boston Herald, Feb. 17, 2011, *at* http://www.bostonherald.com/business/general/view.bg?articleid=1317578; *see also* Dick McCarrick, *Cape Wind and Offshore Wind Power Generation,* Envtl. Leader, July 6, 2011, http://www.environmentalleader.com/2011/07/06/cape-wind-and-offshore-wind-power-generation/.

4. *Id.*

5. Bureau of Ocean Energy Management, Regulation and Enforcement, Renewable Energy, http://www.boemre.gov/offshore/renewableenergy/index.htm.

6. U.S. Department of Energy, A National Offshore Wind Strategy: Creating an Offshore Wind Energy Industry in the United States, February 2011 at 2, *available at* http://www1.eere.energy.gov/windandhydro/pdfs/national_offshore_wind_strategy.pdf.

7. *Id.* at 16.

8. *Id.* at 27.

9. *Id.* at 30.

10. Press Release, Dep't of the Interior, *Salazar, Bromwich Announce Elimination of Redundant Step for Offshore Renewable Energy Leasing,* June 13, 2011, available at http://www.doi.gov/news/pressreleases/Salazar-Bromwich-Announce-Elimination-of-Redundant-Step-for-Offshore-Renewable-Energy-Leasing.cfm.

11. Cabotage is the transportation of goods or passengers between two points in the same country by a vessel or an aircraft registered in another country. The United States, as well as other nations, protects its domestic transportation industries through cabotage laws. US maritime cabotage laws reserve to US-flagged vessels the right to transport cargo and passengers between US ports.

12. A copy of the May 27, 2010, ruling can be found by searching the US Customs and Border Protection database for CBP, HQ H105415 (May 27, 2010); *and see* The Jones Act (formerly 46 U.S.C. App. § 883, recodified as 46 U.S.C. § 55102, pursuant to Pub. L. No. 109-304 (October 6, 2006)).

13. MMS record of decision at 16, *available at* http://www.boemre.gov/offshore/renewableenergy/CapeWind.htm.

14. US Dep't of the Interior, Minerals Management Service, Cape Wind Project, Final Environmental Impact Statement, June 2009. § 4.2.2, *et. seq., available at* http://www.boemre.gov/offshore/AlternativeEnergy/PDFs/FEIS/Cape%20Wind%20Energy%20Project%20FEIS.pdf.

15. Plaintiff's brief in 02-117499 JLT, motion in support of summary judgment; Alliance to Protect Nantucket Sound v. U.S. Dep't of the Army, 288 F. Supp. 2d 64, 75 (D. Mass.2003).

16. MMS record of decision at 3, *available at* http://www.boemre.gov/offshore/renewableenergy/CapeWind.htm.

17. *Available at* http://www.boemre.gov/offshore/renewableenergy/PDFs/CapeWind_signed_lease.pdf.

18. *Id.* at 2.

19. *Id.*

20. *Id.* at 1.

21. *Id.* at 3. The lease also creates contractual liabilities for interference with or endangerment of activities carried out pursuant to any other lease issued under or governed by the Outer Continental Shelf Lands Act, whether that lease was granted prior to the Cape Wind lease, or subsequently.

22. *Id.*

23. MMS record of decision at 18, *available at* http://www.boemre.gov/offshore/renewableenergy/CapeWind.htm.

24. Army Corps record of decision at 4, available at http://www.nae.usace.army.mil/projects/ma/CapeWind/ROD.pdf.

25. Global Insight, Economic Impact Analysis of the Cape Wind Off-Shore Renewable Energy Project at 3, *available at* http://www.capewind.org/downloads/Economic_Impact.pdf.

26. *See* MMS record of decision at 24; Patrick Cassidy, *FAA Gives Clearance to Cape Wind,* CapeCodOnline.Com, May 18, 2010.

27. Patrick Cassidy, *FAA Gives Clearance to Cape Wind,* CapeCodOnline.Com, May 18, 2010.

28. Army Corps record of decision at 8, available at http://www.nae.usace.army.mil/projects/ma/CapeWind/ROD.pdf.

29. *Id.* at 9.

30. Sigend Cape Wind lease at 5, *available at* http://www.boemre.gov/offshore/renewableenergy/PDFs/CapeWind_signed_lease.pdf.

31. Army Corps record of decision at 8, *available at* http://www.nae.usace.army.mil/projects/ma/CapeWind/ROD.pdf. Signed Cape Wind lease at C-5.

32. Signed Cape Wind lease at C-7.

