Briefing Paper — Potential Conflicts with Offshore Wind Projects

This briefing document identifies potential conflicts between offshore wind facilities and other ocean uses and resources. These possible conflicts fall into seven general categories: commercial fishing, navigation, aviation/defense, tourism, cultural and natural environment, sand borrow sites and equitable siting.

Commercial fishing

New Jersey has a long history of commercial fishing. New Jersey's commercial fisheries, directly or indirectly, provide employment to more than 21,000 people and have an economic impact on the state's economy of $590 million annually. In 2003, commercial fishery landings had a dockside value of $121 million. There are five active fishing ports and 14 fish and shellfish processing plants employing more than 1000 people in New Jersey. The ports of Cape May–Wildwood, Atlantic City and Point Pleasant rank in the top 30 most important fishing ports in the United States. NJ commercial fishermen harvest over 60 species of finfish and shellfish annually. New Jersey is among the leading states in terms of shellfish landings and the State's surf clam, ocean quahog and sea scallop fisheries are important contributors to the State's commercial fishing industry. These dredge fisheries cut into the ocean floor to harvest shellfish. This technique would result in conflicts between the fishery and the wind farm industry. Specifically, the fisheries may be closed in the vicinity of the electric transmission cables that would stretch from wind farms to the shore. In addition, otter trawl fishermen, like shellfish dredgers, would not be able to operate in the vicinity of the wind farms because of the risk that the gear they employ could become entangled in the wind farm towers.

Navigation

Safe navigation by recreational and commercial vessels including large freighters, tankers, and container ships, is necessary to protect the environment and maintain properly functioning ports that are vital to our economy. Considered together, the New York/New Jersey port and Camden/ Philadelphia port represent one of the largest import/export areas in the country. Ninety-five percent (by weight) of all imports and exports are transported by ship, many of which use New Jersey's ports, including vessels transporting hazardous materials such as oil. Siting of offshore wind farms must avoid port shipping lanes, offshore anchorages, lightering areas and approaches to navigable inlets.

Aviation/Department of Defense

Numerous offshore areas of New Jersey have special restrictions relating to aviation and Department of Defense concerns. Height restrictions occur in the vicinity of airport and helipad approach and takeoff paths. Also, because of potential interference with radar use, wind farm construction would be precluded within designated areas extending out from the shoreline. Naval and Coast Guard installations along the coast may have additional issues that would need to be addressed to avoid interference with their operations.

Tourism

Tourism is a critical part of the New Jersey's economy. Tourism is the State's second largest industry, involving $16 billion annually, with most of the tourism dollars spent at the shore. Approximately 40 million day-trippers a year visit the shore. Shore municipalities depend on tourism revenue. Coastal communities, such as Long Branch and Asbury Park, are working to revitalize their historic shorefront and tourism is essential for the recovery of these areas. Potential conflicts between offshore wind facilities and tourism include effects on views, birding, and property values. Recreational fishing would also be affected if a wind farm were sited on a shoal area popular for fishing, particularly if they were excluded from these areas. Over a million anglers fish New Jersey's saltwaters with over 6.8 million trips of fishing activity a year. The recreational fishery alone is annually worth $1.5 billion to the economy of New Jersey.

Cultural and Natural Environmental

Avian: The New Jersey shore is part of one of the most important migratory flyways in the world. Large numbers of migratory birds, including threatened and endangered species, move through the region seasonally. In addition, New Jersey's coast is home to diverse populations of breeding birds that move and feed offshore. Birds and bats are the primary forms of wildlife that appear to be harmed by wind turbines. Direct impacts include mortality from collision with turbines. Indirect impacts, which are more subtle and therefore more difficult to measure, involve birds avoiding wind turbine areas. Indirect impacts can be significant if wind turbines are located in important feeding locations such as shoals. A dearth of information regarding bird migration and ecology in offshore environments renders statements concerning the cumulative effects of turbines on wildlife tenuous at best.

Viewshed: The ocean represents one of the only remaining New Jersey viewsheds with few manmade structures. Large numbers of visitors are drawn to the shore every year to enjoy this uninterrupted view of nature. Historically, oceanfront real estate has been among the most expensive in the United States. A majority of Americans live within 50 miles of the ocean and 17 of the top 20 fastest growing counties in the country are on the coast. Wind farms that may include 100's of turbines reaching over 400-feet in height, would be visible for 15-20 miles.

Marine Mammals and Turtles: Marine mammals and sea turtles frequently pass off New Jersey's shore, some migrating to breed and nourish themselves, while others remain in the area for lengthy periods. It is not known whether noise created by turbines or the structures themselves would harm these protected species.

Submerged infrastructure and resources: Numerous telecommunication cables are located off the New Jersey coast, as well as ocean outfalls, electrical cables**,** shipwrecks, and artificial reefs. Placement of wind farms and their associated cables for power transmission has the potential to conflict with this existing submerged infrastructure and resources. If not carefully designed and sited, construction of wind farms could destroy cables or historic resources. In addition, the electromagnetic fields caused by

transmission of high energy AC current generated by the turbines may create interference in telecommunication transmission through the submerged cables.

Cumulative & Secondary impacts: The placement of these structures offshore may increase the demand for private utilization of public lands (the ocean). If an offshore wind farm proves to be a profitable venture, more will be proposed. While the impact of a single wind farm might not be pronounced, with the construction of each additional wind farm, more public area will be closed to traditional uses and the threat to natural resources will increase.

Sand borrow sites

A number of offshore sites have been identified and approved as borrow areas for shore protection/beach nourishment projects. In addition, the federal Minerals Management Service and the New Jersey Geological Survey have spent significant public money identifying other offshore sand and gravel resources. Many of these resources are contained in shoals, which are also the preferred locations for siting wind farms because of lower construction costs in these shallow areas. Consequently, construction of wind farms on these shoals will likely impede access to these resources.

Equitable siting

As with all major facility development, the socioeconomic characteristics of nearby communities should be considered. With respect to the development, implementation, and enforcement of environmental laws, regulations, and policies, it is a role of government to ensure equitable treatment and meaningful involvement of local communities regardless of the racial, ethnic, or socioeconomic composition of the communities. Equitable treatment means that no group should bear a disproportionate burden of the environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies because of factors relating to the racial, ethnic, or socioeconomic composition of the community.

Readers are advised that any offshore wind development will require a much more rigorous analysis than is provided by this general guidance. This briefing paper was not intended to and does not address the full scope of environmental or aesthetic issues.

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