The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

January 26, 2015

The Honorable Robert Introne, Chair
Science, Technology and Energy Committee
Legislative Office Building, Room 304
Concord, NH 03301

RE: HB 316, *An Act establishing a committee to study offshore wind energy production.*

Dear Chair Introne and Members of the Committee:

Thank you for the opportunity to testify on HB 316. This bill would create a legislative committee comprised of three senate members and three house members who would be charged with developing a report on off-shore wind energy production by November 1, 2016. The Department of Environmental Services (DES) takes no position on this bill but offers the following information as background for your discussion.

In 2005, the New Hampshire DES Coastal Program hosted a Coastal and Ocean Wind Energy meeting to provide state and federal agency staff and interested parties with an overview of the science, technology and regulation of offshore wind energy. The meeting was also intended to identify tools for assessing potential impacts from offshore wind energy on coastal resources.

The expert panelists identified the advantages of off-shore wind development, including: proximity to population centers, high-quality wind, increased transmission options, and reduced land use and aesthetic concerns; and, the disadvantages, including: high capital, increased maintenance costs, and jurisdictional issues. We learned that the primary technical siting issues for off-shore wind development are wind speed, water depth, and economics (grid connection costs, foundation costs, and access for construction and operation & maintenance); and, the key environmental siting issues are aesthetics, bird collisions, cables, and conflicts with other ocean uses.

At that time in 2005, the assembled experts concluded that due to technological limitations, offshore wind energy development was limited to those areas with water depths less than 20 meters (~65 feet) which would be within a few miles of the NH shore, in a geographic area that has limited wind quality.

Since 2005, there are have been advances in three areas: 1) permitting and leases in nearby states; 2) ocean planning and mapping; and, 3) technology.

Permitting and leasing in nearby states – In 2008, Maine created an Ocean Energy Task Force to examine strategies for meeting state wind energy goals and to promote research on offshore wind energy. In 2014, the Maine Public Utilities Commission voted to approve a contract to build a two-turbine pilot project off its coast. Maine is also working with Bureau of Ocean Energy Management (BOEM) to create an off-shore lease area.

In July 2013, BOEM held the first-ever auction for offshore renewable energy, offering 164,750 acres for commercial wind energy leasing in two separate lease areas offshore of Massachusetts and Rhode Island.

On January 29, 2015, BOEM held a second commercial wind energy lease sale for ocean areas offshore Massachusetts totaling approximately 742,978 acres. This is the largest area of federal waters to be auctioned to date.

Ocean planning and mapping – NH is an active member of the Northeast Regional Planning Body (RPB). The RPB, which was established under the National Ocean Policy, is charged with leading a cooperative effort to develop a comprehensive, regional, ecosystem-based approach to planning in order to reduce conflicts among uses, reduce environmental impacts, and facilitate compatible uses. NH is represented on the RPB by DES Commissioner Tom Burack and NHF&G Executive Director Glenn Normandeau. While the state's participation in the RPB and in the Northeast Regional Ocean Council (a state and federal coordinating entity) have generated interesting new datasets on commercial fishing, recreational boating and maritime commerce, there are significant data gaps, especially in the area of seafloor mapping. In fact, our knowledge of offshore surficial geology and habitats is limited.

Nearby, Rhode Island has completed a multi-year planning process that resulted in a balanced approach to the development and protection of its ocean-based resources. Similarly, Massachusetts enacted the Mass Oceans Act, which directed the state to develop a comprehensive management plan (completed in 2009 and updated in 2015) which provides protections for critical marine habitats and sets standards for the development of offshore renewable energy.

Technology – Technological advances now enable turbines to be placed in water depths of up to 60 meters (~200 feet). However, the majority of New England's offshore wind resources are in water depths much greater than that. Conventional turbine foundations are not applicable in these areas. The water depths off of the New Hampshire coast are less than 60 meters from the shore out to just east of the Isles of Shoals.

Given these limitations, floating technologies are being developed for deeper water environments. For example, in 2014 Maine Aqua Ventus, a consortium with the University of Maine, received approval from the Maine PUC to construct a pilot project consisting of two, six-megawatt floating turbines on concrete semi-submersible foundations in waters near Monhegan Island.

Finally, in 2014 the DES Coastal Program was a regular participant in meetings held by the legislative committee established to study offshore wind energy and the development of other ocean power technology, pursuant to HB 1312. Coastal Program staff provided policy guidance and information to the committee and convened a meeting with committee members, BOEM, the Public Utilities Commission, and the Fish and Game Department to discuss BOEM's offshore renewable energy program.

Thank you for your consideration in this matter. If you have questions or need additional information, please contact either Ted Diers, Watershed Management Bureau Administrator (ted.diers@des.nh.gov, 271-3289), or Steve Couture, Coastal Program Manager (steven.couture@des.nh.gov, 271-8801).

Sincerely,

Thomas S. Burack
Commissioner

CC: Rep. Cushing, Rock