

# Virginia Commission on Energy and Environment

Thursday, July 8, 2010, 1:00 p.m.  
Senate Room A, General Assembly Building  
Richmond, Virginia

## Summary

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### I. **Welcome & Call to Order**

Members present: Senator Whipple, Delegate Poindexter, Senator Stuart, Delegate Johnson, Delegate Scott, Delegate Morgan, Delegate Sickles, Mr. Wallmeyer, Mr. Montgomery, Dr. Hatcher, Mr. Paylor, and Mr. Eichenlaub for Mr. Bolstad.

### II. **Offshore Resource Development and Job Creation**

Maureen Matsen, Deputy Secretary of Natural Resources and the senior advisor to Governor Bob McDonnell on energy, spoke to the Commission about the Governor's "All of the Above" policy towards energy use and resource development. Ms. Matsen noted the importance of the energy sector to the Commonwealth's overall strategy to support job creation and economic development. She emphasized the value of offshore energy resources to the Commonwealth and noted that any drilling for oil and gas would provide the opportunity for the creation of a supply chain and support industry that could be used for both for the development of Virginia's resources and those of other states in the region. Such an economic development pattern would occur with the growth of either the offshore oil and gas industry or the offshore wind industry.

Tim Wilkins, Paliria Energy, Inc., spoke to the Commission on the details of an economic impact assessment and a framework for project cost and supply chain development of offshore energy development. His company estimated that Virginia manufacturers would need to capture roughly one-third of the eastern U.S. supply chain market to sustain a 3,000 to 5,000 position level of annual employment. Most large-scale assembly and maritime opportunities would be in the Hampton Roads region; however related production opportunities, including the production of polymers and materials, electronic systems and transformers as well as drive train components are measurable throughout the state. Further opportunities would include installation vessel shipbuilding and maintenance, component production for domestic onshore projects and the potential entry for vessel and component supply into an increasingly open and burgeoning European offshore market. Mr. Wilkins stated that the creation of substantial supply chain infrastructure in the region coupled with aggressive entry into the broader market could generate 7,500 to 10,000 positions for Virginia annually in a growing sector.

### III. **Potential Use Conflicts Between Offshore Energy Development and Military Operations**

Tom Hicks, Deputy Assistant Secretary of the Navy, spoke to the Commission on the issues related to potential conflicts between the military and offshore resource development. He began by speaking of the gravity of petroleum and water supply to national security and the resulting flexibility of operations when some of that dependence

is lifted. As a result, the Navy has taken steps towards a number of goals including that of meeting a minimum of 50 percent of energy needs with new renewable sources by 2020. Mr. Hicks also provided the Commission with an overlay map showing both offshore blocks for wind energy development that may be available for lease and the conflicts with military uses. The conflicts include surface and helicopter transit, mine warfare countermeasures training, and surface target live fire operations. Furthermore the potential blocks available for offshore oil and gas development conflict with the debris impact zone for launches from NASA Wallops Flight Facility.

Mr. Wallmeyer asked Mr. Hicks to clarify the map provided showing potential resource conflicts. He pointed out that about 18 of 70 lease blocks may be shown to be the most appropriate. Delegate Poindexter asked about the potential of interference between radar operations and larger wind turbines. Mr. Hicks noted that the Office of the Secretary of Defense is addressing that issue and developing a plan to coordinate among agencies such as the Federal Aviation Administration. Mr. Hicks hopes that research leads to the engineering of large turbine blades and radar technology so that such problems are avoided.

#### **IV. Outlook for Offshore Wind Energy Opportunities**

George Hagerman, Virginia Coastal Energy Research Consortium (VCERC), spoke to the Commission on the potential for offshore wind energy development in the Commonwealth. Mr. Hagerman first explained the critical cost savings that might be contributed to a project if the turbines are manufactured domestically. He points out that the cost of production and transportation from Europe could be prohibitively expensive in the current economic climate, but that manufacturing in Virginia would make such a project not only feasible, but desirable. In fact, VCERC stated as well in its final report published in April that it "has identified 25 lease blocks with 3,200 MW of potential offshore wind capacity in relatively shallow Class 6 waters beyond the visual horizon. Build-out of this potential would require a total of 125,000 job-years, including direct, indirect, and induced jobs, assuming that the build out could be supported by Virginia-based turbine and power cable manufacturing plants. If sustained at a build-out rate of 160 MW per year (equivalent to one 320-MW project being commissioned every two years), this project would support 6,200 jobs that could last for a two-decade career. To this would be added operation and maintenance jobs, which are estimated to accrue at 1.1 to 1.7 jobs per cumulative megawatt, reaching 3,500 to 5,400 jobs after the first 3,200 MW of near-term commercial potential off Virginia has been built out over the next 20 years. Thus, within two decades, 9,700 to 11,600 career-length jobs can be created, solely associated with developing the 3,200 MW of offshore wind potential that VCERC has identified in shallow waters beyond the visual horizon off Virginia Beach. Since offshore foundations and submarine power cables are designed for a service life of 40 to 50 years, a second generation of jobs could be created for simply repowering the first 3,200 MW. Beyond this is a vast, deeper water potential that remains to be developed farther offshore." Mr. Hagerman also noted that a full-scale demonstration should be explored to address issues with the Navy and Department of Defense. A National Offshore Wind Test Center (NOWTC) could be further used to examine issues under storm conditions.

Mr. Wallmeyer asked several questions about the capacity factor and how such factor feeds into the cost estimates provided for a project. Mr. Hagerman commented that

the capacity factor depends on the turbine and would be practically 38 to 45 percent. Delegate Scott asked whether the demonstration project was far enough along to have attracted funding. Mr. Hagerman stated that VCERC is currently developing its business plan and the Department of Energy's National Renewable Energy Laboratory has expressed the desire for meaningful involvement.

Tony Watkinson, Virginia Marine Resources Commission (VMRC), spoke to the Commission about the study done in response to legislation enacted in the 2009 Session of the General Assembly that required VMRC to identify 100 acres suitable for use by the VCERC as a research site and to determine whether sufficient and appropriate subaqueous land exists in state territorial waters to support the generation and transmission of electrical or compressed air energy from offshore wind. The first step of the project aimed to classify offshore geographical areas as (i) excluded, such as navigation channels, (ii) major potential for resource and use conflict, such as sensitive ecological lagoons, (iii) moderate potential for resource and use conflict, such as fishery management areas, and (iv) lesser potential for resource and use conflict, such as blue crab and hard clam resource areas. The report concluded that it is unlikely that there will be a sufficiently large area in state waters with suitable wind resources for a large industrial scale project. However, there may be opportunities in state territorial waters for smaller community scale projects and possible research activities for turbine and tower design. Any projects should utilize the existing Joint Permit Review process.

#### **V. Update on Offshore Oil and Natural Gas Exploration**

Andy Radford, American Petroleum Institute, discussed the importance of oil and gas development to meeting future global energy demand. He also explained that, in the Gulf of Mexico, there is a long history of coexistence of military use and oil and gas exploration. Mr. Radford noted the specific needs of production capacity from deepwater resources, which are larger than typical onshore resources. However, since the Deepwater Horizon accident, many offshore activities have been postponed or cancelled. As a result of the accident, the administration has reorganized the Minerals Management Service, formed a Presidential Investigation Commission, announced enhanced safety measures, and placed a moratorium on deepwater drilling. Leaders in the industry have also joined forces to examine deepwater operations, equipment, and oil spill responses.

Mr. Montgomery commented that the cooperative military uses in the Gulf of Mexico are air space uses and not surface uses, as is the case in the Norfolk and Virginia Beach area.

Jim Kibler, AGL Resources, spoke to the Commission about the importance of natural gas and the meaning of vast new discoveries for domestic energy security. Mr. Kibler also spoke in favor of exploration and production of natural gas offshore of Virginia. New production areas will require a skilled workforce and infrastructure to deliver the gas to market. Downstream economic benefits to the Commonwealth would include stabilized natural gas supplies, jobs, investment, tax revenues, and royalties.

Dr. Hatcher asked about the estimates of natural gas available in the Marcellus Shale formation. Mr. Kibler replied that estimates for the recoverable quantities were dependent upon technology and the cost of petroleum.

Carl Hobbs, Virginia Institute of Marine Science, spoke to the Commission about a number of the technical planning issues that would need to be addressed in order to safely allow platforms and pipelines and the environmental impacts of such structures. For drilling and production platforms, the regulator will need to consider hazards to navigation, durability in storms, the stability of substrate for supporting equipment, and the environmental concerns associated with the platforms both during construction and operation. Similar issues and onshore impacts arise when looking at pipeline construction and operation. Any such efforts will require an environmental impact statement with federal, state, and local participation.

Eileen Levandoski, Sierra Club, addressed the Commission on the environmental risks of offshore drilling noting the sensitive ecology off of Virginia's coast and the wildlife that may be living in the area including sea turtles, right whales, humpback whales, sperm whales, dolphins, porpoises, pilot whales and beaked whales. Ms. Levandoski also commented that oil spills are not as novel as we might believe and that thousands of spills occur every year and that an extreme weather event could result in significant dangers. She added that Hurricanes Katrina and Rita resulted in roughly 9 million gallons of oil spilled from 6 major spills and 5 medium spills, in addition to oil released from over 5,000 minor spills.

Delegate Poindexter asked whether the spills from Katrina were from offshore or onshore facilities.

## **VI. Public Comment**

Mr. Matthew LaRocque of PJM Interconnection spoke to the Commission about PJM's efforts to maintain electricity service during the peak periods of summer usage during a heat wave. The day prior to the meeting, PJM managed 135,000 MW—just under the all time peak of 145,000 MW.

Al Weed, Public Policy Virginia, encouraged the Commission to support a mandatory renewable portfolio standard to create the markets necessary to grow renewable industries in Virginia.

Kay Slaughter, Southern Environmental Law Center, clarified that there were offshore spills during Hurricane Katrina. She also emphasized the concerns that offshore energy would conflict with military operations and that the spill response from the industry is inadequate.