

VIRGINIA OFFSHORE WIND
DEVELOPMENT AUTHORITY



Annual Report

October 15, 2015

Virginia Offshore Wind Development Authority
c/o Virginia Department of Mines, Minerals and Energy
Washington Building
1100 Bank Street/8th Floor
Richmond, Virginia 23219
804-692-3200

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Table of Contents

| | | |
|------|---|----|
| I. | Executive Summary..... | 1 |
| II. | Mission..... | 5 |
| III. | State and Federal Offshore Wind Activities and Developments Affecting Virginia..... | 6 |
| IV. | Significant Offshore Wind Developments in Other States..... | 14 |
| V. | Recommendations..... | 18 |
| VI. | Future Goals/Activities..... | 19 |

Appendices

- A. Mission Statement and Objectives
- B. Letter of Support: DMME’s Request to Carry Forward FY 14 General Funds
- C. Letter of Support: DMME’s Request to Restore \$1 Million in FY 16 General Funds
- D. Comments: BOEM Notice of Intent to Prepare Environmental Assessment for Proposed Wind Energy Related Activities on the Atlantic OCS Offshore Virginia
- E. Letter of Support: Extension of the Federal Production Tax Credit
- F. 2014-15 Milestones
- G. VOWTAP Stakeholder Process Outcomes
- H. Virginia Offshore Wind Timeline



I. Executive Summary

In 2010, the Virginia General Assembly created the Virginia Offshore Wind Development Authority (“VOWDA” or “the Authority”) for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain vendors in the Commonwealth. The Authority oversees data gathering, research and planning to support offshore wind development off Virginia’s coast, tracks issues as they arise, and makes recommendations for promoting Virginia offshore wind development and associated economic development opportunities for supply chain businesses and Virginia’s ports. This report constitutes the fifth annual report of the Authority’s activities and accomplishments.

2015 was a critical year for offshore wind in the Commonwealth of Virginia. Virginia is at the threshold of moving forward to develop offshore wind and the support of all interested stakeholders is essential to ensure that Virginia continues to develop this source of renewable energy and build a reliable supply chain to support high-tech and high-paying jobs in the energy sector. Development of offshore wind can also be a key component of Virginia’s compliance with the new EPA Clean Power Plan.

- ❖ Two research leases were offered to the Virginia Department of Mines, Minerals and Energy (DMME) for the purpose of collecting metocean data and demonstrating advanced technologies and innovation to reduce the cost of offshore wind.
- ❖ The Bureau of Ocean Management (BOEM) executed its first wind energy research lease with the DMME. Under Research Lease 2, DMME proposes, through a Designated Operator, to design, develop and demonstrate the *Virginia Offshore Wind Technology Advancement Project* (VOWTAP), a grid-connected, 12-megawatt (MW) offshore wind test facility on the Outer Continental Shelf (OCS) off the coast of Virginia immediately adjacent to the commercial Wind Energy Area (WEA). BOEM granted DMME’s request to designate Virginia Electric and Power (also known as Dominion Power) as the lease operator to implement the VOWTAP.
- ❖ This year also saw significant developments affecting the implementation of the VOWTAP project. An unexpectedly high bid in response to a Dominion RFP led Dominion, supported by VOWDA and DMME, to enter into a stakeholder review process to determine how costs can be reduced to keep the project on track as the first step towards commercial development of offshore wind in Virginia. Based on the successful stakeholder process, Dominion developed a timeline to issue a new RFP in Quarter 4 of

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



2015 and other steps potentially leading to a State Corporation Commission (SCC) filing by June 30, 2016 and turbine operations by 2018. The stakeholder process and outcomes are described in detail in Chapter III, below.

- ❖ DMME issued a contract to study Virginia’s port readiness for offshore wind development. The U.K.’s BVG Associates was chosen to lead an experienced team to undertake this study, which supports the 2014 Virginia Energy Plan’s recommendation to *“Establish Virginia as the ideal manufacturing, operational and supply chain hub for offshore wind development in the Mid-Atlantic region and provide support and resources to accelerate development of Virginia’s offshore wind resources.”*
- ❖ DMME and BOEM entered into two cost share agreements for research.
 - ❖ Fugro Consultants Inc. to mine existing seismic reflection data (collected by Fugro under contract to DMME and BOEM in 2013) across the offshore Virginia WEA to supplement and expand the value of the prior interpretation. The additional processing and interpretation of the 2013 seismic reflection data will provide valuable additional detailed definition of the subsurface conditions beneath the WEA.
 - ❖ Virginia Coastal Zone Management Program at the Department of Environmental Quality to develop fine-scale maps of important commercial and recreational fishing areas in and around the Virginia WEA. These maps will be used in collaboration with the fishing industry to create best management practices regarding communication, design, operation, and environmental monitoring of a commercial wind facility offshore Virginia.

The Authority continued work on its four main goals established by the 2010 legislation, which are summarized as follows:

1. Virginia Offshore Industry Data: Facilitate the definition, collection, and dissemination of relevant metocean data, environmental data, and other information needed by Virginia offshore wind stakeholders, using existing, planned, or projected sources of data collection or activities.
2. Offshore Leasing, Permitting, Financing, and Regulation: Identify existing federal and state barriers to the development of the offshore wind industry in Virginia.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



3. Virginia Offshore Job Creation and Supply Chain Development: Work in cooperation with relevant local, state, and federal agencies to accommodate the manufacturing, assembly, and maintenance of offshore wind energy project components and vessels.
4. Offshore Wind Project Siting and Development: Communicate and coordinate with stakeholders, including the Department of the Interior Bureau of Ocean Energy Management, Regulation, and Enforcement (DOI BOEMRE, subsequently renamed BOEM) Task Force to ensure the development of offshore wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

To accomplish its goals, the Authority worked with and supported efforts by the DMME, BOEM, and other stakeholders to help accelerate offshore wind development projects in Virginia and address financial and environmental issues. The Authority heard presentations throughout the year from various stakeholders and experts and analyzed this and other information to determine the appropriate next steps to facilitate development of the offshore wind energy resource, to provide reasonably priced renewable energy, and to develop an offshore wind industry and supply chain that will create economic opportunity for businesses and good jobs for Virginians.

As a result of its activities and accomplishments in 2014-15, the Authority makes the following recommendations to advance offshore wind development and related supply chain activities in Virginia. The recommendations are ranked in order of priority.

RECOMMENDATION 1: Leverage state funding with additional private and federal funding to give Virginia a competitive advantage over other Mid-Atlantic States in attracting the offshore wind industry.

- Publicize the findings and recommendations from the Virginia Offshore Wind Port Readiness Study to help establish Virginia as the ideal manufacturing, operational and supply chain hub for offshore wind development in the Mid-Atlantic region.
- Gather data to demonstrate the economic benefits that would result if the Commonwealth of Virginia became home to a vibrant Mid-Atlantic offshore wind industry and supply chain, and work with Dominion Power, as the commercial lease holder, and others to strategically engage potential supply chain and workforce development opportunities.



- Act on the findings of the Virginia Offshore Wind Port Readiness Evaluation and match specific activities with specific port facilities. Determine what barriers and shortfalls exist and work with key stakeholders to overcome these barriers and shortfalls to streamline site selection, thus reducing cost and risk for investments by supply chain companies and manufacturers.
- Support the stakeholder process recommended by Dominion in April 2015 to work with DMME, the VOWTAP project team, industry and other stakeholders to explore ways to reduce or share the costs and risks of the VOWTAP project to help to ensure its viability for Virginia consumers and businesses that use renewable energy.
- Work with the Governor's office, the Virginia General Assembly and the Virginia Congressional delegation to promote the VOWTAP project as needed and consider new legislation and financial assistance.

RECOMMENDATION 2: Support successful completion of the VOWTAP by working with state and federal agencies and private stakeholders to ensure advancement of the project with minimal delays in the permitting and approval process.

- Work with interested stakeholders to address any concerns they may have in the Environmental Assessment (EA) related to the demonstration.
- Work with the VOWTAP team to remove any impediments to project permitting and approvals, and offer environmental and regulatory support.
- Work with the VOWTAP and stakeholder team to identify other regulatory measures to reduce costs and promote advancement of the VOWTAP project as the precursor to commercial offshore wind development in Virginia.

RECOMMENDATION 3: Support and expedite the federal process for development of the commercial wind energy area off of the coast of Virginia and ensure compatibility with other ocean uses and avian and marine species and habitat.

- Support the extension of federal Investment Tax Credits and Production Tax Credits in forms that would assist offshore wind development in Virginia.



- Support and work with BOEM and other federal resource and regulatory agencies to expedite permitting and other approvals needed for offshore wind commercial development.

II. Mission

In 2010, the Virginia Offshore Wind Development Authority was created and vested with the powers set forth in § 67-1201 of the Code of Virginia. A copy of the Authority's Mission Statement and Objectives can be found in *Appendix A*.

The Authority was established for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain businesses. Legislation established four goals:

1. Collecting relevant metocean and environmental data;
2. Identifying existing state and regulatory or administrative barriers to the development of the offshore wind energy industry;
3. Working in cooperation with relevant local, state, and federal agencies to upgrade port and other logistical facilities and sites to accommodate the manufacturing and assembly of offshore wind energy project components and vessels; and
4. Ensuring that the development of such projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

The Governor appoints the nine non-legislative citizen members. Six of the inaugural members served terms of less than four years to maintain continuity of operations by ensuring that all appointments do not expire in the same year. Thereafter, all appointments or re-appointments are for four year terms.

VOWDA has broad authority to accept, hold, invest and administer monies, grants, securities or other property, to make and execute contracts with public and private entities as necessary, and to hire consultants, attorneys, financial experts and others as necessary to fulfill its mission. The Director of DMME serves as the Director of the Authority, and DMME serves as staff to the Authority.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



The legislation requires the Authority to provide by October 15 each year an annual summary of the activities of the Authority and policy recommendations to the Governor, the Chairs of the House and Senate Commerce and Labor Committees and the Chairs of the House Appropriations and Senate Finance Committees. Copies of all VOWDA reports are available on its website, <http://wind.jmu.edu/offshore/vowda/index.html>.

III. State and Federal Offshore Wind Activities and Developments Affecting Virginia

To accomplish its goals and objectives, the Authority regularly updates and works to implement a comprehensive work plan. Objectives include the following:

- Engage with agencies and stakeholders to support and accelerate offshore wind development and associated supply chain in Virginia, including support for the successful completion of the advanced demonstration technology project (VOWTAP);
- Secure financial and other resources; leverage state funding with additional private and federal funding to give Virginia a competitive advantage over other mid-Atlantic States in attracting the offshore wind industry;
- Identify and address policy and regulatory issues and barriers;
- Acquire and share data; and
- Promote Virginia's unique attributes and readiness for offshore wind and encourage port and supply chain development.

VOWDA supported efforts by the DMME, BOEM, and other stakeholders to help accelerate the funding and development of offshore wind development projects in Virginia. The Authority submitted letters of comment to the Governor of Virginia, Virginia's Congressional delegation and BOEM. Additionally, members heard presentations throughout the year from various stakeholders and experts and analyzed this and other information to determine the appropriate next steps to facilitate development of the offshore wind energy resource, to provide reasonably priced renewable energy, and to develop an offshore wind industry and supply chain that will create economic opportunity for businesses and good jobs for Virginians. Letters and presentations can be viewed on the VOWDA website at <http://wind.jmu.edu/offshore/vowda/index.html>.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Comment Letters

- *Letter to Virginia Governor Terry McAuliffe and Commerce and Trade Secretary Maurice Jones (October 3, 2014) in support of DMME’s request to carry forward \$310,000 in FY 2014 general funds to conduct offshore wind energy research projects in FY 2015. [Appendix B]*
- *Letter to Virginia Governor Terry McAuliffe and Chairmen of the House Appropriations and Senate Finance Committees (October 3, 2014) to request the restoration of the \$1 million in FY 2016 general funds for DMME to leverage additional private and federal funds to advance commercial development of Virginia’s offshore wind energy resources and the associated supply chain. [Appendix C]*
- *Letter to BOEM (December 29, 2014) on its “Notice of Environmental Assessment for Virginia Offshore Wind Technology Advancement Project (VOWTAP) on the Atlantic Outer Continental Shelf Offshore Virginia” [Docket No. BOEM-2014-0077] urging BOEM to proceed with Alternative A to allow the development of VOWTAP to proceed under the terms and conditions agreed to by the parties to the VOWTAP and incorporated in the Environmental Assessment. [Appendix D]*
- *Letter to Virginia’s Congressional delegation (May 14, 2015) in support of the extension of the federal Production Tax Credit, one of the crucial components required to bring large scale reliable energy to the Commonwealth of Virginia. [Appendix E]*

Presentations

- *Offshore Wind Federal Development and Defense Mission Compatibility on the Outer Continental Shelf, Office of the Deputy Assistant Secretary of Defense Readiness – January 28, 2015: Briefing on the role of the Department of Defense in assessing, monitoring and approving offshore wind construction and operation activities.*
- *Virginia Offshore Wind Technology Advancement Project (VOWTAP), Dominion Virginia Power – November 13, 2013: Overview of recent VOWTAP accomplishments, activities, 2015 milestones, and major upcoming actions.*
- *Virginia Offshore Wind Technology Advancement Project (VOWTAP), Dominion Virginia Power – April 23, 2015: Update on bids to Dominion’s Request for Proposal for an engineering, procurement and construction provider to manage the construction of the two test turbines and status of VOWTAP.*

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



- *Virginia Offshore Wind Port Readiness Study – April 23, 2015*: Overview of the Port Readiness Study conducted by BVG Associates to evaluate the general readiness of Virginia’s port terminals and to develop on-shore site build-out scenarios for producing and staging various specific offshore wind components.

The remainder of this section reports on developments and activities undertaken at the state and federal levels to develop offshore wind in Virginia. A summary of the 2014-2015 milestones can be found in *Appendix F*.

a. Virginia Offshore Wind Timeline

DMME first developed a detailed timeline with estimated milestones shortly after the formation of the Virginia Coastal Energy Research Council (VCERC) in 2006. The most important offshore wind milestone updates in the past year are (a) the execution of the Research Lease 2, which has an effective date of March 24, 2015; and (b) the announcement by Dominion that its bids for constructing the VOWTAP came in significantly higher than anticipated, causing the project to be delayed by one year. VOWDA supported Dominion’s request to open the process to a broader review through a facilitator-led process of multiple stakeholders of many disciplines, from the U.S. and Europe. The process, which began in the summer of 2015, involved a preliminary plenary meeting of all participants and was open to the public. This meeting resulted in the formation of smaller cohort work groups tasked with addressing three areas for possible cost reductions.

- Policy
- Technical
- Contracting and Logistics

The three groups met six times and presented their findings and recommendations at a final plenary meeting on September 18, 2015. Based on the successful stakeholder process, Dominion developed a timeline to issue a new RFP in Quarter 4 of 2015 and other steps potentially leading to an SCC filing by June 30, 2016 and turbine commercial operations by 2018. The outcomes of the stakeholder process are described in greater detail in Chapter III, c. Virginia Offshore Wind Advanced Technology Project, below, and in a Dominion presentation at the October 7, 2015, VOWDA meeting, which is included as *Appendix G*.

Because many variables impact the construction timetable, and considering the required activities and milestones that are precursors to commercial development, construction in the Virginia WEA is not likely prior to 2020. The timeline depicts a range of completion dates for installation of 400-600 MW as early as 2019 or as late as 2025. The delays in the



VOWTAP project will likely push this range of dates further into the future. A copy of the timeline can be found in *Appendix H*.

b. Offshore Wind Energy Research Lease 2

In March 2015, BOEM executed Research Lease 2 with the DMME, the first wind energy research lease issued by the Bureau. Under this lease, DMME proposes, through a Designated Operator, to design, develop and demonstrate the *Virginia Offshore Wind Technology Advancement Project (VOWTAP)*, a grid-connected, 12-MW offshore wind test facility on the OCS off the coast of Virginia immediately adjacent to the commercial WEA. The data obtained and lessons learned from this project will be made publicly available and inform the future production of renewable offshore energy nationally and within the Virginia WEA.

On March 16, 2015, DMME requested that BOEM designate Virginia Electric Power Company as the designated lease operator for Research Lease 2 in order to implement the VOWTAP. BOEM granted this request on March 23, 2015.

c. Virginia Offshore Wind Advanced Technology Project

Dominion Virginia Power and its team was one of seven projects nationally selected by the U.S. Department of Energy (DOE) in 2012 to receive \$4 million each in federal matching funds to undertake initial engineering, design, and permitting for an offshore advanced technology demonstration facility. In May 2014, DOE announced that Dominion was one of three selected for follow-on phases to move forward with the final design, permitting and ultimate construction, and would receive up to \$47 million in additional DOE funding to support VOWTAP.

The Dominion team proposed designing, developing, and demonstrating two 6-MW Alstom Halide turbines mounted on innovative “Inward Battered Guide Structures”. The objective of the project is to advance offshore wind technology and gain experience in offshore wind installation and operations, with the goal to reduce the cost and risk of future commercial scale offshore wind projects. The Virginia project would require that the SCC approve cost recovery before proceeding with construction. VOWDA supports strategies to assist and enable expedited treatment by the SCC when it reviews and considers approval of cost recovery for the demonstration project. The Authority sent a resolution to the SCC in January 2014 supporting wind power development in the federal waters off the coast of Virginia and the expedited SCC approval of an expected future petition by Dominion Virginia Power to recover eligible costs for VOWTAP.



Dominion received two bids in April 2015 for construction of the VOWTAP project. Of these, only one was a qualified bid, which estimated the cost of the project at \$400 million plus -- nearly twice the amount expected. VOWDA supported the creation of an expanded stakeholder process to discuss how to lower costs and risk associated with the demonstration project. The stakeholder group (consisting of state, local, federal officials along with interested vendors, European wind developers, academics and environmentalists) first met in July and formed three specific sub-groups – Technology, Contract Process and Logistics, and Policy – to look at areas where cost and/or risk reductions might be possible.

Dominion briefed VOWDA on the deliberations and findings of the stakeholder group at the October 7th VOWDA meeting. The Dominion presentation is included as *Appendix G*. A summary of some of the findings for each work group follows.

Technology Work Group:

- The Technology Work Group generally agreed that the technology innovations developed by the VOWTAP team should be supported. While some of the innovations cost money in addition to what would be paid for current technology, their purpose is to gain the knowledge necessary to save money in the long term commercialization effort. Consequently, it was deemed to be unwise to eliminate the technological innovations in order to possibly reduce the cost of the pilot project.

Contracts and Logistics Workgroup:

- There was general consensus that a lower cost might result if the VOWTAP contract is broken up into smaller packages with separate subcontractors for components of those packages.

Policy Work Group:

The Policy Work Group brainstormed a list of potential policy actions, funding options, questions and considerations to move the VOWTAP project forward:

- Further explore and leverage the role and value of the VOWTAP in helping the Commonwealth meet its responsibilities for power generation-related carbon dioxide emissions reductions under the proposed Clean Power Plan (CPP) and the importance of tying the investment in VOWTAP development to the objective of reducing costs and risks of the broader commercialization of off shore wind in



Virginia.

- Consider legislation to improve the likelihood of favorable consideration of the VOWTAP by the State Corporation Commission.
- Explore the possibility of obtaining a waiver from the Jones Act, as needed to implement the project.
- Consider ways to mitigate the lack of supply chain infrastructure to serve the Mid-Atlantic wind industry. Ideas included the construction or modification of a U.S. vessel suited for wind turbine installation and other uses, such as decommissioning abandoned oil and gas platforms in the Gulf.
- Seek a general appropriation, although this would require a significant effort to educate and engage the public and legislators.
- Appeal to individual rate payers to voluntarily opt to pay an additional sum to support this project, modeled on the current Green Power Program.
- Explore how to provide additional VOWTAP funding through existing conduits, such as appropriating additional funds to the Center for Innovative Technology for research and development or to various state economic development funds.
- Explore the revenue potential of selling power generated by the demonstration turbines to state and federal military installations in the Commonwealth, including the National Guard and the Navy.

d. Commercial Offshore Wind Lease

Dominion Virginia Power was named the provisional winner of the nation's second competitive lease sale of 112,800 acres on the OCS offshore Virginia by the DOI in September 2013. The \$1.6 million winning bid for the development rights in the Virginia WEA will support up to 2,000 MW of wind power. The area, composed of 19 full OCS blocks and 13 aliquots, or sub blocks, was selected after intensive work with the Commonwealth and stakeholders to avoid conflicts with existing uses of the OCS offshore Virginia, including sensitive ecological habitat, marine vessel traffic, a dredge disposal site, and areas of concern specified by NASA's Wallops Flight Facility. The lease became effective on November 1, 2013. Dominion submitted its Site Assessment Plan in April 2014 and the Construction and Operations Survey Plan in October 2014.



e. Chesapeake Light Tower

The DOE acquired custody of the Chesapeake Light Tower (CLT) from the U.S. Coast Guard in December 2012 to examine the feasibility of repurposing the platform into a research center for offshore renewable energy called the Reference Facility for Offshore Renewable Energy (RFORE). Based upon the results of the various assessments, DOE decided not to pursue renovation of the CLT into the RFORE concept and therefore no longer has a mission need for the platform. In January 2015 DOE declared the CLT as surplus property and reported it as such to the General Services Administration.

f. Funding to Accelerate and Assist Private Development of the Virginia WEA

The General Assembly passed a budget amendment that provided an additional \$1 million from the general fund in FY 15 for DMME to leverage private and federal funding for increased data collection to give Virginia an advantage over competing states in attracting the offshore wind industry to Virginia. To this end, DMME entered into the following contracts to achieve this goal:

- i. Virginia Port Readiness Study: In December 2014, DMME selected U.K's BVG Associates to conduct a study to evaluate the general readiness of Virginia's port terminals to host manufacturing and fabrication activities, as well as staging large numbers of wind turbines and towers, foundation sub-structures and piles, and subsea power cabling prior to offshore transport. A secondary objective was to develop on-shore site build-out scenarios for producing and staging various specific offshore wind components, namely wind turbines and towers, foundation structures, submarine power cables, and offshore substation platforms.

The study supports a key aspect of this 2014 Virginia Energy Plan recommendation: *"Establish Virginia as the ideal manufacturing, operational and supply chain hub for offshore wind development in the mid-Atlantic region and provide support and resources to accelerate development of Virginia's offshore wind resources."*¹

BVG Associates led a team to evaluate 10 Virginia port terminals for their readiness to accommodate seven different offshore wind supply chain facilities. Four "primary sites" with unobstructed access to open ocean were evaluated for construction staging and hosting up to six different manufacturing facilities, and six "secondary

¹ Commonwealth of Virginia. 2014 Virginia Energy Plan. Section 12: Recommendations. Rec. 1(f). Available at https://www.dmme.virginia.gov/DE/LinkDocuments/2014_VirginiaEnergyPlan/18Recommendations.pdf



sites” with obstructed access, such as height restrictions from bridges, were evaluated for manufacturing facilities.

The BVG team also evaluated five commercial shipyards for readiness to fabricate and assemble conventional and self-installing offshore substations. Among the findings:

- Virginia has strong potential for hosting offshore wind manufacturing and construction staging activity in a wide variety of scenarios ranging from a single “super-port” at Portsmouth Marine Terminal to clustering of two to four waterfront sites.
- Up to 1,600 direct jobs can be created if all seven of the required offshore wind supply chain facilities are located in Hampton Roads, with up to 6,400 indirect jobs created supplying these facilities with materials and parts.
- Offshore oil and gas is compatible with, and may help accelerate offshore wind shore-side infrastructure development.
- A summary of the port readiness study findings was reviewed by VOWDA at its October 7, 2015, meeting. Members suggested additional steps for inclusion in VOWDA’s 2016 Work Plan.

- ii. Virginia Wind Energy Area Ocean Geological Survey, Phase II Analysis: Fugro Consultants, Inc. will supplement and expand the existing seismic reflection data collected across the offshore Virginia WEA in 2013, under contract with DMME and BOEM, in Phase I of the Ocean Geological Survey. The additional processing and data analyses will be used to evaluate different hydrophone streamer configurations and seismic data processing techniques that affect the interpretation of paleo-landforms in support of marine archeological resource assessments and geologic interpretation for support of site characterization and engineering studies. When the data are processed as 16 channels, it will be possible to enhance the resolution and detail of the near surface geological conditions and stratigraphy down to about 30 meters below the seafloor. This will provide valuable additional detailed definition of the subsurface conditions beneath the WEA, increasing the understanding of the geological conditions and expected geotechnical sequence in a critical depth interval for the design of offshore structures and infrastructure. The Fugro Phase II analysis project is expected to be completed and a final report issued by December 2015.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



iii. Virginia Coastal Zone Management (CZM) Collaborative Fisheries Planning Project:

The CZM Program at the Department of Environmental Quality will develop fine-scale maps of important commercial and recreational fishing areas in and around the Virginia WEA. These maps will be used in collaboration with the fishing industry to create best management practices for sharing the ocean space, including communication, design, operation, and environmental monitoring of a commercial wind facility offshore Virginia. The project and final report are slated to be completed by March 2016.

g. U.S. House and Senate Federal Tax Credits

The Production Tax Credit (PTC) for wind and other renewable energy sources, which expired December 31, 2013, was retroactively extended through the end of 2014 by “The Tax Increase Prevention Act of 2014” (H.R. 5771, Pub. L. 113-295). VOWDA believes the PTC is a critical part in Virginia’s efforts to develop a vital offshore wind project and industry. Reducing the cost consumers pay for renewable energy options will be an important element of developing this resource.

In May 2015, VOWDA sent a letter to Virginia’s congressional delegation asking for their support for the PTC extension when tax extenders or a tax reform package is considered. This would enable the Commonwealth to continue the momentum achieved since 2007 and become the home to a vibrant Mid-Atlantic offshore wind industry and supply chain [See *Appendix E*]. VOWDA also considers that offshore wind will play an important role in the Commonwealth’s successful implementation of the Clean Power Plan.

IV. Significant Offshore Wind Developments in Other States

Florida

BOEM identified four proposed lease areas in 2007 for the installation of offshore data collection and technology testing facilities on the OCS. On June 1, 2014, BOEM issued a lease to Florida Atlantic University Southeast National Marine Renewable Center for marine hydrokinetic technology testing and resource assessment to evaluate the use of turbines powered by ocean current. This is the first time a lease has been issued to test ocean current energy equipment in Federal waters. BOEM established the Florida Intergovernmental Renewable Energy Task Force in December 2014 to facilitate coordination among federal, state,

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



local and tribal government organizations for potential renewable energy leasing efforts in federal waters offshore Florida.

Hawaii

On January 22, 2015, BOEM received two unsolicited lease requests from AW Hawaii Wind, LLC (AWH): the Oahu Northwest Project and the Oahu South Project. Each project proposes an offshore wind facility with a capacity of 408 MW of renewable energy generated by 51 floating 8 MW wind turbines. The energy generated by the projects would be transmitted to Oahu by undersea cables.

To assess available information, determine knowledge gaps, and collect new baseline information, the BOEM Pacific Region is funding four studies in the Main Hawaiian Islands. The studies, which are being conducted in partnership with the U.S. Geological Survey (USGS) and the National Oceanic and Atmospheric Administration (NOAA), cover a wide range of biological, physical, cultural, historical and socioeconomic information needs. This information will be used for informed, science-based decision-making about renewable energy development offshore the Main Hawaiian Islands. The four studies include:

- Habitat Affinities and At-Sea Ranging Behaviors Among Main Hawaiian Island Seabirds,
- Pacific Regional Ocean Uses Atlas,
- Maritime Cultural Resources Site Assessment in the Main Hawaiian Islands, and
- A Marine Biogeographic Assessment of the Main Hawaiian Islands.

On June 3, 2015, BOEM held the third Hawaii Intergovernmental Renewable Energy Task Force in Honolulu. The Task Force agenda included a BOEM Pacific Region Renewable Energy Program update, an update on the two unsolicited lease requests, an overview of BOEM's leasing process, their Request for Information (RFI) for competitive interest, and an overview of BOEM's environmental analysis and review process.

Maryland

U.S. Wind Inc., a subsidiary of Renexia, an Italian energy and construction company, was awarded two commercial wind energy development leases offshore Maryland for \$8.7 million in August 2014. The WEA covers approximately 80,000 acres located about 10 nautical miles from the Ocean City coastline: North Lease Area, 32,737 acres; South Lease Acres, 46,970 acres. The executed leases went into effect on December 1, 2014.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Massachusetts

RES America Developments, Inc. and Offshore MW LLC were announced as the provisional winners in January 2015 of the competitive lease sale for the WEA offshore Massachusetts for over 350,000 acres about 12 nautical miles south of Martha's Vineyard. The winning bids totaled \$448,171. According to an analysis prepared by the DOE's National Renewable Energy Laboratory, if fully developed, the leased area could support approximately 2 GW of commercial wind generation, enough electricity to power over 700,000 homes. The commercial wind energy leases were signed by BOEM in March 2015 and went into effect April 1, 2015. RES America has partnered with Danish utility Dong Energy, who agreed to take over the rights to develop the lease. RES will continue to support the development of the lease area.

In July 2015, BOEM approved Cape Wind Associates' request for a two-year suspension of the operations of its commercial lease for the Cape Wind Energy Project, an offshore wind farm project planned for development off the coast of Cape Code, Massachusetts. In January 2015, National Grid and NSTAR, the two utilities that had contracts to buy power from the offshore wind farm, terminated their purchase contracts citing missed financial deadlines. Cape Wind rejected the termination and initiated litigation. No construction or installation activities related to the commercial lease can occur during the lease suspension period.

New Jersey

On September 25, 2015, BOEM published a Final Sale Notice announcing that it will offer approximately 344,000 acres offshore New Jersey for commercial wind energy leasing. That lease sale will take place on November 9th and will offer two lease areas. If fully developed, the New Jersey wind energy areas could support about 3.4 gigawatts of commercial wind generation - enough to power about 1.2 million homes.

New York

Deep Water Wind's CEO Jeff Grybowski expressed support for a Request for Information issued in July 2015 by New York City (NYC) to identify sources of new renewable energy generation in support of the city's goals for 100% renewables at city government operations. Grybowski noted that NY waters are very promising for offshore wind.

Regional Collaboration:

The Department of Energy (DOE) is funding a multi-state project with New York, Maine, Massachusetts and Rhode Island, which will produce a regional roadmap for offshore wind. The roadmap will lay out a cooperative path to develop offshore wind at the large-scale level of deployment needed to achieve economies of scale and establish a regional supply chain with high-quality local jobs.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



North Carolina

On September 17, 2015, BOEM announced it had completed an important environmental review of three Wind Energy Areas, which total approximately 307,590 acres, offshore North Carolina. Through its Environmental Assessment, BOEM determined that there would be no significant socioeconomic or environmental impacts associated with issuing wind energy leases within those Wind Energy Areas. This finding allows BOEM to move forward with its process for considering a renewable energy lease sale.

Rhode Island

Deepwater Wind (DWW) New England LLC was the winner of the first-ever competitive lease sale in July 2013 to develop a utility-scale wind farm offshore Rhode Island and Massachusetts. The winning bid of \$3.8 million was for two parcels totaling more than 164,000 acres in the WEA located 17 miles south of Rhode Island, between Block Island, Rhode Island, and Martha's Vineyard, Massachusetts.

- October 2014: BOEM issued a Finding of No Significant Impact for the issuance of a Right of Way (ROW) grant, and approval of the General Activities Plan, with modifications for the Block Island Wind Farm and Block Island Transmission System.
- November 2014: BOEM announced the agency offered the ROW grant to DWW for the Block Island Transmission System.
- December 2014: BOEM executed ROW grant OCS-A 0506 for the Deepwater Wind Block Island Transmission System and approved DWW's General Activities Plan for the project with modifications.
- January 2015: BOEM approved DWW's application to assign 100% of ROW grant OCS-A 0506 to The Narragansett Electric Company.
- March 2015: DWW closed its financing, having secured funding needed to construct and operate its 30-MW Block Island Wind Farm.
- July 2015: A critical milestone was achieved with the installation of the first of five steel foundation jackets. When completed, it will be the first offshore wind farm in the U.S.

South Carolina

On September 9, 2015, BOEM convened a meeting of the South Carolina Intergovernmental Renewable Energy Task Force and presented the details of a draft Federal Register notice



titled “Commercial Leasing for Wind Power on the OCS Offshore South Carolina - Call for Information and Nominations (Call).” BOEM held the meeting to gather information from the task force to inform BOEM's future decisions in delineating lease areas for wind energy development offshore South Carolina.

BOEM has identified almost 1,200 nautical square miles off the South Carolina coast that have the potential to be leased for the development of wind energy. BOEM indicated that they are publishing the maps in the Federal Register as the first step in seeking comment on the proposal.

V. Recommendations

RECOMMENDATION 1: Leverage state funding with additional private and federal funding to give Virginia a competitive advantage over other Mid-Atlantic States in attracting the offshore wind industry.

- Publicize the findings and recommendations from the Virginia Offshore Wind Port Readiness Study to help establish Virginia as the ideal manufacturing, operational and supply chain hub for offshore wind development in the Mid-Atlantic region.
- Gather data to demonstrate the economic benefits that would result if the Commonwealth of Virginia became home to a vibrant Mid-Atlantic offshore wind industry and supply chain, and work with Dominion Power, as the commercial lease holder, and others to strategically engage potential supply chain and workforce development opportunities.
- Act on the findings of the Virginia Offshore Wind Port Readiness Evaluation and match specific activities with specific port facilities. Determine what barriers and shortfalls exist and work with key stakeholders to overcome these barriers and shortfalls to streamline site selection, hence reducing cost and risk for investments by supply chain companies and manufacturers.
- Support the stakeholder process recommended by Dominion in April 2015 to work with DMME, the VOWTAP project team, industry and other stakeholders to explore ways to reduce or share the costs and risks of the VOWTAP project to help to ensure its viability for Virginia, consumers, and businesses that use renewable energy.
- Work with the Governor’s office, the Virginia General Assembly and the Virginia Congressional delegation to promote the VOWTAP project as needed and consider new



legislation and financial assistance.

RECOMMENDATION 2: Support successful completion of the VOWTAP by working with state and federal agencies and private stakeholders to ensure advancement of the project with minimal delays in the permitting and approval process.

- Work with interested stakeholders to address any concerns they may have in the Environmental Assessment (EA) related to the demonstration.
- Work with the VOWTAP team to remove any impediments to project permitting and approvals, and offer environmental and regulatory support.
- Work with the VOWTAP and stakeholder team to identify other regulatory measures to reduce costs and promote advancement of the VOWTAP project as the precursor to commercial offshore wind development in Virginia.

RECOMMENDATION 3: Support and expedite the federal process for development of the commercial wind energy area off of the coast of Virginia and ensure compatibility with other ocean uses and avian and marine species and habitat.

- Support the extension of federal Investment Tax Credits and Production Tax Credits in a form that would assist offshore wind development in Virginia.
- Support and work with BOEM, the federal lessee and other federal resource and regulatory agencies to expedite permitting and other approvals needed for offshore wind commercial development.

VI. Future Goals/Activities

VOWDA will continue to engage with BOEM, the Virginia Offshore Wind (VOW) Coalition and others to monitor, support, expedite and provide input to identify key next steps in the Virginia Offshore Wind commercial development process. The following are anticipated activities for the coming year.

- Consider ways to promote the value and benefits of offshore wind development and to generate increased public support.
- Accept in January 2016 and implement DMME Research Lease 1 activities.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



- Support VOWTAP's advancement through each future federal award budget period.

VOWDA will also continue to support commercial-scale development of the Virginia WEA and the cultivation of industry to support offshore wind, including:

- Identifying and promoting by July 2016 specific Port and private assets and facilities unique to Virginia to support private developers and supply chain members involved in pre-construction, construction, operation and maintenance.
- Monitoring and engaging with PJM's ongoing Regional Transmission Expansion Plan (RTEP) process as the costs of offshore wind transmission are explored – especially as issues of cost allocation for offshore transmission are considered.
- Maintaining and updating information on wind resource data, economics and environmental impacts, and information characterizing the state and federal regulatory framework for establishing a project off the coast of Virginia with updates in December 2015, March and June 2016.
- Supporting the Virginia Economic Development Partnership, VOW Coalition and other stakeholders to assess the sourcing and supply strategy for components, services, and vessels employed or being contemplated for other offshore wind farms in the U.S. and overseas by September 2016, and identifying how Virginia companies and resources can best be deployed to promote offshore wind development in Virginia.
- Providing technical support to the Virginia Economic Development Partnership (VEDP) and identifying state and other financial incentives that might be available to help commercialize emerging technologies that can create Virginia jobs. This includes identifying leading candidate businesses and helping to connect with state and federal support programs, particularly focused on Tier 3 and Tier 4 suppliers who can export to Tier 1 and Tier 2 integrators now expanding in European offshore wind supply chains.
- Supporting development of a strategic or ocean management plan for Virginia waters, that includes uses such as offshore wind, and participating in the Coastal and Marine Spatial Planning process for federal waters off the coast of Virginia, with an update in August 2016.
- Identifying available grants and other financing mechanisms to support offshore wind development, including the supply chain based in Virginia, endorsing and possibly participating in federal grant applications and state efforts to support projects that improve the offshore wind value chain, reduce the delivered cost of power, and create jobs and other opportunities.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



- Continuing to advocate on behalf of the Commonwealth that Virginia has the port infrastructure, supply chain, workforce resources, strategic location, and *can-do* spirit that make Virginia the ideal host and partner for offshore wind developers.
- Collaborating with the Department of Environmental Quality and other agencies to determine how offshore wind development can contribute to Virginia's implementation of the Clean Power Plan.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



APPENDIX A

MISSION STATEMENT AND OBJECTIVES

Virginia Offshore Wind Development Authority

Objectives

Mission Statement

The Virginia Offshore Wind Development Authority (the "**Authority**") is created as a political subdivision of the Commonwealth for the purpose of facilitating, coordinating, and supporting the development (either by the Authority or by other qualified entities) of the offshore wind energy industry, offshore wind energy projects, and supply chain vendors by:

- A. Collecting relevant metocean and environmental data;
- B. Identifying existing state and regulatory or administrative barriers to the development of the offshore wind energy industry;
- C. Working in cooperation with relevant local, state, and federal agencies to upgrade port and other logistical facilities and sites to accommodate the manufacturing and assembly of offshore wind energy project components and vessels; and
- D. Ensuring that the development of such wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

The Authority shall, in cooperation with the relevant state and federal agencies as necessary, recommend ways to encourage and expedite the development of the offshore wind energy industry.

The Authority shall also consult with research institutions, businesses, nonprofit organizations, and stakeholders as the Authority deems appropriate.

The Authority shall consider seeking grant and/or loan guarantees and/or entering into public-private partnerships to assist in the development of offshore wind.

The Authority shall provide two reports: 1) by May 31, 2011, a report on its recommendations on what is needed to facilitate the transmission of the offshore wind-generated power after review of the transmission study prepared by the investor-owned utility, Dominion Virginia Power; and 2) by October 15 each year, an annual summary of the activities of the Authority and policy recommendations to the Governor, the Chairs of the House and Senate Commerce and Labor Committees and the Chairs of the House Appropriations and Senate Finance

Virginia Offshore Wind Development Authority

Objectives

Committees (the "Annual Report"). The Annual Report shall include specific policy recommendations that shall be derived from and supported by the actions, results, and deliberations of the Authority in carrying out its objectives listed below.

A. Virginia Offshore Industry Data: Facilitate the definition, collection, dissemination of relevant metocean data, environmental data, and other information needed by Virginia offshore wind stakeholders, utilizing existing, planned, or projected sources of data collection or activities.

1. Direct and provide support to the Virginia Department of Mines, Minerals and Energy (DMME) to gather, reconcile and disseminate information and data required for the development of the offshore wind industry and offshore wind facilities. Specifically, develop a strategy and action plan to:
 - a. Inventory the available information (e.g. wind data, environmental data, oceanographic data, sea current data, electricity transmission data, port and shipping data, DOD/Navy Coast Guard requirements, integration of the Chesapeake Light Tower, offshore LIDAR buoy data, wind turbine construction and operating cost data, etc.);
 - b. Gather stakeholder input regarding what information is required to support the offshore wind industry;
 - c. Reduce gaps in information required versus information collected¹;
 - d. Collect, process and disseminate this information to stakeholders; and
2. Collect, monitor, and provide information regarding the delivered cost, rate impact, economic impact, and environments benefits of electricity generated from offshore wind projects that considers existing studies, legislative and regulatory actions by the Commonwealth, federal government and other states, and information provided by stakeholders and interested parties;
3. Review, support/endorse and possibly participate in federal grant applications and state efforts that support projects that will improve the offshore wind value chain to shorten completion times, reduce the delivered cost of power, and create job opportunities.

¹ Note that the Department of the Interior plans to make available to lessees available federal data at the time of the lease sale for offshore wind

Virginia Offshore Wind Development Authority

Objectives

B. Offshore Leasing, Permitting, Financing, and Regulation: Identify existing federal and state barriers to the development of the offshore wind industry in Virginia.

1. Define, identify and provide information regarding:
 - a. Virginia's renewable energy goals with respect to offshore wind as well as state and federal incentives for renewable energy development;
 - b. The current federal and state regulatory framework for the development, transmission, generation and purchasing power for offshore wind in Virginia;
2. Develop a process to gather and validate stakeholder input regarding perceived and/or real federal and state regulatory and administrative barriers to the development of the offshore wind industry in Virginia and work with stakeholders to create action plans or strategies to remove or reduce those barriers.
3. Incorporate results of these findings into the Annual Report.

C. Virginia Offshore Job Creation & Supply Chain Development: Work in cooperation with relevant local, state, and federal agencies to accommodate the manufacturing, assembly, and maintenance of offshore wind energy project components and vessels.

1. Support the Virginia Economic Development Partnership (VEDP) to:
 - a. Assess the competitiveness of Virginia for the location of manufacturing, assembly, portage, and service centers to support the offshore wind industry;
 - b. Define and implement strategies to attract industry to locate facilities in Virginia that will support the manufacturing, assembly, service and transport resources required by the industry participants; and
 - c. Address the training and human resource requirements and the mechanism to provide the necessary human resources.
2. Consider incentives and/or policy initiatives needed to attract offshore related business to Virginia so as to create employment opportunities and balance the delivered cost of offshore wind and incorporate any recommendations regarding those incentives/policy initiatives into the Annual Report.

Virginia Offshore Wind Development Authority

Objectives

D. Offshore Wind Project Siting and Development: Communicate and coordinate with stakeholders, including the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) Task Force to ensure that the development of offshore wind projects is compatible with other ocean uses and avian and marine resources, including both the possible interference with and positive effects on naval facilities and operations, NASA-Wallops Flight Facility operations, shipping lanes, recreational and commercial fisheries, and avian and marine species and habitats.

1. Provide input and support to the Virginia BOEMRE Task Force in their ongoing communication with local, state, tribal, and federal stakeholders concerning the compatibility of offshore wind projects with other ocean uses.
2. Encourage the development of a strategic plan regarding the development and use of the offshore waters of Virginia for wind generation and other uses (recreation, defense, oil and gas exploration, shipping, etc.), using the principles of coastal and marine spatial planning.



APPENDIX B

**VOWDA LETTER OF SUPPORT OF DMME'S REQUEST TO CARRY FORWARD
\$310,000 IN FY14 GENERAL FUNDS TO CONDUCT OFFSHORE
WIND ENERGY RESEARCH PROJECTS**

Letter sent to Governor McAuliffe and Secretary of Commerce
And Trade Maurice Jones

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
<http://wind.jmu.edu/offshore/vowda/index.html>

October 6, 2014

The Honorable Terence R. McAuliffe
Governor of Virginia
Office of the Governor
Patrick Henry Building, 3rd Floor
1111 East Broad Street
Richmond, Virginia 23219

Dear Governor McAuliffe:

The Virginia Offshore Wind Development Authority (VOWDA) respectfully requests your support of the Department of Mines, Minerals and Energy's (DMME) request to carry forward \$310,000 in FY 14 general funds to conduct offshore wind energy research projects in FY 15.

Earlier this year, a Request for Proposal (RFP) for \$860,000 was issued by DMME and four projects were awarded in the spring of 2014 to conduct offshore wind research projects. One of those projects awarded \$310,000 in General Funds to Dominion Virginia Power for deep ocean geotechnical borings in the vicinity of the Wind Energy Area on the Outer Continental Shelf, about 26 miles off the coast of Virginia Beach. The project was dependent on the use of a "vessel of opportunity" that was hired by Dominion with other funds. Because required approvals from the Bureau of Ocean Energy Management (BOEM) could not be received to support the vessel's availability and weather delays greatly increased the risk of incurring very high daily standby vessel charges, the work could not be completed by June 30, 2014.

There is ample need to conduct additional data collection activities. Funds could be used to support a similar project to further the environmental work of the Virginia Offshore Wind Technology Advancement Project (VOWTAP) and the development of the commercial lease. There are other demands for resources needed to accommodate obligations associated with the Commonwealth's two pending ocean research leases with BOEM. These leases and VOWTAP are long-term strategic commitments that are integral to the Commonwealth's economic development goals for offshore wind to accelerate private commercial development and make Virginia the primary hub for the Mid-Atlantic wind industry and its associated supply chain.

The Honorable Terence R. McAuliffe

October 6, 2014

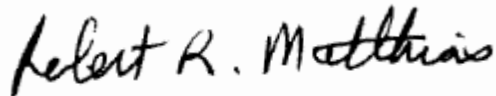
Page 2

Additional research proposals received in a 2014 RFP could not be funded in FY14 but still are needed. One is an assessment of the offshore wind industry's needs and an analysis of Virginia port and logistical assets to identify gaps that can be filled to establish Virginia as the ideal manufacturing, operational and supply chain hub for offshore wind development in the Mid-Atlantic region. Conducting this port gap analysis is a recommendation in the 2014 Virginia Energy Plan.

We believe that these funds are critical to enable the Commonwealth to preserve our previous investments and to continue the momentum for Virginia to become the home to a vibrant Mid-Atlantic offshore wind industry and supply chain.

VOWDA appreciates your support for new business and renewable resources in Virginia and encourages you to support this carry forward request. The Commonwealth continues to be in a unique position to attract offshore wind development. This request is critical to ensuring Virginia does not lose that advantage. Thank you very much for your time and consideration.

Sincerely,

A handwritten signature in black ink that reads "Robert R. Matthias". The signature is written in a cursive style with a large initial 'R'.

Robert Matthias
Chairman



APPENDIX C

**VOWDA LETTER OF SUPPORT in SUPPORT DMME'S REQUEST TO RESTORE
\$1 MILLION IN FY16 GENERAL FUNDS TO LEVERAGE ADDITIONAL
PRIVATE AND FEDERAL FUNDS TO ADVANCE COMMERCIAL
DEVELOPMENT OF VIRGINIA'S OFFSHORE WIND ENERGY
RESOURCES AND ASSOCIATE SUPPLY CHAIN**

Letter sent to Governor McAuliffe, Secretary of Commerce and Trade Maurice Jones,
House Appropriations Committee Chairman Chris Jones, and Senate Finance Committee
Chairman Walter Stosch

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
<http://wind.jmu.edu/offshore/vowda/index.html>

October 3, 2014

The Honorable Terence R. McAuliffe
Governor of Virginia
Office of the Governor
Patrick Henry Building, 3rd Floor
1111 East Broad Street
Richmond, VA 23219

Dear Governor McAuliffe:

The Virginia Offshore Wind Development Authority (VOWDA) respectfully requests restoration of the \$1 million in FY 2016 general funds for the Department of Mines, Minerals and Energy (DMME) to leverage additional private and federal funds to advance commercial development of Virginia's offshore wind energy resources and the associated supply chain.

In 2010, VOWDA was created by the Virginia General Assembly for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and associated supply chain vendors in the Commonwealth. These funds are needed to help achieve our mission and goal.

VOWDA believes that these funds should be restored for several reasons:

1. The appropriation of state funds to this industry will enable the Commonwealth to continue the momentum achieved since 2007 and become the home to a vibrant Mid-Atlantic offshore wind industry and supply chain.
2. Working with Dominion Virginia Power, the winner of the second competitive commercial lease sale held by the Bureau of Ocean Energy Management (BOEM), and others, Virginia can strategically engage potential supply chain and workforce development opportunities.
3. To preserve considerable previous state investments. A great deal already has been invested, and far more in non-state funds have been leveraged, in two pending research leases and the Virginia Offshore Wind Technology Advancement Project (VOWTAP), the Virginia Wind Energy Ocean Geological Survey (\$340,000 state

The Honorable Terence R. McAuliffe

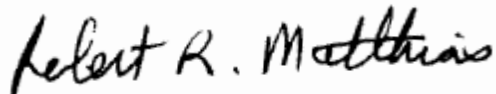
October 3, 2014

Page 2

funds plus \$450,000 in leveraged funds), and three other research projects (\$549,000 plus \$665,000) and two additional research projects (\$216,200 plus \$242,200) which are just getting underway with BOEM cost share to conduct offshore wind site characterization surveys and measurements. Much more research is needed including an industry needs assessment and port gap analysis.

Thank you for your consideration of VOWDA's request for additional funding in FY2016 to help accelerate the momentum that the FY2015 funding has helped to create. In this way, we can truly make Virginia a leader in renewable energy and maritime jobs.

Sincerely,

A handwritten signature in black ink that reads "Robert R. Matthias". The signature is written in a cursive style with a clear, legible font.

Robert Matthias
Chairman

c: The Honorable Maurice Jones
Secretary of Commerce and Trade



APPENDIX D

**VOWDA COMMENTS TO BOEM ON NOTICE OF INTENT TO PREPARE AN
ENVIRONMENTAL ASSESSMENT FOR PROPOSED WIND
ENERGY-RELATED ACTIVITIES ON THE ATLANTIC
OCS OFFSHORE VIRGINIA**

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
<http://www.dmme.virginia.gov/DE/vowda.shtml>

December 29, 2014

Michelle Morin
BOEM Office of Renewable Energy Programs
381 Elden St. (HM 1328)
Herndon, VA 20170-4817

Re: Docket No. BOEM-2014-0077

Dear Ms. Morin:

The Virginia Offshore Wind Development Authority (VOWDA), an advisory commission to the Governor of Virginia, established under state law, appreciates the opportunity to express its support and thanks for the excellent work that BOEM has done in preparing the Environmental Assessment (EA) for the Virginia Offshore Wind Technology Advancement Project (VOWTAP) on the Atlantic Outer Continental Shelf (OCS) offshore Virginia. VOWDA now urges BOEM to proceed with its preferred Alternative A, allowing the development of the VOWTAP to proceed under the terms and conditions agreed to by the parties to the VOWTAP and incorporated in the EA. With the development of the VOWTAP, Virginia and the United States will learn a great deal about the siting of offshore wind turbines and related construction impacts, and hopefully be able to reduce the costs of this important new energy source.

The VOWTAP consists of the installation on the OCS seabed of two six-MW wind turbine generators, the laying of two submarine cables and the construction of a cable connecting the project with existing infrastructure located in the City of Virginia Beach. The wind turbines would be located adjacent to the current Wind Energy Area that is under lease to Dominion Virginia Power. The Department of Energy has also supported the VOWTAP by providing grant support to the project, and cooperated in the preparation of this EA.

VOWDA has provided support for the VOWTAP since the project's inception in 2012. We are strong supporters of careful development of the OCS for renewable energy and offshore wind. Once construction is complete, the VOWTAP will provide clean energy to many Virginia homes

and businesses. Offshore wind as a clean source of energy can also help reduce harmful greenhouse gas emissions and contribute to Virginia's work on reducing the impacts of climate change.

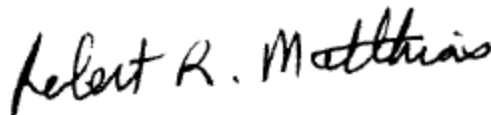
Governor McAuliffe has recently adopted a new energy blueprint for Virginia through his [2014 Virginia Energy Plan \(VEP\)](#) in which he has supported offshore wind and other forms of renewable energy. The 2014 VEP is available at www.dmme.virginia.gov/DE/2014_VirginiaEnergyPlan2.shtml. VOWDA, as well as the Governor, also recognize the importance of bringing new clean energy jobs to Virginia. The VOWTAP, as well as the development of the entire Wind Energy Area offshore Virginia, will produce many excellent jobs for Virginia citizens. Through thoughtful development of our offshore wind resources Virginia can grow its economy while also protecting the environment.

The EA outlines and carefully analyzes the mostly minor impacts that the VOWTAP will have on other uses of the marine and near shore environment, including marine transportation, archaeological resources, fishery resources, marine mammals and other species and their habitats. We appreciate that BOEM has cooperated with all of the key resource agencies in preparing this EA and taken their considered views and expertise into account in reaching its conclusions on the types of impacts anticipated from the development, construction and eventual decommissioning of the VOWTAP.

For all these reasons, VOWDA urges BOEM to proceed with its preferred Alternative A, allowing the development of the VOWTAP to proceed under the terms and conditions agreed to by the parties to the VOWTAP and incorporated in the EA. With the development of the VOWTAP, we will learn even more about the siting of offshore wind turbines and related construction impacts, and hopefully be able to reduce the costs of this important new energy source for Virginia –and the United States.

Thank you for the opportunity to comment on this important development – one of the first concrete steps to bringing offshore wind to fruition along the Atlantic Seaboard.

Sincerely,

A handwritten signature in black ink that reads "Robert R. Matthias". The signature is written in a cursive, slightly slanted style.

Robert Matthias
Chair, VOWDA

c: Al Christopher, Department of Mines, Minerals and Energy

order to receive coverage for the incidental take of greater sage-grouse under the SWCDs' EOS permits.

Authority

We provide this notice in accordance with the requirements of section 10 of the ESA (16 U.S.C. 1531 *et seq.*), and NEPA (42 U.S.C. 4321 *et seq.*) and their implementing regulations (50 CFR 17.22 and 40 CFR 1506.6, respectively).

Dated: November 17, 2014 .

Richard Hannan,

Deputy Regional Director, Pacific Region, U.S. Fish and Wildlife Service, Portland, Oregon.

[FR Doc. 2014-28361 Filed 12-1-14; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF THE INTERIOR

Bureau of Ocean Energy Management

[Docket No. BOEM-2014-0077; MMAA104000]

Environmental Assessment for Virginia Offshore Wind Technology Advancement Project on the Atlantic Outer Continental Shelf Offshore Virginia

AGENCY: Bureau of Ocean Energy Management (BOEM), Interior.

ACTION: Notice of Availability of an Environmental Assessment.

SUMMARY: The Bureau of Ocean Energy Management (BOEM) has prepared an Environmental Assessment (EA) to consider the reasonably foreseeable environmental consequences associated with the approval of wind energy-related research activities offshore Virginia as proposed by the Virginia Department of Mines, Mineral, and Energy (DMME). The purpose of this notice is to inform the public of the availability of the EA and to solicit public comment on the EA for a 30-day public comment period.

DATES: BOEM will conduct a public information meeting to explain the proposed activities analyzed in the EA and provide additional opportunity for public comment on the EA. The meeting will be held on Wednesday, December 17, 2014, from 5:00 to 8:00 p.m., at the Virginia Aquarium and Marine Science Center, 717 General Booth Boulevard, Virginia Beach, Virginia 23451.

FOR FURTHER INFORMATION CONTACT: Michelle Morin, BOEM Office of Renewable Energy Programs, 381 Elden Street, HM 1328, Herndon, Virginia 20170-4817, (703) 787-1340 or michelle.morin@boem.gov.

SUPPLEMENTARY INFORMATION: On December 6, 2013, BOEM issued a

Determination of No Competitive Interest (78 FR 73882) for a research lease requested by the Virginia Department of Mines, Minerals and Energy (DMME). DMME subsequently submitted a research activities plan (RAP) that describes the proposed construction, operation, maintenance, and eventual decommissioning of Virginia Offshore Wind Technology Advancement Project (VOWTAP). The RAP included the results of site characterization studies, such as geophysical, geotechnical, archaeological, and biological surveys. DMME's proposed project would consist of two 6-MW wind turbine generators (WTGs), a 34.5-kilovolt (kV) alternating current (AC) submarine cable interconnecting the WTGs (inter-array cable), a 34.5 kV AC submarine transmission cable (export cable), and a 34.5 kV underground cable (onshore interconnection cable) that would connect the proposed project with existing infrastructure located in the City of Virginia Beach. The U.S. Department of Energy (DOE) is proposing to provide funding in support of VOWTAP and is participating as a cooperating agency in the National Environmental Policy Act (NEPA) process.

On March 14, 2014, BOEM published a Notice of Intent (NOI) to prepare an EA in the **Federal Register** (79 FR 14534). Comments received in response to the NOI can be viewed at: <http://www.regulations.gov> by searching for Docket ID BOEM-2014-0009. A public scoping meeting was held April 3, 2014 in Virginia Beach, Virginia. BOEM used the input from the scoping process to solicit information regarding important environmental issues and alternatives that should be considered in the EA. Additionally, BOEM used the scoping process to identify and eliminate from detailed study issues which are not significant or issues that have been analyzed in prior environmental reviews.

BOEM is seeking public input on the EA, including comments on the completeness and adequacy of the environmental analysis. BOEM will consider public comments on the EA in determining whether to issue a Finding of No Significant Impact (FONSI), or conduct additional analysis under the NEPA.

The EA and information on the public information meeting can be found online at <http://www.boem.gov/Research-Nomination-Outside-and-to-the-West-of-the-WEADOE/>.

COMMENTS: Federal, State, and local government agencies, tribal governments, and other interested

parties are requested to submit their written comments on the EA in one of the following ways:

1. Electronically: <http://www.regulations.gov>. In the entry entitled "Enter Keyword or ID," enter BOEM-2014-0077, then click "search." Follow the instructions to submit public comments and view supporting and related materials available for this document.

2. In written form, delivered by hand or by mail, enclosed in an envelope labeled "Approval of the Virginia Offshore Wind Technology Advancement Project on the Atlantic Outer Continental Shelf (OCS) Offshore Virginia" to: Program Manager, Office of Renewable Energy, Bureau of Ocean Energy Management, 381 Elden Street, HM 1328, Herndon, Virginia 20170-4817.

Comments must be received or postmarked no later than January 2, 2015. All written comments received or postmarked during the comment period will be made available to the public.

Authority: This Notice of Availability is published pursuant to 43 CFR 46.305.

Dated: November 24, 2014.

Walter D. Cruickshank,

Acting Director, Bureau of Ocean Energy Management.

[FR Doc. 2014-28164 Filed 12-1-14; 8:45 am]

BILLING CODE 4310-MR-P

INTERNATIONAL TRADE COMMISSION

[Investigation Nos. 701-TA-506 and 508 and 731-TA-1238-1243 (Final)]

Non-Oriented Electrical Steel From China, Germany, Japan, Korea, Sweden, and Taiwan

Determinations

On the basis of the record¹ developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to sections 705(b) and 735(b) of the Tariff Act of 1930 (19 U.S.C. 1671d(b)) and (19 U.S.C. 1673d(b)) ("the Act"), that an industry in the United States is materially injured by reason of imports of non-oriented electrical steel from China, Germany, Japan, Korea, Sweden, and Taiwan, provided for in subheadings 7225.19.00, 7226.19.10, and 7226.19.90 of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce to be sold in the United

¹ The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR 207.2(f)).



APPENDIX E

**VOWDA LETTER IN SUPPORT OF THE EXTENSION OF THE FEDERAL
PRODUCTION TAX CREDIT**

Letter sent to Virginia's Congressional Delegation

Senators Time Kaine and Mark Warner

Delegates Donald Beyer, David Brat, Barbara Comstock, Gerald Connolly, Randy Forbes, Robert Goodlatte, Morgan Griffith, Robert Hurt, Scott Rigell, Robert Scott, Robert Wittman

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
<http://wind.jmu.edu/offshore/vowda/index.html>

May 14, 2015

The Honorable Mark R. Warner
United States Senate
475 Russell Senate Office Building
Washington, DC 20510

The Honorable Timothy Kaine
United States Senate
388 Russell Senate Office Building
Washington, DC 20510

Dear Senators Warner and Kaine:

We anticipate that the extension of the Production Tax Credit (PTC) will become part of the discussion of tax extenders and tax reform later this year. The PTC received a short-term extension that expired at the end of 2014. The PTC is one of the crucial components required to bring large scale reliable renewable energy to the Commonwealth of Virginia, its citizens and businesses. On behalf of the Virginia Offshore Wind Development Authority, we urge your support for the extension of the PTC when the time is right for its consideration.

Virginia could be on the cusp of creating a significant industrial base and supply chain for offshore wind in the Mid-Atlantic. The PTC is a critical part of this effort. Reducing the cost consumers pay for renewable energy options will be an important element of developing this resource. Offshore wind, once developed, can also be a useful component of Virginia's compliance with the EPA Clean Power Plan.

VOWDA is cognizant of the higher cost of offshore wind to consumers at this time. We have done everything we can to support funding for a research project that Dominion Virginia Power has planned for offshore of Virginia. We have encouraged both the Commonwealth and the U.S. Department of Energy to support this project with grant funding and both have done so. Working with Dominion and the Virginia Department of Mines, Minerals and Energy (DMME), VOWDA is participating in stakeholder fora this spring and summer to consider other ways to reduce the cost of developing offshore wind. The PTC extension will be a vital part of our consideration.

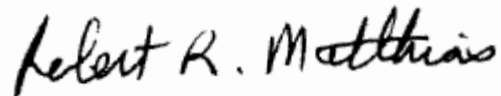
The Honorable Mark Warner
The Honorable Timothy Kaine
May 14, 2015
Page 2

The time is right to bring offshore wind to Virginia. Jobs at the Virginia ports, shipyards, supply companies, and universities are waiting for this development. With your continued support, we can make Virginia a hub for renewable energy and high-tech jobs.

With all these factors in mind, VOWDA urges your support for the PTC extension when tax extenders or a tax reform package is being considered. Like Senator Grassley, we do not oppose a future phase-out of this tax credit, but now is not the time to eliminate this credit altogether. After coming so far in the Commonwealth to develop a vital offshore wind project and industry, we cannot afford to lose our momentum now. With your support for the PTC extension, we can see this effort come to fruition.

Thank you for your consideration of this request. Please contact Al Christopher with any questions you may have. He can be reached at 804-692-3216 or Al.Christopher@dmme.virginia.gov.

Sincerely,

A handwritten signature in black ink that reads "Robert R. Matthias". The signature is written in a cursive style with a large, prominent "R" at the beginning.

Robert Matthias
Chairman

**VIRGINIA OFFSHORE WIND
DEVELOPMENT AUTHORITY**



APPENDIX F

2014-15 MILESTONES

Milestones 2014-15

| Action | 10/14 | 11/14 | 12/14 | 1/15 | 2/15 | 3/15 | 4/15 | 5/15 | 6/15 | 7/15 | 8/15 | 9/15 | Comments |
|---|-------|-------|-------|------|------|------|------|------|------|------|------|------|----------|
| DMME selected UK's BVG Associates to conduct a study to evaluate the general readiness of Virginia's port terminals | | | | | | | | | | | | | |
| BOEM executes Research Lease 2 with DMME | | | | | | | | | | | | | |
| DMME designates Virginia Electric and Power Company as operator for Research Lease 2 | | | | | | | | | | | | | |
| Dominion received two bids for constructing VOWTAP but only one bid was qualified | | | | | | | | | | | | | |
| VOWDA authorized the creation of an expanded stakeholder process to discuss how to lower costs and risk associated with the demonstration project | | | | | | | | | | | | | |
| The VOWTAP stakeholder group met and formed three specialty sub-groups to look at areas where cost and/or risk reductions might be possible | | | | | | | | | | | | | |
| BVG Associates complete port readiness study | | | | | | | | | | | | | |

List of Acronyms (not otherwise defined above)

BOEM = U.S. Bureau of Ocean Energy Management
 DMME = Virginia Department of Mines, Minerals and Energy
 VOWTAP = Virginia Offshore Wind Technology Advancement Project

(updated 9.30.15)



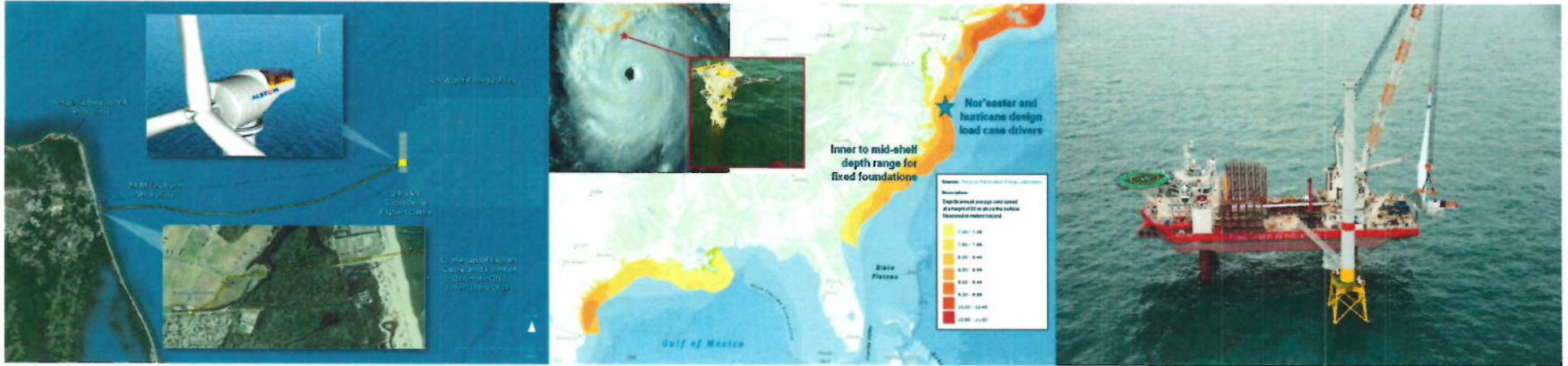
DMME's *WaveRider* buoy deployed approximately 25 miles off the coast of Virginia Beach. Data from the buoy is being used to create a wave forecast model that will support offshore wind power development by allowing construction and service vessel operators to predict wave conditions in advance of offshore operations, thereby improving efficiency and crew safety.

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



APPENDIX G

VOWTAP STAKEHOLDER PROCESS OUTCOMES

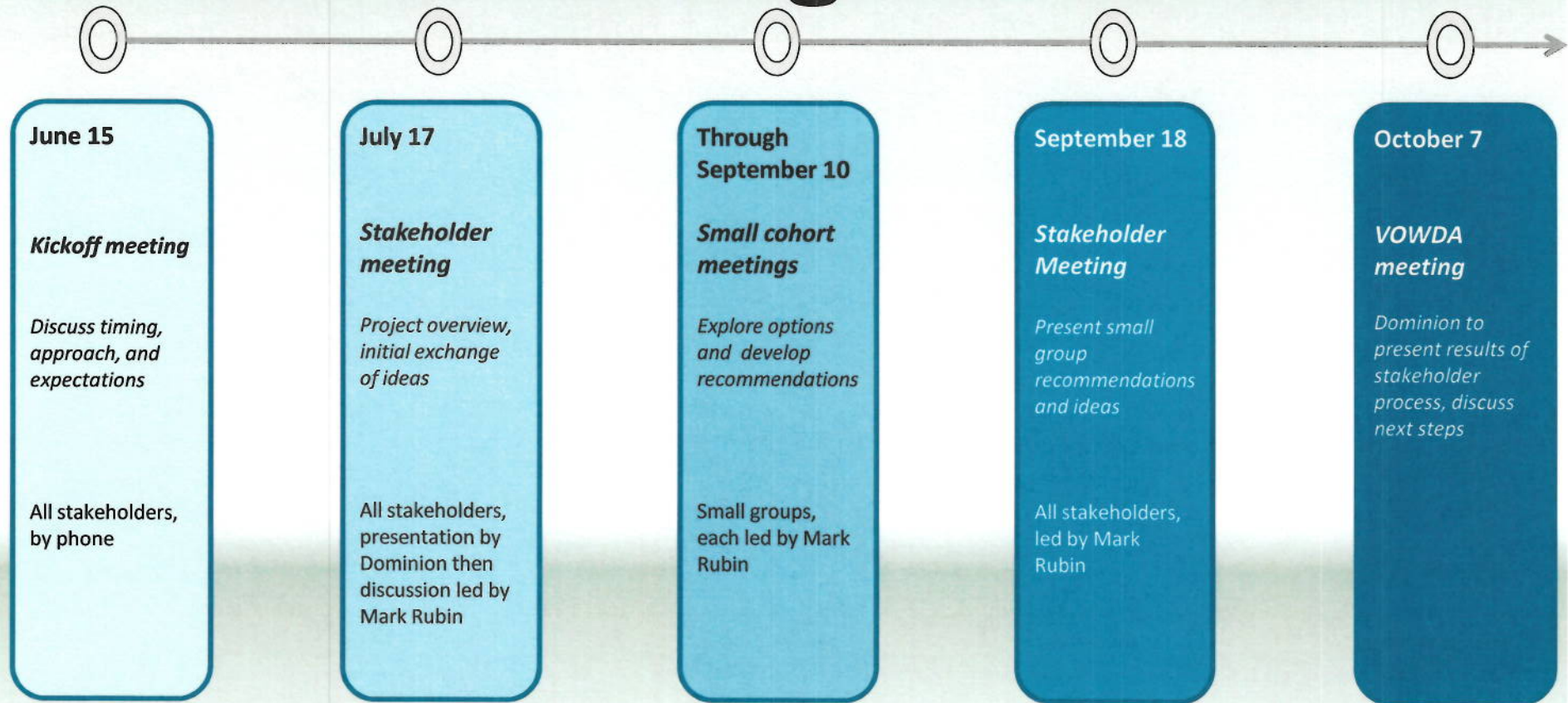


VOWTAP

Stakeholder Process Outcomes

VOWDA Update
October 7, 2015

Active Stakeholder Process Yielded Meaningful Outcomes



Transparent and Robust Process

➤ Objectives

- Seek a viable path forward
- Pave the way for offshore wind

➤ Transparent Process

- Neutral facilitator (Mark Rubin)
- Build consensus

➤ Eighty Seven Stakeholders

- State and Federal agencies, elected officials, DOE demonstration projects, domestic and European contractors and suppliers, utilities, universities, environmental groups and media

➤ Diverse Topics

- Impacts and value of innovations
- Potential cost share resources
- Policy modifications and impacts
- European experience
- Risk assessment and mitigation
- Lack of domestic supply chain

Topical Driven Process

Initial
Stakeholder
Meeting

Cohorts

Technology

Policy

Contract
Process and
Logistics

Cohort
Recommendations

Technology Cohort

“Maintain All Innovations”

Innovations

- Reduce installation and O&M costs
- Demonstrate hurricane resilience design

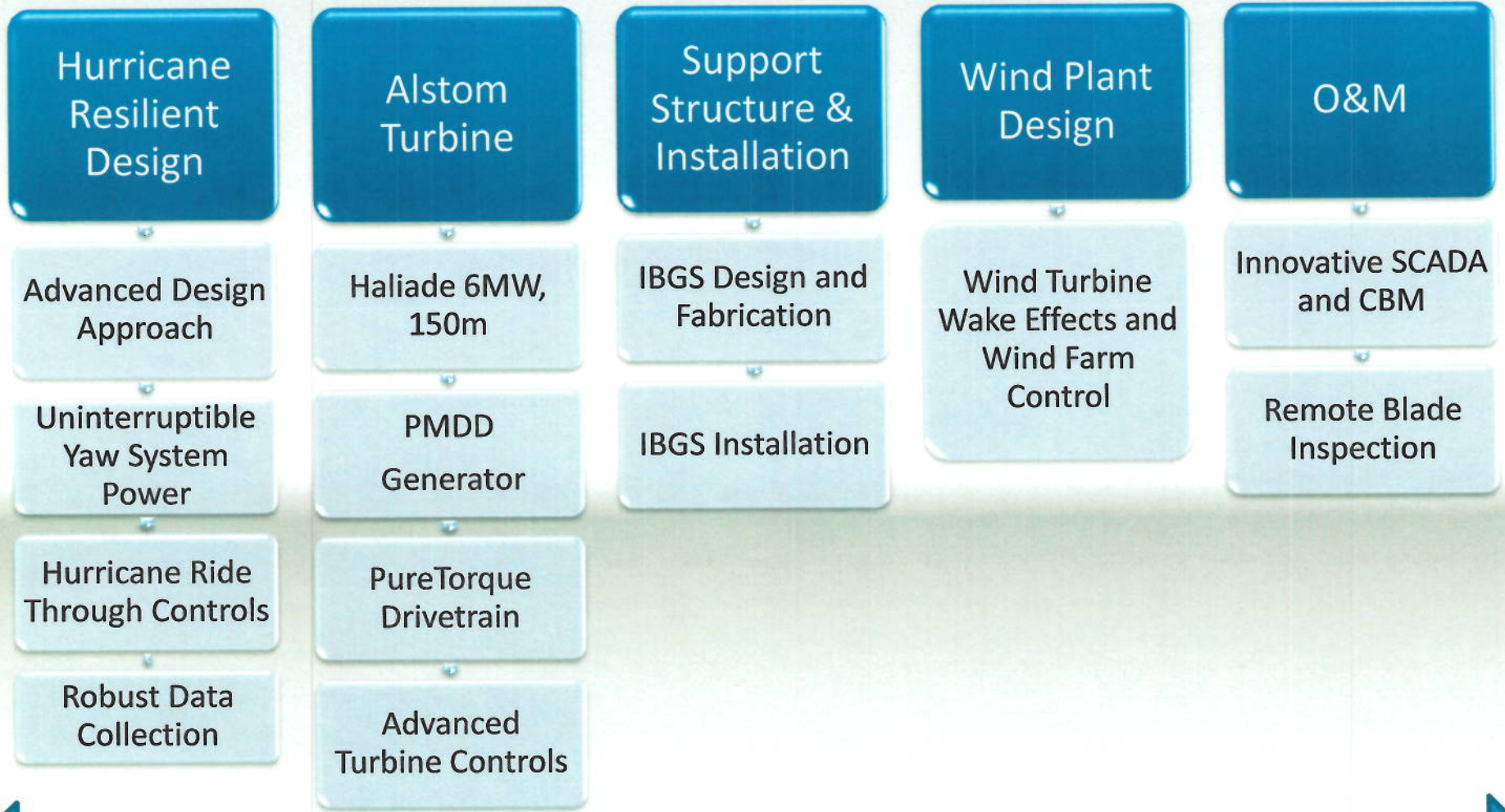
DOE Award

- Cornerstone of Cost Share Award
- VOWTAP is an ocean laboratory

Number of
Turbines

- Two turbines required to test innovations

Innovations Advance State of the Art and Reduce LCOE



Test Plan Validation

Policy Cohort

“Seek Legislation Support and Additional Funding”

Legislation

- Explore the potential for legislation to serve as a catalyst for VOWTAP

Funding

- Seek additional state and federal funding
- Identify potential to subsidize multipurpose vessels

SCC/DEQ

- Understand SCC’s approach to the CPP compliance
- Assess inclusion of offshore wind in the Virginia SIP

Power Purchase Agreement

- Explore PPA with the Commonwealth

Contract Approach Cohort

“RFP a Multi-Contract Approach”

Engineer,
Procure and
Construct

- EPC approach is typically preferred
- Immature domestic offshore wind EPC market

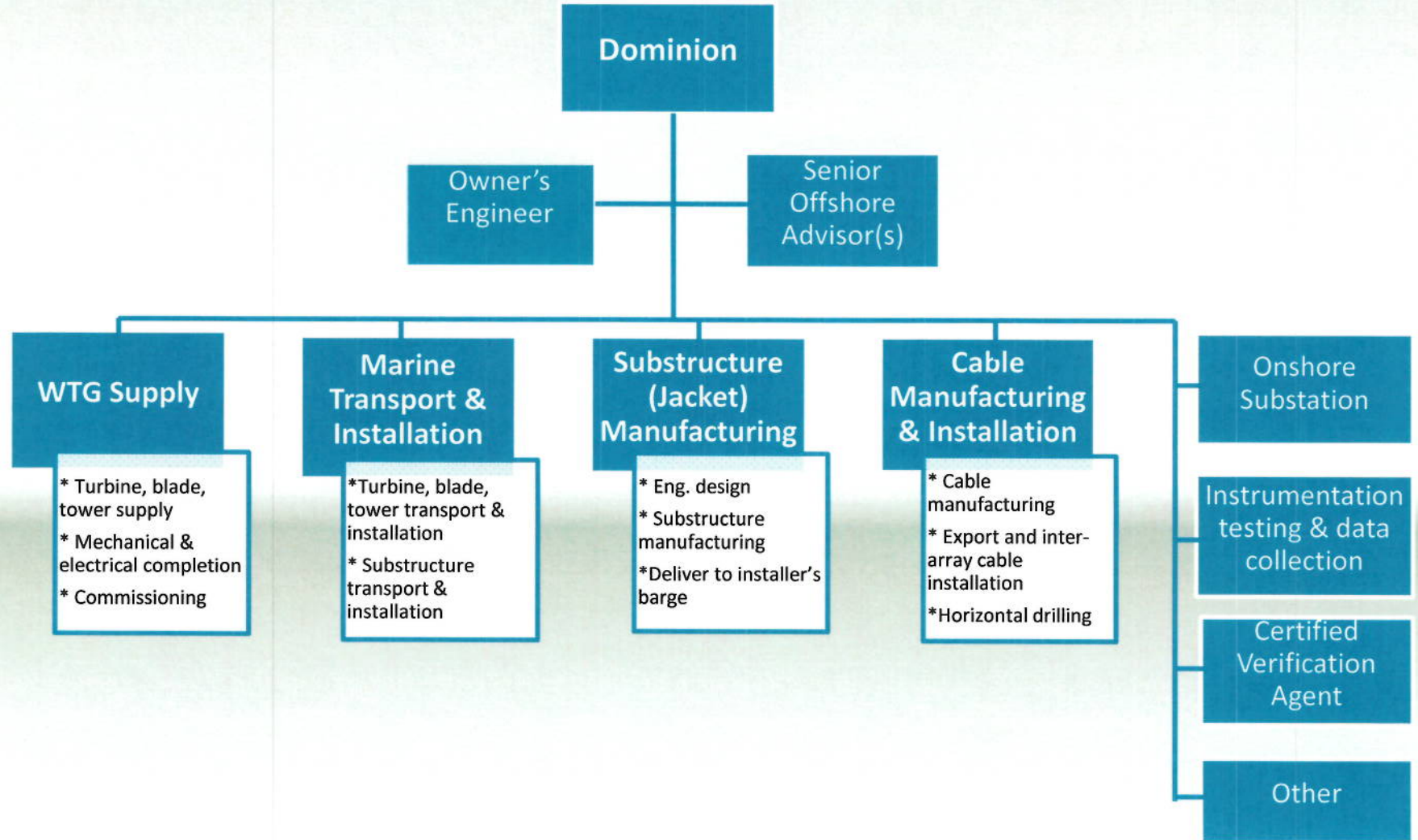
Multi
Contract

- Issue new RFP on a Multi-Contract approach
- Employ an experienced Dominion project team

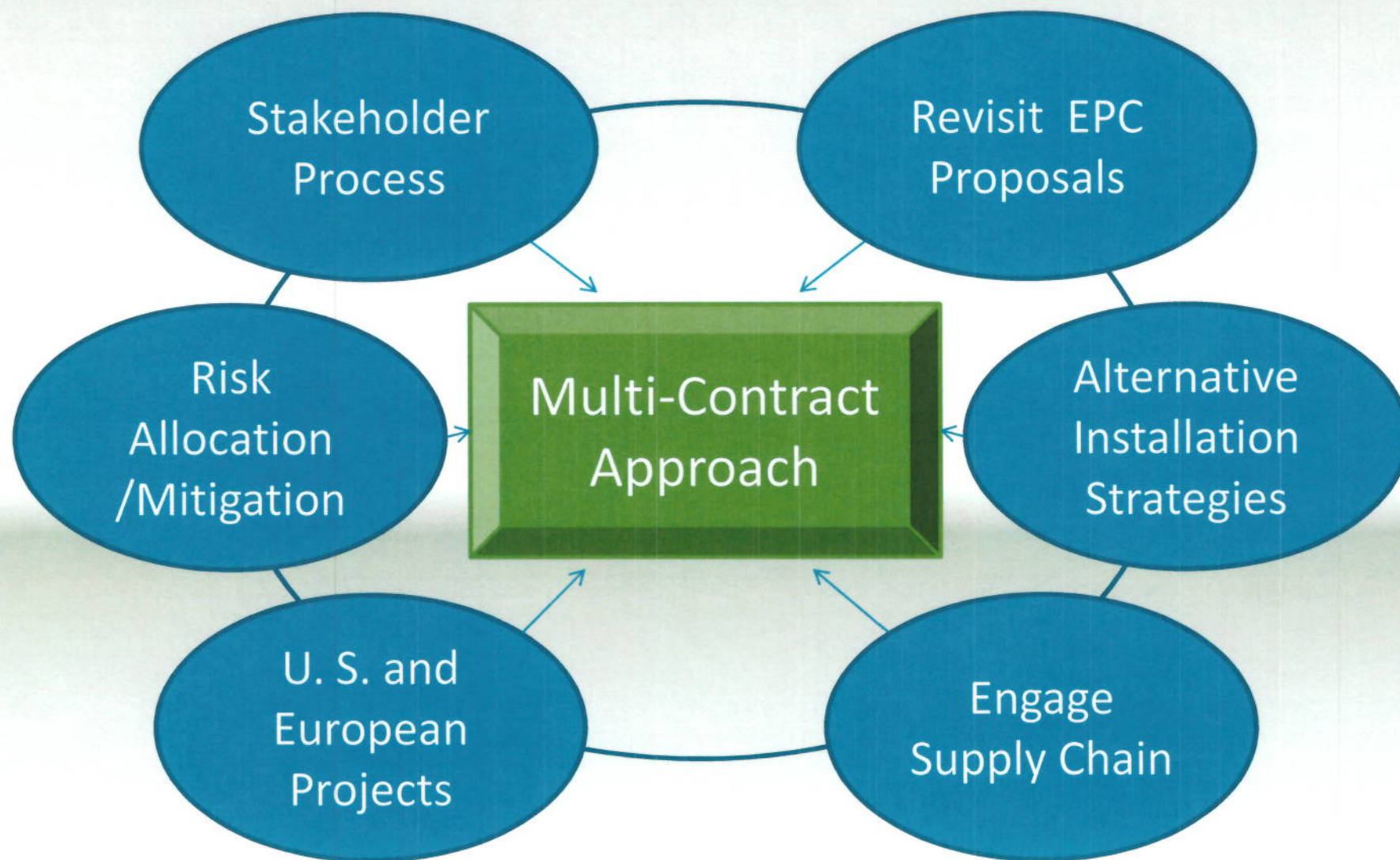
Risk
Management

- Seek and select experienced contractors
- Eliminate compounded EPC risk premiums
- Incorporate European lessons learned
- Address interface risk of multi-contracts

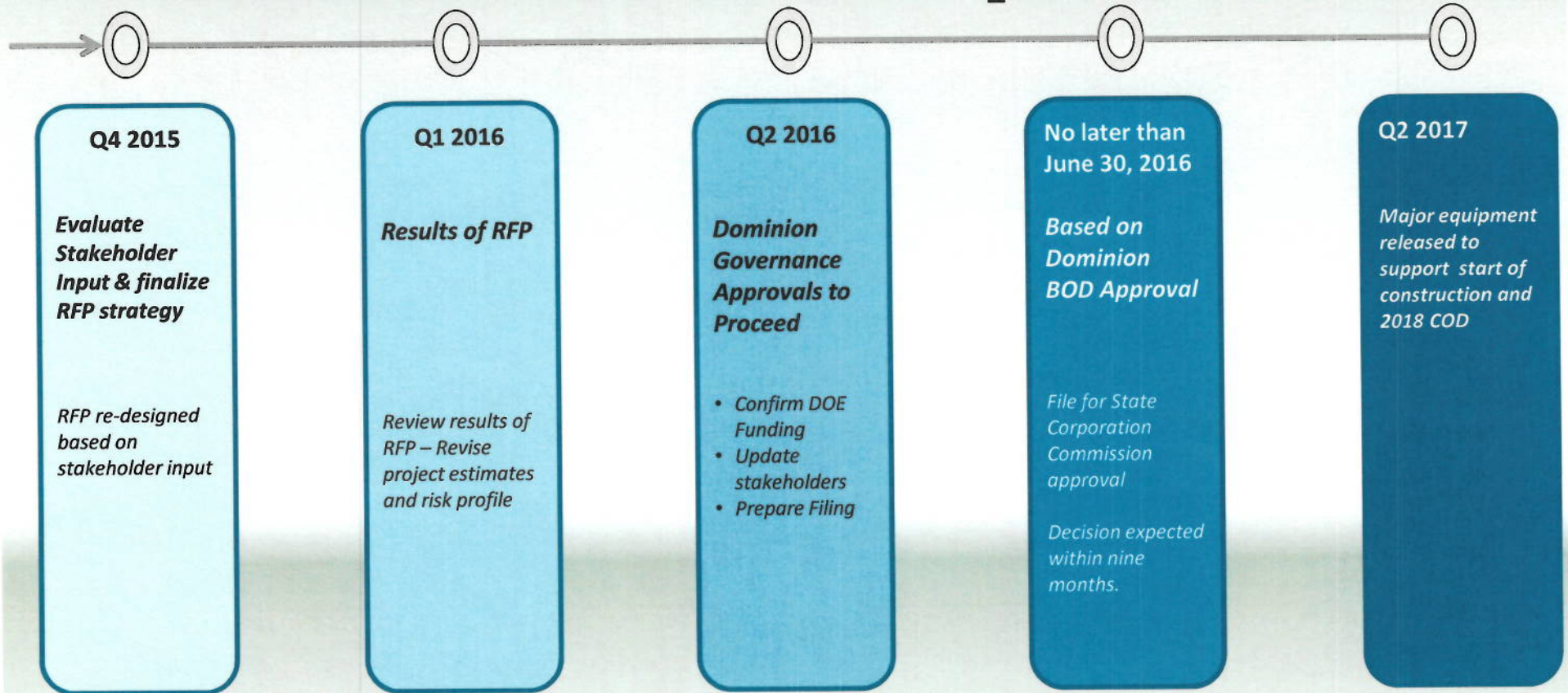
Contract Cohort Proposed Multi-Contract Structure



Developing a Multi-Contract Strategy



Established Path to Facilitate 2018 Commercial Operations



Questions

Virginia Beach,
Virginia Shoreline



South Wind
Turbine

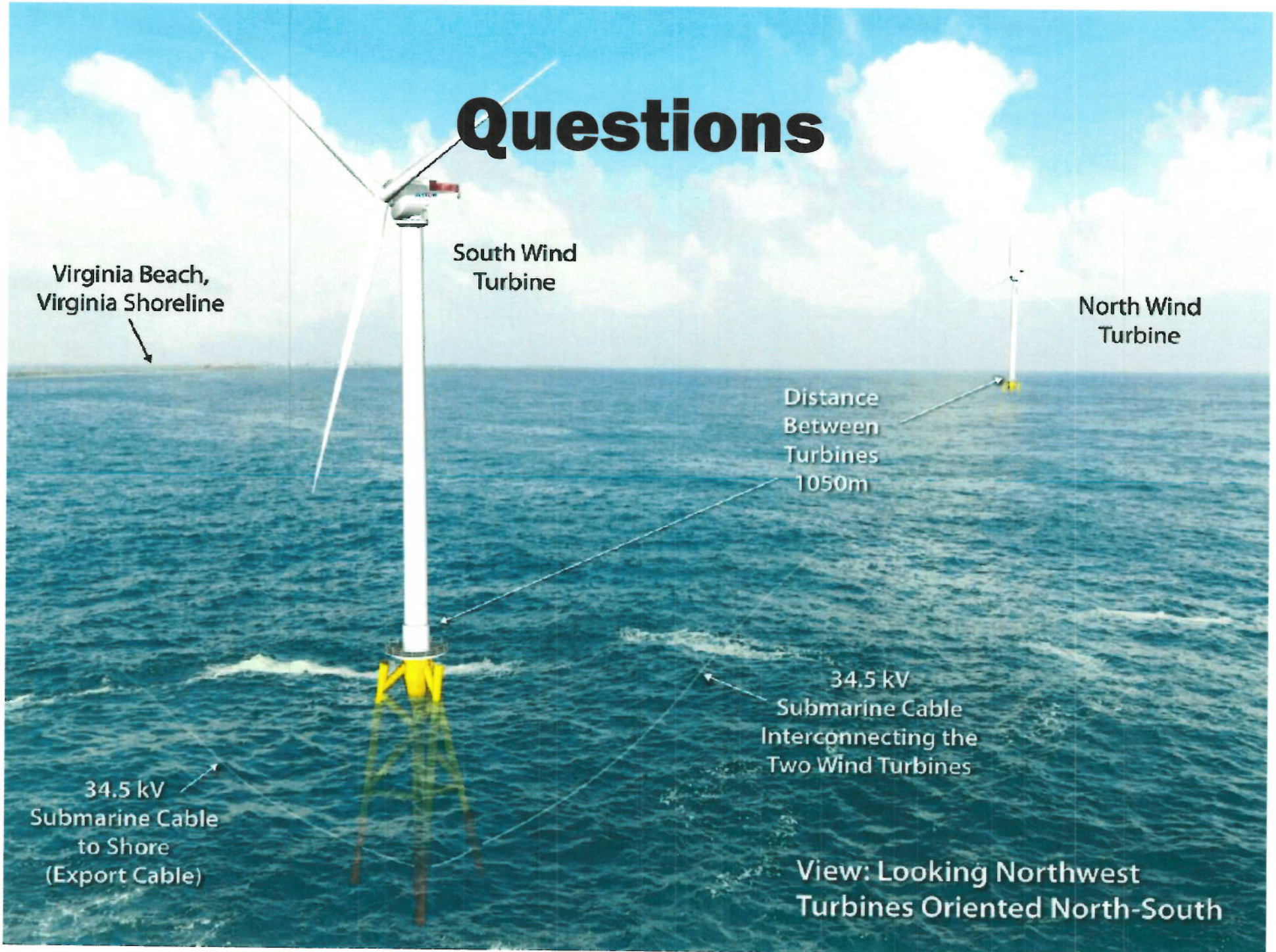
North Wind
Turbine

Distance
Between
Turbines
1050m

34.5 kV
Submarine Cable
to Shore
(Export Cable)

34.5 kV
Submarine Cable
Interconnecting the
Two Wind Turbines

View: Looking Northwest
Turbines Oriented North-South



VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY



APPENDIX H

VIRGINIA OFFSHORE WIND TIMELINE

VA Offshore Wind Timeline (some future entries are estimates)

| Action | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | Comments | |
|---|--------|------|------|------|----------|--------|------|--------|-----------|-----------|------|------|------|------|------|------|------|------|------|------|---|--|
| PRE-LEASE | | | | | | | | | | | | | | | | | | | | | | |
| Creation of VA Coastal Energy Research Consortium (VCERC) - May 18, 2006 | May 18 | | | | | | | | | | | | | | | | | | | | | |
| Creation of VA Offshore Wind Development Authority (VOVDA) | | | | | April 11 | | | | | | | | | | | | | | | | | |
| VCERC Final Report | | | | | April 20 | | | | | | | | | | | | | | | | http://www.vcerc.org/VCERC_Final_Report_Offshore_Wind_Studies_Full_Report_newest.pdf | |
| Gamesa/Northrup Grumman Partner to Develop Turbine/Locate Test Sites | | | | | Oct | | | | | | | | | | | | | | | | | |
| DMME Draft Research Lease Application Developed | | | | | | Jan 13 | | | | | | | | | | | | | | | | |
| DMME Draft Research Lease Application Revised | | | | | | Sept 6 | | | | | | | | | | | | | | | | |
| RESEARCH LEASE 1 | | | | | | | | | | | | | | | | | | | | | | |
| DMME Research Lease Activities Separated into Two Lease Applications and RL1 Submitted | | | | | | June 1 | | | | | | | | | | | | | | | http://www.dmme.virginia.gov/DE/LinkDocuments/DMME_238ResearchLease_1%20.pdf | |
| BOEM Determination of No Competitive Interest in RL1 | | | | | | | | Mar 14 | | | | | | | | | | | | | | |
| DMME Submits General Activities Plan for RL1 | | | | | | | | Sep → | Feb | | | | | | | | | | | | | |
| BOEM issued DMME a lease offer for RL1 | | | | | | | | | Mar 13 | | | | | | | | | | | | | |
| RESEARCH LEASE 2 | | | | | | | | | | | | | | | | | | | | | | |
| DMME Research Lease 2 Application Submitted | | | | | | | | Feb 8 | | | | | | | | | | | | | | |
| BOEM Determination of No Competitive Interest in RL2 | | | | | | | | Dec | | | | | | | | | | | | | | |
| DMME Submits General Activities Plan for RL2 | | | | | | | | Nov 22 | | | | | | | | | | | | | | |
| BOEM issued DMME a lease offer for RL2 | | | | | | | | | May 6 | | | | | | | | | | | | | |
| RL2 GAP Approval | | | | | | | | | | Jan | | | | | | | | | | | | |
| DOE announced that Dominion was one of three of the initial seven projects selected for follow-on phases to move forward | | | | | | | | | May 4 | | | | | | | | | | | | | |
| VOWTAP Phase I ATDP (to DOE submittal date) | | | | | | | | Feb → | Jan | | | | | | | | | | | | | |
| VOWTAP Phase I Period Ends | | | | | | | | | June 30 | | | | | | | | | | | | | |
| VOWTAP Phase II-Phase IV ATDP | | | | | | | | | May → | → | Dec | | | | | | | | | | | |
| Test Turbines Deployed | | | | | | | | | | | | | | | | | | | | | | |
| BOEM executes RL2 with DMME | | | | | | | | | | March | | | | | | | | | | | | |
| DMME designates Virginia Electric and Power Company as operator for RL2 | | | | | | | | | | March | | | | | | | | | | | | |
| Dominion received two bids for constructing VOWTAP and only one bid was qualified | | | | | | | | | | April 23 | | | | | | | | | | | | |
| VOWDA supported the creation of an expanded stakeholder process to discuss how to lower costs and risk associated with the demonstration project | | | | | | | | | | April | | | | | | | | | | | | |
| The stakeholder group met and formed 3 specialty sub-groups (Technology, Policy, Contract and Logistics) to look at areas where cost and/or risk reductions might be possible | | | | | | | | | | July-Sept | | | | | | | | | | | | |
| COMMERCIAL DEVELOPMENT | | | | | | | | | | | | | | | | | | | | | | |
| BOEM Issues Call for Info & Nominations | | | | | | | | Feb 3 | | | | | | | | | | | | | | |
| DMME/BOEM Award Regional Ocean Survey Contract (Fugro Consultants) | | | | | | | | | April-Dec | | | | | | | | | | | | | |
| BOEM Lease Auction | | | | | | | | | Sep 4 | | | | | | | | | | | | | |
| DMME contracted with UK's BVG Associates to conduct a study to evaluate the general readiness of Virginia's port terminals | | | | | | | | | | Dec | | | | | | | | | | | | |
| BOEM & DMME cost-shared research projects complete: 1) Processing more data collected in 2013 ocean survey and 2) Virginia Coastal Zone Management Collaborative Fisheries Planning Project at the DEQ to develop fine-scale maps of important commercial and recreational fishing areas in and around the Virginia WEA | | | | | | | | | | Oct | | | | | | | | | | | | |
| Lease & Pre-Construction Activities | | | | | | | | | Oct → | → | → | → | → | → | → | | | | | | | |
| Commercial lease with Dominion Virginia Power for the Virginia Wind Energy Area went in to effect | | | | | | | | | Nov 1 | | | | | | | | | | | | | |
| BVG Associates complete port readiness study | | | | | | | | | | July | | | | | | | | | | | | |
| Approvals and Construction | | | | | | | | | | | | | | | | | | | | | | Many variables impact the construction time table. Construction could begin even before 2017, but that probably is not likely. Lease holder has up to five years to develop a Construction and Operations Plan. The length of time needed for approvals, procurement of long-lead-time materials and construction can vary depending on extent of SCC involvement, where power output is sold and other factors. Actual construction of first phase 400-600 MW could take 2-3 years. The chart depicts a range of completion dates for installation of 400-600 MW as early as 2019 or as late as 2025. |

(Updated 10/1/15)