Annual Report

October 18, 2019

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

Contents

APPENDICES

EXECUTIVE SUMMARY

In 2019, the decade-long steady march of Virginia and other East Coast states engaged in developing offshore wind reached a gateway. Governor Ralph Northam issued Executive Order 43 in September, calling for 30 percent of electric energy in Virginia to come from renewable sources by 2030, to make Virginia's electricity generation carbon free by 2050, and to start by developing offshore wind in a big way. Dominion Energy accepted the challenge two days later, announcing its plans to develop 2,600 megawatts of offshore wind and have it operational by 2026.

Also in 2019, after years of planning, on-shore construction of the Coastal Virginia Offshore Wind (CVOW) project began in the summer, to be followed by turbine installation in the spring of 2020. The CVOW project is sure to provide valuable research data as Virginia moves forward with the development of the larger commercial offshore wind energy lease area.

Dominion Energy plans to build what would be the largest offshore wind development in the country, about 220 turbines able to power 650,000 homes at peak wind. And there are sure to be more such developments to come. Many of the 15 active federal leases on our coast are very close to the point of large scale turbine construction and installation, and while currently there are no turbines installed in these federal lease areas, it has become clear in the past year that coastal states, the industry and large energy users who wish to wean themselves off of fossil fuels would like to have even more space for wind energy development on the Outer Continental Shelf.

The Authority continues to work with and support the efforts by the Virginia Department of Mines, Minerals and Energy (DMME), the federal Bureau of Ocean Energy Management (BOEM), Dominion Energy, Ørsted and other stakeholders to help accelerate offshore wind development projects in Virginia, address environmental and financial issues, and create port and supply chain economic opportunities.

The past year brought a number of significant milestones to enhance Virginia's potential as the location of choice for investment in this burgeoning industry:

- In January, the DMME joined the National Offshore Wind Research and Development Consortium.

- On May 31, DMME and Old Dominion University (ODU) signed a Memorandum of Understanding (MOU) for the state's offshore wind projects. The agreement is based on providing research and support for Virginia's offshore wind, with focus on the Coastal Virginia project.

- In June, the Bureau of Ocean Energy Management (BOEM) approved the Research Activities Plan needed for the installation of CVOW that streamline the federal agency's approval process for additional research activities in the DMME research lease.

- On July 1, land construction for CVOW broke ground. Dominion also announced plans to seek approval to invest an additional $800 million by 2023 to ready the first phase of commercial development by 2024.

- On July 18, BOEM convened a Joint Virginia and North Carolina Renewable Energy Intergovernmental Task Force Webinar and announced its plans to implement the so-called "Path Forward" program to expand federal lease opportunities, Wind Energy Areas, for offshore wind development on a regional basis. VOWDA and the State of North Carolina expressed interest in identifying additional WEAs for potential future offshore wind leasing. According to BOEM's analysis, both states have potential for offshore wind energy development and BOEM will work with the Intergovernmental Task Forces in this region to further evaluate leasing opportunities.

- ODU, in late 2018, convened a 120-member offshore wind task force consisting of offshore wind energy leaders and experts from all levels of government, as well as the public and the private sector. The task force's first step was establishing an 11-member executive committee (EXCOM) that keeps efforts aligned and moving forward.

- On August 23, Old Dominion University convened a roundtable of leaders from across Hampton Roads and Virginia to update U.S. Senator Mark Warner and Governor Ralph Northam's chief of staff, Clark Mercer, on the region's offshore wind plans, projects and research proposals.

- On September 16, Governor Northam signed Executive Order 43 which sets targets for emission reductions and clean energy expansion. The order calls for 30 percent of Virginia's electricity generation to come from renewable energy sources by 2030, a fivefold increase, and 100 percent from carbon-free sources by 2050. The order calls to develop the offshore wind energy area with as much as 2,500 MW by 2026.

- Days after the Governor's announcement, on September 19, Dominion Energy announced plans to develop the largest offshore wind project in the United States, 2,600 MW to be in operation off the coast of Virginia Beach by 2026. Once completed, about 220 wind turbines would be able to power 650,000 homes at peak wind conditions.

- In early October, DMME and ODU signed a three-year agreement for the university, its Research Foundation and Center for Coastal Physical Oceanography to support the integration of Virginia's renewable energy research leases into a National Ocean Test Bed and to accelerate Virginia's participation in the U.S. East Coast offshore wind supply chain, including workforce development through higher education and training.

- DMME, VEPD, Port of Virginia, Governor's Office, Dominion, Ørsted and others continued during 2019, as in 2018, to meet with wind developers and supply chain companies that are evaluating Virginia port infrastructure, workforce and maritime industry for operations and investment. The Commonwealth continued and intensified efforts to market Virginia's unique port and workforce assets to supply chain companies and developers using consistent messaging materials and coordinated resources drawn from multiple agencies, maritime industry leadership, ODU, Dominion and Ørsted.

As a result of activities and accomplishments in 2019, the Authority makes the following recommendations in 2020 and beyond to further advance offshore wind development and related supply chain activities in Virginia. The recommendations are ranked in order of priority.

RECOMMENDATIONS

RECOMMENDATION 1: Accelerate the drive for resources and policies to ensure that the first phase of the commercial wind energy buildout will support initial generation of energy by 2024 and that additional phases will come online in 2025 and 2026, to fully develop up to 2,600MW of wind energy off Virginia's shore in six years.

RECOMMENDATION 2: Develop a coordinated policy, economic development and workforce development strategy to incentivize and thereby ensure offshore wind supply chain opportunities for Virginia. Collaborate with stakeholders, including Dominion Energy, Ørsted, Avangrid Renewables, Virginia Economic Development Partnership, universities, the Port of Virginia and the maritime industry, Virginia and European manufacturers, and others to promote Virginia companies as part of the supply chain for offshore wind.

RECOMMENDATION 3: Actively solicit research and development opportunities and activities to reduce the cost and risk of developing the wind resource and supply chain, including leveraging the CVOW

project and other uses of the DMME Research Lease in conformance with existing agreements.

RECOMMENDATION 4: Work to identify possible power off takers in the Commonwealth and elsewhere, such as large data companies with clean energy commitments and Amazon's Eastern Headquarters2 scheduled to be constructed in Northern Virginia at National Landing, for offshore wind energy from CVOW and the commercial Wind Energy Area. This will help obviate the need for SCC approval of the commercial site by defraying its costs to the ratepayers either partly or fully.

RECOMMENDATION 5: Work towards a multi-state regional supply chain cluster in Mid- and South Atlantic coastal states, offering the industry a larger pipeline of projects and a wide network of the best of what each state has to offer.

As required by § 67-1209 of the Code of Virginia, the Authority submits this eighth annual report to the Governor and the Chairpersons of the House Appropriations Committee, the Senate Finance Committee and the House and Senate Commerce and Labor Committees.

MISSION AND OBJECTIVES

The Virginia Offshore Wind Development Authority (VOWDA or the Authority) was established in 2010 for the purposes of facilitating, coordinating, and supporting the development of the offshore wind energy industry, offshore wind energy projects, and related supply chain opportunities. The Code of Virginia § 67-1201 tasks the Authority to support Virginia offshore job creation and supply chain development in cooperation with relevant local, state and federal agencies. A copy of the Authority's Mission Statement and Objectives can be found in *Appendix A*.

The Governor appoints the nine non-legislative citizen members. The Director of DMME serves as the Director of the Authority, and DMME serves as staff to the Authority. The list of VOWDA Members is included as *Appendix B*.

The legislation requires the Authority to provide an annual summary of the activities of the Authority and policy recommendations to the Governor, the Chairpersons 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, https://www.vaoffshorewind.org/authority/about/.

OFFSHORE WIND DEVELOPMENTS AND ACTIVITIES

Virginia Offshore Wind Development Authority

To accomplish its goals and objectives, the Authority regularly updates and works to implement a comprehensive work plan. To improve communications and coordination regarding VOWDA's work tasks and other state activities to facilitate development of the offshore wind resource and supply chain, DMME staff held monthly calls with Dominion Energy.

In 2019, VOWDA focused on five objectives. Members developed tasks to achieve these objectives, completing several activities this year that support offshore wind power development.

1. Encourage and advocate for supportive state and federal regulatory actions and changes, as well as legislative proposals, such as the establishment of a mandatory renewable energy standard with a specific goal for offshore wind, and for extension of the federal tax credits.

    - Evaluated, with the assistance of VOWDA counsel, the Authority's powers and authorities granted under Virginia Code §§ 67-1200 through 67-1211. With a better understanding of the Code as to what the Authority can and can't do, members can consider possible actions/plans and what is needed to execute them within the scope of its authorities -- use of public-private partnerships, apply for federal loan guarantees, and execute contracts; request appropriations from the General Assembly to support its function or request statutory modifications so the Authority has a more active role to accomplish what it wants to do.

    - Working with BOEM to minimize undersea cable right of way conflicts, VOWDA filed comments on July 1, 2019, with the Virginia Marine Resources Commission regarding SJ 309 that requests VMRC to study the feasibility of creating protection zones for submerged fiber optic cables located along Virginia's shores. VOWDA asked that the study address the need to mitigate, reduce or remove conflicts between right of ways for telecommunications cables and power cables from future offshore wind energy development in federal waters off Virginia's coast. A copy of this letter is included as *Appendix C*.

2. Collaborate with stakeholders, including Dominion Energy, Ørsted, Virginia Economic Development Partnership, the Port of Virginia, Virginia and European manufacturers, Virginia and European manufacturers, and others to promote Virginia companies as part of the supply chain for offshore wind.

    - ❖ Worked with DMME to develop Port of Virginia promotional package for use by all Virginia offshore wind stakeholders at conferences and other marketing opportunities.

3. Work towards a multi-state regional supply chain cluster in mid and south Atlantic coastal states, offering the industry a wide network and the best of what each state has to offer.

4. Work to identify possible power off takers in the Commonwealth and elsewhere, such as large data companies with clean energy commitments and Amazon's Eastern Headquarters2 scheduled to be constructed in Northern Virginia at National Landing, for offshore wind energy from CVOW and the commercial Wind Energy Area. This will help obviate the need for SCC approval of the commercial sites by defraying its costs to the ratepayers either partly or fully.

    - ❖ Worked with DMME and Green Powered Technology to characterize mechanisms used for renewable energy power purchases in Virginia. Green Powered to examine power off take paths used in other states.

5. Actively solicit research and development opportunities and activities to reduce the cost and risk of developing the wind resource and supply chain, including leveraging the DMME Research Lease in conformance with existing agreements.

    - ❖ In January 2019, DMME joined the National Offshore Wind Research and Development Consortium.

The Authority heard presentations from various stakeholders and experts. Available presentations can be viewed on the VOWDA website https://www.vaoffshorewind.org/authority/about/.

- ❖ Dominion Energy reported on key milestones and status on the commercial development and the Coastal Virginia Offshore Wind project.

- ❖ Renewable Resources International briefed VOWDA on the study of Virginia's offshore wind industry supply-chain development released in December 2018 and the recommendations to help make Virginia the choice for offshore wind supply-chain

companies. Presented on the East Coast offshore wind opportunities and the critical market changes driving industry stakeholders.

- Business Network for Offshore Wind provided an update on developing offshore wind and its supply chain in the U.S., addressing global offshore wind projections; U.S. offshore wind pipeline (NE and mid-Atlantic) including projected growth by state and challenges; the new focus on infrastructure and workforce; the Business Network for Offshore Wind Supply Chain Portal; R&D opportunities, specifically the National Offshore Wind R&D Consortium; and next steps.

- ODU Office of Research reported on the status of the U.S. Army Corps of Engineers study to identify at least three innovative ports for offshore under a provision of America's Water Infrastructure Act of 2018 (S. 3021) and proposed steps to move this study forward and provide support toward the Commonwealth's goal of being designated an innovative port for offshore wind development. Virginia qualifies to be one of these ports due to its highly developed infrastructure.

- OCU Center for Coastal Physical Oceanography briefed VOWDA on the offshore wind research and development funding opportunities it is pursuing including the DOE Office of Energy Efficiency and Renewable Energy project development for offshore wind technology demonstrations, National Offshore Wind Research and Development Consortium three research pillar open solicitations, and DOD Office of Economic Adjustment renewable energy project siting and encroachment study.

- Advanced Energy Builders Group discussed the role of offshore wind in reaching clean energy goals, providing an overview of opportunities for corporate procurement of clean energy, including corporate demand for renewable energy, emerging trends, challenges and solutions.

- VOWDA OAG counsel presented an overview of powers and authorities granted to VOWDA under Virginia Code §§ 67-1200 through 67-1211 to provide members with a better understanding of how they can advance development of the offshore wind resource and support the associated supply chain within the scope of VOWDA's authorities.

- DOE Loan Program Office provided an overview of DOE's Loan Guarantee Program that finances commercial-scale renewable energy and efficient energy projects and outlined the potential value of federally guaranteed loans to finance offshore wind development, port infrastructure and supply chain facilities.

- BEI Maritime presented an overview of its proposed state-of-the-art maritime training center to be built in North Carolina expected to be completed in 2021. BEI will provide a harsh maritime training environment in a controlled indoor facility that will meet training and certification standards for the Coast Guard, the Global Wind Organization and the Offshore Petroleum Industry Training Organization.

In addition, VOWDA monitored offshore wind activities of other mid-Atlantic states. A summary of significant developments is included as *Appendix D*.

Commonwealth of Virginia

Coastal Virginia Offshore Wind Project

As stated in the Executive Summary, the CVOW project has begun to transition from planning to construction. In June, BOEM approved revisions to the Research Activities Plan (RAP), which allowed the CVOW project to proceed with land construction. Shortly following the approval, Dominion began construction on a substation in Virginia Beach where a cable will come ashore carrying power from the two wind turbines. A construction vessel, positioned about a half-mile offshore, placed conduit underwater along the future route of the cable. Installation of the turbines will begin in early spring and they are expected to be generating power by summer 2020.

CVOW is expected to provide the operational, permitting, design, construction, weather and environmental experience necessary for large-scale development in the adjacent 112,800 acre lease area. Furthermore, CVOW is the first offshore wind project that requires permitting through BOEM. Therefore, this experience has prepared Dominion and Ørsted to better respond to the needs and requirements of the federal permitting agencies – streamlining the permit process, reducing project risks, and reducing costs. In this sense, this pilot project is a critical initial step in developing Dominion's Virginia offshore lease area, which should be able to accommodate over 2,000 MW of generation capacity.

2018 Virginia Energy Plan

The 2018 Virginia Energy Plan, published October 1, 2018, includes both high-level and detailed recommendations to enable grid modernization to occur in a forward-looking and dynamic manner. The plan promotes the Commonwealth's transition to a more flexible, resilient, affordable and environmentally responsible energy system. The offshore wind sector is central to the Northam Administration's energy roadmap because of its ability to create new business opportunities, expand customer access to renewable energy and spark the high-demand jobs of the 21st century. The plan provides the Administration's commitment to a goal that the full 2,000

MW of offshore wind potential in Virginia's wind energy area be developed by 2028. In addition, the plan calls for the Commonwealth to include the offshore wind industry as a priority in future workforce development and economic development strategic plans.

https://www.governor.virginia.gov/media/governorvirginiagov/secretary-of-commerce-and-trade/2018-Virginia-Energy-Plan.pdf

VMRC Study [SJ 309]

The Virginia General Assembly passed SJ 309 requesting that the Virginia Marine Resource Commission study the feasibility of creating protection zones for submerged fiber optic cables located along Virginia's shores. While SJ 309 only directly relates to protection zones for telecommunication cables, VOWDA sent a letter asking the VMRC ensures equal treatment and protection for offshore wind transmission cables that will be making landfall on Virginia shores, not just from wind power development off the coast of Virginia, but possibly also from North Carolina's Kitty Hawk wind project. Regardless of whether a protective zone or another approach is evaluated, the Commission should consider ways to ensure effective coordination and cooperation among the various industry sectors that install submarine cables to minimize right of way conflicts, avoid cable crossings and generally lower risks of disruptive and costly cable damage. *(Appendix C)*

Federal Government

National Offshore Wind Consortium

USDOE is funding a NYSERDA-led National Offshore Wind Consortium that will serve to accelerate solutions that reduce offshore wind costs and increase opportunities for U.S. manufacturing and supply chain establishment. The Commonwealth of Virginia was invited to participate and joined in January 2019. The Consortium will conduct research and development to address technological barriers and lower the costs and risks of offshore wind in the United States. NYSERDA has committed to matching DOE funds. Competitive solicitations of $32 million in research funds will be awarded over the next four years. The three research areas identified are wind plant technology advancement, wind resource and physical site characterization and installation, operations and maintenance, and supply chain technology solutions. The ODU Center for Coastal Physical Oceanography and ODU Office of Research are leading Virginia's efforts to capitalize on the following five research opportunities.

- Array performance and control optimization
- Cost-reducing turbine support structures for the U.S. market

- Development of a metocean reference site
- Heavy lift vessel alternatives
- OSW digitization through advanced analytics

America's Water Infrastructure Act, Title I of S.3021 (Pub L. 115-270) - Corps of Engineers Innovative Port Study

In October 2018, Congress passed and the President signed the Water Resources Development Act of 2018. The Act directs the U.S. Army Corps of Engineers to conduct a study and submit a report to the Secretary of the Army by October 2019 that identifies at least three innovative ports for offshore wind development. Virginia qualifies to be one of these ports due to its highly developed infrastructure. In November 2018, Governor Northam sent a letter to the Assistant Secretary of the Army that included Virginia's interest in becoming an innovative port for offshore wind development. The ODU Office of Research, along with VOWDA and DMME, have been working to move this study forward and provide support toward the Commonwealth's goal of being designated an innovative port. A Virginia delegation, led by Senator Mark Warner, sent a letter to the USACE urging them to start the study and amplifying that the Port of Virginia be considered in the study.

Offshore Wind Jobs and Opportunity Act

In June 2019, Congress re-introduced the *Offshore Wind Jobs and Opportunity Act*, legislation creating a grant program for offshore wind energy job training. The Act would direct DOE to work with stakeholders to identify the industry's educational and career training needs before setting up a grant program. The new federal grant program created by this legislation would assist colleges and universities, state and local governments, unions, and nonprofits develop curricula, internships, health and safety programs, and other activities to advance an offshore wind workforce. The bill prioritizes grants to community colleges, organizations that service minority populations, and those helping workers from others industries transition to the offshore wind industry. The grant program would be authorized at $25 million a year from FY 2020 through 2024.

Port Access Route Study Report

In March 2019, the Coast Guard announced it is beginning a new study of routes used by ships to access ports on the U.S. Atlantic Coast that will supplement and build on the Atlantic Coast Port Access Route Study completed in May 2017. The Ports and Waterways Safety Act (PWSA) (46 U.S.C. 70003(c)) requires the Coast Guard to study potential traffic density and assess the need for safe access routes for vessels. The Coast Guard coordinates with Federal and State agencies,

and considers the views of the maritime community, environmental groups, and other interested stakeholders in order to reconcile the need for safe access routes with other reasonable waterway uses in the study area. Coast Guard district commanders will prioritize and schedule a Port Access Route Study for specific port approaches and international transit areas associated with proposed ACPARS fairways within their areas of responsibilities. They will post these milestones on the docket by May 1, 2019. This initiative is expected to be completed by May 2021. The Coast Guard will analyze ports that are economically significant, that support military operations or are strategic for national defense along the Atlantic.

Maritime Administration Authorization and Enhancement Act [May 2019]

U.S. Senate Committee on Commerce, Science and Transportation approved this Act that includes amendment by Senator Markey (D-MA) that directs DOT, in consultation with DOE and DOI, to prepare and submit a report in six months on the need for vessels to install, operate and maintain emerging offshore energy infrastructure, including OSW energy. The report should include an inventory of existing vessels that have the potential to be refurbished for such purposes.

Bureau of Ocean Energy Management

Offshore Renewable Energy Leasing on the Atlantic Outer Continental Shelf: In 2018, BOEM developed and sought input on a *Proposed Path Forward for Future Offshore Renewable Energy Leasing on the Atlantic Outer Continental Shelf*. BOEM received several comments on the Request for Feedback and in June 2019 issued its offshore wind leasing strategy for the Outer Continental Shelf, Path Forward for Offshore Wind Leasing on the Outer Continental Shelf the "path forward". The major topics included fisheries, marine traffic, DoD use areas, and state-specific renewable energy incentives.

NY-NJ Wind Energy Transmission Line

In June 2019 BOEM announced the publication of a Request for Competitive Interest for the development of the New York and New Jersey Wind Energy Transmission Line, an offshore transmission system that would deliver offshore wind energy to the onshore electric grid.

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 met-ocean 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 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. <u>VA Offshore Industry Data:</u> Facilitate the definition, collection, dissemination of relevant met ocean data, environmental data, and other information needed by VA 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 collected[1];
    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. <u>Offshore Leasing, Permitting, Financing, and Regulation:</u> Identify existing federal and state barriers to the development of the offshore wind industry in VA.

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 VA 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. <u>VA Offshore Job Creation & Supply Chain Development:</u> 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 VA 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 VA 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. <u>Offshore Wind Project Siting and Development:</u> 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 MEMBERS

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

BOARD MEMBERS

Joan Bondareff, Chair
Attorney
Blank Rome LLP

Hayes Framme
Government Relations and Communication Manager Southeast
Ørsted

Phillip S. Green, Vice Chair
President
Green Powered Technology

Robert Matthias
Assistant to the City Manager
VA Beach City Manager's Office

James McArthur, Jr.
Virginia Commercial Space Flight Authority Representative
Vice Admiral
U.S. Navy (Retired)

Laura McKay
Manager
Virginia Coastal Zone Management Program

Mark D. Mitchell
Vice President – Generation Construction
Dominion Energy

Arthur W. Moye, Jr.
Director of External Affairs
Virginia Maritime Association

Brian Redmond
Managing Director
Paragon Asset Group, LLC

APPENDIX C

VOWDA Letter to Virginia Marine Resources Commission SJ 309 Cable Crossing

VIRGINIA OFFSHORE WIND DEVELOPMENT AUTHORITY

Washington Building, 8th Floor
1100 Bank Street
Richmond, Virginia 23219-3638
(804) 692-3200 FAX (804) 692-3237
https://www.vaoffshorewind.org/authority/

July 1, 2019

Steven G. Bowman
Commissioner
Virginia Marine Resources Commission
Building 96, 380 Fenwick Road
Ft. Monroe, VA 23651

Dear Commissioner Bowman:

SJ 309 requests the Virginia Marine Resources Commission to study the feasibility of creating protection zones for submerged fiber optic cables located along Virginia's shores. The Virginia Offshore Wind Development Authority (VOWDA) respectfully asks that any study undertaken address the need to mitigate, reduce or remove conflicts between right of ways for telecommunication cables and power export cables from future offshore wind energy development in federal waters off Virginia's coast.

Microsoft and Facebook, in conjunction with Spanish-based Telefonica, laid the first subsea cable (MAREA) to Virginia Beach with a 4,000-mile fiber connection to Bilbao, Spain. Telefonica also laid a second cable (BRUSA), which is 6,800 miles in length and connects Virginia Beach to Brazil. This second cable directly cuts across the path of the planned route for the export electric cable from Dominion Energy's two-turbine Coastal Virginia Offshore Wind (CVOW) demonstration wind power project slated for completion in 2020. Dominion Energy will now be forced to cross the BRUSA telecommunications cable with a much larger CVOW electrical cable in such a way as to ensure the BRUSA cable is not damaged or otherwise negatively impacted.

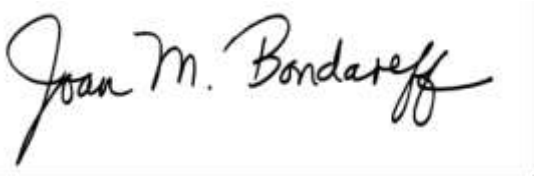
While SJ 309 only directly relates to protection zones for telecommunication cables, VOWDA requests that VMRC ensures equal treatment and protection for offshore wind transmission cables that will be making landfall on Virginia shores, not just from wind power development off the coast of Virginia, but possibly also from North Carolina's Kitty Hawk wind project. Regardless of whether a protective zone or another approach is evaluated, the Commission should consider ways to ensure effective coordination and cooperation among the various industry sectors that install submarine cables to minimize right of way conflicts, avoid cable crossings and generally lower risks of disruptive and costly cable damage.

Harnessing our offshore wind is a win-win-win. It means reliable, homegrown power, cleaner air, and real jobs for Virginians, as Governor Northam highlighted this morning at the CVOW ground breaking for the first cable to connect the new CVOW project to shore "[t]he Virginia offshore wind demonstration project is another powerful example of the Commonwealth's position as a leader in renewable energy,". "As the first deployment of commercial-scale offshore wind turbines in federal

waters, I am thrilled that Virginia's project will help determine best practices for future offshore wind construction along the East Coast."

Thank you for considering this request. Please contact Al Christopher at the Department of Mines, Minerals and Energy (al.christopher@dmme.virginia.gov or 804-692-3216) with any questions you may have.

Sincerely,



Joan Bondareff
VOWDA Chair

Cc: Tony Watkinson
Justin Worrell

APPENDIX D

2019 Key Offshore Wind Activities

Other Mid-Atlantic States

Connecticut

- In June 2019, Connecticut lawmakers passed House Bill 7156, which will require the commissioner of the state Department of Energy and Environmental Protection (DEEP) to solicit up to 2 GW of offshore wind capacity. The bill substantially increases the state's offshore wind procurement target, which previously stood at 300 MW.

Delaware

- A March 2019 report by the University of Delaware's Special Initiative on Offshore Wind (SIOW) said that America's offshore wind industry, which is projected to generate nearly 20 GW on the East Coast by 2030, presents a $70 billion business opportunity. The "first-of-its-kind analysis" offers a road map for states and a menu for suppliers to build GWs of new U.S. offshore wind power capacity over the next decade. The study does so by quantifying the timing and pace of $68.2 billion in supply chain contracting prospects to install 18.6 GW of offshore wind procurements forecast for clean-energy consumers on the Atlantic Seaboard by 2030.

  https://www.ceoe.udel.edu/File%20Library/About/SIOW/SIOW-White-Paper---Supply-Chain-Contracting-Forecast-for-US-Offshore-Wind-Power-FINAL.pdf

Maine

- On June 19, 2019, Governor Janet Mills signed into law LD 994, legislation that requires the Public Utilities Commission to approve the contract for Maine Aqua Ventus, the first of its kind demonstration project of floating offshore wind in the United States. Mills also announced that Maine will begin working with the federal government and nearby states New Hampshire and Massachusetts to identify offshore wind zones on the Outer Continental Shelf along the Gulf of Maine, potentially opening a big new U.S. region for development.

Maryland

- In July 2019, the company behind a long-planned wind farm off the coast of Ocean City, announced construction of a multimillion-dollar staging area at the Port of Baltimore, where turbines will be assembled and then shipped out to sea.

Massachusetts

- Rep. Bill Keating (D-Mass.) is sponsoring the Offshore Wind Jobs and Opportunities Act (H.R. 3068), which would establish a federal offshore wind career grant program. The bill would provide $25 million annually to colleges and labor unions to train a new offshore wind industry workforce. The bill would prioritize certain groups for funds, with a quarter of monies earmarked for community colleges. Priority would also be placed on areas of economic need,

minority workers, veterans and laborers who have been displaced from the fossil fuel, nuclear and fishing industries. H.R. 3068 would require the Interior Department to study the needs of an offshore wind labor force alongside government and private partners. The Massachusetts congressman's bill has four Democratic co-sponsors from coastal states: Reps. Joe Kennedy of Massachusetts, Donald Norcross of New Jersey, Donald McEachin of Virginia and Alan Lowenthal of California.

- In September 2019, the Massachusetts Maritime Academy (MMA) announced completion of their offshore wind training center. The facility, which is essentially a training tower, will specialize in crew transfer training. The tower was erected in Buzzards Bay at the far end of a waterfront protection pier inaugurated last year that also provides docking for local safety vessels. The project is part of a broader plan by Massachusetts to establish a network of training programs that prepare workers for Vineyard Wind, a major wind farm project planned south of Martha's Vineyard.

- Secretary of the Interior David Bernhardt has ordered additional study for the Vineyard Wind offshore wind project. The federal Bureau of Ocean Energy Management (BOEM) is extending the mandatory environmental review of the 800-MW proposed project off the coast of Massachusetts, Bernhardt told Bloomberg News on Friday. BOEM will also expand its analysis of other large offshore wind plans for the East Coast. The $2.8 billion project "remains viable and continues to move forward," Vineyard Wind said in a statement. The first phase of the project was supposed to come online in late 2019.

New Jersey

- In June 2019, Denmark's Ørsted won New Jersey's first offshore wind solicitation with a 1.1-gigawatt project known as Ocean Wind, the largest offshore wind project to secure a development deal with a U.S. state to date. Ocean Wind will be built 15 miles from the Atlantic City coast, with construction expected to begin in the early 2020s and finish in 2024.

New York

- In July 2019, Gov. Andrew Cuomo approved two wind farms that would be located off Long Island's waters. One is set to be built about 14 miles south of Jones Beach, and the other will be about 30 miles east of Montauk Point. The projects will be built by a division of Equinor, the Norwegian oil and gas company, and a joint venture between Ørsted, a Danish company, and Eversource Energy, an American firm. The New York State Energy Research and Development Authority (NYSERDA) will host a series of open house events in September to discuss the projects which will together will generate 1,696MW of offshore wind energy by 2024.

Ohio

- A pact with environmental groups over wildlife protections and monitoring has put a Lake Erie offshore wind project one step closer to construction. Lake Erie Energy Development Corporation, or LEEDCo, hopes to build the six-turbine Icebreaker project about eight miles north of Cleveland. A Sept. 4 regulatory filing spells out the developer's commitments, including use of bird-safe lighting, seasonal curtailment, and other technology and methods, to minimize the project's impact on birds, fish and other wildlife. The agreement was signed by Sierra Club and Ohio Environmental Council, as well as labor and industry groups. It addresses many of the remaining barriers for the project, which still needs approval from the Ohio Power Siting Board.

Rhode Island

- In June 2019, Rhode Island regulators unanimously approved a contract to build the state's second offshore wind farm. The Revolution Wind project will generate enough energy to power more than 270,000 homes a year.