

ORDER NO. 88192

IN THE MATTER OF THE *
APPLICATIONS OF U.S. WIND, INC. AND *
SKIPJACK OFFSHORE ENERGY, LLC *
FOR A PROPOSED OFFSHORE WIND *
PROJECT(S) PURSUANT TO THE *
MARYLAND OFFSHORE WIND ENERGY *
ACT OF 2013 *

BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

CASE NO. 9431

Issue Date: May 11, 2017

Before: W. Kevin Hughes, Chairman
Harold D. Williams, Commissioner
Michael T. Richard, Commissioner
Anthony J. O'Donnell, Commissioner

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I. INTRODUCTION

With today's Order, we echo the sentiments of Governor Larry Hogan in his 2017 *State of the State Address*, in which he proclaimed, "Maryland truly is Open for Business."¹ The decision we reach today affirms that Maryland is indeed open for business, specifically with at least two different offshore wind project developers – U.S. Wind, Inc. and Skipjack Offshore Energy, LLC. As a result of our Order, these companies are enabled to construct 368 megawatts ("MW") of offshore wind capacity in the Atlantic Ocean, yielding in the aggregate over \$1.8 *billion* of in-State expenditures and spurring the creation of almost 9,700 new Maryland jobs. These offshore wind projects enhance Maryland's commitment to clean, renewable electricity generation by producing numerous environmental and health benefits, such as the reduction of at least 19,000 tons of carbon dioxide per year over the projects' minimum twenty-year designed lifecycle.

Indeed, through this Order the State is positioned to become a national leader in the burgeoning offshore wind industry by securing tangible commitments to develop a robust supply chain in Maryland utilizing small businesses and minority business enterprises, while also revitalizing and re-purposing existing port infrastructure to bring much-needed job opportunities to areas of the State especially impacted by previous economic downturns. Further, the "all-in" approach to offshore wind that we undertake today signals to our neighbors and the world that Maryland is ready to serve as a regional hub and a substantial base for additional offshore wind development up and down the East Coast, thus, yielding sustained job growth for many years to come.

¹ The Honorable Larry Hogan, *2017 State of the State Address* (Feb. 1, 2017), <http://governor.maryland.gov/2017/02/01/2017-state-of-the-state-address/>.

We are cognizant, however, that there is a cost to doing business. It is not lost on us that this Order effectuates a premium investment by our ratepayers, albeit one that was contemplated and authorized by the General Assembly through its enactment of the Maryland Offshore Wind Energy Act of 2013. We took seriously the charge to maximize the benefits and minimize the costs to our ratepayers, and in the course of the proceedings we fulfilled our mandate to establish the lowest cost on ratepayers by reducing substantially the Applicants' bids, making the consideration of both Applications possible. Collectively, the net ratepayer impact associated with our approval is projected to be less than \$1.40 per month for residential customers, with an approximate 1.40% impact on the annual bills of nonresidential customers – both less than the ratepayer impacts authorized by the legislation.

Nonetheless, we have, to the best of our abilities, attempted to seize on the realization of both lofty economic and environmental goals established by the State, while doing so at the lowest cost possible to our ratepayers through the imposition of significant and numerous conditions on our approval, as described throughout the Order. It is our sincere intent and expectation that the conditions we impose on both U.S. Wind, Inc. and Skipjack Offshore Energy, LLC will ensure a maximum return on the investment of our ratepayers, while minimizing any potential negative impacts stemming from the ratepayer-funded incentives that will flow to the developers as a result of this Order.

We are aware that while the scope of our task is narrowly confined to considering whether or not to award State incentives to the proposed offshore wind projects, and that other federal authorities will provide the Applicants with final authorization to construct and operate, our actions will facilitate and make possible the business case for the

Applicants to proceed in that process. We therefore have specifically conditioned our award with requirements that the Applicants successfully acquire the necessary federal permits, and continue to work with Maryland citizens, and local, state, and federal authorities in addressing all applicable environmental, visual, and other impacts of public concern.²

In the instant proceeding, after a thorough review of the record evidence, the question before us with respect to the Applications for Approval of a Qualified Offshore Wind Project is not *whether* to proceed, but rather *how* to proceed. As noted by several intervenors, the benefit of competition (albeit one of many benefits we realized in this case) is that we are presented with two options: move forward incrementally through the approval of one, smaller project; or, move forward on an “all-in” basis and authorize incentives for both projects.

Put simply, we chose the latter. We found it especially compelling to consider the concept of risk when reaching our decision. There are obvious financial risks to our ratepayers associated with the chosen approach, and equally obvious ways to mitigate them (which we have done), such as the requirement that no ratepayer funds are expended until such time that the offshore wind projects are generating electricity. We have also considered and addressed the risk that our ratepayers may be unduly locked into a price now while offshore wind technology costs could continue trending downward in the future, which we have mitigated by requiring an “open books” approach to development and construction costs, wherein the developers must flow through 80% of

² We agree with Maryland Energy Administration Witness Fiastro that these proceedings represent the State’s opportunity to weigh-in on the importance of issues, such as visual impacts, and thus condition our Order on steps designed to address public comment. Tr. at 1987-1989.

realized savings to our ratepayers. Furthermore, we have considered exhaustively the issues of whether the offshore wind projects have not only demonstrated a likelihood to produce positive net economic, environmental, and health benefits to the State, but also whether such benefits will truly come to pass. In so doing, we have conditioned our Order on the realization of certain commitments outlined in the Applications, including the creation of direct in-State jobs and the investment of funds in Maryland infrastructure and businesses.

Finally, we note the overwhelming support for an offshore wind project from citizens, businesses, and public officials who testified at our public hearings in Berlin and Annapolis. Thirty-eight individuals testified at the Berlin hearing and over 60 individuals testified at the Annapolis hearing, the vast majority in support of one or both projects, citing the environmental, energy, economic, and health benefits of offshore wind.

Therefore, after careful review and consideration, we find that the Applications for Approval of a Qualified Offshore Wind Project submitted by U.S. Wind, Inc. and by Skipjack Offshore Energy, LLC satisfy the criteria specified as a condition precedent to our approval, and further, that it is in the public interest to move forward with both Applications.

II. BACKGROUND

A. The Applicants

An Application for Approval of a Qualified Offshore Wind Project was submitted in this proceeding by U.S. Wind, Inc. (“US Wind”) on February 3, 2016 and by Skipjack Offshore Energy, LLC (“Skipjack”) on August 23, 2016 (collectively, the “Applicants”).

US Wind is a Massachusetts corporation registered in Maryland, established for the purpose of developing a 750 MW³ wind farm project off the coast of Maryland and similar wind projects in the United States.⁴ The company is a fully-owned subsidiary of Renexia S.p.A. (“Renexia”), a joint stock company incorporated under the Laws of Italy with over five years of experience developing renewable energy projects around the world – including 450 MW of wind projects in Europe and Africa.⁵ The parent company of Renexia, Toto Holding, began as a construction company 40 years ago and now consists of companies in the fields of engineering, construction, concessions, renewable energy, and transportation.⁶

Skipjack is a Delaware limited-liability company authorized to do business in Maryland, and is a wholly-owned direct subsidiary of Deepwater Wind New Jersey, LLC (“DWNJ”).⁷ DWNJ is a wholly-owned direct subsidiary of Deepwater Wind Holdings, LLC, the owner of the 30 MW Block Island Wind Farm off the coast of Rhode Island – the first domestic offshore wind project.⁸ The company’s majority owner is D.E. Shaw, a large, privately-held global investment management and technology development firm.⁹

³ US Wind expressed in its Application the intent to construct up to a 750 MW offshore wind farm in its Maryland Wind Energy Area; however, US Wind requests through this proceeding Offshore Wind Energy Renewable Credits for only 248 MW of the total project capacity. *See* 2016 OREC Application by US Wind (hereinafter “US Wind Ex. 1”) at 7. US Wind confirmed that the 248 MW project will be separate and distinct from the later phases of the project in which the remaining 500 MW of capacity is installed, and that the projects will remain separate and distinct for purposes of operation and maintenance as well. *Id.* at 17. Although US Wind provided information pertaining to the benefits stemming from the entirety of the proposed 750 MW offshore wind farm (*see, e.g.* Rich Direct at 4-5), we considered herein only those that related directly to the 248 MW proposed offshore wind project that is the subject of this proceeding.

⁴ *Id.* at 1, 3, 7.

⁵ *Id.* at 3.

⁶ *Id.* at 3-4.

⁷ Skipjack Wind Farm Application to the Maryland Public Service Commission for Approval of a Qualified Offshore Wind Project (Revised Public Version) (hereinafter “Skipjack Ex. 7”) at 2-3.

⁸ *Id.* at 2.

⁹ *Id.* at 1.

B. The Applications

1. U.S. Wind, Inc.

US Wind proposes to construct a 750 MW wind farm project off the coast of Maryland, for which the company seeks offshore wind renewable energy credits (“ORECs”) in support of the development of 248 MW of offshore wind capacity.¹⁰ In its Application, US Wind states that it intends to utilize the Siemens SWT-4.0-130 4 MW turbine model and jacket foundations for the turbine installation;¹¹ although, during the evidentiary hearings in this proceeding, US Wind noted that it is also considering seriously the use of 6 MW turbine models.¹² Based on the wind resource and net energy yield assessment prepared by its subcontractors for this turbine design, US Wind estimates that its 248 MW offshore wind (“OSW”) project will produce 913,845 megawatt hours per year (“MWh/year”) at the P-50 confidence level.¹³

In its Application, US Wind projects that it will achieve a commercial operation date (“COD”) of January 1, 2020 for its 248 MW project.¹⁴ The US Wind Application proposes to locate the project approximately 12 nautical miles east of Ocean City, Maryland in the Maryland Wind Energy Area (“WEA”) for which US Wind secured the development rights through a competitive auction process conducted by the United States Department of the Interior’s Bureau of Ocean Energy Management (“BOEM”) in August,

¹⁰ US Wind Ex. 1 at 1.

¹¹ Evaluation and Comparison of US Wind and Skipjack Proposed Offshore Wind Project Applications by Levitan & Associates, Inc. (Revised Public Version) (hereinafter “Commission Ex. 2”) at ES-4, ES-13.

¹² Tr. at 78 (Rich).

¹³ *Id.* at ES-13. The “P” values refers to the probability of a level of energy output, with the term “P50” referring to the 50th percentile, indicating that there is a 50% chance that the actual output will be greater than this amount and a 50% chance that the actual output will be less than this amount. *See* Skipjack Ex. 7 at 23.

¹⁴ *Id.* at ES-17.

2014.¹⁵ According to the Application, the planned point of interconnection (“POI”) will be the Indian River substation. An active interconnection application for the 248 MW project is pending with PJM Interconnection, LLC (“PJM”) – known as queue position AB1-056.¹⁶

US Wind provides detailed information in its Application pertaining to its efforts to: engage small businesses and minority business enterprises; train and utilize skilled labor; and provide compensation consistent with Maryland regulatory requirements.¹⁷ The affirmative statements required by the Maryland Offshore Wind Energy Act of 2013 are also included in the Application, for which US Wind imposed no conditions.¹⁸

As described in the Application, US Wind expected the 248 MW project to cost approximately \$1.375 billion, or \$5,544/kW.¹⁹ To recoup those capital expenditures, US Wind offered in its Application a two-part, 20-year OREC bid with a first year price of \$201.57/MWh and a levelized price of \$177.64/MWh (2012\$).²⁰ Given that the projected upgrade costs for transmission interconnection are expected to be zero, the second component of US Wind’s two-part OREC bid is negated, thereby resulting in an adjusted levelized OREC price reflected in the Application of \$176.66/MWh (2012\$).²¹

US Wind retained expert consultants to conduct the required cost-benefit analysis needed to demonstrate that its proposed OSW project would yield positive net economic, environmental, and health benefits to the State. Its Application includes the economic

¹⁵ US Wind Ex. 1 at 2.

¹⁶ Commission Ex. 2 at ES-17.

¹⁷ *Id.* at 54-57.

¹⁸ *Id.* at ES-7.

¹⁹ *Id.* at ES-22. During the evidentiary hearings, US Wind revised downward its expectation of project costs, as further described below.

²⁰ *Id.* at ES-28.

²¹ *Id.*

benefits analysis of US Wind’s consultant EDR Group, which estimates that in-State economic benefits of \$494.1 million (2015\$) and \$4,278 million (2015\$) will accrue during the development and construction phases, and the operating period, respectively.²² The Application also estimates that total employment impacts will accrue to the State as a result of the US Wind project in the amount of 2,120 new full-time equivalent jobs (“FTEs”) and 4,540 new FTEs during the development and construction phases, and the operating period, respectively.²³ Additionally, the Application contains projections of tax revenue contributions to the State in the amount of \$17.3 million (2015\$) during the development and construction phases, and \$48 million during the operating period of the US Wind project.²⁴ The Application also contains an environmental and health benefits analysis, in which US Wind estimates reductions in lifecycle avoided emissions of the following pollutants: 16,150 tons of nitrogen oxide (NO_x); 35,311 tons of sulfur dioxide (SO₂); 18.9 million tons of carbon dioxide (CO₂); and 1,642 tons of particulate matter.²⁵

2. Skipjack Offshore Energy, LLC

Skipjack proposes to construct a 120 MW wind farm project approximately 17 to 21 nautical miles off the coast of Maryland in the Delaware WEA designated by BOEM as OCS-A 0482.²⁶ In its Application, Skipjack states that it intends to utilize an 8 MW class turbine and monopile foundations for the turbine installation.²⁷ Based on the wind resource and net energy yield assessment prepared by its subcontractors for an 8 MW

²² Commission Ex. 2 at ES-24.

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.* at ES-26.

²⁶ Skipjack Ex. 7 at IV.

²⁷ *Id.* at 17.

turbine with a 179 meter rotor diameter, Skipjack estimates that its 120 MW OSW project will produce 455,458 MWh/year at the P-50 confidence level.²⁸

In its Application, Skipjack states that its targeted COD is November, 2022 for its 120 MW project.²⁹ According to Skipjack’s Application, the planned point of interconnection will be at a substation located in Ocean City, Maryland, with the definitive POI established during the PJM interconnection process, which has not yet been undertaken.³⁰

Skipjack makes certain commitments in its Application to: engage small businesses and minority business enterprises; train and utilize skilled labor; and provide compensation consistent with Maryland regulatory requirements.³¹ The affirmative statements required by the Maryland Offshore Wind Energy Act of 2013 are also included in the Application; however, Skipjack initially imposed certain conditions, including grandfathering provisions to mitigate change in law risk and a qualifier that the Applicant will apply for State and Federal grants provided that the grants would result in a “material benefit for ratepayers” and/or “do not adversely affect the ability of the Company to develop, construct, and operate the Project.”³²

As described in the Application, Skipjack expected the 120 MW project to cost approximately \$720 million, or \$6,000/kW.³³ To recoup these capital expenditures,

²⁸ *Id.* at 23.

²⁹ *Id.* at IV.

³⁰ *Id.*

³¹ *Id.* at 41-42.

³² Skipjack Ex. 7 at 43, 53, and 55. In response to a Commission Bench Data Request during the evidentiary hearings, however, Skipjack withdrew these conditions and noted its explicit acceptance of change in law and investment tax credit risk. Skipjack Public Response to Bench Data Request No. 1 (hereinafter, “Skipjack Ex. 11”) at 3.

³³ Commission Ex. 2 at ES-22. During the evidentiary hearings, Skipjack revised downward its expectation of project costs, as further described below.

Skipjack offered in its Application a one-part, 20-year OREC bid with a first year price of \$166.0/MWh and a levelized price of \$134.36/MWh (2012\$).³⁴

Skipjack retained expert consultants to conduct the required cost-benefit analysis needed to demonstrate that its proposed OSW project would yield positive net economic, environmental, and health benefits to the State. Skipjack's Application includes the economic benefits analysis of its consultant Boston Pacific, which estimates that in-State economic benefits of \$302.9 million (2015\$) and \$149.5 million (2015\$) will accrue during the development and construction phases, and the operating period, respectively.³⁵ The Application also estimates that total employment impacts will accrue to the State as a result of the Skipjack project in the amount of 1,468 new FTEs and 1,060 new FTEs during the development and construction phases, and the operating period, respectively.³⁶ Additionally, the Application contains projections of tax revenue contributions to the State in the amount of \$25.2 million (2015\$) during the development and construction phases, and \$3.7 million during the operating period of the Skipjack project.³⁷ The Application also contains an environmental and health benefits analysis, in which Skipjack's consultant estimates reductions in lifecycle avoided emissions of the following pollutants: 554 tons of NO_x; 3,330 tons of SO₂; 5.16 million tons of CO₂; 346 tons of particulate matter; and 0.02 tons of mercury (Hg).³⁸

³⁴ Skipjack Ex. 7 at 55, Attachment 4-4.

³⁵ *Id.* at 57-58.

³⁶ *Id.* at 58.

³⁷ *Id.*

³⁸ *Id.* at 59.

C. Procedural History

The Maryland Offshore Wind Energy Act of 2013 (the “Act” or “OWEA”) was passed by the General Assembly and signed into law on April 9, 2013.³⁹ Subsequently, and in accordance with the Act, the Public Service Commission of Maryland (“Commission”) initiated Rulemaking 51 to adopt revisions to the Code of Maryland Regulations (“COMAR”), for the purpose of issuing a comprehensive set of regulations to implement OWEA.

The Act also directed the Commission to contract for the services of independent consultants and experts to assist in the evaluation and comparison of a potential applicant’s OSW project.⁴⁰ In compliance with this directive, the Commission retained a team led by Levitan & Associates, Inc. (“Levitan”), which included subcontractors DNV GL, Sullivan Cove, and Chesapeake Environmental Management.

On January 28, 2016, an Application for Approval of a Qualified Offshore Wind Project was submitted to the Commission’s consultant, Levitan, through a dedicated website with secure portals. Pursuant to COMAR 20.61.06.01.B(1), Levitan, on behalf of the Commission, initiated a review of the submission for purposes of rendering a determination on administrative completeness.⁴¹ Levitan notified the Commission on February 24, 2016, that the application received on January 28, 2016 was deemed administratively complete, and thus, in accordance with COMAR 20.61.06.01.B(3), the Commission opened an Application Period during which other persons were invited to

³⁹ 2013 Md. Laws, ch. 3, codified as Public Utilities Article (“PUA”). §§ 7-704.1 – 7-704.2, *Annotated Code of Maryland*.

⁴⁰ PUA § 7-704.1(e)(2). We note that the Act does not restrict the Commission to considering the analysis presented by its independent consultants and experts only.

⁴¹ COMAR 20.61.01.03.B(1-1) defines “administratively complete” as whether the Commission has determined an application to contain the information described in §§ D – N of COMAR 20.61.06.02.

submit applications.⁴² The Application Period commenced officially on February 25, 2016 for a period of 180 calendar days.⁴³ On August 23, 2016, immediately preceding the conclusion of the original Application Period, a second application was submitted to Levitan through the website's secure portals.

Subsequently, the Commission granted three, 30-day extensions to the Application Period⁴⁴ to allow Levitan the necessary time to complete the determinations required by the Regulations.⁴⁵ During the extended Application Period, the second Application for Approval of a Qualified Offshore Wind Project was determined to be administratively complete on September 22, 2016.⁴⁶

On November 21, 2016, Levitan notified the Commission that as of the close of the Application Period (*i.e.* November 18, 2016), two Applications for Approval of a Qualified Offshore Wind Project had been received from US Wind and Skipjack.⁴⁷ In its filing, Levitan noted that it found the Applications to be administratively complete pursuant to COMAR 20.61.06.02, and recommended to the Commission that the Applications had also satisfied the minimum threshold criteria pursuant to COMAR 20.61.06.03. Therefore, in accordance with COMAR 20.61.06.01.D, the Commission

⁴² Maillog No. 183939: Notice of Maryland Offshore Wind Project Application Period (Feb. 24, 2016).

⁴³ COMAR 20.61.01.03.B(1-6) defines "Application Period" as the period of time, beginning and ending in accordance with §§(B)(3) and (B)(4) of COMAR 20.61.06.01, during which one or more OSW applicants may submit an application for approval of a proposed offshore wind project.

⁴⁴ In its discretion, the Commission may provide for additional application periods. PUA § 7-704.1(a)(3). In doing so, the Commission is permitted to extend the Application Period by one or more additional periods of 30 calendar days. COMAR 20.61.06.01.B(4).

⁴⁵ Maillog No. 197182: Notice of Extension of Maryland Offshore Wind Project Application Period (Aug. 22, 2016); Maillog No. 199475: Notice of Second Extension of Maryland Offshore Wind Project Application Period (Sept. 21, 2016); Maillog No. 201238: Notice of Third Extension of Maryland Offshore Wind Project Application Period (Oct. 20, 2016).

⁴⁶ Commission Ex. 2 at ES-1. As noted in the Report, upon its initial review of the Skipjack Application, Levitan uncovered missing and incomplete information, which was subsequently received, resulting in an ultimate determination of administrative completeness. *Id.*

⁴⁷ Maillog No. 204774: Notice of Administrative Completeness and Minimum Threshold Criteria (Nov. 21, 2016).

convened this proceeding, to conduct the required multi-part review to evaluate and compare the Applications.⁴⁸ Pursuant to the Commission’s directive, the Applicants filed the public and confidential versions of their Applications in the docket on November 30, 2016.⁴⁹

On December 14, 2016, the Commission conducted a pre-hearing conference to set a procedural schedule for this proceeding, and to address petitions to intervene and other preliminary matters.⁵⁰ In addition to the entry of appearances for the Office of People’s Counsel (“OPC”) and the Commission’s Technical Staff (“Staff”), 11 parties petitioned to intervene. At the pre-hearing conference, the Commission granted, without opposition, the petitions to intervene and adopted a procedural schedule.⁵¹ Additionally, the Commission ordered that discovery commence immediately following the December 14, 2016 pre-hearing conference for all parties to the proceeding, subject to execution of individual protective agreements sponsored by the Applicants.⁵²

Lastly, the Commission briefly took up several pending preliminary matters at the December 14, 2016 pre-hearing conference, including the Motion to Disqualify the November 30, 2016 Application of Skipjack Offshore Energy, LLC (“Motion to Disqualify”) filed by US Wind. A response to the Motion to Disqualify was solicited from Skipjack on or before December 30, 2016, and comments in support or opposition to the Motion were due on or before January 9, 2017.⁵³ After consideration of the

⁴⁸ Order No. 87898 (Nov. 22, 2016).

⁴⁹ US Wind Ex. 1 and 1C; Skipjack Ex. 7 and 7C.

⁵⁰ Order No. 87898 at 2.

⁵¹ Order No. 87945 (Dec. 16, 2016). The petitions to intervene filed by three parties were initially held in abeyance pending notification that counsel had been retained. All three petitions were subsequently granted.

⁵² *Id.* at 3.

⁵³ *Id.* at 5.

comments submitted by US Wind, Skipjack, Staff, OPC, and the Maryland Energy Administration (“MEA”), on January 23, 2017, the Commission denied without prejudice the Motion to Disqualify.⁵⁴

Pursuant to the scheduling order, the Applicants filed Direct and Supplemental Direct Testimony on January 4, 2017. On or before February 15, 2017, the following parties submitted written testimony: MEA; Wharf and Dock Builders, Pile Drivers and Divers, Local Union No. 179, of the Northeast Regional Council of Carpenters, of the United Brotherhood of Carpenters and Joiners of America (“Local Union No. 179”); Ironworkers Local Union No. 5 of the International Association of Bridge, Structural & Ornamental Ironworkers, Reinforcing Rodman, Riggers, Machinery Movers & Glaziers (“Local Union No. 5”); the Business Network for Offshore Wind (the “Business Network”); Staff; OPC; and Atlantic Grid Development, LLC (“Atlantic Grid”). On March 2, 2017, US Wind, Skipjack, and Local Union No. 5 submitted Rebuttal Testimony.

Prior to commencing the evidentiary hearings, the Commission held a status conference on March 9, 2017. In addition to addressing several preliminary matters regarding scheduling, the Commission engaged in a focused discussion regarding its intent to encourage maximum transparency during the subsequent evidentiary hearings. Specifically, the Commissioners reiterated that it would be in the best interest of Maryland ratepayers to conduct a comparative process (of the proposed offshore wind projects) that remained as transparent as practicable, while recognizing that the

⁵⁴ Order No. 87993 (Jan. 23, 2017).

Applicants' commercially-sensitive and proprietary information needed to remain protected.⁵⁵

The Commission initially set aside ten days for evidentiary hearings; although, it became necessary to add two additional days for testimony, between March 13, 2017 and March 28, 2017. The Commission also conducted two public hearings in Berlin and Annapolis, Maryland to solicit comments from interested persons.⁵⁶

On April 13, 2017, written briefs were filed with the Commission by: US Wind; Skipjack; MEA; the Sierra Club / Maryland League of Conservation Voters ("Sierra Club/MLCV" or "Environmental Intervenors");⁵⁷ Atlantic Grid; the Business Network; Staff; and OPC. The Commission received reply written briefs on April 26, 2017 from the following parties: US Wind; Skipjack; OPC; Staff; MEA; and the Sierra Club/MLCV.

Pursuant to the Act, unless extended by mutual consent of the (15) parties to the proceeding, the Commission's order to approve, conditionally approve, or deny the Applications is to be issued no later than May 17, 2017.⁵⁸

D. Positions of the Parties

1. Commission Technical Staff

Staff does not take an explicit position on whether the Commission should approve, conditionally approve, or deny the Application for Approval of a Qualified

⁵⁵ March 9, 2017 (Prehearing Conference) Tr. at 14. We note that, as a result of this discussion, the Applicants agreed to reclassify as public large portions of the Applications and witness testimony, which in turn permitted the intervenors to file revised public versions of their witness testimony. The Levitan report, in which the Commission's independent consultant compared and contrasted the Applications side-by-side, was also revised to reflect the newly public information, and subsequently re-filed on March 22, 2017.

⁵⁶ Public hearings were held on: March 25, 2017 (Berlin, Maryland); and March 30, 2017 (Annapolis, Maryland).

⁵⁷ A corrected Appendix A to the Initial Brief was filed with the Commission on April 24, 2017.

⁵⁸ PUA § 7-704.1(b).

Offshore Wind Project submitted by US Wind or by Skipjack; rather, Staff advocates that the Commission consider a number of matters when reaching its decision.⁵⁹ Most importantly, argues Staff, “[t]he issue of cost should be a paramount consideration in the determination the Commission must make in this proceeding.”⁶⁰ Staff observes that the authorizing legislation provides the Commission with considerable flexibility in reaching its decision so that the potential benefits of OSW can be maximized while also focusing on the lowest cost impact to ratepayers.⁶¹

Staff observes too that both Applications individually and collectively satisfy the statutory requirement of demonstrating positive net economic, environmental, and health benefits for the State.⁶² Additionally, Staff notes that one or both of the Applications would aid in compliance with the State’s Renewable Energy Portfolio Standard (“RPS”) Program, and that realization of an OSW project as an in-State renewable energy resource would markedly increase the supply of RECs derived from Maryland resources.⁶³

2. Maryland Energy Administration

MEA believes that the Applications, when evaluated and compared in accordance with the requirements of the Act, show that both proposed OSW projects have costs and benefits to the State.⁶⁴ On balance, however, MEA recommends that if the Commission chooses to proceed, it should do so incrementally by making an initial award of ORECs to the Skipjack proposed OSW project only, subject to certain conditions.⁶⁵ The conditions suggested by MEA include a commitment by Skipjack to: pursue “swift and

⁵⁹ Staff Initial Brief at 23.

⁶⁰ *Id.* at 5.

⁶¹ *Id.* at 9.

⁶² *Id.* at 13.

⁶³ *Id.*

⁶⁴ MEA Initial Brief at 3.

⁶⁵ *Id.* at 10-12.

comprehensive outreach with Maryland and Delaware officials”; invest at least \$204.8 million in-State during the construction phase of the OSW project; finalize a plan with the Governor’s Office of Minority Affairs for minority business participation during all aspects of the OSW project; base its operations and maintenance activities within Maryland; and continue making every effort to protect the viewshed for both Maryland and Delaware beach resorts, to the extent practicable.⁶⁶

With respect to the US Wind Application, MEA recommends that the Commission hold it in abeyance until some of the emergent issues raised about the project can be resolved.⁶⁷ Specifically, MEA highlights variables including project costs, site location, equipment selection, and the effect on Maryland beaches and the ocean view from those beaches as issues that merit further review before taking final action on the US Wind Application.⁶⁸

3. Office of People’s Counsel

Initially, OPC’s direct case focused solely on the projected ratepayer impacts of the two Applications.⁶⁹ OPC did not offer adjustments to the values, assumptions, or conclusions contained in the Levitan report; rather, OPC noted Levitan’s recommendation that the Commission adopt the values used by Levitan to allow for a side-by-side comparison of the Applications.⁷⁰ OPC Witness Chang testified against the US Wind Application, opining that the “ratepayer impact of the US Wind project

⁶⁶ *Id.* at 12-13.

⁶⁷ MEA Initial Brief at 13-14; MEA Reply Brief at 4. We note that MEA could have presented testimony on these issues for us to consider during the course of the proceedings. Tr. at 2054 – 2056 (Witness Fiastro confirming that \$500,000 was available to support the retention of an additional economist and to provide technical support for the review of the Applications).

⁶⁸ MEA Initial Brief at 13.

⁶⁹ Chang Direct at 2.

⁷⁰ *Id.* at 9-11.

proposal [initially using \$1.49 of the \$1.50 residential ceiling] allows for very minimal uncertainty in Levitan’s forecasts of market dynamic values in order to remain under the mandated legislative rate impact caps.”⁷¹ In contrast, Mr. Chang testified that the Commission should accept Skipjack’s Application, given that similar changes in the underlying assumptions “are unlikely to push the rate impact of Skipjack’s project proposal above the residential rate impacts thresholds...”⁷² However, after the Applicants each submitted revised numbers in response to the Commission’s Bench Data Request 1-3, Mr. Chang conceded that “there is obviously a little more head room for greater fluctuations” than what was articulated in his pre-filed testimony.⁷³

On brief, however, OPC reversed its previous position and opines instead that neither Application meets the statutory requirements; therefore, OPC argues that both must be denied.⁷⁴ OPC alleges that the necessary analysis of state economic impacts is incomplete, and that neither Applicant has made a convincing case that their proposed project will provide positive net benefits to Maryland.⁷⁵

OPC proposes, however, several conditions that it contends the Commission must consider in the event that the Commission does decide to accept one or both of the Applications, including: (1) holding both Applicants to the lowest OREC bid; (2) accepting the Skipjack proposal for an “open book” construction process; (3) modifying

⁷¹ *Id.* at 3-4.

⁷² *Id.* at 4.

⁷³ Tr. at 2062-2063 (Chang).

⁷⁴ OPC Initial Brief at 9; OPC Reply Brief at 4-5. In the alternative, OPC suggests that “with the consent of the Applicants, the Commission could extend the period for consideration of both applications for 180 days to provide the Applicants with additional opportunity to provide the analysis required by the OWEA and supplement their cases to demonstrate that their projects would indeed provide net benefits to the State.” *See* OPC Reply Brief at 4-5. The Act, however, requires that any such extension occur with the “mutual consent of the parties” (PUA § 7-704.1(b)), of which there are many beyond the Applicants, and none of which commented favorably with respect to OPC’s suggestion. *See, e.g.* MEA Reply Brief at 3-4.

⁷⁵ OPC Initial Brief at 13-23.

the aforementioned “open book” process to require that 80% of savings flow through to the ratepayers; (4) requiring a commitment to pursue methods and technologies to reduce the impacts of an OSW project; (5) requiring a commitment to use best efforts to pursue all eligible State and federal grants, rebates, tax credits, loan guarantees, or other similar benefits as those benefits become available and to provide 80% of those benefits to ratepayers; (6) requiring the Applicants to participate in good faith in a second phase of this proceeding to consider the Atlantic Grid proposal to unbundle the transmission component of the OSW project(s); and (7) requiring a reduction in the size of the US Wind project to be on par with that of Skipjack.⁷⁶

4. Sierra Club / Maryland League of Conservation Voters

The Sierra Club/MLCV recommends that the Commission approve at least one of the proposed projects, subject to conditions designed to protect marine mammals and other species.⁷⁷ Further, while the Sierra Club/MLCV contends that both Applications meet the statutory requirements set forth in the Act, the Environmental Intervenors suggest that if the Commission opts to move forward with only one project, then the Commission should approve the proposed project that will bring the most significant economic, environmental, and health benefits to the citizens of Maryland.⁷⁸ In reaching a determination on these matters, the Sierra Club/MLCV advocates that the Commission consider fully even those benefits that are difficult to quantify, including the “first mover

⁷⁶ *Id.* at 30-33.

⁷⁷ Sierra Club/MLCV Reply Brief at 5.

⁷⁸ Sierra Club/MLCV Initial Brief at 29; Sierra Club/ MLCV Reply Brief at 9.

advantage”⁷⁹ and “the benefits of cleaner air, and a clean and thriving Chesapeake Bay, which improve public health, reduce medical cost burdens, and improve quality of life.”⁸⁰

5. The Business Network for Offshore Wind

The Business Network asserts that both of the Applications, contingent on the adoption of certain recommended conditions, satisfy the statutory requirement for approval of a Qualified Offshore Wind Project.⁸¹ The Business Network cautions against a decision not to move forward with any OSW project, noting its belief that doing so would cause Maryland to “lose out on a significant industry and economic development opportunity to other states.”⁸² Rather, the Business Network advocates that the Commission approve both proposed OSW projects to provide greater competition and opportunities for Maryland businesses;⁸³ although, it suggests certain conditions to bolster the Applicants’ supply chain development and job growth commitments.⁸⁴

6. Atlantic Grid Development, LLC

Atlantic Grid expresses its support for the development of offshore wind to serve Maryland’s ratepayers, noting that OSW is a large, clean renewable resource that has become more affordable over time.⁸⁵ Atlantic Grid contends, however, that it is in the best interest of ratepayers for the Commission to consider “unbundling” offshore wind transmission from generation as a condition to approval of either of the Applications in

⁷⁹ US Wind Witness Rich testified that the first mover advantage refers to “the benefits of seizing the first advantage momentum in any given industry,” where a geographical area, such as Silicon Valley, “become[s] known for a particular specialty, because they were the first ones to move forward in a given industry.” Tr. at 347.

⁸⁰ Sierra Club/MLCV Initial Brief at 12.

⁸¹ Business Network Initial Brief at 6.

⁸² *Id.*

⁸³ *Id.* at 5.

⁸⁴ *Id.* at 8-14.

⁸⁵ Atlantic Grid Initial Brief at 2-3.

this proceeding. To effectuate this proposal, Atlantic Grid suggests that the Commission require the selected developer to provide an estimated cost of its transmission interconnection facilities, which would be subtracted from the OREC price schedule in the event that a third-party transmission provider is selected in a subsequent proceeding.⁸⁶ Atlantic Grid recommends that the Commission utilize the Federal Energy Regulatory Commission Order 1000 State Agreement Approach to direct PJM regarding the construction of the third-party transmission option.⁸⁷

7. Ironworkers Local Union No. 5 of the International Association of Bridge, Structural & Ornamental Ironworkers, Reinforcing Rodman, Riggers, Machinery Movers & Glaziers

Local Union No. 5 states that it “stands 100% in favor” of OSW and asserts its belief that the OSW industry and the citizens of Maryland will benefit greatly if the Commission issues an OREC award to the Applicant with the largest interest for Maryland.⁸⁸ To this end, Local Union No. 5 notes some concern regarding the Skipjack Application, given the Applicant’s admission that the smaller scope of the Skipjack proposed OSW project will provide overall less of an economic impact to the State.⁸⁹ Moreover, Local Union No. 5 expresses its opinion that, “Maryland needs to be fully developed as a new center for the great, emerging source of innovative and dynamic energy redevelopment that [the US Wind proposed OSW project] represents.”⁹⁰

⁸⁶ *Id.* at 26.

⁸⁷ *Id.*

⁸⁸ Beckman Direct at 2.

⁸⁹ Beckman Rebuttal at 1-2.

⁹⁰ *Id.* at 2-3.

8. Wharf and Dock Builders, Pile Drivers and Divers, Local Union No. 179, of the Northeast Regional Council of Carpenters, of the United Brotherhood of Carpenters and Joiners of America

Local Union No. 179 expresses its unanimous support for the development of OSW projects in Maryland that are deemed by the Commission to be “qualified” pursuant to the authorizing legislation.⁹¹ Witness Roncinske asserts that the “Wharf and Dock Builders, Pile Drivers and Divers have the technical expertise, experience and ability to make the OSW projects a reality,” and notes that craftspeople represented by the Union worked 180,000 hours during the course of construction for the 30 MW Deepwater Block Island OSW project.⁹²

9. Other Intervenors

Petitions to intervene were granted for several parties that did not actively participate or take a position, including: the Maryland Department of Natural Resources’ Power Plant Research Program (“PPRP”); Southern Maryland Electric Cooperative (“SMECO”); Potomac Electric Power Company (“Pepco”), Delmarva Power & Light Company (“Delmarva Power”), and Baltimore Gas and Electric Company (“BGE”); Retail Energy Supply Association (“RESA”); and the Chesapeake Physicians for Social Responsibility.

⁹¹ Roncinske Direct at 1.

⁹² *Id.* at 1-2.

III. LEGAL STANDARD APPLICABLE TO THIS PROCEEDING AND REQUIRED PROCEDURAL FINDINGS

The task before us in this proceeding is multi-faceted. We must ascertain whether the administrative record, by a preponderance of the evidence,⁹³ demonstrates that the criteria enumerated in PUA § 7-704.1(d) and (e) are satisfied with respect to each of the Applications pending before us for Approval of a Qualified Offshore Wind Project, as submitted by US Wind and by Skipjack. The Commission is prohibited from issuing an OREC award in the event that an OSW application fails to demonstrate positive net economic, environmental, and health benefits to the State,⁹⁴ or in the event that an OSW application is projected to violate certain residential and nonresidential ratepayer protections outlined in the Act.⁹⁵

Specifically, the projected net rate impact for an average residential customer, based on annual consumption of 12,000 kWh, combined with the projected net rate impact of other Qualified Offshore Wind Projects, can not exceed \$1.50 per month (2012\$), over the duration of the proposed OREC pricing schedule.⁹⁶ Additionally, the projected net rate impact for all nonresidential customers considered as a blended average, combined with the projected net rate impact of other Qualified Offshore Wind Projects, can not exceed 1.5% of nonresidential customers' total annual electric bills, over the duration of the proposed OREC pricing schedule.⁹⁷ And finally, the price set in the proposed OREC price schedule can not exceed \$190 per MWh (levelized 2012\$).⁹⁸

⁹³ See *Coleman v. Anne Arundel County Police Dept.*, 369 Md. 108, 134-36, 797 A.2d 770 (2002) (stating that the standard of review for contested cases in Maryland is a 'preponderance of the evidence').

⁹⁴ PUA § 7-704.1(e)(1)(i).

⁹⁵ PUA § 7-704.1(e)(1)(ii)-(iv).

⁹⁶ PUA § 7-704.1(e)(1)(ii).

⁹⁷ PUA § 7-704.1(e)(1)(iii).

⁹⁸ PUA § 7-704.1(e)(1)(iv).

We must also determine whether the Applications for Approval of a Qualified Offshore Wind Project submitted by US Wind and by Skipjack are in the public interest. In accordance with the Act, we must reach a decision on the Applications – whether to approve, conditionally approve, or deny – within 180 days of the Application Period ending (*i.e.* no later than May 17, 2017).⁹⁹ The conditions we may impose, should we choose to approve one or both Applications, are guided by, but not limited to, the criteria outlined in the authorizing legislation.¹⁰⁰ In reaching our decision, the Act specifies the criteria by which we must evaluate and compare the Applications, including 13 enumerated criteria and a 14th criterion permitting the Commission to consider any other appropriate standard.¹⁰¹ The burden of proof in this proceeding is upon the Applicants to provide sufficient evidence that their respective filings satisfy the statutory criteria. The Commission retains discretion as to the weighting and relative importance of one criterion versus another in effectuating the evaluation and comparison of the Applications.

In addition to assessing compliance with the Maryland Offshore Wind Energy Act of 2013, as codified in the Public Utilities Article, we must also review the Applications in the context of the Commission’s regulations promulgated in Rulemaking 51 and adopted as COMAR 20.61.06 *et seq.* The Regulations outline an application review process consistent with the criteria enumerated in the authorizing legislation. Specifically, as a preliminary matter, an application must be determined to be

⁹⁹ PUA § 7-704.1(b). The only exception to this deadline permitted by statute is with the “mutual consent of the parties” to the proceeding. *Id.*

¹⁰⁰ The Applicants acknowledged that the Commission is authorized to impose certain conditions in a final Commission order, including ones that pertain to the OREC price schedule proposed for each OSW project. *See generally* Tr. at 280 and 302.

¹⁰¹ PUA § 7-704.1(d)(1).

“administratively complete” and it must have satisfied the “minimum threshold criteria” prior to any quantitative or qualitative assessment of the proposed OSW project by the Commission or by its independent consultant in this matter.¹⁰²

A. Determination of Administrative Completeness

For an application to be deemed “administratively complete,” it must be found within 30 days of receipt to contain the information described in Sections D through N of COMAR 20.61.06.02, which corresponds generally to and expands on the information prescribed by the Maryland Offshore Wind Energy Act of 2013.¹⁰³ The initial review is for completeness only, and is not dispositive of any future review on the merits.

Pursuant to the Regulations, the Commission commenced the initial 180-day Application Period on February 25, 2016,¹⁰⁴ after accepting Levitan’s determination that the Application submitted by US Wind was administratively complete. The second application was submitted by Skipjack on August 23, 2016, immediately preceding the conclusion of the original Application Period.¹⁰⁵ During the extended Application Period, the Skipjack Application was determined to be administratively complete by Levitan on September 22, 2016. No party to this proceeding issued a timely challenge to the determination of administrative completeness with respect to either the US Wind or

¹⁰² COMAR 20.61.06.01.B – D.

¹⁰³ COMAR 20.61.01.03.B(1-1).

¹⁰⁴ Maillog No. 183939: Notice of Maryland Offshore Wind Project Application Period (Feb. 24, 2016).

¹⁰⁵ *Id.*

the Skipjack Applications.¹⁰⁶

B. Minimum Threshold Criteria Determination

In order to determine that an application has satisfied the minimum threshold criteria, it must be found to fulfill the standards articulated in Section A of COMAR 20.61.06.03.¹⁰⁷ Specifically, an application must demonstrate that: (i) it represents a “Qualified Offshore Wind Project” as defined by the Act;¹⁰⁸ (ii) the term of the proposed OREC price schedule does not exceed 20 years and commences no earlier than January 1, 2017; (iii) the proposed OREC price schedule does not exceed \$190 per MWh (levelized 2012\$); (iv) the proposed project, including the associated transmission-related interconnection facilities, will be constructed using commercially proven components and equipment available to the OSW applicant; (v) the project COD is reasonable in light of the permitting, technical, construction, operational, and economic challenges generally faced by offshore wind project developers; and (vi) the applicant maintains site control or presents a feasible plan to obtain site control.¹⁰⁹ If an application is found to meet these criteria, an independent qualitative and quantitative analysis of the criteria enumerated in PUA § 7-704.1(d)(1)(i)-(xiii) must commence.¹¹⁰

Following the close of the Application Period on November 18, 2016, Levitan recommended to the Commission that the US Wind Application and the Skipjack

¹⁰⁶ We note, however, that OPC for the first time in its Initial Brief argues that neither of the Applications contain the complete information necessary to satisfy the requirements delineated in COMAR 20.61.06.02.L (identical in substance to PUA § 7-704.1(c)(3)), which would have prevented a determination of administrative completeness in accordance with the definition contained in COMAR 20.61.01.03.B(1-1). *See* OPC Initial Brief at 9-23. Nevertheless, we considered extensively OPC’s argument in reaching our decision on the US Wind and the Skipjack Applications, as described throughout Section IV herein.

¹⁰⁷ COMAR 20.61.01.03.B(6-8).

¹⁰⁸ *See* PUA § 7-701(k)(1)-(2).

¹⁰⁹ COMAR 20.61.06.03.A.

¹¹⁰ COMAR 20.61.06.03.B.

Application satisfied the minimum threshold criteria.¹¹¹ On December 13, 2016, however, US Wind challenged this determination as it pertained to Skipjack, arguing that the Commission should disqualify the Application submitted by Skipjack on the grounds that it failed to meet the statutory definition of a Qualified Offshore Wind Project.¹¹² Specifically, US Wind alleged that the location of the Delaware WEA, as proposed in Skipjack's Application for Approval of a Qualified Offshore Wind Project, is improper and that the Skipjack Application should be denied for a number of associated reasons.¹¹³ On December 30, 2016, Skipjack filed a Response in opposition to the Motion to Disqualify and on January 9, 2017, OPC, Staff, and MEA each filed responses opposing US Wind's Motion.

We first addressed US Wind's Motion to Disqualify the Skipjack Application in our January 23, 2017 Order, in which we denied US Wind's request, without prejudice, largely on the grounds that the filing was akin to a motion for summary judgment and premature in that disputes involving material issues of fact remained.¹¹⁴ We noted, however, that the parties were permitted to raise the factual and legal arguments articulated in the US Wind Motion to Disqualify and responses during the March, 2017 evidentiary hearings, and on brief, as appropriate.¹¹⁵ US Wind did just that – incorporating by reference through its Initial Brief its December 13 Motion to Disqualify and all associated exhibits and replies.¹¹⁶

¹¹¹ Maillog No. 204774: Notice of Administrative Completeness and Minimum Threshold Criteria (Nov. 21, 2016); Commission Ex. 2 at ES-2, ES-3, ES-29.

¹¹² Maillog No. 206543: U.S. Wind's Motion to Disqualify the November 30, 2016 Application of Skipjack Offshore Energy, LLC (Dec. 13, 2016).

¹¹³ *Id.*

¹¹⁴ Order No. 87993 (Jan. 23, 2017).

¹¹⁵ *Id.* at 8.

¹¹⁶ US Wind Initial Brief at 43-45.

Upon renewed consideration of the US Wind Motion to Disqualify the Skipjack Application, we again deny the Motion. We remain unconvinced by US Wind’s argument that a project constructed on the Delaware WEA could not meet the statutory definition of a “Qualified Offshore Wind Project.”¹¹⁷ On the contrary, a representative of the party with whom the statute requires coordination and consultation to occur prior to designation of the lease site,¹¹⁸ *i.e.* the State of Maryland through MEA, argues the opposite position, noting that, “[i]t is incongruent that the Maryland legislature intended to limit OREC applications to one federal area, and not the other, when both wind areas otherwise meet the statutory requirements of §7-701(k).”¹¹⁹ Further, we find that the record contains ample evidence of coordination and consultation with the State prior to identification by BOEM of the Delaware WEA.¹²⁰ Thus, having received no further challenges to our independent consultant’s determination that both the US Wind and the Skipjack Applications propose projects that meet the statutory definition of a Qualified Offshore Wind Project, we accept Levitan’s recommendation that the Applications of US Wind and Skipjack satisfy the minimum threshold criteria necessary to pursue a further review of both Applications on their respective merits.

IV. EVALUATION AND COMPARISON OF THE PROPOSED OFFSHORE WIND PROJECTS

¹¹⁷ *Id.*

¹¹⁸ PUA § 7-701(k)(1)(i).

¹¹⁹ MEA Initial Brief at 2.

¹²⁰ For example, the record demonstrates that BOEM consulted and coordinated with the State prior to designation of the Delaware WEA through the BOEM *Smart from the Start* initiative, and through the review processes necessary for compliance with the National Environmental Policy Act and the Coastal Zone Management Act. *See* Maillog No. 209093: Skipjack Offshore Energy, LLC’s Response to Motion to Disqualify (Dec. 30, 2016); Maillog No. 209597: Comments on the Motion to Disqualify the Application of Skipjack Offshore Energy, LLC on behalf of the Staff of the Public Service Commission (Jan. 9, 2017); Maillog No. 209567: MEA’s Response to the Motion to Disqualify (Jan. 9, 2017); Maillog No. 209572: OPC’s Response to US Wind’s Motion to Disqualify (Jan. 9, 2017).

In accordance with the Act and with our Regulations, an independent qualitative and quantitative assessment of the Applications filed by US Wind and Skipjack was conducted in the context of the criteria enumerated in PUA § 7-704.1(d)(1)(i) – (xiii).¹²¹ In evaluating and comparing the Applicants’ proposed OSW projects, we contracted for the services of independent consultants and experts as instructed by the Act.¹²² Further, we included in our evaluation and comparison of the Applications a review of the two other statutory provisions promulgated in PUA § 7-704.1(d): a verification requirement with respect to the opportunity for certain stakeholders to express concerns regarding project siting during the federal leasing process; and a review of the opportunities for minority business enterprises and minority investor participation in the development of the OSW projects pending before us.¹²³

As a result of our evaluation and comparison of the Applications, we considered the imposition of certain conditions on each of the proposed OSW projects so that if, in our discretion, we elected to approve one or both Applications, the resulting Qualified Offshore Wind Project(s) would remain in the public interest throughout the duration of the project(s)’ development, construction, operations, and de-commissioning phases. These conditions of our approval are discussed in, but not limited to, the relevant sections below; further conditions are imposed in the subsequent Commission Decision portions of this Order.

A. Opportunities for Representatives of the United States Department of Defense and the Maritime Industry to Express Concerns Regarding Project Siting

¹²¹ PUA § 7-704.1(d)(1); COMAR 20.61.06.03.B.

¹²² PUA § 7-704.1(d)(2).

¹²³ PUA § 7-704.1(d)(3)-(4).

The Act requires the Commission to verify that representatives of the United States Department of Defense (“DoD”) and the maritime industry have had the opportunity, through the federal leasing process, to express concerns regarding project siting,¹²⁴ which can be accomplished readily given that the federal leasing process for both of the WEAs discussed in this case occurred several years prior to the present proceeding.¹²⁵ In this instance, although the Applications pending before us propose to utilize two different wind energy areas, verification of this statutory requirement can be completed largely by referencing a joint federal review process. Specifically, the Final Environmental Assessment prepared by BOEM with respect to the commercial wind lease issuance and site assessment activities on the Atlantic Outer Continental Shelf addresses the proposed leasing sites offshore Delaware and Maryland (as well as New Jersey and Virginia).¹²⁶ The BOEM report cites an extensive list of information considered in scoping the National Environmental Policy Act (“NEPA”) document, including “[o]ngoing consultations with other federal agencies including the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the DoD, and the U.S. Coast Guard (“USCG”).”¹²⁷ Moreover, the consultations that occurred between BOEM and

¹²⁴ PUA § 7-704.1(d)(3). *See also* COMAR 20.61.06.04.

¹²⁵ The lease (OCS-A 0482) for the Delaware WEA was executed by BOEM on November 16, 2012. *See* BOEM, *Delaware Activities* (2017), available at: <https://www.boem.gov/Delaware/>. The leases for the two Maryland WEAs (OCS-A 0489 and OCS-A 0490) were executed by BOEM on December 1, 2014. *See* BOEM, *Maryland Activities* (2017), available at: <https://www.boem.gov/maryland/>.

¹²⁶ Bureau of Ocean Energy Management Office of Renewable Energy Programs, *Commercial Wind Lease Issuance and Site Assessment Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland, and Virginia* (Jan. 2012), available at: https://www.boem.gov/uploadedFiles/BOEM/Renewable_Energy_Program/Smart_from_the_Start/Mid-Atlantic_Final_EA_012012.pdf.

¹²⁷ *Id.* at 3.

stakeholders such as the USCG and the DoD were the subject of discussions during our evidentiary proceedings.¹²⁸

We note that, while the Act requires us to verify the existence of feedback opportunities for these crucial stakeholders during the federal leasing process, we are persuaded that continued consultation between the Applicants and the DoD and maritime industry representatives regarding turbine siting is essential to reducing the risk of unintended consequences associated with either project. Thus, we require as a condition to an OREC award the commitment suggested by US Wind for an ongoing dialogue with these stakeholders regarding any changes to the siting and turbine model selection contemplated in the Applications pending before us.¹²⁹

B. Opportunities for Minority Business Enterprise Participation and Minority Investors; Workforce Diversity Initiatives

In enacting the Maryland Offshore Wind Energy Act of 2013, the General Assembly was unambiguous in its intent that minority business enterprises (“MBE”) and minority investors be considered as viable and active participants in the State’s prospective new industry. The unequivocal statutory directive to any OSW applicant that it make serious, good-faith efforts to solicit and interview a reasonable number of minority investors, should an applicant seek investors in its proposed OSW project,¹³⁰ was further bolstered by a statement of purpose regarding use of the Maryland Offshore Wind Business Development Fund (the “Fund”); specifically, that the Fund be used to “encourage emerging businesses in the State, *including minority-owned emerging*

¹²⁸ Tr. at 398-400 (Chairman Hughes/Rich) and 433-438 (Commissioner O’Donnell/Rich).

¹²⁹ Tr. at 437-438 (Commissioner O’Donnell/Rich). Witness Rich commented that concerns expressed previously by these stakeholders involved the height of the turbines, rather than their placement. Tr. at 436.

¹³⁰ PUA § 7-704.1 (d)(4).

businesses, to participate in the emerging offshore wind industry.”¹³¹ (emphasis added) Accordingly, MEA has allocated \$4 million of the \$32 million Offshore Wind Development Fund expenditures for this purpose and the Applicants may be a resource to MEA regarding planned grant programs in fiscal years 2018 and beyond.¹³² Further, any approved OSW applicant is statutorily required to consult with the Governor’s Office of Minority Affairs (“GOMA”) and the Office of the Attorney General (“OAG”) to establish a clear plan for setting reasonable and appropriate MBE goals and procedures for each phase of the Qualified Offshore Wind Project within six months of our Order.¹³³

Thus, in reviewing the two Applications pending before us, we considered seriously – as evidenced especially by our extensive questioning during the hearings – the good faith efforts and outreach made by each of the Applicants to-date with respect to the development of opportunities for MBE participation and minority investment in the projects.¹³⁴ As required by our Regulations, we also assessed the adequacy of the Applicants’ plan to engage minority businesses and whether evidence was provided of a good-faith commitment by each of the Applicants to solicit minority investors in future attempts to raise capital.¹³⁵

The record is replete with examples in which US Wind has met or exceeded the statutory and regulatory requirements on this subject matter. In its Application, US Wind

¹³¹ State Gov’t § 9-20C-03 (b)(2).

¹³² See Commission Ex. 3: MEA Offshore Wind Development Fund Expenditures (Sept. 2016); Tr. at 2026-2027 (Chairman Hughes/Fiastro).

¹³³ 2017 Md. Laws, ch. 438 (codified as PUA § 7-704.1 (e)(3)). A previous iteration of this provision, which was sunset effective June 30, 2016, would have prohibited the Commission from approving an OSW application if the “clear plan for setting reasonable and appropriate [MBE] goals and procedures for each phase of the qualified offshore wind project” was not finalized between the OSW applicant and GOMA prior to issuance of the Order. See Section 3 and Section 11, 2013 Md. Laws, ch. 003; COMAR 20.61.06.06.

¹³⁴ See, e.g. Tr. at 402-410 (Cmmr. Williams / Rich); Tr. at 1185-1190 (Cmmr. Williams / Grybowski).

¹³⁵ COMAR 20.61.06.03 B(1)(a)(xiv) – (xv).

details its commitment to MBE utilization and participation goals, noting that quantifiable project goals have been established already as follows: pre-construction – 15% (planning and design; finance and administration); construction – 15% (wind turbine assemblies; foundation and substructure; balance of plant); and operations and maintenance – 15% (windfarm operation and maintenance (“O&M”); other operation, administration, and management).¹³⁶ In addition, US Wind requires that all major sub-contractors embrace its MBE programmatic goals for the project, which will then be reinforced during pre-bid sessions and other procurement activities.¹³⁷ Further, US Wind confirms that it is actively soliciting minority investors, and has received “indications of interest” from several.¹³⁸

Indeed, the execution of US Wind’s plan to engage MBE partners is not just theoretical, but has yielded already verifiable results. For example, the Applicant’s partnership with the Maryland Small Business Development Center to conduct workshops throughout the first half of 2015 yielded 85 MBE connections.¹³⁹ US Wind also confirms that three minority and women-owned businesses are under contract or sub-contract for the Project currently.¹⁴⁰ And, US Wind’s Application contains details regarding ongoing measurement, reporting, and assessment of MBE plan results to make certain that further achievement continues after receipt of an OREC award.¹⁴¹

Skipjack’s MBE commitments with respect to its project are focused on prospective actions; however, the Applicant has represented that its track record of

¹³⁶–Tr. at 405-407; US Wind Initial Brief at 20.

¹³⁷US Wind Initial Brief at 20.

¹³⁸ Tr. at 29 (Rich).

¹³⁹ US Wind Initial Brief at 21.

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

meeting the goals that it sets warrants our reliance on these commitments, and we concur.¹⁴² Skipjack has emphasized that for the portions of its project that will be located in-State, it will use good faith efforts to fully achieve Maryland’s goals for MBE participation.¹⁴³ Further, Skipjack will require that its contractors use good faith efforts to achieve or exceed the goals of 29% MBE participation with respect to contracts for permitting services, engineering services, construction services, and maintenance services performed within Maryland.¹⁴⁴ With respect to the solicitation of interest from minority investors, Skipjack commits to make serious, good faith efforts to interview minority investors in any future attempt to raise venture capital or attract new investors.¹⁴⁵

While the record developed in this matter reveals that one Applicant – US Wind – has demonstrated a greater degree of outreach and engagement of MBEs and potential minority investors to-date, we find that both US Wind and Skipjack have offered meaningful and significant commitments moving forward. Coupled with the conditions described below, we are confident that the projects sponsored by US Wind and by Skipjack will support the State’s commitment to diversity and equal employment opportunities, and ensure that the legislative intent to support inclusion of minority-owned emerging businesses in the State’s burgeoning offshore wind industry is realized.

Therefore, in issuing an OREC award to US Wind and to Skipjack, we condition the Order on the voluntary commitments to MBE participation goals and procedures

¹⁴² Tr. at 954 (Grybowski).

¹⁴³ Skipjack Ex. 7 at 41-42.

¹⁴⁴ *Id.*

¹⁴⁵ *Id.* at 55. Although Skipjack initially conditioned this particular commitment in its Application upon the receipt of a “fully-approved, mutually-acceptable, un-appealable OREC Order,” we do not accept any such modifier language in the conditions we impose herein. We observe, however, that Skipjack subsequently articulated its acceptance of the change in law risk associated with this proceeding (Skipjack Ex. 11 at 3). We additionally note that Witness Grybowski described the remaining highlighted language as depicting a “timing issue” only (Tr. at 1006 (Grybowski)).

articulated in each Applicant's respective submission. While we further condition our OREC award on each Applicant's consultation, on or before six months of today's Order, with GOMA and the OAG on establishing a clear plan for setting reasonable and appropriate MBE goals for each phase of the project, we view the voluntary plans adopted herein and described in the respective Applications as a floor or a "back-stop." To the extent that any MBE participation goals or procedures developed later in consultation with GOMA and the OAG exceed those voluntarily developed by the Applicants, any more stringent item shall supersede the MBE goals or procedures described in the applicable Application and adopted through this Order. Additionally, every six months following issuance of this Order, the Applicants shall each file with the Commission a progress report regarding the establishment and implementation of MBE goals and procedures. Lastly, US Wind and Skipjack are directed to execute a memorandum of understanding with the Commission in which each Applicant agrees to make serious, good faith efforts to interview minority investors in any future attempts to raise venture capital or to attract new investors to its respective project.

In addition to the aforementioned conditions pertaining to MBE participation and opportunities for minority investors, we recognize too the significance of encouraging a more diverse workforce within the internal ranks of each Applicant's company. As stated during our evidentiary hearings by Skipjack Witness Grybowski, the issue of setting up an internal workforce diversity plan is something that "as you move from a small project development company to a bigger project development company, you have to start considering. So, I think that's a good idea."¹⁴⁶ Indeed, both Applicants acknowledged a

¹⁴⁶ Tr. at 1190 (Cmmr. Williams / Grybowski).

willingness to engage in further discussions on this matter.¹⁴⁷ Thus, we find it appropriate to also condition the OREC award on a requirement that each Applicant develop metrics to track the diversity of its internal workforce, and that reporting on these metrics occur in conjunction with the semi-annual reports on MBE goal attainment discussed above.

C. Lowest Cost Impact on Ratepayers of the Price Set Under a Proposed OREC Pricing Schedule

The Commission is required by the Act to evaluate and compare the proposed OSW projects to determine the lowest cost impact on ratepayers of the price set under a proposed OREC pricing schedule.¹⁴⁸ We concur with Staff that the issue of cost should be a paramount consideration in the determination we must make in this proceeding.¹⁴⁹ While the Skipjack Application as proposed reflects a lower OREC price schedule and would also result in a lower ratepayer impact than the US Wind project due to its smaller size, we note that certain conditions could be imposed to further mitigate the costs to ratepayers associated with the approval of either Application.¹⁵⁰ Thus, we did not consider the lower cost proposed by Skipjack to be determinative in our decision with respect to whether to proceed with the US Wind Application.

Our consideration of “lowest cost impact on ratepayers” was more difficult in the abstract, however, especially as it pertains to our decision as to whether to move forward at this juncture with one or both Applications, or neither. Proponents of an “all in” approach, such as the Business Network, contend that the “selection of both projects

¹⁴⁷ *Id.*

¹⁴⁸ PUA § 7-704.1(d)(1).

¹⁴⁹ Staff Initial Brief at 5.

¹⁵⁰ *See infra* Section V.B for a full discussion of these conditions, the proposed OREC price schedule, and the ratepayer impacts associated with the Applications.

provides greater competition and opportunities for Maryland businesses to participate in the development of the projects, and is likely to yield the lowest cost to ratepayers.”¹⁵¹ Indeed, we have realized the benefits of competition through this proceeding already, and we concur with MEA that “it is undisputed that Maryland will gain more jobs if both projects move forward, than not.”¹⁵²

Furthermore, we are persuaded by the arguments *against* an incremental approach at this stage (which we understand to be grounded in the assumption that costs will come down significantly in the near future, thus potentially supporting a more robust second OREC award),¹⁵³ given that “part of that cost reduction comes from competition and efficiencies from a maturing supply chain, which will not develop in Maryland without a project off the coast of the Delmarva Peninsula.”¹⁵⁴ Moreover, we impose a condition on both Applicants (discussed later in this Order) that will capture for the benefit of Maryland ratepayers the vast majority of any near-term technology savings that an OSW project may realize during its construction phase.

Lastly, we find that a delay in the development of the State’s OSW industry, imposed by either a strict denial of the Applications or through an unwarranted extension to these proceedings,¹⁵⁵ is unlikely to result in the lowest cost to ratepayers. As noted by MEA, not only has this proceeding involved significant time and resources from all parties, but the Investment Tax Credit – which is a component of both Applicants’ OREC

¹⁵¹ Business Network Initial Brief at 5.

¹⁵² MEA Initial Brief at 12.

¹⁵³ *Id.*

¹⁵⁴ Business Network Initial Brief at 6.

¹⁵⁵ *See* OPC Initial Brief at 23.

price bids – will decline annually hereafter, “possibly affecting [the Applicants’] ability to meet the revised price offers.”¹⁵⁶

Therefore, we find that on balance the lowest cost to ratepayers in the context of realizing the goals outlined in the Maryland Offshore Wind Energy Act of 2013 will be achieved through our decision to jumpstart the burgeoning OSW industry in the State with an all-in approach.

D. Potential Reductions in Transmission Congestion Prices, Capacity Prices, Locational Marginal Pricing

The Act dictates that the Commission consider potential reductions in transmission congestion prices, capacity prices, and locational marginal prices for electricity that would result from the development of the proposed OSW project when evaluating and comparing the Applications.¹⁵⁷ In compliance with the Regulations, the Applicants each included a discussion of the long-term effects of their respective proposed OSW projects on the PJM markets as part of the required cost-benefit analysis.¹⁵⁸ While the Commission’s independent consultant undertook its own analysis using a different methodology,¹⁵⁹ Levitan also qualitatively assessed the Applicants’ submittals, finding that both US Wind and Skipjack provided a discussion of the potential PJM market impacts in satisfaction of the Regulations.¹⁶⁰

In evaluating and comparing the Applications on the basis of these criteria, we note that the side-by-side comparison facilitated by the independent Levitan analysis is particularly useful. Levitan concludes that Maryland ratepayers would benefit from

¹⁵⁶ MEA Reply Brief at 3-4.

¹⁵⁷ PUA § 7-704.1(d)(1)(ii)-(v).

¹⁵⁸ COMAR 20.61.06.02.L(6).

¹⁵⁹ Commission Ex. 2 at 6 – 16.

¹⁶⁰ *Id.* at 67, 134.

reduced energy and capacity prices, as well as reduced transmission congestion costs, attributable to both Applications.¹⁶¹

E. The Extent to which the Cost-Benefit Analysis Submitted Under PUA § 7-704.1(c)(3) Demonstrates Positive Net Economic, Environmental, and Health Benefits to the State

Pursuant to the Act and the Regulations, an Application for Approval of a Qualified Offshore Wind Project is required to include a cost-benefit analysis that reflects each of the criteria outlined in PUA § 7-704.1(c)(3). The Commission must consider the extent to which this cost-benefit analysis demonstrates positive net economic, environmental, and health benefits to the State in reaching a decision on the Applications.¹⁶²

While our independent consultant in this matter conducted its own cost-benefit analysis for both Applications using the required statutory criteria, Levitan also qualitatively assessed the analyses supplied by the Applicants pursuant to the Regulations.¹⁶³ In regard to the US Wind submission, Levitan concluded that the net economic benefits reflected in US Wind's Application may be overestimated.¹⁶⁴ With respect to the Skipjack submission, Levitan noted that the environmental impacts analysis was perhaps oversimplified.¹⁶⁵

Due to these observations, and to facilitate an appropriate side-by-side comparison of the Applications, Levitan recommended that we consider its

¹⁶¹ *Id.* at ES-33 – ES-35.

¹⁶² PUA § 7-704.1(d)(1)(vi); COMAR 20.61.06.03.B(1)(a)(x).

¹⁶³ COMAR 20.61.06.03.B(1)(a)(x).

¹⁶⁴ Commission Ex. 2 at 64.

¹⁶⁵ *Id.* at 148-149.

independently-developed cost-benefit analysis during our decision-making process.¹⁶⁶ Although we conclude that the evidence presented by the Applicants indicates positive net economic, environmental, and health benefits will accrue to the State as a result of their respective proposed OSW projects, we further verified this determination by relying primarily on the Levitan analysis in reaching our ultimate determination later in this Order. In the end, Levitan's independent analysis indicated that both proposed OSW projects would produce positive net economic, environmental, and health benefits to the State; albeit that the larger scope of the US Wind proposed OSW project would yield approximately double the benefits of the Skipjack proposed OSW project.¹⁶⁷

F. The Extent to which an Applicant's Plan for Engaging Small Businesses, Contractors, and Skilled Labor Meets the Goals Specified in State Statute for Engagement, Hiring, and Compensation

The Act and the Regulations require the Commission to evaluate several aspects of how each proposed OSW project would affect employment, labor, and small businesses in the State.¹⁶⁸ Specifically, the Commission must consider the extent to which the Applicants' plans: propose to engage small businesses in furtherance of State goals; provide for the use of skilled labor and appropriate agreements to promote the prompt, efficient, and safe completion of the project; and, provide for compensation to employees and subcontractors consistent with the wages outlined in §§ 17-201 through 17-228 of the State Finance and Procurement Article.

In sum, the record evidence demonstrates that US Wind has taken concrete steps over the past year to engage small businesses throughout the State, and both Applicants

¹⁶⁶ *Id.* at 64-65, 129, 131.

¹⁶⁷ *Id.* at ES-42.

¹⁶⁸ PUA §§ 7-704.1(d)(1)(vii) – (x); COMAR 20.61.06.03.B(1)(a)(v); COMAR 20.61.06.03.B(1)(a)(xiv).

are committed to using “good faith efforts” to do so moving forward.¹⁶⁹ Additionally, the Commission’s independent consultant concluded that the Applicants have submitted acceptable strategies to comply with the requirements for the use of skilled labor and appropriate compensation.¹⁷⁰ Although Levitan concluded that US Wind is further ahead in its demonstration of these commitments, we concur with our independent consultant that given the early stage of development for both proposed OSW projects, these criteria have been satisfied.¹⁷¹

We note, however, that the Business Network suggests certain conditions are necessary to bolster the proposed OSW projects’ supply chain development and job growth commitments.¹⁷² The Business Network requests that the Commission condition approval of a project(s) on the developer(s) working directly with the Business Network and its members on several fronts, including: developing three discrete R&D projects with Maryland universities; providing Business Network members with a formal priority to compete and submit bids on supply chain opportunities; and providing input alongside the Business Network on the best use of the total Offshore Wind Business Development Fund, administered by MEA.¹⁷³

Although we concur wholeheartedly with the sentiments expressed by both Applicants with respect to the admirable efforts of the Business Network to mobilize the supply chain in Maryland,¹⁷⁴ we decline to impose the requested conditions. Both Applicants are already members of the Business Network, and the record demonstrates

¹⁶⁹ Commission Ex. 2 at ES-19 – ES-20.

¹⁷⁰ *Id.* at 56-57, 121.

¹⁷¹ *Id.*

¹⁷² Business Network Initial Brief at 8.

¹⁷³ *Id.* at 8-12.

¹⁷⁴ *See, e.g.* Skipjack Reply Brief at 14; Tr. at 143-144 (Rich).

that both US Wind and Skipjack have actively participated and will continue to participate in Business Network-sponsored events moving forward.¹⁷⁵ As stated by US Wind Witness Rich, the Business Network's role "is always going to be complementary. It's always going to be a catalyst for trying to allow us to reach out to these groups. So in that capacity, they are without equal."¹⁷⁶ Thus, we are confident that the Applicants will continue to take advantage of the expertise offered by the Business Network in development of the necessary supply chains in Maryland, without a need for us to legally compel US Wind or Skipjack to do so.

Finally, we note that MEA, through ongoing grants and loans from the Offshore Wind Development Fund to the Business Network, institutions of higher education, State agencies, and private and non-profit businesses, will continue to spur opportunities for the start-up and growth of small businesses and contractors in the State.¹⁷⁷

G. Siting and Project Feasibility

In enacting the Maryland Offshore Wind Energy Act of 2013, the General Assembly incorporated in the authorizing legislation a definition of a Qualified Offshore Wind Project, which includes criteria that speak directly to the siting of a proposed offshore wind farm. Of particular note is that the Act requires a proposed OSW project to be located on the outer continental shelf of the Atlantic Ocean, between 10 and 30 miles off the coast of Maryland.¹⁷⁸ In addition to confirming satisfaction of these definitional criteria, the Act directs the Commission to evaluate the siting and feasibility

¹⁷⁵ Skipjack Reply Brief at 14; Tr. at 145 (Rich).

¹⁷⁶ Tr. at 145 (Rich).

¹⁷⁷ See Commission Ex. 3.

¹⁷⁸ PUA § 7-701(k)(1).

of a proposed OSW project when considering whether to proceed with one or both of the Applications.¹⁷⁹

With respect to the siting of its proposed OSW project, US Wind indicated initially its intent to locate the 248 MW wind farm that would be incentivized by the ORECs between 12 and 15 nautical miles off the coast of Maryland.¹⁸⁰ During our evidentiary hearings, US Wind submitted visual renderings of the entirety of the 750 MW wind farm it envisions constructing in the Maryland WEA. US Wind characterized the renderings as depicting a “worst case” scenario using the largest turbines under consideration and shown in different lighting conditions to illustrate visibility of the turbine blades from various perspectives and from ground level.¹⁸¹ Although Witness Rich testified that he had sought local input on the impact of these visual renderings,¹⁸² it became apparent from public comments that the viewshed impact was greater than at least initially anticipated by certain affected stakeholders.¹⁸³ Subsequent to the Berlin public hearing, Witness Rich indicated that it was feasible to locate the proposed OSW project closer to the eastern edge of the Maryland WEA, thus reducing the visual impact; although, doing so would be costly.¹⁸⁴

With respect to the siting of its proposed OSW project, Skipjack indicated its intent to locate the 120 MW wind farm project approximately 17 to 21 nautical miles off the coast of Maryland in the Delaware WEA.¹⁸⁵ Skipjack also presented visual renderings of its proposed OSW project during our evidentiary hearings, noting that the

¹⁷⁹ PUA § 7-704.1(d)(1)(xi).

¹⁸⁰ Tr. at 459 (Rich).

¹⁸¹ Tr. at 831 – 832, 838-839.

¹⁸² Tr. at 18, 20.

¹⁸³ *See, e.g.* Tr. March 25, 2017 Public Hearing (Berlin) at 75-76.

¹⁸⁴ Tr. at 2255 – 2257 (Chairman Hughes/Rich).

¹⁸⁵ Skipjack Ex. 7 at IV.

smaller project size and use of larger turbines contemplated in its Application will reduce the visual impact of its proposal given that fewer turbines take up a smaller portion of the viewshed.¹⁸⁶ The visual renderings reflected the view from ground level at 146th Street in Ocean City, which Skipjack asserts is the closest point of its proposed OSW project viewable from Ocean City, Maryland.¹⁸⁷

Notwithstanding the legal permissibility of a proposed OSW project to locate as close as 10 miles off the coast of the State,¹⁸⁸ we find that there is a strong public interest in ensuring that impacts to the viewshed as a result of an OSW project are minimized to the fullest extent possible. Toward this end, we are cognizant that today's Order is not the final hurdle that either Applicant must overcome prior to the construction of their respective OSW projects. Indeed, the multitude of additional regulatory reviews that will be conducted by the federal government before either OSW project could begin construction were the subject of extensive discussions during our evidentiary hearings.¹⁸⁹ As confirmed during this proceeding, further consideration of viewshed impacts will be achieved through the consultation and environmental review processes that are undertaken when BOEM receives a Site Assessment Plan ("SAP") or a Construction and Operations Plan ("COP"), and BOEM's approval of a COP will be contingent on a proposed OSW project's successful completion of a National Environmental Policy Act ("NEPA") review.¹⁹⁰ These federal review processes will be conducted prospectively, however. And, thus while our concerns are assuaged that additional opportunities for

¹⁸⁶ Tr. at 915 – 916 (Grybowski).

¹⁸⁷ Tr. at 906.

¹⁸⁸ PUA § 7-701(k)(1)(ii).

¹⁸⁹ See Commission Ex. 2 at 49-51, 115-117 (providing a full listing of permits and approvals necessary to construct the US Wind and the Skipjack proposed OSW projects).

¹⁹⁰ Gowell Direct at 5-6.

feedback will be available to stakeholders, we conclude that it is necessary to condition our Order on several measures that we believe will further safeguard the public interest.

First, we condition our OREC award on the filing by each Applicant of its SAP, COP, and NEMA with the Commission contemporaneous with any submission to BOEM (or other relevant federal agency). Further, our OREC award is contingent on the positive review and/or approval of the SAP, COP, and NEMA assessment by the relevant federal agency. To the extent that the relevant federal agency directs the Applicant to alter any aspect of its SAP or COP to comply with federal or state requirements, the Applicant is directed to file with the Commission within 60 days of receiving such notice an explanation and description of any required modifications. Moreover, any more restrictive remediation or mitigation measure imposed by the relevant federal agency during these subsequent permitting and review processes is hereby incorporated as a condition of this Order.

Second, we condition our OREC award on the use by each Applicant of best commercially-reasonable efforts to minimize the viewshed impacts of their respective OSW projects, regardless of the outcome of the federal review processes described above. As suggested by several intervenors,¹⁹¹ we consider this condition to require US Wind to locate its 248 MW proposed OSW project in the eastern-most portion of the Maryland WEA that could reasonably and practicably accommodate the project, so as to

¹⁹¹ See, e.g. OPC Initial Brief at 33.

reduce visual impacts on the State’s coastal communities.¹⁹² We encourage both Applicants to continue consultations with stakeholders affected directly by the viewshed issue.¹⁹³

Third, we recognize that viewshed impacts are not limited to daytime activities, and thus we condition our OREC award on the requirement that each Applicant use best commercially-reasonable efforts to minimize the nighttime viewshed impacts as well. Both US Wind and Skipjack confirmed that their proposed OSW projects will comply with the Federal Aviation Administration (“FAA”) lighting requirements and the United States Coast Guard’s requirements for Aids to Navigation.¹⁹⁴ Further, US Wind has indicated that requests for alternative lighting schemes to reduce visual impacts and extend the life of obstruction lights could be considered by BOEM during its review processes.¹⁹⁵ We instruct both Applicants to pursue vigorously any alternative lighting schemes that could reduce visual impacts on the State’s coastal communities while maintaining the safety and achieving the purpose for which the nighttime lighting schemes are required.

Fourth, we condition our OREC award on the use of best commercially-reasonable efforts to minimize the sounds produced during the construction and operation phases of the Qualified Offshore Wind Project, both in-air and underwater, and

¹⁹² We recognize that additional costs will be incurred as a result of this condition, but do not authorize US Wind to recover such costs beyond the funding provided through the OREC price schedule established by this Order. Thus, US Wind may consider such costs in its determination of what constitutes “reasonably and practicably accommodate the Project”; although, we note that US Wind has committed to minimizing the viewscape impacts and engaging in a transparent manner with stakeholders. *See* US Wind Initial Brief at 28, 31.

¹⁹³ Any adjustments to the OSW project’s siting must conform to the definitional requirements of a Qualified Offshore Wind Project outlined in PUA § 7-701(k).

¹⁹⁴ US Wind Response to Bench Data Request No. 2 (hereinafter, “US Wind Ex. 31”) at 8; Skipjack Response to Bench Data Request No. 2 (hereinafter, “Skipjack Ex. 16”) at 5.

¹⁹⁵ US Wind Ex. 31 at 12-13.

incorporate by reference any related monitoring or mitigation measures imposed by state or federal agencies during subsequent permitting and review processes. This condition stems from our recognition that concerns regarding the siting of the proposed OSW projects extend to more than just the potential impacts on the viewshed, and may include impacts on the coastal communities associated with noise produced during the construction or operations phase of the proposed OSW projects as well.

We solicited input from both Applicants during our proceeding regarding the proposed sound propagation monitoring that would be undertaken during the construction and operation phases of their respective proposed OSW projects, both under the water and by air. In response, US Wind noted its planned in-air and underwater sound modeling that will be conducted as part of its COP, and provided also the mitigation measures to be implemented for pile-driving included in the SAP for its meteorological tower.¹⁹⁶ Skipjack noted that specific requirements for underwater noise monitoring will be established by relevant regulatory agencies during subsequent permitting processes, and will likely rely on hydrophones as the current standard. Skipjack also expects to utilize acoustic modeling to determine the distance that sound is anticipated to travel during pile driving. Overall, both Applicants observe that while construction noise may be audible from shore, it is expected to be minimal based on studies conducted to-date regarding sound propagation during pile driving and operational sounds from wind turbines.¹⁹⁷ Regardless, the Applicants have both committed to adhering to local laws

¹⁹⁶ US Wind Ex. 31 at 1-2.

¹⁹⁷ US Wind Ex. 31 at 4-6; Skipjack Ex. 16 at 2-3.

and regulations, and limiting pile driving to daylight hours only, which we also impose as a condition of our Order.¹⁹⁸

Moreover, we received testimony from our independent expert consultant regarding the use of mitigation measures with respect to the construction noise associated with offshore wind projects in Europe, such as the utilization of “bubble curtains” to absorb the sounds propagating from pile driving.¹⁹⁹ Witness Drunic noted that the technologies deployed both to minimize impacts from construction noise and to minimize viewshed impacts from lighting have evolved considerably in recent years, and will continue to be developed, tested, and deployed moving forward.²⁰⁰ Thus, we do not impose the use of any specific sound or lighting mitigation measures in this Order, recognizing that the applicable technologies will continue to evolve in the intervening years. Instead, we condition the OREC award on the use by each Applicant of the best commercially-available technology at the time of deployment to minimize the impacts of construction and operations noise stemming from the Qualified Offshore Wind Projects.

In addition to the aforementioned siting considerations, this statutory criterion directs us to consider the feasibility of each proposed OSW project, which we interpret herein to encompass the risk – or the minimization of risk – resulting from the Applicants’ outreach to local, state, and federal officials. As indicated by the record evidence, the outreach conducted by US Wind with Maryland and Delaware authorities in advance of these proceedings was extensive and commendable.²⁰¹ On the other hand,

¹⁹⁸ US Wind Ex. 31 at 1-6; Skipjack Ex. 16 at 1-3.

¹⁹⁹ Tr. at 1952-1953 (Cmmr. O’Donnell / Drunic).

²⁰⁰ Tr. at 1953 – 1954 (Cmmr. O’Donnell / Drunic).

²⁰¹ See US Wind Response to Commission Bench Data Request regarding Outreach Efforts (March 28, 2017). See also MEA Initial Brief at 4-5.

Skipjack’s approach, which has since garnered its share of adverse public commentary, can best be described as largely a “wait and see” tactic. While we appreciate that Skipjack is committed to engaging with Maryland and Delaware stakeholders moving forward,²⁰² and indeed we condition our OREC award on such good faith and earnest efforts occurring in a timely fashion, we note that this “measured development philosophy”²⁰³ has introduced at least some degree of risk into the ultimate feasibility of the Skipjack project, since as we noted previously, there are many more opportunities at the federal level for stakeholders to weigh in.

In sum, we note that the siting and feasibility issues associated with each of the Applications introduces a degree of risk into whether either proposed OSW project will clear the full range of permitting hurdles that loom before them. We find, however, that this risk – at least in the strictly financial sense – is borne solely by the Applicants, given that our ratepayers will not fund the purchase of any ORECs until such time that the Qualified Offshore Wind Projects are generating electricity. Thus, we find that the siting and feasibility considerations articulated in this section, as appropriately mitigated by our imposed conditions, weigh in favor of proceeding with both Applications so that the State is in the best position to realize the objectives outlined by the Maryland Offshore Wind Energy Act of 2013. Further, we find that proceeding with both Applications mitigates the risk that an individual project may not come to fruition.

H. The Extent to which the Proposed Offshore Wind Project would Require Transmission or Distribution Infrastructure Improvements in the State

²⁰² Skipjack Reply Brief at 29.

²⁰³ *Id.*

The Act and the Regulations require a consideration of transmission or distribution infrastructure improvements in the State that would result from construction of the proposed OSW project.²⁰⁴ The Applicants propose interconnecting to the transmission network located at various points on the Delmarva Peninsula – a process controlled by PJM. The PJM generation and transmission interconnection process is designed to identify any upgrades that may be required to the affected transmission system to support operation of the proposed generating facility.²⁰⁵ Owners of the proposed new generating facilities are financially responsible for the cost of any required upgrades.²⁰⁶

As stated in its Application, US Wind applied already to PJM and received a queue position for its proposed interconnection to the Delmarva Power Indian River substation.²⁰⁷ The PJM System Impact Report for this queue position indicates that no transmission upgrades are necessary to interconnect the US Wind 248 MW proposed OSW project at this location on the Delmarva Peninsula.²⁰⁸

Skipjack has not yet undertaken the formal PJM interconnection process, but did utilize an engineering firm to perform an evaluation of the interconnection feasibility of its proposed OSW project to two locations in Ocean City, Maryland.²⁰⁹ Based on this evaluation, Skipjack does not believe that any system upgrades will be required to accommodate the interconnection of its proposed OSW project at either location;

²⁰⁴ PUA § 7-704.1(d)(1)(xii); COMAR 20.61.06.03.B(1)(a)(ix).

²⁰⁵ PJM Planning Division – Generation Interconnection Department, *PJM Manual 14A Generation and Transmission Interconnection Process* (Rev. 19 effective Nov. 1, 2016).

²⁰⁶ *Id.*

²⁰⁷ Commission Ex. 2 at 76.

²⁰⁸ Generation Interconnection System Impact Study Report for PJM Generation Interconnection Request Queue Position AB1-056 “Indian River 230 kV 1” (dated Sept. 2016).

²⁰⁹ Skipjack Ex. 7 at Attachment 2-15.

nevertheless, Skipjack confirms in its Application that it will not seek any additional recovery through its OREC price schedule regardless of the outcome of PJM's formal process.²¹⁰

Given that both Applicants have accepted fully the financial risk of any transmission upgrades necessitated by interconnection of their proposed OSW projects to the grid, we find that this factor is not decisive as to whether one project should move forward over the other; rather, we note that both Applicants have satisfied the statutory requirement with respect to this criterion. Moreover, any associated financial risk will not be borne by our ratepayers.

I. Estimated Ability to Assist in Meeting the Renewable Energy Portfolio Standard Under § 7-703 of this Subtitle

The Act establishes an OREC carve-out, not to exceed 2.5%, from Tier 1 of the State's RPS beginning no sooner than 2017.²¹¹ The Act and the Regulations instruct the Commission to review the estimated ability of a proposed OSW project to assist in meeting the State's RPS, considering the expected generation confidence level associated with the proposed OREC amount (*i.e.* P-50).²¹²

We find that both proposed OSW projects would contribute to the realization of Maryland's RPS goals; albeit, US Wind will assist to a greater degree given its larger proposed project size. In addition to the annual contribution of 913,845 ORECs and 455,482 ORECs from the US Wind and the Skipjack OSW projects, respectively, it is possible that the proposed OSW projects could generate additional Tier 1 RECs (associated with generation in excess of the amount incentivized through this Order),

²¹⁰ Van Beek Direct at 6.

²¹¹ PUA § 7-703(b).

²¹² PUA § 7-703(d)(1)(xiii); COMAR 20.61.06.03.B(1)(a)(xii).

which could also be used by Maryland electricity suppliers to demonstrate compliance with the State's RPS.²¹³

Further, as calculated by the Commission's independent consultant in this matter, the ORECs generated by the US Wind proposed OSW project would offset \$219 million (2016\$) from being spent on Tier 1 RECs; ORECs generated by the Skipjack proposed OSW project would offset \$102 million (2016\$).²¹⁴ MEA observes that, "[s]ince both of the Applicants are planning on making large in-State investments during portions of the design, construction, and operations and maintenance phases of project development, a significant amount of Maryland's capital will remain in-State when OSW enters the RPS compliance matrix."²¹⁵ Given that we take great care in this Order to impose conditions on the Applicants so that the in-State investments are in fact realized, we find that this statutory criterion weighs in favor of approving both Applications.

J. Any Other Criteria that the Commission Determines to be Appropriate

In addition to the statutory criteria reviewed in the previous sections, the Act also authorizes the Commission to consider any other criteria that it deems appropriate when comparing and contrasting the Applications.²¹⁶ Through the promulgation of our Regulations, the Commission expanded on several of the existing statutory criteria and adopted a multitude of additional considerations. Specifically, the Regulations instruct the Commission to consider the following supplemental factors beyond those outlined explicitly by statute: qualifications of the applicant's project team; the reasonableness

²¹³ Staff Initial Brief at 22.

²¹⁴ Commission Ex. 2 at ES-36.

²¹⁵ MEA Initial Brief at 8-9.

²¹⁶ PUA § 7-704.1(d)(1)(xiv).

and appropriateness of certain project characteristics; the applicant's financial plan; demonstration of site control; project COD and schedule; if applicable, the reasonableness of the proposed transmission upgrade cost allocation methodology; the operations and maintenance plan; the decommissioning plan; and any unique attributes that distinguish a proposed project from another.²¹⁷

We find that each of these additional criteria outlined in the Regulations was considered extensively in the development of our independent consultant's report, and conclude that the Levitan qualitative analysis of these factors supports our decision not to disqualify from further consideration either of the Applications.²¹⁸ We do, however, impose one condition on the Applicants after a review of these additional criteria and our independent consultant's commentary: an approved OSW project developer must file contemporaneously with the Commission any modifications to its decommissioning plan, including any revisions to its decommissioning cost estimate, which is required to be updated and audited by BOEM every year.²¹⁹

V. COMMISSION DECISION REGARDING FINDINGS REQUIRED BY PUBLIC UTILITIES ARTICLE § 7-704.1(e)

A. Positive Net Economic, Environmental, and Health Benefits to the State

On April 4, 2016, Governor Hogan signed into law an ambitious goal with bipartisan support: the reauthorization of the State's Greenhouse Gas Reduction Act

²¹⁷ COMAR 20.61.06.03.B(1)(a).

²¹⁸ Commission Ex. 2 at ES-31. Note that the Regulations contemplate the elimination from further consideration of an application that the Commission determines represents a significant risk of not achieving successful commercial operation or is not likely to provide net economic, environmental, and health benefits to the State. COMAR 20.61.06.03.B(1)(b).

²¹⁹ Commission Ex. 2 at 145. We note too that COMAR 20.61.06.01.E. requires an Applicant to notify the Commission within 30 days of its decision to amend the decommissioning plan contained in its Application.

(“GGRA”), targeted at reducing statewide greenhouse gas emissions 40% from 2006 levels by 2030.²²⁰ Together with the Maryland Offshore Wind Energy Act of 2013, both pieces of legislation mandate that measures taken to advance the outlined environmental and health objectives also demonstrate positive net economic benefits to the State as a condition precedent to their implementation.²²¹ Specifically, the Commission is prohibited from approving an applicant’s proposed OSW project unless it demonstrates positive net economic, environmental, and health benefits to the State, based on certain statutory criteria.²²²

Thus, a path forward is sought in which Maryland is a frontrunner in both economic and climate initiatives, striving to lead by example that the two objectives are not mutually exclusive. We strongly believe that the Qualified Offshore Wind Projects approved by our Order do just that, while simultaneously maximizing and protecting our ratepayers’ investment in them. Further, we find that great efficiencies – both economic and administrative – can be realized by positioning offshore wind projects to serve as practicable mitigation measures in the State’s forthcoming December 31, 2019 Greenhouse Gas Reduction Plan.²²³ As detailed below, it is our resolute conclusion that the offshore wind project proposed by US Wind, as well as the offshore wind project

²²⁰ 2016 Md. Laws, ch. 011.

²²¹ Env’t § 2-1206(8)(vi).

²²² PUA § 7-704.1(e)(1)(i). As a preliminary matter, we note that because the record provides sufficient evidence, as detailed below in Sections V.1.A - C, to demonstrate that the categories of economic, environmental, and health benefits accruing to the State as a result of each proposed OSW project independently yield net positive results, we do not reach the legal question of whether the statute indeed requires a separate finding of positive net economic *and* positive net environmental *and* positive net health benefits (or whether the benefits can be aggregated to offset the net ratepayer costs attributable to the proposed OSW project(s)). *See* Sierra Club/MLCV Reply Brief at 2 (discussing its contention that OPC has too narrowly construed the Act). We note, however, that since the record supports the conclusion that each category yields positive net benefits to the State independently (as described in subsequent sections), it follows that a collective consideration of the attributes would similarly yield a determination of positive net benefits to the State – to an even greater degree. *Id.* at note 2.

²²³ Env’t § 2-1205(c)(2).

proposed by Skipjack, demonstrate positive net economic, environmental, and health benefits to the State.

1. Positive Net Economic Benefits to the State

As posited by several intervenors in this proceeding, we believe that the legislative intent behind the Maryland Offshore Wind Energy Act of 2013 was to drive more than just short-term economic gains, as evidenced in part by the establishment of, and the substantial monies directed to, the Maryland Offshore Wind Business Development Fund.²²⁴ Thus, while we reviewed the Applicants' proposals in the context of the statutorily required demonstration of positive net economic benefits to the State, we considered too the proposition of the "First Mover Advantage" discussed at great length during our hearings. In short, we concur that "Maryland must develop a project that warrants investment in both infrastructure and jobs" in order to realize a return on our ratepayers' investment in this nascent industry.²²⁵ This does not, however, come without a sizeable price tag, and it is our solemn duty to ensure that our approval of the projects is conditioned on the realization of the economic commitments articulated in the Applications sponsored by US Wind and by Skipjack.

The economic commitments offered by both Applicants demonstrate a positive net benefit to the State as calculated by the Commission's independent expert consultant in this matter.²²⁶ Specifically, Levitan concluded that the commitments in the Applications will generate at least \$610 million and \$347 million of planned in-State expenditures during the development and construction phases of the US Wind and

²²⁴ PUA § 7-704.1(g).

²²⁵ US Wind Initial Brief at 12.

²²⁶ Commission Ex. 2 at ES-42.

Skipjack OSW projects, respectively.²²⁷ During the operations phase, an additional \$744 million and \$134 million of in-State expenditures (as calculated by Levitan) are projected to accrue as a result of the US Wind and Skipjack OSW projects, respectively.²²⁸ Further, both US Wind and Skipjack are projected to contribute significant tax revenues to the State during all phases of the OSW projects.²²⁹ Additional infusions of \$6 million from each Applicant into the Maryland Offshore Wind Business Development Fund will further stimulate in-State economic growth as emerging businesses are provided with the financial assistance necessary to prepare for an active role in the State’s new industry.²³⁰

Moreover, the development, construction, operation and maintenance activities of both proposed OSW projects are projected to translate into direct, indirect, and induced employment opportunities in areas of the State that remain vulnerable following the previous decade’s economic downturn. As State Senator Johnny Ray Salling (Baltimore County) – a representative of one such area – opined, “[o]ffshore wind is something we need to grab ahold of and run with. My district is home to Trade Point Atlantic, and these [ORECs] can help bring more jobs to Sparrows Point and the surrounding communities.”²³¹ Indeed, Levitan’s independent estimate of in-State economic benefits reflects the potential for 7,050 new Maryland jobs (FTEs) as a result of the US Wind proposed OSW project and 2,635 new Maryland jobs (FTEs) as a result of the Skipjack

²²⁷ *Id.* at 39.

²²⁸ *Id.*

²²⁹ *Id.* Explicit in this statement is our dismissal of the argument that US Wind will not contribute tax dollars to Maryland, but rather to Delaware, as a result of its proposed interconnection point. *See* Skipjack Initial Brief at 42. We accept US Wind’s affirmation that, “[t]here is no debate that US Wind is subject to Maryland taxes now and in the future that will benefit the state” and note that the conditions imposed herein ensure that a sufficient nexus for Maryland to impose taxes on the US Wind project will exist. *See* US Wind Reply Brief at 25.

²³⁰ *See* PUA § 7-704.1(g). *See also* COMAR 20.61.06.05.

²³¹ Maillog No. 214592: Case No. 9431 Public Correspondence File, (April 7, 2017).

proposed OSW project.²³² Coupled with other representations made by both Applicants regarding the use of in-State assembly and staging locations, as well as in-State operating bases, these projections support the finding of our independent expert consultant, and our ultimate conclusion, that Maryland is well-positioned to significantly grow its employment ranks over the duration of both projects.²³³

Despite the aforementioned overwhelming record evidence to the contrary, including the findings of the Commission’s independent expert consultant in this matter,²³⁴ OPC now contends that the benefits of both proposed projects fail “to overcome the sizeable total costs that they will impose on ratepayers throughout the State.”²³⁵ Specifically, OPC argues that the Applicants have not satisfied their respective burdens related to the demonstration of positive net economic benefits by failing to consider fully the impact on residential, commercial, and industrial ratepayers over the life of the proposed OSW projects.²³⁶ OPC alleges that the analysis is incomplete without additional information related to what impact, if any, higher electricity rates for businesses throughout the State will have on employment and wages.²³⁷ OPC also

²³² Commission Ex. 2 at ES-39.

²³³ *Id.* at ES-41. The US Wind and Skipjack proposed OSW projects have both confirmed their intent to utilize Sparrows Point as the assembly and staging location, and Ocean City as the operating base, and we trust they will cooperate in doing so. *Id.*

²³⁴ The Maryland Offshore Wind Energy Act of 2013 directs the Commission to rely on the services of independent consultants and experts when calculating net benefits to the State. PUA § 7-704.1(e)(2).

²³⁵ OPC Initial Brief at 11. This position appears to be a departure from OPC’s pre-filed testimony and that of its witness during the evidentiary hearings, during which Witness Chang conceded that it is a fair assessment of his final conclusion that the Commission should accept the Skipjack Application based on the rate impact calculations used in the Levitan report. *See* Tr. at 2064 (Prevas/Chang). Further, Witness Chang confirmed that the primary focus of his testimony – as OPC’s sole witness – was to evaluate the criteria pertaining to ratepayer cost impacts. *See* Tr. at 2065 (Prevas/Chang).

²³⁶ OPC Initial Brief at 12.

²³⁷ *Id.*

contends that all analyses have ignored the statutory requirement to consider the impact of a proposed OSW project on businesses in the State.²³⁸

In sum, OPC disagrees with the findings contained in the Levitan Report, based on OPC's evaluation of two statutory directives related to analyzing impacts on businesses. In doing so, OPC also disagrees with MEA that both Applications satisfy the prerequisites to a Commission decision as set forth in statute.²³⁹ And, OPC disagrees with the recommendation by the Business Network that the Commission approve both proposed OSW projects, with the Business Network noting that "Maryland stands at the doorstep of ushering in the true beginning of a new industry that could serve as a launching point for great economic growth for the State, its businesses, and community for years to come."²⁴⁰

Upon reviewing the Applications and associated attachments (which number in the thousands of pages), the pre-filed testimony filed by all parties to the proceeding, the report prepared by the Commission's independent consultant, and the transcripts spanning over two weeks of evidentiary hearings, we strongly disagree with OPC's contention that a "gap in information"²⁴¹ exists in this matter. It is simply untrue that none of the analyses evaluated completely the impact on residential, commercial, and industrial ratepayers over the life of the proposed offshore wind projects, as required by the Act.²⁴² On the contrary, Levitan considered the issue to an exhaustive degree, reviewing qualitatively the cost-benefit analyses prepared by experts for each

²³⁸ *Id.*

²³⁹ MEA Initial Brief at 9-10.

²⁴⁰ Business Network Initial Brief at 1.

²⁴¹ *See* OPC Initial Brief at 14.

²⁴² PUA § 7-704.1(c)(3)(iv).

Applicant,²⁴³ as well as conducting its own independent cost-benefit assessment for both of the proposed OSW projects, focusing in turn on each of the enumerated statutory criteria.²⁴⁴

As the record demonstrates, the commitments made by the Applicants will result in positive net economic gains accruing to the State and its citizens.²⁴⁵ To the extent that higher electricity rates are incurred by Maryland ratepayers as a result of today's OREC award, any incremental negative economic impacts not captured already by the aforementioned analyses would be indirect or induced at best, thus constituting a *de minimis* further economic impact outside of the ratepayer impact calculations discussed later in this Order.²⁴⁶ Further, as Skipjack contends, "OWEA contains specific retail rate impact limits for OSW projects, and it is reasonable to interpret these relatively strict limits as the mechanism by which OWEA would restrict the impact of higher electric rates on the economy."²⁴⁷

²⁴³ Commission Ex. 2 at 62-68 (US Wind), and 128-136 (Skipjack).

²⁴⁴ *Id.* at 72-92 (US Wind), and 141-160 (Skipjack).

²⁴⁵ Levitan concluded that the revised price schedules proposed by each Applicant would yield total net Maryland ratepayer costs in the amount of \$1,364 million (2016\$) – US Wind, and \$604 million (2016\$) – Skipjack. *See* Levitan & Associates, Inc. Updated Net Ratepayer Impact Tables (hereinafter, "Commission Ex. 4") at 1. However, Levitan projected the following in-State economic benefits attributable to each project: US Wind - \$1,354 million (2015\$) in-State expenditures, 7,050 new jobs (FTEs), and \$48 million in direct taxes; and, Skipjack - \$481 million (2015\$) in-State expenditures, 2,635 new jobs (FTEs), and \$26 million in direct taxes. *See* Commission Ex. 2 at ES-39, 91, and 159. In addition, as discussed previously, both Applicants will contribute \$6 million to the Maryland Offshore Wind Business Development Fund as a condition of our OREC award. Thus, on balance, the Commission's independent consultant concluded that both the US Wind and the Skipjack proposed OSW projects would result in positive net economic benefits to the State stemming from the combination of in-State expenditures, job creation, and tax revenue contributions. Commission Ex. 2 at ES-42. We note too that in an analogous circumstance, the Court of Special Appeals found that the Commission need not reduce the components of a cost-benefit analysis to a precise dollar value. *Accokeek, Mattawoman, Piscataway Creeks Communities Council, Inc. v Maryland Pub. Serv. Comm'n*, 227 Md. App. 265, 286-293 (2016).

²⁴⁶ As stated by Levitan Witness Parker, "I'm confident that the increases due to construction and operation of the project would outweigh any negative impacts due to higher electricity costs." Tr. at 1839.

²⁴⁷ Skipjack Reply Brief at 6.

In short, we concur with MEA that the evidentiary record demonstrates that “both projects are in conformance with the requirements of PUA § 7-704.1(e)(1).”²⁴⁸ Indeed, the OSW project proposed by US Wind, as well as the OSW project proposed by Skipjack, demonstrates positive net economic benefits to the State based on the criteria specified in statute.²⁴⁹ And as noted by Local Union No. 5 Witness Beckman, “[t]he importance of a sizeable influx of high paying jobs to the citizens of the State of Maryland cannot be overstated, given the steady loss of such jobs...during the past several years.”²⁵⁰

We do, however, conclude that additional steps are warranted to ensure that Maryland ratepayers realize the positive net economic benefits discussed in this section. The Applicants have both affirmed repeatedly their respective commitments to achieve the in-State benefits articulated in their Applications, reinforced by metrics and certain obligations.²⁵¹ We accept these commitments as the basis for the conditions we impose herein.

Specifically, we find it appropriate to condition our OREC award on the requirement that US Wind and Skipjack at a minimum demonstrate, upon the

²⁴⁸ MEA Initial Brief at 10.

²⁴⁹ We find that the record demonstrates each of the cost-benefit analyses submitted in this matter considered at a minimum the requisite criteria prescribed by statute. *See* Commission Ex. 2 at 72-92 (US Wind), and 141-160 (Skipjack). The statutory criteria detail the minimum requirements of a cost-benefit analysis, including: (i) a detailed input-output analysis of the impact of the offshore wind project on income, employment, wages, and taxes in the State with particular emphasis on in-State manufacturing employment; (ii) detailed information concerning assumed employment impacts in the State, including the expected duration of employment opportunities, the salary of each position, and other supporting evidence of employment impacts; (iii) an analysis of the anticipated environmental benefits, health benefits, and environmental impacts of the offshore wind project to the citizens of the State; (iv) an analysis of any impact on residential, commercial, and industrial ratepayers over the life of the offshore wind project; (v) an analysis of any long-term effect on energy and capacity markets as a result of the proposed offshore wind project; (vi) an analysis of any impact on businesses in the State; and (vii) other benefits, such as increased in-State construction, operations, maintenance, and equipment purchase. PUA § 7-704.1(c)(3).

²⁵⁰ Beckman Rebuttal at 1-2.

²⁵¹ US Wind Ex. 31 at 17-19; Skipjack Ex. 16 at 14-15.

commencement of commercial operations, a level of direct in-State expenditures commensurate to the percentage basis described in their respective Applications.²⁵² Thus, US Wind's demonstration should illustrate that at a minimum 19% of total project development and construction costs were expended in-State, which could translate into as much as \$291.6 million (2021\$) based on current spending projections;²⁵³ Skipjack's threshold for compliance will be that it has expended at a minimum 34% of project development and construction costs within Maryland, which could translate into as much as \$204.8 million (2021\$) based on current spending projections.²⁵⁴ Given that these in-State expenditures are expected to generate positive net economic benefits for Maryland businesses, we find it reasonable to accept the remediation measure proposed by Skipjack should the required expenditures not occur.²⁵⁵ Thus, in the event that an independent assessment reveals that the in-State expenditures of an Applicant have not met or exceeded the percentages imposed through this Order, then any shortfall shall be deposited into the Maryland Offshore Wind Business Development Fund to provide financial assistance to emerging State businesses. This remediation measure is appropriate given that it is reasonable the businesses benefiting from the Fund would have been disadvantaged by the lesser percentage of in-State expenditures.

²⁵² We do not find it prudent to condition the award on a specific dollar value of in-State expenditures as suggested by certain intervenors (*see, e.g.* MEA Initial Brief at 13), given that a subsequent condition adopted herein will provide for a shared refund component to ratepayers of any cost savings achieved during the construction phase of each OSW project. Rather, we base this condition on a percentage achievement metric, to allow for cost efficiencies to be realized while preserving the proportion of planned in-State expenditures committed to by US Wind and by Skipjack in their respective applications.

²⁵³ Commission Ex. 2 at 63. The figure presented in the Report is in 2015 dollars, and has been converted into 2021 dollars herein to provide a consistent comparison with the Skipjack value. \$258.9 million (2015\$) x 1.02⁶ (*i.e.* 6 years of 2% inflation) = \$291.6 million (2021\$).

²⁵⁴ Skipjack Ex. 16 at 15.

²⁵⁵ *Id.*

Further, we conclude that the OREC award shall similarly be conditioned on the achievement of in-State direct employment opportunities projected to occur as a result of the proposed OSW projects.²⁵⁶ It is firmly within the control of each Applicant to ensure the realization of direct jobs located in Maryland stemming from their respective OSW project; although, we will permit some flexibility for these jobs to be created during various phases (*i.e.* development, construction, operations and maintenance, de-commissioning). The Applicants are directed to execute detailed tracking of the direct full-time equivalent positions created during each phase of their respective OSW project, and to report these results to the Commission as a condition of today's OREC award.

We are sensitive too, to the concerns noted by certain intervenors to the proceeding that the positive net economic benefits resulting from these OSW projects could become localized, while the costs will be borne by all Maryland ratepayers.²⁵⁷ While such a result is not proscribed by statute,²⁵⁸ we find it appropriate to impose certain conditions, which have been stipulated to by the Applicants and recommended by various intervenors, as a means by which to ensure that numerous areas of the State benefit directly from investments made in support of the OSW projects' development. Thus, we accept as a condition to our Order the recommendation made by the Business Network that each Applicant use a port facility in Baltimore to serve as the marshaling port, and

²⁵⁶ Levitan projected that 1,298 direct jobs (FTEs) and 2,282 direct jobs (FTEs) would result from the US Wind project during the development/construction and the operating phases, respectively. For the Skipjack project, Levitan projected that 913 direct jobs (FTEs) and 484 direct jobs (FTEs) would result during the development/construction and the operating phases, respectively. Commission Ex. 2 at ES-39.

²⁵⁷ OPC Initial Brief at 13, citing the testimony of MEA Witness Fiastro (*see* Tr. at 2033).

²⁵⁸ *See* Skipjack Reply Brief at 6.

further, that each Applicant use a port facility in Ocean City to serve as the O&M port.²⁵⁹ Each Applicant is required to locate an operations center within the State.²⁶⁰ In addition, we accept each Applicant's commitment to invest significant monies and to pursue federal grants in support of the development of these facilities. Specifically, US Wind has pledged a \$51 million investment in a steel fabrication plant and \$26.4 million worth of upgrades at the Tradepoint Atlantic shipyard (also known as Sparrows Point),²⁶¹ and Skipjack has factored in an expected \$25 million investment in a Maryland steel fabrication facility.²⁶²

In summary, we conclude that the OSW projects proposed by US Wind and by Skipjack each demonstrate positive net economic benefits to the State. The conditions imposed on each Applicant through this Order ensure that the Maryland ratepayers' investment in the approved Qualified Offshore Wind Projects is warranted.

2. Positive Net Environmental Benefits to the State

²⁵⁹ Business Network Initial Brief at 12-14. This condition is consistent with the statement of intent made by both Applicants regarding the use of Sparrows Point as an assembly and staging location, and Ocean City as an operating base. *See* Commission Ex. 2 at ES-41.

²⁶⁰ Tr. at 1368 (Chairman Hughes/Van Beek). The term "operations center" is intended to capture a facility at which personnel are located for the purposes of monitoring the output of the offshore wind farm and controlling the turbines. *Id.* This is separate and distinct from the commitment by each Applicant to open a corporate office in the State, which US Wind has done already, *see* Tr. at 1203 (Witness Grybowski confirming that Skipjack plans to open a corporate office in Maryland).

²⁶¹ US Wind Initial Brief at 10; Commission Ex. 2 at 90. Witness Rich also discussed the likelihood of a key contractor pursuing "activities in Salisbury up to the Wicomico River." Tr. at 125. We strongly encourage both Applicants to consider utilizing ports in the Salisbury area and/or to encourage sub-contractors to utilize ports in the Salisbury area, so that the lower Eastern Shore is afforded its share of the good-paying direct, indirect, and induced job opportunities that the Applicants have committed to delivering.

²⁶² Commission Ex. 2 at 158. Skipjack committed to utilizing the Tradepoint Atlantic shipyard (*i.e.* Sparrows Point) as its logistics hub in addition to locating a steel fabrication facility at that location. Tr. at 1203. Thus, we condition our OREC award on a minimum expenditure by Skipjack on port upgrades in addition to the planned investment in a steel fabrication facility. Because US Wind has dedicated \$26.4 million for this purpose, and the Skipjack project's capacity will be roughly half the size of US Wind's project, we direct Skipjack to invest a minimum of \$13.2 million in port upgrades at the Tradepoint Atlantic shipyard (or comparable port in the Baltimore region).

An Application for Approval of a Qualified Offshore Wind Project must demonstrate that positive net environmental benefits will accrue to the State.²⁶³ The demonstration must rely on an independent analysis of the environmental benefits to Maryland associated with a proposed OSW project, quantitatively expressed in terms of avoided air emissions and qualitatively discussed in terms of any impacts on the affected marine environment (based on publicly available information).²⁶⁴

The State's long-standing commitment to realizing reductions in greenhouse gas emissions and achieving the commensurate environmental and health benefits is evidenced by several bold initiatives, including: the GGRA goal of reducing carbon emissions 40% by 2030; the RPS mandate to source 25% of electricity consumed in-State from renewable energy resources by 2020; and the State's participation in the Regional Greenhouse Gas Initiative. The Maryland Offshore Wind Energy Act of 2013 not only aligns itself with these objectives, it does so by enabling the State to achieve a greater share of its renewable energy goals with Maryland-based resources (rather than through an ever-growing reliance on out-of-state Renewable Energy Credits ("RECs")), and its GGRA reductions in carbon emissions through trailblazing economic-development projects.

We concur with MEA that "[o]ffshore wind projects will directly benefit Maryland with fewer carbon emissions."²⁶⁵ Indeed, the record evidence in this proceeding demonstrates that approval of one or both of the Applications pending before us will lower the carbon intensity of Maryland's generation profile and result in positive

²⁶³ PUA § 7-704.1(e)(1)(i).

²⁶⁴ COMAR 20.61.06.03.B(3).

²⁶⁵ MEA Initial Brief at 9.

net environmental benefits to the State – quantitatively expressed in terms of avoided air emissions. Specifically, Levitan concluded through its independent forecast of avoided power plant emissions that reductions of harmful pollutants in the following amounts would accrue annually to Maryland over the twenty-year operational period of the proposed OSW projects.²⁶⁶

Table 1: Independent Estimate of Average Annual Change in Maryland Air Emissions (tons/year)

Pollutant	US Wind	Skipjack
CO ₂	(12,809)	(6,384)
NO _x	(6.8)	(3.4)
SO ₂	(3.1)	(1.6)

These reductions will greatly assist Maryland in reaching its goal of reducing carbon emissions 40% by 2030.²⁶⁷ Moreover, transitioning to clean energy sources such as OSW will further the State’s goal of providing environmentally sustainable electric service while not sacrificing reliability or hindering the growth of Maryland’s economy.

As noted by the Sierra Club/MLCV, no party to the proceeding presented any evidence during the hearings disputing that emission reductions would occur in Maryland as a result of the US Wind and Skipjack proposed OSW projects;²⁶⁸ although, the Applicants presented evidence that emission reductions stemming from their respective projects will actually be greater than estimated by our independent consultant.²⁶⁹ Subsequent to the hearings, however, OPC relies on the discussion presented by Levitan in its Report and during the hearings regarding a potential “market response” in western PJM (*i.e.* the potential displacement of new renewable energy generation in western PJM

²⁶⁶ Commission Ex. 2 at ES-40.

²⁶⁷ Commission Ex. 2 at ES-40; MEA Initial Brief at 9.

²⁶⁸ Sierra Club/MLCV Reply Brief at 3.

²⁶⁹ Commission Ex. 2 at ES-26; Skipjack Initial Brief at 43-47.

by the offshore wind project(s)) to justify OPC’s new position²⁷⁰ that “[o]ffshore wind would, therefore, have a limited, if any, net reduction, or net increase, on total carbon emissions.”²⁷¹ We dismiss the validity and relevance of OPC’s statement on several grounds.

First, we remain unconvinced that the “market response” contemplated in Levitan’s analysis represents a reasonable or probable future scenario. We do not dispute the existence of a “market response” concept as articulated by Levitan; nor do we dispute that the REC market is “limited” by state statutes. We do, however, take issue with the conclusion that because the proposed OSW project(s) would provide RECs in fulfillment of Maryland’s RPS requirement, this will necessarily be *in lieu of* an onshore wind project providing RECs to Maryland or another state.²⁷² Witness Parker confirmed during the hearings that the Levitan analysis relied on an assumption that RPS targets in and around Maryland will continue to mirror current law,²⁷³ which we find unlikely based on recent events, especially given that our own State has acted to accelerate and increase the RPS obligation since the completion of the Levitan analysis.²⁷⁴ Thus, any degree of continued state, federal, or market-driven demand for new renewables in or adjacent to the PJM region will discount the realization of the market response contemplated by the Levitan analysis and increase the emission reductions realized by the proposed OSW projects in-State and throughout the PJM region. Moreover, even if the market response described by Levitan occurs, albeit at a slower rate,

²⁷⁰ As discussed previously, this appears to be a departure from OPC’s position in its pre-filed testimony. *See also* US Wind Reply Brief at 38-39.

²⁷¹ OPC Initial Brief at 23.

²⁷² Tr. at 1912 (Parker).

²⁷³ Tr. at 1912-1913 (Chairman Hughes/Parker). For example, not only has Maryland recently adopted a more rigorous RPS mandate, but the Governor of New York is similarly discussing more stringent targets. *Id.*

²⁷⁴ *See* Commission Ex. 2 at 17-18, Figure 13. Note that Senate Bill 921 / House Bill 1106 (2016) revised the statute so that the RPS became a 25% by 2020 mandate, as opposed to the previous iteration of 20% by 2022. 2017 Md. Laws, ch. 1 and 2.

the net ratepayer cost would be lower than projected for each Application;²⁷⁵ thereby further eroding OPC's contention that the proposed OSW projects fail to demonstrate sufficient benefits to outweigh the costs that will be borne by ratepayers.²⁷⁶

Second, we dismiss as irrelevant OPC's issues with the Skipjack environmental benefits analysis. Regardless of whether Skipjack relied on "optimistic assumptions" to monetize its estimate of environmental benefits, as alleged by OPC,²⁷⁷ the Levitan analysis independently concluded that both proposed OSW projects would yield positive net economic, environmental, and health benefits to the State.²⁷⁸ Besides, the Act does not require the monetization of environmental benefits; rather, the Regulations dictate that the demonstration must occur in part through a quantification of avoided air emissions.²⁷⁹ OPC offers no evidence to support an argument that this requirement has not been met.²⁸⁰

Lastly, we reject any implication that a consideration of environmental benefits as an offset to ratepayer costs is inappropriate in the context of this proceeding. As noted by the Sierra Club/MLCV, "OPC's implied argument seems to be that if the benefit would not appear in the ratepayers' utility bill, that benefit should not be considered by the Commission."²⁸¹ On the contrary, the Act is explicit in its directive to consider the

²⁷⁵ Tr. at 1908 (Parker).

²⁷⁶ OPC Initial Brief at 23.

²⁷⁷ *Id.* at 21.

²⁷⁸ Commission Ex. 2 at ES-42.

²⁷⁹ COMAR 20.61.06.03.B(3).

²⁸⁰ OPC merely points to the Levitan discussion of a "market response" to justify OPC's assertion that "[o]ffshore wind would, therefore, have a limited, if any, net reduction, or net increase, on total carbon emissions." See OPC Initial Brief at 23. The Levitan analysis, however, concludes that even with an assumed full "market response," there will still be a reduction in *Maryland* air emissions – as required by the Act and the Regulations. See Commission Ex. 2 at ES-40.

²⁸¹ Sierra Club/MLCV Reply Brief at 3.

positive net environmental benefits of a proposed OSW project;²⁸² and, although the Regulations discuss quantifying these benefits in terms of avoided air emissions, this does not *ipso facto* result in a finding that the value of these avoided air emissions to the State is zero.²⁸³

Indeed, these avoided air emissions translate into economic benefits to the State even outside of the construct of direct monetization using a social cost of carbon. For example, the avoided air emissions realized by the US Wind and Skipjack OSW projects will also represent avoided compliance costs that would otherwise be required for purposes of achieving the State’s suite of ambitious climate goals. Reliance on OSW as a mitigation measure in the context of the State’s 40% by 2030 GGRA carbon reduction goal means that some ratepayer or taxpayer dollars will not have to be expended to develop and implement an alternative reduction strategy. And, while opponents may argue that other potential mitigation measures may be less costly than OSW, it is important to note that low-hanging fruit and emissions reductions attributable to market forces were captured already by the Maryland Department of the Environment in its Plan to achieve the 25% by 2020 GGRA carbon reduction goal.²⁸⁴ Further, reliance on OSW as a greenhouse gas mitigation measure is consistent with other directives in the GGRA, including that any proposed mitigation measure is required to “produce a net economic benefit to the State’s economy and a net increase in jobs in the State.”²⁸⁵

²⁸² PUA § 7-704.1(e)(1)(i).

²⁸³ A “lack of consensus [as] to the dollar value that should be attributable to avoided emissions” does not equate to a non-existent dollar value. Tr. at 1886.

²⁸⁴ Maryland Department of the Environment, *Greenhouse Gas Emissions Reduction Act Plan Update* (2015) at 73, available at: <http://mde.maryland.gov/programs/marylander/documents/mccc/publications/2015ggraplanupdate/climateupdate2015.pdf>.

²⁸⁵ Env’t § 2-1206 (8)(vi).

Additionally, as observed by several intervenors in this proceeding, “[m]any of the Tier 1 RECs purchased and retired in Maryland are created by renewable energy generation units in other states within PJM Interconnection,” thus resulting in RPS compliance costs benefiting largely out-of-state entities.²⁸⁶ By offsetting a share of Tier 1 RECs required for compliance, the approval of the US Wind and the Skipjack OSW projects will ensure that Maryland’s continued commitment to environmental initiatives does not preclude the State from realizing at least a portion of the direct economic benefits associated with the development of the renewable resources incentivized through the broader RPS mandate.²⁸⁷

Notwithstanding our findings regarding the positive environmental benefits that will accrue to the State as a result of the US Wind and the Skipjack OSW projects, we are cognizant of the need to mitigate potential adverse implications to the affected marine environment stemming from these projects, which were highlighted especially by the Sierra Club/MLCV in this proceeding.²⁸⁸ Specifically, the Environmental Intervenors request that approval of either proposed OSW project be conditioned on limitations to construction and certain other activities during the peak migration season for endangered right whales.²⁸⁹ The additional protective measures suggested by the Environmental Intervenors include items such as enhanced real-time human monitoring for whale

²⁸⁶ MEA Initial Brief at 8. *See also* Sierra Club/MLCV Initial Brief at 23 (noting Commissioner O’Donnell’s statement that 70 – 75% of REC money is going out-of-state).

²⁸⁷ *Id.*

²⁸⁸ Sierra Club/MLCV Initial Brief at 26-28.

²⁸⁹ *Id.*

activity in the site area, restriction of activities to daylight hours, the use of noise-reducing tools and technologies, and a lower speed limit for vessels in the area.²⁹⁰

We concur that the Applicants must adopt precautionary protection measures such as those outlined by the Sierra Club/MLCV to ensure that marine mammals are protected from harm during the development, construction, and operation of the OSW projects, and thus condition our OREC award on this occurring.²⁹¹ We also recognize that further environmental remediation measures may be imposed through subsequent state or federal agency review processes associated with necessary project permits, and thus incorporate by reference any such conditions with the expectation that the Applicants will employ the best mitigation measures available at the time of construction and commercial operations. With such conditions in place, we are confident that the OSW projects proposed by US Wind and by Skipjack will yield significant positive net environmental benefits to the State.

3. Positive Net Health Benefits to the State

When enacting the initial Renewable Energy Portfolio Standard, the General Assembly codified several of its findings in statute, such as that the benefits of electricity from renewable energy resources, including long-term decreased emissions, a healthier environment, increased energy security, and decreased reliance on and vulnerability from imported energy, accrue to the public at large.²⁹² The focus on health benefits attributable to renewable energy resources continued in the Maryland Offshore Wind

²⁹⁰ *Id.* at 28.

²⁹¹ We note that on brief, the Applicants and the Environmental Intervenors confirmed that an agreement has since been executed regarding a process for adopting the actual conditions necessary. *See* Sierra Club/MLCV Reply Brief at 5.

²⁹² PUA § 7-702(b)(1).

Energy Act of 2013, with the General Assembly requiring a demonstration that positive net health benefits will accrue to the State as a condition precedent to our approval of a Qualified Offshore Wind Project.²⁹³

While the Regulations focus on a *qualitative* assessment of the health impacts associated with avoided air emissions,²⁹⁴ publicly-available studies do exist that *quantify* the health and climate benefits that can be derived from OSW in the Mid-Atlantic.²⁹⁵ In the event that we had relied on such methods of quantifying the associated health benefits, it would have served to further boost the positive net economic benefits realized by Maryland in conjunction with the US Wind and the Skipjack Qualified Offshore Wind Projects that are discussed earlier in this Order.²⁹⁶

We limited our analysis, however, to the qualitative assessment of the health impacts associated with the avoided air emissions attributable to the OSW projects proposed by US Wind and by Skipjack, as calculated by our independent consultant in this matter. The independent forecast of avoided power plant emissions in Maryland over the proposed twenty-year operating terms of each OSW project found that emissions of several harmful pollutants (CO₂, NO_x, and SO₂) would decrease significantly.²⁹⁷ Publicly available information demonstrates that the pollutants avoided by the approval

²⁹³ PUA § 7-704.1(e)(1)(i).

²⁹⁴ COMAR 20.61.06.03.B(3).

²⁹⁵ See Sierra Club/MLCV Initial Brief at 24, stating that a recent study that concluded a 200 MW OSW farm in Maryland would result in \$44 million in health benefits from avoided mortality rates thanks to reduced pollution (citing Jonathan J. Buonocore et al., *Health and climate benefits of offshore wind facilities in the Mid-Atlantic United States* at 3, (July 14, 2016) http://www.synapseenergy.com/sites/default/files/Health-Climate-Benefits-Offshore-Wind-14-068_0.pdf).

²⁹⁶ See *supra* Section V.A.1.

²⁹⁷ Commission Ex. 2 at ES-39 – ES-40. As discussed in Section V.A.2, *infra*, Levitan’s independent estimate concluded that the US Wind project would yield an average annual reduction in Maryland emissions of 12,809 tons/year (CO₂), 6.8 tons/year (NO_x), and 3.1 tons/year (SO₂); the Skipjack project would yield an average annual reduction in Maryland emissions of 6,384 tons/year (CO₂), 3.4 tons/year (NO_x), and 1.6 tons/year (SO₂). *Id.* at ES-40.

of the US Wind and the Skipjack OSW projects would otherwise result in detrimental impacts to human health and the environment.²⁹⁸ Specifically, the reduction of NO_x and SO₂ pollutants, which contribute to the formation of smog and acid rain, will serve to alleviate or prevent certain respiratory problems for Marylanders and reductions in CO₂ power plant emissions will help limit the adverse health effects of global warming.²⁹⁹

The Sierra Club and Maryland League of Conservation Voters contend that approval of a “utility-scale, long-term OSW project will provide electricity to hundreds of thousands of Maryland residents while ensuring cleaner air and water and better health for all Marylanders.”³⁰⁰ Further, by “harnessing Maryland’s reserves of pollution-free OSW energy,” we can make significant progress in reducing the “serious public health impacts from air pollution, including asthma attacks and premature deaths.”³⁰¹ Thus, we conclude that the record evidence demonstrates a positive net health benefit will accrue to the State as a result of our approval of the respective Applications for a Qualified Offshore Wind Project submitted by US Wind and by Skipjack.

B. Projected Net Ratepayer Impacts and OREC Price Schedule

Prior to the enactment of the Maryland Offshore Wind Energy Act of 2013, its proponents introduced similar legislation during the 2011 and 2012 legislative sessions.³⁰² In both instances the proposed legislation was substantively comparable to the 2013 Act with a few key exceptions, such as, the inclusion of residential and nonresidential ratepayer protection measures in the form of price caps on monthly bill

²⁹⁸ Sierra Club/MLCV Initial Brief at 23-26.

²⁹⁹ Commission Ex. 2 at ES-40.

³⁰⁰ Sierra Club/MLCV Initial Brief at 24.

³⁰¹ *Id.* at 23.

³⁰² House Bill 1054 (2011); House Bill 441 (2012).

impacts, as well as a cap on the underlying OREC price schedule.³⁰³ Specifically, as enacted the Act prohibits the Commission from approving a proposed OSW project unless: (i) the projected net rate impact for an average residential customer does not exceed \$1.50/month (2012\$); (ii) the projected net rate impact for all nonresidential customers (considered as a blended average) does not exceed 1.5% of nonresidential customers' total annual electric bills; and (iii) the price set by the proposed OREC price schedule does not exceed \$190/MWh (2012\$).³⁰⁴ In the event that more than one OSW project is authorized, the ratepayer impacts of all Qualified Offshore Wind Projects may not collectively exceed the caps outlined in the first and second clauses.³⁰⁵

The legislative history of the Act, coupled with the codified provisions involving permissible ratepayer impacts and lowest cost proposals, is particularly instructive in our review of the Applications pending before us. We concur with MEA that the State has already made the policy decision to authorize OSW development and the ratepayer impacts that may result from it, subject, of course, to the Commission's duty to approve, conditionally approve, or deny individual applications.³⁰⁶ Nevertheless, we have taken great care to ensure that a decision to proceed with ratepayer supported OSW development in Maryland is accomplished at the lowest cost practicable. We take seriously the role with which we are charged, *i.e.* to effectuate the policies duly enacted by the General Assembly and the Governor, while seeking to maximize the benefits and minimize the costs to our ratepayers associated with implementing such policies.

³⁰³ US Wind Initial Brief at 6.

³⁰⁴ PUA § 7-704.1(e)(1)(ii)-(iv).

³⁰⁵ PUA § 7-704.1(e)(1)(ii)-(iv).

³⁰⁶ MEA Initial Brief at 10.

It was in this spirit that we issued our first Bench Data Request to the Applicants, after concluding that additional information was necessary to facilitate our statutory mandate to consider the “lowest cost impact on ratepayers of the price set under a proposed OREC pricing schedule”³⁰⁷ and to support the consideration of appropriate conditions. During our evidentiary proceedings, the Applicants acknowledged that we are authorized to impose conditions in a final order, including ones that may pertain to the OREC price schedule.³⁰⁸ Therefore, we find it appropriate to consider the OREC price schedules and resulting ratepayer impacts contained in the Applicants’ responses to Commission Bench Data Request No. 1, rather than the bids outlined in the November 30, 2016 Applications.

In response to Commission Bench Data Request No. 1, US Wind offered a dramatic reduction in its OREC price schedule, citing a number of factors that assisted the company in reducing project risk, and thus, project costs. US Wind noted that significant positive events in the United States offshore wind industry occurred in the last 12 to 18 months, such as: the successful award to US Wind of the northern New Jersey WEA; the designation of US Wind by BOEM as the “sole developer of interest” in the South Carolina WEA; the successful in-service operation of the Block Island Wind Farm; and the \$42.5 million winning bid for the New York WEA.³⁰⁹ As a result, US Wind expects the reductions in its project risk to translate into an average 21% savings compared to the costs included in its November 30, 2016 Application, equating to an

³⁰⁷ PUA § 7-704.1(d)(1)(i).

³⁰⁸ Tr. at 280, 302.

³⁰⁹ US Wind Response to Commission Bench Data Request No. 1 (hereinafter, “US Wind Ex. 24”) at 1-2.

OREC cost reduction of approximately \$30/MWh.³¹⁰ US Wind also confirmed that it could accept a 1.0% escalator for its OREC price schedule.³¹¹ Levitan concluded that the updated pricing offered by US Wind equates to a gross OREC levelized cost of \$137.06/MWh (2012\$), and estimated ratepayer impacts of \$0.97/month (residential; 2012\$) and 0.96% (nonresidential).³¹²

Skipjack, through its response to Commission Bench Data Request No. 1, similarly offered reductions in its OREC price schedule, albeit to a lesser degree given the relative starting points of each Applicant's bid terms. Specifically, Skipjack states that it will accept a first-year OREC price of \$163.0/MWh (2022\$), escalating at a rate of 1.5% thereafter.³¹³ Levitan concluded that the updated pricing offered by Skipjack equates to a gross OREC levelized cost of \$131.93 (2012\$), and estimated ratepayer impacts of \$0.43/month (residential; 2012\$) and 0.43% (nonresidential).³¹⁴

The updated OREC price schedules sponsored by the Applicants clearly demonstrate compliance with the applicable statutory directives individually, and also collectively (as confirmed by our independent consultant in this matter), given that the aggregate impact of the Applicants' updated proposals would result in an approximate \$1.40/month (2012\$) residential impact and a 1.40% impact on nonresidential customer bills. This outcome is in stark contrast to the results of aggregating the Applicants' proposed OREC price schedules contained in their November 30, 2016 Applications, *i.e.* prior to realizing the benefits of competition in this proceeding, in which the US Wind

³¹⁰ *Id.* at 2, 5.

³¹¹ *Id.* at 5.

³¹² Commission Ex. 4.

³¹³ Skipjack Ex. 11 at 3.

³¹⁴ Commission Ex. 4.

Application alone proposed to utilize all but one cent of the residential ratepayer cap authorized by the Act. Indeed, had we remained in this posture through the close of the evidentiary hearings, OPC's argument on brief *may* have held water – but we are not. Instead, we have a healthy buffer between the aggregated projected net ratepayer costs of the Qualified Offshore Wind Projects and the ratepayer impacts permitted by the Act.

Nonetheless, OPC on brief contends that the uncertainty surrounding the underlying market projections used in the net ratepayer impact calculations necessitates approval of only one project, should the Commission choose to proceed at all.³¹⁵ In support of its argument, OPC cites the testimony of its expert witness, who described how actual bill impacts will be different than projected if the assumptions underpinning the Levitan analysis regarding wholesale market price projections are not realized.³¹⁶

We note that OPC's witness was not unique in questioning the reasonableness of Levitan's underlying assumptions, as well as the likelihood of whether prospective market changes or fluctuations would yield ratepayer impact results other than those projected in the Levitan analysis. We are persuaded, however, by the assertions of our independent consultant in this matter regarding the directionality of any potential forecasting errors, which significantly undercuts the OPC argument. Specifically, while Levitan contends that its analysis represents “the most likely forecast” and is neither aggressive nor conservative, Witness Parker confirms that the most probable direction of

³¹⁵ OPC Initial Brief at 25-27.

³¹⁶ Chang Direct at 17-19; OPC Initial Brief at 25-27.

any future market differences compared to his assumptions will likely yield *lower* net ratepayer impacts than projected in the Levitan report – not higher, as implied by OPC.³¹⁷

Further, we impose certain conditions, which will ensure Maryland ratepayers support the development of two OSW projects at the lowest possible cost. *First*, in adopting an OREC price schedule through this Order, we find that it is appropriate to levy a gross levelized OREC price of \$131.93 (2012\$) on both Applicants, subject to a 1.0% price escalator.³¹⁸ As recognized by Skipjack Witness Grybowski, the US Wind and Skipjack projects are “essentially” the same price – a statement relied on by US Wind in support of its proposal;³¹⁹ thus, we find it reasonable that US Wind should yield to the lower OREC price proposed by Skipjack in response to Commission Bench Data Request No. 1. Indeed, to the extent that any project differences justify adoption of varying OREC price schedules for the Applicants, we would expect the US Wind proposal to benefit from and reflect certain economies of scale. While we appreciate the concern noted by MEA that US Wind may not yet have fully optimized its project costs³²⁰ (thus resulting in the slightly higher OREC bid), we are not persuaded that it is necessary to hold the US Wind Application in abeyance; rather, we find that this issue is adequately resolved through this condition.

Second, we adopt as a condition to our OREC awards the “open book” approach to construction-related capital expenditures for each Qualified Offshore Wind Project that

³¹⁷ Tr. at 1907-1908. This is because the most probable discrepancies between the Levitan analysis and future market scenarios would translate into higher wholesale energy prices, capacity prices, or less of a market response – each of which would in turn yield greater revenues or avoided costs to offset the estimated net ratepayer costs stemming from each proposed OSW project. *Id.*

³¹⁸ Witness Grybowski stated that Skipjack is “relatively agnostic” to a price escalator and that it would not affect Skipjack’s financing plan to adjust downward to a 1.0% price escalator. Tr. at 2330.

³¹⁹ See US Wind Initial Brief at 7 (citing Tr. at 2335 (Grybowski)).

³²⁰ MEA Initial Brief at 5, 14.

was described initially by Skipjack.³²¹ This approach serves as a mechanism for sharing savings with our ratepayers if the engineering, procurement, and construction (“EPC”) costs of the OSW project are less than that projected by US Wind or by Skipjack in their respective Applications.³²² As a result, the Applicants will pay the equivalent of 80% of any realized savings into the escrow account(s) established in connection with the Qualified Offshore Wind Projects,³²³ which will then be refunded to ratepayers pursuant to the mechanism established in the Regulations.³²⁴ Through the imposition of this condition, we are persuaded that any remaining concerns articulated by certain intervenors (involving the need to pursue an incremental approach to OSW development so that future projects will benefit from and reflect the continued downward pressures on technology costs) are adequately resolved.³²⁵

Collectively, the conditions imposed in this section will further reduce the net ratepayer impacts experienced by Maryland residential and nonresidential customers stemming from our approval of the Applications.³²⁶ Moreover, we are confident that the additional headroom between the aggregated OSW projects’ ratepayer impacts and the statutory caps, which will result from the conditions adopted in this Order, will more than offset any potential future market fluctuations, thereby ensuring that the cost caps

³²¹ Skipjack Ex. 11 at 6-7.

³²² As recommended by Skipjack, we authorize a 7% buffer in the EPC costs utilized as the basis for this mechanism to provide the Applicants with sufficient flexibility to appropriately manage the project. *Id.* at 6.

³²³ While the Skipjack proposal contemplated a 50/50 sharing mechanism, in which the developer retained half of the realized savings, we accept OPC’s recommendation that we adopt an 80/20 sharing mechanism to align with the statutory requirement to pass through 80% of State and federal grants and other benefits to ratepayers. OPC Initial Brief at 31.

³²⁴ See COMAR 20.61.06.14.

³²⁵ See, e.g. MEA Initial Brief at 10-12.

³²⁶ The Applicants are also directed to comply with the conditions imposed by PUA § 7-704.2(c)(3).

envisaged by the Act are not just projected to be met – but will also be realized in practice.

VI. COMMISSION DECISION REGARDING FINDINGS REQUIRED BY PUBLIC UTILITIES ARTICLE § 7-704.2(a)

The Act directs the Commission to establish the offshore wind energy component of the RPS based on the projected annual creation of ORECs by Qualified Offshore Wind Projects.³²⁷ Although the Act requires a determination of the OSW component under PUA § 7-703(b)(12) through (17), which corresponds to calendar years 2017 through 2022 and later,³²⁸ the Commission is simultaneously governed by the statutory provision that states, “a payment may not be made for an OREC until electricity supply is generated by the offshore wind project.”³²⁹ Further, the RPS obligation for ORECs must be established on a forward-looking basis at least three years in advance of the calendar year in which the OREC purchase obligation is to take effect.³³⁰ Thus, collectively, the requirements imposed by the Act and by the Regulations, and supported by the record evidence in this proceeding, dictate that the offshore wind component of the RPS may begin no sooner than January 1, 2021.

The Commission’s independent consultant in this matter determined that the projected annual creation of ORECs by the US Wind project would equate to 53.0% of the offshore wind carve-out in its first year of commercial operations (*i.e.* 2020); the

³²⁷ PUA § 7-704.2(a)(1); COMAR 20.61.06.07.

³²⁸ Note that Senate Bill 921 / House Bill 1106 (2016) revised this section of the statute so that the RPS became 25% by 2020 mandate, as opposed to the previous iteration of 20% by 2022. 2017 Md. Laws, ch. 1 and 2. This revision did not affect the percentage limitation (2.5%) on the offshore wind energy component, but did result in a revision of the statute to now define the applicable obligations in PUA § 7-703(b)(12)-(15), corresponding to calendar years 2017 through 2020 *and later*. (emphasis added)

³²⁹ PUA § 7-704.1(f)(1)(iv)(1).

³³⁰ COMAR 20.61.06.08.A.

Skipjack project would equate to 25.9% of the offshore wind carve-out in its first full year of commercial operations (*i.e.* 2023).³³¹ Therefore, the annual offshore wind component of the RPS translates into 1.33% and 0.65% for the US Wind and the Skipjack Qualified Offshore Wind Projects, respectively.³³²

We note, however, that the Regulations instruct us to include a surplus to accommodate reasonable forecasting error in estimating overall electricity sales in the State.³³³ Given that the forecast of Maryland electricity sales relied on in this proceeding is derived from the PJM load forecast,³³⁴ we find it appropriate to utilize a measurement of reasonable forecasting error developed by PJM as well. The mean absolute percent error (“MAPE”), which is a commonly-accepted measure of prediction accuracy for forecasting methodologies, was calculated by PJM to be 3% in the specification utilized to develop the January, 2016 PJM Load Forecast Report used in this proceeding.³³⁵

³³¹ Commission Ex. 2 at ES-41.

³³² 53.0% of the “not to exceed 2.5%” OSW carve-out equates to 1.33%; while 25.9% of the “not to exceed 2.5%” OSW carve-out equates to 0.65%. PUA § 7-703(b). While Levitan calculated this figure assuming a 2020 COD as proposed by US Wind, we note that an adjustment to the US Wind project for an OREC obligation beginning no sooner than January 1, 2021 is required to comply with the directive outlined in COMAR 20.61.06.08.A. However, the first-year offshore wind component of the RPS obligation for US Wind remains the same at 1.33%, given the projected Maryland energy forecast in 2021 (*i.e.* 913,845 ORECs ÷ 66,656 GWh = 1.33%).

³³³ COMAR 20.61.06.07.A(2).

³³⁴ Levitan and US Wind relied on substantially similar methodologies to develop a forecast of applicable load energy in Maryland over the operational life of each project, which leveraged the “January 2016 PJM Load Forecast Report” developed by PJM. To derive Maryland-specific projections, “[l]oad forecasts for Baltimore Gas & Electric, Allegheny Power, Delmarva Power and Light, Potomac Electric Power were used with a portion of each zone allocated to Maryland load. The forecast beyond 2031 was escalated at an annual rate consistent with the growth rate in the last year of the forecast.” *See* US Wind Ex. 1 at 5-5-9.

³³⁵ *See* PJM Interconnection, LLC, *Updates to Load Forecast Methodology* (Sept. 2, 2015) at 55, *available at*: <http://www.pjm.com/~media/committees-groups/subcommittees/las/20150902/20150902-item-04-forecast-update.ashx>. We note that PJM significantly revised its load forecasting methodology beginning with its 2016 load forecast. The MAPE calculated for the three-year out forecast, on a zonal-weighted basis, is 3% in the new specification. *Id.* Additional information pertaining to the development of the load forecasting models maintained by PJM, including analysis of the MAPE, is also available publicly through a PJM whitepaper. *See* PJM Resource Adequacy Planning Department, *Load Forecasting Model Whitepaper* (April 27, 2016), *available at*: <http://www.pjm.com/~media/library/reports-notice/load-forecast/2016-load-forecast-whitepaper.ashx>.

Thus, we have adjusted the forecast of Maryland electricity sales for 2021 – 2042 to reflect this potential 3% forecasting error, which results in the following RPS obligation for the purchase of ORECs over the twenty-year duration of each Qualified Offshore Wind Project approved through this proceeding.³³⁶

Table 2: Offshore Wind Component of the RPS Obligation for Purchasers of ORECs³³⁷

	Offshore Wind Carve-out
2021	1.37%
2022	1.36%
2023	2.03%
2024	2.01%
2025	2.01%
2026	1.99%
2027	1.98%
2028	1.96%
2029	1.96%
2030	1.94%
2031	1.93%
2032	1.91%
2033	1.91%
2034	1.89%
2035	1.88%
2036	1.87%
2037	1.86%
2038	1.85%
2039	1.83%
2040	1.82%
2041	0.60%
2042	0.60%

³³⁶ Note that the obligation significantly increases in 2023 to account for the Skipjack Qualified Offshore Wind Project coming on-line, and decreases significantly in 2041 to reflect the end of the twenty-year OREC price schedule accepted for the US Wind Qualified Offshore Wind Project.

³³⁷ Note that the percentage obligation for the OREC carve-out fluctuates annually because the Maryland energy sales forecast is not static. *See, e.g.* US Wind Ex. 24 at Attachment Response to Bench Data Request 1-3.

Pursuant to the Act and the Regulations, electricity suppliers (*i.e.* the OREC purchasers) must purchase the necessary number of ORECs from the appropriate escrow account(s) to satisfy the RPS obligation determined in the above table, subject to the limitations prescribed in PUA §7-703(a)(3).³³⁸ This Order vests US Wind and Skipjack with the right to receive payments for ORECs according to the terms outlined herein. Nonetheless, such payments shall not be made for ORECs until and unless electricity is generated by the Qualified Offshore Wind Project.³³⁹ Further, ratepayers, purchasers of ORECs, and the State shall be held harmless for any cost overruns associated with a Qualified Offshore Wind Project; as such, any cost overruns – to the extent that they occur – can not be collected via an adjustment to the RPS OREC obligation determined through this Order.³⁴⁰ Similarly, any debt instrument issued in connection with a Qualified Offshore Wind Project approved through this Order must include language specifying that the debt instrument does not establish a debt, obligation, or liability of the State.³⁴¹

³³⁸ See PUA § 7-704.2(c). The limitations outlined in PUA § 7-703(a)(3) state that the portion of the RPS that represents offshore wind energy may not apply to electricity sales at retail by any electricity supplier in excess of: (i) 75,000,000 kWh of industrial process load to a single customer in a year; and (ii) 3,000 kWh of electricity in a month to a customer who is an owner of agricultural land and files an Internal Revenue Service Form 1040, Schedule F.

³³⁹ PUA § 7-704.2(f)(1)(iv)(1).

³⁴⁰ PUA § 7-704.2(f)(1)(iv)(2). We note that both Applicants have accepted the change in law risk, and thus, the State and its citizens shall be held harmless in the event that a change in federal law results in a lower investment tax credit incentive than assumed in the Applicants' respective Applications.

³⁴¹ PUA § 7-704.2(f)(1)(v).

VII. OTHER MATTERS: THE ATLANTIC GRID PROPOSAL

Although Atlantic Grid notes its support for the development of the offshore wind industry generally, it takes issue with the presumption that transmission for an OSW project should be bundled with the generation component and provided by the developer for a single OREC price.³⁴² Instead, Atlantic Grid proposes unbundling of the generation and transmission components of an OSW project, and requests a specific finding from the Commission that this unbundling approach is in the public interest.³⁴³ Further, Atlantic Grid requests that the Commission conditionally approve the Applications subject to its proposed unbundling process, whereby an OREC award would be reduced by the amount of a developer's avoided transmission costs in the event that an alternative transmission option is selected through a subsequent Commission hearing.³⁴⁴

With the exception of OPC,³⁴⁵ no other party to the proceeding endorses the Atlantic Grid proposal as a condition to approval of one or both of the Applications. Staff states that it would assist the Commission in implementing the Atlantic Grid proposal if directed; although, Staff notes a recent Commission decision, which it interprets as arguing against the proposition that the Commission would choose to apply a liberal construction of its power to unbundle the transmission interconnection component from either proposed OSW project.³⁴⁶ Skipjack rebuts Atlantic Grid's assertion that it is "undisputed" that "ratepayers are best served by 'unbundling' offshore

³⁴² Melnyk Direct at 4.

³⁴³ Atlantic Grid Initial Brief at 26.

³⁴⁴ *Id.*

³⁴⁵ OPC Initial Brief at 32-33.

³⁴⁶ Staff Reply Brief at 6-7.

wind transmission from generation,”³⁴⁷ arguing instead that while the proposal may have some *theoretical* appeal, it is a very problematic model that may result in some stranded capacity.³⁴⁸ Moreover, Skipjack contends that, “Atlantic Grid’s rates will be the subject of a Federal Energy Regulatory Commission tariff that will not be subject to the OREC caps, and those rates will take into consideration potential liquidated damages.” (internal citations omitted)³⁴⁹

While we appreciate the innovative thinking involved in the development of Atlantic Grid’s proposal, we cannot agree that it is in the public interest to condition the Order we issue today on the results of a to-be-determined second phase of this proceeding. We find that the uncertainty surrounding both the timing of such a proceeding, as well as its outcome, would work against the risk-avoiding measures that we have taken great care to implement in this Order, and could hinder the Applicants’ ability to secure the necessary project financing to ultimately realize the positive net economic, environmental, and health benefits to the State. Put simply, we conclude that adjustments to adequately account for the project-on-project risk³⁵⁰ that would be introduced through adoption of the Atlantic Grid proposal should not be made through this Order.

We do note, however, that our denial of the Atlantic Grid proposal should not be construed by the Applicants as a prohibition on their independent decision-making abilities to pursue potential cost-savings opportunities, such as a third-party transmission provider, after issuance of this Order. Our decision not to mandate a second phase of this

³⁴⁷ Atlantic Grid Initial Brief at 1.

³⁴⁸ Skipjack Reply Brief at 12-13.

³⁴⁹ *Id.* at 13.

³⁵⁰ Tr. 1137 – 1139 (Grybowski).

proceeding to pursue alternative transmission arrangements does not foreclose the Applicants' from relying on similar competitive market forces to voluntarily pursue such an option in a future filing with the Commission.³⁵¹

VIII. CONCLUSION

For the reasons set forth above, after conducting an evaluation and comparison of the Applications in accordance with PUA § 7-704.1(d), we find that the Applications filed by US Wind and by Skipjack satisfy the requirements enumerated in PUA § 7-704.1(e) and thus constitute Qualified Offshore Wind Projects pursuant to PUA § 7-701(k). Finding both Applications to also be in the public interest, we therefore approve the proposals of both US Wind and Skipjack, subject to the conditions set forth in the Appendices to this Order,³⁵² which we consider to be conditions of our approval as contemplated by PUA § 7-704.1(b)³⁵³ and therefore not subject to modification without prior Commission approval. As required by PUA § 7-704.1(f), we also specify in this Order the OREC price schedule and its duration, as well as the number of ORECs that the Qualified Offshore Wind Projects may sell each year, as follows: (1) US Wind: 913,845 ORECs per year at a price schedule equivalent to a levelized price of \$131.93 per OREC (2012\$) using a 1.0% price escalator, beginning on January 1, 2021 for a duration of 20 years; (2) Skipjack: 455,482 ORECs per year at a price schedule equivalent to a

³⁵¹ We note that the imposition of the cost-savings sharing mechanism as a condition to our approval of the Applications, discussed in Section IV.C, ensures that ratepayers would also benefit from an Applicant's decision to pursue a third-party transmission provider subsequent to this Order.

³⁵² Failure to abide by the requirements imposed by these Conditions shall be deemed a violation of the Order, entitling the Commission to take whatever action it deems appropriate.

³⁵³ See also COMAR 20.61.06.03.E(1)-(3).

levelized price of \$131.93 per OREC (2012\$) using a 1.0% price escalator, beginning on January 1, 2023 for a duration of 20 years.

IT IS THEREFORE, this 11th day of May, in the year Two Thousand Seventeen, by the Public Service Commission of Maryland,

ORDERED: (1) That the Application for Approval of a Qualified Offshore Wind Project submitted by U.S. Wind, Inc. is hereby granted, subject to the conditions and requirements contained in this Order and in Appendix A;

(2) That the approval of the Application filed by U.S. Wind, Inc. as a Qualified Offshore Wind Project pursuant to PUA § 7-701(k) vests U.S. Wind, Inc. with the right to receive payments for offshore wind renewable energy credits in accordance with the terms in this Order and in Appendix A;

(3) That U.S. Wind, Inc. shall notify the Commission in writing by May 25, 2017 whether it accepts the conditions of approval attached to this Order as Appendix A;

(4) That the Application for Approval of a Qualified Offshore Wind Project submitted by Skipjack Offshore Energy, LLC is hereby granted, subject to the conditions and requirements contained in this Order and in Appendix B;

(5) That the approval of the Application filed by Skipjack Offshore Energy, LLC as a Qualified Offshore Wind Project pursuant to PUA § 7-701(k) vests Skipjack Offshore Energy, LLC with the right to receive payments for offshore wind renewable energy credits in accordance with the terms in this Order and in Appendix B;

(6) That Skipjack Offshore Energy, LLC. shall notify the Commission in writing by May 25, 2017 whether it accepts the conditions of approval attached to this Order as Appendix B;

(7) That U.S. Wind, Inc. and Skipjack Offshore Energy, LLC remain subject to the jurisdiction of the Public Service Commission of Maryland for enforcement of the provisions in this Order and in the Appendices;

(8) That OREC purchasers are directed to purchase the necessary number of ORECs from the appropriate escrow account(s) to satisfy the RPS obligation determined in Table 2 of this Order, subject to the limitations prescribed in PUA §7-703(a)(3) and the conditions described herein; and

(9) That all other motions not granted herein are denied.

/s/ W. Kevin Hughes

/s/ Harold D. Williams

/s/ Michael T. Richard

/s/ Anthony J. O'Donnell
Commissioners

APPENDIX A – U.S. Wind, Inc.: List of Conditions Required for Approval of the Qualified Offshore Wind Project

IV. A. Opportunities for Representatives of the United States Department of Defense and the Maritime Industry to Express Concerns Regarding Project Siting

1. U.S. Wind, Inc. shall, within 30 days of reaching a decision regarding any changes to the project siting and turbine model selection contemplated in the November 30, 2016 Application, consult with representatives of the United States Department of Defense and the Maritime.

IV. B. Opportunities for Minority Business Enterprise Participation and Minority Investors; Workforce Diversity Initiatives

For purposes of the following conditions, “minority” means an individual who is a member of any of the groups listed in § 14-301(k)(1)(i) of the State Finance and Procurement Article.

2. U.S. Wind, Inc. shall, within 90 days of the issuance of this Order, sign a memorandum of understanding with the Commission that requires U.S. Wind, Inc. to make serious, good-faith efforts to interview minority investors in any future attempts to raise venture capital or attract new investors to the offshore wind project. U.S. Wind, Inc. shall coordinate with the Director of the Commission’s Office of External Relations in developing the memorandum of understanding, which shall not contain any limitations or conditions beyond those contemplated specifically by PUA § 7-704.1(d)(4).
3. U.S. Wind, Inc. shall, within 6 months of the issuance of this Order, engage in good-faith efforts to consult with the Governor’s Office of Minority Affairs and the Office of the Attorney General for purposes of establishing a clear plan for setting reasonable and appropriate minority business enterprise (“MBE”) participation goals and procedures for each phase of the Qualified Offshore Wind Project (the “Plan”).
 - a. U.S. Wind, Inc. shall file with the Commission the Plan developed in consultation with the Governor’s Office of Minority Affairs and the Office of the Attorney General. The filing shall articulate any substantive differences between the Plan and the applicable MBE commitments described in U.S. Wind, Inc.’s November 30, 2016 Application.
 - b. Every 6 months following the issuance of this Order, U.S. Wind, Inc. shall submit a report to the Commission on its progress establishing and implementing MBE goals and procedures. U.S. Wind, Inc. shall, within 90 days of the issuance of this Order, coordinate with the Director of the Commission’s Office of External Relations to develop the appropriate reporting template, which shall, at a minimum, compare and contrast the available data using monthly intervals.

4. U.S. Wind, Inc. shall make serious, good-faith efforts to implement the MBE goals and procedures stipulated in U.S. Wind, Inc.'s November 30, 2016 Application. Information regarding the attainment of the MBE goals, accompanied by an explanation and remediation plan for any shortfalls, shall be included in the semi-annual reporting required by Condition 3.b.
5. U.S. Wind, Inc. shall, within 90 days of the issuance of this Order, develop workforce diversity metrics and an associated reporting template in coordination with the Director of the Commission's Office of External Relations. The workforce diversity metrics shall be included in the semi-annual reporting required by Condition 3.b.

IV. G. Siting and Project Feasibility

6. U.S. Wind, Inc. shall file its Site Assessment Plan ("SAP"), Construction and Operations Plan ("COP"), and National Environmental Policy Act ("NEPA") documents with the Commission contemporaneous with any submission to the United States Department of the Interior's Bureau of Ocean Energy Management ("BOEM") and/or other relevant federal agency. The OREC award is contingent on the positive review and/or approval of the SAP, COP, and NEPA documents by BOEM or the relevant federal agency. To the extent that the relevant federal agency directs U.S. Wind, Inc. to alter any aspect of its SAP or COP to comply with federal or state requirements, U.S. Wind, Inc. is directed to file with the Commission within 60 days of receiving such notice an explanation and description of any required modifications. Any more restrictive remediation or mitigation measure imposed by the relevant federal agency during these subsequent permitting and review processes is hereby incorporated as a condition to the OREC award.
7. U.S. Wind, Inc. shall use best commercially-reasonable efforts to minimize the daytime and nighttime viewshed impacts of its Qualified Offshore Wind Project, including through the reliance on best commercially-available technology at the time of deployment.
 - a. U.S. Wind, Inc. shall locate its Qualified Offshore Wind Project in the eastern-most portion of the Maryland Wind Energy Area that can reasonably and practicably accommodate its Qualified Offshore Wind Project.
8. U.S. Wind, Inc. shall use best commercially-reasonable efforts to minimize the sounds produced during the construction and operation phases of the Qualified Offshore Wind Project, both in-air and underwater. Any noise-related remediation or mitigation measure imposed by a state or federal agency during subsequent permitting and review processes is hereby incorporated as a condition to the OREC award.

9. U.S. Wind, Inc. shall abide by all applicable local laws and regulations pertaining to noise restrictions during the construction phase of its Qualified Offshore Wind Project.
10. U.S. Wind, Inc. shall restrict pile driving that occurs during the development and construction phases of its Qualified Offshore Wind Project to daytime hours only.

IV. J. Any Other Criteria that the Commission Determines to be Appropriate

11. U.S. Wind, Inc. must file contemporaneously with the Commission any modifications to its decommissioning plan, including any revisions to its decommissioning cost estimate, at the time of making any such required filing with BOEM.

V. A. 1. Positive Net Economic Benefits to the State

12. Pursuant to PUA § 7-704.1(g) and COMAR 20.61.06.05, U.S. Wind, Inc. shall make the following contributions to the Maryland Offshore Wind Business Development Fund (the “Fund”) established under State Gov’t § 9-20C-03:
 - a. Within 60 days after the issuance of this Order, U.S. Wind, Inc. shall deposit \$2,000,000 into the Fund.
 - b. Within 1 year after the initial deposit under paragraph (a) of this condition, U.S. Wind, Inc. shall deposit an additional \$2,000,000 into the Fund.
 - c. Within 2 years after the initial deposit under paragraph (a) of this condition, U.S. Wind, Inc. shall deposit an additional \$2,000,000 into the Fund.
 - d. Pursuant to COMAR 20.61.06.05, U.S. Wind, Inc. shall notify the Commission within 30 calendar days after each deposit due date whether timely and full payment has been made or not, and if not, an explanation for failure to make the payment.
13. Upon the commencement of commercial operations, U.S. Wind, Inc. shall demonstrate that a certain minimum level of direct in-State expenditures occurred during the development and construction phases of the Qualified Offshore Wind Project.
 - a. The metric shall be the percentage of in-State direct expenditures compared to total capital expenditures for the Qualified Offshore Wind Project, and the threshold for compliance shall be a demonstration of percent in-State expenditures equivalent to or in excess of the following amount: 19%.
 - b. U.S. Wind, Inc. shall contract with an independent expert to conduct the measurement of actual investment in the State of Maryland and the total capital budget for the Qualified Offshore Wind Project.

- c. The report prepared by the independent consultant shall be filed with the Commission within 6 months of commencing commercial operations for the Qualified Offshore Wind Project.
 - d. In the event that the independent report submitted to the Commission does not demonstrate compliance with the required in-State spending threshold, then U.S. Wind, Inc. shall deposit the balance due within 6 months into the Maryland Offshore Wind Business Development Fund established under State Gov't § 9-20C-03.
14. U.S. Wind, Inc. shall cause directly the creation of the following minimum level of new in-State jobs, measured in full-time equivalents: 1,298 direct development/construction period jobs, and 2,282 direct operating period jobs.
- a. U.S. Wind, Inc. shall contract with an independent expert to conduct the verification of the direct jobs required by this condition.
 - b. U.S. Wind, Inc. shall file reports with the Commission demonstrating its progress in fulfilling this condition on the following schedule: (1) within 6 months of completion of the development/construction period; (2) within 18 months of commencing commercial operations of the Qualified Offshore Wind Project; and (3) within 6 months of commencing decommissioning activities for the Qualified Offshore Wind Project.
15. U.S. Wind, Inc. shall use a port facility located in the greater Baltimore region to serve as the marshaling port, defined as the facility from which the components are transported, loaded onto the installation vessel, and taken to the Qualified Offshore Wind Project.
16. U.S. Wind, Inc. shall use a port facility located in the Ocean City, Maryland region to serve as the operations and maintenance port.
17. U.S. Wind, Inc. shall locate a permanent operations center for the Qualified Offshore Wind Project within the State of Maryland for the life of the project.
18. U.S. Wind, Inc. shall invest in a Maryland steel fabrication plant in the minimum amount of \$51 million.
19. U.S. Wind, Inc. shall invest in upgrades at the Tradepoint Atlantic shipyard, or a comparable Maryland port facility, in the minimum amount of \$26.4 million.

V. A. 2. Positive Net Environmental Benefits to the State

20. U.S. Wind, Inc. shall adopt all appropriate precautionary measures designed to ensure that marine mammals are protected from harm during the development, construction, and operation of the Qualified Offshore Wind Project.
21. U.S. Wind, Inc. shall abide by all environmental remediation and mitigation measures imposed through subsequent state or federal agency review and permitting processes, and shall strive to utilize the best commercially available technologies to implement any required measures.

V. B. Projected Net Ratepayer Impacts and OREC Price Schedule

22. The OREC price schedule for the Qualified Offshore Wind Project is approved as follows:
- a. US Wind is authorized to sell up to 913,845 ORECs per year produced by its Qualified Offshore Wind Project, for a duration of 20 years beginning on January 1, 2021. The approved OREC price schedule shall not exceed a levelized OREC price of \$131.93 (2012\$), using a price escalator of 1.0%.
23. U.S. Wind, Inc. shall implement a mechanism for sharing savings if the engineering, procurement, and construction costs (“EPC Costs”) for the Qualified Offshore Wind Project are less than the EPC Costs reflected in Section 4-4 of U.S. Wind, Inc.’s November 30, 2016 Application, pursuant to the following conditions:
- a. U.S. Wind, Inc. may discount the baseline used for comparison in the implementation of this mechanism (*i.e.* the EPC Costs outlined in its November 30, 2016 Application) by up to 7.0% (the “Adjusted EPC Costs Baseline”).
 - b. For purposes of implementing the mechanism, EPC Costs shall mean, the costs identified in the Application with respect to the development and installation of the Qualified Offshore Wind Project, including: (i) costs incurred in connection with the acquisition of the lease area; (ii) costs incurred in connection with Development and Project Management (including meteorology studies, geological and geophysical studies, preliminary design and engineering, permitting, transmission interconnection, and commercial and legal activities); (iii) costs incurred for engineering, design, procurement, fabrication, marshalling, logistics, installation and construction (including project management and inspection, detailed engineering and design, labor, supervision, tools, construction equipment, materials, components, supplies, transportation, services and subcontracts); (iv) costs incurred in procuring the WTGs, monopile foundations, export cable, interarray cable, port upgrades; (v) costs incurred to re-perform defective work; (vi) costs incurred to perform warranty work; (vii) sales and use taxes on goods and equipment purchased in connection with the work; (viii) costs of insurance; (ix) taxes or other fees; (x) costs to interconnect to the delivery point; and (xi) any capitalized costs of the facility as determined in accordance with U.S. GAAP and the Internal Revenue Code, including all regulations promulgated thereto.
 - c. The mechanism for sharing savings will be implemented following the commencement of commercial operations of the Qualified Offshore Wind Project, as follows:

- i. U.S. Wind, Inc. will retain a certified public accountant to prepare a report on the EPC Costs. The report shall verify the documented EPC Costs associated with the Qualified Offshore Wind Project. The report prepared by the certified public accountant shall be filed with the Commission within 6 months of commencing commercial operations for the Qualified Offshore Wind Project.
 - ii. Realized savings equal to the positive amount, if any, resulting from the formula: “Adjusted EPC Costs Baseline” minus documented EPC Costs.
 - iii. U.S. Wind, Inc. shall pay within 6 months after issuance of the report 80% of any realized savings into the escrow account established in connection with its Qualified Offshore Wind Project, to be refunded to ratepayers subject to the mechanism established in COMAR 20.61.06.14.
24. U.S. Wind, Inc. shall use best efforts to apply for all eligible State and federal grants, rebates, tax credits, loan guarantees, or other similar benefits as those benefits become available. U.S. Wind, Inc. shall pass along to ratepayers, without the need for any subsequent Commission approval, 80% of the value of any State or federal grants, rebates, tax credits, loan guarantees, or other similar benefits received by the Qualified Offshore Wind Project and not included in the November 30, 2016 Application. U.S. Wind, Inc. shall file a report with the Commission within 30 days of passing along to ratepayers any savings stemming from application of this condition.

VI. COMMISSION DECISION REGARDING FINDINGS REQUIRED BY PUBLIC UTILITIES ARTICLE § 7-704.2(a)

25. No payment may be made for an OREC until electricity supply is generated by the Qualified Offshore Wind Project.
26. Ratepayers, purchasers of ORECs, and the State shall be held harmless for any cost overruns associated with the Qualified Offshore Wind Project.
27. Any debt instrument issued in connection with the Qualified Offshore Wind Project must include language specifying that the debt instrument does not establish a debt, obligation, or liability of the State.

APPENDIX B – Skipjack Offshore Energy, LLC: List of Conditions Required for Approval of the Qualified Offshore Wind Project

IV. A. Opportunities for Representatives of the United States Department of Defense and the Maritime Industry to Express Concerns Regarding Project Siting

1. Skipjack Offshore Energy, LLC shall, within 30 days of reaching a decision regarding any changes to the project siting and turbine model selection contemplated in the November 30, 2016 Application, consult with representatives of the United States Department of Defense and the Maritime.

IV. B. Opportunities for Minority Business Enterprise Participation and Minority Investors; Workforce Diversity Initiatives

For purposes of the following conditions, “minority” means an individual who is a member of any of the groups listed in § 14-301(k)(1)(i) of the State Finance and Procurement Article.

2. Skipjack Offshore Energy, LLC shall, within 90 days of the issuance of this Order, sign a memorandum of understanding with the Commission that requires Skipjack Offshore Energy, LLC to make serious, good-faith efforts to interview minority investors in any future attempts to raise venture capital or attract new investors to the offshore wind project. Skipjack Offshore Energy, LLC shall coordinate with the Director of the Commission’s Office of External Relations in developing the memorandum of understanding, which shall not contain any limitations or conditions beyond those contemplated specifically by PUA § 7-704.1(d)(4).
3. Skipjack Offshore Energy, LLC shall, within 6 months of the issuance of this Order, engage in good-faith efforts to consult with the Governor’s Office of Minority Affairs and the Office of the Attorney General for purposes of establishing a clear plan for setting reasonable and appropriate minority business enterprise (“MBE”) participation goals and procedures for each phase of the Qualified Offshore Wind Project (the “Plan”).
 - a. Skipjack Offshore Energy, LLC shall file with the Commission the Plan developed in consultation with the Governor’s Office of Minority Affairs and the Office of the Attorney General. The filing shall articulate any substantive differences between the Plan and the applicable MBE commitments described in Skipjack Offshore Energy, LLC’s November 30, 2016 Application.
 - b. Every 6 months following the issuance of this Order, Skipjack Offshore Energy, LLC shall submit a report to the Commission on its progress establishing and implementing MBE goals and procedures. Skipjack Offshore Energy, LLC shall, within 90 days of the issuance of this Order, coordinate with the Director of the Commission’s Office of External Relations to develop the appropriate reporting template,

which shall, at a minimum, compare and contrast the available data using monthly intervals.

4. Skipjack Offshore Energy, LLC shall make serious, good-faith efforts to implement the MBE goals and procedures stipulated in Skipjack Offshore Energy, LLC's November 30, 2016 Application. Information regarding the attainment of the MBE goals, accompanied by an explanation and remediation plan for any shortfalls, shall be included in the semi-annual reporting required by Condition 3.b.
5. Skipjack Offshore Energy, LLC shall, within 90 days of the issuance of this Order, develop workforce diversity metrics and an associated reporting template in coordination with the Director of the Commission's Office of External Relations. The workforce diversity metrics shall be included in the semi-annual reporting required by Condition 3.b.

IV. G. Siting and Project Feasibility

6. Skipjack Offshore Energy, LLC shall file its Site Assessment Plan ("SAP"), Construction and Operations Plan ("COP"), and National Environmental Policy Act ("NEPA") documents with the Commission contemporaneous with any submission to the United States Department of the Interior's Bureau of Ocean Energy Management ("BOEM") and/or other relevant federal agency. The OREC award is contingent on the positive review and/or approval of the SAP, COP, and NEPA documents by BOEM or the relevant federal agency. To the extent that the relevant federal agency directs Skipjack Offshore Energy, LLC to alter any aspect of its SAP or COP to comply with federal or state requirements, Skipjack Offshore Energy, LLC is directed to file with the Commission within 60 days of receiving such notice an explanation and description of any required modifications. Any more restrictive remediation or mitigation measure imposed by the relevant federal agency during these subsequent permitting and review processes is hereby incorporated as a condition to the OREC award.
7. Skipjack Offshore Energy, LLC shall use best commercially-reasonable efforts to minimize the daytime and nighttime viewshed impacts of its Qualified Offshore Wind Project, including through the reliance on best commercially-available technology at the time of deployment.
8. Skipjack Offshore Energy, LLC shall use best commercially-reasonable efforts to minimize the sounds produced during the construction and operation phases of the Qualified Offshore Wind Project, both in-air and underwater. Any noise-related remediation or mitigation measure imposed by a state or federal agency during subsequent permitting and review processes is hereby incorporated as a condition to the OREC award.
9. Skipjack Offshore Energy, LLC shall abide by all applicable local laws and regulations pertaining to noise restrictions during the construction phase of its Qualified Offshore Wind Project.

10. Skipjack Offshore Energy, LLC shall restrict pile driving that occurs during the development and construction phases of its Qualified Offshore Wind Project to daytime hours only.
11. Skipjack Offshore Energy, LLC shall conduct comprehensive and timely outreach with Maryland and Delaware local, state, and federal officials and agencies, particularly involving, but not limited to, the siting of its Qualified Offshore Wind Project. Skipjack Offshore Energy, LLC shall file a report summarizing these outreach efforts within 6 months of the issuance of this Order. Any mitigation or remediation measures voluntarily accepted by Skipjack Offshore Energy, LLC in response to the outreach efforts shall also be detailed at a minimum in the 6-month report; although, pursuant to COMAR 20.61.06.18.B, any material change to its November 30, 2016 Application must be reported to the Commission within 30 days of the date of that decision.

IV. J. Any Other Criteria that the Commission Determines to be Appropriate

12. Skipjack Offshore Energy, LLC must file contemporaneously with the Commission any modifications to its decommissioning plan, including any revisions to its decommissioning cost estimate, at the time of making any such required filing with BOEM.

V. A. 1. Positive Net Economic Benefits to the State

13. Pursuant to PUA § 7-704.1(g) and COMAR 20.61.06.05, Skipjack Offshore Energy, LLC shall make the following contributions to the Maryland Offshore Wind Business Development Fund (the “Fund”) established under State Gov’t § 9-20C-03:
 - a. Within 60 days after the issuance of this Order, Skipjack Offshore Energy, LLC shall deposit \$2,000,000 into the Fund.
 - b. Within 1 year after the initial deposit under paragraph (a) of this condition, Skipjack Offshore Energy, LLC shall deposit an additional \$2,000,000 into the Fund.
 - c. Within 2 years after the initial deposit under paragraph (a) of this condition, Skipjack Offshore Energy, LLC shall deposit an additional \$2,000,000 into the Fund.
 - d. Pursuant to COMAR 20.61.06.05, Skipjack Offshore Energy, LLC shall notify the Commission within 30 calendar days after each deposit due date whether timely and full payment has been made or not, and if not, an explanation for failure to make the payment.
14. Upon the commencement of commercial operations, Skipjack Offshore Energy, LLC shall demonstrate that a certain minimum level of direct in-State

expenditures occurred during the development and construction phases of the Qualified Offshore Wind Project.

- a. The metric shall be the percentage of in-State direct expenditures compared to total capital expenditures for the Qualified Offshore Wind Project, and the threshold for compliance shall be a demonstration of percent in-State expenditures equivalent to or in excess of the following amount: 34%.
 - b. Skipjack Offshore Energy, LLC shall contract with an independent expert to conduct the measurement of actual investment in the State of Maryland and the total capital budget for the Qualified Offshore Wind Project.
 - c. The report prepared by the independent consultant shall be filed with the Commission within 6 months of commencing commercial operations for the Qualified Offshore Wind Project.
 - d. In the event that the independent report submitted to the Commission does not demonstrate compliance with the required in-State spending threshold, then Skipjack Offshore Energy, LLC shall deposit the balance due within 6 months into the Maryland Offshore Wind Business Development Fund established under State Gov't § 9-20C-03.
15. Skipjack Offshore Energy, LLC shall cause directly the creation of the following minimum level of new in-State jobs, measured in full-time equivalents: 913 direct development/construction period jobs, and 484 direct operating period jobs.
- a. Skipjack Offshore Energy, LLC shall contract with an independent expert to conduct the verification of the direct jobs required by this condition.
 - b. Skipjack Offshore Energy, LLC shall file reports with the Commission demonstrating its progress in fulfilling this condition on the following schedule: (1) within 6 months of completion of the development/construction period; (2) within 18 months of commencing commercial operations of the Qualified Offshore Wind Project; and (3) within 6 months of commencing decommissioning activities for the Qualified Offshore Wind Project.
16. Skipjack Offshore Energy, LLC shall use a port facility located in the greater Baltimore region to serve as the marshaling port, defined as the facility from which the components are transported, loaded onto the installation vessel, and taken to the Qualified Offshore Wind Project.
17. Skipjack Offshore Energy, LLC shall use a port facility located in the Ocean City, Maryland region to serve as the operations and maintenance port.
18. Skipjack Offshore Energy, LLC shall locate a permanent operations center for the Qualified Offshore Wind Project within the State of Maryland for the life of the project.
19. Skipjack Offshore Energy, LLC shall invest in a Maryland steel fabrication plant, in the minimum amount of \$25 million.

20. Skipjack Offshore Energy, LLC shall invest in upgrades at the Tradepoint Atlantic shipyard, or a comparable Maryland port facility, in the minimum amount of \$13.2 million.

V. A. 2. Positive Net Environmental Benefits to the State

21. Skipjack Offshore Energy, LLC shall adopt all appropriate precautionary measures designed to ensure that marine mammals are protected from harm during the development, construction, and operation of the Qualified Offshore Wind Project.
22. Skipjack Offshore Energy, LLC shall abide by all environmental remediation and mitigation measures imposed through subsequent state or federal agency review and permitting processes, and shall strive to utilize the best commercially available technologies to implement any required measures.

V. B. Projected Net Ratepayer Impacts and OREC Price Schedule

23. The OREC price schedule for the Qualified Offshore Wind Project is approved as follows:
 - a. Skipjack is authorized to sell up to 455,482 ORECs per year produced by its Qualified Offshore Wind Project, for a duration of 20 years beginning on January 1, 2023. The approved OREC price schedule shall not exceed a levelized OREC price of \$131.93 (2012\$), using a price escalator of 1.0%.
24. Skipjack Offshore Energy, LLC shall implement a mechanism for sharing savings if the engineering, procurement, and construction costs (“EPC Costs”) for the Qualified Offshore Wind Project are less than the EPC Costs reflected in Attachment 4-3 to Skipjack Offshore Energy, LLC’s November 30, 2016 Application, pursuant to the following conditions:
 - a. Skipjack Offshore Energy, LLC may discount the baseline used for comparison in the implementation of this mechanism (*i.e.* the EPC Costs outlined in its November 30, 2016 Application) by up to 7.0% (the “Adjusted EPC Costs Baseline”).
 - b. For purposes of implementing the mechanism, EPC Costs shall mean, the costs identified in the Application with respect to the development and installation of the Qualified Offshore Wind Project, including: (i) costs incurred in connection with the acquisition of the lease area; (ii) costs incurred in connection with Development and Project Management (including meteorology studies, geological and geophysical studies, preliminary design and engineering, permitting, transmission interconnection, and commercial and legal activities); (iii) costs incurred for engineering, design, procurement, fabrication, marshalling, logistics, installation and construction (including project management and

inspection, detailed engineering and design, labor, supervision, tools, construction equipment, materials, components, supplies, transportation, services and subcontracts); (iv) costs incurred in procuring the WTGs, monopile foundations, export cable, interarray cable, port upgrades; (v) costs incurred to re-perform defective work; (vi) costs incurred to perform warranty work; (vii) sales and use taxes on goods and equipment purchased in connection with the work; (viii) costs of insurance; (ix) taxes or other fees; (x) costs to interconnect to the delivery point; and (xi) any capitalized costs of the facility as determined in accordance with U.S. GAAP and the Internal Revenue Code, including all regulations promulgated thereto.

- c. The mechanism for sharing savings will be implemented following the commencement of commercial operations of the Qualified Offshore Wind Project, as follows:
 - i. Skipjack Offshore Energy, LLC will retain a certified public accountant to prepare a report on the EPC Costs. The report shall verify the documented EPC Costs associated with the Qualified Offshore Wind Project. The report prepared by the certified public accountant shall be filed with the Commission within 6 months of commencing commercial operations for the Qualified Offshore Wind Project.
 - ii. Realized savings equal to the positive amount, if any, resulting from the formula: “Adjusted EPC Costs Baseline” minus documented EPC Costs.
 - iii. Skipjack Offshore Energy, LLC shall pay within 6 months after issuance of the report 80% of any realized savings into the escrow account established in connection with its Qualified Offshore Wind Project, to be refunded to ratepayers subject to the mechanism established in COMAR 20.61.06.14.
25. Skipjack Offshore Energy, LLC shall use best efforts to apply for all eligible State and federal grants, rebates, tax credits, loan guarantees, or other similar benefits as those benefits become available. Skipjack Offshore Energy, LLC shall pass along to ratepayers, without the need for any subsequent Commission approval, 80% of the value of any State or federal grants, rebates, tax credits, loan guarantees, or other similar benefits received by the Qualified Offshore Wind Project and not included in the November 30, 2016 Application. Skipjack Offshore Energy, LLC shall file a report with the Commission within 30 days of passing along to ratepayers any savings stemming from application of this condition.

**VI. COMMISSION DECISION REGARDING FINDINGS REQUIRED BY
PUBLIC UTILITIES ARTICLE § 7-704.2(a)**

26. No payment may be made for an OREC until electricity supply is generated by the Qualified Offshore Wind Project.
27. Ratepayers, purchasers of ORECs, and the State shall be held harmless for any cost overruns associated with the Qualified Offshore Wind Project.
28. Any debt instrument issued in connection with the Qualified Offshore Wind Project must include language specifying that the debt instrument does not establish a debt, obligation, or liability of the State.