ORDER NO. 90011

Skipjack Offshore Energy, LLC and US Wind, Inc.'s Offshore Wind Applications under the Clean Energy Jobs Act of 2019	BEFORE THE PUBLIC SERVICE COMMISSION OF MARYLAND
	CASE NO. 9666

ORDER GRANTING OFFSHORE WIND RENEWABLE ENERGY CREDITS

Before: Jason M. Stanek, Chairman
Michael T. Richard, Commissioner
Anthony J. O'Donnell, Commissioner
Odogwu Obi Linton, Commissioner
Mindy L. Herman, Commissioner

Issued: December 17, 2021

APPEARANCES

Carville B. Collins, A. Neill Thupari, Thomas K. Prevas, Anamika Roy, for U.S. Wind, Inc.

J. Joseph Curran, III, Christopher S. Gunderson, Diana M. Krevor, Susan R. Schipper, for Skipjack Offshore Energy, LLC

Timothy F. Maloney, Alyse L. Prawde, for the Town of Ocean City, Maryland

Ankush Nayar, for Maryland Energy Administration

David S. Lapp, William F. Fields, Gary L. Alexander, Daria T. Pugh, for the Maryland Office of People's Counsel

Susan Stevens Miller, for the Sierra Club and the Maryland League of Conservation Voters

Ruta K. Skucas, Nathan C. Howe, for the Business Network for Offshore Wind

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I. BACKGROUND

A. Executive Summary

1. The Clean Energy Jobs Act of 2019 ("CEJA") charges the Commission with awarding offshore wind renewable energy credits ("ORECs") to support the State's clean energy policies and offshore wind targets—specifically, a minimum of 1,200 megawatts ("MW") of offshore wind constructed and operational by the year 2030. Pursuant to CEJA, two developers filed applications with the Commission that included five distinct proposals. The Commission thoroughly reviewed each of those applications, established hearings for public comment, set a discovery schedule, and held evidentiary hearings over a four-day period to evaluate and compare the proposed offshore wind projects. In this Order, the Commission awards ORECs to US Wind, Inc. ("US Wind") and to Skipjack Offshore Energy, LLC ("Skipjack"). Specifically, the Commission awards ORECs to US Wind's Bid 2, an 808.5 MW project that will consist of approximately 55 turbines, with the closest turbine located no more than 15 miles off the coast from Ocean City; and to Skipjack's Wind Phase 2.1, an 846 MW project that will consist of approximately 60 turbines, with the closest turbine located no more than 20 miles off the coast from Ocean City. Both projects have an expected commercial operation start date of 2026, and both projects reflect competitive prices derived from the Applicants' best and final offers.

2. In this Order, the Commission finds that approval of these two projects is in the public interest because they meet all of the criteria outlined in CEJA and the Commission's regulations, and will produce significant positive net economic, environmental, and health benefits to Maryland. Specifically, the Commission finds that the combined projects meet the ratepayer impact tests contained within CEJA, including that they are not projected to

impose an incremental net rate impact for an average residential customer that exceeds 88 cents per month over the 20-year duration of the OREC price schedule.

3. Construction of these projects will enable Maryland to take advantage of the economic development benefits of the emerging offshore wind industry. In particular, this Order conditions approval of the projects on the Applicants' combined commitments to create a minimum of 10,324 direct jobs during the development, construction and operating phases of the projects; achieve minimum prescribed goals to engage small, local, and minority businesses; and contribute $6 million each to the Maryland Offshore Wind Business Development Fund. US Wind is also required to invest a minimum of $570 million in direct in-State expenditures, including through the development of a monopile construction facility at Sparrows Point. Likewise, Skipjack must invest a minimum of $410 million in direct Maryland expenditures, including through facilitating the construction of a sub-sea cable manufacturing facility in the State, upgrading Crystal Steel for the pre-fabrication of advanced foundation components, and establishing an American platform supply vessel operator located in Maryland. Beyond that $410 million investment, Skipjack is required to facilitate the construction of an offshore wind turbine tower manufacturing facility located in Maryland. The companies will use port facilities at Tradepoint Atlantic in the Baltimore area, and in Ocean City, for marshaling, operations, and maintenance activities. Overall, these projects will inject nearly $1 billion into the Maryland economy over the life of the projects.

4. The Commission finds that approval of these projects will also provide substantial positive net environmental and health benefits to the State, including by putting the State on a path of deeper decarbonization to fight the effects of climate change. The approved

projects will reduce emissions of harmful pollutants by displacing generation from fossil fuel fired generation plants, including emissions of carbon dioxide, sulfur dioxide, nitrogen oxide, mercury, and particulate matter. This Order also contains strict conditions to mitigate any potential environmental harm that could occur through the construction and operation of the offshore wind projects. For example, the Order requires the Applicants to minimize the sound and lighting impacts produced during the construction and operation phases of the project; take precautionary measures to ensure that marine mammals are protected; abide by all environmental remediation and mitigation measures imposed through subsequent state or federal agency review and permitting processes; and share findings from their research initiatives with the Maryland Energy Administration.

5. Construction of these projects now will enable Maryland to take advantage of the short window of opportunity that exists to build an offshore wind supply infrastructure in Maryland that can serve the region. Having achieved the General Assembly's goal of authorizing the construction of at least 1,200 MW of offshore wind energy within the rate impact limits required by statute, the Commission closes its application periods for additional rounds of offshore wind bidding authorized by CEJA.

B. <u>The Applicants</u>

1. MarWin II, LLC

6. The Applicant, MarWin II, LLC, is a Maryland limited liability company wholly-owned by US Wind, a C-corporation incorporated in Massachusetts and registered to do

business in Maryland.[1] US Wind is headquartered in Baltimore, Maryland.[2] The project proposed in the 2021 OREC Application to Maryland PSC ("US Wind Application") is referred to as the Momentum Wind Project, and comprises three mutually exclusive bids, which are described further below.

7. US Wind, Inc. is owned by three entities, including Renexia S.p.A., ("Renexia"), which owns an 80% share in US Wind and is a joint stock company incorporated under the laws of Italy that is located at 66100 Chieti – Viale Abruzzo no. 410.[3] Renexia is active in the development of renewable energy and is a subsidiary of Toto Holding S.p.A. ("Toto Holding"). Renexia has two shareholders. The majority shareholder is Toto Holding, a joint stock company incorporated under the laws of Italy. Toto Holding is a holding company established in 2011 to be the corporate head of various Toto Group subsidiaries. For over 40 years, Toto Group's core business has been the construction of large transportation infrastructure: roads, motorways, and railways. Renexia's minority shareholder is Carlo Toto.

8. The second company with an ownership interest in US Wind is AIOF II Njord Equity Aggregator, L.P., which owns 8.9% of US Wind, and is a limited partnership owned by certain investment funds managed by the affiliates of Apollo Global Management, Inc. ("Apollo").

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[1] US Wind states that the decision to apply for Round 2 Offshore Renewable Energy Credits (or "ORECs") through a wholly owned special purpose vehicle (MarWin II, LLC) "is mostly linked to the project financing standard practices and the need to avoid cross liabilities between different projects." Nevertheless, US Wind states that US Wind "will play a substantial role in the development of the Momentum Wind Farm and will provide the Applicant with all the relevant resources and support (e.g., personnel, permitting, procurement, site control, financing, etc.)". US Wind Application Volume 1 at 25, n. 3. US Wind witnesses generally describe the project through references to US Wind rather than MarWin II, LLC. In order to avoid confusion, further references in this Order will be to US Wind rather than MarWin II, LLC.

[2] US Wind Application Volume 1 at 24.

[3] *Id*. at 28.

9. The third company with an ownership interest in US Wind is AIOF II Njord Co-Invest, L.P., which owns 11.1% of US Wind, and is a limited partnership managed by the affiliates of Apollo. Apollo is a high-growth, global alternative asset manager, whose investments span the full risk-reward spectrum from investment grade to private equity with a focus on three business strategies: yield, hybrid, and opportunistic. As of March 31, 2021, Apollo had approximately $461 billion of assets under management.

2. Skipjack

10. Skipjack filed with the Commission an Application for the Approval of a Round 2 Qualified Offshore Wind Project and Award of Offshore Wind Renewable Energy Credits ("Skipjack Application").

11. Skipjack is a Delaware Limited Liability Company formed on August 19, 2016.[4] Skipjack is a wholly-owned direct subsidiary of a Delaware limited liability company formed on January 7, 2009, which itself is a wholly-owned indirect subsidiary of Ørsted A/S ("Ørsted"), a corporation duly organized and existing pursuant to the laws of Denmark.

12. Ørsted is a renewable energy company and the world's largest developer of offshore wind power. Ørsted develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, and bioenergy plants, and provides energy products to its customers. Ørsted is headquartered in Fredericia, Denmark, employs 6,120 people worldwide, and has approximately 2,600 wind power employees dedicated to the development, construction, and operation of large-scale offshore wind projects across the globe, including approximately 175 employees located in the United States.[5]

[4] Skipjack Application at 1-2.
[5] *Id*. at 1-4.

13. US Wind and Skipjack were also both winners in the Commission's Round 1 offshore wind proceeding, held in Case No. 9431.[6] In that proceeding, US Wind proposed and was granted ORECs for a 248 MW project in the Maryland Wind Energy Area, and Skipjack proposed and was granted ORECs for a 120 MW project off the coast of Maryland in the Delaware Wind Energy Area, for a combined 368 MW of offshore wind capacity.

C. The Applications

1. US Wind Bid 1

14. US Wind submitted to the Commission three mutually exclusive bids, which are MarWin II Bid 1 ("Bid 1"), MarWin II Bid 2 ("Bid 2"), and MarWin II Bid 3 ("Bid 3").[7] These bids represent three different configurations for US Wind's Momentum Wind Project.[8] Each of the bids would be located in Lease Area OCS-A0490.[9] Although US Wind has not finalized a choice of turbine model, it did select the General Electric ("GE") Haliade X – 14.7 megawatt ("MW") as the design basis for the bids.[10] US Wind would start construction of the Momentum Wind Project after it completes construction of its Round 1 project, MarWin I.[11]

15. In Bid 1, US Wind proposed to construct a 411.6 MW project, consisting of approximately 28 turbines with an expected commercial operation date of 2026.[12] The closest turbine in Bid 1 would be located approximately 18 statute miles from the shore at

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[6] *See* Case No. 9431, *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*, Order No. 88192.
[7] US Wind Application – Volume 1 at 19.
[8] *Id*. at 19 n. 1.
[9] Grybowski Direct at 3.
[10] *Id*. at 4.
[11] *Id*.
[12] *Id*.

Ocean City, Maryland.[13] US Wind has committed to make investments at Sparrows Point for the purposes of creating a monopile factory. However, the Bid 1 investment and capacity of the factory will be reduced versus the investments that would come with Bids 2 and 3.[14] US Wind provided a proposed OREC bid price schedule for the project that would begin in 2026.[15] At the filing of the respective applications of US Wind and Skipjack, and before best and final offers were made, US Wind Bid 1 was the only bid that passed the ratepayer impact tests for both residential and non-residential ratepayers, using the methodology of ICF Resources, LLC's ("ICF"), the Commission's independent consultant in this matter.[16]

2. US Wind Bid 2

16. In its Bid 2, US Wind proposed to construct an 808.5 MW project consisting of approximately 55 turbines with an expected commercial operation start date of 2026 for a portion of the project.[17] Specifically, US Wind proposed that 411.6 MW would be built and commence operation in 2026, with a second tranche of 396.9 MW to be built and commence operation in 2027. The closest turbine in Bid 2 would be located 15 statute miles from shore at Ocean City.[18] If the Commission approves this project, US Wind has committed to establish a large monopile factory at Sparrows Point to help provide

[13] US Wind Application – Volume 1 at 52.
[14] *See* Hr'g. Tr. at 586 (Filippelli) (stating "For bid 1 there will be a facility built - its capabilities will be scaled back relative to the full factory build-out that's described in bid 2 and 3.")
[15] US Wind Application, Appendix 4.11.1.
[16] ICF Report at 60. (ICF is the Commission's independent consultant responsible for reviewing Round 2 applications for administrative completeness, as well as for performing qualitative, quantitative net rate, and economic impact analyses.).
[17] Grybowski Direct at 4.
[18] US Wind Application – Volume 1 at 52.

components for the entire U.S. offshore wind market.[19] In particular, US Wind committed to secure an additional $150 million towards the facility, and this investment would go towards site upgrades, constructing new facilities, and purchasing state-of-the-art equipment for welding and coating.[20]

17. On October 26, 2021, US Wind filed its Best and Final Offer,[21] which revised its Bid 2 project by lowering the OREC price and by providing a more aggressive commercial operation date for the Bid 2 project.[22] Specifically, the revised bid lowered the OREC price and reduced the escalation rate to under 2%.[23] Additionally, US Wind committed in its revised Bid 2 to fully construct and make operational the entire project by December 31, 2026.[24] Applying a revised ICF model to the revised Bid 2 results in Bid 2 passing both the residential and non-residential ratepayer tests.[25]

3. US Wind Bid 3

18. In Bid 3, US Wind proposed to construct a 1,205 MW project consisting of approximately 82 turbines, which would be constructed and operational in 2028.[26] Specifically, Bid 3 provides that 411.6 MW would be built and commence operation in 2026, with a second tranche of 793.8 MW to be built and commence operation in 2028. The closest turbine in Bid 3 would be located 13 statute miles from the shore at Ocean City. Bid 3 would provide the same investment in the Sparrows Point facility as Bid 2. However,

[19] Grybowski Direct at 5.
[20] *Id*.
[21] Maillog No. 237581.
[22] Hr'g. Tr. at 468-70 (Grybowski).
[23] *Id*.; US Wind Best and Final Offer Letter, Exhibit 1 at 2.
[24] Hr'g. Tr. at 469 (Grybowski).
[25] This calculation also involves using PJM's Effective Load Carrying Capacity ("ELCC") August 2021 values rather than the April 2021 values used by ICF. Hr'g. Tr. at 649-51 (Repsher).
[26] Grybowski Direct at 4.

due to the larger size of this project, the overall economic impact is estimated to be larger.[27] According to ICF's analysis, Bid 3 passed the residential rate-payer test but failed the 0.9% annual non-residential ratepayer test.[28]

4. Skipjack Wind Phase 2.0 Wind Proposal

19. In Skipjack's Phase 2.0 bid, the company proposed the construction of a 335 MW project consisting of 26 turbines.[29] This project's closest turbine would be located no more than 20 statute miles off the coast from Ocean City.[30] If approved, the project would be located within Lease Area OCS-A0519 and would likely utilize the GE Haliade X 13 MW turbine.[31] The project's commercial operation date would be 2026. Under the Phase 2.0 bid, Skipjack committed to spending a certain amount of money in the State, including through in-State capital and development expenditures, as well as operations and management costs.[32] If selected, Skipjack would begin construction of the Phase 2.0 project in conjunction with the Skipjack Wind Phase 1 project approved in Round 1. Skipjack Phase 2.0 did not pass either the ratepayer impact test for residential or non-residential ratepayers, utilizing ICF's methodology.

5. Skipjack Wind Phase 2.1 Proposal

20. In Skipjack's Phase 2.1 bid, the company proposed an 846 MW project that would consist of 60 turbines, with the closest turbine located no more than 20 statute miles off the

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[27] *Id*.
[28] ICF Report at 60.
[29] Skipjack Exhibit 3, Henry Direct at 8.
[30] Skipjack Exhibit 3, Henry Direct at 9.
[31] Skipjack Exhibit 6, Tanner Direct at 10; Skipjack Exhibit 3, Henry Direct at 10, n. 3. Skipjack witness Henry stated that the Haliade-X 12 MW, 13 MW, and 14.7 MW turbines have the same dimensions. *Id*.
[32] *See* Skipjack Confidential 2.0 Application at 5-6.

coast from Ocean City.[33] The project would be located within Lease OCS-A0519 and Lease OCS-A0482 (collectively, "Skipjack Lease Area"), with Skipjack planning to utilize the GE Haliade X 14.7 MW turbine for design basis purposes, with the final selection to be made at a later date.[34] The commercial operation date for this project would be 2026. If approved, Skipjack would begin construction of the Phase 2.1 project in conjunction with the Skipjack Wind Phase 1 project that was approved in Round 1.[35]

21. Skipjack made several commitments regarding its Phase 2.1 project. Specifically, Skipjack has committed to contributing $400 million towards supply-chain and operational investments in Maryland, including $140 million towards a new "state of the art" cable array factory.[36] Skipjack states that these investments could potentially be used for future wind projects.[37] Skipjack has committed to an additional $478 million in-State investments in the operational and management phase.[38]

22. During the evidentiary hearing, and in conjunction with its November 1, 2021 Best and Final Offer, Skipjack indicated that with approval of its Phase 2.1 project, it would proceed with a partnership with GE Renewable Energy to help facilitate the construction of an offshore wind turbine tower manufacturing facility in Maryland.[39] Skipjack clarified that neither it nor GE would be the tower manufacturing entity, but that GE and Ørsted would engage a preferred tower manufacturer, who would make the investments in

[33] Skipjack Exhibit 3, Henry Direct Testimony at 8.
[34] Skipjack Exhibit 6, Tanner Direct at 10; US Wind Application – Volume 1 at 20.
[35] Skipjack Exhibit 2, Hardy Direct at 10.
[36] Skipjack Exhibit 14, Majola Direct at 13; Skipjack Exhibit 3, Henry Direct at 13.
[37] Skipjack Exhibit 14, Majola Direct at 12.
[38] *Id*.
[39] Skipjack Exhibit 22, Skipjack Wind 2.1 Public Best and Final Offer at 1. Skipjack stated that the Tradepoint Atlantic campus has been identified as the likely location of this facility.

Maryland.[40] Skipjack asserted that the tower manufacturing facility would have a value of $150 million, would be capable of producing 100 towers per year, and would create up to 200 permanent manufacturing jobs for the State, generating nearly $200 million of in-State revenue to the tower factory.[41] Skipjack further stated that the facility would serve the broader U.S. offshore wind industry. Should Skipjack be unable to facilitate bringing the tower facility to Maryland, it committed that it would "contribute $100 million in the form of additional in-state spend or local content (*i.e.*, either the tower factory or an additional $100 million of in-state spend or other local content)," which the company agreed would be a condition of any OREC award for Skipjack Wind Phase 2.1.[42]

23. In its November 1, 2021 Best and Final Offer, Skipjack also submitted a revised OREC bid to the Commission, resulting in a lower levelized OREC price over the course of the 20-year OREC schedule.[43] Finally, Skipjack's Best and Final Offer included an agreement to share savings if the engineering, procurement, and construction costs ("EPC costs") for Skipjack Wind 2.1 are less than the EPC costs reflected in Attachment 4-4 of Skipjack's June 2021 Application (as corrected on October 22, 2021).[44] In particular, Skipjack stated that it would retain a certified public accountant to prepare a report and verify the documented EPC costs, and pay, within six months of issuance of the report, 80% of any aggregate realized savings into an escrow account established in connection with Skipjack Wind 2.1, to be refunded to ratepayers.

[40] Skipjack Exhibit 22, Skipjack Wind 2.1 Public Best and Final Offer at 1.
[41] Hr'g. Tr. at 38-39 (Hardy). Skipjack Exhibit 22, Skipjack Wind 2.1 Public Best and Final Offer at 1.
[42] Skipjack Wind 2.1 Public Best and Final Offer at 1.
[43] Skipjack Wind 2.1 Public Best and Final Offer at 2; Skipjack Exhibit 22C, Attachment A at 2.
[44] Skipjack Exhibit 22C, Attachment A at 2.

D. Procedural History

24. On April 8, 2019, the Maryland General Assembly passed the CEJA, which directs the Commission to provide additional offshore wind application periods to facilitate the construction of at least 1,200 MW of Round 2 offshore wind projects. In particular, CEJA directs the Commission to provide application periods beginning January 1, 2020 "for consideration of Round 2 offshore wind projects to begin creating ORECs not later than 2026."[45]

25. Pursuant to PUA § 7-704.1(d)(2), the Commission retained ICF to assist in the evaluation and comparison of potential applicants' proposed offshore wind projects. On December 10, 2020, a Round 2 offshore wind application was submitted to ICF through a dedicated and secure website. Pursuant to the Code of Maryland Regulations ("COMAR") 20.61.06.01(B)(1), ICF reviewed the submitted application. On December 22, 2020, ICF notified the offshore wind applicant and the Commission that the submitted application was administratively complete.[46]

26. On December 22, 2020, in accordance with CEJA and COMAR 20.61.06.01(B)(3), the Commission provided notice of the commencement of the Round 2, Year 1 Offshore Wind Application Period ("Application Period").[47] The notice provided that the Application Period would remain open for 180 days, during which time other persons were

[45] *Md. Code Ann*., Publ. Util. Art., ("PUA") § 7-704.1(a)(4)(i).

[46] According to COMAR 20.61.01.03(B)(1-1), the term "administratively complete" means that the Commission has determined an application to contain the information described in §§ D through N of COMAR 20.61.06.02.

[47] Maillog No. 233058, Notice of Maryland Offshore Wind Project Application Period - Round 2, Year 1.

permitted to submit applications.[48] The Application Period concluded on June 21, 2021.[49]

27. Following the close of the Application Period, ICF provided notice that a combined total of five offshore wind applications were received by US Wind and Skipjack. In accordance with COMAR 20.61.06.02, ICF determined that all five applications were administratively complete. Additionally, ICF found all five applications met the minimum threshold criteria required by COMAR 20.61.06.03.5.[50]

28. US Wind submitted three mutually exclusive bids for projects with commercial operation dates ("CODs") of 2026, 2027, and 2028. Specifically, US Wind proposed Bid 1, a 411.6 MW project with a COD of 2026; Bid 2, a 411.6 MW project to be built and commence operation in 2026, with a second tranche of 396.9 MW to be built and commence operation in 2027; and Bid 3, a 411.6 MW project to be built and commence operation in 2026, with a second tranche of 793.8 MW to be built and commence operation in 2028.[51] Under its current design, each of US Wind's projects would use GE Haliade-X 14.7 MW turbines and be located in the Maryland Wind Energy Area.

29. Skipjack submitted two mutually exclusive bids to be located in the Delaware Wind Energy Area. Specifically, Skipjack proposed its Phase 2 Project, consisting of 335 MW of capacity designed using GE Haliade-X 13 MW turbines, with a COD of 2026; and a Phase 2.1 Project, consisting of 846 MW of capacity designed using GE Haliade-X 14.7

[48] The Notice invited any party interested in submitting a proposed offshore wind project application to visit the dedicated website hosted by ICF on behalf of the Commission, at: https://www.mdoffshorewindapp.com.
[49] COMAR 20.61.06.01(B)(4) provides that the closing date of the application period shall be 180 calendar days after the Commission issues the notice to the public that it is accepting applications.
[50] ICF Sept. 2, 2021 Evaluation and Comparison of MarWin II and Skipjack Wind Proposed Offshore Wind Project Applications at 3.
[51] As discussed below, US Wind modified Bid 2 in its October 26, 2021 Best and Final Offer by providing that both tranches would be built and commence operation by December 31, 2026.

MW turbines, with a COD of 2026. Skipjack stated that if one of its Bids is accepted for approval, it would integrate it for construction purposes with the Round 1 offshore wind project that was approved by the Commission in Order No. 88192 (May 11, 2017) in Case No. 9431.[52]

30. On July 20, 2021, in accordance with COMAR 20.61.06.01(D), the Commission issued Order No. 89886, which commenced the instant proceeding to conduct a multi-part review to evaluate and compare the proposed offshore wind applications submitted by Skipjack and US Wind. The Commission set a virtual prehearing conference for August 11, 2021 for the purpose of setting a procedural schedule, considering petitions to intervene, and considering preliminary matters raised by the parties. The Commission directed that discovery commence immediately for Skipjack, US Wind, the Commission's Technical Staff ("Staff"), and the Maryland Office of People's Counsel ("OPC"). The Commission provided notice of how to actively participate in the virtual prehearing conference and how to watch the live stream of the prehearing conference on the Commission's YouTube channel. At the Commission's direction, both Applicants filed the public and confidential versions of their proposed offshore wind projects in the Case No. 9666 docket on July 27, 2021.

31. On August 11, 2021, the Commission held a pre-hearing conference to establish a procedural schedule. At that time, the Commission granted the petitions to intervene filed by the following persons: the Maryland Energy Administration ("MEA"); Baltimore Gas & Electric ("BGE"), Potomac Electric Power Company ("Pepco"), and Delmarva Power

[52] Order No. 88192 authorized Skipjack to construct an offshore wind project with a capacity up to 120 MW in the Delaware Wind Energy Area. *Re U.S. Wind*, 108 Md. P.S.C. 257 (2017).

& Light Company (collectively, "the Exelon Companies"); the Town of Ocean City, Maryland ("Ocean City"); Baltimore-DC Building Trades Council; Sierra Club – Maryland League of Conservation Voters ("Sierra/MDLCV"); and the Business Network for Offshore Wind ("the Network"). Staff and OPC filed entries of appearance on August 2 and 3, 2021, respectively. Skipjack and US Wind filed their entries of appearance on July 28 and August 9, 2021, respectively.

32. On August 12, 2021, the Commission issued Order No. 89907, which established discovery procedures for the proceeding, addressed the exchange of confidential information, and established a procedural schedule. Specifically, the Order established dates for the filing of direct, supplemental, rebuttal, and rejoinder testimony, ICF's report, and consolidated briefs. The Order also set the adjudicatory hearing for October 27 through November 3, 2021.

33. On August 19, 2021, the Commission issued a notice soliciting public comments and providing that virtual public comment hearings would be held on Tuesday, September 28, 2021 at 6:00 p.m. and Thursday, September 30, 2021 at 6:00 p.m. via virtual meeting.[53] The notice specified how members of the public could file written comments or make oral comments during the public hearings. The notice also provided a link to the Commission's YouTube channel, where any member of the public can observe Commission proceedings.[54] The Commission directed the Applicants to publish a notice of the public comment hearings as a display advertisement in newspapers in general circulation and on the Applicants' websites.

[53] The Notice provided that the public hearings would be held through WebEx and provided participants with an email link to the virtual meeting.

[54] The Commission's YouTube channel is located at https://www.youtube.com/c/MarylandPSC.

34. On August 25, 2021, US Wind filed the direct testimony of Jeffrey Grybowski, Mark D. Repsher, Laurie Jodziewicz, and Matthew V. Filippelli. On that same date, Skipjack filed the direct testimony of David Hardy, Deborah E. Henry, Siphokazi Majola, Prem Pereira, Esther Siskind, Brady Walker, and Collin Cain.

35. On September 2, 2021, ICF filed its evaluation report, entitled "Evaluation and Comparison of MarWin II and Skipjack Wind Proposed Offshore Wind Project Applications" ("ICF Report"). ICF's Report subjected each of the Applicants' projects to a qualitative and quantitative review, in accordance with COMAR 20.61.06.03. The qualitative analysis focused on the reasonableness of the Applicants meeting their proposed CODs and the positive net economic, environmental, and health benefits of the projects. For each criterion listed in COMAR 20.61.06.03B(1), ICF assigned a ranking on a scale of 0 to 3.[55] ICF provided passing scores of 2s or 3s in most categories.[56] Skipjack's net ratepayer impact assessment and supporting electric market analysis are the only criteria scored 1 and 0 respectively by ICF. These issues are more thoroughly discussed later in this Order.

36. The quantitative analysis included ICF's independent assessments of the net ratepayer impacts and the cost-benefit analyses of the proposed projects. For the net ratepayer impact analyses, ICF created a business-as-usual case as a baseline assumption by which to measure the impacts of the proposed projects included in the Applications. ICF utilized production cost and capacity expansion modeling for impacts to the power

[55] ICF Report at 4-5.

[56] A few criteria were ranked on a pass or fail scale or not scored if not applicable.

sector and economic input-output modeling for impacts to the Maryland economy.[57] The three main components reviewed were the direct impact to ratepayers from changes in wholesale market and renewable energy credit ("REC") prices, the cost of the OREC payments included in the proposed OREC schedules, and the offsetting energy, capacity, and REC market benefits caused by OREC purchases.[58] According to ICF's analysis, US Wind's Bid 1 has the lowest net rate impact on ratepayers and Skipjack's Bid 2.1 has the highest.[59]

37. Additionally, ICF's Report concluded that only US Wind's Bids 1 and 2 pass the residential rate impact requirement, and only US Wind's Bid 1 meets the nonresidential customer ratepayer impact requirement. ICF also reviewed the cost-benefit analyses submitted by Skipjack and US Wind in their Applications and compared those results with ICF's modeled results. According to ICF's review, all five Applications demonstrate net positive economic benefits to Maryland.[60] Economic benefits outlined in ICF's Report include jobs created, added income, and State and local tax revenue increases.[61] ICF's Report also concluded that all five Applications will reduce emissions in Maryland.[62]

38. On September 9, 2021, Skipjack filed a Motion to Disqualify in Part US Wind's Application, arguing that Bids 2 and 3 do not meet the statutory requirements of PUA § 7-704.1(a)(4)(i) that offshore wind project proposals submitted during the Application Period

[57] ICF Report at 13.
[58] *Id*. at 7.
[59] *Id*.
[60] *Id*. at 8.
[61] *Id*. at 62-65.
[62] *Id*. at 66.

for Round 2, Year 1 begin creating ORECs "not later than 2026."[63] On September 17, 2021, US Wind filed a reply, arguing that Bids 2 and 3 met the requirements of the statute since the PUA does not require all of the bid's capacity to be online by 2026, but only that the projects begin creating ORECs by 2026.[64] On October 6, 2021, the Commission issued Order No. 89958, which denied Skipjack's motion without prejudice, finding that the parties raised factual and legal arguments that would be better addressed during the evidentiary hearing and in briefs.

39. On September 24, 2021, the following parties filed direct testimony: MEA: Samuel Beirne; Ocean City: Mayor Richard Meehan and Robert Sullivan; The Business Network: Elizabeth Burdock; The Sierra/MDLCV: Catherine Bowes; OPC: Maximilian Chang; and Staff: Christopher Lo, Drew McAuliffe, and Kevin Mosier. Also on September 24, 2021, Skipjack filed the supplemental direct testimony of Deborah Lynn Henry, Siphokazi Majola, Prem Pereira, and Colin Cain. US Wind filed the supplemental direct testimony of Mark D. Repsher and Matthew V. Filippelli.

40. On September 28, and September 30, 2021, the Commission held virtual public comment hearings on the proposed offshore wind projects. Members of the public presented their comments on the applications via both written and live testimony. Over 150 members of the public registered to speak between the two hearings, and over 250 members of the public submitted written comments via mail or the Commission's website.

41. On October 18, 2021, the following parties filed rebuttal testimony: MEA: Samuel Beirne, Skipjack: Deborah Lynn Henry, Brady Walker, Paul Hibbard, Colin Cain, Dr.

[63] Skipjack Motion to Disqualify at 1 and 5.
[64] US Wind Response to Motion to Disqualify at 2-3.

Corey Lang, and Gordon Perkins; US Wind: Jeffrey Grybowski, Matthew V. Filippelli, Mark D. Repsher, Andrew Carr-Harris, and Scott DeHainaut; and OPC: Maximilian Chang.

42. On October 21, 2021, Skipjack filed a notice of the substitution of Damien Tanner for Prem Pereira. On that same day, Staff filed a notice of the substitution of Craig Taborsky for its engineering witness Christopher Lo.

43. On October 26, 2021, US Wind submitted its Best and Final Offer, where it lowered its Bid 2 OREC price. It also revised the COD of the project by committing that the entire 808.5 MW project would be constructed and operational on or before December 31, 2026.[65] US Wind stated that the associated update to the construction schedule under the new COD for MarWin II, Bid 2 would be provided in a filing on November 5, 2021.

44. Also on October 26, 2021, Skipjack filed a letter from GE Chairman and CEO H. Lawrence Culp regarding an additional investment in infrastructure to support offshore wind project construction as part of the Skipjack Wind Phase 2.1 Project.[66]

45. Virtual evidentiary hearings for the cross-examination of witnesses were held on October 27, 28, and 29, and November 1, 2021. On November 1, 2021, Skipjack filed its Best and Final Offer, revising its OREC price schedule for its Phase 2.1 project.[67]

46. On November 5, 2021, in accordance with its Best and Final Offer, US Wind filed its Revised Procurement and Construction Schedule for the revised COD of its MarWin II, Bid 2.[68]

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[65] Maillog No. 237554.
[66] Maillog No. 237584.
[67] Maillog No. 237641.
[68] Maillog No. 237729.

47. On November 8, 2021, ICF filed recalculated rate impacts based upon the Best and Final Offers of US Wind and Skipjack.[69]

48. On November 19, 2021, briefs were filed by US Wind, Skipjack, Ocean City, OPC, MEA, Sierra/MDLCV, the Business Network, and Staff.

49. On November 24, 2021, US Wind filed a motion requesting clarification that the Commission would consider its Application and Best and Final Offer as part of the evidentiary record. Skipjack filed a response noting that it would leave the matter of the admissibility of US Wind's Application to the Commission's discretion. On November 30, 2021, Staff filed comments suggesting the Commission reopen the proceeding and schedule an additional evidentiary hearing to complete the administrative record of the proceeding and resolve any issues regarding the admissibility of any items.

50. The Commission issued an Order on December 1, 2021 preliminarily granting US Wind's motion for clarification and formally admitting US Wind Application into the evidentiary record, subject to any party objection and request for a hearing on the matter. No party filed an objection, therefore US Wind's Application was deemed admitted.

E. Positions of the Parties

1. US Wind

a. *Jeffrey Grybowski*

51. Mr. Grybowski, Chief Executive Officer of US Wind, testified that he is responsible for overseeing all aspects of corporate and project development for US Wind.[70] He testified that US Wind is developing Momentum Wind in commercial lease OCS-A 0490 ("US

[69] Maillog No. 237736. The recalculated ICF spreadsheets were submitted by Chief Public Utility Law Judge Ryan C. McLean, who acted as legal counsel for ICF during the evidentiary hearing.
[70] US Wind Exhibit 1, Grybowski Direct at 1.

Wind Lease Area"), which is a federal offshore wind energy lease area designated by the Bureau of Ocean Energy Management ("BOEM"), a component of the U.S. Department of the Interior. He stated that US Wind has full and exclusive site control over the US Wind Lease Area, which is approximately 80,000 acres in size and is located about 12 to 27 statute miles east of Ocean City, Maryland.[71]

52. Mr. Grybowski testified that if the Commission awards ORECs for a project that is at least 800 MW, US Wind will establish at Sparrows Point "a large monopile production facility, planned to serve the entire U.S. offshore wind market for the long-term."[72] Specifically, he testified that with such an award, US Wind would: (i) invest an additional $150 million at the site to upgrade land and buildings, construct new facilities, and purchase state-of-the-art welding and coating equipment;[73] (ii) produce at Sparrows Point steel components for all of its monopile foundations needed for its Maryland projects; and (iii) form a new venture to operate the facility long-term to serve the emerging U.S. offshore wind market with major steel components.[74]

53. Mr. Grybowski testified that although Maryland is a small state, "it still has a unique opportunity to establish a foothold in the permanent supply chain for this rapidly-growing [offshore wind] industry."[75] In particular, he asserted that the market opportunity for monopiles and other steel components for offshore wind is large, given that the United States has set a goal of installing over 30,000 MW of offshore wind capacity by 2030. Mr.

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[71] *Id*.
[72] *Id*. at 5.
[73] Mr. Grybowski clarified that this $150 million investment would be in addition to the improvements at the site planned for MarWin I. *Id.*
[74] *Id*.
[75] *Id*.

Grybowski asserted that each US Wind bid would support thousands of Maryland jobs and lead directly to the investment of hundreds of millions of dollars in the Maryland economy.

54. Mr. Grybowski stated that the economic impact of establishing Sparrows Point Steel at its largest size offered would be 530 direct jobs per year, over $1 billion of labor income over 20 years, and nearly $3 billion in total economic output over 20 years. He further asserted that the Project is projected to increase Maryland's GDP by $6.9 billion over 20 years.[76]

55. Mr. Grybowski testified regarding several labor-related benefits from the project. He noted that the use of skilled labor for construction and manufacturing has been advanced by the initial labor and community benefit agreements that US Wind has signed with the Baltimore-DC Building and Construction Trades, IBEW, and the United Steelworkers. Mr. Grybowski also discussed benefits of the project for minority business enterprises ("MBEs), and asserted that US Wind is committed to achieving substantial involvement of Maryland-based MBEs in all phases of the project.[77] Mr. Grybowski additionally discussed project benefits to small businesses and coastal communities.

56. Mr. Grybowski testified about US Wind's program for community engagement, which includes the following elements: (i) hiring a team of dedicated development professionals; (ii) communicating proactively with community leaders; (iii) forging relationships with important community organizations; (iv) consistent and transparent public communications; and (v) focusing on special stakeholder concerns.[78]

[76] *Id*. at 6.
[77] *Id*. at 7-8.
[78] *Id*. at 11-15.

b. *Matthew V. Filippelli*

57. Matthew V. Filippelli, Technical Director of US Wind, testified that he has responsibility for the technical development and design aspects of US Wind's offshore portfolio, including MarWin I and the proposed Momentum Wind project.[79]

58. Mr. Filippelli presented a technical summary of key components of US Wind's proposed projects as well as the Application's projected economic and tax revenue impacts in Maryland. He testified that the Momentum Wind project is proposed in three mutually exclusive bid sizes of 411.6 MW, 808.5 MW, and 1,205.4 MW, and is planned to deliver power to the PJM network at the Indian River north substation.[80] He further stated that Momentum Wind is planned to be installed immediately adjacent to US Wind's MarWin I project on an identical 1.02 by 0.76 nautical mile grid, and that the first Momentum turbines "will be deployed in the eastern-most portion then available in the Lease Area, approximately 22 miles offshore of Ocean City, and will extend westward to approximately 18, 15, or 13 miles from shore, depending upon bid size."[81] The project's design basis includes turbine configurations of 28, 55, or 82 GE Haliade X 14.7 wind turbines with 220 meter diameter rotors and a hub height of 139 meters from sea level. Mr. Filippelli testified that the 14.7 MW turbine is the most advanced and powerful version of GE's Haliade X platform and that its certified design lowers overall project risk and helps ensure project bankability.[82] Because of its size, Mr. Filippelli asserted that the 14.7 MW Haliade X

[79] US Wind Exhibit 3, Filippelli Direct at 1.
[80] *Id*. at 4-5. "PJM" refers to PJM Interconnection, LLC, which is the regional transmission organization that operates the wholesale electricity grid and dispatches generation in Maryland, other Mid-Atlantic states, and the District of Columbia.
[81] US Wind Exhibit 3, Filippelli Direct at 5.
[82] *Id*. at 10.

would enable a relatively small number of turbines required to meet the bid nameplate requirements.

59. Mr. Filippelli stated that the turbines will be affixed to the seafloor using Maryland-built monopile foundations, and that power generated from the turbines will be collected on strings of up to five turbines apiece at a voltage of 66 kV, which will be connected to up to three offshore substations, depending on the project selected. In order to minimize the impact of the project, Mr. Filippelli testified that US Wind will bury the cables and not construct any overhead lines.[83]

60. Mr. Filippelli asserted that US Wind is currently conducting a meteorological and ocean condition monitoring survey to refine the wind resource and energy yield estimations, and that US Wind's dual-purpose meteorological mast is planned for installation as early as 2024 as part of the permanent project configuration. Mr. Filippelli stated that installation of the project will be based out of the Tradepoint Atlantic ("TPA") facility at Sparrows Point, for which US Wind recently executed a long-term lease. He asserted that operations of the project are planned to be based out of a facility in the Ocean City area. He testified that a key component of US Wind's supply chain, construction and operations planning, as well as its strategy for job creation in Maryland, "is the establishment of the Sparrows Point Steel facility at TPA," which he estimated is envisioned to employ approximately 500 workers.[84]

61. Mr. Filippelli described US Wind's project layout as it was presented to BOEM, through US Wind's Construction and Operation Plan ("COP"). The project layout shows

[83] *Id*. at 5-6.
[84] *Id*. at 6-7.

a gridded array of 125 structures – 121 wind turbines and four offshore substations – across the Lease Area. The gridded array comprises 13 east-west rows with 0.87 mile spacing between structures, and 18 columns oriented approximately north-northeast to south-southwest with 1.17 mile spacing. Mr. Filippelli testified that the arrangement of the 125-position array was based upon a combination of "energy optimization, accommodation of siting constraints within the Project area, and known existing uses."[85] Mr. Filippelli stated that US Wind plans to deploy a bottom-fixed meteorological ("met") tower within the US Wind Lease Area as a permanent component of the project.

62. Mr. Filippelli described Sparrows Point Steel as "an ambitious fabrication and finishing facility proposed to reestablish steel component manufacturing in Maryland at Sparrows Point," which could "transform the Baltimore region into a world-class offshore wind component manufacturing hub" and "fill[] a critical gap in the US offshore wind supply chain."[86] He asserted that if an award of at least 800 MW is made in this Round 2, US Wind would commit to additional investment (beyond that required by the Round 1 OREC award) that would "stand up a self-sustaining, long-term steel fabrication business in Sparrows Point" to include (i) steel roll bending capability; (ii) significantly expanded circumferential welding capacities; and (iii) significantly expanded coating capacities.[87] He asserted that these expanded capacities would result in a facility able to produce 100 monopiles per year, and would raise the facility's workforce to approximately 500 employees.

[85] *Id*. at 7.
[86] *Id*. at 18.
[87] *Id*. at 18-19.

63. Mr. Filippelli also testified that US Wind engaged EBP US ("EBP") to assess the Maryland economic and tax revenue impacts of each Momentum bid configuration over its development, construction, and 25-year operation life cycle. EBP also analyzed the Maryland-specific impacts of the Sparrows Point Steel facility over its construction and projected 20-year operational life.[88] That analysis concluded that the US Wind Application could represent up to $10.7 billion in industry output, nearly 2,000 full time jobs, and approximately $575 million in state and local taxes from construction through the 25-year operating life.[89]

c. *Laurie Jodziewicz*

64. Laurie Jodziewicz, US Wind's Senior Director of Environmental Affairs, testified about the positive net environmental and health benefits of US Wind's project, including air quality, carbon reduction, and environmental justice benefits. She also discussed the regulatory reviews required for the project, progress to date with regard to environmental studies and permitting, and the air emission impact assessment and associated environmental and public health benefits.

65. Ms. Jodziewicz testified that US Wind still must engage in a rigorous public comment and environmental review process associated with its construction and operations plan before BOEM, the lead agency for approving offshore wind projects and related activities in federal waters, and the agency in charge of performing an Environmental Impact Statement ("EIS") pursuant to the National Environmental Policy Act ("NEPA").[90]

[88] *Id*. at 20.
[89] *Id*. at 22. Those projections presupposed approval of US Wind's largest project, Bid 3.
[90] US Wind Exhibit 6, Jodziewicz Direct at 5-6.

The NEPA process will provide a framework for most of the environmental permits and reviews that US Wind will require.

66. Ms. Jodziewicz further testified that US Wind is required to submit to BOEM a Site Assessment Plan ("SAP")[91] for deployments of buoys or meteorological towers to measure wind and ocean conditions, and survey plans for characterization of seabed conditions that must demonstrate conformance with BOEM Lease stipulations. Additionally, US Wind must submit a Construction and Operations Plan ("COP"), with information sufficient to analyze the environmental and socioeconomic effects and operational integrity of offshore wind project construction, operation, and decommissioning activities. Approval of a COP is a major federal action that requires BOEM to conduct an environmental review of the COP and activities proposed therein under NEPA.[92] The NEPA review will also facilitate technical reviews and consultations by other federal agencies, such as those required by the National Oceanic and Atmospheric Administration ("NOAA") National Marine Fisheries Service and the U.S. Fish and Wildlife Service for protected species.

67. Ms. Jodziewicz testified about US Wind's progress to date regarding the status of its Round 1 offshore wind project. She stated that US Wind filed a COP with BOEM in August 2020. Since then, US Wind has been responding to BOEM's comments and making further refinements in the COP and completing additional field surveys.[93] Ms. Jodziewicz further stated that BOEM is expected to issue a Notice of Intent to undertake

[91] US Wind filed a SAP with BOEM to construct a meteorological tower in April 2016, which was approved in March 2018. However, that tower was not installed due to contractor delays. US Wind submitted a second SAP for the deployment of a met buoy, which was approved by BOEM in May 2021. US Wind deployed the met buoy that same month. US Wind Exhibit 6, Jodziewicz Direct at 8.
[92] US Wind Exhibit 6, Jodziewicz Direct at 6.
[93] *Id*. at 8.

an EIS in the next few months, which will begin a roughly two-year timeframe to complete the NEPA review and approve the COP. Ms. Jodziewicz testified that several other federal permits will be wrapped into the NEPA process and will be reviewed concurrently with the EIS, including: a Section 10/404 Permit from the U.S. Army Corps of Engineers for activities and structures in navigable waters and in wetlands; an Incidental Harassment Authorization or Letter of Authorization under the Marine Mammal Protection Act for pile driving and construction activities to protect marine mammals and sea turtles; a Section 408 review; and potentially a permit from the U.S. Army Corps of Engineers, due to the proximity of sand borrow areas for federal beach storm protection projects.[94]

68. In addition to the federal permits, Ms. Jodziewicz described required state environmental permits and reviews, including an Outer Continental Shelf ("OCS") Air Permit from the Maryland Department of the Environment ("MDE") for project construction and operations in the OCS area; review by the Maryland State Historic Preservation Office to assess the potential for impacts to historic resources; review by the Maryland Department of Natural Resources to assess the project's consistency with the State's Coastal Zone Management Program; review by the Delaware Department of Natural Resources and Environmental Control ("DNREC") to assess the project's consistency with Delaware's Coastal Zone Management Program; review by the DNREC of the electric transmission export cable and interconnection, which is planned to be in Delaware; and assessment by the Delaware State Historic Preservation Office of impacts to historic and archaeological resources. Ms. Jodziewicz testified that these permits and

[94] *Id*. at 9.

reviews would also be wrapped into the NEPA process and reviewed concurrently with the EIS.[95]

69. Ms. Jodziewicz testified that the project would provide positive net benefits to air quality in Maryland by generating clean, renewable, electric power with no direct emissions.[96] She also stated that the project would enhance fuel diversity for Maryland's energy supply, reduce dependence on coal-fired supply, help Maryland achieve its goal of procurement of 50% of its electricity from renewable sources by 2030 as stipulated in CEJA, and help mitigate the impacts of climate change in Maryland.[97]

70. Finally, Ms. Jodziewicz discussed how construction noise impacts will be assessed and mitigated, including sounds from pile driving related to project construction.[98]

d. *Mark Repsher*

71. Mark Repsher, of PA Consulting Group, testified on behalf of US Wind regarding the ratepayer impacts of US Wind's project. Mr. Repsher evaluated the revenues the Momentum Wind project is projected to receive as a market participant in the PJM wholesale electricity market; the impacts that the project will have on the PJM wholesale electricity market and capacity market; and the net impact the project will have on Maryland's residential and nonresidential electric rates.[99]

72. Mr. Repsher testified regarding the methodology used in his analysis, stating that he first used the OREC price schedule proposed by US Wind to project the total gross OREC costs to Maryland ratepayers for the 20-year periods applicable to each of US

[95] *Id*. at 9-10.
[96] *Id*. at 10-12.
[97] *Id*. at 12.
[98] *Id*. at 16.
[99] US Wind Exhibit 7, Repsher Direct at 5.

Wind's three bids.[100] He then used PA Consulting's wholesale marketing modeling process to project the market-based revenues each of the three bids will receive from the PJM market. He then subtracted the projected market-based revenues and avoided costs from the gross OREC costs to calculate each of the three bids' total net costs to Maryland ratepayers. He then used the total net costs to estimate the monthly bill impacts for a typical Maryland residential customer and typical non-residential customer.

73. Mr. Repsher testified that for each of the bids contained in US Wind's Application, the net rate impacts for the average residential and non-residential electric customer would not exceed the limits prescribed in CEJA.[101] Specifically, for each of the bids, he testified that the residential rate impact would not exceed 88 cents per month in 2018 dollars over the duration of the proposed OREC pricing schedule; and the nonresidential rate impact would not exceed 0.90% of a non-residential customer's total annual electric bill during any year of the proposed OREC pricing schedule.[102]

2. Skipjack

a. *David Hardy*

74. David Hardy is President and Chief Executive Officer of Ørsted North America Inc., a subsidiary of Ørsted, and testified on behalf of Skipjack. He stated that Skipjack leveraged Ørsted's experience as the largest developer of offshore wind in the United States to offer investments that will establish a sustainable offshore wind industry in Maryland to serve the broader U.S. market.[103] Mr. Hardy stated that Ørsted is headquartered in

[100] *Id*. at 8.
[101] *Id*. at 6.
[102] *Id*. at 6-8.
[103] Skipjack Exhibit 2, Hardy Direct at 2.

Fredericia, Denmark, and employs 6,120 people worldwide, with 2,600 employees dedicated to supporting Ørsted's wind energy business, including over 200 employees in the United States.[104] He observed that Ørsted built the world's first offshore wind farm 30 years ago, and in the last 25 years has installed 7.6 GW of offshore wind capacity, representing about 30 percent of globally-installed offshore wind capacity.[105] The company has another 2.3 GW of offshore wind capacity under construction, according to Mr. Hardy.[106] Mr. Hardy stated that Skipjack is a subsidiary of Ørsted, and is fully supported by Ørsted's team of experienced offshore wind developers and robust financial resources. Mr. Hardy testified that Ørsted has the financial capability necessary to undertake and successfully deliver a Round 2 offshore wind project to the State of Maryland. With regard to offshore wind in the United States, Mr. Hardy stated that Ørsted operates the first U.S. offshore wind farm off the coast of Block Island, Rhode Island, constructed the first wind farm in federal waters off the Virginia shore (Coastal Virginia Offshore Wind), and has been awarded contracts to develop the first offshore wind farms serving New York (South Fork Wind Farm and Sunrise Wind), Connecticut/Rhode Island (Revolution Wind), New Jersey (Ocean Wind 1 and 2), and Maryland (Skipjack Wind Phase 1).[107] Mr. Hardy stated that in its current U.S. portfolio, Ørsted has commitments for over 4,000 MW of offshore wind serving five states.

75. Mr. Hardy testified regarding the mutually exclusive Skipjack Wind Phase 2.0 and 2.1 projects. He stated that under Skipjack Wind Phase 2.0, Skipjack would construct 335

[104] *Id*. at 3, 7.
[105] *Id*. at 4-5.
[106] *Id*. at 5.
[107] *Id*. at 5-6.

MW of nameplate capacity (354 MW of installed rated capacity).[108] Under Skipjack Wind Phase 2.1, Skipjack would construct 846 MW of nameplate capacity (882 MW of installed rated capacity). The larger project would realize more cost efficiencies and greater economic investment and job creation. Mr. Hardy asserted that either Skipjack Wind Phase 2.0 or Phase 2.1 would be developed, constructed and delivered together with Skipjack Wind Phase 1 (the 120 MW project awarded in 2017), which would allow Skipjack to create synergies and reduce the impacts that would be felt by two separate projects.[109] The combined projects would be delivered for commercial operation by 2026.

76. Mr. Hardy discussed benefits of the project to Maryland, and testified that if the Skipjack Wind Phase 2.1 project is selected, Skipjack will invest over $140 million with Hellenic Cables S.A. to construct in Maryland the United States' first array cable manufacturing factory, which will expand Maryland's offshore wind economy for current and future wind projects in the United States.[110] He further stated that when this investment is added to other planned in-State investments, Skipjack will make $400 million of investment in Maryland through Skipjack Wind Phase 2.1.[111]

77. Mr. Hardy testified that if the Phase 2.1 project is selected, Skipjack will facilitate – through chartering commitments and/or grant financing – the establishment of a platform supply vessel ("PSV") operator in the State of Maryland.[112] He asserted that Jones Act-qualified PSVs will be needed for the construction and operation of offshore wind in the

[108] *Id*. at 9.
[109] Skipjack Exhibit 16, Walker Direct at 10.
[110] Skipjack Exhibit 2, Hardy Direct at 2, 13.
[111] *Id*. at 2.
[112] Skipjack Exhibit 16, Walker Direct at 14.

United States, but that the vast majority of suitable PSVs exist only in the Gulf of Mexico, with none identified in Maryland.

78. Mr. Hardy testified that if the Skipjack Wind Phase 2.1 project is selected, Skipjack will co-locate its O&M base and expand upon existing plans for the Skipjack Wind Phase 1 facility. He asserted that the combined projects' O&M base "will be a driver of economic development for the State of Maryland, providing a permanent workplace for a variety of onshore staff, as well as acting as the point of embarkation for offshore workers."[113]

b. *Deborah Lynn Henry*

79. Deborah Lynn Henry, Project Development Director of Ørsted North America Inc., testified regarding Skipjack's Round 2 proposals, Skipjack's team, and Ørsted's experience developing offshore wind projects in the U.S. and around the globe. She asserted that "Ørsted is committed to bringing its world-class offshore wind business to Maryland for the long-term, cementing Ørsted's place within the Maryland business community, and leveraging its market-leading industry relationships to partner with the State to achieve the long-term goal of establishing Maryland as a key supply chain hub for the U.S. offshore wind industry."[114]

80. Ms. Henry asserted that Skipjack Wind Phase 2.0 was submitted to the Commission in December 2020, before Congress extended the Investment Tax Credit ("ITC") for offshore wind in 2021. She stated that the extension of the ITC allowed Skipjack to submit a second, larger project (Phase 2.1), which builds on economies of scale and provides greater investment in, and benefits to, the State of Maryland.[115]

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[113] *Id*. at 15.
[114] Skipjack Exhibit 3, Henry Direct at 13.
[115] *Id*. at 8.

81. Ms. Henry testified that the Round 2 Projects would be located in the federal lease areas, OCS-A 0482 and OCS14 A 0519 ("Skipjack Lease Area"), off the Delmarva Shore.[116] She stated that both Skipjack Wind Phase 2.0 and Phase 2.1 would be developed and constructed with the 120 MW Skipjack Wind Phase 1 project approved by the Commission in 2017, which was designed to consist of 10 wind turbines. However, under both Round 2 Applications, Skipjack Wind Phase 1 would be reduced to nine wind turbines due to an increase in capacity (12 MW to 14 MW).[117] The current Round 2 proposals would either add 26 wind turbines (Skipjack Wind Phase 2.0) or 60 wind turbines (Skipjack Wind Phase 2.1), and be laid out in the same grid as Skipjack Wind Phase 1. She stated that the wind turbines would be positioned inside the Skipjack Lease Area with a minimum distance to Ocean City of at least 20 statute miles in order to minimize visual impacts.

82. Because Skipjack Wind Phase 2.1 would be constructed together with Skipjack Wind Phase 1, thereby increasing the scale of the construction and operational activities, Ms. Henry testified that Skipjack was able to offer a lower OREC price for Phase 2.1, thereby allowing Maryland ratepayers to benefit from the economies of scale.[118]

83. Ms. Henry stated that Skipjack plans to use the GE Haliade-X 14 MW Wind Turbine Generator for Skipjack Wind Phase 2.1.[119] She testified that the dimensions of the 14 MW turbine are the same as the dimensions of the 12 MW model that was previously approved by the Commission for Skipjack Wind Phase 1, but that final selection of the turbine would be made closer to the construction phase of the project.

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[116] *Id*.
[117] *Id*. at 8-9.
[118] *Id*. at 10.
[119] *Id*.

84. Ms. Henry discussed Skipjack's planned investments in Maryland, stating that its total investment in the State will be over $600 million during the development and construction of the Combined Projects.[120] Those investments would include a state-of-the-art array cable factory and other important wind turbine generator supply chain and operational investments during the development and construction phase.

c. *Damien Tanner*

85. Damien Tanner, Senior Risk Specialist at Ørsted and the Acting Co-Technical Project Director of the Skipjack Wind Projects, including both Skipjack Wind Phase 1 and Skipjack's Phase 2 and Phase 2.1 bids, filed Direct Testimony on October 21, 2021. He also adopted the previously filed Direct Testimony of Prem Pereira, Deputy Engineering, Procurement and Construction Director at Ørsted, filed on August 25, 2021.[121]

86. Mr. Tanner testified regarding the technical information contained in each of Skipjack's Round 2, Year 1 Applications. For example, he discussed the wind turbine generator's rated power, capacity, hub height, and location. He stated that Skipjack Wind Phase 2.1 is currently designed to use the GE Haliade-X 14 MW wind turbine generator, which has a 721-foot rotor diameter, a blade length of 351 feet, a tip height of 853 feet, and a hub height of 492 feet – the same dimensions as the previously approved GE Haliade-X 12 MW turbine.[122] Mr. Tanner provided that the total nameplate capacity of the combined Skipjack Wind Phase 1 and Skipjack Wind Phase 2.1 would be 966 MW, and the total installed rated capacity would be 1,014 MW (based on 60 wind turbine generators for the

[120] *Id*. at 13.
[121] Skipjack witness Damien Tanner adopted the testimony of Prem Pereira. *See* Hr'g. Tr. at 150 (Tanner).
[122] Skipjack Exhibit 6, Tanner Direct at 4, 10-11.

Skipjack Wind Phase 2.1 Project and nine wind turbine generators for the Skipjack Wind Phase 1 Project).

87. Mr. Tanner also described the location of the proposed projects, stating that either Round 2 project would be located at least 20 statute miles from Ocean City, Maryland.[123] He testified regarding the interconnection of the project to PJM's transmission system, stating that it would connect to the point of interconnection via a new 275 kV submarine and buried terrestrial cable system. Mr. Tanner stated that Skipjack chose monopile foundations for the turbines because they are the most cost-effective and proven wind turbine foundation technology currently in use, they are relatively easy to fabricate and install, and they are the design of choice for most offshore wind farms in Europe.[124]

88. Mr. Tanner testified regarding Skipjack's project construction plans, including plans for procuring the necessary labor and equipment, for its Round 2 Projects. He stated that Skipjack plans to use several ports and harbors in Maryland to support the construction and operations of its Round 2 Project. He also described Skipjack's operations and maintenance plan, project schedule, and decommissioning plan.

d. *Siphokazi Majola*

89. Siphokazi Majola is Senior Commercial Manager at Ørsted U.S. Offshore Wind, and Commercial Project Lead of both Skipjack Wind Phase 1 and Skipjack's Phase 2 and Phase 2.1 bids. She testified regarding the financial information and local content information in each of Skipjack's Round 2, Year 1 Applications.

[123] *Id*. at 8.
[124] *Id*. at 12.

90. Ms. Majola testified that Ørsted is the global leader in financing, constructing, and operating offshore wind projects, and that the company is publicly traded on the Nasdaq Copenhagen Stock Exchange, with an equity market capitalization of approximately $60 billion and cashflows from existing business of approximately $1.7 billion.[125] Given those resources, Ms. Majola testified that Skipjack will finance 100 percent of Skipjack Wind Phase 2.1 with equity (covering development, construction, and operating costs).[126] She asserted that this financial strength eliminates the risk that project-level financing imposes on such projects, and will ensure that financing issues will not delay the investments Skipjack intends to make to further the development of Skipjack Wind Phase 2.1 and Maryland's offshore wind industry.

91. Ms. Majola stated that Skipjack intends to apply for the ITC and has assumed the availability of the ITC in the pricing of its offshore wind projects. She also asserted that Skipjack plans to apply for the federal Modified Accelerated Cost Recovery System depreciation incentive, and is evaluating whether to apply for the Maryland State Job Creation Tax Credit. Ms. Majola testified that Skipjack commits to use best efforts to apply for all eligible state and federal grants, rebates, tax credits, loan guarantees, and other similar benefits as they come available, and to agree to pass along to retail electric customers 80 percent of the value of any incentives received by either Round 2 Project and not included in the Round 2 Applications.[127]

[125] Skipjack Exhibit 14, Majola Direct at 4.
[126] *Id*. at 5.
[127] *Id*. at 9.

92. Ms. Majola testified about Skipjack's proposed OREC price schedule and quantity, and asserted that Skipjack's Phase 2 project would not exceed the projected Round 2 net rate impact caps for residential and nonresidential customers as described in PUA § 7-704.1(e)(1)(ii).[128]

93. Ms. Majola testified about the local economic development package associated with Skipjack Wind Phase 2.1, including Skipjack's commitment to include an additional $400 million investment in the State to create infrastructure for current and future wind projects and to provide jobs during the development and construction, as well as $478 million during the operational phase.[129] She discussed Skipjack's commitment to invest in a full-scale cable manufacturing facility to be built at Tradepoint Atlantic that will be suitable for producing high voltage array cables, establish a Maryland base for a world-class operator of Jones Act-qualified platform supply vessels, and expand a Maryland O&M base. Ms. Majola stated that as part of Skipjack Wind Phase 1, Skipjack committed to establish its primary O&M base in the Ocean City, Maryland region, and that if the Commission selects Skipjack Wind Phase 2.1, Skipjack will expand upon its existing plans for the O&M base.[130] Ms. Majola asserted that with regard to Skipjack's Round 1 project, the company has invested nearly $40 million in Maryland in furtherance of the development and construction activities.[131]

[128] *Id*. at 12.
[129] *Id*. at 12-13.
[130] *Id*. at 18.
[131] *Id*. at 19.

e. *Esther Siskind*

94. Esther Siskind, Permitting Manager for the Skipjack Wind projects at Ørsted North America Inc., testified about the environmental plans, permits, and approvals that will be required for Skipjack's Round 2 projects. She also discussed potential environmental impacts of the Round 2 projects and described the environmental benefits of executing one of the Round 2 projects together with Skipjack Wind Phase 1.

95. Ms. Siskind discussed the comprehensive environmental review process Skipjack's Round 2 projects would face to comply with applicable statutes from multiple federal, state, local, and tribal authorities.[132] At the federal level, she stated that environmental review requirements will be met through compliance with NEPA, in support of which Skipjack will submit a COP to BOEM, which will initiate statutory consultations with other federal agencies. She testified that permits will also be sought from the U.S. Army Corps of Engineers and NOAA.

96. Ms. Siskind testified that once BOEM determines that the COP is sufficient, BOEM will issue a Notice of Intent to prepare an Environmental Impact Statement ("EIS"). During the EIS process, Ms. Siskind stated that the project will be reviewed by more than 25 federal, state, and local regulatory agencies, and that there will be multiple opportunities for public comment and involvement.[133] She further stated that the NEPA process will entail review of compliance with the Endangered Species Act, Coastal Zone Management Act, Magnuson-Stevens Fishery Conservation and Management Act, National Historic Preservation Act, Migratory Bird Treaty Act, and the Marine Mammal Protection Act.

[132] Skipjack Exhibit 8, Siskind Direct at 5.
[133] *Id*. at 6.

According to Ms. Siskind, the EIS process will conclude with the issuance of the Record of Decision, after which BOEM will approve the COP and Skipjack will be required to submit both a Facility Design Report and a Fabrication and Installation Report for BOEM's review.

97. Ms. Siskind testified that Skipjack submitted its Phase 1 SAP to BOEM in June 2018, which was approved in December 2019.[134] This resulted in the deployment in January 2020 of one floating light detection and ranging (or "FLiDAR") met-ocean buoy to record wind data. Additionally, the COP for Skipjack Wind Phase 1 was submitted to BOEM in April 2019; however, federal permitting delays in 2019 and 2020 resulted in a decline of the progression of offshore wind development projects across the industry. Ms. Siskind testified that Skipjack then made a decision to deliver Skipjack Wind Phase 1 and Skipjack Wind Phase 2.1 together, and to submit to BOEM a new COP for the Combined Projects.[135] Ms. Siskind stated that BOEM will consider viewshed impacts during its review of the COP, and Skipjack will be required to develop and submit a Visual Impact Assessment.[136]

f. *Brady Walker*

98. Brady Walker, Mid-Atlantic Market Manager for Ørsted North America Inc., a subsidiary of Ørsted A/S, testified regarding Skipjack's stakeholder outreach and engagement. He stated that he coordinates Skipjack's outreach to private and public entities that Skipjack could partner with to "expand Skipjack's commitment to establishing Maryland as a key supply chain hub for the U.S. offshore wind industry as well as a long-

[134] *Id*. at 7.
[135] *Id*. at 7-8.
[136] *Id*. at 9-10.

term member of the communities in which [Skipjack's] facilities and personnel will be located."[137] Skipjack's public engagement included a virtual open house held on July 19, 2021, to provide information to the general public regarding Skipjack Wind Phase 2.0 and 2.1.[138]

99. Mr. Walker also provided testimony regarding the tangible investments Skipjack has made in relation to Skipjack Wind Phase 1. He stated that in 2018, Skipjack opened an office in Annapolis, Maryland to employ Maryland residents and provide a home office to develop and operate Skipjack Wind Phase 1 and future wind projects.[139] Additionally, he stated that Skipjack has invested $13 million to date for upgrades at Tradepoint Atlantic, and that Skipjack has made significant progress on its Phase 1 commitment to develop a Maryland-based steel fabrication facility and locate an O&M base in the Ocean City, Maryland region.[140] He asserted that as of May 2021, Skipjack has invested nearly $40 million in Maryland in furtherance of the development and construction of Skipjack Wind Phase 1.[141] He testified that "Skipjack has fully satisfied Condition 20 of the Commission's 2017 OREC Order."[142] He argued that Skipjack's investment in Maryland through Skipjack Wind Phase 1 should give the Commission confidence that Skipjack will carry through with its proposed investments in Skipjack Wind Phase 2.1.

100. Mr. Walker testified regarding Skipjack's plans to engage small businesses and MBEs, train and utilize skilled labor, work with national and local trade unions, and

[137] *Id*. at 7.
[138] *Id*. at 10.
[139] *Id*. at 3.
[140] *Id*. at 4.
[141] *Id*. at 5.
[142] *Id*. at 4.

provide compensation consistent with Maryland regulatory requirements.[143] He testified regarding Skipjack's Supplier Diversity and MBE Plan that will ensure that Skipjack's prime contractors use techniques to promote and achieve MBE participation, and create opportunities for MBEs. Mr. Walker stated that Skipjack's contracts with vendors to perform permitting, engineering, construction, operations and maintenance work within Maryland will require that contractors use good faith efforts to achieve or exceed the State's goal of 29 percent MBE and 10 percent small business participation.[144] Additionally, Mr. Walker testified that for the procurement of components of Skipjack Wind Phase 2.1 located within Maryland, Skipjack will require its contractors to use good faith efforts to achieve or exceed the State's goal of 29 percent of in-State spend, by dollar value, from MBEs.

101. Mr. Walker testified that Skipjack would utilize skilled labor to assemble advanced foundation components at Tradepoint Atlantic, and that Ørsted signed an agreement with the North America's Building Trades Union ("NABTU"), which represents more than 3 million skilled craft professionals, for the build-out of its current and future portfolio of U.S. projects.[145] Mr. Walker testified regarding how Ørsted will support training and reskilling of workers to help them prepare for employment opportunities in the offshore wind industry.

[143] *Id*. at 12.
[144] *Id*. at 15.
[145] *Id*. at 17. Mr. Walker estimated that 2,900 hours per position will be performed with union labor related to Tradepoint Atlantic, equating to 200,100 union hours of labor.

g. *Colin Cain*

102. Colin Cain, a partner with Bates White, LLC, ("Bates White") provided testimony on behalf of Skipjack related to the cost-benefit analysis and economic impact analysis of Skipjack's proposed Round 2 projects. He testified regarding the results of the Bates White's Cost-Benefit Analysis Reports on Skipjack's Round 2, Year 1 Applications.

103. Mr. Cain's testimony, and the Bates White Reports, evaluated Skipjack's projects in relation to three key regulatory tests established under the Maryland Offshore Wind Energy Act of 2013, CEJA, and COMAR 20.61.06.02L.[146] Specifically, the tests are: (i) the project must demonstrate positive net benefits; (ii) the projected net rate impact of the project (along with all other qualified offshore wind projects) must not exceed $0.88 per month in 2018 dollars for residential customers; and (iii) the projected net rate impact of the project (along with all other qualified offshore wind projects) must not exceed 0.9% of total annual electric bills for nonresidential customers in any year over the duration of the project.

104. Mr. Cain testified that the Bates White cost-benefit analysis demonstrated that Skipjack Wind Phase 2.1 passes each of the three regulatory tests. In particular, Mr. Cain testified that the Skipjack Wind Phase 2.1 project would not exceed either the residential or the nonresidential statutory threshold. Mr. Cain reached the same conclusion with regard to the Skipjack Wind Phase 2.0 project.[147] He further stated that net benefits of the Phase 2.1 project would be approximately $1.57 billion on a net present value basis, in 2020 dollars.[148] He provided a similar analysis for Skipjack Wind Phase 2.0, finding that

[146] Skipjack Exhibit 10, Cain Direct at 3-4.
[147] *Id*. at 16.
[148] *Id*. at 4.

the Phase 2 project would provide net benefits to Maryland over the OREC period of approximately $460.3 million.[149]

105. As required by COMAR 20.61.06.02L, Mr. Cain performed an input-output analysis as part of the cost-benefit analysis, and concluded that construction of Skipjack Wind Phase 2.1 would contribute approximately $164.2 million of value added to the Maryland economy, and that the value added from operations and maintenance over the 20-year contract term would be about $351.1 million, for a total of $515.3 million (in 2020 dollars).[150] He further stated that the estimated employment impacts from construction of the Phase 2.1 project would be 1,728 full-time equivalent ("FTE") jobs.[151] He provided a similar analysis for Skipjack Wind Phase 2.0, finding that construction of the Phase 2.0 project would contribute $76 million of value to the Maryland economy, while operations and maintenance over the 20-year contract would total approximately $149.3 million, for a total of $225.3 million (in 2020 dollars).[152] He further stated that the estimated employment impacts from construction of the Phase 2.0 project would be 652 FTEs.[153]

106. Mr. Cain analyzed the pollution-related effects of the construction, operation, and decommissioning phases of the Skipjack Phase 2.1 project. He testified that the Phase 2.1 project would reduce emissions of harmful pollutants by displacing generation from other fossil fuel-fired generation plants, including carbon and sulfur dioxide, nitrogen oxide, mercury, and particulate matter.[154] The Bates White analysis estimated the value of net

[149] *Id*. at 16.
[150] *Id*. at 6.
[151] *Id*. at 7. Mr. Cain defined "job" as one full-time equivalent employment at 2,080 hours per year. *Id*.
[152] *Id*. at 17-19.
[153] *Id*. at 20.
[154] *Id*. at 9-10.

emissions-related benefits at $1.5 billion on a net present value ("NPV") basis.[155] Similarly, with regard to the Phase 2.0 project, the Bates White analysis estimated the value of net emissions-related benefits at $619.9 million on a net present value basis.[156]

107. In accordance with the PUA, Mr. Cain's analysis included an evaluation of the cost of ORECs, offsetting revenue from the projected sales of energy and capacity into the PJM wholesale markets, the avoided cost of Tier 1 REC purchases, and reduced electricity costs associated with lower energy market clearing prices in the PJM energy markets.[157] In particular, Mr. Cain testified that the project would reduce energy market clearing prices by selling energy at zero offer price into the PJM wholesale energy market, "with potentially significant price-reduction effects."[158] Mr. Cain estimated that the project would produce energy market revenue accruing to ratepayers of approximately $1.1 billion on an NPV basis.[159] He reached a similar conclusion with regard to PJM's wholesale capacity market, the annual Reliability Pricing Model ("RPM") capacity auction. He concluded that the capacity value benefit to ratepayers of the Phase 2.1 project would be approximately $57.3 million.[160] Regarding the renewable energy credit ("REC") market, Mr. Cain testified that ORECs provided by the project will displace Tier 1 REC purchases

[155] *Id*. at 10.
[156] *Id*. at 23.
[157] *Id*. at 11-12.
[158] *Id*. at 13.
[159] *Id*.
[160] *Id*. at 14. Nevertheless, Mr. Cain stated that given the complexities of PJM's capacity market, he did not attempt to estimate the potential clearing price reduction effect of the project on capacity prices. He argued that this assumption was conservative, i.e., it would understate the benefit offset to retail rate impacts. The Bates White analysis also contained the conservative assumption that it did not evaluate any potential price-reduction effects on REC markets. *Id*.

one-for-one.[161] Mr. White concluded that the NPV value of the avoided REC costs would be approximately $81.8 million.[162]

108. Regarding the Phase 2.0 project, Mr. Cain testified that the project would produce energy market revenue accruing to ratepayers of approximately $485.1 million, and that the locational marginal price ("LMP") reduction would provide an estimated $460.3 million in benefits, both on an NPV basis.[163] Mr. Cain testified that the capacity value benefit to ratepayers would be approximately $22.7 million on an NPV basis.[164] Finally, Mr. Cain testified that the NPV value of the avoided REC costs would be approximately $33.8 million.

3. Town of Ocean City

a. *Mayor Richard W. Meehan*

109. Richard W. Meehan, Mayor of the Town of Ocean City, testified on behalf of Ocean City regarding the impact that the proposed projects would have on the viewshed, economy, and property values of Ocean City.[165]

110. Mayor Meehan testified that, if wind turbines are built within Ocean City's viewshed, this could have a negative impact on the Town's tourism and economy.[166] In particular, Mayor Meehan objected to the US Wind Bid 2 and Bid 3 projects, based on their size and proximity to Ocean City.[167]

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[161] *Id*. at 14.
[162] Mr. Cain stated that the Bates White analysis did not evaluate any potential price-reduction effect on REC markets.
[163] Skipjack Exhibit 10, Cain Direct at 25-26.
[164] *Id*. at 26. Mr. Cain stated that Bates White did not attempt to estimate the potential clearing price reduction effect of the project on capacity prices.
[165] Ocean City Exhibit 4, Meehan Direct at 1.
[166] *Id*. at 2, 4.
[167] *Id*. at 5.

111. Mayor Meehan testified that Ocean City was sponsoring the testimony of Robert Sullivan on the question of the visibility of the proposed turbines from Ocean City during day and night times.[168] Based on the conclusions offered by Mr. Sullivan, discussed below, Mayor Meehan testified that Ocean City was concerned by the results found by studies conducted by North Carolina State University and the University of Delaware[169] as to the impact of visible offshore wind turbines on local economies.[170]

112. The University of Delaware study consisted of a survey of stated preferences of 1,725 beachgoers. The survey showed the survey respondents visual simulations of a wind power project, shown at varying distances of 2.5 to 20 miles, though the study noted that only distances of at least 12.5 miles were relevant for BOEM projects.[171] Survey respondents were asked to answer whether the addition of the wind power projects to the viewshed improved, worsened, or had no impact on their expected enjoyment.[172] Survey respondents were also asked about the likely impact that wind projects would have on their travel plans.[173] Based on those results, the Delaware Study estimated that at BOEM-relevant distances (at least 12.5 miles), the negative impact on viewshed is largely washed out by increased trips, including trips motivated by curiosity, and in many cases the wind power projects resulted in a net positive gain in economic terms.[174] Mayor Meehan noted

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[168] *Id*. at 3, 5.

[169] Ocean City Exhibit 5, Parsons, G. Firestone, J. 2018. *Atlantic Offshore Wind Energy Development: Values and Implications for Recreation and Tourism*. Sterling (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2018-013. 52 p. (the "Delaware Study").

[170] Ocean City Exhibit 4, Meehan Direct at 3, with attached Exhibits 1 and 7.

[171] Ocean City Exhibit 5, Delaware Study at 1.

[172] *Id*.

[173] *Id*.

[174] *Id*. at 3.

that the turbines studied in the Delaware study were 30 percent smaller than those proposed in this case.[175]

113. The North Carolina State Study also involved a survey of beach vacationers who were shown visual aids depicting wind farms at differing distances and sizes, during both day and night times.[176] The study concluded that vacation renters had a strong preference for views that did not include visible turbines, and there was no population segment willing to pay extra for views of turbines.[177]

114. In order to alleviate the impact of turbines on the Ocean City viewshed, Mayor Meehan requested that any proposed project should be located at a distance such that the top of the tower is beyond the visible horizon from any Ocean City residence, which for a 14 MW turbine would be a distance of 33.2 statute miles or 29 nautical miles.[178] Mayor Meehan identified examples of other projects in other states located further offshore than those proposed in this case and testified that US Wind and Skipjack have not provided explanation or evidence as to why such a requirement could not be followed here.[179]

115. In live testimony, Mayor Meehan disputed the testimony of US Wind witness Carr-Harris and Skipjack witness Lang regarding the value of their research on the Block Island Wind Farm.[180] He testified that Block Island involved many fewer and smaller turbines than are proposed in this case. He further testified that the homes in Block Island had a

[175] *Id*. at 4.
[176] Ocean City Exhibit 11, Lutzeyer, et al., "The Amenity Costs of Offshore Wind Farms: Evidence from a Choice Experiment" ("North Carolina Study") at 4-5.
[177] Ocean City Exhibit 11, North Carolina Study at 5.
[178] *Id*. at 6.
[179] *Id*.
[180] Hr'g. Tr. at 742-43 (Meehan).

less direct view of the turbines than in this case. He further testified that the Block Island research only looked at two months of Airbnb rental data.

116. Mayor Meehan also disputed the testimony of US Wind witness Filippelli. He testified that witness Filippelli's testimony regarding aircraft detection and lighting system ("ADLS") lights failed to mention that they have not yet been approved for this use and that witness Filippelli inaccurately described the nighttime lighting conditions in Ocean City.[181]

117. Mayor Meehan also testified that Ocean City had recently had better communications with the Applicants subsequent to the prior hearing during which the issue of communication was addressed by the Commission, though he characterized the recent meetings as one-sided, particularly with regard to the planned location of the turbines.[182]

118. Mayor Meehan testified that Ocean City wished for all turbines to be at least 30 miles from the shore of Ocean City.[183] He testified that wind farms off the coasts of competing beaches in Virginia Beach and North Carolina are 27 miles or more from the shore.[184]

b. *Robert G. Sullivan*

119. Robert G. Sullivan, a visual resource consultant, testified on behalf of the Town of Ocean City regarding the visual impact on Ocean City viewers from the proposed Phase 2 and 2.1 projects of Skipjack and the Momentum Wind Bid 3 project of US Wind.[185] Mr.

[181] *Id*. at 743-44.
[182] *Id*. at 757-59.
[183] *Id*. at 753.
[184] *Id*. at 760-61.
[185] Ocean City Exhibit 1, Sullivan Direct at 1-3.

Sullivan testified that his testimony relied in part on prior studies of visibility he conducted of existing offshore wind projects.[186]

120. Mr. Sullivan testified that the US Wind Momentum Project's most distant turbines, located 22 miles from shore, would be 70 percent visible from the water's edge, with more elevated viewers having even clearer views.[187] Mr. Sullivan also presented exhibits showing simulations developed by a consultant hired by Ocean City to demonstrate the visual impact of the Momentum Project.[188] Based on those exhibits, Mr. Sullivan testified that the Momentum Project turbines would partially or fully block clear views of the ocean from the shoreline of Ocean City.[189] Mr. Sullivan also testified that they would be visibly artificial, create visual contrast, and draw visual focus, particularly for any turbines that break the horizon, and that the motion of the blades would increase this effect beyond what is shown in the exhibits.[190] Mr. Sullivan also testified that the Momentum Project towers would have high visibility from shore at night because of the aerial hazard navigation lighting, which he testified would create a result resembling a flashing string of Christmas tree lights.[191]

121. Mr. Sullivan testified that the Skipjack Projects, including the nine turbines of Skipjack's Phase I project, would be easily viewable from the entire shoreline of Ocean City in clear conditions and some overcast conditions, both day and night.[192] He testified

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[186] *Id*. at 3-4.
[187] *Id*. at 6.
[188] *Id*. at 7.
[189] *Id*.
[190] *Id*. at 9-10.
[191] *Id*. at 11.
[192] *Id*. at 18.

that, from the water's edge, a viewer would be able to see 77 percent of the blade tip height and 60 percent of the turbine tower of the nearest turbine, located 20 miles offshore.[193] The same viewer would also be able to see 57 percent of the farthest turbine, located 26 miles offshore.[194] He testified that, as a result, the closest turbines would be "plainly visible" from the water's edge, while the hubs of the most distant turbines would be below the horizon, effectively minimizing impacts from those turbines, though visual impact would increase for occupants of the upper floors of tall buildings.[195] He testified that, for viewers in the northern part of Ocean City, the Skipjack projects would occupy a substantial amount of the horizon and draw and hold visual attention at night, because of the visible flashing aerial hazard navigation lighting, but that because of the greater distance, smaller number of turbines, and smaller portion of the horizon occupied, the lighting effects would be substantially smaller than those associated with the US Wind Momentum Project.[196] He testified that, for viewers in the southern part of Ocean City, the change in angle away from the center of view and the increased distance would decrease visual prominence of the Skipjack Projects, which would remain visible but not dominate the otherwise clear view of the ocean.[197]

122. Mr. Sullivan testified that the cumulative impact of both the Skipjack and US Wind projects would be "very large" and "completely transformative," particularly for viewers in northern Ocean City.[198] He testified that the lights of the different projects would not be

[193] *Id*. at 14-15.
[194] *Id*. at 15.
[195] *Id*.
[196] *Id*. at 16-17.
[197] *Id*. at 17.
[198] *Id*. at 20, 23.

synchronized and would appear as random flashing patterns at night, causing visual clutter.[199]

123. In live testimony, Mr. Sullivan testified that he had since reviewed the visual simulations produced by US Wind and Skipjack.[200]

124. Mr. Sullivan testified that the Skipjack and US Wind simulations significantly under-represent the visual prominence of the project because of their inability to depict blade motion, which prior study had shown to contribute significantly to visual prominence at distances up to 21 miles.[201] Mr. Sullivan also testified that Skipjack's decision to show cloudy weather in its simulation of a sunrise view and US Wind's decision to show cloudy weather in its afternoon sunset view do not reflect the visual contrast of the projects on days with clear skies.[202]

125. Mr. Sullivan also testified in response to the rebuttal testimony of US Wind witness DeHainaut. He testified that Mr. DeHainaut's objections to the use of December 21 in Ocean City's simulation unfairly emphasizes the importance of the day of the year, which is less important than time of day in determining visual impact.[203] Mr. Sullivan also testified that Mr. DeHainaut's objections to the alignment of the turbines in Ocean City's simulations unfairly ignore the fact that the chosen alignment is not unusual and represents the worst case scenario that can be reasonably expected to occur with some frequency.[204] Mr. Sullivan also testified that while panoramic simulation can better show context, the

[199] *Id*. at 22-23.
[200] Hr'g. Tr. at 765-66 (Sullivan).
[201] *Id*. at 767-68, 771-72.
[202] *Id*. at 769, 772-73.
[203] *Id*. at 773-74.
[204] *Id*. at 775-76.

downsides of panoramic simulation, versus single frame, are that it causes a lack of detail unless shown at a very large size and that it creates spatial distortion.[205]

4. US Wind Rebuttal to Ocean City

a. *Andrew Carr-Harris*

126. Andrew Carr-Harris, an economist with ECS Federal, testified on behalf of US Wind in response to the testimony of Ocean City Mayor Richard Meehan, specifically with regard to the studies relied on by Mayor Meehan and to present his own research on the effects of offshore wind farms on tourism activity.[206]

127. Dr. Carr-Harris criticized the Delaware and North Carolina studies relied on by Mayor Meehan, testifying that both studies suffered from most or all of the respondents having never seen an actual wind farm and from being surveys of stated preferences, which may not reflect actual behavior.[207]

128. Regarding the North Carolina study, Dr. Carr-Harris also questioned whether the study's decision to sample historic renters at a specific location created a sampling bias that did not consider the impact of the wind farm on possible future renters.[208]

129. Regarding the Delaware study, Dr. Carr-Harris testified that the authors of the study found it appropriate to treat respondents who indicated that an offshore wind farm would be "somewhat worse" or "somewhat better" as lacking commitment and re-grouped those responses into the "neither" category, which resulted in only 7 percent of respondents reporting that an offshore wind farm located 12.5 miles offshore would make their

[205] *Id*. at 776-80.
[206] US Wind Exhibit 11, Carr-Harris Rebuttal at 1-2.
[207] *Id*. at 3-4.
[208] *Id*. at 6.

experience worse.[209] Dr. Carr-Harris also testified that the Delaware study found that for wind farms 12.5 miles or more from shore, the net impact was positive in terms of the number of trips taken, for small and medium-sized beaches.[210]

130. Dr. Carr-Harris also testified that, contrary to Mayor Meehan's testimony regarding loss of property value, the only peer-reviewed scientific paper that examines the impact of offshore wind farms on property values using observational data showed no effect from two Danish offshore wind farms.[211]

131. Dr. Carr-Harris also testified that research conducted by himself and Skipjack witness Corey Lang on the impact of the Block Island Wind Farm found a positive effect on the local tourism economy.[212]

b. *Scott DeHainaut*

132. Scott DeHainaut, Manager of GIS and Data Analysis Services for ESS Group, testified on behalf of US Wind regarding the processes and technical approach used to produce visual simulations of US Wind's project and regarding the simulations presented by Ocean City. Regarding Ocean City's simulations, Mr. DeHainaut offered several criticisms.

133. Mr. DeHainaut disagreed with Ocean City's decision to base its simulations on lighting conditions occurring on December 21, which he explained was a distortion from normal conditions because the low angle of the sun would result in longer shadows, which would enhance the appearance of the turbines.[213] He disagreed with Ocean City's decision

[209] *Id*. at 7.
[210] *Id*. at 8.
[211] *Id*. at 10-11.
[212] *Id*. at 14.
[213] US Wind Exhibit 10, DeHainaut Rebuttal at 10.

to portray the turbines as oriented perpendicular to the beach, thus presenting the largest appearance possible, explaining that the prevailing coastal wind would tend to turn the turbines into other alignments, resulting in a diminished visual impact.[214]

134. Mr. DeHainaut also disagreed with Ocean City's decision to portray the turbines in landscape photographs, which he testified did not reflect the viewed in-person experience.[215] He testified that a larger field of view, such as through panoramic photography, was necessary to evaluate the likely visual impact.[216]

135. In live testimony, Mr. DeHainaut testified that if prevailing wind conditions were occurring, the turbines would turn nearly perpendicular to the shore, creating an almost edge-on perspective of the blades.[217]

c. *Matthew Filippelli*

136. Matthew Filippelli, technical director of US Wind, also testified on behalf of US Wind regarding the potential nighttime visibility of US Wind's project lighting. Mr. Filippelli testified that BOEM requires offshore wind facilities sited on the outer continental shelf to employ a lighting and marking scheme to provide for safe navigation of aviation and maritime traffic.[218]

137. Mr. Filippelli testified that he disagreed with Ocean City witness Sullivan's testimony regarding the nighttime visibility of the US Wind turbines. Mr. Filippelli testified that the turbines will utilize a Federal Aviation Administration ("FAA")-approved ADLS that only lights the turbines when aircraft are detected and leaves the turbines unlit

[214] *Id*. at 10.
[215] *Id*. at 10-12.
[216] *Id*. at 11-13.
[217] Hr'g. Tr. at 682 (DeHainaut).
[218] US Wind Exhibit 5, Filippelli Rebuttal at 1-2.

for potentially as much as 90 percent of nighttime hours.[219] Mr. Filippelli testified that the use of the ADLS undercuts Mr. Sullivan's concerns about nighttime lighting, which were not based on the use of ADLS.[220]

138. Mr. Filippelli also testified that the Ocean City witnesses failed to acknowledge the observable ambient lighting of Ocean City itself as well as the presence of lights on passing ships (averaging three to four per night) traveling at night, which already illuminate the nighttime sky in the Ocean City region.[221]

139. In live testimony, Mr. Filippelli testified that, while ADLS is not currently approved, the offshore window industry is expecting that it will be approved for use in this project as well as others around the country.[222]

5. Skipjack Rebuttal to Ocean City

a. *Corey Lang*

140. Corey Lang, Associate Professor of Economics at the University of Rhode Island, testified on behalf of Skipjack in response to the testimony of Ocean City Mayor Richard Meehan regarding the effects of offshore wind on tourism and the local vacation rental market. Dr. Lang relied in his testimony on the recent literature, including research he personally conducted on the effects of the Block Island offshore wind farm on tourism and vacation rentals.[223]

141. Dr. Lang testified that the Block Island wind farm was only approximately three nautical miles from shore and was thus more visible and prominent than the turbines

[219] *Id*. at 2-6.
[220] *Id*. at 6.
[221] *Id*. at 6-7.
[222] Hr'g. Tr. at 567-68 (Filippelli).
[223] Skipjack Exhibit 13, Lang Rebuttal at 3-4.

proposed by Skipjack in this case.[224] Dr. Lang testified that his research on the Block Island Wind Farm found that it had a positive effect on the local vacation rental market, including a statistically significant $3,490 increase in monthly rental revenue per property during peak tourism season.[225] Dr. Lang testified that the Block Island case is more likely to reflect a realistic outcome than the research relied on by Mayor Meehan because it is based on the behavior of real people in real situations, rather than a survey of hypothetical situations where respondents may not know their true preferences or may be dishonest.[226]

142. Dr. Lang testified that he also reviewed 12 other studies published since 2010 that relate to the topic of offshore wind and its potential impact on tourism. Dr. Lang summarized the results of those studies in his testimony and concluded that offshore wind facilities such as the Skipjack Project are unlikely to have any negative impacts on tourism and vacation rental properties.[227] He also testified that the research showed that negative tourism impacts decrease as distance increases, with some studies finding a turning point, between 5-15 miles from shore, beyond which wind farms have a net positive impact on tourism and rental markets.[228] He further testified that the study relied on by Mayor Meehan was an outlier compared to the other studies he reviewed.

143. In live testimony, Dr. Lang testified that of those studies he reviewed that studied multiple distances, the point where visual impact ceased to be a negative tended to be before 15 miles from shore, and sometimes considerably closer than that.[229] Dr. Lang also

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[224] *Id*. at 10.
[225] *Id*. at 5.
[226] *Id*. at 7-8.
[227] *Id*. at 15-21.
[228] *Id*. at 22.
[229] Hr'g. Tr. at 375-77 (Lang).

testified that the studies he reviewed considered smaller turbines than proposed here, and he thought if the studies were redone with the larger turbine then that could affect the results.[230] Dr. Lang also testified that in his research on the Block Island wind farm, only a small proportion of the studied properties had direct views of the turbines.[231]

b. *Gordon Perkins*

144. Gordon Perkins, Senior Project Manager and Visualization Specialist for Environmental Design & Research, Landscape Architecture, Engineering, and Environmental Sciences, D.P.C., testified on behalf of Skipjack in response to the testimony of Ocean City witness Robert Sullivan.

145. Mr. Perkins testified that Mr. Sullivan's testimony regarding the visual impact of Skipjack's proposed turbines was based on studies that did not conform with BOEM's current visual assessment guidelines, did not consider turbines of the size now proposed by Skipjack, did not explicitly evaluate the effect of weather/sky conditions, and relied on a limited dataset.[232] Mr. Perkins also testified that Mr. Sullivan's assessment was made without the benefit of visual simulations of the Skipjack Round 2 Project and made inaccurate assumptions about the location of the proposed turbines.[233]

146. Mr. Perkins testified that an assessment of past weather conditions of a six-year period suggests that visibility will not extend beyond a distance of 10 miles during approximately 17 percent of all daylight hours and during approximately 23 percent of all

[230] *Id*. at 379-80.
[231] *Id*. at 384-85.
[232] Skipjack Exhibit 7, Perkins Rebuttal at 4.
[233] *Id*. at 5.

nighttime hours, with overcast conditions occurring during as much as 38 percent of daylight hours in Ocean City.[234]

147. Mr. Perkins also testified that Mr. Sullivan's reliance on study data showing that blade movement contributed substantially to visual contrast at distances of 10 miles or less was not appropriate in this case, where turbine blades would be viewed from over twice that distance, and that the 200 percent increase in blade widths would be extremely difficult to perceive.[235] Mr. Perkins also testified that Mr. Sullivan's testimony that the turbines would attract and hold viewer attention improperly relied on study data showing that wind turbines attracted and held viewer attention only when turbines were less than 10 miles from shore, less than half the distance of the proposed Skipjack turbines from shore.[236] Mr. Perkins also testified that Mr. Sullivan failed to account for the other visual attractions present at the Ocean City shoreline, which would draw attention away from the turbines.[237]

148. Mr. Perkins also presented his own visual simulations of the Skipjack Round 2 Projects. In live testimony, Mr. Perkins testified that sunrise and sunset are typically noted as the highest potential visibility times of day for offshore wind turbines because atmospheric lighting is subdued and the sun creates a high degree of contrast when the turbines are viewed against it.[238] He also testified that, while the flashing lights on the turbines would attract visual attention, it would likely be less obtrusive than the lights from

[234] *Id*. at 6.
[235] *Id*. at 7.
[236] *Id*. at 8.
[237] *Id*. at 9.
[238] Hr'g. Tr. at 179.

visible ships.[239] He also testified that there remains some question about when and whether regulators will approve the use of ADLS lighting on offshore wind turbines.[240]

6. Office of People's Counsel

a. *Maximilian Chang*

149. Maximilian Chang, Principal Associate with Synapse Energy Economics, testified on behalf of OPC regarding the projected ratepayer impacts of the US Wind and Skipjack applications. Mr. Chang testified that ICF and US Wind used a methodological approach for forecasting energy prices that is reasonable, although ICF's input assumptions appeared more transparent to Mr. Chang than the documentation provided by US Wind.[241] In contrast, he testified that Skipjack's methodology for energy price forecasting did not utilize production cost modeling to support its conclusions.

150. Mr. Chang asserted that ICF's production cost modeling methodology to forecast energy prices is reasonable. However, he testified that ICF's projection of no capacity price mitigation impacts may understate possible capacity price mitigation benefits attributable to the project.[242] For example, he stated that ICF used ELCC values that PJM had subsequently updated. Specifically, ICF used a capacity credit of 27% through 2028 and 21% thereafter, even though PJM revised its estimate for the ELCC for offshore wind to be 35% in 2026 falling to 30% in 2031. Mr. Repsher asserted that "ICF's projected capacity revenues as currently presented would understate projected capacity revenues..."[243]

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[239] *Id*. at 180-182.
[240] *Id*. at 185-188.
[241] OPC Exhibit 1, Chang Direct at 2-3.
[242] *Id*.
[243] *Id*. at 25.

151. Mr. Chang testified that based on ICF's current evaluation analysis, US Wind's Bid 1 appears to meet the State's ratepayer impact requirements for both residential and non-residential customers. However, none of the Skipjack bids meet ICF's calculations for residential and non-residential rate impacts based on Skipjack's then current OREC price.[244] He asserted that US Wind's Bid 2 and Bid 3 both meet the residential rate impact requirements but both fail on the non-residential rate impact based on US Wind's current OREC prices and ICF's calculations. Mr. Chang observed that the Applicants' bids pass the ratepayer tests using the Applicants' own respective methodologies.[245] Mr. Chang asserted that the Applicants' proposed OREC prices reflect technological advances in the offshore wind industry, federal tax incentives, and economies of scale associated with the larger-sized bids.[246]

152. If approved, Mr. Chang recommended that the Commission require awardee(s) to share cost savings from any future transmission cost savings attributable to transmission solutions that result from a regional and/or federal approach to integrate offshore wind transmission that is outside the current radial transmission approach.[247]

7. The Business Network for Offshore Wind

a. *Elizabeth Burdock*

153. Elizabeth Burdock, Chief Executive Officer and President of the Network, testified that the Network "is a nonprofit, educational organization with a mission to develop the offshore wind renewable energy industry and its supply chain."[248] She stated that the

[244] *Id*. at 12.
[245] *Id*. at 14.
[246] *Id*. at 13.
[247] *Id*. at 22.
[248] Network Exhibit 1, Burdock Direct at 3.

Network interacts with U.S. offshore wind supply chain participants and provides educational and technical information and business-to-business partnering services to expand member expertise and capacity to work in the global and domestic offshore wind supply chain.[249]

154. Ms. Burdock testified that global demand for offshore wind is being driven by climate change realities and a desire for economic development, and that offshore wind is a key driver of the transition to large-scale decarbonized electricity grids.[250] She asserted that the Round 2 proceeding to procure more offshore wind presents an opportunity to keep Maryland on track to meet its renewable portfolio strategy goals while also delivering significant economic development in the State.[251]

155. Ms. Burdock testified that the domestic and global offshore wind industry is facing a significant increase in demand, which will require the offshore industry to scale up rapidly, requiring new companies to enter the offshore wind supply chain. She asserted "this means diversification, entrepreneurship, and opportunity for U.S. and Maryland companies, big and small."[252] She further stated that Round 1 of OREC authorizations had the intended effect of spurring development of an offshore wind supply chain in Maryland, and that the new proposals by US Wind and Skipjack would build on Round 1 investments and create new jobs in Maryland, helping the State become a major player in the growing U.S. market for offshore wind.[253] Nevertheless, she asserted that Maryland's offshore wind

[249] *Id*. at 5.
[250] *Id*. at 6-7.
[251] *Id*. at 8.
[252] *Id*. at 13.
[253] *Id*. at 14-15.

goals are currently second to last among active offshore wind states, and that "[t]he best way for Maryland to remain competitive in pursuit of economic development is through procurement commitments…"[254]

156. As a new industry, Ms. Burdock testified that offshore wind has the potential to break traditional models and patterns that historically excluded small, minority, women-owned, and veteran-owned businesses.[255]

157. In its OREC order, Ms. Burdock requested that the Commission encourage the developer(s) to: (i) advise local suppliers to take advantage of the State's underwriting of the Foundation 2 Blade training and attend training sessions; and (ii) engage Maryland higher educational institutions to explore research and development ("R&D") projects that can enhance the knowledge depth and expertise of the Maryland academic institution, stimulating entrepreneur growth and adding skilled workers to the industry.[256]

8. Sierra Club and the Maryland League of Conservation Voters

a. *Catherine Bowes*

158. Catherine Bowes, the Offshore Wind Energy Program Director for the National Wildlife Federation ("NWF"), testified on behalf of the Sierra Club and the Maryland League of Conservation Voters ("Sierra/MDLCV"). She testified that advancing offshore wind power "is a top priority of [the National Wildlife Federation's] Climate and Energy Program," and that the organization has been working nationally "to build political and public support for the policies and actions needed at the state and federal level to bring this

[254] *Id*. at 18.
[255] *Id*. at 24.
[256] *Id*. at 29.

critically needed clean energy source online in a manner that is protective of our coastal and marine wildlife."[257]

159. Ms. Bowes testified that offshore wind provides a tremendous opportunity for states to fight climate change, reduce local and regional air pollution, and grow a new industry that will support thousands of well-paying jobs in both coastal and inland communities. Nevertheless, she stated that offshore wind must be developed with strong protections in place for coastal and marine wildlife.[258] She asserted that mitigation measures must be available for potentially affected species, such as the North Atlantic Right Whale, which migrates along the east coast and has the potential to interact with offshore wind development activities planned from the Carolinas through the Gulf of Maine.[259]

160. Ms. Bowes testified that New Jersey, New York, and Connecticut require prospective bidders to include detailed environmental mitigation plans with their project bids that describe the potential impacts of their projects and their plans to mitigate them, including specific reference to collection of pre-, during- and post-construction wildlife data.[260] Ms. Bowes asserted that New York and New Jersey also require selected projects to contribute funds for regional research needed to assess and avoid potential impacts to fish and other wildlife. Specifically, these states include, as a condition of their OREC contracts, a $10,000 per MW contribution to regional wildlife and fisheries research needed to assess potential impacts and effectiveness of mitigation strategies. Ms. Bowes testified

[257] Sierra/MDLCV Exhibit 2, Bowes Direct at 1.
[258] *Id*. at 6.
[259] *Id*. at 8-9. Mitigation measures to protect such species could include avoiding or minimizing underwater noise impacts, time-of-day or seasonal noise restrictions, exclusion zones, use of protected species observers, and restricting vessel speeds, according to Ms. Bowes.
[260] Sierra/MDLCV Exhibit 2, Bowes Direct at 10-11.

that this research is critical for driving innovations within the industry to advance solutions that can avoid or minimize impacts.[261]

161. Ms. Bowes concluded that the Commission should: (i) require winning bidders to contribute to regional research as a condition of their contracts; and (ii) require comprehensive environmental mitigation plans be submitted with bids and include specific language holding developers accountable to them in the OREC contracts.

9. Staff

a. *Craig Taborsky*

162. Craig Taborsky, assistant chief engineer for the Commission, provided testimony about the technical impacts related to the offshore wind projects proposed by US Wind and Skipjack and the effect that they would have on the reliability and stability of the electric system in Maryland.[262] He stated that US Wind has initiated an interconnection process with PJM and holds two queue positions (AG2-347 and AG2-348), which will accommodate the new generation of each proposed project, including the maximum 1,205.4 MW project US Wind identified as Bid 3.[263] US Wind's projects would have a primary point of interconnection ("POI") with the Delmarva Power and Light ("DPL") transmission system at the Indian River 230 kV substation.

163. Mr. Taborsky testified that PJM's Feasibility Study results are anticipated no later than January 31, 2022. Additionally, he stated that as part of the interconnection process, PJM will conduct the System Impact Study and Facilities Study analysis to confirm the

[261] *Id*. at 11-12.

[262] Due to the unavailability of Staff witness Christopher Lo during the scheduled evidentiary hearings, the pre-filed testimony of Mr. Lo was adopted by Staff witness Craig Taborsky. *See* Staff's October 21, 2021 Substitution of Witness, Maillog No. 237530.

[263] Staff Exhibit 3, Taborsky Direct at 3.

ability to interconnect the project to the DPL system and provide estimates for the costs for network upgrades and reinforcements required to support the interconnection.[264] Mr. Taborsky further provided that US Wind will furnish an Interconnection Service Agreement ("ISA") and a Construction Service Agreement ("CSA") with PJM and DPL prior to the commencement of construction.

164. Regarding Skipjack, Mr. Taborsky testified that Skipjack holds multiple queue positions with PJM for its Phase 2 Project. He stated that the queue positions associated with Skipjack's Phase 2 Project include AF2-193, which was evaluated as a 440 MW injection at the Indian River 230 kV Substation in the DPL area; AG1-087, which was evaluated as a 440 MW injection tapping the Milford-Cartanza 230 kV Line in the DPL area; AG2-108, which was evaluated as a 460 MW tapping the Cool Springs 230 kV Line.[265] A System Impact Study result for AF2-193 was issued in February 2021. A Feasibility Study for AG1-087 was issued in January 2021 and a System Impact Study was completed by PJM in October 2021.[266]

165. Mr. Taborsky testified that the queue positions associated with the Phase 2.1 Project are AF2-194 and AG2-342, with a total of 880 MW combined capacity. He stated that the System Impact Study for AF2-194 was completed in February, which evaluated a 440 MW injection into DPL's transmission system at the Indian River 230 kV substation. AG2-342 was evaluated as a 440 MW injection into the Milford–Cool Springs 230 kV Line in the

[264] *Id*. at 3-4.
[265] *Id*. at 4-5.
[266] Hr'g. Tr. at 823 (Taborsky).

DPL area. He stated that the Feasibility Study results for AG2-108 and AG2-342 have not been completed yet.

166. Mr. Taborsky asserted that Skipjack is expected to complete the PJM interconnection process, which will include a System Impact Study, Facilities Study, ISA and CSA, prior to the commencement of construction. The results of these studies and agreements will confirm the ability to interconnect the project to DPL's transmission system and provide estimates for the costs for network upgrades and reinforcements required to support the interconnection.

167. Mr. Taborsky concluded that the Applicants' electrical system designs and interconnection plans are reasonable.[267] He asserted that Staff has no concerns regarding the effects of these offshore wind projects on the reliability and stability of the electric system in Maryland.

168. Mr. Taborsky testified about the Applicants' wind turbine generator selection, noting that Skipjack's Phase 2.1 and US Wind's Bids are currently designed to utilize the GE Haliade-X 14 MW turbine.[268] Mr. Taborsky stated that the 14 MW model is optimized to produce more power in the low to medium wind speeds that are frequent in the Delaware and Maryland wind energy areas, and that the Haliade-X 14 MW "provides the most efficient energy capture for the project site. It will have a higher average power output and thereby will provide more clean energy to the grid than the lower rated capacity turbines."[269] He testified that the Haliade-X 14 MW model is designed for low service and

[267] Staff Exhibit 3, Taborsky Direct at 10.
[268] *Id*. at 7.
[269] *Id*.

maintenance in offshore conditions. By producing more power per turbine, Mr. Taborsky concluded that Skipjack and US Wind can reduce the number of foundation locations and minimize the seabed footprint of the projects.

169. Mr. Taborsky recommended that if the Commission grants ORECs to either Applicant, it should require them to file the ISA and CSA executed for the project(s) with the Commission prior to commencement of construction.[270] He also recommended that the Commission require any successful applicant to provide quarterly progress reports on the status of the proposed offshore wind projects' development.

b. *Drew M. McAuliffe*

170. Drew M. McAuliffe, Director of the Commission's Electricity Division, evaluated the level of compliance of the projects proposed by US Wind and Skipjack with PUA § 7-704.1(d)(1)(vii-x) and PUA § 7-19 704.1(d)(4-5), as required by PUA § 7-704.1.[271]

171. Mr. McAuliffe testified that both Applicants fully complied with the relevant statutory requirements. He stated that both US Wind and Skipjack met the requirements of PUA § 7-704.1(d)(1)(vii) by detailing in testimony and in response to Staff data requests how they will engage with small businesses in Maryland and work with vendors to achieve small business participation goals.[272] He also testified that Skipjack formulated a supplier diversity plan, which has been approved by the Governor's Office of Small, Minority & Women Business Affairs. Mr. McAuliffe noted that Skipjack has provided a goal of 29

[270] *Id*. at 11.
[271] Staff Exhibit 2, McAuliffe Direct at 2.
[272] *Id*. at 3, 7-8.

percent MBE participation, while US Wind has provided a goal of 15 percent participation.[273]

172. Mr. McAuliffe testified that US Wind and Skipjack complied with Maryland PUA § 7-704.1(d)(1)(viii) and (ix) by detailing how they intend to use skilled labor on the various aspects of their projects, including construction and manufacturing. Mr. McAuliffe stated that US Wind is in discussions with United Steelworkers to complete staffing at its Sparrows Point steel fabrication facility, and that US Wind has memoranda of understanding ("MOU") with the Building and Construction Trade Council and with the International Brotherhood of Electrical Workers.[274] Mr. McAuliffe observed that Ørsted has relationships with the American Federation of Labor, the Congress of Industrial Organizations, North America's Building Trades Union ("NABTU"), and the Baltimore DC Metro Building and Construction Trades Council, which facilitates Skipjack's utilization of skilled labor in its projects.[275]

173. Mr. McAuliffe testified that US Wind and Skipjack complied with PUA § 7-704.1(d)(1)(x), by explaining how they will compensate their employees and subcontractors consistent with Title 17, Subtitles 201 through 228 of the State Finance and Procurement Article.[276] He also testified that US Wind and Skipjack complied with PUA § 7-704.1(d)(4), regarding the good faith efforts of each applicant seeking investors to attract minority investors.[277] Finally, Mr. McAuliffe testified that US Wind and Skipjack

[273] *Id*. at 3-4 and 8.
[274] *Id*. at 8-9.
[275] *Id*. at 4.
[276] *Id*. at 6 and 9.
[277] *Id*. at 6 and 10.

will comply with the requirements of PUA § 7-704.1(d)(5). Each Applicant has stated that they will sign an MOU with the Commission and skilled labor organizations that requires them to follow their planned use of skilled labor.[278]

c. *Kevin D. Mosier*

174. Kevin D. Mosier, Assistant Director of the Commission's Energy Analysis and Planning Division, testified about existing approved offshore wind projects, as well as the cost of offshore wind compared to other generating sources, both renewable and non-renewable. Mr. Mosier also compared the expected costs of ORECs with costs of Tier 1 renewable energy credits ("RECs").[279]

175. Mr. Mosier testified about the price of electricity from offshore wind compared to the cost of electricity from other sources, finding that offshore wind is relatively more expensive than electricity generated from most other types of large-scale generators.[280] Mr. Mosier also discussed how OREC and Tier 1 REC prices compare, testifying that Tier 1 RECs are generally well below the OREC prices proposed by US Wind and Skipjack. Nevertheless, he asserted that Solar REC prices ("SRECs") have been in the range of the proposed OREC prices.[281] Mr. Mosier noted that the offshore wind requirements are a carve-out from Tier 1 RECs, so any OREC requirement would lower the number of Tier 1 RECs required by an equal amount, such that "the OREC carve out will effectively substitute ORECs for Tier 1 RECs."[282]

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[278] *Id*. at 7 and 10.
[279] Staff Exhibit 1, Mosier Direct at 1.
[280] *Id*. at 2. Mr. Mosier noted an exception is residential rooftop solar, which is significantly more expensive per megawatt than offshore wind.
[281] Staff Exhibit 1, Mosier Direct at 4.
[282] *Id*.

10. Maryland Energy Administration

a. *Samuel Beirne*

176. Samuel Beirne, an Energy Program Manager at the Maryland Energy Administration, testified about use of offshore wind funds, the proposed wind turbine generators, economic impacts, and recommended conditions.

177. Mr. Beirne stated that PUA § 7-704.1(h) requires a qualified offshore wind project applicant to deposit $6 million into the Maryland Offshore Wind Business Development Fund ("OSWBDF") upon being selected for an OREC award. He stated that the OSWBDF is housed within and administered by MEA, and is primarily used as a source of funding for MEA's offshore wind supply chain and workforce training initiatives.[283] He provided that MEA uses these funds for the Maryland Offshore Wind Capital Expenditure Program and the Maryland Offshore Wind Workforce Training Program.

178. Mr. Beirne testified that MEA "is comfortable" with the Applicants' wind generation turbine selection, noting that the GE Haliade-X 12 MW turbine was considered during the Commission's evidentiary hearing regarding Ørsted's turbine selection change for the Skipjack Wind Phase 1 project in Case No. 9629, and that the Commission approved that turbine selection in Order No. 89622.[284]

179. Mr. Beirne also testified about the economic impacts of the proposed projects, asserting that the projects would help diversify Maryland's economy.[285] He observed that

[283] MEA Exhibit 1, Beirne Direct at 2.

[284] *Id*. at 5, citing Case No. 9629, *Skipjack Offshore Energy, LLC's Qualified Offshore Wind Project's Compliance with Conditions Approved in 2017*, Commission Order No. 89622, Order Approving Turbine Selection.

[285] MEA Exhibit 1, Beirne Direct at 7.

the net rate impact of Ørsted projects are nearly double that of US Wind's projects when comparing projects of similar size capacity.[286]

180. Mr. Beirne testified that the Commission should require certain conditions of any successful OREC recipient. First, Mr. Beirne asserted that New Jersey and New York require that offshore wind developers contribute funding for research initiatives and fishery and wildlife monitoring in the amount of $10,000 per MW of an approved project.[287] He contended that the Commission should require funding in the same amount in this case, in order to maintain consistency across multiple states with similar conditions. He also argued that the logical home for any research funds would be the Offshore Wind Generation Fund, which the Commission created in 2012 through Order No. 84968 in Case No. 9271.[288] Mr. Beirne stated that the Offshore Wind Generation Fund is housed within the Strategic Energy Investment Fund ("SEIF"), which is administered by MEA.

II. LEGAL STANDARD APPLICABLE TO THIS PROCEEDING

181. In 2019, the Maryland General Assembly passed CEJA, which augmented the offshore wind energy goals that had previously been set by the Maryland Offshore Wind Energy Act of 2013, which in turn led this Commission to approve ORECs in Round 1 to enable the construction of 368 MW of offshore wind capacity.[289] In passing CEJA, the General Assembly codified its findings of benefits stemming from offshore wind, stating: "(i) The development of offshore wind energy is important to the economic well–being of

[286] *Id*. at 12.
[287] *Id*. at 14.
[288] *Id*., citing Case No. 9271*, In the Matter of the Merger of Exelon Corporation and Constellation Energy Group, Inc.*, Order No. 84698, at 14, 54, 97, 98, and 114.
[289] *See* Order No. 88192 at 1.

the state and the nation, and (ii) it is in the public interest of the state to facilitate the construction of at least 1,200 megawatts of round 2 offshore wind projects…"[290] The benefits of offshore wind enumerated by the General Assembly include (i) positioning Maryland to take advantage of the economic development benefits of the emerging offshore wind industry; (ii) promoting the development of renewable energy sources that increase the nation's independence from foreign sources of fossil fuels; (iii) reducing the adverse environmental and health impacts of traditional fossil fuel energy sources; and (iv) providing a long-term hedge against volatile prices of fossil fuels.[291]

182. The Act contains detailed contents that any eligible application filed with the Commission must contain,[292] which are discussed below with regard to US Wind and Skipjack. Once an application is deemed complete, the Commission is directed to open an application period when other interested persons may submit additional applications for approval of Round 2 offshore wind projects. The Commission is specifically directed to provide Round 2 application periods beginning on January 1, 2020, for consideration of Round 2 offshore wind projects to begin creating ORECs no later than 2026.[293] The Commission is additionally directed to provide Round 2 application periods beginning on January 1, 2021, for consideration of Round 2 offshore wind projects to begin creating ORECs no later than 2028; and January 1, 2022, for consideration of Round 2 offshore

[290] PUA § 7-704.1(a)(1). Similarly, CEJA provides under PUA § 7-702(b)(3) that "the state needs to increase its reliance on renewable energy in order to (i) reduce greenhouse gas emissions and meet the state's greenhouse gas emissions reduction goals under § 2–1205 of the Environment Article; and (ii) provide opportunities for small, minority, women–owned, and veteran–owned businesses to participate in and develop a highly skilled workforce for clean energy industries in the state."
[291] PUA § 7-704.1(a)(1).
[292] PUA § 7-704.1(c).
[293] PUA § 7-704.1(a)(4).

wind projects to begin creating ORECs no later than 2030. After the filing of an offshore wind application and the expiration of the application period, the Commission is required to approve, conditionally approve, or deny an application within 180 days after the close of the application period.[294]

183. In this case, the Commission received a Round 2 application on December 10, 2020, and ICF determined that the submitted application was administratively complete on December 22, 2020.[295] Also on December 22, 2020, the Commission provided notice of the commencement of the Round 2, Year 1 Application Period, which opened a 180-day window during which time other persons were permitted to submit applications.[296] The Application Period concluded on June 21, 2021.[297] The Commission is required to issue an order on the Applications by December 18, 2021.[298]

184. The PUA contains detailed criteria for evaluation and comparison of the proposed projects, including 13 enumerated criteria and a 14th criterion permitting the Commission to consider any other appropriate standard.[299] The Commission's evaluation of these criteria for the US Wind and Skipjack Applications is discussed below. In evaluating and comparing the proposed offshore wind projects, the PUA directs the Commission to

[294] PUA § 7-704.1(b).
[295] According to COMAR 20.61.01.03(B)(1-1), the term "administratively complete" means that the Commission has determined an application to contain the information described in §§ D through N of COMAR 20.61.06.02.
[296] The Notice invited any party interested in submitting a proposed offshore wind project application to visit the dedicated website hosted by ICF on behalf of the Commission, at: https://www.mdoffshorewindapp.com.
[297] COMAR 20.61.06.01(B)(4) provides that the closing date of the application period shall be 180 calendar days after the Commission issues the notice to the public that it is accepting applications.
[298] PUA § 7-704.1(b).
[299] PUA § 7-704.1(d)(1).

contract for the services of independent consultants and experts, which the Commission fulfilled by contracting for the services of ICF, discussed above.

185. The PUA contains several requirements that must be met in order to approve a Round 2 offshore wind project.[300] In particular, for any Round 2 application, the projected incremental net rate impact for an average residential customer, (based on annual consumption of 12 megawatt-hours), combined with the projected incremental net rate impact of other Round 2 offshore wind projects, must not exceed 88 cents per month in 2018 dollars, over the duration of the proposed OREC pricing schedule.[301] Additionally, the projected incremental net rate impact for all nonresidential customers considered as a blended average, combined with the projected net rate impact of other Round 2 offshore wind projects, must not exceed 0.9% of nonresidential customers' total annual electric bills during any year of the proposed OREC pricing schedule.[302] The proposed project must also be subject to a community benefit agreement.[303] The Commission is required to ascertain whether the administrative record demonstrates, by a preponderance of the evidence,[304] that the criteria enumerated in PUA § 7-704.1(d) and (e) are satisfied with respect to each of the pending Applications, and that the approval is consistent with the public interest as specified in PUA § 2-113(a). The burden of proof in this proceeding is on the Applicants to provide sufficient evidence that their respective filings satisfy the statutory criteria.

[300] PUA § 7-704.1(e).
[301] PUA § 7-704.1(e)(1)(iii)2A.
[302] PUA § 7-704.1(e)(1)(iii)2B.
[303] PUA § 7-704.1(e)(1)(iii)2C.
[304] *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').

186. CEJA requires approval of offshore wind applications in the amount of certain megawatts if the criteria under the statute are satisfied. Specifically, CEJA requires that the Commission approve OREC orders for Round 2 offshore wind representing a minimum of 400 megawatts of nameplate capacity proposed during each application period unless: (i) insufficient Round 2 offshore wind project applications are submitted to meet the net benefit test required by the statute; or (ii) the cumulative net ratepayer impact exceeds the maximum provided by the PUA.[305] Additionally, CEJA provides that if the Commission receives reasonable proposals that demonstrate positive net economic, environmental, and health benefits to the State, the Commission shall approve orders to facilitate the financing of qualified offshore wind projects, "including at least 1,200 megawatts of Round 2 offshore wind projects."[306]

187. In addition to assessing compliance with the requirements of the Maryland Offshore Wind Energy Act and CEJA, the Commission must also review the Applications in the context of the Commission's regulations, COMAR 20.61.06 *et seq*. The Regulations outline an application review process consistent with the criteria enumerated in the authorizing legislation.[307] Specifically, an application must meet the criteria contained in COMAR 20.61.06.02. Additionally, the Commission must evaluate the applications pursuant to the provisions contained in COMAR 20.61.06.03. In particular, COMAR 20.61.06.03 requires the Commission to conduct independent qualitative and quantitative analyses that consider the criteria enumerated in PUA §7-704.1(d)(1)(i) through (xiii), with

[305] PUA § 7-704.1(g).
[306] PUA § 7-704.1(e)(1)(ii).
[307] CEJA was passed after the Commission promulgated COMAR 20.61.*06 et seq*., so that any COMAR provision that is inconsistent with CEJA is superseded by the new CEJA requirement.

the qualitative analysis using a ranking system to identify applications with characteristics that contribute to the likelihood of successful development and to the net economic, environmental, and health benefits to the State.

188. Additionally, as a preliminary matter, an application must be determined to be "administratively complete" and it must have satisfied the "minimum threshold criteria" prior to any quantitative or qualitative assessment of the proposed offshore wind project by the Commission or by its independent consultant in this matter.[308] Those determinations are discussed directly below.

III. REQUIRED PROCEDURAL FINDINGS

A. Determination of Administrative Completeness

189. 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 correspond generally to and expand on the information prescribed by the Maryland Offshore Wind Energy Act and CEJA.[309] The initial review is for completeness only, and is not dispositive of any future review on the merits.

190. On December 10, 2020, a Round 2 offshore wind application was submitted to ICF through a dedicated and secure website. Pursuant to COMAR 20.61.06.01(B)(1), ICF reviewed the submitted application and notified the applicant and the Commission on December 22, 2020 that it was administratively complete.[310] On December 22, 2020, in

[308] COMAR 20.61.06.01.B – D.

[309] COMAR 20.61.01.03.B(1-1).

[310] According to COMAR 20.61.01.03(B)(1-1), the term "administratively complete" means that the Commission has determined an application to contain the information described in §§ D through N of COMAR 20.61.06.02.

accordance with CEJA and COMAR 20.61.06.01(B)(3), the Commission provided notice of the commencement of the Round 2, Year 1 Application Period.[311] The notice provided that the Application Period would remain open for 180 days, during which time other persons were permitted to submit applications, and would conclude on June 21, 2021.[312]

191. Following the close of the Application Period, ICF provided notice that a total of five offshore wind applications were received from US Wind and Skipjack. On July 19, 2021, in accordance with COMAR 20.61.06.02, ICF determined that all five applications were administratively complete.[313]

192. No party to this proceeding issued a timely challenge to the determination of administrative completeness with respect to either the US Wind or Skipjack Applications.

B. Minimum Threshold Criteria Determination

193. COMAR 20.61.06.03 requires that an application demonstrate that the proposed offshore wind project meets certain minimum threshold criteria.[314] Specifically, an application must demonstrate that: (i) it represents a "Qualified Offshore Wind Project" as defined by the PUA;[315] (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 $190 per megawatt hour ("MWh") (in levelized 2012$);[316]

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[311] Maillog No. 233058, Notice of Maryland Offshore Wind Project Application Period - Round 2, Year 1.

[312] The Notice invited any party interested in submitting a proposed offshore wind project application to visit the dedicated website hosted by ICF on behalf of the Commission, at: https://www.mdoffshorewindapp.com.

[313] ICF July 19, 2021 correspondence. Maillog No. 236193.

[314] COMAR 20.61.01.03.B(6-8).

[315] *See* PUA § 7-701(k)(1)-(2).

[316] This provision of COMAR has been superseded by the CEJA requirement that the projected net rate impact of the project(s) for residential and nonresidential customers not exceed certain threshold amounts specified in PUA § 7-704.1(e)(1)(iii)2A and B. Nevertheless, the US Wind and Skipjack Applications provided OREC schedules below the $190 per MWh amount contained in COMAR. ICF Report at 16-17.

(iv) the proposed project, including the associated transmission-related interconnection facilities, will be constructed using commercially proven components and equipment available to the offshore wind 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.[317] 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.[318]

194. On July 19, 2021, ICF filed correspondence with the Commission indicating that all five applications submitted by US Wind and Skipjack met the minimum threshold criteria required by COMAR 20.61.06.03.5.[319]

195. Nevertheless, on September 6, 2021, Skipjack filed a Motion to Disqualify in Part the US Wind Application, arguing that US Wind Bids 2 and 3, which have tranches that commence operation in 2027 and 2028, do not meet the statutory requirements of PUA § 7-704.1(a)(4)(i), which require that offshore wind proposals for Round 2, Year 1 begin creating ORECs "not later than 2026." In its September 17, 2021 Response to Motion to Disqualify, US Wind argued that its Application fits within the plain meaning of the statutory text, asserting that Bids 1, 2, and 3 each propose projects that would begin creating ORECs no later than 2026. Specifically, US Wind claimed that each of the projects would

[317] COMAR 20.61.06.03.A.
[318] COMAR 20.61.06.03.B.
[319] ICF July 19, 2021 correspondence. Maillog No. 236193.

begin creating 411.6 MW of ORECs by that date, with Bid 2 creating an additional 396.9 MW by 2027 and Bid 3 creating an additional 793.8 MW by 2028.[320]

196. On October 6, 2021, the Commission issued Order No. 89958, noting that both Skipjack and US Wind raised issues beyond their pleadings. To allow both parties an opportunity to provide additional information, the Commission denied the Motion without prejudice, directing that any additional argument be made during the evidentiary hearings and in brief.

197. On October 26, 2021, when US Wind submitted its Best and Final Offer, it revised its Bid 2 COD for both tranches to be on or before December 31, 2026. During the evidentiary hearing, US Wind witness Grybowski testified that the change was made to Bid 2 to address Skipjack's Motion to Disqualify and obviate the issue by moving the commercial operation date for the entire 808.5 MW project to the end of December 2026.[321]

198. Nevertheless, in its Brief, Skipjack has renewed its Motion to Disqualify both US Wind's revised Bid 2 and its unchanged Bid 3.[322] Skipjack argues that the Commission should decline to consider Bid 3 under PUA § 7-704.1(a)(4)(i) for all the reasons previously articulated by Skipjack in its prior Motion; and it should decline to consider the revised Bid 2 because US Wind's attempt to comply with the General Assembly's COD requirement "was merely a pretense."[323] Skipjack contends that US Wind's Application

[320] US Wind Response to Motion to Disqualify at 2-3.

[321] *See* Hr'g. Tr. at 469 (Grybowski). Mr. Grybowski stated that US Wind "moved the commercial operations date that we projected for that project all into 2026. As the Commission knows, this was the subject of some debate before the Commission and a motion to disqualify. We have attempted to rectify that and take the issue off the table by moving the commercial operations date by about 8 months for the second 400 of the 800 megawatts into 2026 entirely."

[322] Skipjack Brief at 46.

[323] *Id*.

was built around achieving an August 2027 COD for Bid 2, and that when it revised its COD for Bid 2 by moving the date forward by 8 months, US Wind did not timely submit new procurement and construction plans or supporting testimony to demonstrate how it could reasonably achieve a more aggressive schedule. As a result, Skipjack asserts that ICF has not reviewed any US Wind application for Bid 2 with a 2026 COD for either administrative completeness or for the reasonableness of US Wind achieving the revised COD. Skipjack further contends that US Wind's Best and Final Offer was not entered into the evidentiary record, and therefore the Commission should not rely on it.

199. The Commission denies Skipjack's renewed Motion to Disqualify Bid 2.[324] The Commission does not agree that US Wind's revisions to the COD of Bid 2 were disingenuous or merely pretense. During the evidentiary hearing, US Wind witness Grybowski testified that US Wind contacted its principal turbine supplier to discuss moving up the project completion date, and the supplier verified that it could do so. Mr. Grybowski further testified that the turbine delivery date was "the last … project component that was slipping into the early part of '27 under our original proposal."[325] The Commission finds that US Wind has committed to complete its Bid 2 project by the end of December 2026. Additionally, on November 5, 2021, US Wind filed revisions to three pages of its Application related to its Procurement and Construction Schedule, which further detail its Bid 2 revision.[326] The Commission finds that there is sufficient

[324] The Commission declines to rule on the Motion to Disqualify with regard to Bid 3, since the Commission finds that the approval of US Wind Bid 2 and Skipjack 2.1 best achieves the goals and meet the criteria established in the Offshore Wind Energy Act, CEJA, and COMAR. Accordingly, there is no need to rule on the Motion to Disqualify with regard to Bid 3.

[325] Hr'g. Tr. at 548 (Grybowski).

[326] Maillog No. 237729.

information in the record to evaluate US Wind Bid 2, pursuant to the requirements of the PUA and COMAR.

200. Finally, with regard to Skipjack's statement that US Wind's Best and Final Offer was not entered into the record and should not be relied upon, that issue was addressed by the Commission in Order No. 89996. There, the Commission found that all of the contents of US Wind's Best and Final Offer letter were discussed by its witnesses during the evidentiary hearing and the contents of that letter therefore became part of the evidentiary record. Additionally, the Commission preliminarily granted US Wind's Petition that its Application and Best and Final Offer be formally considered part of the evidentiary record in this case, and gave parties three days to file an objection. No objection was filed pursuant to that order.

201. Having received no further challenges to ICF's determination that both the US Wind and the Skipjack Applications propose projects that meet the statutory definition of a Qualified Offshore Wind Project, the Commission accepts ICF's recommendation that the Applications 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

202. In accordance with the requirements of the Offshore Wind Energy Act, CEJA, and COMAR, 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) – (xiv).[327] For assistance with evaluating and comparing the Applicants'

[327] PUA § 7-704.1(d)(1); COMAR 20.61.06.03.B.

proposed offshore wind projects, the Commission contracted for the services of independent consultants and experts as instructed by the PUA.[328] Specifically, the Commission retained ICF to assist in the evaluation and comparison of proposed offshore wind projects by potential applicants. As discussed above, ICF reviewed all five Applications submitted by US Wind and Skipjack and found that they were administratively complete. ICF also found all five applications met the minimum threshold criteria required by COMAR 20.61.06.03.5.

203. ICF filed its Report, the Evaluation and Comparison of MarWin II and Skipjack Wind Proposed Offshore Wind Project Applications on September 2, 2021.[329] As required by COMAR 20.61.06.03, ICF's Report subjected each of the Applicants' projects to a qualitative and quantitative review. ICF found in its Report that only US Wind Bid 1 met both the residential and the nonresidential ratepayer impact tests. However, after the Applicants revised their bids, the Commission asked ICF to recalculate the rate impacts based upon Skipjack's and US Wind's Best and Final Offers, including PJM's update to the ELCC. On November 8, 2021, the Public Utility Law Judge Division filed ICF spreadsheets recalculating the customer rate impacts based on the Best and Final Offers of US Wind and Skipjack.[330]

204. In addition to the above, the Commission includes in its evaluation and comparison of the Applications a review of the other statutory provisions promulgated in PUA § 7-704.1(d), including a verification requirement with respect to the opportunity for certain

[328] The Commission is directed by statute to contract for the services of independent consultants and experts for the evaluation of and comparison of offshore wind projects and to calculate the net benefits to the State. *See* PUA §§ 7-704.1(d)(2) and 704.1 (e)(2)(i).
[329] ICF Ex. 1, 1C, and 1P.
[330] Maillog No. 237736.

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 offshore wind projects pending before the Commission.[331]

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

205. The PUA requires the Commission to verify that representatives of the United States Department of Defense and the maritime industry have had the opportunity, through the federal leasing process, to express concerns regarding project siting.[332] The federal leasing process for both of the wind energy areas discussed in this case occurred several years prior to the present proceeding, and prior to the Commission's docketing of the Round 1 proceeding in Case No. 9431. The lease for the Delaware wind energy area was executed by BOEM on November 16, 2012, and the leases for the two Maryland wind energy areas were executed by BOEM on December 1, 2014. 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).[333] The BOEM report cites an extensive list of information considered in scoping the NEPA document, including "[o]ngoing consultations with other federal agencies including the

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[331] PUA § 7-704.1(d)(3)-(4).

[332] PUA § 7-704.1(d)(3). *See* also COMAR 20.61.06.04.

[333] *See* 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) ("Mid-Atlantic Final EA"), available at: https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Mid-Atlantic-Final-EA-2012.pdf.

U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the DoD, and the U.S. Coast Guard ("USCG")."[334] Moreover, the consultations between BOEM and stakeholders such as the Department of Defense were the subject of discussions during our evidentiary proceedings.[335]

206. In Order No. 88192 approving ORECs in that proceeding, the Commission found that the Department of Defense and the maritime industry had the opportunity, through the federal leasing process, to express concerns regarding project siting.[336] In this proceeding, the Commission makes the same finding.

207. Nevertheless, the Commission is persuaded by the record that continued consultation between the Applicants and the Department of Defense and maritime industry representatives regarding turbine siting is essential to reducing the risk of unintended consequences associated with either project. Therefore, the Commission will require as a condition to an OREC award the commitment that each Applicant to continue an ongoing dialogue with these stakeholders regarding any changes to the siting and turbine model selection contemplated in each Applicant's respective Application.

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

208. In enacting the Offshore Wind Energy Act and CEJA, the General Assembly expressed clearly its intent that minority business enterprises ("MBEs") and minority

[334] Mid-Atlantic Final EA at 3.

[335] Hr'g. Tr. at 187 (Perkins) (discussing anticipated consultations by BOEM with the Federal Aviation Administration and the Department of Defense to ensure adequate studies regarding aviation safety and the proposed wind farms); and Hr'g. Tr. at 618 (Jodziewicz) (discussing US Wind's feedback from the Department of Defense regarding potential interference of turbines with radar, resulting in US Wind's removal of those turbine locations from the OREC Application).

[336] Order No. 88192 at 30-31.

investors actively participate in and benefit from the State's prospective new offshore wind industry. For example, CEJA sets forth the General Assembly's findings that the State needs to increase its reliance on renewable energy in order to "provide opportunities for small, minority, women-owned, and veteran-owned businesses to participate in and develop a highly skilled workforce for clean energy industries in the State."[337]

209. Additionally, CEJA provides that the Commission may not approve any offshore wind application that is not subject to a community benefit agreement.[338] A community benefit agreement is defined to promote increased opportunities for local businesses and small, minority, women-owned, and veteran-owned businesses in the clean energy industry.[339] It must also facilitate a steady supply of highly skilled craft workers who shall be paid not less than the prevailing wage, and must promote career training opportunities in the construction industry for local residents, veterans, women, and minorities.

210. The Offshore Wind Energy Act also provides several requirements related to MBEs that remain part of the PUA. For example, if an applicant is seeking investors in a proposed offshore wind project, it must make serious, good-faith efforts to solicit and interview a reasonable number of minority investors, before the Commission may approve the proposed project.[340]

211. The applicant is also required to demonstrate its outreach efforts to minority investors. Moreover, any successful applicant is required to sign a memorandum of understanding with the Commission that requires the applicant to make serious, good-faith

[337] PUA § 7-702(b)(3)(ii).
[338] PUA § 7-704.1 (e)(1)(iii)2C.
[339] PUA § 7-704.1 (e)(1)(i)1.
[340] PUA § 7-704.1(d)(4)(ii).

efforts to interview minority investors in any future attempts to raise venture capital or attract new investors to the offshore wind project.[341] Additionally, any successful applicant must sign a memorandum of understanding with the Commission that requires the applicant to use best efforts and effective outreach to obtain, as a goal, contractors and subcontractors for the project that are minority business enterprises, to the extent practicable, as supported by a disparity study.[342]

212. The PUA also requires that approved applicants for a proposed offshore wind project must comply with the State's Minority Business Enterprise Program; and that on or before six months after the issuance of an order approving an OREC application, the Governor's Office of Small, Minority, and Women Business Affairs, in consultation with the Office of the Attorney General and an approved applicant, shall establish a clear plan for setting reasonable and appropriate minority business enterprise participation goals and procedures for each phase of the qualified offshore wind project.[343]

213. Pursuant to the requirements of COMAR 20.61.06.03 B (1)(a)(xv), ICF evaluated each Applicant's compliance with MBE requirements, including those imposed by Commission regulations.[344] ICF determined that both Applicants provided an affirmative statement that they will execute an MOU with the Commission to make a good-faith effort to solicit participation of minority investors.[345] However, ICF found that US Wind demonstrated ongoing outreach, and therefore awarded them a score of 3. ICF observed

[341] PUA § 7-704.1(d)(4)(ii)3.
[342] PUA § 7-704.1(d)(4)(ii)4.
[343] PUA § 7-704.1(i)(2) and (3).
[344] *See* COMAR 20.61.06.03 B(1)(a)(xiv) and COMAR 20.61.06.03 B(1)(a)(xv).
[345] ICF Report at 39.

that Skipjack demonstrated its commitment to MBEs by stating that it entered a similar MOU for Skipjack Wind Phase 1, while US Wind demonstrated its commitment by providing details about the outreach underway and specifically three investors whom they have contacted.[346]

214. In reviewing the Applications of US Wind and Skipjack, the Commission scrutinized 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. As required by COMAR, the Commission 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.[347] The Commission finds that US Wind and Skipjack have complied with all of the PUA and COMAR requirements related to MBEs, as further discussed below.

215. US Wind committed to engage with and obtain the active participation of MBEs in its project. Mr. Grybowski, for example, testified that US Wind is committed to achieving substantial involvement of Maryland-based MBEs in all phases of the project.[348] In particular, US Wind committed to reaching MBE participation goals, making senior level management actively engaged in meeting US Wind's goals, establishing and documenting US Wind's MBE Compliance Plan through written policies, procedures and metrics for achieving participation levels, implementing MBE outreach programs, making project

[346] *Id*.
[347] COMAR 20.61.06.03 B(1)(a)(xiv) – (xv).
[348] US Wind Exhibit 1, Grybowski Direct at 7-8.

technology selections that are informed by the potential for local content, including MBE participation, and requiring major contractors and subcontractors to establish and meet MBE goals.[349]

216. In US Wind's minority business participation plan, the company commits to MBE participation rates of: (i) Pre-Construction: 15% (planning and design, finance and administration); (ii) Construction: 15% (wind turbine assemblies; foundation and substructure); and (iii) Operations and Maintenance: 15% (wind farm operations and maintenance, other operation, administration and management).[350] Mr. Grybowski testified that US Wind views this 15% goal in all three phases of its project as a minimum goal that the company will endeavor to exceed.[351]

217. Skipjack likewise committed to achieving inclusive economic development focused on targeted growth and the development of MBE businesses. Skipjack established a goal to spend 29% of its in-State spend with certified Maryland minority and women owned businesses enterprises, which Skipjack noted outpaces the 25% goal that many of Maryland's utilities strive to achieve.[352] Skipjack witness Walker testified regarding Skipjack's Supplier Diversity and MBE Plan that will ensure that Skipjack's prime contractors use techniques to promote and achieve MBE participation, and create opportunities for MBEs. Mr. Walker stated that Skipjack's contracts with vendors to perform permitting, engineering, construction, operations and maintenance work within

[349] US Wind Brief at 12. "We would put that as a contractual obligation within the scope of their capabilities to make sure that we meet those obligations. It's not just making them aware.") US Wind made the same commitments relative to small business participation. Hr'g. Tr. at 590 (Filippelli).
[350] Hr'g. Tr. at 518-21 (Grybowski).
[351] *Id*. at 519-21. "Certainly the 15 percent I don't view as a cap. I'd like to blow through that number." *Id*.
[352] Skipjack Exhibit 167, Walker Rebuttal at 7-8.

Maryland will require that contractors use good faith efforts to achieve or exceed the State's goal of 29% MBE and 10% small business participation.[353] Additionally, Mr. Walker testified that for the procurement of components of Skipjack Wind Phase 2.1 located within Maryland, Skipjack will require its contractors to use good faith efforts to achieve or exceed the State's goal of 29 percent of in-State spend, by dollar value, from MBEs.

218. Skipjack has already taken steps to achieve its MBE goals. It has established relationships with two MBEs, Strum Contracting Co., Inc. and Crystal Steel Fabricators, Inc., through the development of Skipjack Wind Phase 1.[354] Skipjack witness Walker testified that Strum played a critical role in Skipjack's $13.2 million investment to upgrade the port facilities at Tradepoint Atlantic, providing steel and welding services and assisting with driving the heavy pilings that increased the port-side load bearing capacity.[355] Additionally, Ørsted announced an investment in Crystal Steel's Federalsburg, Maryland facility to enable Crystal Steel—a certified Maryland MBE—to deliver nearly $70 million in pre-fabricated steel components to Ørsted's mid-Atlantic portfolio of projects, including the Skipjack Wind projects.[356] Skipjack has also committed that it will follow its Round 1 Plan for Supplier Diversity and the Use of MBEs, which was approved by the Governor's Office of Small, Minority & Women Business Affairs, for the development of its approved Round 2 Project.[357] Skipjack also committed to entering into a community benefit agreement for its approved project, pursuant to PUA § 7-704.1(e)(1)(i).[358]

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[353] *Id*. at 15; Skipjack Wind Phase 2.1 Application at 3-2 to 3-3.
[354] Skipjack Exhibit 17, Walker Rebuttal at 4-7.
[355] Skipjack Exhibit 16, Walker Direct at 4-5; Skipjack Exhibit 17, Walker Rebuttal at 5-6.
[356] Skipjack Exhibit 17, Walker Rebuttal at 6.
[357] Skipjack Exhibit 16, Walker Direct at 12-14.
[358] Skipjack Brief at 35.

219. Skipjack has offered the more significant MBE participation rate, and it has taken the most tangible steps to date to reach those goals. Nevertheless, the Commission finds that US Wind and Skipjack have each offered meaningful and significant commitments to achieving MBE goals moving forward. Coupled with the conditions described below, the Commission finds 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.

220. Therefore, in issuing an OREC award to US Wind for Bid 2, and to Skipjack for Phase 2.1, the Commission conditions this Order on the voluntary commitments to MBE participation goals and procedures articulated in each Applicant's respective Application.[359] The Commission further conditions the OREC award on each Applicant's consultation, on or before six months of today's Order, with the Governor's Office of Small, Minority, and Women Business Affairs and the Maryland Attorney General's Office, on establishing a clear plan for setting reasonable and appropriate MBE goals for each phase of the project. To the extent that any MBE participation goals or procedures developed later in consultation with the Governor's Office of Small, Minority, and Women Business Affairs and the Attorney General's Office, 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.

[359] The Commission declines MEA's invitation (MEA Brief at 19) to require US Wind to further elevate its MBE goal. Neither the PUA nor Commission regulations mandate a specific percentage of MBE participation, and each Applicant had the opportunity to develop its own achievable MBE participation rate in its Application.

221. Additionally, as a condition of approval of the offshore wind projects, and as required by CEJA, US Wind and Skipjack are required to sign a memorandum of understanding with the Commission that requires the Applicant to use best efforts and effective outreach to obtain, as a goal, contractors and subcontractors for the project that are minority business enterprises, to the extent practicable, as supported by a disparity study.

222. US Wind and Skipjack are also 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.[360]

223. In accordance with CEJA, US Wind and Skipjack will also be required to enter into a community benefit agreement for their respective projects that meets the requirements of PUA § 7-704.1(e)(1)(i).

224. In addition to the aforementioned conditions pertaining to MBE participation and opportunities for minority investors, the Commission finds 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 its semi-annual reports on MBE goal attainment. The semi-annual reports shall include an update on the Applicant's progress in establishing and implementing MBE goals and procedures.

[360] The Commission observes that Skipjack's Application and supporting testimony provides that it plans to self-finance its project.

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

225. The first issue the PUA directs the Commission to consider in evaluating and comparing offshore wind proposals is price. Specifically, PUA § 7-704.1(d)(1)(i) requires the Commission to evaluate and compare proposals based on lowest cost impact on ratepayers of the price set under a proposed OREC pricing schedule.

226. US Wind and Skipjack proposed five projects to the Commission for consideration, each with a different OREC price schedule. Specifically, US Wind proposed Bid 1, a 411.6 MW project with a COD of 2026. It also proposed Bid 2, which under its original Application consisted of a 411.6 MW project to be built and commence operation in 2026, with a second tranche of 396.9 MW to be built and commence operation in 2027. However, US Wind modified Bid 2 in its October 26, 2021 Best and Final Offer by providing that both tranches would be built and a combined 808.5 MW would commence operation by December 31, 2026.[361] US Wind also submitted Bid 3, a 411.6 MW project to be built and commence operation in 2026, with a second tranche of 793.8 MW to be built and commence operation in 2028. Under its current design, each of US Wind's projects would use GE Haliade-X 14 MW turbines and be located in the Maryland Wind Energy Area.

227. Skipjack submitted two mutually exclusive bids to be located in the Delaware Wind Energy Area. Specifically, Skipjack proposed its Phase 2.0 Project, consisting of 335 MW of capacity designed using GE Haliade-X 13 MW turbines, with a COD of 2026; and a Phase 2.1 Project, consisting of 846 MW of capacity designed using GE Haliade-X 14 MW turbines, with a COD of 2026.

[361] Maillog No. 237554.

228. Generally, the lower megawatt projects are more costly on a per megawatt basis, because they do not benefit from economies of scale. Skipjack witness Henry, for example, testified that Skipjack's larger project, Phase 2.1, builds on economies of scale and provides greater investment in, and benefits to, the State of Maryland.[362] Additionally, the smaller-scale projects do not provide the economic benefits to ratepayers that the larger projects provide. For example, Skipjack's commitment to partner with GE to facilitate a $150 million tower manufacturing facility in Maryland is contingent on approval of Skipjack's larger, Phase 2.1 project.[363] Similarly, with an award of at least 800 MW, US Wind committed to establish at Sparrows Point Steel a large monopile production facility, planned to serve the entire US offshore wind market for the long-term.[364] Generally, therefore, the larger projects provide better value to ratepayers on a per megawatt basis. Additionally, the larger projects achieve more of the economic development benefits that are the focus of the Offshore Wind Energy Act and CEJA, because the larger projects help establish and develop the supply chain in Maryland. A smaller award would not achieve those goals.

229. The largest proposed project, which also boasts the lowest proposed OREC price schedule on a per megawatt basis, is US Wind's Bid 3, with over 1,200 MW. However, US Wind is not able to construct the entire project by 2026. Instead, a second tranche of

[362] Skipjack Exhibit 3, Henry Direct at 8.

[363] Hr'g. Tr. at 38-39 (Hardy). Mr. Hardy testified that the tower manufacturing facility will be capable of producing 100 towers per year and will create up to 200 permanent jobs for the State, and would serve not just Skipjack's project, but the broader U.S. offshore wind industry.

[364] US Wind witness Grybowski testified that if granted ORECs for its Bid 2 or Bid 3, US Wind would (a) facilitate the investment of an additional $150 million at the site to upgrade land and buildings, construct new facilities, and purchase state-of-the-art welding and coating equipment, beyond the improvements at the site planned for MarWin I; (b) produce at Sparrows Point Steel components for all of its monopile foundations needed for its Maryland projects; and (c) form a new venture to operate the facility long-term to serve the emerging U.S. offshore wind market with major steel components. Grybowski Direct at 5.

793.8 MW will be delayed until 2028. Additionally, approving US Wind Bid 3 alone would leave little to no room for other projects in Round 2, given the constraints of the residential and nonresidential net rate impact tests. As discussed further below, the Commission finds that the Skipjack project has the better likelihood of being built (project feasibility), and the Commission is therefore reluctant to tie up 100% of the OREC dollars on US Wind's Bid 3 proposal.

230. Ultimately, during the hearings, each Applicant focused on a particular project and provided a best and final OREC price schedule for that project alone. As stated, US Wind submitted its Best and Final on October 26, 2021, revising the COD to be on or before December 31, 2026.[365] However, US Wind also lowered its Bid 2 OREC price. Similarly, Skipjack submitted its Best and Final Offer on November 1, 2021, by reducing the OREC price schedule for its Phase 2.1 project. The other projects – US Wind Bids 1 and 3, and Skipjack Wind Phase 2.0 – were not the subject of best and final price reductions or additional economic benefits.

231. In a head-to-head price comparison, the US Wind project is lower than the Skipjack proposal. US Wind Bid 1 (411.6 MW) is most comparable in size to Skipjack Phase 2.0 (335 MW), but US Wind's proposed OREC schedule is significantly lower. The same is true when comparing US Wind's Bid 2 (808.5 MW) with Skipjack's Phase 2.1 (846 MW). The ICF Report reached the same conclusion. During the evidentiary hearing, Skipjack acknowledged that US Wind's bid was significantly lower and conceded that it could not

[365] Maillog No. 237554.

match the price.[366] Therefore, US Wind's proposed project is scored higher than Skipjack's by ICF with regard to lowest cost impact on ratepayers.

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

232. The PUA directs the Commission to evaluate and compare offshore wind proposals based on the effects of the project(s) on certain transmission, capacity, and energy prices. Specifically, the PUA provides that the Commission should evaluate and compare proposed offshore wind projects on the basis of potential reductions in transmission congestion prices within the State; potential changes in capacity prices within the State; potential reductions in locational marginal pricing; and potential long-term changes in capacity prices within the State from the offshore wind project as it compares to conventional energy sources.[367] The analysis is important to the issue of ratepayer impact because the cost of ORECs will be partially offset by the impact of the sale of low cost power from the proposed facilities into the PJM wholesale electric energy and capacity markets.[368] Ratepayers can also benefit from reduction in congestion on PJM transmission lines, because reduced congestion may lower PJM transmission costs. These factors are also part of the analysis of ratepayer impacts, discussed in Section V(B) below.

233. In compliance with Commission regulations, the Applicants each included a discussion of the long-term effects of their respective proposed offshore wind projects on the PJM markets as part of the required cost-benefit analysis.[369] Skipjack relied on its

[366] Hr'g. Tr. at 106 (Hardy) ("I want to leave the Commission with a hundred percent confidence that there is no way that Ørsted will try to match the U.S. Wind offers because we really don't understand how they can build those projects at those levels.").
[367] PUA § 7-704.1(d)(1)(i) – (v).
[368] ICF Report at 46.
[369] COMAR 20.61.06.02.L(6).

Bates White analysis, which includes more aggressive assumptions regarding reductions in wholesale energy prices than either US Wind or ICF.

234. Pursuant to COMAR 20.61.06.03B(1)(a)(xvii), ICF conducted an evaluation of each Applicant's analysis of long-term changes to wholesale markets associated with the Applicants' proposed projects, including consideration of the quality of analysis showing contributions to regional system reliability, fuel diversity, competition, transmission congestion, and other benefits.[370] ICF scored both Skipjack projects a zero on this category, stating that the Bates White analysis relied upon by Skipjack provided insufficient information and is not typical of industry standard.[371]

235. ICF produced its own analysis of likely impacts upon wholesale energy and capacity prices and transmission resulting from construction of the offshore wind projects. Regarding capacity, ICF assumed that offshore wind will be able to claim a class-wide credit of 27%, declining to 21% in 2028, for their capacity contribution to the PJM market.[372] ICF also determined that solar and storage capacity would be the most likely alternative resource if the offshore wind projects were not built. Accordingly, ICF awarded no rate impact due to the addition of the offshore wind facilities.[373]

236. Regarding benefits to wholesale energy markets, ICF again assumed that the proposed offshore wind projects would displace mostly solar resources that would otherwise be built in DPL.[374] As a result, ICF determined that energy prices would not

[370] ICF Report at 42.
[371] *Id*. at 43.
[372] *Id*. at 53.
[373] *Id*. at 54.
[374] *Id*.

change significantly as a result of the projects. However, ICF found that the larger projects would reduce Maryland energy prices slightly because of the higher capacity factors the offshore wind projects would have relative to the solar plants. Regarding congestion, ICF found that because DPL is a net importer of electricity, interconnection of the offshore wind facilities would provide counterflows that would relieve congestion.[375]

237. For purposes of evaluating and comparing the Applicants' projects, the Commission finds that projects of equal megawatt size that are geographically close together will likely have comparable impacts on PJM transmission, wholesale capacity, and wholesale energy prices, as US Wind acknowledges.[376] The projects share the same offshore wind resource and will interconnect in the same region of the Delmarva Peninsula. Both projects have used the same turbine for their design model.[377]

238. The Commission finds that the Applicants' projects would each provide significant benefits to ratepayers resulting from reduction in wholesale prices. Maryland ratepayers would benefit from reduced energy and capacity prices, as well as reduced transmission congestion costs, if either the US Wind or the Skipjack projects, or both, are approved. As discussed in Section V(B) regarding ratepayer impact, the Commission finds that several of ICF's assumptions were exceptionally conservative and that Skipjack's Bates White analysis provides a reasonable projection. For purposes of this section, the Commission will change ICF's rating of zero to a ranking of two for each Skipjack project.[378]

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[375] *Id*.

[376] US Wind Brief at 5.

[377] Nevertheless, US Wind has projected a lower wind efficiency rating than Skipjack.

[378] MEA and Staff argued that it is reasonable to conclude that Skipjack Wind Phase 2.1 passes the ratepayer impact tests imposed by statute. MEA Brief at 20-25; Staff Brief at 10-13.

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

1. Economic Benefits to the State

239. Pursuant to PUA § 7-704.1(c)(3) and Commission regulations, an applicant for approval of a qualified offshore wind project is required to include a cost-benefit analysis of the proposed project.[379] PUA § 7-704.1(d)(1)(vi) requires that the Commission evaluate and compare the proposed projects based on the extent to which the cost-benefit analysis demonstrates positive net economic, environmental, and health benefits to the State.

240. ICF evaluated the Applicants' input-output analysis required by PUA § 7-704.1(c)(3)(i), including the completeness of descriptions and documentation, verifiability of model inputs and reasonableness of outputs, and the extent to which the analysis demonstrates positive net economic benefits to the State.[380] ICF awarded US Wind and Skipjack a score of 3 each for their input-output analysis, finding that each Applicant "demonstrate[d] positive net economic benefits to Maryland and quantified those benefits using input-output analysis to estimate the value of indirect and induced impacts generated by direct spending."[381] ICF further reported that both US Wind and Skipjack used standard economic models that are regularly used for these types of analyses to quantify their positive net economic benefits to the State. ICF awarded US Wind a slightly higher score for in-State benefits, finding that US Wind reported higher employment estimates for

[379] COMAR 20.61.06.03.B(1)(a)(x).
[380] ICF Report at 34.
[381] *Id*. at 35.

comparable capacity additions.[382]

241. Regarding US Wind Bid 2, ICF found that the project would provide net economic benefits to the State. According to ICF's analysis, the construction and development phase of the project alone would produce 6,990 jobs (FTEs), labor income of $493.2 million, and $729.7 million in value added output.[383] Additionally, the operations and management phase of the project would result in 254 jobs, $18.3 million in labor income, and $39.3 million per year in value added output.[384] Accounting for the costs of the project to ratepayers from ORECs, ICF calculated that the net ratepayer impact of the US Wind Bid 2 project would be $56.4 million per year in 2018 dollars.[385]

242. Regarding Skipjack's Phase 2.1 bid, ICF found that the project would provide net economic benefits to the State.[386] According to ICF's analysis, the construction and development phase of the project alone would produce 1,678 jobs (FTEs), labor income of $117.7 million, and $173.0 million in value added output.[387] Additionally, the operations and management phase of the project would result in 95 jobs, $6.9 million in labor income, and $14.7 million per year in value added output.[388] Accounting for the costs of the project

[382] *Id*. at 34-35. ICF awarded US Wind a 3 and Skipjack a 2 for in-State benefits. Skipjack contested ICF's analysis of in-State economic benefits, arguing that ICF failed to fully consider Skipjack's in-State spending commitment of $400 million, and therefore did not conduct an apples-to-apples comparison between the Applicants. Skipjack Brief at 28. As explained above, the Commission finds that each Applicant demonstrated significant positive net economic benefits to the State, including through in-State spending commitments.

[383] ICF Report at 62-63.

[384] *Id*. at 63-64.

[385] *Id*. at 59-60; Sept. 9, 2021 Errata to ICF Report, Maillog No. 236985, at 1.

[386] ICF Exhibit 1 at 35.

[387] ICF Report at 62-63.

[388] *Id*. at 63-64.

to ratepayers from ORECs, ICF calculated that the net ratepayer impact of the Skipjack Phase 2.1 project would be $144.8 million per year in 2018 dollars.[389]

243. The Commission finds that both the US Wind Bid 2 and the Skipjack Phase 2.1 projects will provide positive net economic benefits to the State, with the imposition of certain conditions described below. US Wind provided extensive evidence of economic benefits stemming from its offshore wind projects.[390] US Wind witness Filippelli testified that its three proposed projects would inject a range of approximately $1.1 million to $3.3 million of industry output for Bid 1 and Bid 3, respectively.[391] The multi-year construction phase is estimated to inject a range of approximately $1.2 billion to $2.1 billion of industry output, while the 25 years of operations are modeled to inject approximately $706 million to $1.6 billion in industry output.[392] Additionally, US Wind Bid 2 is projected to create $190 million in total state and local tax revenue, and 11,900 total job years. Moreover, US Wind presented evidence of significant economic effects stemming from the Sparrows Point Steel facility, including up to $6.2 billion in industry output, 1,570 full time workers, and nearly $317 million in State and local taxes from construction through its 20-year operating life.[393] In particular, US Wind committed to investing in a large monopile production facility at Sparrows Point, which will help develop Maryland's offshore wind supply chain.[394] US Wind stated that this facility would be used not just for the company's Round 2 projects, but to provide major steel components for the entire U.S. offshore wind

[389] *Id*. at 59-60; Sept. 9, 2021 Errata to ICF Report, Maillog No. 236985, at 1.
[390] *See* Sections 5.1, 5.2, and 5.3 of US Wind's Application; and Appendix 5.1.1.
[391] US Wind Exhibit 3, Filippelli Direct at 22.
[392] *Id*. at 22.
[393] *Id*. at 22.
[394] US Wind Exhibit 1, Grybowski Direct at 5.

market. If Bid 2 is selected, US Wind committed to a $150 million investment at Sparrows Point, which would go towards site upgrades, constructing new facilities, and purchasing state-of-the-art equipment.[395] The facility would employ approximately 500 full time staff.[396]

244. Skipjack also provided evidence of significant positive economic benefits from its projects. Through its Phase 2.1 project, Skipjack committed to in-State spending of $400 million, which will provide projected net benefits to Maryland over the OREC period of approximately $1.788 billion.[397] Additionally, Skipjack's input-output analysis estimated that construction of Skipjack Phase 2.1 would contribute approximately $309.7 million of value added to the Maryland economy, and that the value added from operations and maintenance over the 20-year contract term would total approximately $351.1 million, for a combined total of $660.8.[398] In total, Skipjack Phase 2.1 is projected to create 2,951 jobs during construction, and 130 annual jobs from operations.[399]

245. Additionally, during the evidentiary hearing, Skipjack clarified that the approval of Skipjack Wind Phase 2.1 would result in at least $410 million of in-State spending during the development and construction phase of the project.[400] Skipjack's total projected project-related expenditures will result in nearly $800 million of total economic value

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[395] *Id*. at 5.

[396] US Wind Exhibit 3, Filippelli Direct at 18.

[397] Skipjack Exhibit 10, Cain Direct at 4; Skipjack Exhibit 12C, Cain Rebuttal, Corrected Phase 2.1 Cost-Benefit Analysis at 8.

[398] Skipjack Exhibit 12C, Cain Rebuttal, Corrected Phase 2.1 Cost-Benefit Analysis at 13.

[399] *Id*.

[400] Commission Exhibit 1, Skipjack Amended Response to Bench Data Request ("DR") 1. Skipjack further stated that it committed to an additional $100 million of in-State contribution in the event that it is unable to facilitate bringing the tower facility to the State that it committed to in its November 1, 2021 Best and Final Offer.

added to Maryland's economy, thousands of total jobs for Marylanders, and over $500 million of total labor income for Maryland workers.[401] For the reasons discussed above, the Commission awards Skipjack a rating of 3 for net economic benefits.

246. Despite the many economic benefits of the offshore wind projects discussed in this proceeding, Ocean City claims that the visual impacts from the turbines will cause a diminution of property values in nearby coastal areas and will reduce tourism—both of which would constitute economic harms and affect the Commission's net positive calculation. As discussed more fully in Section V(A) below, the Commission finds that there is no evidence submitted in this proceeding that reasonably demonstrates that the offshore wind projects will cause significant economic harm. For purposes of PUA §§ 7-704.1(d)(1)(vi) and 7-704.1(e)(1)(ii), the Commission finds that US Wind Bid 2 and Skipjack Phase 2.1 will provide positive net economic, environmental, and health benefits to the State.

247. The Commission, however, finds 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. The Commission accepts these commitments as the basis for the conditions imposed herein.

248. Specifically, the Commission finds it appropriate to condition this OREC award on the requirement that US Wind and Skipjack at a minimum demonstrate, upon the

[401] Commission Exhibit 7, Skipjack Response to Bench DR 7.

commencement of commercial operations, a level of direct in-State expenditures commensurate to the percentage basis described in their respective Applications. Thus, US Wind's demonstration should illustrate that at a minimum $570 million of direct in-State expenditures occurred during the development and construction phases of its Qualified Offshore Wind Project (corresponding to US Wind's 19% commitment). As part of this $570 million in-State expenditures, US Wind shall use good faith efforts to facilitate the construction of the monopile factory, Sparrows Point Steel, as well as to fund the research partnership with the University of Maryland, Baltimore County. To the extent US Wind is unable to build the Sparrows Point Steel facility, it is required to implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-State spend.

249. Similarly, Skipjack shall demonstrate a minimum of $410 million of direct in-State expenditures occurred during the development and construction phases of its Qualified Offshore Wind Project. As part of this $410 million of direct in-State expenditures, Skipjack shall use good faith efforts to facilitate the construction of a sub-sea cable manufacturing facility located in Maryland, the construction of an offshore wind turbine tower manufacturing facility located in Maryland, and the upgrade of Crystal Steel for the pre-fabrication of advanced foundation components. Additionally, as part of this $410 million expenditure, Skipjack shall establish an American platform supply vessel operator located in Maryland, and establish a grant fund for environmental organizations in Maryland and Delaware. To the extent Skipjack is unable to build one or more of these facilities, it is required to implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-State spend. For example,

Skipjack committed to an additional $100 million of in-State spending if it is unable to facilitate bringing the wind turbine tower manufacturing factory to the State that it promised in its November 1, 2021 Best and Final Offer.

250. Each Applicant shall report on the progress of their respective commitments in the quarterly reports described below.

251. Given that these in-State expenditures inform the calculation that the projects will produce positive net economic benefits for Maryland, the Commission will impose remediation conditions should the expenditure fall short. Specifically, in the event that a Staff 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.

252. The Commission similarly concludes that the OREC award should be conditioned on the achievement of in-State direct employment opportunities projected to occur as a result of the proposed offshore wind projects. It is firmly within the control of each Applicant to ensure the realization of direct jobs located in Maryland stemming from their respective offshore wind project; although, the Commission 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 offshore wind project, and to report these results to the Commission as a condition of this OREC award. In particular, US Wind shall cause directly the creation of 6,990 direct development/construction period jobs, and 254 direct operations and

management phase jobs. Skipjack shall cause directly the creation of 2,951 direct development/construction period jobs, and 130 direct operations and management phase jobs.

253. Consistent with the requirements made in Order No. 88192 and the goal of spreading the economic development benefits throughout the State, the Commission will require that US Wind use Tradepoint Atlantic as described in its July 27, 2021 Application as the port facility for its marshaling port. Additionally, US Wind shall use a port facility located in the Ocean City, Maryland region to serve as the O&M port. US Wind shall also locate a permanent operations center for the Qualified Offshore Wind Project within the State of Maryland for the life of the project. Regarding Skipjack, the company shall use Tradepoint Atlantic as described in its July 27, 2021 Application as the port facility for its marshaling port. Additionally, Skipjack shall use the port facility located in the Ocean City, Maryland region to serve as its O&M port. Skipjack shall also locate a permanent operations center for the Qualified Offshore Wind Project within the State of Maryland for the life of the project.

254. In addition, the Commission accepts each Applicant's commitment to pursue federal and State grants and other benefits in support of the development of these facilities. Specifically, each Applicant 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, for the life of the project. The Commission will also require that the Applicants pass along to ratepayers, without the need for any subsequent Commission approval, 80% of the value of any such grants, rebates, credits, loan guarantees, or other similar benefits that are not included in their original Application.

255. Additionally, this OREC award is conditioned upon the Applicants implementing a mechanism for sharing savings if the engineering, procurement, and construction ("EPC") costs for the Qualified Offshore Wind Project are less than the EPC costs reflected in their respective Applications. The sharing of EPC costs between the Applicants and ratepayers is designed to maintain the financial incentive of the Applicants to find and achieve savings, while treating ratepayers fairly. This Order grants US Wind the right to retain a higher percentage of EPC costs than Skipjack, due to US Wind's significantly lower OREC bid. Specifically, US Wind is authorized to retain 50% of EPC cost savings, while Skipjack is authorized to retain 20%, with the remainder to be credited to ratepayers.

256. In summary, the Commission finds persuasive the cost-benefit analyses submitted by the Applicants in this proceeding,[402] and it concludes that the US Wind Bid 2 Best and Final Offer and Skipjack Phase 2.1 Best and Final Offer projects 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 warrantied.

[402] The Commission also finds that the record demonstrates each of the cost-benefit analyses submitted in this matter considered at a minimum the requisite criteria prescribed by statute. 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).

2. Environmental and Health Benefits to the State

257. An Application for Approval of a Qualified Offshore Wind Project must demonstrate that positive net environmental benefits will accrue to the State.[403] The demonstration must rely on an independent analysis of the environmental benefits to Maryland associated with a proposed offshore wind 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).

258. ICF reviewed the Applicants' analyses of the net environmental and health impacts to the State, pursuant to COMAR 20.61.06.03 B (1)(a)(xi). ICF's analysis included the net environmental and health impacts to Maryland, including impacts on the affected marine environment resulting from construction, operation and decommissioning of the proposed project. ICF also reviewed the Applicants' analyses, including completeness of descriptions and documentation, verifiability of model inputs and reasonableness of outputs, and the extent to which the analyses demonstrated positive net environmental and health benefits to the State.[404] ICF found that both Applicants provided a detailed discussion of robust methods utilized and results, including quantification of impact, and that both Applicants demonstrated positive net environmental and health impacts.[405] ICF's analysis also concluded that the US Wind and Skipjack projects would reduce emissions of carbon dioxide, sulfur dioxide, and nitrogen oxides.[406]

[403] PUA § 7-704.1(e)(1)(i).
[404] ICF Report at 36.
[405] *Id*.
[406] *Id*. at 66.

259. The Commission finds that US Wind and Skipjack each demonstrated significant net environmental and net health benefits to the State, including significant net emission reductions, subject to the conditions that are discussed below.[407] The Commission also finds that any disruption to the health or environment of the State, such as through construction of the facilities, is heavily outweighed by the overall health and environmental benefits to the State. The Commission finds that the approved projects will reduce emissions of harmful pollutants by displacing generation from other fossil fuel fired generation plants, including emissions of carbon dioxide, sulfur dioxide, nitrogen oxide, mercury, and coarse (PM_{10}) and fine ($PM_{2.5}$) particulate matter.[408] All of these emissions have been identified as harmful to the environment and human health.[409] In particular, Skipjack provided that the value of net emissions-related benefits from Skipjack Phase 2.1 is estimated to be $1,502.7 million on an NPV basis.[410] US Wind estimated that its Bid 2 would enable an annual reduction of 23,754 short tons of nitrogen oxides, 28,760 short tons of sulfur dioxide, 5,046 short tons of $PM_{2.5}$, and 43,013,024 short tons of carbon dioxide (based on weighted average).[411]

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[407] *See*, e.g., US Wind Exhibit 6, Jodziewicz Direct, at 249-57.

[408] The Bates White analysis demonstrated that because offshore wind projects do not produce emissions in generating electricity, they are expected to displace one megawatt hour of fossil-fuel generation for every megawatt-hour of electricity they produce. Because of their low variable costs, wind facilities offer into PJM's markets as price takers with a $0 per megawatt hour bid price, and are projected to displace more costly fossil fuel generation on the margin. Skipjack Exhibit 10, Cain Direct at 10; Skipjack Exhibit 12C, Cain Rebuttal, Corrected Phase 2.1 Cost-Benefit Analysis at 20.

[409] *See* Skipjack Ex. 12, Cain Rebuttal, Corrected Phase 2.1 Cost-Benefit Analysis at 18. In his Rebuttal Testimony, Skipjack witness Cain testified that the rate impact analyses excluded substantial environmental benefits from Round 2 offers because the environmental benefits of offshore wind and other renewable resources are not recognized in PJM's energy market, which clears auctions based exclusively on price. In that sense, the environmental benefits of offshore wind are externalities, and therefore undervalued by the market. Skipjack Exhibit 12, Cain Rebuttal at 30-31.

[410] Skipjack Exhibit 10, Cain Direct at 10:14.

[411] US Wind Brief at 11, citing US Wind Exhibit 6, Jodziewicz Direct, at 282-83.

260. Although Sierra/MDLCV witness Bowes testified in favor of the offshore wind projects, she argued that the renewable energy projects must be developed with strong protections in place for coastal and marine wildlife, from pre-development activities, through construction and operations, to decommissioning.[412] In particular, she argued in favor of conditions that would protect critically endangered mammals such as the North Atlantic Right Whale as well as other species that reside in or transit the affected areas, including from noise and vessel strikes.

261. The Commission agrees. In order to ensure net environmental benefits, it is necessary through the imposition of conditions to mitigate potential environmental harms that could occur through the construction and operation of the offshore wind projects. Accordingly, the Commission is imposing conditions on each Applicant that relate to minimizing the sounds produced during the construction and operation phases of the project, both in-air and underwater; complying with restrictions on noise during the construction phase of the project; investigating technology that could minimize noise intrusion during construction, including, pile driving, to ensure the protection of marine mammals; taking precautionary measures to ensure that marine mammals are protected from harm during the development, construction, and operation phases of the project; abiding by all environmental remediation and mitigation measures imposed through subsequent state or federal agency review and permitting processes; and sharing findings from its research initiatives with the Maryland Energy Administration.[413]

[412] Sierra/MDLCV Exhibit 2, Bowes Direct at 6.

[413] These conditions include all of the environmental conditions that were included in Round 1 and imposed through Order No. 88192.

262. In particular, the Commission adopts the precautionary measures outlined by the Sierra Club/MDLCV to ensure that marine mammals are protected from harm during the development, construction, and operation of the offshore wind projects. The Commission also recognizes that further environmental remediation measures may be imposed through subsequent state or federal agency review processes associated with necessary project permits, and thus incorporates 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.

263. The award of ORECs is also conditioned upon the Applicants minimizing sounds during the construction and operation phases of their respective offshore wind projects, both under the water and by air. The Applicants testified that in-air and underwater sound modeling will be conducted as part of BOEM's review. For example, US Wind witness Jodziewicz testified that several federal permits will be wrapped into the NEPA process and will be reviewed concurrently with the EIS, including an Incidental Harassment Authorization or Letter of Authorization under the Marine Mammal Protection Act for pile driving and construction activities to protect marine mammals and sea turtles.[414] Ms. Jodziewicz also discussed how US Wind will assess and mitigate construction noise impacts, including sounds from pile driving related to project construction.[415] As a condition of the OREC award, both Applicants will be required to adhere to local laws and

[414] US Wind Exhibit 6, Jodziewicz Direct at 9.
[415] *Id*. at 16.

regulations related to minimizing sounds during the construction and operation phases of their projects, and their pile driving activities will be limited to daylight hours only.[416]

264. The Commission generally conditions its OREC award on the use of best commercially reasonable efforts to minimize the sounds produced during the construction and operation phases of the Applicants' projects, both in-air and underwater, and incorporates by reference any related monitoring or mitigation measures imposed by state or federal agencies during subsequent permitting and review processes.

265. Recognizing that available technologies to mitigate sound and lighting will continue to evolve, the Commission does not direct the use of any specific sound or lighting mitigation measures in this Order.[417] Instead, the Commission conditions 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.[418]

266. Sierra/MDLCV witness Bowes argued that as a condition of its approval of the offshore wind projects, the Commission should direct the Applicants to contribute to a regional research fund.[419] Specifically, Ms. Bowes asserted that New York and New Jersey

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[416] Skipjack witness Henry testified that the company would like the option of exploring potential future technologies that might enable pile driving to be done less restrictively. Skipjack Exhibit 5, Henry Rebuttal at 9; Hr'g. Tr. at 125 (Henry). Sierra/MDLCV opposed Skipjack's request, arguing that if Skipjack could abandon the condition in its sole discretion, that would "render the condition meaningless." Sierra/MDLCV Brief at 14. The original language of the condition will stand. Should such a technology become available, Skipjack is free to petition the Commission to make a change in the condition.

[417] US Wind witness Jodziewicz testified that air bubble curtains can be used as a mitigation measure to attenuate underwater sounds, such as those created by pile-driving. US Wind Exhibit 6, Jodziewicz Direct at 18.

[418] As discussed in Section IV(E)(3), however, the exception is ADLS. The Applicants are directed to use an approved ADLS if available and any other best commercially available technology during nighttime hours to minimize visual impacts from lighting.

[419] Sierra/MDLCV Exhibit 2, Bowes Direct at 11-12.

require awarded projects to contribute funds for regional research needed to assess and avoid potential impacts to fish and other wildlife in the amount of $10,000 per MW. The funds are used for regional wildlife and fisheries research needed to assess potential impacts and effectiveness of mitigation strategies. Ms. Bowes testified that this research is critical for driving innovations within the industry to advance solutions that can avoid or minimize impacts, especially given that offshore wind is in its infancy in the United States. MEA also voiced strong support for this fund, arguing that research into protecting ecosystems, ocean life, and fishery and wildlife monitoring, and other areas that could be impacted by offshore wind projects, would be a benefit to Maryland.[420] MEA requested that the funds be deposited in the Offshore Wind Generation Fund, which is a sub-account of the Strategic Energy Investment Fund administered by MEA.[421]

267. US Wind did not object to this proposed condition, though the company requested that it be allowed to disperse funds over a period of a few years rather than all at once.[422] US Wind has also pledged $100,000 to the Maryland Coastal Bays Program and plans additional research efforts directed to estuary programs. US Wind has pledged an additional $50,000 in support of the environmental program administered by the Assateague Coastal Trust Coast for Kids program.[423]

268. Skipjack argued that the condition is not necessary, "given the Company's significant research partnerships and programs related to fishery and wildlife monitoring

[420] MEA Exhibit 1, Beirne Direct at 14; MEA Brief at 9 and 11.
[421] MEA Exhibit 1, Beirne Direct at 14.
[422] Hr'g. Tr. at 506-07 (Grybowski).
[423] US Wind Dec. 2, 2021 Press Release: https://uswindinc.com/us-wind-announces-key-partnerships-with-local-conservation-groups/

that are already underway."[424] Nevertheless, Skipjack stated it would be open to partnering with MEA in the future.[425]

269. The Commission will not require that the Applicants directly contribute to a regional research fund, i.e., the Offshore Wind Generation Fund, as Sierra/MDLCV and MEA requested. As evidenced by Skipjack's testimony, the mandating of a research fund may be duplicative of research the Applicants are already conducting. Additionally, it is not clear from the record that the $10,000 per MW contribution to research funds required by New York and New Jersey are comparable to Maryland's offshore wind program. For example, those states' contributions may be required as part of the original solicitation for bids, or in law or regulation, unlike Maryland. Additionally, the required contribution would be sizable—approximately $8 million per 800 MW project—without substantial discussion on the record for how a fund that large would be used.[426] The Commission also observes that each Applicant is required by Maryland law to make a $6 million contribution to the Maryland Offshore Wind Business Development Fund, which provides emerging businesses with the financial assistance necessary to prepare for an active role in the State's new offshore wind industry.[427] It is not clear that New York and New Jersey require funds comparable to Maryland's. However, given the importance of the Applicants' coastal bays, estuary and regional wildlife and fisheries monitoring and research programs, Skipjack's agreement to partner with MEA to share its research findings, and the absence of an objection by US Wind to supporting MEA's research efforts, the Commission will require

[424] Exhibit 17, Walker Rebuttal at 9-10.
[425] *Id*. at 10.
[426] Hr'g. Tr. at 737 (Beirne).
[427] *See* PUA § 7-704.1(g). *See also* COMAR 20.61.06.05.

that the Applicants share their lists of current and planned research activities and the findings from their respective Maryland Shores, coastal bays and streams, and Delmarva Peninsula environmental research and monitoring programs with MEA.

270. Sierra/MDLCV also raised the issue that the construction of the offshore wind projects may present environmental justice issues by exposing Maryland residents who live or work near those facilities to increased levels of air pollution.[428] Sierra/MDLCV asks that the Commission address these environmental justice issues by requiring the use of shore power and electric powered cargo loading vehicles, to avoid the burning of diesel in on-board generators when in port. Sierra/MDLCV also asks the Commission to require US Wind and Skipjack to file plans addressing how they intend to limit the emissions at each facility as well as file updates reporting how successful each company has been in its efforts. Finally, Sierra/MDLCV asks that the Commission require both Applicants to develop a zero-emissions O&M facility.[429]

271. Skipjack has stated that it is confident that the Skipjack O&M facility will be a zero-emission facility.[430] During the evidentiary hearing, Skipjack witness Walker testified that an organization named the Science Based Targets Initiative recently established a net zero standard, and validated Ørsted's 2040 net zero commitment against those standards.[431]

272. The Commission declines to impose a requirement on the Applicants to use any particular kind of power, such as electric shore power, in their operations. However, the

[428] Sierra/MDLCV Brief at 19.
[429] *Id*. at 24.
[430] Skipjack Phase 2.1 Application at 5–9.
[431] Hr'g. Tr. at 437-38 (Walker).

Commission agrees with requiring as a condition of OREC approval that the Applicants ensure that their respective O&M facilities are net zero-emission facilities. Additionally the Commission will require US Wind and Skipjack to file plans addressing how they intend to limit the emissions at each facility as well as file updates reporting how successful each company has been in its efforts.

273. With the imposition of these conditions, the Commission concludes that US Wind and Skipjack each provided acceptable analyses that demonstrate, in conjunction with other evidence adduced in this proceeding, that the projects will yield positive net environmental, and health benefits to the State of Maryland, as required by PUA § 7-704.1(d)(1)(vi).[432]

3. Viewshed Impacts from Offshore Wind Projects

274. The Town of Ocean City has taken the position that the current proposals from Skipjack and US Wind will damage the viewshed of the eastern horizon from the Ocean City shoreline, resulting in economic harm to Ocean City and its residents, businesses, and landowners. In turn, both US Wind and Skipjack[433] have argued that their projects will not be visually distracting, will cause no harm, and may even provide a benefit to local tourism. Ocean City asks that the Commission either condition the approval of any OREC funding on the Applicants agreeing to build the turbines no closer than 30 miles from shore, or as far back in the leaseholds as commercially possible, but at a minimum no closer than 20

[432] Because the record provides sufficient evidence to demonstrate that the categories of economic, environmental, and health benefits accruing to the State as a result of each proposed offshore wind project independently yield net positive results, the Commission need not reach the question of whether the statute 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 offshore wind projects.

[433] US Wind Brief at 36-44; Skipjack Brief at 44-45.

miles from shore.[434] US Wind argues that its project cannot be relocated or modified to meet Ocean City's requests because of the size and location of the offshore wind lease it received from BOEM, which means compliance with the requests would limit the amount of wind energy the project could generate.[435] Skipjack states that it has worked with Ocean City to resolve issues regarding viewshed and that its projects already comply with Ocean City's 20 mile request.[436]

275. On the question of what impact the projects may have on Ocean City, both parties rely primarily on competing visual simulations and interpretations of academic research surveys. The usefulness, limitations, and availability of both are now well established in the record. The parties appear to agree that visual simulations are useful tools, but they are unlikely to accurately represent the experienced visual impact, whether positive or negative, of the proposed projects on a non-hypothetical live visitor to Ocean City. Additionally, the existing research on the economic impact of offshore wind on local beach tourism is thin and subject both to criticism and to competing interpretations and extrapolations.

276. The Commission has previously found a strong public interest in ensuring that impacts to the viewshed as a result of an offshore wind project are minimized to the fullest extent possible.[437] The Commission has not changed its position on that issue. The Commission has no illusions, however, about the fact that the construction of offshore wind turbines off the coast of Maryland will have some impact on viewshed. The Commission

[434] Ocean City Brief at 3.
[435] US Wind Brief at 45-46.
[436] Skipjack Brief at 43-44.
[437] Case No. 9431, Order No. 88192, at 44.

can only try to minimize any negative impact while simultaneously working to meet its other statutory obligations with regard to this OREC round.

277. With that in mind, the Commission finds that Ocean City's request that the Commission require all turbines be located at least 30 miles from shore is not reasonable, in that it would disqualify all existing bids and unreasonably delay the next steps towards a greener energy future for Maryland, as envisioned by the legislature. Similarly, Ocean City's request for a 20 mile minimum is also unreasonable because it would prohibit use of a significant portion of the lease area. The Applicants are constrained by their lease areas, over which the Commission has no control.

278. However, the Commission finds that it is necessary to condition this Order on several measures that will further safeguard the public interest. First, the Commission conditions the OREC award on the filing by each Applicant of its SAP, COP, and NEPA documents[438] with the Commission contemporaneous with any submission to BOEM, or other relevant federal agency.[439] Further, the Commission's 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

[438] Prior to the construction of their respective offshore wind projects, both Applicants must seek significant additional regulatory reviews by the federal government before either offshore wind project could begin construction. Further consideration of viewshed impacts will be achieved through the consultation and environmental review processes that are undertaken through BOEM's review of the Applicants' SAP and COP. Additionally, BOEM's approval of a COP will be contingent on a proposed offshore wind project's successful completion of a National Environmental Policy Act ("NEPA") review. 30 CFR part 585.

[439] The Applicants are not required to refile with the Commission those BOEM-related documents that they have already filed with the Commission.

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.

279. Second, the Commission conditions the OREC award on the use by each Applicant of best commercially-reasonable efforts to minimize the viewshed impacts of their respective offshore wind projects, regardless of the outcome of the federal review processes described above. Given the proposed location of the US Wind Bid 2 project, this condition requires US Wind to locate its project in the eastern-most portion of the Maryland Wind Energy Area that could reasonably and practicably accommodate the project, so as to reduce visual impacts on the State's coastal communities. Both Applicants are also directed to continue consultations with stakeholders affected directly by the viewshed issue.[440]

280. Third, the Commission conditions its OREC award on the requirement that each Applicant use best commercially-reasonable efforts to minimize the nighttime viewshed impacts. Both US Wind and Skipjack confirmed that their proposed offshore wind projects will comply with FAA lighting requirements and the United States Coast Guard's requirements for Aids to Navigation.[441] Furthermore, during the evidentiary hearing, both Applicants discussed that alternative lighting schemes to reduce visual impacts, including ADLS, would be considered by BOEM during its review processes, and that the Applicants

[440] Any adjustments to the offshore wind project's siting must conform to the definitional requirements of a Qualified Offshore Wind Project outlined in PUA § 7-701(k).
[441] Skipjack Application at 2-54; US Wind Exhibit 5, Filippelli Rebuttal at 1-6.

would install them if feasible and commercially available.[442] The Commission therefore directs both Applicants to pursue 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. The Commission also imposes conditions on the Applicants related to minimizing the sounds produced during the construction and operations phases of their respective projects. Those conditions are further discussed in Section IV(E)(2), relating to environmental and health concerns.

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

281. The PUA and Commission regulations require the Commission to evaluate several aspects of how each proposed offshore wind project would affect employment, labor, and small businesses in the State.[443] Specifically, the PUA requires that the Commission evaluate and compare for each applicant's proposed project, the extent to which the applicant's plan for engaging small businesses meets the goals specified in Title 14, Subtitle 5 of the State Finance and Procurement Article;[444] the extent to which an applicant's plan provides for the use of skilled labor, particularly with regard to the construction and manufacturing components of the project, through outreach, hiring, or referral systems that are affiliated with registered apprenticeship programs under Title 11, Subtitle 4 of the Labor and Employment Article;[445] the extent to which an applicant's plan

[442] Hr'g. Tr. at 183, 186-87 (Perkins); Hr'g. Tr. at 565 (Filippelli); US Wind Exhibit 5, Filippelli Rebuttal at 2-6; Skipjack Exhibit 7, Perkins Rebuttal at 16.
[443] 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).
[444] PUA §§ 7-704.1(d)(1)(vii).
[445] PUA §§ 7-704.1(d)(1)(viii).

provides for the use of an agreement designed to ensure the use of skilled labor and to promote the prompt, efficient, and safe completion of the project, particularly with regard to the construction, manufacturing, and maintenance of the project;[446] and the extent to which an applicant's plan provides for compensation to its employees and subcontractors consistent with wages outlined under §§ 17-201 through 17-228 of the State Finance and Procurement Article.[447]

282. ICF evaluated the adequacy of each Applicant's plan demonstrating engagement of small and minority businesses (discussed above), commitment to the use of skilled labor, and labor compensation plan.[448] ICF found each plan adequate.

283. Regarding Skipjack, ICF observed that the Applicant committed that, for contracts related to permitting, engineering, construction, and maintenance services, it will require its contractors to use good faith efforts to meet or exceed the goals of 10% small business participation. Additionally, ICF reported that Skipjack will require each major contractor working on the Skipjack project to post their prevailing wage rate and keep records for inspection.

284. ICF stated that US Wind provided details of its agreements, including specific language related to the labor union's commitment to outreach to minority-owned businesses. ICF also reported that US Wind committed to host "business incubators" for minority and small businesses.

[446] PUA §§ 7-704.1(d)(1)(ix).
[447] PUA §§ 7-704.1(d)(1)(x).
[448] ICF Report at 38-40.

285. The Commission finds that US Wind and Skipjack have complied with the PUA and regulatory requirements related to engaging small businesses in furtherance of State goals, providing for the use of skilled labor and appropriate agreements to promote the prompt, efficient, and safe completion of the offshore wind project, and providing for compensation to employees and subcontractors consistent with the wages outlined in §§ 17-201 through 17-228 of the State Finance and Procurement Article.

286. In support of this conclusion, the Commission observes that US Wind submitted comprehensive plans for engagement with and participation of small businesses, consistent with the goals specified in Title 14, Subtitle 5 of the State Finance and Procurement Article.[449] US Wind witness Grybowski testified that the company's project will be a union project, utilizing an array of organized labor organizations, especially for the construction and manufacturing phases of the project.[450] US Wind has committed to use labor through the use of referral systems affiliated with registered apprenticeship programs under Maryland law at Title 14, Subtitle 5 of the State Finance and Procurement Article and COMAR 09.12.43, *et. seq*. (Maryland Apprenticeship and Training).[451] US Wind has already executed three MOUs with three labor organizations, which are the Baltimore-DC Building and Construction Trades, the International Brotherhood of Electrical Workers, and the United Steelworkers.[452] These agreements memorialize US Wind's commitments to utilize skilled labor, training, apprenticeships, and worker safety. US Wind has

[449] US Wind Application at §§ 3.1 and 3.2
[450] US Wind Exhibit 1, Grybowski Direct at 7.
[451] US Wind Application at 194.
[452] US Wind Exhibit 1, Grybowski Direct at 7.

committed to require its contractors and their subcontractors to utilize skilled labor.[453] US Wind also committed to compensate its skilled labor through prevailing wage or better with associated benefits, as prescribed by §§ 17-201 through 17-228 of the State Finance and Procurement Article.[454]

287. Skipjack also presented to the Commission strong commitments to meet the small business, use of skilled labor, and compensation requirements required by the PUA and Commission regulations. Skipjack committed that its contracts for permitting, engineering, construction, and maintenance services performed within the State will require that its contractors use good faith efforts to achieve or exceed the goal of 10 percent small business participation.[455] Skipjack has also established relationships with several skilled labor organizations, including the American Federation of Labor, the Congress of Industrial Organizations, and North America's Building Trades Union, and has committed to building out its projects through collectively-bargained Pre-hire Labor Agreements designed to increase participation of a unionized workforce in offshore wind construction.[456] Additionally, Skipjack has committed to build on the relationships it has established with local contractors and trade labor organizations in its development of Skipjack Wind Phase 1 to craft agreements for its approved Round 2 project that will ensure the prompt, efficient, and safe completion of all aspects of construction.[457]

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[453] US Wind Application at 194-95.
[454] *Id*. at Section 3.5; US Wind Exhibit 1, Grybowski Direct at 7.
[455] Skipjack Exhibit 16, Walker Direct at 15-16; Skipjack Exhibit 17, Walker Rebuttal at 4-5; Skipjack Ex. 3, Skipjack Wind Phase 2.1 Application at 3-2 to 3-3.
[456] Skipjack Exhibit 16, Walker Direct at 16.
[457] *Id*.

G. Siting and Project Feasibility

288. The PUA directs the Commission to evaluate and compare offshore wind proposals based on siting and project feasibility.[458]

289. ICF ranked each proposed project at a 2, based on the demonstration by each Applicant of site control for federal wind turbine generator leases and some progress toward securing sites and easements, including approvals as needed for energy transmission to the point of interconnection and for construction and operation and maintenance activities.[459] ICF stated that the Applicants demonstrated progress for site control that is consistent with this stage of project development. ICF also found that both Applicants demonstrated a commitment to engaging local communities representing a diversity of stakeholder interests, stating: "Both Applicants have demonstrated a strong commitment to local community engagement and have been actively doing so in connection with their respective Applications."[460] ICF observed that neither Applicant has obtained a subaqueous lease from Delaware for siting transmission facilities in state-controlled waters, or public or private leases/easements for transmission landfall locations and transmission runs to the points of interconnection. However, ICF found that reasonable at this stage of project development.[461]

290. On a pass/fail scale, ICF rated each project as "pass" with regard to project COD and schedule criterion.[462] ICF found that all five bids included reasonable high-level procurement and construction milestone schedules. Regarding Skipjack, ICF reported that

[458] PUA § 7-704.1(d)(1)(xi).
[459] ICF Report at 27.
[460] *Id*.
[461] *Id*. at 28.
[462] *Id*. at 29.

its Phase 2.1 project provided a reasonable project schedule, which consisted of approximately 5.5 to 6 years of development and construction with a project COD at the end of 2026. Regarding US Wind, ICF reported that Bid 2 provided a reasonable project schedule, which consisted of approximately 6 years of development and construction with the two parts achieving COD separately - 411.6MW COD in 2026 and 396.6MW COD in 2027.[463]

291. The Commission finds that both Applicants satisfy the PUA requirements regarding project feasibility. In their Applications, both companies provided a sufficient site plan and location, technology description, siting and spacing of turbines, water depths, and seabed description.[464] Both Applicants also provided significant detail regarding proposed wind turbine technology, together with the associated foundations, support structures, and electrical requirements, though neither Applicant has made a final selection for their projects.[465] The Commission finds that both Applicants provided sufficient plans relating to site control, plant components, procurement and construction plans, operation and management plans, federal, state, and local permitting and approval plans, and decommissioning plans.

292. Regarding COD, US Wind submitted a procurement and construction plan with milestones, updated to reflect the revisions to Bid 2 in US Wind's Best and Final Offer filed with the Commission on October 26, 2021.[466] As discussed above, the Commission finds

[463] *Id*.
[464] US Wind Application at § 2.1, Appendix 2.1.1; Skipjack Exhibit 3, Skipjack 2.1 Application at Section 2.10 & Attachment 2-10 (Permitting Matrix); Skipjack Exhibit 8, Siskind Direct at 11-13; Skipjack Exhibit 6, Tanner Direct, Exhibit DT-1 at 15:7-9; ICF Exhibit 1, ICF Report at 29.
[465] US Wind Application at §§ 2.4, 2.5, and 2.6.
[466] Maillog No. 237554.

that it is feasible for US Wind to construct and make operational its Bid 2 project by December 2026, as committed by US Wind in its Best and Final Offer. The ICF Report, however, reviewed Bid 2 pursuant to the assumption that its second tranche would not be completed until 2027. Skipjack made no such change in its Application. Accordingly, the Commission finds that the feasibility ranking for US Wind and Skipjack should not be the same.

293. Additionally, the Commission finds that Skipjack has made more progress than US Wind in advancing its Round 1 project, which further informs the Commission's decision to rate the Skipjack's Phase 2.1 project higher regarding feasibility than US Wind's Bid 2. In particular, Skipjack will have invested more than $47 million by the end of 2021 to advance its Round 2 projects, including through offshore surveys, retaining Maryland contractors, working with a Maryland-based business to advance its array cable factory, and making further investments in Tradepoint Atlantic.[467] Skipjack asserts that those expenditures are in addition to the $48 million Skipjack has spent in Maryland on its Phase 1 project.[468] Skipjack also submitted PJM queue requests in early 2020 to support several points of interconnection and project capacities to ensure flexibility and to reduce risk to the project schedule.[469] Additionally, in January 2020, Skipjack deployed a FLiDAR met-ocean buoy within the Skipjack Lease Area to record wind data, which collected wind data for the 18 months preceding Skipjack's submission of its Phase 2.1 Application.[470] In

[467] Skipjack Response to Bench DR 2.
[468] Skipjack Amended Response to Bench DR 1; Skipjack Exhibit 3, Henry Direct at 14.
[469] Hr'g. Tr. at 220 - 221 (Siskind).
[470] Commission Exhibit 3 (Skipjack Response to Bench DR 3).

contrast, US Wind has not made as much progress in Round 1.[471] Finally, Skipjack's ability to finance 100 percent of its Phase 2.1 project with equity significantly reduces the risk of obtaining project financing and increases the feasibility of Skipjack's project.[472] For those reasons, the Commission will rank Skipjack as a 3 on feasibility and retain US Wind's rank of 2.

294. Finally, Staff witness Taborsky recommended that the Applicants provide quarterly reports to update their progress on the development status of the proposed offshore wind projects.[473] US Wind and Skipjack each agreed to this condition either in their prefiled testimony or during the evidentiary hearings.[474]

295. The Commission adopts Staff's suggestion. Quarterly milestone reporting will help ensure that the Applicants meet their regulatory requirement to diligently pursue and engage in a continuous development and construction program to achieve project COD. Therefore, in accordance with COMAR 20.61.06.16H, the Commission will require that the Applicants file with the Commission quarterly progress reports on the status of the proposed offshore wind projects' development, including but not limited to milestones for site assessment, engineering, permitting, turbine certification, financing, procurement, manufacturing, construction activities, testing, and commissioning commercial operation dates.

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[471] *See* Hr'g. Tr. at 486 (Grybowski) (conceding that US Wind has not yet entered into a lease agreement for an O&M base in Ocean City, has not obtained development permits for required upgrades at Tradepoint Atlantic, has only invested $3 million of the necessary $77 million to upgrade the Tradepoint Atlantic shipyard and invest in a Maryland steel fabrication plant, and has not yet identified a manufacturing partner for its proposed monopile factory. Additionally, US Wind did not launch its own met-ocean buoy until May 2021, and therefore did not include any site-specific data in its capacity factor estimates.)

[472] Skipjack Exhibit 14, Majola Direct at 5.

[473] Staff Exhibit 3, Taborsky Direct at 12.

[474] Skipjack Exhibit 5, Henry Rebuttal at 8; Hr'g. Tr. at 505 (Grybowski).

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

296. The PUA and Commission regulations require that the Commission evaluate and compare the extent to which the proposed offshore wind project would require transmission or distribution infrastructure improvements in the State.[475]

297. 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.[476] Owners of any proposed new generating facilities are financially responsible for the cost of any required upgrades. Therefore, the Applicants will be responsible for any required transmission interconnection and upgrade costs, with no increase in the OREC price paid by customers.

298. ICF verified that the Applicants' project sites all fall in the outer continental shelf of the Atlantic Ocean in federally designated lease areas off the coast of the Delmarva Peninsula between 10 and 30 miles off the coast of the State, and the projects would interconnect to the Delmarva transmission network, as required by the Offshore Wind Energy Act and CEJA.[477]

299. ICF reviewed the Applicants' transmission upgrade cost allocation pursuant to COMAR 20.61.06.03 B (1)(a)(vi), and found that the nameplate capacities of the bids are not larger than the capacities required to deliver the ORECs proposed in the Applications. Accordingly, the Applications were all submitted as 1-part bids, which require the

[475] PUA § 7-704.1(d)(1)(xii); COMAR 20.61.06.03.B(1)(a)(ix).
[476] PJM Planning Division – Interconnection Projects Department, PJM Manual 14A New Services Request Process (Rev. 29 Effective Aug. 24, 2021).
[477] ICF Report at 11. CEJA expands the authorized geographical reach of an OREC from 10-30 miles to 10-80 miles off the coast of the State.

Applicant to take on the risk that the actual cost of PJM transmission system upgrades may be different than anticipated.[478]

300. Pursuant to COMAR 20.61.06.03 B (1)(a)(ix), ICF evaluated the Applications with regard to transmission improvements. ICF observed that "[o]ne of the greater risks to offshore wind facilities is the interconnection costs," given the significant costs related to hardening of onshore transmission networks and development of offshore transmission.[479] ICF reported that both Applicants are at a similar stage in their transmission applications to PJM. ICF stated that US Wind initiated interconnection discussions with PJM and holds two queue positions that will accommodate up to 1,346.4 MW in capacity and are sufficient to interconnect the three proposed projects.[480] Similarly, Skipjack filed interconnection requests with PJM at two DPL substations, the Indian River 230 kV and Milford 230-kV substations. The results from PJM's System Impact Study for the Indian River substation are anticipated in February 2022, and results from PJM's Feasibility Study for the Milford substation are anticipated in January 2022.[481] ICF also found that all five bids included reasonable high-level assessment of the potential costs and benefits of transmission improvements, and the consultant therefore awarded a 2 for each project.[482]

301. The Commission agrees with ICF that the Applicants have made reasonable progress in their transmission-related requests with PJM, and that both Applicants have

[478] ICF Report at 30.
[479] ICF Report at 26.
[480] *Id*. at 32.
[481] *Id*. at 33.
[482] *Id*. at 32.

satisfied the statutory requirements with respect to this criterion. ICF's rankings are appropriate, as the Applicants have made similar levels of progress.

302. The Commission observes, however, that OPC raised an important issue related to transmission costs and a potential risk imposed on ratepayers. OPC notes that the Applicants have factored in their estimates of transmission upgrade costs the OREC price schedules they have presented, and that the bids made by the Applicants accept the risk of being responsible for the final determination of those costs by PJM.[483] However, both Applicants recognized during the evidentiary hearing the potential that, in order to facilitate the transition to renewable resources, the State or the federal government could implement policies resulting in Maryland customers paying for transmission projects, such as through PJM's State Agreement Approach.[484] In that case, ratepayers would pay for the transmission upgrades for which the developer—in this case the Applicants—would otherwise have been responsible. OPC witness Chang recommended that the Commission require any successful Applicant to share cost savings from any such future transmission cost savings attributable to transmission solutions that result from a regional and/or federal approach to integrate offshore wind transmission that is outside the current radial transmission approach.[485] OPC warned that without this condition, Maryland ratepayers could pay twice for transmission upgrades—once through the OREC price that is intended to account for such upgrade costs, and a second time by paying directly for transmission

[483] OPC Brief at 28.
[484] Hr'g. Tr. at 66-69 (Hardy); Hr'g. Tr. at 499-503 (Grybowski). FERC's recent Advanced Notice of Proposed Rulemaking is another example. RM21-17-000, *Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*.
[485] OPC Exhibit 1, Chang Direct at 22.

projects as a result of a state or federal policy.[486] The Applicants agreed with providing some sort of rebate to customers if this eventuality occurred, though they argued it was unlikely given the short timeframe in which the projects need to be built, and the long period required for government to pursue building a significant transmission project through a mechanism such as the State Agreement Approach.[487]

303. The Commission agrees with OPC that it would be unfair for customers to pay twice for transmission improvements that the PJM process is designed to assign to developers. Therefore, as a condition of the OREC award, the Applicants shall rebate the savings from any government-sponsored transmission upgrades that result in Maryland ratepayers taking on the burden of paying for transmission projects that are designed to allow offshore wind generating units to deliver their full output to the grid with fewer upgrade costs to be paid by offshore wind projects.[488]

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

304. The PUA and Commission regulations require that the Commission evaluate and compare the estimated ability of the proposed offshore wind project to assist in meeting the State's renewable energy portfolio standard pursuant to PUA § 7-703.[489]

305. The Offshore Wind Energy Act established an OREC carve-out, not to exceed 2.5%, from Tier 1 of the State's RPS beginning no sooner than 2017.[490] CEJA removes the 2.5% cap beginning in 2021. CEJA also elevates the RPS goal to 50% Tier 1 renewable

[486] OPC Brief at 29.
[487] Hr'g. Tr. at 82 (Hardy); Hr'g. Tr. at 500 (Grybowski).
[488] The savings from any government-sponsored transmission upgrades shall be rebated 100% to ratepayers, unlike the 80-20 or 50-50 shared savings related to EPC costs.
[489] PUA § 7-704.1(d)(1)(xiii) and COMAR 20.61.06.03 B (1)(a)(xii).
[490] PUA § 7-703(b).

resources by the year 2030.[491] Regarding offshore wind resources specifically, CEJA requires that a minimum amount of energy come from Round 2 offshore wind projects between the years 2026 and 2030. Specifically, CEJA requires at least 400 MW of Round 2 offshore wind projects in 2026 and 2027, and at least 800 MW of Round 2 offshore wind projects in 2028 and 2029. By 2030, CEJA requires at least 1,200 MW of Round 2 offshore wind projects.[492]

306. ICF reviewed the extent to which the Applicants proposed projects will assist in meeting the renewable energy portfolio standard, considering the expected generation confidence level associated with the proposed OREC amount.[493] ICF observed that each Applicant conducted its own wind resource modeling for its respective lease areas. ICF found that across all five proposed projects, the range of assumptions for energy yield was within a reasonable range. ICF noted that a major assumption difference between the Applicants was wind speed, and that the different speeds relied on are evidence-based and factual. ICF stated that both parties utilized a rigorous analysis in developing their capacity factor estimates. Regarding ranking, ICF awarded Skipjack's two projects a 3 each, and US Wind's projects a 2 each.[494]

307. The Commission agrees with ICF's analysis. Both Applicants have proposed projects that will help the State meet its RPS goals, including its growing Tier 1 renewable goal, and its offshore wind carve-out. Given the General Assembly's strong mandate to increase the use of renewable resources in this State, including individual mandates for

[491] PUA § 7-703(b)(25).
[492] PUA § 7-703(b)(21)–(25). These amounts are subject to certain restrictions, such as the net ratepayer impact cap.
[493] ICF Report at 37-38.
[494] *Id*. at 37.

offshore wind, (and subject to ratepayer impacts discussed below), the Commission finds that approving both proposed offshore wind projects would best contribute to the realization of Maryland's RPS goals. Specifically, those projects are US Wind Bid 2 and Skipjack Phase 2.1, both as revised through the Applicants' Best and Final Offers.

308. Because the Skipjack Phase 2.1 project has a higher estimated annual output than the US Wind Phase 2 project, Skipjack's project is projected to produce more ORECs per year to meet Maryland's RPS targets, which warranted the marginally higher score for Skipjack in assisting the State in meeting its RPS goals.[495] However, both projects will assist the State in meeting its RPS renewable and offshore wind-specific goals.

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

309. In addition to the statutory criteria reviewed in the previous sections, the PUA also authorizes the Commission to consider any other criteria that it deems appropriate when comparing and contrasting the Applications.[496] Through the promulgation of regulations in Rulemaking 51, the Commission expanded on several of the existing statutory criteria and adopted a multitude of additional considerations. Specifically, the regulations require the Commission to consider the following supplemental factors beyond those outlined explicitly by statute: qualifications of the applicant's project team; the reasonableness and appropriateness of certain project characteristics; the applicant's financial plan; demonstration of site control; project COD and schedule; if applicable, the reasonableness

[495] US Wind asserts that ICF based its RPS analysis solely on US Wind's lower wind efficiency assumption; however, the Commission notes that Skipjack has more real-world data to develop its capacity factor, having launched its FLiDAR met-ocean buoy in January 2020 (Skipjack Exhibit 8, Siskind Direct at 7), while US Wind did not launch its own met-ocean buoy until May 2021, and therefore did not include any site-specific data in its capacity factor estimates. US Wind Exhibit 6, Jodziewicz Direct at 8.

[496] PUA § 7-704.1(d)(1)(xiv).

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.[497]

310. The Commission finds that each of these additional criteria outlined in the regulations was considered extensively in the development of ICF's Report. ICF conducted a thorough qualitative and quantitative analysis, and having considered the ICF Report and the evidentiary record as a whole, the Commission concludes that ICF's Report and the record support the Commission's decision not to disqualify from consideration either of the Applications, and to grant OREC awards to US Wind Bid 2 and Skipjack Phase 2.1, as revised by the Applicants' Best and Final Offers.[498]

311. After a review of these additional criteria, the Commission imposes one additional condition. An approved offshore wind 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.[499]

[497] COMAR 20.61.06.03.B(1)(a).

[498] ICF Report at 2-7. Commission 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).

[499] 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.

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

312. PUA § 7-704.1(e)(1)(ii) provides that if the Commission receives reasonable[500] proposals that demonstrate positive net economic, environmental, and health benefits to the State, based on the criteria specified in subsection PUA § 7-704.1(c)(3) (relating to the applicant's cost-benefit analysis), then the Commission shall approve orders to facilitate the financing of qualified offshore wind projects, including at least 1,200 megawatts of Round 2 offshore wind projects. As described in Section IV(E) above, the Commission finds that US Wind Bid 2 and Skipjack Phase 2.1 would provide, if approved, positive net economic, environmental, and health benefits to the State.

313. Nevertheless, the PUA precludes the Commission from approving a Round 2 offshore wind project unless the projected incremental net rate impacts for an average residential customer and for nonresidential customers do not exceed certain thresholds.

B. Projected Net Ratepayer Impacts and OREC Price Schedule

314. CEJA provides that the Commission may not approve a Round 2 proposed offshore wind project unless the projected incremental net rate impact for an average residential customer,[501] combined with the projected incremental net rate impact of other approved

[500] The Commission finds that US Wind Bid 2 and Skipjack Phase 2.1 are reasonable projects because they meet the threshold requirements necessary for a project to be approved, including that the Applications were determined to be administratively complete pursuant to COMAR 20.61.06.02, and met the minimum threshold criteria required by COMAR 20.61.06.03.5. The Applications also will provide positive net economic, environmental, and health benefits to the State, as evidenced by the results of the quantitative and qualitative analyses, and are within the financial and technical abilities of the Applicants to construct. Additionally, the Commission finds no significant adverse impacts related to the projects that would make them unreasonable.

[501] CEJA bases the average residential customer on annual consumption of 12 megawatt-hours. PUA § 7-704.1(e)(iii)2A.

Round 2 offshore wind projects,[502] does not exceed 88 cents per month in 2018 dollars, over the duration of the proposed OREC pricing schedule.[503] Additionally, the Commission may not approve a Round 2 proposed offshore wind project unless the projected incremental net rate impact for all nonresidential customers considered as a blended average, combined with the projected net rate impact of other approved Round 2 offshore wind projects, does not exceed 0.9% of nonresidential customers' total annual electric bills during any year of the proposed OREC pricing schedule.[504]

315. Pursuant to COMAR 20.61.06.03 B (1)(a)(xvi), ICF evaluated each Applicant's analysis of rate impacts, including consideration of whether the Applicant's analysis properly reflects proposed OREC pricing and the unique character of the Applicant's pricing proposal. ICF observed that US Wind engaged PA Consulting to provide a ratepayer impact analysis as well as a power market impact analysis, which were consistent with the methodology utilized in Round 1.[505] ICF stated that PA Consulting developed a rate impact model utilizing a combination of its own forecasts for market impact, historical information on retail rates for Maryland as reported by the Energy Information Administration, and assumptions contained in the OREC pricing schedule spreadsheet. ICF indicated that under PA Consulting's analysis, each US Wind project passed the ratepayer impact tests. ICF found that the methodology applied was well explained and

[502] In the event that more than one offshore wind 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.
[503] PUA § 7-704.1(e)(iii)2A.
[504] PUA § 7-704.1(e)(iii)2B. An approved Round 2 project must also be subject to a community benefit agreement, pursuant to PUA § 7-704.1(e)(iii)2C.
[505] ICF Report at 41.

the analytical approach taken was consistent with Maryland requirements. Accordingly, ICF awarded 3s for US Wind's analysis of its projects.[506]

316. Regarding Skipjack, ICF observed that the company engaged Bates White LLC to provide cost-benefit analysis for its Applications. ICF stated that the Bates White report included an analysis of impacts on residential, commercial, and industrial retail electric customers, as well as an analysis of the effects on wholesale energy, capacity, and ancillary services markets. ICF indicated that under the Bates White analysis, both Skipjack projects passed the residential and nonresidential rate impact tests. However, ICF awarded Skipjack's analysis 1s for each project, indicating a high-level discussion of methodology and results, and concerns with the approach.[507]

317. Pursuant to COMAR 20.61.06.03B(1)(a)(xvii), ICF conducted an electric market analysis, reviewing each Applicant's analysis of long-term changes to the wholesale electric market associated with the project. ICF awarded US Wind a score of "2" for this analysis and a score of "0" for Skipjack, finding that for Skipjack, the methodology presented to estimate energy prices is not comprehensively documented and is not typical of industry standard production cost modeling.[508]

318. Pursuant to COMAR 20.61.06.03B(2), ICF conducted quantitative analyses to independently assess net ratepayer impacts to compare the proposed offshore wind projects. ICF evaluated the projects' price impacts on residential, commercial, and industrial retail electric customers.[509] The analysis examined the direct ratepayer impact

[506] *Id*. at 40-41.
[507] *Id*. at 40.
[508] *Id*. at 41-43.
[509] *Id*. at 6-8, 40.

due to change in wholesale market and REC prices; OREC payments based on the Applicants' proposed OREC schedules; and energy, capacity, and REC market offsets due to OREC purchase.[510]

319. Using its own methodology, ICF found that all three US Wind projects are within the threshold for residential customers, producing net impacts that are $0.81/month or less. ICF found that only US Wind Bid 1 passed the non-residential rate impact test.[511] Nevertheless, after US Wind submitted its Best and Final Bid regarding Bid 2, ICF confirmed that the revised Bid 2 also passed both tests.[512]

320. ICF found, using its own methodology, that neither Skipjack bid passed either the residential or the nonresidential rate impact test.[513] ICF further found that the US Wind projects would have the lowest ratepayer impacts. Because of Skipjack's relatively higher proposed OREC prices, ICF found that Skipjack's proposed projects have the highest net ratepayer impacts, with costs that would be double or more of those of US Wind projects of comparable capacity.[514]

321. The Commission finds that ICF provided a thorough analysis of ratepayer impacts. However, the Commission also finds that ICF's analysis was highly conservative. That is, it made assumptions that were at times improbable to ensure that the ratepayer impact ceilings were not exceeded under almost any scenario. For example, ICF acknowledged that its model assumed no electrification, even though Maryland's renewable and carbon

[510] *Id*. at 7.
[511] *Id*. at 8, 59-60.
[512] Hr'g. Tr. at 469 (Grybowski), 631 (Prevas), and 633 (Prevas).
[513] ICF Report at 7-8, 59-60.
[514] *Id*. at 59.

reduction goals have continued to ramp up through statutes such as CEJA and the Greenhouse Gas Reduction Act ("GGRA"), and even in the face of vehicle electrification occurring in Maryland now. ICF characterized its own analysis as "conservative" and opined that the Commission should consider both views (its model and more aggressive ones). *See* Hr'g. Tr. at 879 (Scheller) ("I feel the Commission would benefit from having both those views in front of them … and I do very freely admit that we are not considering any heavy electrification in this forecast. I agree with your assessment, it is conservative in that viewpoint. But I do think having a range of opinions to view and consider that you find trustworthy does have value as well as making a determination more challenging.")[515]

322. The most difficult task the Commission is presented with in this proceeding is analyzing the net ratepayer impact tests. CEJA's language makes explicit that the test involves a forecast of prices at least 20 years into the future – the duration of the OREC price schedule. PUA § 7-704.1(e)(iii)2 provides that for a Round 2 application, "the *projected* incremental net rate impact" will not exceed the residential or nonresidential caps. (Emphasis added). The Commission, therefore, must consider a multi-decade forecast of energy prices and take into account plausible variables that will affect those prices, such as electrification and decarbonization. Accordingly, the Commission agrees with ICF that it must consider both conservative and more aggressive scenarios in arriving at that forecast. The Commission does not agree, however, with the scores ICF awarded

[515] *See also* Hr'g. Tr. at 878 (Scheller) ("I think it's very fair for the Commission to consider both the conservative and the more aggressive decarbonization scenario.")

to Skipjack regarding its analysis.[516] To the contrary, the Commission finds Skipjack's Bates White analysis credible.

323. Skipjack's Bates White analysis is based on industry standard economic modeling techniques—production cost modeling and econometric regression.[517] The record supports the conclusion that use of these economic modeling techniques is common in the energy industry for evaluating energy markets, including for estimating effects on energy prices.[518]

324. Skipjack presented evidence that demonstrates that its Phase 2.1 project and US Wind's Bid 2 would both fit within the residential and nonresidential rate caps over the 20-year duration of the OREC price schedule.[519] The Bates White analysis which supported that conclusion used assumptions that were aggressive, but also credible and reasonable. For example, Skipjack witness Cain concluded that the capacity value benefit to ratepayers of the Phase 2.1 project would be approximately $57.3 million; however, in making that calculation, he did not attempt to estimate the potential clearing price reduction effect of the project on capacity prices, because of the complexity of PJM's capacity market. He argued, and the Commission agrees, that this assumption was conservative, in that it would understate the offsetting benefits of the project.[520]

325. In evaluating and comparing the methodologies and assumptions used by ICF and Bates White, the Commission finds that several factors demonstrate that the assumptions used by Bates White were reasonable and will likely more accurately reflect energy prices,

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[516] The Commission awards Skipjack a 2 for COMAR 20.61.06.03 B (1)(a)(xvi), involving each Applicant's analysis of rate impacts, and a 2 for COMAR 20.61.06.03 B (1)(a)(xvii), involving the Applicant's electric market analysis.

[517] Skipjack Ex. 12, Cain Rebuttal at 6-8; Skipjack Ex. 9, Hibbard Rebuttal at 18-20.

[518] Skipjack Exhibit 12, Cain Rebuttal at 7, 12; Skipjack Exhibit 9, Hibbard Rebuttal at 18-20.

[519] Hr'g. Tr. at 349-50 (Cain); Bench Data Request 9 to Skipjack; Skipjack Exhibit 12, Cain Rebuttal at 25.

[520] Skipjack Exhibit 10, Cain Direct at 14.

and ratepayer impacts, over the decades that the OREC price schedules will endure. Those factors are enumerated below.

326. *First*, electrification will likely drive growth in electric retail sales, including through the ongoing transformation of the auto industry to electric vehicles. Indeed, the Commission recently approved a five-year electric vehicle charging infrastructure pilot program to deploy fast-charging stations throughout the State to achieve the goal of 300,000 zero-emission electric vehicles on Maryland roadways by the year 2025.[521] Additionally, multiple states have examined reducing reliance on fossil fuels for home heating, and replacing it with electric heating, which would lead to additional growth in electricity demand in the future. Finally, growing use of air conditioning in a warming climate will drive higher electricity consumption.[522] Bates White assumed that Maryland retail energy sales will grow by 1.5% on average from the present through the OREC delivery period, while ICF assumed no load growth over the same period.[523] The Commission finds that the growth in electric demand will not be as low as predicted by ICF, and that the Bates White analysis may provide a more likely scenario. A higher electric demand rate will reduce the rate impact of the Skipjack Phase 2.1 project.[524]

327. *Second*, the combined Skipjack Phase 2.1 and US Wind Bid 2 projects will have a price suppressive effect greater than that assumed by ICF.[525] The approved offshore wind

[521] Case No. 9478, *In the Matter of the Petition of the Electric Vehicle Work Group for Implementation of a Statewide Electric Vehicle Portfolio,* Order No. 88997 at 36-37.
[522] Skipjack Exhibit 11, Cain Supplemental at 19.
[523] *Id*. at 8-10.
[524] Skipjack witness Cain testified that the Skipjack Phase 2.1 project would still pass the ratepayer impact tests if the retail energy sales growth rate was set at zero rather than 1.5%. Commission Exhibit 8 (Skipjack Amended Response to Bench DR 8); Hr'g. Tr. at 337-38 (Cain).
[525] *See* MEA Brief at 22.

projects will bid their energy into PJM's wholesale energy market at near zero prices, due to the near zero variable cost of wind, which will reduce clearing prices and lower the cost of all wholesale energy used to serve Maryland load.[526] Skipjack demonstrated that with a 2.6% price reduction rate, its project could pass the ratepayer tests using US Wind assumptions in ICF's economic models.[527] The combined US Wind and Skipjack projects, at double the capacity, would logically have a larger price-suppressive effect than Skipjack's project alone. ICF's analysis concludes that there would be virtually no downward price effect from these projects, assuming instead that the counterfactual to the construction of the offshore wind project would be a scenario where solar generators, who also bid at zero due to near-zero variable costs, would replace them.[528] The Commission does not find this ICF assumption reasonable. The Commission finds that the offshore wind projects would likely displace higher-cost fossil fuel generation that previously set the clearing price.[529] ICF's analysis also ignores that there is a statutory carve out for offshore wind, for which solar or any other generation type cannot serve as a substitute.[530]

328. *Third*, ICF's modeling undervalues the impact offshore wind will have on avoided Tier 1 REC payments. ICF's modeling assumes that if the offshore wind farms are not built, their capacity will be replaced with solar RECs or other renewable resources, and

[526] Skipjack Exhibit 11, Cain Supplemental at 24. The variable costs of fossil fuel generators such as gas and coal plants are much higher, due to the cost of purchasing the fuel and the cost of running the machinery to combust it.

[527] Skipjack Exhibit 12, Cain Rebuttal at 3, 22-24; Skipjack Exhibit 10, Cain Direct at 11-12, and 23-24.

[528] Skipjack Exhibit 11, Cain Supplemental at 24. Under ICF's analysis, the price-suppressive effect of Skipjack's offshore wind project bidding at zero would be less than four hundredths of a percent.

[529] ICF also argued that ICF's analysis assumed capacity prices well below the currently applicable net cost of new entry ("net CONE"), a level that is deemed necessary by PJM and the Federal Energy Regulatory Commission to support merchant investments in new generation capacity. The Commission agrees with Skipjack that the more likely scenario is that capacity prices will be higher than those assumed by ICF. *See* Skipjack Exhibit 11, Cain Supplemental at 10-11.

[530] Skipjack Exhibit 11, Cain Supplemental at 25-26.

that therefore the construction of the offshore wind projects would have a *de minimis* impact on avoided Tier 1 REC payments. Nevertheless, Maryland is a relatively small state geographically, with a significant population, which presents challenges for in-State utility scale solar generation to easily replace offshore wind power.[531] ICF's model also fails to account for the statutory carve-out for offshore wind.

329. *Fourth*, rising energy prices will make the offshore wind projects more valuable to ratepayers through their effect in moderating prices. However, ICF assumes relatively little energy price escalation, based in part on its view that natural gas prices will remain relatively stable and low.[532] ICF's assumptions regarding future energy and capacity prices within PJM are significantly more conservative than those used by either US Wind or Skipjack, which reduces the offsets of the near-zero variable cost offshore wind projects.[533] Nevertheless, the history of natural gas prices is one of considerable volatility. Even during the evidentiary hearing, the price of natural gas had spiked to a level that was "significantly higher" than that assumed by ICF or either Applicant.[534] Because natural gas prices affect electricity prices, ICF's assumption of low natural gas prices over the next 20 years may have significantly undervalued the offshore wind projects.[535]

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[531] US Wind Exhibit 8, Repsher Supplemental Direct at 34.

[532] *See* ICF Report at 53: "Going forward, ICF projects that the market will rationalize over the next few years, [with] expectations of continued low gas prices, modest demand growth, and continued new entry of CCGTs and renewables…"

[533] Skipjack Exhibit 12, Cain Rebuttal at 22-23. *See also* Hr'g. Tr. at 336 (Cain) stating: "If you wanted to secure power now, go to the market and buy a forward for 2026, you would pay $32 a megawatt hour. ICF is evaluating wind projects at $24 a megawatt hour…. We have real world market actionable data which shows that their prices are too low now, and the risk of relying on a very conservative analysis of that type is that valuable projects don't get approved. They don't happen. They don't get built. You don't get benefits to ratepayers."

[534] Hr'g. Tr. at 796-97 (Chang).

[535] *Id*. at 798. *See also* Skipjack Exhibit 11, Cain Supplemental at 15: "Because wholesale energy prices are largely determined by natural gas prices, the low ICF assumptions for natural gas prices translate to low energy prices, and consequently a low valuation for offshore wind generation."

330. *Fifth*, PJM revised its Effective Load Carrying Capacity ("ELCC") credit in a manner that will financially benefit the offshore wind projects and ratepayers. Specifically, PJM revised its ELCC projections for offshore wind from 27% through the year 2028 and 21% thereafter to 35% in 2026, falling to 30% in 2031.[536] In contrast, ICF used inputs based on older PJM projects that provided a lower ELCC for offshore wind projects. The use of PJM's revised ELCC will increase potential revenue offsets for the US Wind and Skipjack projects and reduce their rate impact on customers.[537]

331. Ultimately, neither the PUA nor Commission regulations prescribe a specific formula for calculating projected customer net rate impacts, or require that the Commission choose one economic model over another.[538] Instead, ICF's conservative analysis of the projected rate impacts of the offshore wind projects informs the Commission in conjunction with the more aggressive projections of US Wind and Skipjack. Overall, considering all of the testimony on this issue and the various competing assumptions of the parties and expert witnesses, the Commission finds that the US Wind Bid 2 and Skipjack Phase 2.1 projects can be built without exceeding the residential and nonresidential ratepayer impact caps imposed by the General Assembly. The approval of ORECs for these projects, however, will not leave any appreciable space for additional projects, and accordingly, the Commission closes the portal on its Round 2, Year 2, and Round 2, Year 3 applications.

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[536] US Wind Exhibit 8, Repsher Supplemental at 19.

[537] ICF witness Scheller stated that the revised ELCC "would bring down the ratepayer impact of the Skipjack bid," though she stated that change alone would not reduce it below the statutory cap. Hr'g. Tr. at 880 (Scheller).

[538] The Commission does not accept all of the assumptions and methodologies used by Bates White, and the Commission finds unreasonable the final Bates White calculation that the residential rate impact of the combined US Wind Bid 2 and Skipjack Phase 2.1 projects would be -$0.47.

C. Approval of ORECs for Both Applications

332. The Maryland General Assembly has enacted several laws that codify the State's commitment to transitioning to renewable energy, combating global warming, and positioning the State to take economic advantage of the nation's transition to renewable energy. The Offshore Wind Energy Act of 2013 initiated the State's foray into offshore wind farms and led ultimately to the Commission's issuance of Order No. 88192, which approved ORECs for Maryland's first offshore wind projects. On April 4, 2016, Governor Hogan signed into law with bipartisan support the reauthorization of the GGRA, targeted at reducing statewide greenhouse gas emissions 40% from 2006 levels by 2030.[539] In 2019, the General Assembly passed CEJA, which significantly augmented the offshore wind energy goals previously set by the Offshore Wind Energy Act, requiring that at least 1,200 MW of offshore wind energy be constructed, operational, and generating ORECs by the year 2030. Finally, during last year's legislative session, the General Assembly passed SB 83/HB 298, which added new factors to PUA § 2–113 that the Commission must consider in supervising and regulating public service companies.[540] Those factors include the preservation of environmental quality, including protection of the global climate from continued short-term and long-term warming, and the achievement of the State's climate commitments for reducing statewide greenhouse gas emissions.[541]

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[539] 2016 Md. Laws, Ch. 11.

[540] 2021 Md. Laws, Chs. 614 and 615. In a related bill passed in 2021—the Office of People's Counsel Environmental Reform Act—the General Assembly authorized OPC to consider the environmental interests of the State and its residents, including the State's progress toward meeting its greenhouse gas emissions reductions goals, in advocating for residential ratepayers. The Act also authorizes OPC to hire environmental and climate change experts. HB 30; PUA § 2-204(a)(1)(ii).

[541] A third factor articulated by the General Assembly for Commission consideration is the maintenance of fair and stable labor standards for affected workers. As with CEJA, a recurring theme in recent General Assembly laws is economic development in Maryland, which this Order authorizing ORECs for offshore wind projects will promote.

333. The Commission has considered each of these statutes in evaluating the US Wind and Skipjack Applications. However, the requirements of CEJA have most informed the Commission's decision to move aggressively to approve both Applicants' offshore wind projects. In passing CEJA, the General Assembly codified its findings of benefits stemming from offshore wind, stating that the development of offshore wind energy is important to the economic well–being of the state and the nation.[542] The General Assembly also declared that the benefits of offshore wind include (i) positioning Maryland to take advantage of the economic development benefits of the emerging offshore wind industry, (ii) promoting the development of renewable energy sources that increase the nation's independence from foreign sources of fossil fuels, (iii) reducing the adverse environmental and health impacts of traditional fossil fuel energy sources, and (iv) providing a long–term hedge against volatile prices of fossil fuels.[543]

334. The General Assembly also made clear that time is of the essence, both to combat global warming, and to take advantage of the short window of opportunity to build an offshore wind supply infrastructure that is located in Maryland, rather than another state. The General Assembly provided a short timeline for Commission action to achieve the minimum 1,200 MW of offshore wind. Specifically, CEJA directed the Commission to provide Round 2 application periods beginning on January 1, 2020, for consideration of

[542] PUA § 7-704.1(a)(1). Similarly, CEJA provides under PUA § 7-702(b)(3) that "the state needs to increase its reliance on renewable energy in order to (i) reduce greenhouse gas emissions and meet the state's greenhouse gas emissions reduction goals under § 2–1205 of the Environment Article; and (ii) provide opportunities for small, minority, women–owned, and veteran–owned businesses to participate in and develop a highly skilled workforce for clean energy industries in the state."
[543] PUA § 7-704.1(a)(1).

Round 2 offshore wind projects to begin creating ORECs no later than 2026, with two additional rounds of application periods to begin January 1, 2021 and January 1, 2022.[544]

335. The time period to approve, construct, and make operational the offshore wind farms is short.[545] A minimum of 1,200 MW of operational, OREC-producing offshore wind is required by the year 2030. Additionally, CEJA requires that the Commission approve OREC orders for Round 2 offshore wind representing a minimum of 400 MW during each application period unless insufficient Round 2 applications are submitted or the net ratepayer impact caps are exceeded.[546] In unequivocal language, CEJA provides that if the Commission receives reasonable proposals that demonstrate positive net economic, environmental, and health benefits to the State, "the Commission *shall* approve orders to facilitate the financing of qualified offshore wind projects, including at least 1,200 megawatts of Round 2 offshore wind projects."[547] (Emphasis added). The record evidence demonstrates that the US Wind Bid 2 Best and Final Offer and the Skipjack Phase 2.1 Best and Final Offer will provide net economic, environmental, and health benefits to the State, and that they pass the net ratepayer impact tests. The Commission therefore finds, consistent with the requirements and goals of CEJA and the Commission's own

[544] PUA § 7-704.1(a)(4).

[545] Although some testimony questioned whether a more competitive bid could emerge in a Round 2, Year 2 Application Period as the offshore wind industry matures, the Commission observes that no person has filed an administratively complete application in the Commission's Round 2, Year 2 portal, which opened for applications on January 1, 2021.

[546] PUA § 7-704.1(g). Another factor complicating the timeline for achieving the Commission's goals is the status of the federal Investment Tax Credit ("ITC"), which the Applicants testified significantly reduced the OREC price they require to build a commercially-viable offshore wind project. Hr'g. Tr. at 509 (Grybowski). The ITC currently provides that construction must begin by the end of December 2025 to qualify for this federal tax incentive.

[547] PUA § 7-704.1(e)(1)(ii).

regulations, that it is in the public interest to authorize ORECs for the construction of the US Wind Bid 2 and Skipjack Phase 2.1 projects.

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

336. The PUA directs the Commission to establish the offshore wind energy component of the renewable portfolio standard based on the projected annual creation of ORECs by Qualified Offshore Wind Projects.[548] Although the Act requires a determination of the offshore wind component under PUA § 7-703(b)(21) through (25), which corresponds to calendar years 2026 through 2046 of the 20-year OREC price schedules,[549] 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."[550] 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.[551] 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 renewable portfolio standard may begin no sooner than January 1, 2026. Finally, the Commission's regulations require that an order approving ORECs include a surplus to accommodate reasonable forecasting error in estimating overall electricity sales in the State.[552]

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[548] PUA § 7-704.2(a)(1); COMAR 20.61.06.07.
[549] Note that for the years 2021 and beyond, CEJA removed the 2.5% cap on offshore wind energy. For 2021 and beyond, CEJA now requires "an amount set by the Commission under § 7–704.2(a) of this subtitle derived from offshore wind energy." PUA § 7-703(b)(16).
[550] PUA § 7-704.1(f)(1)(iv)(1).
[551] COMAR 20.61.06.08.A.
[552] COMAR 20.61.06.07.A(2).

337. Accordingly, the Commission includes the following table to reflect the renewable portfolio standard obligation for the purchase of ORECs over the twenty-year duration of each Qualified Offshore Wind Project approved through Round 1 and through this proceeding.

Table 1: Offshore Wind Component of the RPS Obligation for Purchasers of ORECs

	Skipjack Round 1	**US Wind Round 1**	**Skipjack Round 2**	**US Wind Round 2**	**Total**
	ORECs				
2024	0	76,154	0	0	76,154
2025	0	913,845	0	0	913,845
2026	37,955	913,845	273,267	209,479	1,434,546
2027	455,458	913,845	3,279,207	2,513,752	7,162,262
2028	455,458	913,845	3,279,207	2,513,752	7,162,262
2029	455,458	913,845	3,279,207	2,513,752	7,162,262
2030	455,458	913,845	3,279,207	2,513,752	7,162,262
2031	455,458	913,845	3,279,207	2,513,752	7,162,262
2032	455,458	913,845	3,279,207	2,513,752	7,162,262
2033	455,458	913,845	3,279,207	2,513,752	7,162,262
2034	455,458	913,845	3,279,207	2,513,752	7,162,262
2035	455,458	913,845	3,279,207	2,513,752	7,162,262
2036	455,458	913,845	3,279,207	2,513,752	7,162,262
2037	455,458	913,845	3,279,207	2,513,752	7,162,262
2038	455,458	913,845	3,279,207	2,513,752	7,162,262
2039	455,458	913,845	3,279,207	2,513,752	7,162,262
2040	455,458	913,845	3,279,207	2,513,752	7,162,262
2041	455,458	913,845	3,279,207	2,513,752	7,162,262
2042	455,458	913,845	3,279,207	2,513,752	7,162,262
2043	455,458	913,845	3,279,207	2,513,752	7,162,262
2044	455,458	837,691	3,279,207	2,513,752	7,086,108
2045	455,458	0	3,279,207	2,513,752	6,248,417
2046	417,503	0	3,005,940	2,304,273	5,727,716

338. Pursuant to the PUA and Commission regulations, electricity suppliers (*i.e.* the OREC purchasers) must purchase the necessary number of ORECs from the appropriate escrow account(s) to satisfy the renewable portfolio standard obligation determined in the above table, subject to the limitations prescribed in PUA §7-703(a)(3).[553] 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.[554] 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 – cannot be collected via an adjustment to the renewable portfolio standard OREC obligation determined through this Order.[555] 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.[556]

[553] *See* PUA § 7-704.2(c). The limitations outlined in PUA § 7-703(a)(3) state that the portion of the renewable portfolio standard 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.
[554] PUA § 7-704.2(f)(1)(iv)(1).
[555] PUA § 7-704.2(f)(1)(iv)(2). 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.
[556] PUA § 7-704.2(f)(1)(v).

VII. CONCLUSION

339. For the reasons set forth above, after conducting an evaluation and comparison of the Applications in accordance with PUA § 7-704.1(d), the Commission finds that the Applications filed by US Wind and by Skipjack satisfy the requirements enumerated in PUA § 7-704.1(f) and thus constitute Qualified Offshore Wind Projects pursuant to PUA § 7-701(k). Finding both Applications to also be in the public interest, the Commission approves US Wind's Bid 2 and Skipjack's 2.1 proposal, both as modified by their Best and Final Offers, and subject to the conditions set forth in the Appendices to this Order, which the Commission considers to be conditions of approval as contemplated by PUA § 7-704.1(b),[557] and therefore not subject to modification without prior Commission approval.

340. As required by PUA § 7-704.1(f), the Commission also specifies in this Order the OREC price schedule and its duration for each approved Application, as well as the number of ORECs that the Qualified Offshore Wind Projects may sell each year, as follows: (1) US Wind: 2,513,752 ORECs per year at a price schedule equivalent to a levelized price of $54.17 per OREC (2012$) using a 2.0% price escalator, beginning on December 1, 2026 for a duration of 20 years; and (2) Skipjack: 3,279,207 ORECs per year at a price schedule equivalent to a levelized price of $71.61 per OREC (2012$) using a 3.0% price escalator, beginning on December 1, 2026 for a duration of 20 years.

IT IS THEREFORE, this 17th day of December, in the year Two Thousand Twenty-One, by the Public Service Commission of Maryland,

[557] *See also* COMAR 20.61.06.03.E(1)-(3).

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 December 31, 2021 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 December 31, 2021 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 1 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/ Jason M. Stanek

/s/ Michael T. Richard

/s/ Anthony J. O'Donnell

/s/ Odogwu Obi Linton

/s/ Mindy L. Herman
Commissioners

APPENDIX A – U.S. Wind, Inc.

List of Conditions Required for Approval of the Qualified Offshore Wind Project

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

A. 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 July 27, 2021 Application, consult with representatives of the United States Department of Defense and the Maritime.

2. Opportunities for Minority Business Enterprise Participation and Minority Investors; Workforce Diversity Initiatives; Community Benefit Agreement

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 *Annotated Code of Maryland*, State Finance and Procurement Article.

A. 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 Consumer Affairs Division 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).

B. U.S. Wind, Inc. shall, within six months of the issuance of this Order, engage in good-faith efforts to consult with the Governor's Office of Small, Minority & Women Business 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").

i. U.S. Wind, Inc. shall file with the Commission the Plan developed in consultation with the Governor's Office of Small, Minority & Women Business 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 July 27, 2021 Application.

ii. Every six 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.[1] U.S. Wind, Inc. shall, within 90 days of the issuance of this Order, coordinate with the Director of the Commission's Consumer Affairs Division to review the reporting template from Round 1 and determine if any changes need to be made for Round 2.

C. U.S. Wind, Inc. shall make serious, good-faith efforts to implement the MBE goal of 15% and procedures stipulated in U.S. Wind, Inc.'s July 27, 2021 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 2.b.

D. U.S. Wind, Inc. shall, within 90 days of the issuance of this Order, review the workforce diversity metrics and an associated reporting template developed in Round 1 in coordination with the Director of the Commission's Consumer Affairs Division and update if necessary. The workforce diversity metrics shall be included in the semi-annual reporting required by Condition 2.b.

E. U.S. Wind, Inc. shall sign a memorandum of understanding with the Commission that requires U.S. Wind, Inc. to use best efforts and effective outreach to obtain, as a goal, contractors and subcontractors for the Qualified Offshore Wind Project that are MBEs, to the extent practicable, as supported by a disparity study.

F. U.S. Wind, Inc. shall notify the Commission within 30 days of executing the community benefit agreement that it has been signed. The community benefit agreement shall comply with the requirements outlined in PUA § 7-704.1(e)(1). U.S. Wind, Inc. shall notify the Commission if the terms of the agreement change.

G. U.S. Wind, Inc. shall use good faith efforts to meet the organized labor commitments as described in its July 27, 2021 Application.

H. U.S. Wind, Inc. shall use good faith efforts to institute the small business incubator and mentorship program as described in its July 27, 2021 Application.

I. U.S. Wind, Inc. shall sign a memorandum of understanding with the Commission and skilled labor organizations that requires U.S. Wind, Inc. to follow the portions of its plan that relate to the criteria set forth in PUA § 7-704.1(d)(1)(viii) and (ix).

[1] U.S. Wind, Inc. may file its first report earlier than six-months to align it with the Round 1 report, and file both simultaneously every six months thereafter.

3. Siting and Project Feasibility

A. 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 in the Commission's Order 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.

B. U.S. Wind, Inc. shall file with the Commission the executed copies of its Interconnection Services Agreement (ISA) and Construction Service Agreement (CSA) with PJM Interconnection, LLC prior to the commencement of construction.

C. U.S. Wind, Inc. shall use best commercially-reasonable efforts to minimize the daytime and nighttime viewshed impacts of its Qualified Offshore Wind Project. U.S. Wind, Inc. shall use the best commercially-available technology at the time of deployment, including the use of an approved aircraft detection lighting system if available, to minimize visual impacts from lighting.

D. 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 Commission's OREC award.

E. 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.

F. 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.

G. U.S. Wind, Inc. 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. U.S. Wind, Inc. shall file a report summarizing these outreach efforts within six months of the issuance of this Order. Any mitigation or remediation measures voluntarily accepted by U.S. Wind, Inc. 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 approved Application must be reported to the Commission within 30 days of the date of that decision.

H. U.S. Wind, Inc. shall file with the Commission quarterly progress reports on the status of the proposed offshore wind project's development including but not limited to milestones for site assessment, engineering, permitting, turbine certification, financing, procurement, manufacturing, construction activities, testing, and commissioning commercial operation dates. U.S. Wind, Inc. shall also include updates on the progress made on constructing the proposed offshore wind project by the construction and operation date ("COD") and completing the economic development benefits included in its July 27, 2021 Application. A project progress report will provide additional information or material so that the Commission in its discretion may determine whether the new information is detailed enough to satisfy COMAR 20.61.06.02D-N.

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

A. 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.

5. Positive Net Economic Benefits to the State

A. Pursuant to PUA § 7-704.1(h) 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:

i. Within 60 days after the issuance of this Order, U.S. Wind, Inc. shall deposit $2,000,000 into the Fund.

ii. 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.

iii. 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.

iv. 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.

B. Upon the commencement of commercial operations, U.S. Wind, Inc. shall demonstrate that a minimum of $570 million of direct in-State expenditures occurred during the development and construction phases of the Qualified Offshore Wind Project.

i. As part of this $570 million of direct in-State expenditures, U.S. Wind, Inc. shall use good faith efforts to facilitate the construction of the monopole factory, Sparrows Point Steel, as described in the July 27, 2021 Application. In the event that Sparrows Point Steel is not able to be built, then U.S. Wind, Inc. shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

ii. As part of this $570 million of direct in-State expenditures, U.S. Wind, Inc. shall use good faith efforts to fund the research partnership with the University of Maryland, Baltimore County ("UMBC") as described in the July 27, 2021 Application. In the event that the research partnership is not funded, then U.S. Wind, Inc. shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

iii. 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.

iv. The report prepared by the independent consultant shall be filed with the Commission within six months of commencing commercial operations for the Qualified Offshore Wind Project.

v. In the event that the independent report submitted to the Commission does not demonstrate compliance with the required in-State spending amount, then U.S. Wind, Inc. shall deposit the balance due within six months into the Maryland Offshore Wind Business Development Fund established under State Gov't § 9-20C-03.

C. U.S. Wind, Inc. shall cause directly the creation of the following minimum level of new in-State jobs, measured in full-time equivalents (FTEs): 6,990 direct development/construction period jobs, and 254 direct operations and management phase jobs.

   i. U.S. Wind, Inc. shall contract with an independent expert to conduct the verification of the direct jobs required by this condition.

   ii. U.S. Wind, Inc. shall file reports with the Commission demonstrating its progress in fulfilling this condition on the following schedule: (1) within six 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 six months of commencing decommissioning activities for the Qualified Offshore Wind Project.

D. U.S. Wind, Inc. shall use Tradepoint Atlantic as described in its July 27, 2021 Application as the port facility for its 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. In the event Tradepoint Atlantic is not used as the port facility for the marshaling port, then U.S. Wind, Inc. shall so inform the Commission, and it shall use a different port facility in the greater Baltimore region for its marshaling port.

E. U.S. Wind, Inc. shall use a port facility located in the Ocean City, Maryland region to serve as the operations and maintenance ("O&M") port and ensure that its O&M facility is a zero-emission facility.

F. 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.

6. Positive Net Environmental Benefits to the State

A. 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.

B. 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.

C. U.S. Wind, Inc. shall share findings from its estuary, ecosystems and any other research initiatives with the Maryland Energy Administration ("MEA").

i. Within 60 days of this Order, U.S. Wind, Inc. shall submit to the MEA a list of its current and planned environmental research initiatives on Maryland Shores and the Delmarva Peninsula, along with the research protocols and a proposed reporting schedule for each research activity.

ii. Every six months thereafter, U.S. Wind shall submit a comprehensive report of its Maryland Shores, coastal bays and streams and Delmarva Peninsula environmental research and monitoring activity findings to the MEA covering the previous six-month period.

iii. At MEA's request, U.S. Wind shall also share its list of current and planned research activities, and the findings of its research and environmental monitoring programs with other Maryland agencies, on the schedule set forth above.

7. Projected Net Ratepayer Impacts and OREC Price Schedule

A. The OREC price schedule for the Qualified Offshore Wind Project is approved as follows:

i. US Wind is authorized to sell up to 2,513,752 ORECs per year produced by its Qualified Offshore Wind Project, for a duration of 20 years beginning in December 2026.

ii. The approved OREC price schedule shall not exceed a levelized OREC price of $54.17 (2012$), using a price escalator of 2.0%.

B. U.S. Wind, Inc. shall implement a mechanism for sharing savings if the engineering, procurement, and construction (EPC) costs for the Qualified Offshore Wind Project are less than the EPC costs reflected in U.S. Wind, Inc.'s July 27, 2021 Application, pursuant to the following conditions:

i. 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 July 27, 2021 Application) by up to 7.0% (the "Adjusted EPC Costs Baseline").

ii. 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, inter array 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.

iii. The mechanism for sharing savings will be implemented following the commencement of commercial operations of the Qualified Offshore Wind Project, as follows:

   a. 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 six months of commencing commercial operations for the Qualified Offshore Wind Project.

   b. Realized savings equal to the positive amount, if any, resulting from the formula: "Adjusted EPC Costs Baseline" minus documented EPC costs.

   c. U.S. Wind, Inc. shall pay within six months after issuance of the report 50% 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.

iv. If, prior to U. S. Wind, Inc. funding transmission upgrades through the PJM process, a governmental action results in Maryland ratepayers taking on the burden of paying for transmission projects that are designed to allow offshore wind generating units to deliver their full output to the grid with fewer upgrade costs to be paid by offshore wind projects, then U.S. Wind, Inc. shall pay within six months after issuance of the report 100% 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.

C. 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, for the life of the project. 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 July, 27, 2021 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.

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

A. No payment may be made for an OREC until electricity supply is generated by the Qualified Offshore Wind Project.

B. Ratepayers, purchasers of ORECs, and the State shall be held harmless for any cost overruns associated with the Qualified Offshore Wind Project.

C. 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

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

A. 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 July 27, 2021 Application, consult with representatives of the United States Department of Defense and the Maritime.

2. 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 *Annotated Code of Maryland*, State Finance and Procurement Article.

A. 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 Consumer Affairs Division 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).

B. Skipjack Offshore Energy, LLC shall follow the minority business enterprise ("MBE") plan established in coordination with and approved by the Governor's Office of Small, Minority & Women Business for its Round 1 project for each phase of the Qualified Offshore Wind Project (the "Plan") as described in Skipjack Offshore Energy, LLC's July 27, 2021 Application.

i. Skipjack Offshore Energy, LLC shall file with the Commission the Plan and articulate any substantive differences between the Plan and the applicable MBE commitments described in Skipjack Offshore Energy, LLC's July 27, 2021 Application.

ii. Every six 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.[1] Skipjack Offshore Energy, LLC shall, within 90 days of the issuance of this Order, coordinate with the Director of the Commission's Consumer Affairs Division to review the reporting template from Round 1 and determine if any changes need to be made for Round 2.

C. Skipjack Offshore Energy, LLC shall make serious, good-faith efforts to implement the goals, 29% for MBE and 10% for small business, and procedures stipulated in Skipjack Offshore Energy, LLC's July 27, 2021 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 2.b.

D. Skipjack Offshore Energy, LLC shall, within 90 days of the issuance of this Order, review the workforce diversity metrics and an associated reporting template developed in Round 1 in coordination with the Director of the Commission's Consumer Affairs Division and update if necessary. The workforce diversity metrics shall be included in the semi-annual reporting required by Condition 2.b.

E. Skipjack Offshore Energy, LLC shall sign a memorandum of understanding with the Commission that requires Skipjack Offshore Energy, LLC to use best efforts and effective outreach to obtain, as a goal, contractors and subcontractors for the Qualified Offshore Wind Project that are MBEs, to the extent practicable, as supported by a disparity study.

F. Skipjack Offshore Energy, LLC shall notify the Commission within 30 days of executing the community benefit agreement that it has been signed. The community benefit agreement shall comply with the requirements outlined in PUA § 7-704.1(e)(1). Skipjack Offshore Energy, LLC shall notify the Commission if the terms of the agreement change.

G. Skipjack Offshore Energy, LLC shall use good faith efforts to meet the organized labor commitments as described in its July 27, 2021 Application.

H. Skipjack Offshore Energy, LLC shall sign a memorandum of understanding with the Commission and skilled labor organizations that requires Skipjack Offshore Energy, LLC to follow the portions of its plan that relate to the criteria set forth in PUA § 7-704.1(d)(1)(viii) and (ix).

[1] Skipjack Offshore Energy, LLC may file its first report earlier than six-months to align it with the Round 1 report, and file both simultaneously every six months thereafter.

3. Siting and Project Feasibility

A. 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.

B. Skipjack Offshore Energy, LLC shall file with the Commission the executed copies of the Interconnection Services Agreement (ISA) and Construction Service Agreement (CSA) with PJM Interconnection, LLC prior to the commencement of construction.

C. Skipjack Offshore Energy, LLC shall use best commercially-reasonable efforts to minimize the daytime and nighttime viewshed impacts of its Qualified Offshore Wind Project. Skipjack Offshore Energy, LLC shall use the best commercially-available technology at the time of deployment, including the use of an approved aircraft detection lighting system if available, to minimize visual impacts from lighting.

D. 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.

E. 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.

F. 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.

G. 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 six 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 six-month report; although, pursuant to COMAR 20.61.06.18.B, any material change to its approved Application must be reported to the Commission within 30 days of the date of that decision.

H. Skipjack Offshore Energy, LLC shall file with the Commission quarterly progress reports on the status of the proposed offshore wind project's development including but not limited to milestones for site assessment, engineering, permitting, turbine certification, financing, procurement, manufacturing, construction activities, testing, and commissioning commercial operation dates. Skipjack Offshore Energy, LLC shall also include updates on the progress made on constructing the proposed offshore wind project by the construction and operation date ("COD") and completing the economic development benefits included in its July 27, 2021 Application. A project progress report will provide additional information or material so that the Commission in its discretion may determine whether the new information is detailed enough to satisfy COMAR 20.61.06.02D-N.

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

A. 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.

5. Positive Net Economic Benefits to the State

A. Pursuant to PUA § 7-704.1(h) 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:

i. Within 60 days after the issuance of this Order, Skipjack Offshore Energy, LLC shall deposit $2,000,000 into the Fund.

ii. 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.

iii. 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.

iv. 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.

B. Upon the commencement of commercial operations, Skipjack Offshore Energy, LLC shall demonstrate a minimum of $410 million of direct in-State expenditures occurred during the development and construction phases of the Qualified Offshore Wind Project.

i. As part of this $410 million of direct in-State expenditures, Skipjack Offshore Energy, LLC shall use good faith efforts to facilitate the construction of a sub-sea cable manufacturing facility located in Maryland as described in the July 27, 2021 Application. In the event that the sub-sea cable manufacturing facility is not able to be built, then Skipjack Offshore Energy, LLC shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

ii. As part of this $410 million of direct in-State expenditures, Skipjack Offshore Energy, LLC shall use good faith efforts to facilitate the upgrade of Crystal Steel for the pre-fabrication of advanced foundation components as described in its July 27, 2021 Application. In the event that Crystal Steel is not able to be upgraded, then Skipjack Offshore Energy, LLC shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

iii. As part of this $410 million of direct in-State expenditures, Skipjack Offshore Energy, LLC shall use good faith efforts to establish an American platform supply vessel operator located in Maryland as described in its July 27, 2021 Application. In the event that the American platform supply vessel operator is not able to be established, then Skipjack Offshore Energy, LLC shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development

and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

iv. As part of this $410 million of direct in-State expenditures, Skipjack Offshore Energy, LLC shall use good faith efforts to establish a grant fund for environmental organizations in Maryland and Delaware as described in its July 27, 2021 Application. In the event that the grant fund for environmental organizations is not able to be established, then Skipjack Offshore Energy, LLC shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-state spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition E.2.a.

v. In addition to the $410 million of direct in-State expenditures, Skipjack Offshore Energy, LLC shall use good faith efforts to facilitate the construction of an offshore wind turbine tower manufacturing facility located in Maryland as described in its letter dated October 27, 2021. In the event that the offshore wind turbine tower manufacturing facility is not able to be built, then Skipjack Offshore Energy, LLC shall implement a different initiative to invest in Maryland businesses and promote the offshore wind industry with comparable in-State spend during the development and construction phases of the Qualified Offshore Wind Project, which may be counted toward the direct in-State expenditures required under Condition 2.a. Specifically, Skipjack Offshore Energy, LLC would be obligated to contribute $100 million in the form of additional in-State spend or local content (i.e., either the tower factory or an additional $100 million of in-State spend or other local content.)

vi. 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.

vii. The report prepared by the independent consultant shall be filed with the Commission within six months of commencing commercial operations for the Qualified Offshore Wind Project.

viii. In the event that the independent report submitted to the Commission does not demonstrate compliance with the required in-State spending amount, then Skipjack Offshore Energy, LLC shall deposit the balance due within six months into the Maryland Offshore Wind Business

Development Fund established under State Gov't § 9-20C-03.

C. Skipjack Offshore Energy, LLC shall cause directly the creation of the following minimum level of new in-State jobs, measured in full-time equivalents: 2,951 direct development/construction period jobs, and 130 direct operations and management phase jobs.

   i. Skipjack Offshore Energy, LLC shall contract with an independent expert to conduct the verification of the direct jobs required by this condition.

   ii. Skipjack Offshore Energy, LLC shall file reports with the Commission demonstrating its progress in fulfilling this condition on the following schedule: (1) within six 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 six months of commencing decommissioning activities for the Qualified Offshore Wind Project.

D. Skipjack Offshore Energy, LLC shall use Tradepoint Atlantic as described in its July 27, 2021 Application as the port facility for its 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. In the event Tradepoint Atlantic is not used as the port facility for the marshaling port, then Skipjack Offshore Energy, LLC shall so inform the Commission, and shall use a different port facility in the greater Baltimore region for its marshaling port.

E. Skipjack Offshore Energy, LLC shall use the port facility located in the Ocean City, Maryland region to serve as the operations and maintenance port as identified in its July 27, 2021 Application and ensure its O&M facility is a zero-emissions facility.

F. 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.

6. Positive Net Environmental Benefits to the State

A. 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.

B. 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.

C. Skipjack Offshore Energy, LLC shall share findings from its fishery, wildlife monitoring programs and any other environmental research initiatives with the Maryland Energy Administration ("MEA").

i. Within 60 days following the issuance of this Order, Skipjack Offshore Energy, LLC shall submit a list of its current and planned environmental research initiatives, along with the research protocols and a proposed reporting schedule for each research activity on Maryland Shores and the Delmarva Peninsula.

ii. Every six months thereafter, Skipjack shall submit a comprehensive report of its Maryland Shores, coastal bays and streams, and Delmarva Peninsula environmental research and monitoring activity findings to the MEA covering the previous six month period.

iii. At MEA's request, Skipjack shall also share its list of current and planned research and monitoring activities, and the findings of its research and environmental monitoring programs with other Maryland agencies, on the schedule as set forth above.

7. Projected Net Ratepayer Impacts and OREC Price Schedule

A. The OREC price schedule for the Qualified Offshore Wind Project is approved as follows:

i. Skipjack Offshore Energy, LLC is authorized to sell up to 3,279,207 ORECs per year produced by its Qualified Offshore Wind Project, for a duration of 20 years beginning in December 2026.

ii. The approved OREC price schedule shall not exceed a levelized OREC price of $71.61 (2012$), using a price escalator of 3.0%.

B. Skipjack Offshore Energy, LLC shall implement a mechanism for sharing savings if the engineering, procurement, and construction (EPC) costs for the Qualified Offshore Wind Project are less than the EPC costs reflected in Skipjack Offshore Energy, LLC's July 27, 2021 Application, pursuant to the following conditions:

i. 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 July 27, 2021 Application) by up to 7.0% (the "Adjusted EPC Costs Baseline").

ii. 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, inter array 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.

iii. The mechanism for sharing savings will be implemented following the commencement of commercial operations of the Qualified Offshore Wind Project, as follows:

    a. 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 six months of commencing commercial operations for the Qualified Offshore Wind Project.

    b. Realized savings equal to the positive amount, if any, resulting from the formula: "Adjusted EPC Costs Baseline" minus documented EPC costs.

c. Skipjack Offshore Energy, LLC shall pay within six 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.

iv. If, prior to Skipjack Offshore Energy, LLC funding transmission upgrades through the PJM process, a governmental action results in Maryland ratepayers taking on the burden of paying for transmission projects that are designed to allow offshore wind generating units to deliver their full output to the grid with fewer upgrade costs to be paid by offshore wind projects, then Skipjack Offshore Energy, LLC shall pay within six months after issuance of the report 100% 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.

C. 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, for the life of the project. 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 July, 27, 2021 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.

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

A. No payment may be made for an OREC until electricity supply is generated by the Qualified Offshore Wind Project.

B. Ratepayers, purchasers of ORECs, and the State shall be held harmless for any cost overruns associated with the Qualified Offshore Wind Project.

C. 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.