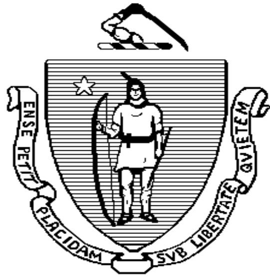

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 20-16 November 5, 2020

Petition of NSTAR Electric Company, d/b/a Eversource Energy for approval by the Department of Public Utilities of two long-term contracts for procurement of Offshore Wind Energy Generation, pursuant to Section 83C of An Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188, § 12.

D.P.U. 20-17

Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid for approval by the Department of Public Utilities of two long-term contracts for procurement of Offshore Wind Energy Generation, pursuant to Section 83C of An Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188, § 12.

D.P.U. 20-18

Petition of Fitchburg Gas and Electric Light Company, d/b/a Unitil for approval by the Department of Public Utilities of two long-term contracts for procurement of Offshore Wind Energy Generation, pursuant to Section 83C of An Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188, § 12.

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I. INTRODUCTION

On February 10, 2020, NSTAR Electric Company d/b/a Eversource Energy ("Eversource"), Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid ("National Grid"), and Fitchburg Gas and Electric Light Company d/b/a Unitil ("Unitil") (collectively, "Companies") each filed a petition with the Department of Public Utilities ("Department"), pursuant to the Green Communities Act, St. 2008, c. 169, § 83C ("Section 83C")[1] and 220 CMR 23.00, for approval of two long-term contracts to purchase offshore wind energy generation[2] and associated renewable energy certificates ("RECs").[3] The Department docketed the Eversource petition as D.P.U. 20-16, the National Grid petition as D.P.U. 20-17, and the Unitil petition as D.P.U. 20-18.

Section 83C requires each electric distribution company to jointly and competitively solicit proposals for offshore wind energy generation, and, provided that reasonable proposals have been received, enter into cost-effective long-term contracts for offshore wind energy equal to 1,600 megawatts ("MW") of aggregate nameplate capacity through a staggered

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1 Section 83C was added to the Green Communities Act by an Act Relative to Promote Energy Diversity, St. 2016, c. 188, § 12.

2 Section 83C defines "offshore wind energy generation" as offshore electric generating resources derived from wind that (1) are Class I renewable energy generating sources, as defined in section 11F of chapter 25A of the General Laws ("RPS Class I"); (2) have a commercial operations date on or after January 1, 2018, that has been verified by the Department of Energy Resources; and (3) operate in a designated wind energy area for which an initial federal lease was issued on a competitive basis after January 1, 2012.

3 On May 20, 2020, the Companies filed joint supplemental testimony and exhibits.

procurement schedule. Section 83C; 220 CMR 23.00. The Department must approve a long-term contract before it can become effective. Section 83C; 220 CMR 23.03(2).

On March 9, 2020, the Department held a joint public hearing and procedural conference in the three dockets.[4] The Attorney General of the Commonwealth of Massachusetts ("Attorney General") filed a Notice of Intervention in each proceeding pursuant to G.L. c. 12, § 11E(a). The Department granted petitions to intervene in each proceeding filed by the Department of Energy Resources ("DOER") and Vineyard Wind LLC ("Vineyard Wind"). The Department granted limited participant status in each proceeding to Mayflower Wind Energy LLC ("Mayflower Wind"), Conservation Law Foundation ("CLF"), and Power Options, Inc ("PowerOptions").

Pursuant to Section 83C and 220 CMR 23.04(6), DOER and the Attorney General jointly selected Peregrine Energy Group, Inc. as the Independent Evaluator to provide a report analyzing the solicitation and bid selection processes in a fair and unbiased manner. On February 21, 2020, the Independent Evaluator submitted its report ("IE Report") describing the solicitation, evaluation, bid selection, and contract negotiation process.[5] .

On July 27 and 28, 2020, the Department held joint evidentiary hearings. In each of the proceedings, the Companies sponsored the testimony of the following witnesses:

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4 The Department held a joint public hearing in each docket. These cases, however, are not consolidated and remain separate proceedings.

5 The Department moved the IE Report into the records of these proceedings. Long-Term Contracts for the Mayflower Wind Offshore Wind Energy Project, D.P.U. 20-16, D.P.U. 20-17, D.P.U. 20-18, Tr. 1, at 11, Tr. 2, at 269-270.

(1) Jeffrey S. Waltman, manager, planning and power supply, Massachusetts regulated operating companies of Eversource; (2) Timothy J. Brennan, director in regulatory strategy and integrated analytics, National Grid USA Service Company, Inc.; (3) Lisa S. Glover, senior energy analyst, Unitil Service Corp.; (4) James G. Daly, vice president, energy supply for Eversource Energy Service Company ("ESC"); (5) Robert B. Hevert, partner, ScottMadden, Inc.; and (6) Ellen Lapson, principal, Lapson Advisory, a division of Trade Resources Analytics. In each of the proceedings, the Attorney General sponsored the testimony of Vincent Musco, principal, Bates White Economic Consulting. Finally, in each of the proceedings, DOER sponsored the testimony of Joanna Troy, director of energy policy at DOER.

On August 14, 2020, the Companies (jointly), the Attorney General, DOER, and PowerOptions[6] submitted initial briefs. On August 28, 2020, the Companies (jointly) and the Attorney General submitted reply briefs.[7] The record in each docket includes 328 exhibits, including responses to 286 information requests and three record requests.

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[6] PowerOptions submitted a letter in lieu of a brief.

[7] Although she did not file initial recommendations, the Attorney General was a full party in these proceedings, who filed discovery, participated in the evidentiary hearing, and filed initial and reply briefs. See Section 83C; 220 CMR 23.05(2).

II. DESCRIPTION OF PROJECT

As described in Section V, below, the Companies solicited bids for up to 1,600 MW of offshore wind energy generation.[8] As a result of this solicitation process, the Companies each seek Department approval of two power purchase agreements ("PPAs") for energy and associated RECs from the Mayflower Wind 804 MW offshore wind energy generation project ("Project").

The Project features two separate approximately 400 MW phases, both located on the Outer Continental Shelf in the Bureau of Ocean Energy Management Lease OCS-A 0521 area (Exhs. JU-3-A, at 5, 66; JU-B at 5, 66; JU-3-D at 5, 74; JU-3-E at 5, 73; JU-3-G at 5, 67; JU-3-H at 5, 66). The first phase of the Project ("Phase 1") has a nameplate capacity of 408 MW and has a commercial operation date ("COD") of September 1, 2025 (Exh. JU-1, at 33). The second phase of the Project ("Phase 2") has a nameplate capacity of 396 MW and has a COD of December 15, 2025 (Exh. JU-1, at 33). Together, both phases total 804 MW of offshore wind energy generation nameplate capacity (Exh. JU-1, at 33). The Companies have agreed to purchase 100 percent of the energy and RECs generated and delivered by the Project over a 20-year term (Exhs. JU-1, at 7-8; JU-3-A at 7; JU-3-B at 7; JU-3-D at 7; JU-3-E at 7; JU-3-G at 7; JU-3-H at 7).

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[8] On May 17, 2019, the Department approved the timetable and method of solicitation in Timetable and Method of Second Solicitation of Long-Term Contracts for Offshore Wind Energy Generation Pursuant to Section 83C, as revised on August 6, 2019. D.P.U. 19-45/19-45-A.

III. DESCRIPTION OF PROPOSED CONTRACTS

A. Introduction

The Companies jointly conducted negotiations with Mayflower Wind resulting in a total of six PPAs (Exhs. JU-1, at 7-8; JU-3-A; JU-3-B; JU-3-D; JU-3-E; JU-3-G; JU-3-H).[9] Principal contract terms, including price and contract duration, do not vary among the PPAs (Exh. JU-1, at 33-34).[10] However, the quantities of energy and RECs vary based on each electric distribution company's apportioned share of the Project output (Exh. JU-1, at 33).[11]

B. Products and Pricing Structure

Under the proposed contracts, the Companies will purchase, for a term of 20 years from the CODs, the energy and RECs associated with the output of the Project, at the

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[9] Each electric distribution company entered into a PPA for each of the two Mayflower Wind ~400 MW facilities (Exh. JU-1, at 7-8).

[10] Due to accounting rules affecting National Grid, the breakdown in the bundled price for energy and RECs in each National Grid PPA differs from the breakdown for Eversource and Unitil, but the total bundled price for energy and RECs is the same in each contract (Exh. JU-1, at 33-34). The National Grid PPAs also include a "Biennial Average Real-Time High Operating Limit" whereby Mayflower Wind is obligated to have total generation available of at least fifty percent (50%) of the Actual Facility Size. Availability is determined based on the aggregate hourly Real-Time High Operating Limit submitted by Mayflower Wind to Iso New England Inc. ("ISO-NE") measured over two consecutive contract years. Failure to satisfy the Biennial Average Real-Time High Operating Limit is considered an Event of Default (Exh. JU-1, at 34).

[11] Section 83C(g) provides that each company's apportioned share of the products being purchased from the Project shall be based upon the total energy demand from all distribution customers in its service territory. Pursuant to Section 83C(g), each company's apportioned share of the Project is as follows:
(1) Eversource - 53.62 percent; (2) National Grid - 45.41 percent; and (3) Unitil - 0.97 percent (Exhs. JU-3-A at 7; JU-3-D at 7; JU-3-G at 7).

onshore delivery point defined in the PPAs (Exhs. JU-1, at 33; JU-3, at Exh. A).[12] The combined price for energy and RECs is $77.76 per megawatt hour ("MWh") on a nominal levelized basis for both the Phase 1 and Phase 2 PPAs (Exh. JU-1, at 34).

IV. DEPARTMENT REVIEW UNDER SECTION 83C

Pursuant to Section 83C, the Companies must jointly and competitively solicit proposals for offshore wind energy generation.[13] Section 83C; 220 CMR 23.03. The Department will review the competitive solicitation process to determine whether it was open, fair, and transparent. In addition, the Department will consider whether the Companies evaluated and selected winning bids in a reasonable manner. See, e.g., Three State RFP, D.P.U. 19-45, at 24-27 (2019).

Provided that reasonable proposals have been received, the Companies must enter into cost-effective long-term contracts to facilitate the financing of eligible offshore wind energy generation. Section 83C; 220 CMR 23.03. Therefore, the Department must determine whether each electric distribution company has demonstrated that the proposed contracts are (1) with an eligible offshore wind energy generating resource and (2) facilitate the financing of that offshore wind energy generating resource.

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[12] The delivery point is to be determined by ISO-NE after the establishment of the pool transmission facility node at the proposed new Bourne 345 kV switching station that connects to NSTAR Electric Company 345 kV lines 322 and 342 near Bourne, Massachusetts (Exhs. JU-3-A at 71; JU-3-D at 79; JU-3-G at 72).

[13] The Department incorporates its consideration of the findings of the Independent Evaluator, as well as the Attorney General's recommendations made through her initial and reply briefs, throughout this Order. See 220 CMR 23.05(2), (3).

In addition, Section 83C and the Department's regulations, 220 CMR 23.00, set forth specific findings that the Department must make in order to approve a long-term contract for offshore wind energy generation. In particular, the Department must determine that the offshore wind energy generating resource (1) provides enhanced electricity reliability; (2) contributes to reducing winter electricity price spikes; (3) avoids line loss and mitigates transmission costs to the extent possible, while ensuring that transmission cost overruns, if any, are not borne by ratepayers; (4) adequately demonstrates project viability in a commercially reasonable timeframe; (5) allows offshore wind energy generation resources to be paired with energy storage systems; (6) mitigates environmental impacts, where possible; and (7) where feasible, creates and fosters employment and economic development in Massachusetts. Section 83C; 220 CMR 23.05(1).

In addition, the Department must review the potential costs and benefits of such contracts and approve a contract only upon a finding that it is a cost-effective mechanism for procuring reliable renewable energy on a long-term basis, taking into account the factors outlined in Section 83C. Section 83C; 220 CMR 23.05(1). As part of this analysis, the Department will consider the difference between the contract costs and the market value of the products, as well as other potential economic and environmental benefits to ratepayers. Section 83C; 220 CMR 23.05(1).

In our review of a long-term contract for offshore wind energy generation under Section 83C, the Department will also consider whether the contract is in the public

interest.[14] D.P.U. 17-117 through D.P.U. 17-120, at 14; Long-Term Contracts for Renewable Energy, D.P.U. 13-147 through D.P.U. 13-149, at 9 (2013). Further, the Department will consider whether the associated cost recovery method is in the public interest and will result in just and reasonable rates pursuant to G.L. c. 164, § 94. Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, D.P.U. 09-138, at 12 (2009); see also 438 Mass. at 264 n.13; Boston Edison Company/ComEnergy Merger, D.T.E. 99-19, at 8 (1999), citing Mass. Oilheat Council v. Dep't of Pub. Utils., 418 Mass. 798, 804 (1994); Boston Real Estate Bd. v. Dep't of Pub. Utils., 334 Mass. 477, 495 (1956).

V. SOLICITATION PROCESS

A. Introduction

Section 83C requires the Companies and DOER to jointly solicit proposals using a competitive bidding process. Section 83C(b). The Companies and DOER developed a Request for Proposals ("RFP") in consultation with the Attorney General. D.P.U. 17-103, at 5-6. On March 28, 2019, the Companies submitted the proposed timetable and method for

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[14] Pursuant to G.L. c. 164, § 94A ("Section 94A"), an electric or gas distribution company must obtain Department approval to enter into a contract for the purchase of electricity or gas covering a period in excess of one year. The Department has construed our approval under Section 94A to require a determination that the contract is consistent with the public interest. See, e.g., NSTAR Electric Company, D.P.U. 07-64-A at 58 (2008); New England Electric System/Nantucket Electric Company, D.P.U. 95-67, at 21-22 (1995), citing New England Power Company, D.P.U. 1204 (1982). The Department's public interest review in this proceeding will, therefore, satisfy the review otherwise performed under Section 94A.

solicitation and execution of the long-term contracts contained in the RFP for Department review. D.P.U. 19-45, at 1. The Department approved the proposed timetable and method for solicitation and execution of long-term contracts on May 17, 2019. D.P.U. 19-45, at 71.

On May 23, 2019, the Companies and DOER issued the RFP to approximately 600 potential bidders, based on a list of entities with an interest in developing renewable energy projects compiled by the Companies and DOER (Exhs. JU-1, at 17; WP Support Tab A).[15] As part of its proposal to deliver energy and RECs, each bidder was required to submit the following: (1) at least one proposal with a nameplate capacity of 400 MW, with the option to submit alternative proposals from 200 to 800 MW; (2) a proposal for delivery facilities comprising generator lead line ("GLL") and all associated facilities required for the delivery of energy from the project directly to the onshore pool transmission facilities; and (3) a commitment to negotiate in good faith ("Commitment Agreement") and use commercially reasonable best efforts to enter into a voluntary agreement with entities that make a request for interconnection on the winning bidder's GLL, or Interconnection Customer Interconnection Facilities (Exh. JU-2, at 18-24). Proposals were also required to allow for the pairing of offshore wind energy generation with energy storage systems (Exh. JU-2, at 20).

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15 The Companies issued a revised RFP on August 7, 2019, eliminating the price cap after a legislative amendment was signed into law allowing such a change (Exh. JU-1, at 19-20, citing D.P.U. 19-45, at 33).

An evaluation team, made up of employees of the Companies and DOER ("Evaluation Team") as monitored by the IE, received and evaluated the submitted bids (Exh. JU-2, at 10-11). Prior to bid submission, prospective bidders were allowed to submit written questions about the RFP (Exh. JU-1, at 18-19).[16] A total of 18 bids (with 10 pricing variations) were submitted by three separate developers (Exh. JU-1, at 20).

B. Bid Evaluation Process

1. Overview

The RFP specified a three-stage bid evaluation process (Exh. JU-2, at 11). The first stage ("Stage One") of the process was a review of each proposal's compliance with eligibility and threshold requirements contained in the RFP (Exh. JU-1, at 20-21; JU-2, at 11). The second stage ("Stage Two") of the process consisted of numerical scoring of the quantitative and qualitative factors of each proposal that passed the Stage One review (Exh. JU-1, at 20). As specified in the RFP, eligible proposals were evaluated on a 100-point scale, with a maximum of 75 points for quantitative factors and 25 points for qualitative factors (Exhs. JU-1, at 22, 26; JU-2, at 34). The third stage ("Stage Three") of the process consisted of further evaluation of the proposals to ensure the selection of viable, cost-effective, risk-limited offshore wind energy generation (Exh. JU-1, at 20). In Stage Three, the Evaluation Team also considered whether proposals for more than 400 MW of offshore wind energy generation were (1) superior to other proposals and (2) likely to

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[16] The Evaluation Team responded in writing to approximately 17 questions from bidders (Exh. JU-1, at 19).

produce more economic net benefits to ratepayers compared to the alternative of procuring additional MWs in a future solicitation (Exhs. JU-1, at 29-30; JU-2, at 39).

The Evaluation Team retained a consultant to develop and run a simulation model used to quantify estimated benefits and assist in the development of quantitative scores and rankings of bids[17] (Exh. JU-1, at 21). In addition, DOER retained a second consultant to assist with the bid evaluation (Exh. JU-1, at 21).

The Evaluation Team did not disqualify any bids during Stage One. During Stage Two and Stage Three, the Evaluation Team evaluated all bids that advanced from Stage One based on factors identified in the RFP (Exh. JU-1, at 21, 25-26).

2. Quantitative Evaluation

As part of the Stage Two quantitative analysis, the Evaluation Team calculated each proposal's costs, direct benefits, and indirect benefits to ratepayers (Exh. JU-1, at 22-26). The Evaluation Team compared bids using the core measurement of levelized net benefit-per MWh of each proposal, expressed in 2019 dollars (Exh. JU-1, at 22).

The Evaluation Team compared the costs and benefits of the proposals using a simulation model (Exh. JU-1, at 22). The Evaluation Team used the model to simulate the operation of New England wholesale markets for energy and ancillary services, and RECs for both a base case and for each proposal (Exh. JU-4 (Rev.) at 11-12).[18] The Evaluation Team

[17] The process used by the consultant to develop and run the simulation model is described in Exhibit JU-4.

[18] The base case represents a forecast of the New England energy grid without any of the Section 83C II offshore wind projects (i.e., the proposals received in response to

then ran the simulation model to estimate the incremental costs and benefits of each bid relative to the base case (Exh. JU-4 (Rev.) at 4, 91).

In response to the RFP, bidders proposed to sell energy and RECs in submissions ranging from 200 MW to 800 MW (Exh. JU-2, at 19). The Evaluation Team concluded that the most accurate and fair way to compare proposals of different sizes was to assume a common end-state size of 800 MW based on legislative 83C procurement requirements (Exh. JU-4 (Rev.) at 7). The Evaluation Team evaluated each proposal as part of a total of 800 MW of offshore generation capacity and, for proposals less than 800 MW, sized a proxy unit to supplement capacity to 800 MW (Exh. JU-4 (Rev.) at 7). For proposals less than 800 MW the Evaluation Team modeled the 800 MW as two phases or tranches of offshore generation capacity, each with a different COD: (1) tranche 1 was the project as bid and (2) tranche 2 was the sized proxy unit, if necessary, with a COD two years later (Exh. JU-4 (Rev.) at 7, 29).

The RFP also required bidders to submit proposals for at least 400 MW with two pricing options: (1) GLL proposal with the delivery infrastructure required to support the bid generation capacity, and (2) a GLL proposal with a Commitment Agreement (Exhs. JU-2, at 21; JU-4 (Rev.) at 4). The Commitment Agreement is a commitment that, in the event future third-party offshore wind developers request interconnection service on the bidder's

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the RFP) (Exh. JU-4 (Rev.) at 11, App. C). The base case is inclusive of all statutory requirements and regulations in effect as of June 15, 2019 (Exh. JU-4 (Rev.) at 63, 91).

Interconnection Customer Interconnection Facilities, the bidder will negotiate in good faith and use commercially reasonable best efforts to enter into a voluntary agreement with the third-party to accommodate their request (Exh. JU-2, at 21).[19]

The direct costs of each proposal include the direct costs of energy, RECs, and remuneration (Exhs. JU-4 (Rev.) at 8, 30-31; JU-1 at 23)). To calculate the direct cost of energy, the Evaluation Team multiplied the proposal price for energy by the estimated annual quantity of energy delivered for each year of the contract term (Exh. JU-4 (Rev.) at 8). To calculate the direct cost of RECs, the Evaluation Team multiplied the proposal price of RECs by the estimated annual quantity of RECs delivered for each year of the contract term (Exh. JU-4 (Rev.) at 8). To calculate remuneration costs, the Evaluation Team used a fixed percentage of the annual direct costs of energy and RECs (Exh. JU-4 (Rev.) at 8). The Evaluation Team used 2.75 percent remuneration based upon their interpretation of the 83C legislation and the Companies' request for approval of remuneration before the Department in this proceeding (Exh. JU-4 (Rev.) at 8). The Evaluation Team then calculated the levelized unit direct cost for each proposal by calculating the present value of the total direct energy and REC costs, including 2.75 percent remuneration (Exh. JU-4 (Rev.) at 8).

The direct benefits of each proposal include the direct benefits of energy, RECs, and Clean Energy Certificates ("CECs") (Exhs. JU-1, at 23; JU-4, at 8, 30-31). To calculate the direct benefit of energy, the Evaluation Team used the simulation model to generate the

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19 The Commitment Agreement replaces the Expandable Transmission Network bid requirement in the first 83C solicitation. D.P.U. 19-45, at 60.

estimated locational marginal price ("LMP") at each proposal's delivery node (Exh. JU-4 (Rev.) at 8, 30). The Evaluation Team then estimated the annual market value of energy for each proposal on a mark-to-market basis by estimating the revenues generated from the proposal after selling the energy on the wholesale market over the contract period (Exh. JU-4 (Rev.) at 30). To calculate the direct benefit of RECs, the Evaluation Team calculated the outstanding Class I REC and CEC compliance requirements for each year and then estimated the direct annual benefit as the avoided cost of RECs and CECs retained for compliance plus the annual benefit of any excess RECs and CECs sold at market price (Exh. JU-4 (Rev.) at 30-31).[20] The Evaluation Team then calculated the levelized unit net direct benefit for each proposal by calculating the present value of the total direct energy and REC/CEC benefits, minus the present value of the total direct contract costs, divided by the present value of the annual energy deliveries, expressed in 2019 dollars (Exhs. JU-1, at 23; JU-4 (Rev.) at 8).

The Evaluation Team calculated the indirect benefit of each proposal as the sum of the estimates of the indirect benefits of energy, RECs/CECs, Global Warming Solutions Act ("GWSA") compliance,[21] and winter price mitigation. The indirect benefit of energy was based on changes to wholesale energy market costs as a result of adding a proposal's energy

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[20] The REC price forecast for New England was developed using a capacity expansion module subject to environmental constraints, including each New England state's year-by-year RPS Class I requirements (Exh. JU-4 (Rev.) at 92-97).

[21] St. 2008, c. 298.

output to the market (Exh. JU-4 (Rev.) at 9).[22] The indirect benefits of RECs and CECs were calculated as changes to the costs for Class I RECs and CECs as a result of adding a proposal's REC and CEC contributions to the market (Exh. JU-4 (Rev.) at 9).[23] The indirect GWSA benefit for each proposal was calculated as the incremental value of emissions reductions not yet accounted for through renewable portfolio standards ("RPS") and Clean Energy Standard compliance (Exh. JU-4 (Rev.) at 9).[24] Finally, the indirect benefit of winter price mitigation was estimated as the reduction in customers' exposure to extreme winter energy prices with a proposal in service (Exh. JU-4 (Rev.) at 9).[25] The Evaluation

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[22] The Evaluation Team calculated changes to wholesale energy market costs as the change in LMP-based total costs to customers between the proposal case and the base case (Exh. JU-4 (Rev.) at 31-32). LMP-based total costs were calculated as the annual sum of hourly LMPs multiplied by load in each load zone in Massachusetts, adjusted by the proportion of distribution service retail load to total load in each load zone (Exh. JU-4 (Rev.) at 31-32).

[23] The Evaluation Team calculated the cost changes as the annual quantity of Class I RECs to be acquired to meet RPS standards in excess of the quantity supplied by the proposal (the benefits of which are captured in the direct benefits) multiplied by the estimated change in REC price in dollars per MWh between the proposal and the base case (Exh. JU-4 (Rev.) at 32).

[24] The Evaluation Team calculated GWSA benefit as a project's incremental greenhouse gas ("GHG") reduction minus total RECs/CECs produced, multiplied by a GHG compliance value (Exh. JU-4 (Rev.) at 33).

[25] The Evaluation Team calculated a proposal's winter price mitigation benefit as the annual change in a proposal's market value of energy in a year with extreme high and low winter gas prices (Exhs. JU-1, at 25; JU-4 (Rev.) at 9, 33-34). Extreme winter-month spot gas price variation was derived using data from 2002 through 2019 (Exh. JU-4 (Rev.) at 33). The Evaluation Team assumed that an extreme winter price scenario would occur once in 20 years but divided the impact over the full PPA term

Team calculated the levelized unit net indirect benefit by calculating the present value of the total indirect benefits divided by the present value of the annual energy deliveries, expressed in 2019 dollars (Exh. JU-4 (Rev.) at 31-34).

The Evaluation Team then calculated each proposal's total levelized unit net benefit, expressed in 2019 dollars per MWh, as the sum of its levelized unit net direct benefit and its levelized unit net indirect benefit (Exhs. JU-1, at 25-26; JU-4 (Rev.) at 34). The Evaluation Team ranked the proposals based on their total levelized unit net benefit, with the highest total levelized unit net benefit proposal receiving the maximum quantitative score of 75 points (Exh. JU-1, at 26, citing Exh. JU-4 (Rev.), Appendix B.1). Finally, to determine the quantitative score for each remaining proposal, the Evaluation Team subtracted three points from each proposal for each $1/levelized net benefit per MWh that was less favorable than the top ranked proposal (Exhs. JU-1, at 26; JU-4 (Rev.) at 19).[26]

3. Qualitative Evaluation

As part of Stage Two, the Evaluation Team performed a qualitative analysis of each proposal (Exh. JU-1, at 27-28). The Evaluation Team considered statutory and regulatory

to reflect uncertainty regarding the specific year that the scenario would occur (Exhs. JU-1, at 25; JU-4 (Rev.) at 33-34).

[26] The Evaluation Team revised the quantitative point allocation methodology from the last Section 83C procurement to address concerns from the Attorney General on using a ratio-based approach (Exh. JU-1, at 26 27). The Evaluation Team concluded that the revised approach remained consistent with a 75 percent weighting of the quantitative score and a 25 percent weighting of the qualitative score (Exh. JU-1, at 27).

requirements to identify the projects that were likely to be constructed and provide benefits, while also supplying a cost-effective means of delivering offshore wind energy generation (Exh. JU-1, at 27-28).

In the qualitative evaluation the Evaluation Team awarded proposals a maximum of 25 points based on Section 83C factors and other criteria deemed relevant by the Evaluation Team: (1) economic benefits to the Commonwealth; (2) low-income ratepayers in the Commonwealth; (3) Commitment Agreement[27]; (4) siting, permitting, project schedule, and financing plan; (5) energy storage system benefits; (6) reliability benefits; (7) benefits, costs, and contract risk; and (8) environmental impacts from siting (Exhs. JU-1, at 27; JU-2, at 37-39). The Evaluation Team further broke down each factor to assess specific progress commitments and to advance projects that minimized risk and maximized value to customers (Exh. JU-1, at 27-28). To support the scoring, the Evaluation Team developed a qualitative bid evaluation protocol,[28] which identified the criteria used to evaluate the qualitative factors and determine the qualitative score and ranking (Exhs. WP Support Tab D; WP Support Tab E).

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[27] For the qualitative scoring protocol, National Grid adopted a slightly different allocation approach than Eversource, Until, and DOER. In large part, this was due to the Commitment Agreement to which National Grid ascribed a higher categorical score. Despite minor variations, the different qualitative approach did not result in any material difference in the ranking of proposals (Exh. JU-1, at 28-29).

[28] The Evaluation Team included explanations of the qualitative scores assigned in each category (Exhs. JU-1, at 28; WP Support Tab E).

4. Bid Selection

The Evaluation Team added a proposal's quantitative and qualitative points and ranked the proposals from high to low according to a proposal's total score (Exhs. JU-1, at 29; JU-4 (Rev.) at 19). In Stage Three, the Evaluation Team considered possible adjustments to the Stage Two results, if warranted, based on Stage Two quantitative and qualitative criteria, and additional factors within the RFP including the following: possible portfolio effects, overall impact of proposals on the Commonwealth's policy goals; risks associated with project viability; a comparison to a reasonable range of data and analyses on expected offshore wind prices, industry costs, and cost impact of future technologies; and ratepayer bill impacts (Exhs. JU-1, at 29-30; JU-2, at 39-40; WP Support Tab F). In Stage Three, the Evaluation Team did not run models of portfolio cases because, upon the conclusion of Stage Two, the Evaluation Team determined that no combination of smaller proposals or portfolios could deliver more net benefits than the highest ranked 800 MW proposals (Exh. JU-1, at 30). In Stage Three, the Evaluation Team also conducted sensitivity analysis to test the results of the indirect energy price benefits from Stage Two (Exh. JU-1, at 30-31).

Finally, a Selection Team, comprised of representatives from the three Companies with DOER as an advisory participant and as monitored by the IE, selected a proposal (Exh. JU-1, at 9, 31). The Selection Team unanimously selected the Mayflower Wind 804 MW Low-Cost Energy fixed-price proposal with a Commitment Agreement as the winning proposal (Exh. JU-1, at 31). The Evaluation Team further determined that increased

costs under Mayflower Wind's Infrastructure and Innovation or Massachusetts Manufacturing proposals were not justified against the Low-Cost Energy proposal (Exh. JU-1, at 32-33).

C. Independent Evaluator Report

Pursuant to Section 83C(f), the Independent Evaluator is tasked with conducting a review to ensure a fair and transparent solicitation and bid selection process that is not unduly influenced by an affiliated company. The IE Report describes the Independent Evaluator's involvement in the Section 83C process through the execution of the Section 83C PPAs for the Project in January 2020 (Exh. IE Report at 1-3, 6-8).

The Independent Evaluator concluded that all bids were evaluated in a fair and objective manner through an open, fair, and transparent solicitation and bid selection process that was not unduly influenced by an affiliated company (Exh. IE Report at 43, 53). The Independent Evaluator also concluded that the Mayflower Wind 804 MW Low Cost Energy fixed-price proposal was the highest-ranking bid in the Stage Two and Stage Three evaluations and was fairly selected as the winning bid (Exh. IE Report at 52-53).

D. Positions of Parties

1. Attorney General

The Attorney General states that the Companies conducted the solicitation process to acquire offshore wind energy pursuant to a Department-approved competitive procurement process (Attorney General Brief at 10, citing Exh. JU-1, at 36-37).

2. DOER

DOER states that the Companies properly followed the bid evaluation process set forth in the RFP and (DOER Brief at 4). DOER further maintains that the evaluation and selection of the Mayflower Wind Project was consistent with the RFP and the result of an open, fair, and transparent process (DOER Brief at 10).

3. Companies

The Companies maintain that the PPAs are the result of a comprehensive, non-discriminatory solicitation and satisfy all criteria for approval (Companies Brief at 16). The Companies further maintain that the contract price in the PPAs was determined through an open, competitive bid process (Companies Brief at 18).

E. Analysis and Findings

In evaluating the competitiveness of a solicitation process, the Department considers whether the process was open, fair, and transparent. NSTAR Electric Company et al., D.P.U. 18-64/D.P.U. 18-65/D.P.U. 18-66, at 25 (2019) ("2019 83D Order"); NSTAR Electric Company et al., D.P.U. 18-76/D.P.U. 18-77/D.P.U. 18-78, at 21 (2019) ("2019 83C Order"); D.P.U. 17-117 through D.P.U. 17-120, at 24-27; D.P.U. 13-146 through D.P.U. 13-149, at 26; D.P.U. 11-05 through D.P.U. 11-07, at 40, citing New England Gas Company, D.P.U. 10-114, at 221 (2011); D.P.U. 07-64-A at 60-61 (noting the "Department's fundamental interest in open, competitive, and transparent procurement processes"); Boston Gas Company, Colonial Gas Company, and Essex Gas Company, each d/b/a KeySpan Energy Delivery New England, D.T.E. 04-9, at 10 (2004) (RFP is acceptable

if the process was open, fair, and transparent), quoting Natural Gas Unbundling, D.T.E. 98-32-B at 54-55 (1999).

With regard to whether the solicitation was open, the Companies disseminated the statewide RFP to a group of approximately 600 entities with an interest in developing renewable energy projects based on a list they developed with DOER (Exhs. JU-1, at 17-18; WP Support Tab A). In response to the RFP, the Companies received 18 bids (with 10 pricing variations), from three offshore wind energy developers (Exh. JU-1, at 20). Given the broad dissemination of the solicitation to potential bidders and the variety of proposals received, the Department finds that the solicitation was open. See 2019 83D Order, at 25; 2019 83C Order, at 21-22; D.P.U. 17-117 through D.P.U. 17-120, at 24-27, at 25.

For the Department to find that the solicitation process was fair and transparent, the Companies must demonstrate that they (1) clearly described the evaluation process to each potential bidder, (2) provided the evaluation criteria in the RFP, and (3) provided an opportunity for bidders to request clarification of the evaluation criteria and the RFP process. 2019 83D Order, at 26; 2019 83C Order, at 22; D.P.U. 17-117 through D.P.U. 17-120, at 27; D.P.U. 13-146 through D.P.U. 13-149, at 27; D.P.U. 11-05 through D.P.U. 11-07, at 42, citing D.P.U. 10-114, at 221; D.P.U. 07-64-A at 60-61 n.21; D.T.E. 04-9, at 10. The Department previously determined that the timetable and method of solicitation described in the RFP was consistent with Section 83C and 220 CMR 23.00. D.P.U. 19-45, at 70-71. The RFP clearly identified the criteria that the Companies were to use in each step of the

proposal evaluation process (Exhs. JU-1, at 20; JU-2). In addition to guidelines provided in the RFP, potential bidders were provided an opportunity to and did submit written questions prior to submitting proposals (Exh. JU-1, at 18-19). Accordingly, the Department finds that the Companies have demonstrated that the solicitation process was fair and transparent. See 2019 83D Order, at 26; 2019 83C Order, at 22; D.P.U. 17-117 through D.P.U. 17-120, at 26.

Further, with respect to the proposal evaluation process, the Department considers whether the Companies evaluated and selected winning proposals in a reasonable manner, based on the criteria set forth in the RFP. 2019 83D Order, at 26; 2019 83C Order, at 22; D.P.U. 17-117 through D.P.U. 17-120, at 24; D.P.U. 13-146 through D.P.U. 13-149, at 26; D.P.U. 11-05 through D.P.U. 11-07, at 40, citing D.T.E. 04-9, at 10; The Berkshire Gas Company, D.T.E. 02-56, at 10 (2002). After screening projects for threshold requirements, the Evaluation Team conducted a quantitative evaluation of the proposals based on the costs of each project as well as the direct and indirect benefits to customers (Exh. JU-1, at 21-27). The Evaluation Team then assigned each proposal a quantitative score on a 75-point scale (Exh. JU-1, at 26-27). Next, the Evaluation Team assigned each proposal a qualitative score on a 25-point scale, based on an assessment of which projects were most likely to be developed and were a cost-effective means of delivering offshore wind energy generation (Exhs. JU-1, at 27-28; WP Support Tab D). The Evaluation Team combined the quantitative and qualitative scores to rank the projects based on total points (Exh. JU-1, at 29). Finally, the Evaluation Team evaluated the ranked proposals based on whether the proposals for

greater than 400 MW were likely to provide significantly more economic net benefits to ratepayers as compared with the procurement of additional offshore wind energy in a future solicitation (Exh. JU-1, at 29-31).

Based on our review, the Department finds that the quantitative and qualitative evaluations followed the criteria provided in the RFP (Exhs. JU-1, at 29-30; JU-2, at 34-40). Accordingly, the Department finds that the Companies selected the winning proposal in a reasonable manner, consistent with the criteria set forth in the RFP.

VI. SECTION 83C REQUIREMENTS

A. Introduction

Pursuant to Section 83C and 220 CMR 23.00, the Department must make several findings regarding proposed long-term contracts for offshore wind energy generation. As a threshold matter, the Department must find that the proposed contracts facilitate the financing of an eligible offshore wind energy generating resource. In addition, the Department must make determinations regarding the following: (1) the facility's ability to provide enhanced electric reliability; (2) the facility's contribution to reducing winter electricity price spikes; (3) the avoidance of line loss and mitigation of transmission costs and that transmission cost overruns are not borne by ratepayers; (4) the demonstration of project viability in a commercially reasonable timeframe; (5) the allowance of wind energy generation resources to be paired with energy storage systems; (6) the mitigation, where possible, of any environmental impacts; and (7) the creation and fostering of employment and economic

development in the Commonwealth. Section 83C; 220 CMR 23.05(1). The Department addresses each of these requirements below.

B. Eligibility as Section 83C Offshore Wind Energy Generating Source

1. Introduction

In order to be an eligible offshore wind energy generation resource under Section 83C and 220 CMR 23.02, a proposal must meet the following requirements: (1) have a COD, as verified by DOER, of January 1, 2018 or later; (2) be a qualified Class I renewable energy generating source as defined in G.L. c. 25A § 11F; and (3) operate in a designated wind energy area for which an initial federal lease was issued on a competitive basis after January 1, 2012. Section 83C; G.L. c. 25A § 11F.

2. Positions of the Parties

The Companies maintain that the facilities have CODs after January 1, 2018 (Exh. JU-1, at 13-14). In particular, the Companies assert that the Project will be completed in two phases (Exh. JU-1, at 8). The Companies represent that Phase 1 and Phase 2 of the Project have CODs of September 1, 2025, and December 15, 2025, respectively (Companies Brief at 19, citing Exhs. JU-1, at 38; JU-3-A at 5, 20; JU-3-D at 5, 22; JU-3-G at 5, 20; JU-3-B at 5, 19-20; JU-E at 5, 22; JU-3-H at 5, 19-20). The Companies also maintain that if either COD is not achieved by the guaranteed dates, Mayflower Wind is subject to delay damages and potential contract termination (Companies Brief at 19, citing Exhs. JU-1, at 38).

The Companies maintain that Mayflower Wind is solely responsible for qualifying the facilities as RPS Class I and maintaining such qualification for the duration of the PPAs

(Companies Brief at 22, citing Exh. JU-1, at 35; JU-3-A at 23; JU-3-D at 30; JU-G at 23). In this regard, the Companies assert that the Project will qualify as RPS Class I (Companies Brief at 22, citing Exhs. JU-3-A at 5; JU-3-D at 5; JU-3-G at 5). In addition, the Companies argue that they are only obligated under the contracts to purchase RECs (or other comparable certificate or environmental attribute) produced by or associated with the facilities if they qualify as a RPS Class I pursuant to 225 CMR 14.00 (Companies Brief at 22-23, citing Exhs. JU-1, at 35). The Companies contend that if the Project no longer meets the requirements for eligibility pursuant to the RPS solely due to a change in law, Mayflower Wind must (1) use commercially reasonable efforts to ensure the qualification will continue after the change in law; and (2) if not able to do so, the price for energy will be adjusted as set forth in the PPAs (Companies Brief at 23, fn. 6, citing JU-1, at 35, fn. 5).

Finally, the Companies assert that they distributed the RFP to all eligible bidders with federal lease rights in designated wind energy areas, as required under Section 83C, and also posted publicly on a website set up by the soliciting Companies and the DOER (Companies Brief at 18, citing Exh. JU-1, at 36-37; WP Support Tab A). The Companies confirm that Mayflower Wind will develop the facilities on the Outer Continental Shelf in Bureau of Ocean Energy Management Lease OCS-A 0521 area (Exhs. JU-3-A, at 5, 66; JU-B at 5, 66; JU-3-D at 5, 74; JU-3-E at 5, 73; JU-3-G at 5, 67; JU-3-H at 5, 66). No other party commented on this issue.

3. Analysis and Findings

The two phases of the Project have CODs of September 1, 2025, and December 15, 2025, respectively (Exhs. JU-1, at 38; JU-3-A, at 5, 20; JU-3-D at 5, 22; JU-3-G at 5, 20; JU-3-B at 5, 19-20; JU-E at 5, 22; JU-3-H at 5, 19-20). Pursuant to the PPAs, Mayflower Wind must meet the CODs or it will be subject to certain penalties, including delay damages and the potential for contract termination (Exh. JU-1, at 38). Therefore, consistent with Section 83C and 220 CMR 23.00, the Department finds that the facilities will have CODs of January 1, 2018, or later.

The Companies have provided evidence that the Project will qualify as an RPS Class I renewable energy generating source (Exhs. JU-3-A at 5; JU-3-D at 5; JU-3-G at 5). In addition, the proposed contracts provide that the Companies are not obligated to purchase RECs if the facilities fail to qualify for RPS Class I (Exhs. JU-1, at 35). Therefore, the Department finds that, prior to the delivery of any products under the contracts and for the duration of the contact terms, the facilities will meet the RPS Class I eligibility requirements as defined in G.L. c. 25A § 11F.

Finally, the Department finds that the Companies have demonstrated that the facilities will operate in a designated wind energy area for which a federal lease was issued on a competitive basis after January 1, 2012 (Exhs. JU-1, at 36-37; WP Support Tab A; JU-3-A, at 5, 66; JU-3-B at 5, 66; JU-3-D at 5, 74; JU-3-E at 5, 73; JU-3-G at 5, 67; JU-3-H at 5, 66). Accordingly, the Department finds that the Companies have demonstrated that

Phase 1 and Phase 2 of the Project each qualify as an eligible offshore wind energy generating resource under Section 83C and 220 CMR 23.02.

C. Facilitation of Financing

1. Introduction

Section 83C requires the Companies to conduct one or more competitive solicitations for long-term contracts to facilitate the financing of offshore wind energy generation. Section 83C; see also 220 CMR 23.01(1). To approve the contracts, the Department must find that the PPAs will facilitate the financing of offshore wind energy generation resources. Section 83C; D.P.U. 13-146 through D.P.U. 13-149, at 31; D.P.U. 11-05 through D.P.U. 11-07, at 14-15.

2. Positions of the Parties

The Companies maintain that the investment commitments secured by Mayflower Wind to finance the Project are predicated on Mayflower Wind first obtaining long-term contracts for the output of the Project (Companies Brief at 16, citing Exh. JU-1, at 42). The Companies assert that Mayflower Wind has indicated that financing a Project of this nature without a long-term contract would significantly increase the cost of financing due to the associated risks for both the equity and debt providers, making the Project economically unviable and, therefore, approval of the PPAs is necessary for Mayflower Wind to secure financing for the Project (Companies Brief at 16). No other party commented on this issue.

3. Analysis and Findings

Section 83C requires an electric distribution company to demonstrate that any proposed long-term contract will facilitate the financing of an offshore wind energy generation project. To satisfy this requirement, an electric distribution company need not demonstrate that the long-term contract is necessary to secure project financing, only that it will assist in securing project financing. NSTAR Electric Company, D.P.U. 12-30, at 40 (2012); Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 10-54, at 52 (2010).

The Department has found that entering into a long-term contract with a creditworthy counterparty, such as an electric distribution company, allows a developer to obtain favorable long-term financing. D.P.U. 17-117 through D.P.U. 17-120 at 30; D.P.U. 13-146 through D.P.U. 13-149, at 32; D.P.U. 11-05 through D.P.U. 11-07, at 18-19. The Companies argue that, based upon the information provided by Mayflower Wind, the PPAs would support Mayflower Wind's ability to finance the Project (Companies Brief at 16-17). In addition, in its bid, Mayflower Wind indicated that the investment commitments it has secured to finance the Project are predicated on long-term contracts for the output of the Project and, thus, approval of the PPAs is necessary to secure financing (Exh. JU-1, at 42). Accordingly, the Department finds that the proposed contracts will facilitate the financing of the Project.

D. Enhanced Reliability

1. Introduction

Pursuant to Section 83C and 220 CMR 23.05 (1)(a)(1), the Department must find that the offshore wind energy generating resources will "provide enhanced electricity reliability." While Section 83C does not define the term "reliability," the Department has previously relied on the Northeast Power Coordinating Council/ North American Electric Reliability Council definition of reliability as the ability to contribute to system resource adequacy and system security. D.P.U. 17-117 through D.P.U. 17-120, at 32; D.P.U. 13-146 through D.P.U. 13-149, at 34; D.P.U. 11-05 through D.P.U. 11-07, at 21; D.P.U. 10-54, at 181.

2. Positions of the Parties

a. Attorney General

The Attorney General contends that the Project will enhance electric reliability by diversifying both the offshore wind portfolio and the overall fuel generation mix; this will offset significant generation unit retirements within the Commonwealth from the Brayton Point station and the Pilgrim nuclear station (Attorney General Brief at 9). The Attorney General also maintains that the Project will (1) provide clean energy with a strong capacity factor; (2) have a relatively stable generation profile; and (3) generate more power in the winter months, helping to mitigate winter price spikes (Attorney General Brief at 9, citing Exh. JU-1, at WP Support Tab B, Mayflower Wind Project 2, Appendix A, at 19-22, 25).

b. DOER

DOER asserts that the Project will enhance reliability within Massachusetts by providing an added 804 MW of offshore wind generation, cost effectively enhancing the

diversity of Massachusetts' energy portfolio and assisting the Commonwealth in meeting GWSA requirements (DOER Brief at 7).

c. Companies

The Companies maintain that the Project will enhance electrical reliability to Massachusetts by (1) diversifying the offshore wind portfolio as well as the overall fuel generation mix; (2) offsetting significant generation unit retirements within the Commonwealth including the shutdowns of the Brayton Point station in 2017 and Pilgrim nuclear station in 2019; and (3) mitigating natural gas demand in the region and reducing threats to grid reliability caused by pipeline constraints, which is a key policy concern of ISO New England Inc. ("ISO-NE") (Companies Brief at 17, citing Exh. JU-1, at 36). Further, the Companies contend that according to an analysis by Mayflower Wind, as the Project does not result in any voltage or thermal violations it will not have any adverse impacts on the existing transmission system (Companies Brief at 17, citing Exh. JU-1, at 36). The Companies argue that the Department has previously found that a delivery point that is part of the New England regional interconnected electric system will improve the reliability in this area of the system and help to bolster the reliability of the system as a whole (Companies Brief at 17, citing 2019 83C Order, at 31 (2019)).

3. Analysis and Findings

Mayflower Wind will interconnect and deliver energy into the regional transmission system at a proposed new Bourne 345 kV switching station that connects to NSTAR Electric Company 345 kV lines 322 and 342 near Bourne, Massachusetts and deliver energy into the

Southeastern Massachusetts ("SEMA") load zone (Exhs. JU-3-A at 71 (Exhibit A), 76 (Exhibit E); JU-3-B at 71 (Exhibit A), 76 (Exhibit E); JU-3-D at 79 (Exhibit A), 84 (Exhibit E); JU-3-E at 78 (Exhibit A), 83 (Exhibit E); JU-3-G at 72 (Exhibit A), 77 (Exhibit E); JU-3-H at 71 (Exhibit A), 76 (Exhibit E)). Because SEMA is part of the New England regional interconnected electric system, an improvement in reliability in this area of the system will help to bolster the reliability of the system as a whole and, thereby, contribute to system resource adequacy and system security support. See D.P.U. 17-117 through D.P.U. 17-120, at 33. Accordingly, pursuant to Section 83C and 220 CMR 23.05 (1)(a)(1), the Department finds that the Project will provide enhanced electricity reliability.

E. Reduced Winter Electricity Price Spikes

1. Introduction

Pursuant to Section 83C and 220 CMR 23.05 (1)(a)(2), the Department must find that the offshore wind energy generating resources that are the subject of the proposed long-term contracts will contribute to the reduction of winter electricity price spikes.

2. Positions of the Parties

a. Attorney General

The Attorney General asserts that the Project will have a relatively stable generation profile and generate more power in the winter months, which will help to mitigate winter price spikes (Attorney General Brief at 9 citing Exh. JU-1, at 21-22).

b. DOER

DOER states that the PPAs will add critical diversity to the Commonwealth's energy portfolio, particularly in the winter months because offshore wind generation has a relatively

high production during this period (DOER Brief at 6). Therefore, DOER asserts that offshore wind generation during the winter months will contribute to reducing winter electricity price spikes (DOER Brief at 6). In addition, DOER maintains that securing offshore wind resources that can provide energy in the winter will reduce the region's dependence on natural gas and, therefore, can reduce the costs associated with natural gas constraints (DOER Brief at 6).

c. Companies

The Companies maintain that the Project will add offshore wind generation with a high and stable winter capacity factor to the region, thereby helping to alleviate winter electricity price volatility (Companies Brief at 17, citing Exhs. JU-1, at 36; JU-2, at 31). In addition, the Companies argue that the Project will increase the resources available to address demand spikes, reduce reliance on fossil fuel generation, and will be unaffected by the risk of fossil fuel shortages as demonstrated by the winter price spike and fuel switching analyses[29] (Companies Brief at 17-18, citing Exhs. JU-1, at 36; JU-2, at 31).

[29] In this Section 83C evaluation, the Companies revised (1) the method for calculating the impact of a change in the PPA market value during an extreme winter gas price year; and (2) implemented in the TCR model a mechanism to reflect the impacts of New England winter natural gas shortages, which allowed the model to capture economic and environmental impacts from generators switching from natural gas to fuel oil on winter days with very high natural gas prices (Companies Brief at 9-10 citing Exhs. JU-1 at 30 and JU-4, at 5, n. 4). The Companies made these changes to consider the market value of the Project's energy under conditions of high and low winter gas prices (Exhs. JU-1, at 25; JU-4, at 9). The Companies maintain that introducing a significant quantity of gas-independent renewable generation over the evaluation period, such as the 800 MW offshore wind in the Proposal Cases compared to the base case, results in a reduction in the number of forced fuel switches every

3. Analysis and Findings

To determine whether a renewable energy resource will reduce winter electricity price spikes, the Department considers a project's output and capacity factor at the electric system's peak. D.P.U. 17-117 through D.P.U. 17-120, at 33; D.P.U. 10-54, at 198. The Evaluation Team calculated the reduction in exposure to extreme energy prices when the Project is in service (Exh. JU-4 at 9). Based on our review of the Project's generation characteristics, the Department finds that it is likely to produce power during winter peak times (Exhs. JU-1, at 30; JU-4, at 5, n. 4). Accordingly, pursuant to Section 83C and 220 CMR 23.05 (1)(a)(2), the Department finds that the Project will contribute to the reduction of winter electricity price spikes.

F. Avoided Line Loss, Mitigated Transmission Costs, Protection from Transmission Cost Overruns

1. Introduction

Pursuant to Section 83C, the Department must find that the offshore wind energy resource under a long-term contract will avoid line loss, mitigate transmission costs, and ensure that transmission cost overruns are not borne by ratepayers. See also 220 CMR 23.05(1)(a)(4).

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year and a significant savings in the energy supply costs resulting from those reduced fuel switches during the winter months (Companies Brief at 10).

2. Positions of the Parties

a. DOER

DOER maintains that because the PPAs are for a fixed price, the risk of additional transmission costs is borne by Mayflower Wind (DOER Brief at 7, citing Exhs. JU-1, at 38; JU-3).

b. Companies

The Companies maintain that line loss risks, costs associated with the delivery of energy and costs for interconnection to the delivery point are all borne by Mayflower Wind because the PPAs provide for a fixed cost for the quantity of energy and RECs as measured at the delivery point onshore (Companies Brief at 19, citing Exhs. JU-1, at 38).

3. Analysis and Findings

The PPAs provide for Mayflower Wind to deliver and sell energy and RECs on a fixed price schedule as measured at the onshore delivery point (Exhs. JU-1, at 38). The Department finds that the structure of the PPAs ensure line loss risk and transmission costs are borne by Mayflower Wind and any transmission cost overruns will not be borne by ratepayers (Exhs. JU-1, at 38).

G. Project Viability in a Commercially Reasonable Timeframe

1. Introduction

Pursuant to Section 83C, the Department must determine whether the offshore wind energy generating resource under a long-term contract adequately demonstrates project viability in a commercially reasonable timeframe. See also 220 CMR 23.05 (1)(a)(5). As described in Section V, the Companies' bid evaluation process includes three stages. Stage

one consists of a review to determine if proposals meet eligibility and threshold requirements, while Stage Two includes a review based on specific quantitative and qualitative criteria. The Stage Three review includes further evaluation of proposals based on the Stage Two quantitative and qualitative evaluation criteria, as well as other potential additional factors, to ensure the selection of viable projects that provide cost-effective, reliable offshore wind energy generation with limited risk (Exhs. JU-1, at 20; JU-2, at 11). The qualitative bid criteria are the factors the Companies use to evaluate bids for project viability and include several factors addressing the viability of a project's plan to interconnect to the ISO-NE transmission system, including interconnection status (A3), viability of plan for interconnection (B2), and site status relating to the site control and obtaining necessary property rights (C1) (Exh. WP Support Tab D at 4, 8-9). Mayflower Wind's interconnection plan proposes to interconnect and deliver energy from the Project into the regional transmission system at a proposed new Bourne 345 kV switching station that connects to NSTAR Electric Company 345 kV lines 322 and 342 near Bourne, Massachusetts and deliver energy into the SEMA load zone[30] (Exhs. JU-3-A at 71 (Exhibit A), 76 (Exhibit E); JU-3-B at 71 (Exhibit A), 76 (Exhibit E); JU-3-D at 79 (Exhibit A), 84 (Exhibit E); JU-3-E at 78 (Exhibit A), 83 (Exhibit E); JU-3-G at 72 (Exhibit A), 77 (Exhibit E); JU-3-H at 71 (Exhibit A), 76 (Exhibit E)).

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[30] The Companies maintain that in response to questions sent to Mayflower Wind as part of the Stage Three evaluation process, Mayflower Wind indicated that it was considering alternate interconnection routes in addition to its preferred route at the proposed new Bourne 345 kV switching station (Exh. DPU 1-13).

2. Positions of the Parties

a. Attorney General

The Attorney General comments that the Companies do not provide direct evidence regarding project viability (Attorney General Brief at 9, n. 5).

b. DOER

DOER argues that the PPAs contain a set of milestones that ensure the Project will be completed in a commercially reasonable timeframe and that Mayflower Wind must post financial security to ensure agreed upon delivery of energy and RECs (DOER Brief at 7).

c. Companies

The Companies contend that to ensure the Project will be completed in a commercially reasonable timeframe, the PPAs set forth a series of critical milestones to measure progress towards the achievement of the CODs and the failure to achieve those CODs would subject Mayflower Wind to delay damages and potential contract termination (Companies Brief at 19, citing Exhs. JU-1, at 38; JU-3-A at 5, 20; JU-3-D at 5, 22; JU-3-G at 5, 20; JU-3-B at 5, 19-20; JU-3-E at 5, 22; JU-3-H at 5, 19-20). The Companies further argue that Mayflower Wind is obligated to post financial security in order to secure its obligations to develop the Project and deliver energy and RECs throughout the term of the PPAs (Companies Brief at 19, citing Exhs. JU-1, at 38; JU-3-A at 5, 20; JU-D at 5, 22; JU-3-G at 5, 20; JU-3-B at 5, 19-20; JU-3-E at 5, 22; JU-3-H at 5, 19-20). The Companies also contend that they negotiated the addition of two milestones to the draft PPA in this

solicitation in order to provide an earlier indication of schedule progress[31] (Companies Brief at 19-20, citing Exhs. JU-1, at 39; JU-3-A, at 19; JU-3-D at 22; JU-3-G at 20).

3. Analysis and Findings

The Companies have demonstrated that the Mayflower Wind project is viable and will be completed in a commercially reasonable timeframe. They have provided evidence that the PPAs contain critical milestones to support the achievement of the Phase 1 and Phase 2 CODs and that Mayflower Wind is obligated to post financial security related to its obligations to deliver energy and RECs throughout the term of the PPAs (Exhs. JU-1, at 38; JU-3-A at 5, 20; JU-D at 5, 22; JU-3-G at 5, 20; JU-3-B at 5, 19-20; JU-3-E at 5, 22; JU-3-H at 5, 19-20). Further, the Companies negotiated additional critical milestones to provide an earlier indication of schedule progress and limit Project viability risk (Exhs. JU-1, at 20, 39; JU-3-A at 19; JU-3-D at 22; JU-3-G at 20).

To evaluate the interconnection risk posed by the Project, during the Stage Three evaluation process, the Companies asked Mayflower Wind follow-up questions on its interconnection plan (Exh. DPU 1-13). Mayflower Wind provided responses to the Companies suggesting alternate interconnection routes it was pursuing in addition to its

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[31] The Companies comment that (1) the first added milestone in section 3.1(a)(i) of the PPA requires the facility to have all necessary approvals by the Massachusetts Energy Facilities Siting Board for construction and operation of the facility, the interconnection of the facility to the interconnecting utility and the construction of network upgrades in final form and not subject to appear and rehearing; and (2) the second milestone in section 3.1(a)(ii) requires qualification determination under ISO-NE Tariff Section III.13.1.1.2.8 (Exhs. JU-1, at 38-39; JU-3-A at 19; JU-3-D at 22; JU-3-G at 20).

preferred interconnection route (Exhs. DPU 1-13; DPU 3-9). In selecting the Mayflower Wind winning bid, the Companies determined that they had sufficient information on the Mayflower Wind interconnection plan to select the Project as the winning bid (Exh. DPU 1-13).

To determine whether the Companies reasonably assessed the Project viability risk in selecting the Mayflower Wind Project, the Department considers the information the Companies evaluated at the time of the bid selection to make their decision, as well as steps taken to mitigate the risk to ratepayers.[32] The Department is confident that the Companies fully evaluated the viability risk of the Project at the time they selected the Project as the winning bid. The follow up questions the Companies asked help to ensure Mayflower Wind was pursuing alternate interconnection plans, and the additional contract milestones help mitigate any interconnection risk that may impact project viability. Further, the Department

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[32] During the discovery process, the Companies provided the following updates on the Mayflower Wind interconnection process with ISO-NE: (1) the Feasibility Study was completed on January 8, 2020; (2) the System Impact Study Agreement was executed on February 9, 2020 with the Study expected to commence on March 31, 2021; and (3) after the System Impact Study is completed, Mayflower Wind will need NEPOOL Reliability Committee Approval and must execute a Large Generator Interconnection Agreement (Exhs. DPU 1-12; DPU 3-8).

Additionally, during the discovery process, the Companies provided evidence that Mayflower Wind continues to engage Eversource in negotiations to obtain the property rights to the right of way and has also filed a petition to intervene in an Eversource case before the Massachusetts Energy Facilities Siting Board in open docket EFSB 19-06 that may impact its proposed interconnection plan for the Project (Exhs. DPU 1-12; DPU 3-9). See NSTAR Electric Company, D.P.U. 19-142 and NSTAR Electric Company, D.P.U. 19-143.

is confident that Mayflower Wind and Eversource will continue to negotiate the interconnection route for the Project. Accordingly, consistent with Section 83C and 220 CMR 23.05 (1)(a)(5), the Department finds that the Companies have adequately demonstrated Project viability in a commercially reasonable timeframe.

H. Allowance of Wind Energy Generation to be Paired with Energy Storage

1. Introduction

Pursuant to Section 83C, the Department must determine whether the offshore wind energy generating resource under a long-term contract allows for the pairing of energy storage systems. See also 220 CMR 23.05 (1)(a)(6).

2. Positions of the Parties

a. Attorney General

The Attorney General contends that while Mayflower Wind did not propose to pair the Project with energy storage, Mayflower Wind states that it is reviewing the possibility of reserving space near the Bourne Switching Station and/or at the transition point from underground cables to overhead transmission lines where a future short-duration energy storage facility could be installed to support both the Project and the grid (Attorney General Brief at 9, n. 5).

b. Companies

The Companies maintain that, while the PPAs do not include paired energy storage systems at this time, Mayflower Wind has indicated that it will (1) continue to evaluate all storage options through the Innovation Partnership it has committed to with the Massachusetts Clean Energy Center ("MassCEC") and (2) support the development of distributed storage in

low-income households across Cape Cod and Martha's Vineyard through a collaboration with the Cape Light Compact JPE (Companies Brief at 20, citing Exhs. JU-1, at 41; DPU 1-16). In addition, the Companies contend that Mayflower Wind has stated that it is reviewing the possibility of reserving space near the Bourne Switching Station and/or at the transition point from underground cables to overhead transmission lines where a future short-duration energy storage facility could be installed to both support the Project and the grid (Exh. DPU 1-16). No other party commented on this issue.

3. Analysis and Findings

The solicitation process allowed for the pairing of energy storage systems with offshore wind energy generation resources (Exh. JU-2, at 20). While Mayflower Wind's winning bid did not include paired energy storage systems, Mayflower Wind has indicated that it may reserve space near the Bourne Switching Station and/or at the transition point from the underground cables to overhead transmission lines where a future short-duration energy storage facility could be installed to support the Project and the grid (Exh. DPU 1-16). In addition, Mayflower Wind has also suggested that it is considering work with the MassCEC and the Cape Light Compact JPE on energy storage initiatives (Exhs. JU-1, at 41; DPU 1-16). Accordingly, the Department finds that the PPAs allow for the offshore wind energy generating resource to be paired with energy storage systems as required under Section 83C.

The Department recognizes that the two storage initiatives that Mayflower Wind may pursue with the MassCEC and Cape Light Compact may provide value to citizens of the

Commonwealth including low-income households across Cape Cod and Martha's Vineyard. Nonetheless, the provision of these initiatives are not directly required for the Department to determine whether the PPAs allow for the offshore wind energy generating resource to be paired with energy storage systems and, therefore, the Department did not consider these developments in its finding above.[33]

I. Mitigation of Environmental Impacts

1. Introduction

Pursuant to Section 83C, the Department must determine whether the offshore wind energy generating resource under a long-term contract mitigates any environmental impacts, where possible. See also 220 CMR 23.05(1)(a)(7).

2. Positions of the Parties

a. Attorney General

The Attorney General asserts that the Companies point to Section 7 of Mayflower Wind's proposal to demonstrate mitigation of environmental impacts rather than explore them separately (Attorney General Brief at 9, n. 5, citing Exh. JU-1, at 40-41).

b. Companies

The Companies maintain that Mayflower Wind conducted significant Project mitigation-related outreach with relevant federal, state, and local agencies and a wide range

[33] The Department notes that, to the extent the initiative with the Cape Light Compact is used to enable investments in projects designed to promote the use of storage in low-income communities, it supports DOER's obligation under Section 83C(d) to give preference to proposals that "demonstrate a benefit to low-income ratepayers . . . without adding costs to the [P]roject."

of stakeholders (Companies Brief at 21, citing Exh. JU-1, at 40). The Companies assert that these activities included (1) commencing environmental and zoning permitting efforts; (2) undertaking required environmental assessments; (3) identifying potential environmental impacts and presenting a plan to mitigate potential impacts imposed by Project development; and (4) planning to implement a comprehensive suite of fisheries mitigation measures designed to avoid, minimize, or mitigate impact on the commercial fishing industries (Companies Brief at 21, citing Exhs. JU-1, at 40-41; JU-1, at WP Support Tab B, Mayflower Wind 804MW Bid, Sections 7.4 and 7.5).

3. Analysis and Findings

Mayflower Wind has identified the Project's effects on major environmental categories and has described its mitigation strategy for each category, including environmental and zoning permitting efforts, outreach on visual impacts, and working with fisheries' stakeholders (Exh. JU-1 at 40-41; Exh. WP Support Tab B). The Department finds that Mayflower Wind has (1) commenced efforts to obtain required federal, state, and local permits; (2) undertaken required environmental assessments; (3) identified potential environmental impacts and presented a plan to mitigate potential impacts imposed by Project development; and (4) conducted early and continuous outreach to a wide variety of local stakeholders impacted by the Project (Exhs. JU-1 at 40-41; WP Support Tab B; WP Support Tab E; DPU 1-12). Accordingly, consistent with Section 83C and 220 CMR 23.05(1)(a)(7), the Department finds that the Project mitigates any environmental impacts, where possible.

J. Employment Benefits and Economic Development

1. Introduction

Pursuant to Section 83C, the Department must determine whether the offshore wind energy resource under a long-term contract will create and foster employment and economic development, where feasible. See also 220 CMR 23.05 (1)(a)(8).

2. Positions of the Parties

a. Attorney General

The Attorney General contends that the Department should approve the PPAs as it meets the criteria set forth in 83C related to providing economic and environmental benefits (Attorney General Brief at 10). The Attorney General maintains that the Companies have provided evidence of Project benefits to the Massachusetts economy from employing thousands of workers and investing in local business interests (Attorney General Brief at 9, citing Exh. JU-1, at 39; WP Support Tab B, Mayflower Wind Project 2, Appendix A at 257-258).

b. DOER

DOER contends that the Project will provide opportunities for both direct and indirect employment and economic development in the Commonwealth including 5,520 direct full-time equivalent jobs in Massachusetts over the life of the Project and an additional 930 direct full-time equivalent jobs elsewhere in the region (DOER Brief at 6). In addition, DOER opines that Mayflower Wind has made several economic development commitments totaling $77.2 million, including (1) a $55 million commitment to the MassCEC for the creation of an Offshore Wind Development Fund; (2) a $10 million investment for marine

science and fisheries research; (3) a $7.5 million investment for port upgrades; and (4) a $5 million commitment for low-income strategic electrification[34] (DOER Brief at 6-7).

c. Companies

The Companies maintain that Mayflower Wind estimates that the Project will support 5,520 direct full-time equivalent jobs in Massachusetts over its life and an additional 930 direct full-time equivalent jobs elsewhere in the region; this will result in $690 million of gross earnings in Massachusetts and $170 million elsewhere in the region[35] (Companies Brief at 21-22, citing Exh. JU-1, at 39; WP Support Tab B, Mayflower Wind 804Mw low cost energy proposal, Section 14 Attachment). Further, the Companies argue that Mayflower Wind has indicated its intent to invest in ports and infrastructure, workforce development, support for the Massachusetts offshore wind industry innovation through MassCEC programs, research by local institutions, direct support for marine science, and support to

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[34] DOER maintains that Mayflower Wind's economic development commitments are memorialized in a memorandum of agreement dated January 10, 2020 between the MassCEC and Mayflower Wind (DOER Brief at 7, citing Exh. JU-1, at WP Support Tab B, Section 14).

[35] The Companies maintain that Mayflower Wind estimates that the Project will provide 10,230 direct, indirect and induced full-time equivalent jobs in Massachusetts and 2,940 direct, indirect and induced full-time equivalent jobs in the region (Companies Brief at 22, citing Exh. JU-1, at 39).

offset electric bills for low income customers[36] (Companies Brief at 22, citing Exh. JU-1, at 39).

3. Analysis and Findings

The Department has recognized that estimates of employment potential contain uncertainties and actual benefits could be different from projections. D.P.U. 17-117 through D.P.U. 17-120, at 35. Nevertheless, there is no dispute that the construction and operational phases of the Project will result in additional employment (Exhs. JU-1, at 39; WP Support Tab B, Att. 14). See D.P.U. 17-117 through D.P.U. 17-120, at 35.

As with additional employment, any measures of financial benefit to the economy are only estimates. D.P.U. 17-117 through D.P.U. 17-120, at 35. The construction and long-term operation of the Project will, however, undoubtedly result in economic benefit for the region (Exh. JU-1, at 39). Accordingly, consistent with Section 83C and 220 CMR 23.05 (1)(a)(8), the Department finds that the Project will create and foster employment and economic development in the regional economy.

VII. COST EFFECTIVENESS

A. Introduction

The Department must take into consideration both the potential costs and benefits of the PPAs and approve a long-term contract under Section 83C only upon finding that it is a

[36] The Companies note that Mayflower Wind and MassCEC have entered into a Memorandum of Agreement in which they have memorialized these commitments (Companies Brief at 22, citing Exh. JU-1, at 39).

cost-effective mechanism for procuring reliable renewable energy on a long-term basis. Section 83C; 220 CMR 23.05(1). In D.P.U. 10-54, the Department first considered an appropriate standard for evaluating the cost-effectiveness of a long-term contract for renewable energy pursuant to St. 2008, c. 169, § 83 ("Section 83"). The Department determined that it would:

> consider in our cost-effectiveness analysis all costs and benefits associated with [a proposed contract], including the non-price benefits that are difficult to quantify, and including costs and benefits of complying with existing and reasonably anticipated future federal and state environmental requirements. . . . In reviewing [the] benefits and costs of [a proposed contract]. . . our focus is on the benefits and costs that accrue to [the company proposing the contract] and its customers.

D.P.U. 10-54, at 71. Likewise, Section 83C requires the Department to ensure that long-term contracts are cost-effective to electric ratepayers over the term of the contract, taking into consideration the potential economic and environmental benefits to ratepayers. Section 83C(d)(iii), (e); 220 CMR 23.05(1). Accordingly, the Department will evaluate the cost-effectiveness of each PPA based on the costs and benefits (both quantitative and qualitative) that such PPAs provide.

B. Positions of the Parties

1. Attorney General

The Attorney General argues that the PPAs are a cost-effective mechanism for procuring reliable renewable energy on a long-term basis (Attorney General Brief at 8). The Attorney General asserts that the PPAs provide Class I renewable generation at below-market

costs (Attorney General Brief at 8, citing Exh. JU-1, at 37). As support, the Attorney General cites the Companies' analysis that the winning project had a levelized positive net direct benefit of $22.31 per MWh (Attorney General Brief at 8, citing Exh. JU-4 (Rev.), at 22, 25). Lastly, the Attorney General argues that, as compared to the other proposals, Mayflower Wind received the highest ranking in the quantitative evaluation and had the highest levelized unit net benefit (Attorney General Brief at 8, citing Exh. JU-4 (Rev.) at 19, 22, 25).

2. DOER

DOER argues that the PPAs are cost-effective and result from a competitive procurement process (DOER Brief at 5). DOER asserts that the Mayflower Wind Project had the lowest total proposal price and highest levelized benefit of 28 proposals evaluated from three bidders (DOER Brief at 5). DOER maintains that the forecasted benefits of each contract exceed its forecasted costs and that, over the term of the contracts, ratepayers will receive an average of 2.2 cents per kilowatt-hour ("kWh") (real 2019 dollars) in direct savings (DOER Brief at 5). DOER further maintains that, when indirect benefits are included, the contracts will result in a levelized net benefit of 5.0 cents per kWh (real 2019 dollars) (DOER Brief at 5). In total, DOER asserts that the contracts are expected to provide approximately $2.3 billion in total net direct benefits (nominal dollars) (DOER Brief at 5-6). DOER recognizes that any long-term contracts present inherent risks, but asserts that the PPAs will reduce price volatility to ratepayers given that they represent a 20-year fixed price agreement (DOER Brief at 5).

3. Companies

The Companies maintain that the price set in the PPAs was established through an open, robust competitive bid process, which traditionally the Department has recognized as a preferred means of determining cost-effectiveness (Companies Brief at 18, citing e.g., D.P.U. 17-117 through D.P.U. 17-120; D.P.U. 07-64-A; D.T.E. 02-40; D.T.E. 99-60). The Companies assert that, over the 20-year term of the contracts, an estimated $2.272 billion (nominal) in below-market costs will accrue to electric ratepayers when accounting for difference between direct costs and the forecast of direct benefits (Companies Brief at 18). Further, the Companies claim that the Department has previously found below-market costs and associated qualitative benefits that accrue to customers to be indicative of cost-effective contracts (Companies Brief at 18-19, citing 2019 83C Order, at 48). Since the PPAs provide both below-market costs and qualitative benefits to customers, the Companies argue that the PPAs are cost-effective (Companies Brief at 18-19).

C. Analysis and Findings

As described in Section V, above, the Companies retained a consultant to evaluate the costs and benefits of the proposals received in response to the offshore wind RFP to develop net benefits estimates (Exh. JU-4 (Rev.) at 4). The consultant employed a computer model to forecast the value of energy and environmental attributes under the base case and each proposal case (Exh. JU-4 (Rev.) at 11). These forecasts form the basis for the Evaluation Team's assessment of the benefits associated with the individual proposals. Therefore, to determine whether the Companies' estimates of quantifiable net benefits are reasonable, the

Department must evaluate whether the price forecast and the market revenue estimates derived from the forecast are reasonable. See D.P.U. 10-54, at 108. To do so, the Department must determine whether the forecast is a reasonable projection of energy and REC prices. See D.P.U. 10-54, at 108.

The Companies applied an energy market production cost and system expansion optimization model to develop their market forecast of energy and REC prices, including analysis of (1) demand requirements; (2) capacity expansion; (3) pricing for fuel, emissions, and RECs; (4) transmission topology; and (5) load forecasts (Exh. JU-4 (Rev.) at 11-16).[37] As the Department has found previously, this type of analysis is valid for evaluating the benefits of energy from PPAs for renewable generation. 2019 83D Order, at 108; 2019 83C Order, at 46; D.P.U. 17-117 through D.P.U. 17-120, at 44; D.P.U. 12-30, at 61. In addition, this method is consistent with the approach described in the RFP and employed in previous reviews of long-term contracts (Exh. JU-2, at 8-12). 2019 83D Order, at 108; 2019 83C Order, at 46; D.P.U. 17-103, at 33-34; D.P.U. 17-117 through D.P.U. 17-120, at 44. Accordingly, because the energy and REC market price forecasts the Companies used to

[37] The computer model contained assumptions about various energy market factors, including (1) generating unit capacity additions, (2) transmission, (3) load forecast; (4) installed capacity requirements, (5) RPS requirements, (6) CES and carbon emissions caps, (7) emissions allowance prices, (8) generating unit retirements, (9) generating unit operational characteristics, and (10) fuel prices (Exh. JU-4 (Rev.) at 11-16). The Department has reviewed the various assumptions underlying the model and finds them to be reasonable.

evaluate the proposals rely upon well-established and appropriate methods, the Department finds that such forecasts result in reasonable market revenue estimates for these products.

For the Department to determine that the PPAs are cost-effective over the life of the proposed contracts, the Department must compare the estimated costs and benefits of the PPAs. 2019 83D Order, at 109; 2019 83C Order, at 46-47; D.P.U. 17-117 through D.P.U. 17-120, at 45; D.P.U. 13-146 through D.P.U. 13-149, at 40; D.P.U. 11-05 through D.P.U. 11-07, at 28, citing D.P.U. 10-54, at 79. The Companies estimate the cost of energy and RECs under each contract by multiplying the projected quantity of delivered products by the contractually specified schedule of energy and REC prices, taking into consideration that the PPAs provide for fixed prices over the contract terms (Exhs. JU-1, at 23; JU-4 (Rev.) at 7-8). The Companies also estimate the cost of remuneration by multiplying 2.75 percent times the sum of the direct cost of energy and RECs (Exh. JU-4 (Rev.) at 8). Based on the forecasted market prices of energy and RECs and estimated production of the facilities, the Companies estimate that the total cost of the PPAs, exclusive of remuneration, will be below the market value of energy and RECs over the term of the contracts by a value of $2.272 billion (nominal) (Exh. JU-1, at 37-38; DPU 1-3,

Att. (Rev.); DPU 3-2 (Supp.)).[38,39] Additionally, if the Department approves 2.75 percent remuneration the Companies' analysis shows that the PPAs result in a levelized net direct benefit of $22.31 per MWh (real 2019 dollars) (Exh. JU-4 (Rev.) at 22, 25).

To determine whether a contract is a cost-effective mechanism for procuring reliable renewable energy on a long-term basis, the Department also considers whether additional qualitative benefits will accrue to the Companies' ratepayers over the term of each PPA. 2019 83D Order, at 110; 2019 83C Order, at 47; D.P.U. 17-117 through D.P.U. 17-120, at 46; D.P.U. 13-146 through D.P.U. 13-149, at 39. As described in Section V, above, many qualitative benefits have been identified as accruing to ratepayers over the term of the proposed contracts, including benefits related to reliability, acceptance of the Commitment Agreement, environmental impacts, employment, and economic development (Exh. JU-2,

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38 In response to preparation of data requests, the consultant identified an error in the calculation of REC prices in the model, which resulted in the overestimation of REC values in certain years (Exhs. DPU 3-2; Att. DPU 1-3 (Rev.)). The consultant then corrected the error, which led to an overall decrease in net benefits observed across all proposals. However, the changes had no impact on the ranking of the proposals (Exh. DPU 3-2).

39 The Companies' analysis reveals that the estimated cost of energy purchased under the PPAs will exceed the estimated market value of energy during the twenty-year term, i.e., more than 100% of the estimated direct benefits are attributable to the purchase of below-market cost RECs.

at 37-39). The Mayflower Wind proposal received a competitive qualitative score when compared against other proposals (Exh. JU-4 (Rev.), App. A at 22, 25).[40]

Based on the discussion above, the Department finds that the Companies have demonstrated there are significant net benefits to ratepayers associated with PPAs (i.e., the Companies have shown that the Project will produce benefits to ratepayers that will exceed the costs of the contracts) (Exh. JU-1, at 37-38).[41] In particular, the Companies have shown that the aggregate cost for energy and RECs under the PPAs, exclusive of remuneration, are less than the forecasted market prices for energy and RECs by $2.272 billion (nominal) over the life of the contracts (Exh. JU-1, at 37-38; DPU 1-3, Att. (Rev.); DPU 3-2 (Supp.)). The Companies' analysis also shows that the PPAs result in a levelized net direct benefit of $22.31 per MWh (real 2019 dollars) including 2.75 percent remuneration (Exh. JU-4 (Rev.) at 22, 25). The Department further finds that significant qualitative benefits will flow to ratepayers under the PPAs in the areas of reliability, acceptance of the Commitment

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40 As discussed in Section V, above, when accounting for the combined quantitative and qualitative score, the selected proposal ranked highest among all proposals (Exh. JU-4 (Rev.), App. 1, at 22, 25).

41 The Department notes that the contract prices for energy and RECs, plus any Department-approved remuneration, are fixed while the actual value of energy and RECs will vary with future market conditions. While the simulation model the Companies used to evaluate the PPAs adopts reasonable input assumptions, the Department recognizes that actual market values of energy and RECs will inevitably differ from the estimated values over the twenty-five year model horizon. Thus, our finding that the Project will produce positive net benefits to ratepayers carries an acknowledgement that ratepayers bear the risk that the PPAs may have negative market value (i.e., the contract prices may exceed market value) during some or all of the forecast period.

Agreement, mitigated environmental impacts, and economic development (Exh. JU-1, at 36, 38-40). Accordingly, after taking into consideration both the potential costs and benefits of the PPAs, the Department finds that the contracts are a cost-effective mechanism for procuring reliable[42] renewable energy on a long-term basis. Section 83C; 220 CMR 23.05(1).

VIII. PUBLIC INTEREST

A. Introduction

In Section VII, above, the Department found that the proposed contracts will be cost effective to ratepayers over their terms. However, a finding that the PPAs will be cost-effective does not necessarily mean that the proposed contracts are in the public interest. See, e.g., D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 12-98, at 24; D.P.U. 11-05 through D.P.U. 11-07, at 39, citing D.P.U. 10-54, at 65. The Department reviews the public interest of long-term contracts for renewable energy based on the specific facts and circumstances relevant to each proposed contract. D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 12-98, at 24; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 65-66.

Here, as part of our evaluation of whether the PPAs are in the public interest, the Department will consider whether the pricing terms in the contracts are reasonable for

[42] In Section VI, above, the Department found that, pursuant to Section 83C and 220 CMR 23.05 (1)(a)(1), the Project will provide enhanced electricity reliability.

offshore wind energy generation resources. See D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 12-98, at 25; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217. The Department will also consider whether other, lower cost Section 83C-eligible resources were available to the Companies and, if so, whether the benefits of the proposed contracts justify any higher costs. See D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217.

In addition, to determine whether the PPAs are in the public interest, the Department will assess the reasonableness of the Companies' decision to enter into contracts of this size. See, e.g., D.P.U. 17-117 through D.P.U. 17-120, at 50-51; D.P.U. 13-146 through D.P.U. 13-149, at 57-58; D.P.U. 12-98, at 25; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217. Finally, the Department will consider whether the bill impacts of the PPAs are reasonable in light of the benefits of the contracts. See, e.g., D.P.U. 17-117 through D.P.U. 17-120, at 50-51; D.P.U. 13-146 through D.P.U. 13-149, at 57-58; D.P.U. 12-98, at 25; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217.

B. Positions of the Parties

1. Attorney General

The Attorney General contends that the Project is in the public interest because the pricing terms of the PPAs are reasonable when compared with (1) market analyses, (2) the costs of previous renewable energy procurements, and (3) other bids that participated in the RFP process (Attorney General Brief at 10). The Attorney General argues that the PPAs are

below market and will enable the Companies to procure Class I renewable resources at one-half of the price from previous solicitations (Attorney General Brief at 8, citing Exhs. JU-1, at 34, 37; DPU-1-3 Att. (Rev.); D.P.U. 10-54, at 14). Moreover, the Attorney General argues that the Mayflower Wind bid has a levelized positive net direct benefit of $22.31 per MWh and had the highest rank of all proposals submitted in response to the RFP (Attorney General Brief at 8, citing Exh. JU-4 (Rev.) at 19, 22, 25). Finally, while the Attorney General recognizes that there will be bill impacts as a result of the PPAs, she acknowledges that the procurement is required by statute and that the Project will ultimately benefit ratepayers (Attorney General Brief at 10).

2. DOER

DOER maintains the PPAs are in the public interest and that the Department should approve them because they are a low-cost and reasonable method to procure renewable energy (DOER Brief at 4). In particular, DOER contends that the Companies will purchase energy and RECs at 5.8 cents per kWh under the PPAs, as compared with a projected market cost for the same products at 8.2 cents per kWh (i.e., a 2.4 cents per kWh direct savings) (DOER Brief at 5). In addition, DOER argues that ratepayers will experience a total of 5.0 cents per kWh in direct and indirect benefits as a result of the PPAs (DOER Brief at 5). Further, DOER argues that the PPAs will provide long-term price certainty for 20 years (DOER Brief at 5).

DOER maintains that the evaluation of bids was fair, transparent, and objective and notes that no party objected to the selection of Mayflower Wind (DOER Brief at 10, citing

Exh. IE Report at 50). DOER argues that the bid associated with the Project ranked the highest of all 28 responses to the RFP (DOER Brief at 4-5, 9). Further, DOER asserts that the Project was the lowest cost compared with all other proposals (DOER Brief at 10).

Finally, DOER contends that the PPAs will result in reasonable bill impacts for customers (DOER Brief at 4). In particular, because the PPAs will provide 2.2 cents per kWh of direct savings, DOER argues that ratepayers will experience bill reductions (as compared to an at market procurement of resources) over the life of the PPAs (DOER Brief at 10-11).

3. Companies

The Companies argue that the PPAs are in the public interest because they fulfill the Section 83C requirements (Companies Brief at 54). Specifically, the Companies contend that the PPAs were executed under a comprehensive and non-discriminatory solicitation and satisfy all applicable criteria for approval (Companies Brief at 54).

C. Analysis and Findings

As described above, in order to determine whether the PPAs are in the public interest, the Department will consider (1) whether the pricing terms in the contracts are reasonable for offshore wind generation resources; (2) whether other, lower cost Section 83C-eligible resources were available to the Companies and, if so, whether the benefits of the proposed contracts justify any higher costs; (3) the reasonableness of the Companies' decision to enter into contracts of this size; and (4) whether the bill impacts of the contracts are reasonable in light of the benefits of the contracts. See, e.g., D.P.U. 17-117 through D.P.U. 17-120,

at 50-51, 56-60; D.P.U. 13-146 through D.P.U. 13-149, at 57-58; D.P.U. 12-98, at 25; D.P.U. 12-30, at 167; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217, 265, 274. No party disputes that the PPAs are in the public interest. The parties further concur that the competitive solicitation resulted in PPAs that are low cost, with reasonable prices (Attorney General Brief at 8, 10; DOER Brief at 4; Companies Brief at 18-19). Finally, the parties agree that the bill impacts of the proposed PPAs are reasonable (Attorney General Brief at 10; DOER Brief at 4, 10-11).

As described in Section V, above, the Companies procured the PPAs through a competitive solicitation process (Exh. JU-1, at 42). The Department has determined that a properly conducted competitive solicitation provides a direct comparison of the costs and benefits of alternative resources, as well as some assurance that the price is not too high for a given resource. D.P.U. 17-117 through D.P.U. 17-120, at 56; D.P.U. 13-146 through D.P.U. 13-149, at 58, citing D.P.U. 12-98, at 25, D.P.U. 11-05 through D.P.U. 11-07, at 39, citing D.P.U. 10-54, at 66-67. The Department has further found that a competitive bidding and qualification process provides an objective benchmark for analyzing the reasonableness of price. See D.P.U. 10-114, at 221, citing Bay State Gas Company, D.P.U. 09-30, at 228-229 (2009); Fitchburg Gas and Electric Light Company, d/b/a Unitil, D.P.U. 07-71, at 101 (2008); Boston Gas Company, d/b/a KeySpan Energy Delivery New England, D.T.E. 03-40, at 152 (2003).

In Section V, the Department found that the Companies conducted an open, fair, and transparent competitive solicitation that was consistent with the requirements of Section 83C

and the method approved by the Department in D.P.U. 19-45. Through this solicitation process, the Companies entered into PPAs with the bidder whose proposal received the highest score and rank among all proposals evaluated (Exh. JU-4 (Rev.) at 19, 22, 25). Relying on the objective benchmark provided by the properly conducted competitive solicitation process, the Department finds that the pricing terms in the PPAs are reasonable for offshore wind energy generation resources. See D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 12-98, at 25; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217.

In addition, the Companies selected the proposal that scored highest on price factors (Exh. JU-4 (Rev.) at 22,25). Therefore, the Department finds that there were no lower cost Section 83C-eligible resources available to the Companies. See D.P.U. 17-117 through D.P.U. 17-120, at 50; D.P.U. 13-146 through D.P.U. 13-149, at 57; D.P.U. 11-05 through D.P.U. 11-07, at 39; D.P.U. 10-54, at 217.

With regard to the reasonableness of the Companies' decision to enter into contracts of this size, Section 83C requires the Companies to (1) jointly solicit proposals for offshore wind energy generation for no less than 400 MW of nameplate capacity and (2) enter into cost-effective long-term contracts equal to approximately 1600 MW of aggregate nameplate capacity not later than June 30, 2027. Section 83C; 220 CMR 23.04(5). The Companies may consider proposals for more than 400 MW, and up to approximately 800 MW, but may select a proposal larger than 400 MW in a single solicitation only if a larger proposal is

superior to other proposals and is likely to produce more economic net benefits for ratepayers. D.P.U. 19-45, at 47.

The Companies, in conjunction with DOER, issued the RFP and the Companies unanimously selected Mayflower Wind's proposal as the winning bid (Exhs. JU-1, at 31). Consistent with D.P.U. 19-45, at 5, 68, the Companies have demonstrated that the Project, which exceeds 400 MW of offshore wind energy generation, is superior to other proposals and produces more economic net benefits to ratepayers (Exhs. JU-1, at 36-37). Accordingly, the Department finds that the Companies' decision to enter into PPAs for 804 MW of nameplate capacity was reasonable.

Finally, the Companies provided estimated bill impacts of the PPAs, based on the current market environment (Exhs. JU-1, at 45-46; JU-5). In particular, the Companies provided bill impacts for each rate class and for a range of different consumption levels within each rate class (Exh. JU-5). Based on the current market environment, the Companies project that the PPAs will result in overall net bill savings for ratepayers over the life of the contracts (Exh. JU-5). After review, the Department finds that the bill impacts of the PPAs are reasonable given the benefits of the contracts.

In conclusion, through the use of a fair, open and transparent competitive solicitation process, the Companies have demonstrated that (1) the pricing terms in the PPAs are reasonable for offshore wind energy generation resources and (2) there were no other lower-cost Section 83C-eligible resources available to the Companies. In addition, the Department finds that it was reasonable for the Companies to contract for 804 MW of

offshore wind energy generation based on the competitiveness of the bid and the level of economic net benefit to ratepayers. Finally, the Department finds that the estimated bill impacts of the PPAs are reasonable in light of the benefits of the contracts. For these reasons, the Department finds that the PPAs are in the public interest.

IX. REMUNERATION

A. Introduction

Section 83C provides that an electric distribution company may receive remuneration up to 2.75 percent of the annual payments under a long-term contract, to compensate the company for accepting the financial obligation of the long-term contract. See also 220 CMR 23.07. Each electric distribution company proposes to collect annual remuneration equal to 2.75 percent of the annual payments under the PPAs (Exh. JU-1, at 42).

B. Positions of the Parties

1. Attorney General

The Attorney General asserts that in a Section 83C proceeding, "the Companies have the burden to demonstrate that their request for remuneration is appropriate and in the public interest." 2019 83C ORDER, at 9 (Attorney General Brief at 10, citing D.P.U. 09-138, at 12). The Attorney General maintains that the Companies must develop complete evidentiary record to support a Department ruling in the proponent's favor on any contested issue (Attorney General Brief at 10, citing D.T.E. 99-118, at 7 n.5; G. L. c. 30A, § 11(6); P. LIACOS, HANDBOOK OF MASSACHUSETTS EVIDENCE, § 14.2 (7th ed. 1999)). The Attorney General further maintains that Massachusetts General Laws, Chapter 164,

Sections 94 and 94A require the Department to apply a "just and reasonable" standard to its review of the proposed remuneration rate and ensure that the rates charged by the Companies result in least-cost service are based on an evidentiary record sufficient to support the Companies' request (Attorney General Reply Brief at 2).

The Attorney General urges the Department to reject the Companies' request for 2.75 percent remuneration in these dockets because they have failed to satisfy the burden required for approval. The Attorney General asserts that the Companies have the burden to provide evidence detailing the costs each company will incur by accepting the financial obligation of the PPAs (Attorney General Brief at 11). The Attorney General argues that the Companies have not provided sufficient evidence to link the requested remuneration to any specific risks or financial burden that they will incur associated with the PPAs in accord with the Department's guidance in D.P.U. 18-76 (Attorney General Brief at 11; Attorney General Reply Brief at 6, citing 2019 83C ORDER, at 70-71). Specifically, the Attorney General argues that the Companies ignored the Department's clear directive in D.P.U. 18-76 and produced no quantitative evidence to measure the credit and equity risk implications and associated financial burden of the PPAs (Attorney General Brief at 11-12; Attorney General Reply Brief at 6).[43]

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[43] The Attorney General does acknowledge that the Companies attempted to quantify the declining value of the remaining financial obligation of the PPAs over the 20-year contract term in response to a record request from the Department, but argues that the amount the Companies are obligated to pay under the PPAs is not an appropriate measure of the financial obligation they bear because the ratepayers fully reimburse them for 100 percent of contract payments and fully bear the burden of any change in market (Attorney General Reply Brief at 4-5, citing RR-DPU-1). The Attorney

The Attorney General contends that the only quantitative evidence the Companies offer are extremely limited "illustrative benchmarks" that are insufficient to support their requested remuneration of 2.75 percent (Attorney General Reply Brief at 6). She notes that the Companies acknowledge the "basis-point return benchmark" that their witness, Mr. Hevert, offers is not linked to the additional equity risk from the PPAs (Attorney General Reply Brief at 7). The Attorney General argues that the Companies' attempt to link the fact that Mayflower Wind benefits from reduced financing costs to the Companies' entitlement to remuneration for enabling such reductions does not take into consideration the Department's precedent, which states such net financing benefit "evidence" has no link to the Companies' financial obligations as required by statute (Attorney General Brief at 12-13, citing 2019 83C Order, at 72; Attorney General Reply Brief at 7). Further, the Attorney General argues that the Companies' expert, Ms. Lapson, offered a non-quantitative and self-described "hypothetical" example to reach an opinion that remuneration is warranted (Attorney General Brief at 13). Therefore, the Attorney General concludes that Ms. Lapson's hypothetical has no relevance in this case and adds that it ignores the fact that the Companies are regulated utilities whose equity and debt investors are adequately compensated (Attorney General Brief at 13).

General argues that ratepayers take on the financial obligation of paying for the commodity as well as any costs incurred by the Companies to solicit, negotiate, and administer the contracts and emphasizes that one company admitted that purchased power contracts like these have no impact on the net income of the utility (Attorney General Reply Brief at 5).

The Attorney General argues that the Companies further ignore the Department's directive by failing to provide analyses of any "adverse effects" that the PPAs would have on the Companies by highlighting that the Companies argue they "cannot directly quantify the effects and implications of the financial burdens created by the contracts" at this time (Attorney General Brief at 14, citing Exh. EDC-RBH-1 at 32; Tr. at 95-99; Attorney General Reply Brief at 8). The Attorney General rejects the Companies' argument as convenient and disingenuous, as it pushes off the ability to be responsive to the Department's requirement for quantitative analysis (Attorney General Brief at 14). The Attorney General argues that the Companies also fail to recognize that the Department has clearly articulated that "the Companies [should] fully support all future remuneration requests with both quantitative and qualitative analyses that link the requested remuneration level to the specific risks and/or financial burden that the Companies will incur associated with the PPAs" (Attorney General Reply Brief at 8).

The Attorney General argues that the Companies also fail to provide sufficient qualitative evidence to show that they would suffer negative reactions from the financial community, including the credit rating agencies (Attorney General Brief at 14). The Attorney General highlights that the Companies' witnesses acknowledge that the credit rating agencies have not imputed any debt associated with the Companies' renewable energy contracts to date and argues that given strong, legislatively-mandated cost recovery provisions which require ratepayers to pay 100 percent of all PPA-related costs, the credit rating agencies are unlikely to impute debt in the future (Attorney General Brief at 14). The

Attorney General also notes that the only evidence produced in this case to show that rating agencies take note of remuneration is a Standard & Poor's ("S&P") credit report for Unitil (the "S&P Report") where S&P found the financial materiality of such a long-term contract to be limited because remuneration is in addition to a make-whole rider (Attorney General Brief at 15, citing Exh. AG-1-2(d)(Unitil) at 2). The Attorney General highlights that the S&P Report characterizes Unitil's business risk favorably and makes no mention of remuneration as integral, let alone essential, to its determination of the "constructive regulatory framework" (Attorney General Brief at 15).

The Attorney General challenges the Companies' assertion that credit rating agencies have not taken note of the Section 83C PPAs because the generation projects have not been completed and been placed in commercial operation, by observing that Eversource's long-term PPAs in Connecticut for nuclear power which are already effective and pursuant to which power and dollars are already flowing have resulted in no negative actions or comments from the rating agencies (Attorney General Brief at 15). The Attorney General further highlights that Eversource has disclosed publicly that the long-term Connecticut PPAs "do not have an impact on the net income of [Connecticut Light & Power Company] ("CL&P")" since "the net costs under these contracts are recovered from customers in future rates" (Attorney General Brief at 15-16; Attorney General Reply Brief at 14, citing Exh. AG-2-5(a), Att.)

The Attorney General contends that the Companies provided no evidence that the Department's rejection or approval of a lower amount of remuneration would impact the

regulatory supportiveness in Massachusetts and asserts that the evidence supports the contrary (Attorney General Brief at 16). The Attorney General asserts that S&P and Moody's are clear that a jurisdiction's regulatory support is driven by affording the utility a chance to recover its expenses and earn a reasonable return on invested capital (Attorney General Brief at 16). The Attorney General maintains that the Companies benefit from a strong reconciling mechanism and observes that the ratings agencies have not signaled a threat to regulatory support from either the Companies' reduced remuneration for Section 83C PPAs relative to Section 83A PPAs or the Department's indication in D.P.U. 18-76 that a remuneration below 2.75 percent is possible (Attorney General Brief at 16 citing 2019 83C ORDER, at 73). The Attorney General also challenges the Companies' argument that they need the maximum allowable remuneration to address potential concern from ratings agencies relating to operational cash flow implications of the annual PPA payment obligations by highlighting the protections afforded by the Section 83 cost recovery mechanism, specifically the annual reconciliation (Attorney General Reply Brief at 15).

The Attorney General argues that utility remuneration for purchased power is exceedingly rare and emphasizes that the Companies identified only one instance of a utility receiving remuneration outside Massachusetts, and in that case, Rhode Island law mandated it (Attorney General Brief at 17-18, citing Exh. AG-2-7). When the Rhode Island Public Utility Commission ("RIPUC") subsequently had the discretion to approve National Grid's remuneration request for a twenty-year offshore wind PPA, the Attorney General notes that the RIPUC rejected the request in part because National Grid "failed to provide any credible

evidence that [its] credit rating would be harmed by entering into a power contract for which it was guaranteed full cost recovery, nor that it would be harmed in any way" (Attorney General Brief at 18, citing Exh. DPU-2-1, Att. B). The Attorney General also looks to Connecticut where Eversource's subsidiary, CL&P, receives no remuneration for three long-term PPAs with renewable and/or zero carbon emissions generation facilities, including from an offshore wind facility, and has not received any negative reactions from ratings agencies as a result of the risk or financial burden posed by these PPAs, nor the failure to secure remuneration approval from Connecticut's Public Utilities Regulatory Authority ("PURA") (Attorney General Brief at 18-19, citing Exh. DPU-2-5). The Attorney General further notes that other states have considered and rejected the idea of paying utilities for executing PPAs (Attorney General Brief at 17).

The Attorney General argues that the PPAs include many provisions that greatly limit the risk faced by the Companies and place project risk on the developer, including pay-for-performance with a fixed pricing schedule; a broad definition of environmental attributes; a schedule of critical milestones backed by damages payments; provisions protecting the Companies from change-in-law, change-in-accounting standards, and negative pricing; Mayflower Wind's obligations to post development and operating period financial security; and the Companies' ability to suspend performance in the event of an "adverse determination" by a court or regulatory body, including the Department (Attorney General Brief at 20-21).

The Attorney General notes that, in contrast to the Companies' argument that the cumulative financial obligations under all Section 83 long-term contracts creates potential business and financial challenges, Section 83C actually does not allow the Department to consider the Companies' cumulative financial obligations under all long-term contracts when determining a remuneration (Attorney General Reply Brief at 11). Specifically, the Attorney General asserts that the statute clearly links the remuneration in question to the PPAs being considered by the Department in this Section 83C proceeding (Attorney General Reply Brief at 11). Further, the Attorney General argues that the Companies themselves state that Section 83(d)(3) ties the remuneration rate to the annual payments under the contract (Attorney General Reply Brief at 12).

If the Department determines it cannot accept the Attorney General's recommendation to approve a remuneration amount of zero or near zero, the Attorney General urges the Department to approve an amount between zero and 2.75 percent (Attorney General Reply Brief at 21-23). In his surrebuttal testimony the Attorney General's witness, Mr. Musco, developed two alternate means to determining an appropriate level of remuneration solely to provide the Department with a reasonable method by which it could arrive at a non-zero number (Attorney General Brief at 23). The Attorney General explains that Mr. Musco offers a range for a logical alternative based on the previous statutory reductions in remuneration percentages (the high end of 1.891 percent) and a shared impact of risk and burden between ratepayers and the Companies' shareholders by halving the Companies'

requested remuneration rate (the low end of 1.375 percent) (Attorney General Brief at 23, citing Exh. AG-VM-2 at 13-14).

In its Reply Brief, the Attorney General addresses the analysis the Companies offer in response to the Department's record request asking them to quantify the value of the remaining financial obligation of the PPAs over the twenty-year term (RR-DPU-1). The Attorney General points out that the Companies' response to the record request, though flawed, demonstrates a declining financial obligation associated with the PPAs over the life of the contracts (Attorney General Reply Brief at 19-20).[44] According to the Attorney General,

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[44] While offering an analysis that links remuneration to the total aggregate PPA financial obligation, the Attorney General points out that the Companies paradoxically argue that the Department, in setting remuneration, should consider the annual payments the Companies will make under the PPAs (Attorney General Reply Brief at 20, citing RR-DPU-1, at 1). The Attorney General states that the Companies base this argument on the premise that Section 83(d)(3) ties the remuneration rate to the annual payments under the PPA, "which do not decline over time" (Attorney General Reply Brief at 20, citing RR-DPU-1, at 1). The Attorney General maintains that this argument misinterprets the plain language of Section 83C and hinges on an assumption that the remuneration rate remains constant over the life of the PPA, which is not a statutory requirement (Attorney General Reply Brief at 20, citing Section 83C(d)(3); RR-DPU-1). The Attorney General asserts that the statute does not link the "annual payments" to the Department's determination of the appropriate remuneration percentage; rather, the statute links the remuneration percentage to the financial obligation (Attorney General Reply Brief at 20). The Attorney General maintains that the "annual payments" language provides a means by which to calculate an annual remuneration amount (Attorney General Reply Brief at 20-21). The Attorney General argues that while the contract payments will remain constant each year over the life of the PPAs, the total financial obligation of the PPAs declines as the Companies make such payments and, thus, if the Department grants remuneration above zero, the remuneration percentage, which is linked to the Companies' financial obligations under the PPAs, should logically decline as well (Attorney General Reply Brief at 21).

the Companies argue that the remuneration amount should stay constant at 2.75 percent until it reaches an "inflection point" after which the "percentage of the Remaining Balance to the Initial Balance declines at a faster pace…than the 20-year average rate of change…." (Attorney General Reply Brief at 21, citing RR-DPU-1, at 1, 3). The Attorney General asserts that this approach is nonsensical because although the annual contract payments will result in a larger percentage decrease of the total PPA financial obligation year by year (at an accelerating rate over time),[45] the total obligation also declines each year over the total life of the PPAs (Attorney General Reply Brief at 21, citing RR-DPU-1, at 1, 3). The Attorney General concludes that the Companies' analysis is flawed in that it does not trigger a decline in the remuneration percentage until the annual percentage decline in the financial obligation surpasses this year 16 inflection point (Attorney General Reply Brief at 21).

The Attorney General attempts to correct the inflection point flaw by presenting an analysis that links the remuneration percentage to the Companies' calculation of the annual decline in the PPAs' total financial obligation (Attorney General Reply Brief at 21-22). In Table 1 of her Reply Brief, the Attorney General mathematically reduces the remuneration percentage each year by the annual percentage decline in the present value of the total 20-year contract payments (Attorney General Reply Brief at 22-24). The Attorney General

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45 The Attorney General explains that this acceleration occurs because the annual payments remain constant, while the total financial obligation under the PPAs declines each year. By paying the same amount toward a declining total each year, the annual contract payments will result in a larger percentage decrease of the total year by year (Attorney General Reply Brief at 21, citing RR-DPU-1, at 1, 3).

claims that this approach consistently aligns the annual remuneration percentage with the annual percentage decline in the remaining balance of the financial obligations under the PPAs, thus ensuring that the remuneration percentage in year one is at its maximum because that is when the total payments due under the PPAs are at their maximum, and that as payments due under the PPAs decline, so does the remuneration percentage (Attorney General Reply Brief at 22).

The Attorney General then explains that the Companies assume that 2.75 percent is the correct number for the initial remuneration percentage, but reiterates that they have not met their burden to demonstrate that 2.75 percent is appropriate and in the public interest (Attorney General Reply Brief at 22). Specifically, the Attorney General applies her corrected version of the Companies' remuneration percentage analysis described above to calculate examples of annual remuneration percentages utilizing different initial year starting values (Attorney General Reply Brief at 22-23). For illustrative purposes, the Attorney General starts with the Companies' assumption of a 2.75 percent initial year remuneration rate, but then includes additional examples with first year values equal to Mr. Musco's two alternate means to determining an appropriate remuneration percentage range (i.e., 1.891 percent and 1.375 percent) (Attorney General Reply Brief at 22-24, see Table 1).

The Attorney General concludes by asserting that the Companies have failed to support their request for remuneration equal to 2.75 percent and urges the Department to consider the Attorney General's corrections to the Companies' analysis from the record

request to determine remuneration values accordingly should the Department rely on the Companies' response (Attorney General Reply Brief at 25-26).

2. PowerOptions

PowerOptions asserts that the Companies have failed to meet their burden to justify that 2.75 percent in remuneration is appropriate and in the public interest (PowerOptions Brief at 1-2). PowerOptions argues that in the 2019 83C Order the Department wrote that it "expects that the Companies will fully support all future remuneration requests with both quantitative and qualitative analyses that link the requested remuneration level to the specific risks and/or financial burden that the Companies will incur associated with the PPAs" (PowerOptions Brief at 2). In this case, in response to a record request, the Companies provided a quantitative analysis to represent the changes in the financial obligations of the PPAs over time (PowerOptions Brief at 2, citing RR-DPU-1). PowerOptions maintains that in this Exhibit, the Companies recognize a declining financial obligation together with a declining rate of change to the remuneration rate toward the later years of the contracts (PowerOptions Brief at 2-3). PowerOptions urges the Department to minimize the rate impacts to customers and cautions that while it is not clear that the Companies' analysis appropriately captures the decline in risk to the Companies over the term of the contracts, at a minimum, it provides the Department with sufficient evidence to significantly reduce the Companies' requested remuneration rate over time to balance the benefits of offshore wind procurements without imposing unnecessary costs and harm to ratepayers (PowerOptions Brief at 3).

PowerOptions further states that the Companies have a strong cost recovery mechanism to collect the costs of the contracts, procurement, contract development, and administration, as well as any remuneration from customers through their currently effective Long-Term Renewable Energy Contract Adjustment Factor ("LTRCA"), reducing the risk to the Companies (PowerOptions Brief at 3, citing e.g., Exhs. JU-1, at 44; AG-2-12; AG-VM-1, at 8, 20-21, 23; Tr. at 64, 84-85). Finally, PowerOptions argues that the record in this proceeding clearly demonstrates that most other public utility commissions have protected ratepayers by not approving remuneration for such long-term contracts and such actions have not hindered the development of clean energy (PowerOptions Brief at 3, citing Exhs. AG-VM-1, at 14-17; DPU-2-5).

3. Companies

The Companies argue that the purpose of remuneration under Section 83C "is to compensate the company for accepting the financial obligation of the long-term contract" and request the Department approve their request for 2.75 percent remuneration in this case (Companies Brief at 26, citing Section 83C(d)(3)). The Companies emphasize that the Department has previously found that long-term contracts under Section 83C similar to the PPAs are a "financial obligation" under the unambiguous and plain meaning of Section 83C(d)(3) (Companies Brief at 26, citing NSTAR Electric Company et al., D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 22 (2019). The Companies further argue that due to the similar size and nature of the Mayflower Wind PPAs to those under review in the prior Section 83C case the Department should likewise find that the Companies

are accepting a similar financial obligation and should be similarly compensated for doing so (Companies Brief at 26).

The Companies maintain that the PPAs impose a real burden on the Companies as counterparties that have agreed to pay the purchase price for delivered energy and RECs (Companies Brief at 29, citing Exh. EDC-EL-1, at 11). The Companies explain that the PPAs obligate the Companies to take and pay for all power delivered at a fixed price for a term of 20 years after commercial operation, regardless of customer demand (Companies Brief at 29, citing Exhs. EDC-EL-1, at 14; EDC-EL-Rebuttal-1, at 30-31). The Companies emphasize that the financial obligations associated with the PPAs are material and will be disclosed to investors in the Companies' annual financial reports (Companies Brief at 29).

The Companies assert that the clearest measure of the financial obligations that they will be accepting under the PPAs is the total aggregate amount they are obligated to pay for the 20-year life of the contracts (Companies Brief at 28, citing Exh. EDC-RBH-1, at 13). The Companies argue that the PPAs add a significant incremental financial obligation on top of the existing long-term contracts for renewable energy under Sections 83, 83A, 83C, and 83D and that recent policy announcements by the Commonwealth suggest that the Companies' long-term contracting obligations are likely to increase in the future (Companies Brief at 26-27). The Companies contend that the impact of these large obligations increase rapidly as they are layered one atop another and while the Department cannot increase the statutory remuneration rate to keep pace with these potential increases, at the very least it should not reduce it (Companies Brief at 27).

The Companies contend that the fixed nature of the PPA purchase obligations create long-term uncertainty for the Companies and their investors which is not quantifiable with any accuracy (Companies Brief at 30). The Companies argue that despite the strong cost recovery provisions in Section 83C, investors and capital market participants are likely to have concerns with the scale of the Companies' financial obligation under the PPAs continuing for 20 years, particularly if there are future material changes in demand for electricity or wholesale market prices for energy and RECs (Companies Brief at 30, citing Exh. EDC-EL-1, at 17).[46] The Companies opine that if the legislature believed that a strong cost recovery mechanism reduced the impact of these PPA obligations to negligible levels, they would not have also provided for remuneration in the same statute (Companies Brief at 31).

The Companies caution that even if adverse financial consequences are not visible initially, they may develop as purchase obligations increase or market conditions change (Companies Brief at 31). The Companies underline this concern by pointing out that their combined long-term contracting obligations under the Green Communities Act ("GCA")

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[46] The Companies caution that similar circumstances occurred between 1994 and 2002, when several utilities with large purchase obligations from long-term contracts under the Public Utility Regulatory Policy Act experienced substantial lag in purchased power cost recovery, and in a few cases, explicit disallowances by regulators. Utilities with the greatest amount of over-market purchased power under contract experienced strong investor disfavor and credit downgrades, in some cases below investment grade. As a result, the capital market and credit rating agencies understand that potentially catastrophic adverse or unintended impacts may arise – and indeed have arisen – under laws that impose long-term purchasing obligations (Companies Brief at 31, citing Exh. EDC-EL-1, at 17).

represent approximately eleven percent of their combined Net Utility Plant (ranging from nine to 17 percent, individually) and 21 percent of their combined Common Equity balances (Companies Brief at 31, citing Exh. EDC-RBH-1, at 14-15). The Companies argue that given the significance of the Companies' financial obligations under renewable energy PPAs relative to their Net Utility Plant and Common Equity balances, and the additional contracts for further planned offshore wind procurements, there is little doubt that these obligations are material and will be disclosed to the financial community (Companies Brief at 33, citing Exhs. EDC-RBH-1, at 14; Att. DPU 4-6).[47]

The Companies confirm that to date their financial obligations assumed under the GCA have not resulted in an adverse reaction from the financial community; however, the Companies argue that if equity investors and credit rating agencies express a negative reaction in the future, that could result in increased costs that would ultimately be passed on to customers (Companies Brief at 34, citing Exh. EDC-RBH Rebuttal-1, at 34; Companies Brief at 34, citing 2019 83C Order, at 69-70; 2019 83D Order, at 128-129, 131; D.P.U. 18-77-A; D.P.U. 18 -78-A, at 19). The Companies argue that as their larger long-term PPAs reach commercial operation, and as more are added, there is likely to become a tipping point at which investors and rating entities begin to perceive uncertainty, risk, or the loss of financial flexibility as a result of the cumulative effect of the GCA long-term contracts (Companies Brief at 34; Companies Reply Brief at 4).

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[47] The Companies point to the S&P Report in support of this argument (Companies Brief at 33-34).

The Companies remind the Department that in its prior ruling on remuneration under Section 83C it recognized that market, business, and regulatory conditions are expected to evolve over time as the market for clean energy generation resources matures (Companies Brief at 34-35, citing D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 23-24; 2019 83D Order, at 137). The Companies maintain that at this time the market for clean energy generation has not materially matured, specifically noting that the funding, construction, and operation of large-scale offshore wind projects in North America is still in its early days and information about the impacts of offshore wind procurement on the financial condition of the purchasing utilities is still scarce (Companies Brief at 35, citing Exh. EDC-EL-Rebuttal-1, at 14). The Companies also point out that none of the long-term contracts approved under Sections 83C and 83D have yet reached commercial operation, or even begun construction and, thus, the Companies have not yet incurred any payment obligations under those contracts (Companies Brief at 35). The Companies, therefore, conclude that the lack of actual market experience with large new clean energy generation resources makes it currently impossible to quantify directly the effects and implications of the financial burdens created by the PPAs (Companies Brief at 35).[48]

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[48] In response to RR-DPU-1, the Companies did prepare a quantitative analysis that demonstrates a non-linear decline in the financial obligations under the PPAs over time. The Companies assert that the decline rate reaches an "inflection point" at year 16, when the rate of change between the remaining balance and the initial balance of the financial obligations begins to drop dramatically (i.e., beginning in year 16, the percentage of the remaining balance to the initial balance declines at a faster pace (-16.43 percent) than the twenty-year average rate of change (-15.41 percent)). On this basis, the Companies argue that if the Department links the remuneration rate to the change in the financial obligations, any adjustment to the rate should begin in year

Although they are unable at this time to quantify the effects of the contracts on their financial condition, the Companies argue that they present substantial evidence on the expected effects and argue that this evidence is sufficient to support a finding that remuneration of 2.75 percent is appropriate in this case (emphasis added) (Companies Brief at 35-36, citing D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 23; 2019 83C Order, at 70 (2019)).[49] The Companies maintain that they have demonstrated through substantial qualitative evidence that the financial obligations under the PPAs, together with the cumulative financial obligations under all long-term contracts, create potential business and financial challenges and uncertainties that could be viewed adversely by credit rating agencies or equity investors and if that occurs, equity capital will become more expensive, ultimately at a cost to customers (Companies Brief at 36, citing Exh. EDC-RBH-Rebuttal-1, at 13). For example, the Companies' argue that because both S&P and Moody's consider the

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16 (Companies Reply Brief at 11). Although the Companies produced this analysis at the Department's request, they maintain that Section 83C(d)(3) ties the remuneration rate to the constant annual payments under the PPAs and, thus, the rate should not decline over time but should remain constant at 2.75 percent (Companies Reply Brief at 11).

[49] The Companies also point to "benchmarks" that the Department can use to support the reasonableness of 2.75 percent, including comparing the costs of remuneration to (1) the Companies' combined Common Equity value; (2) the likely cost of financing an offshore wind project of this scale without the benefit of the Companies' balance sheet (which shows that the remuneration rate could be as high as 16.52 percent without imposing greater costs to customers); and (3) the cost of DOER's mechanism to finance solar development under the SREC I and SREC II programs (Companies Brief at 44, 48-50; Companies Reply Brief at 10-11, citing Exhs. EDC-RBH-1, at 32-52; EDC-RBH-Rebuttal-1, at 15; EDC-EL-1, at 38-41; DPU 2-9; AG 2-17).

consistency and stability of regulatory treatment to be an important factor in determining credit ratings, it is undeniable that the financial community's view of the Companies' financial strength will likely be influenced by the Department's decision regarding the appropriate remuneration rate in this proceeding (Companies Brief at 38). The Companies assert the S&P Report reinforces this point, pointing to S&P's statement that the Department's approval of remuneration at 2.75 percent for Unitil's long-term contract with Vineyard Wind "limit[s] its financial implications" and "compensate[s] the distribution companies for accepting any financial obligation of the long-term contract", and further states that remuneration "is in addition to a make-whole rider" (Companies Brief at 38, citing Exh. AG 1-2(d), Att. Unitil, at 2); Companies Reply Brief at 11-13). The Companies argue that this indicates that S&P is aware of and considers remuneration as part of its assessment of business risk and uncertainty for utilities in Massachusetts in addition to the existence of the statutory cost recovery provisions, and increases the likelihood that credit rating entities and bond investors will be taking notice of further action on this point (Companies Brief at 38). The Companies argue further that S&P will also likely note any change in treatment of remuneration in this case and likely view it as a departure from the Department's credit supportive practices (Companies Brief at 38-39).

In addition, the Companies argue that because cash is fungible, the cash flow required to fund payments under the PPAs will absorb a significant portion of the Companies' available cash flow, creating additional challenges for financing flexibility (Companies Brief at 39, citing Exh. EDC-RBH-1, at 16). The Companies claim, however, that because the

actual contract payments and associated customer revenues will not begin to be paid or received for several more years there is no reasonable basis upon which they can conduct a quantitative analysis of these cash flows (Companies Brief at 39, citing Exh. AG 2-13). The Companies acknowledge that the cost recovery provisions under Section 83C ensure that the net costs of the PPAs are reconciled and recovered from customers, but argue that does not eliminate cash flow concerns because the Companies' fixed obligations under the PPAs remain in place (Companies Brief at 39-40, citing Exhs. EDC-RBH-1, at 17; Tr. at 59-61.). The Companies caution that fixed-income investors and credit rating agencies could view anything that increases the Companies' operating expense obligations as reducing the residual cash flow available to service the Companies' senior debt and, thus, would be viewed as an increased default risk (Companies Brief at 40, citing Exh. EDC-EL-1, at 25). The Companies argue that remuneration will help mitigate this risk by slightly increasing the Companies' operating cash flow and earnings before interest, income tax, depreciation and amortization, which is a favorable cash flow factor affecting two financial credit ratios used by all three rating agencies (Companies Brief at 41, citing Exhs. EDC-EL-1, at 34; EDC-EL-Rebuttal, at 43).

The Companies further argue that as cumulative annual payment obligations under the PPAs increase, credit rating agencies are likely to note a trend of considerable increased operating expense and operating leverage (Companies Brief at 40, citing Exhs. EDC-EL-1, at 25-26; EDC-RBH-1, at 26). The Companies explain that credit rating agencies consider operating leverage more problematic when the operating expenses are fixed by contract and

cannot be reduced in response to changes in the market environment or reduced customer demand, as is the case with the expense obligations under the PPAs (Companies Brief at 40, citing Exh. EDC-EL-1, at 26). The Companies state that all three ratings agencies evaluate some primary financial ratio that considers operating cash flow or operating leverage as part of the credit rating process (Companies Brief at 40, citing Exhs. EDC-EL-1, at 26-29; EDC-RBH-1, at 26; DPU 2-8). The Companies advise that the cumulative additions of large contract obligations currently anticipated under DOER's recommended additional 1,600 MW solicitation and under a potential expansion related to proposed statutory amendments to Section 83C can only heighten the adverse impact of rising operating leverage (Companies Brief at 41). The Companies reiterate that remuneration may partially mitigate investors' concerns related to operating leverage and maintain that the reassurance investors and rating agencies derive from a stable and supportive regulatory environment should also help mitigate such concerns (Companies Brief at 41, citing Exhs. EDC-EL-1. at 33, 34-35; DPU 2-12).

The Companies conclude that investors are unlikely to focus on the potential cash flow and operating leverage risks of the PPAs until Mayflower Wind reaches commercial operation and payment obligations begin (Companies Brief at 40-41, citing Exh. EDC-EL-1 at 30). Thereafter, the Companies contend that financial reporting will eventually give investors a dramatic illustration of the magnitude of the contractual obligations (Companies Brief at 41). The Companies argue that although investment market reactions to the PPAs are unlikely to materialize until these and other large-scale contracts under Sections 83C and 83D reach commercial operation over the next three to six years, the Department must

address remuneration at the time of contract approval (Companies Brief at 42). The Companies maintain that to mitigate risks and uncertainties from perceived instability in the regulatory environment, the Department should ensure that the Companies are reasonably compensated for accepting the financial obligations of the PPAs, consistent with its prior treatment under Section 83C (Companies Brief at 43).

The Companies challenge several arguments the Attorney General puts forth in her case. First, the Companies argue that the Attorney General suggests that the Department should not provide any remuneration because it will come at a cost to customers, but at the same time has not voiced any concern with the overall cost of the Companies' request for remuneration (Companies Reply Brief at 4). The Companies also claim that the Attorney General overstates the Companies' burden to produce a quantitative analysis, asserting that the Department's exact language does not state that they "must" provide quantitative analysis (Companies Reply Brief at 6, citing 2019 83C Order, at 70-71). In contrast, the Companies contend that the Department has actually found that Section 83C does not require the Companies to demonstrate that they experience a quantified level of risk from the PPAs to qualify for remuneration (Companies Reply Brief at 7, citing 2019 83C Order, at 70). The Companies argue that the Attorney General ignores the Department's language and fails to identify any notable change in the market, or economic and financial measures that would indicate that reliable quantification is any more possible now than when the Department made its previous rulings (Companies Reply Brief at 7). The Companies further contend that the

Attorney General relies on other cases and statutes unrelated to Section 83C to try to hold the Companies to an unreasonable standard (Companies Reply Brief at 7).

The Companies also challenge the Attorney General's reference to regulatory decisions in other states to support her position that remuneration for purchased power contracts is "exceedingly rare" (Companies Reply Brief at 14). The Companies argue that the Attorney General fails to acknowledge that the Companies entered in the instant PPAs in compliance with the GWSA, which established a comprehensive framework by the Commonwealth to address the effects of climate change by requiring the Companies to lend their balance sheets to enable financing of clean energy projects in excess of $28 billion in which they obtain no equity, a situation they argue is also "exceedingly rare" (Companies Reply Brief at 14). The Companies argue that the cases relied upon by the Attorney General and Mr. Musco lack any comparable comprehensive framework (Companies Reply Brief at 15). Specifically, the Companies claim that Oregon, Hawaii, and Oklahoma have traditional rate regulation structures and none had any statutory provisions for remuneration in place when referenced cases were decided (Companies Reply Brief at 15, citing Exhs. EDC-AG 1-22; EDC-AG 1-23). The Companies explain that the Rhode Island decision relied upon by the Attorney General was decided under a statute that lacked any provision for remuneration (Companies Reply Brief at 15, citing Exh. EDC-AG 1-15).[50]

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50 The Companies state that Rhode Island has two other mandatory renewable energy contracting provisions that each provide for remuneration at a rate equal to 2.75 percent of annual contract payments: the Long-Term Contracting Standard for Renewable Energy Act, R.I. Gen. Laws § 39-26.1-1; and the Distributed Generation

Finally, the Companies maintain that Connecticut's regulatory environment differs from Massachusetts because in Connecticut reliability and economic development share the policy agenda with renewable energy development (Companies Reply Brief at 16-17). Thus, claim the Companies, the role of utilities and how they are compensated for the use of their balance sheets to finance renewable energy or support other state policies is an open question (Companies Reply Brief at 17).

Finally, the Companies urge the Department to disregard the Attorney General's argument that a reasonable remuneration range would be between 1.375 percent and 1.891 percent because it is wholly unsubstantiated (Companies Brief at 44, 51-52). The Companies argue that the Attorney General did not conduct any quantitative or qualitative analysis to determine this range and opines that both of Mr. Musco's "calculations" are completely arbitrary, not based on any economic principle, and would not withstand judicial review if adopted by the Department (Companies Brief at 51; Companies Reply Brief at 18).

A. Analysis and Findings

Section 83C provides for remuneration up to 2.75 percent of the annual payments under the PPAs to compensate the electric distribution company for "accepting the financial obligation of the long-term contract." See also 220 CMR 23.07. The Companies propose to collect remuneration of 2.75 percent (Exh. JU-1, at 9). Under Section 83C's regulatory framework, the Companies have the burden to support their remuneration request with

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Standard Contracts Act, R.I. Gen. Laws (Companies Reply Brief at 15, citing Exh. AG 2-7).

evidence, and the Department has the discretion to determine an appropriate level of remuneration. After review, the Department finds that the Companies' request for annual remuneration of 2.75 percent of the annual payments under the PPAs is reasonable and in the public interest. For the reasons discussed below, the Department finds that while there is limited quantitative analysis available at this time regarding the future impact of incurring the financial obligations of the PPAs, the financial obligations the Companies incur under the PPAs, the potential impact of the PPAs on their financial condition, and our previous determinations regarding the appropriate level of remuneration for long-term clean energy contracts under Sections 83C and 83D support approval of the requested level of remuneration.

The instant dockets present the third opportunity for the Department to determine the appropriate level of remuneration to compensate a company for accepting the financial obligation of a long-term contract. See 2019 83C Order; 2019 83D Order. In its previous decisions, the Department determined that a remuneration analysis under Section 83C (1) does not require an electric distribution company to show incremental risk from a long-term contract in order to support a particular remuneration and (2) does not link remuneration to any specific quantitative analysis. 2019 83C Order, at 70. Further, the Department has found that, because Section 83C does not require the Companies to demonstrate a quantified level of risk from the PPAs to qualify for remuneration, qualitative evidence alone is acceptable when sufficient, reliable quantitative evidence is unavailable. D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 23; 2019 83C Order, at 70.

The Department, however, has provided guidance on the factors it may consider in requests for remuneration, explaining that the Companies should "fully support . . . remuneration requests with both quantitative and qualitative analyses that link the requested remuneration level to the specific risks and/or financial burden that the Companies will incur associated with the PPAs." 2019 83C Order, at 70-71. When approving the Companies' PPAs with Hydro-Québec under Green Communities Act, St. 2008, c. 169, § 83D ("Section 83D"), the Department explained that the potential for relevant quantitative analysis will develop as the market for clean energy generation resources matures and, because a quantitative approach may be more appropriate, we require the Companies to provide "all available quantitative analyses" in future long-term contract proceedings. 2019 83D Order, at 137. See also D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 23-24. The Department ordered that even if "the Companies determine that they are unable to develop relevant, reliable quantitative analyses, they must nonetheless fully document their efforts to do so." 2019 83D Order, at 136-137, citing 2019 83C Order, at 73; D.P.U. 18-76-A/D.P.U. 18-77-A/D.P.U. 18-78-A, at 23-24 n.6.

In response to these directives, the Companies assert that they have supported their requested level of remuneration with substantial qualitative and quantitative evidence (Exh. JU-1, at 42; Companies Reply Brief at 2). The Companies, however, also argue that there is not yet sufficient data to provide quantitative evidence on whether remuneration less than 2.75 percent would negatively impact the Companies' financial condition (Companies Brief at 35). The Department recognizes the nascent stage of the market which may preclude

sufficient data regarding the impact of long-term contracts. The Department acknowledges that the market for large-scale offshore wind projects in North America has not materially matured in the past year and information about the impacts of offshore wind procurement on the financial condition of the purchasing utilities remains scarce. The Department further recognizes that because none of the long-term contracts approved under Sections 83C and 83D have reached commercial operation, or even begun construction, the Companies have not yet incurred any payment obligations under those contracts. The Department is, therefore, persuaded that the lack of actual market experience with large new clean energy generation resources makes it a challenge currently to quantify the effects of the PPAs' financial burdens and how those burdens and the level of risk to the Companies may change over time. Further, the Department recognizes that market experience alone may not be able to develop into a quantitative analysis until there is clear loss of financial flexibility perceived by investors or rating entities. Nevertheless, the Companies are obligated in future Section 83C proceedings, as more data becomes available, to submit as part of their initial filings a detailed quantitative analysis in support of each Company's request for remuneration. As part of such analysis, each Company should assess the specific risks and financial obligation that the Companies will incur associated with the PPAs, as well as how those risks may change over the term of the PPA.

While a reliable quantitative analysis to support a particular level of remuneration is not available at this time, as discussed above the Department may approve a level of remuneration based on sufficient qualitative evidence. D.P.U. 18-76-A/D.P.U.

18-77-A/D.P.U. 18-78-A, at 23; 2019 83C Order, at 70. Based on the information available and the Department's expertise, the Department finds that the Companies have met their burden to demonstrate that their request for remuneration is appropriate and in the public interest. First, the Department finds that the Companies will incur financial obligations under the PPAs. The PPAs obligate the Companies to take and pay for all energy and RECs delivered at a fixed price for a term of 20 years after commercial operation regardless of customer demand, and we note that such obligations may impact the Companies' ability to attract investors (Tr. at 116-119, 124-126). The Department also notes that the PPAs are similar in size and nature to those in the prior Section 83C cases and, therefore, the Department similarly finds that the PPAs are a "financial obligation" under the unambiguous and plain meaning of Section 83C(d)(3).

Further, the Department is persuaded that as the Companies' larger long-term PPAs pursuant to Sections 83C and 83D reach commercial operation, and as more are added, the level of uncertainty, risk, or the loss of financial flexibility perceived by investors and rating entities may become more apparent.[51] In fact, Standard & Poor's ("S&P") March 25, 2020

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[51] The Department also recognizes that other jurisdictions have approved long-term clean energy contracts without remuneration, such as Rhode Island and Connecticut (Exhs. DPU 2-1; DPU 2-2; DPU 2-3; DPU 2-4). The Companies challenge the relevance of those matters because the applicable statutes and regulations do not provide for the electric distribution companies to collect remuneration (Companies Reply Brief at 15-18). While we acknowledge these differences, as well as the differences in contract terms, the Department notes that comparisons of how the financial markets perceive those contracts may be instructive for determining the appropriates level of remuneration in future proceedings. For example, the Companies noted that PURA recently suspended rates for CL&P, which PURA had previously approved that were, in part, to recover payments associated with a

credit report of Unitil notes Unitil's long-term contract with Vineyard Wind LLC that the Department, to limit the Company's and its peers 20-year power purchase agreement, approved remuneration equal to 2.75 percent (Exh. Att. AG 1-2(d) (Unitil)) It is clear, and the Department has recognized that market, business, and regulatory conditions will evolve over time as the market for clean energy generation resources matures and determined that if equity investors and credit rating agencies express concerns in the future, that reaction could result in increased costs or changes in credit rating that would ultimately be passed on to ratepayers. Remuneration, plus ratemaking mechanisms for recovery of contract costs, are intended to ensure that the Companies can maintain strong credit ratings along with the financial obligations related to long-term renewable energy contracts. 2019 83C Order, at 68; 2019 83D Order, at 131. Importantly, the Department has found that the Companies' strong credit ratings directly support project financing of offshore wind energy generation resources. 2019 83C Order, at 68-69. Here, the Department finds again that decisions about remuneration provide the financial markets with important signals about the Department's commitment to support clean energy contracting over the long term. 2019 83C Order, at 68-69. This commitment to clean energy is being made through use of the Companies' balance sheets and through cost recovery from ratepayers. Accordingly, setting remuneration at 2.75 percent will help mitigate potential negative consequences, while advancing the

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state-mandated PPA between CL&P and the Millstone Power Station (Companies Brief at 30 n.14). This reaction of the financial markets to this development may be informative in future analysis of remuneration.

development of clean energy generation for the benefit of ratepayers, consistent with Section 83C and the Commonwealth's clean energy goals.

The Companies' request for remuneration at 2.75 percent is also supported by previous Department orders regarding remuneration for long-term clean energy contracts pursuant to Sections 83C and 83D. 2019 83C Order, at 66-73; 2019 83D Order, at 128-138. Consistent with our decisions in those proceedings, the Department maintains that the GCA outlines a clear policy commitment by the Commonwealth to the development of clean energy generation resources. The regulatory framework embedded throughout the GCA (i.e., Section 83A, Section 83C, and Section 83D) establishes remuneration as a means to compensate the electric distribution companies for accepting the financial obligations of long-term renewable energy contracts, and regulatory consistency is critically important to rating agencies' assessment of the Companies' credit rating. 2019 83C Order, at 69-70.

The Department also notes that in lieu of quantitative analysis regarding the level of remuneration, the Companies produced "benchmarks," which they argue the Department should consider when determining the appropriate rate of remuneration (Companies Brief at 44, 48-49). The Companies compare the magnitude of the financial obligations under the PPAs to financial metrics such as net utility plant and stockholder equity balances and further compare the costs of remuneration to the Companies' combined Common Equity in order to equate an approximate basis point value of remuneration (Exhs. EDC-RBH-1, at 14-15; EDC-RBH-Rebuttal-1, at 14). While these methods may be helpful in understanding the magnitude of the financial obligations the Companies accept under the PPAs, the Department

finds these benchmarks of limited value to link the Companies' requested remuneration level to the specific risks and/or financial burden that the Companies will incur under the PPAs. More specifically, the benchmarks do not recognize that the Companies' future obligations under the PPAs are fully offset by cost recovery through the LTRCA factor.[52]

Further, the Department acknowledges that in response to a Department record request during evidentiary hearings, the Companies also prepared a quantitative analysis demonstrating a non-linear decline in the financial obligations over time and proposed a mechanism designed to link the remuneration rate to that decline (see RR-DPU-1). In her Reply Brief, the Attorney General claimed there are several flaws in the Companies' analysis, attempted to correct such flaws, and offered several alternative approaches to link the remuneration rate directly to the annual decline in the financial obligation (Attorney General Reply Brief at 21-25). While the Department appreciates this additional information and the attempts by the Companies and the Attorney General to provide more quantitative analyses, the Department declines to rely on either of these analyses because the Department

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52 The Companies also provided analyses that estimate ratepayer benefits from the PPAs. The Companies' argue that the estimated benefits support their request for 2.75 percent remuneration (Exhs. EDC-RBH-1, at 32-57; EDC-EL-1, at 38-41). The Department, however, considered this argument already and determined that, although a favorable analysis of net benefits is essential for contract approval, the absolute level of net benefits to ratepayers is not relevant to remuneration. 2019 83C Order, at 72. This determination remains appropriate because Section 83C does not link the level of remuneration to an estimate of a project's benefits to ratepayers. See Section 83C(d)(3); 220 CMR 23.07.

and other parties have not had the opportunity to examine and assess fully their reasonableness and accuracy.

Nevertheless, the Department has reviewed the financial obligations the Companies incur under the PPAs, the evidence regarding the impact of the PPAs on their financial condition, and our previous determinations regarding the appropriate level of remuneration for long-term clean energy contracts under Sections 83C and 83D. Based on that review, and in consideration of the importance of regulatory consistency and the lack of quantitative evidence available at this time regarding the future impact of incurring the financial obligations of the PPAs, the Department finds that the Companies' request for annual remuneration of 2.75 percent of the annual payments under the PPAs is reasonable and in the public interest.

These PPAs are key to meeting the Commonwealth's emissions goals and, in determining the appropriate level of remuneration, the Department is mindful that it is ratepayers of investor-owned electric distribution companies who will help the Commonwealth meet these goals because they will pay the remuneration amount in addition to the underlying costs for these PPAs and future contracts. While the Department finds that the proposed level of remuneration is appropriate in these proceedings, we emphasize that these findings do not preclude us from determining that a lower remuneration rate is appropriate in future long-term contract proceedings.

X. COST RECOVERY

A. Introduction

Section 83C provides that an electric distribution company shall be entitled to cost recovery of payments made under a long-term contract approved under this section. Section 83C and the Department's regulations at 220 CMR 23.06 provide that a distribution company may, after purchasing renewable energy, RECs, or both, (1) sell the energy to its basic service customers and retain RECs for the purpose of meeting its annual RPS requirements or (2) sell the energy into the wholesale electricity spot market, and sell the purchased RECs to minimize costs to ratepayers, provided that DOER has not notified the company that the RECs should be retained to reach emission reduction targets. If an electric distribution company chooses to sell the energy and/or RECs, the electric distribution company shall (1) calculate the net cost of payments made under the long-term PPAs against the proceeds obtained from the sale of energy and RECs and (2) credit or charge all distribution customers the difference between the contract payments and proceeds through a uniform, fully-reconciling factor. Section 83C; 220 CMR 23.06.

Each electric distribution company has a Department-approved tariff that addresses the recovery of costs related to the long-term renewable energy contracts approved pursuant to Section 83, Section 83A, Section 83C, and Section 83D.[53] Under these tariffs, the

[53] The Companies' current LTCRA tariffs are as follows: (1) Unitil - M.D.P.U. No. 317; (2) National Grid - M.D.P.U. No. 1361; and (3) Eversource - M.D.P.U. No. 69C.

Companies compare the actual payments under their Department approved renewable energy contracts, less actual net proceeds received from the sale of energy into the wholesale electricity market and/or RECs, plus actual remuneration (i.e., 4.00 percent for Section 83 contracts and 2.75 percent for Section 83A, Section 83C and Section 83D contracts), with actual revenues billed to customers through a LTRCA factor (Exh. JU-1, at 45). Any over- or under-recovery is reconciled in the LTRCA factor applicable in the following year (Exh. JU-1, at 45). No party commented on this issue.

B. Analysis and Findings

The Companies propose to sell the renewable energy procured under the PPAs through the ISO-NE wholesale market and to credit or charge the difference between the wholesale market revenues and the contract costs to each company's distribution customers (Exh. JU-1, at 16). In addition, the Companies propose to use the RECs procured pursuant to the PPAs to satisfy the RPS and CES requirements associated with their basic service offerings (Exh. JU-1, at 16-17, 43-44). If RPS or CES obligations for Class I RECs fall below the aggregate level of Class I RECs already under contract, the Companies propose to sell excess RECs into the market and credit all distribution customers the difference between the PPA price and the sales price (Exh. JU-1, at 43-44). After review, the Department finds that the Companies' proposed treatment of energy and RECs to be purchased under the PPAs is consistent with Section 83C and 220 CMR 23.06.

Consistent with Section 83C(g), the Department finds that the Companies have appropriately allocated the Project's output based on total energy demand from all

distribution customers (Exhs. JU-3-A at 7; JU-3-C at 7; JU-3-E at 7). Accordingly, each company's apportioned share is as follows: (1) Eversource – 53.62 percent; (2) National Grid – 45.41 percent; and (3) Unitil – 0.97 percent (Exhs. JU-3-A at 7; JU-3-D at 7; JU-3-G at 7).

Further, the Department finds that the Companies' method to recover costs related to the PPAs is consistent with Section 83C and will result in just and reasonable rates pursuant to G.L. c. 164, § 94. Under the PPAs, the Companies will incur the same types of costs as those which they are currently recovering or will recover for the previously approved contracts (Exh. JU-1, at 45).

XI. ORDER

Accordingly, after notice, hearing and due consideration, it is:

ORDERED: That the power purchase agreements between Massachusetts Electric Company and Nantucket Electric Company and Mayflower Wind LLC for offshore wind energy generation and renewable energy certificates filed on February 10, 2020, pursuant to Section 83C and 220 CMR 23.00, are APPROVED; and it is

FURTHER ORDERED: That the power purchase agreements between NSTAR Electric Company and Mayflower Wind LLC for offshore wind energy generation and renewable energy certificates filed on February 10, 2020, pursuant to Section 83C and 220 CMR 23.00, are APPROVED; and it is

FURTHER ORDERED: That the power purchase agreements between Fitchburg Gas and Electric Light Company and Mayflower Wind LLC for offshore wind energy generation

and renewable energy certificates filed on February 10, 2020, pursuant to Section 83C and 220 CMR 23.00, are APPROVED; and it is

FURTHER ORDERED: That Massachusetts Electric Company and Nantucket Electric Company, NSTAR Electric Company, and Fitchburg Gas and Electric Light Company shall comply with all other directives contained in the Order.

By Order of the Department,

/s/
Matthew H. Nelson, Chair

/s/
Robert E. Hayden, Commissioner

/s/
Cecile M. Fraser, Commissioner

An appeal as to matters of law from any final decision, Order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.