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COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

Petition of NSTAR Electric Company d/b/a Eversource Energy for Approval of Proposed Long Term Contracts for 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, and Section 21 of the Act to Advance Clean Energy, Chapter 227 of the Acts of 2018.	D.P.U. 22-70
Petition of Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid for Approval of Proposed Long-Term Contracts for 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, and Section 21 of the Act to Advance Clean Energy, Chapter 227 of the Acts of 2018.	D.P.U. 22-71
Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of Proposed Long-Term Contracts for 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, and Section 21 of the Act to Advance Clean Energy, Chapter 227 of the Acts of 2018.	D.P.U. 22-72

DIRECT TESTIMONY OF

ELLEN LAPSON, CFA

DATED: MAY 25, 2022

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LIST OF ACRONYMS AND DEFINED TERMS

Companies/Company	NSTAR Electric Company d/b/a Eversource Energy; Massachusetts Electric Company and Nantucket Electric Company each d/b/a/ National Grid; and Fitchburg Gas and Electric Light Company d/b/a Unitil
COD	Commercial Operation Date
Contracts	The power purchase agreements between each Company and (1) Mayflower Wind Energy LLC and (2) Commonwealth Wind LLC for the purchase of each Company's pro-rata share of energy and Renewable Energy Certificates produced by the relevant Projects for approval by the Massachusetts Department of Public Utilities
Department	Massachusetts Department of Public Utilities
EBITDA	Earnings before Interest, Income Tax, Depreciation, and Amortization (a proxy for operating cash flow derived from income statement entries)
EDC	Electric distribution company
Eversource	NSTAR Electric Company d/b/a Eversource Energy
Fitch	Fitch Ratings
Green Communities Act	Chapter, 169 of the Acts of 2008, *An Act Relative to Green Communities*, § 83, as amended by: • Chapter 209 of the Acts of 2012, An Act Relative to Competitively Priced Electricity in the Commonwealth, §§ 35, 36, and 37 (adding Section 83 and 83A). • Chapter 188 of the Acts of 2016, *An Act to Promote Energy Diversity*, § 12 (adding Section 83C and 83D).
ISO	New England Independent System Operator
Moody's	Moody's Investors Service
National Grid	Massachusetts Electric Company and Nantucket Electric Company each d/b/a/ National Grid
PPA	Power Purchase Agreement

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Projects	Mayflower Offshore Round 3 III and Commonwealth Wind Project.
Project Sponsor(s)	The Sellers; that is, Mayflower Wind Energy, LLC and Commonwealth Wind LLC.
PURPA	Public Utility Regulatory Policy Act of 1978
QF	Qualifying Facility, a non-utility power generator defined under PURPA (Public Utility Regulatory Policy Act of 1978)
REC	Renewable Energy Certificate, a tradable, intangible energy commodity in the United States that represent proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy source and delivered into a shared electric system or network.
Section 83C	An Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188, § 12, 83C.
Seller(s)	Mayflower Wind Energy, LLC and Commonwealth Wind LLC; also Project Sponsor(s)
S&P	S&P Global or Standard & Poor's
Unitil	Fitchburg Gas and Electric Light Company d/b/a Until

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Direct Testimony of Ellen Lapson, CFA

I. INTRODUCTION

Q. Please state your name, position, and business address.

A. My name is Ellen Lapson. I am the founder and principal of Lapson Advisory ("Lapson Advisory"), a division of Trade Resources Analytics, LLC. My business address is 370 Riverside Drive, New York, NY 10025.

Q. On whose behalf are you submitting this testimony?

A. I am submitting this direct testimony to the Massachusetts Department of Public Utilities (the "Department") on behalf of 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, the "Companies" or "EDCs").

Q. Please describe your educational background.

A. I hold a Bachelor of Arts degree from Barnard College of Columbia University and a Master of Business Administration with a concentration in accounting and a minor in finance from New York University, Stern School of Business. I also hold the Chartered Financial Analyst ("CFA") designation.

Q. Please describe your professional experience in utility finance.

A. I have worked in the field of utility finance for over fifty years. I began my career as an equity analyst, analyzing the stock of companies in the regulated gas, telecom, and electric industries. Thereafter, I moved to a large commercial and investment bank, a predecessor of JP Morgan Inc., where I arranged financing for customers in the electric and gas utility sector and developed specialized financings based on utility contracts. After twenty years doing commercial banking and investment banking for utility clients, I became a leader in the credit rating agency Fitch Ratings ("Fitch"), and there I led a team of credit analysts focused on utility and project finance debt securities. Over the course of seventeen years at Fitch, I participated in the development of Fitch's credit methodologies and criteria, chaired credit rating committees, and served as a liaison between Fitch and fixed income investors interested in the sector.

I founded Lapson Advisory in 2011 to perform consulting projects that draw upon my expert knowledge of utility finance, accounting, and regulatory matters. I have participated as a financial expert in more than 45 proceedings regarding various financial and regulatory matters in numerous jurisdictions, including the Federal Energy Regulatory Commission, a U.S. District Court, and numerous state regulatory authorities. A summary of my professional and educational background including a list of my testimony in prior proceedings is included in Exhibit EDC-EL-2.

II. PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. The purpose of my direct testimony is to examine the Companies' application for remuneration in connection with their contemplated contractual undertakings as power purchasers from two master contracts resulting from a solicitation for additional power from offshore wind resources, pursuant to Section 83C(d)(3) of *An Act Relative to Green Communities*, St. 2008, c. 169, as amended by St. 2016, c. 188, § 12, 83C, St. 2021, c. 8, § 91 et. seq. and St. 2021, c. 24, §§ 69 and 72 ("Section 83C"). The two proposed power contracts are: Mayflower offshore wind project Round 3, and Commonwealth offshore wind project (the "Contracts"). My direct testimony supplements the testimony of Mr. Robert Hevert of Unitil Corporation, submitted on behalf of Fitchburg Gas and Electric Light Company, and the Companies collectively, in support of the Companies' requested remuneration in relation to the Contracts.

My testimony shows that the Contracts are real financial obligations of the Companies, and not merely conduits for the transfer of funds. The obligations that the Companies bear as committed counterparties pursuant to the Contracts may have adverse financial impacts on the Companies over time, particularly given that the sizeable, aggregate amount of obligations under all contracts pursuant to the Green Communities Act will become quite large relative to the size of each of the Companies. Even if the financial markets have not yet indicated any concerns about these financial obligations [1] that is likely because the Companies' payments in 2021 pursuant to contracts required by the Green Communities Act were only eight percent of the total annual payments the Companies will be obligated

[1] As noted later in my testimony, Standard & Poor's has noted the financial materiality associated with Fitchburg Gas and Electric Light Company's obligations under the Vineyard Wind contracts, and the effect of the authorized 2.75% remuneration rate in mitigating that materiality.

to spend by 2028 (see Table 3 and Figure 1, infra). The aggregate payments under these Contracts and other large agreements will become ever more apparent over time as the aggregate amount grows, with larger amounts more likely to arouse the attention and concern of debt and equity investors and credit rating agencies.

Section VI of my testimony explains that the burdens undertaken by the Companies in accepting the Contracts and using their financial strength to support the financing of the Commonwealth and Mayflower Phase III projects justify remuneration greater than the capped Remuneration Rate of 2.75 percent of annual payments permitted by Section 83C. Consequently, I support the Companies' request for remuneration of 2.75 percent.

The incremental cash flow from the 2.75 percent Remuneration Rate permitted under Section 83C will provide some partial mitigation for the potential financial impacts of the Contracts in three ways. First, incremental cash flows assist in supporting the Companies' financial strength and creditworthiness and make a small contribution toward sustaining the Companies' ability to act as the credit counterparties to these and similar Contracts pursuant to Section 83C. Second, the remuneration will produce not only cash flow but also income that will be visible to equity investors and will sustain the Companies' ability to attract equity. A third and perhaps more important factor is that by authorizing the 2.75 percent Remuneration Rate, the Department will demonstrate its intent to support the continued financial strength of the Companies as they undertake the financial burden of the Contracts. This is of importance both to equity and fixed-income investors and is a meaningful component in credit evaluation by credit-rating agencies.

Section 83C does not require a quantification of the benefits produced by the Remuneration Rate, but nonetheless I have reviewed the quantitative analysis carried out by Mr. Hevert to test the reasonableness of the rate requested by the Companies.[2] Mr. Hevert's study quantifies the degree to which the Companies' support to the Projects (via the Contracts) reduces the developer's funding costs of the Projects. Mr. Hevert demonstrates that the financial benefit conferred by the Contracts is considerably greater than the 2.75 percent maximum annual remuneration authorized in Section 83C, and the resultant savings to the project economics and to customers would be equivalent to remuneration of up to 17.53 percent per annum in the case of the Mayflower Wind project and up to 19.50 percent in the case of Commonwealth Wind.[3] Mr. Hevert further supports this conclusion with other analyses, such a sensitivity analysis and a Capital Asset Pricing Model ("CAPM") evaluation that confirm his results. I endorse Mr. Hevert's quantitative analyses and conclusions.

My understanding is that the Contracts that support the financing for the Projects are essential to achieving the Commonwealth's decarbonization goals set forth in the Commonwealth's *2050 Decarbonization Roadmap*[4] and further affirmed by the legislative

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[2] Direct Testimony of Company Witness Robert B. Hevert, Sections V and VI.

[3] *Hevert Direct, Tables 4 and 5.*

[4] 2050 Decarbonization Roadmap at 55.

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passage and enactment of Chapter 8 of the Acts of 2021, *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy.* As the aggregate size of the renewable energy projects undertaken to fulfill the mandates of the Commonwealth's decarbonization objectives grows, the financial burden upon the EDCs will increase. In order to carry out the role of contractual counterparties, the EDCs' continuing financial strength is a prerequisite to support the public policy goals and 2050 decarbonization objectives. The requested remuneration will assist in sustaining the continuing financial health of the EDCs; conversely, if the financial status of the EDCs is weakened by uncompensated or poorly compensated contractual obligations, the EDCs will likely be hampered, perhaps significantly, in their ability to help advance the Commonwealth's public policy objectives for the period 2030- 2050.

The purchase commitments from the Companies provide support and back-up for the construction and permanent financing of the Projects that cannot be purchased in the commercial insurance or surety bond market. The commercial surety bond market generally will provide support only for one or at most two years at a time, renewable annually or biennially at the discretion of the insurer and subject to underwriting review and pricing revision. Commercial insurers would not accept the risk of a long-term commitment, such as would be required to support the capital funding of the Projects' facilities for a period extending 25 or 26 years into the future. The long-term credit support to the Projects provided by the Contracts cannot be replaced in commercial markets at any price, and certainly not at a price lower than the 2.75 percent per annum Remuneration

Rate permitted by statute.

Mr. Hevert's persuasive quantitative analysis and the reluctance of the insurance market to take on similar risks to those implied by the Contracts substantiate my conclusion that the commercial value of the support provided by the Companies through the Contracts exceeds the capped Remuneration Rate of 2.75 percent sought by the Companies. I conclude that the Department should approve the Companies' remuneration request.

Q. How is the remainder of your Direct Testimony organized?

A. The remainder of my Direct Testimony is organized as follows:

- Section III — Provides an overview of Contracts and cost recovery under Section 83C
- Section IV — Demonstrates that the Contracts are real financial obligations
- Section V — Describes the effects of the Companies' obligations under the Contracts on the Companies' debt and equity
- Section VI — Reviews the rationale for the Remuneration request and explores the quantitative case for the Remuneration Rate
- Section VII — Recommendation and Conclusions

III. OVERVIEW OF THE CONTRACTS AND COST RECOVERY

Q. Please describe the Contracts that are the subject of the Companies' filing.

A. Each of the three Companies has executed a 20-year power purchase agreement (the "PPAs" or the "Contracts") for receipt of electric energy from the Commonwealth offshore wind facilities and a 20-year PPA for receipt of electric energy from Mayflower Round 3. In addition, each Contract assigns to the Companies the associated Renewable Energy Certificates ("RECs"), subject to the approval of the Department.

Table 1: Six Offshore Wind Contracts in Aggregate

	Commonwealth Wind	Mayflower Wind Round 3*	Total
Capacity (MW)	1,200	405	1,605
Annual Energy (MWh)	[redacted]	[redacted]	[redacted]
Annual Payments (in nominal $ millions)	[redacted]	[redacted]	[redacted]
Levelized Nominal Price per MWh 20 Years	$72.17	$76.73	

*Mayflower B2 proposal modeled as 400 MW in TCR portfolio. Annual energy above adjusted for a 405 MW amount that was negotiated.

The Contracts require the Companies to purchase their proportional shares of the total output from each supplier as shown in Table 1 above. The rights and obligations are allocated among the Companies in the following proportions in each Contract:

Table 2: Proportional Obligations by Company

Eversource	53.96%
National Grid	45.04%
Unitil	1.00%
Total	100.00%

Q. When are the Project facilities scheduled to enter commercial operation?

A. Commonwealth Wind is tentatively scheduled for commercial operation in 2027 and Mayflower Phase III in 2028, but these dates could be delayed depending upon the Department's approval and other intervening events. The Companies' 20-year obligations to purchase and pay for the energy and RECs delivered under the Contracts will commence on the facilities' commercial delivery of power.

Q. What is the basis upon which the Companies are required to enter into the Contracts?

A. Section 83C requires the EDCs "to jointly and competitively solicit proposals for offshore wind energy generation and if reasonable proposals are received to enter into "cost-effective long-term contracts" that are subject to the approval of the Department and shall be apportioned by the Department to individual EDCs. Long-term contracts are specified as contracts with a term of 15-20 years. The Contracts under review in this proceeding were solicited jointly by the Companies in conformity with the provisions of Section 83C and with the Department's regulations contained in 220 CMR 23.00, Competitively Solicited Long-term Contracts for Offshore Wind (Section 83C).

Q. Pursuant to Section 83C and the Companies' Department-approved long-term renewable contract cost recovery tariffs, how will the Companies recover the costs of the Contracts?

A. The Companies each have Department-approved cost recovery tariffs for long-term renewable energy contracts with a mechanism to recover or credit the above- or below-market costs of the Contracts from all distribution customers. The Companies, in their petition, have requested that the Department approve the Contracts and inclusion of costs from the Contracts in their respective rate recovery tariffs. The costs under the PPAs will be allocated among all distribution customers for each of the Companies. Under the best-case scenario, the amounts the Companies receive from customers will approximately match the amounts each Company pays to each Seller but with some lag, but in practice and over the course of many years, the timing or degree of assurance of recoveries may vary.

Q. Do the Companies have obligations under any other PPAs relating to Section 83C?

A. Yes. These proposed Contracts for Commonwealth and Mayflower Round 3 are only a few of the multiple contracts for which the Companies have accepted financial obligations under Section 83C. The Companies' contractual obligations under the Green Communities Act PPAs, (including those pending regulatory approval or subject to judicial review) relate to a total of 22 energy projects. Table 3, below, summarizes the projected annual contractual payment obligations relating to these Green Community Act PPAs. As is evident from Table 3, the magnitude of the annual payment obligations is growing.

Table 3: Summary of Payment Obligations of Each EDC

Summary of EDC Payment Obligations Pursuant to Green Communities Act Contracts, 2022 - 2029 (a)				
	EDCs Total	Eversource	National Grid	Unitil
2022 Est. (b)	150	98	51	1
2023 (c)	150	98	51	1
2024	1,152	621	520	12
2025	1,430	769	646	14
2026	1,430	769	646	14
2027	1,772	950	804	18
2028	1,894	1,016	859	19
2029	1,894	1,016	859	19

(a) Nominal $ in millions
(b) 2022 amounts are estimated based on bid terms and do not reflect actual delivered volumes.
(c) Projections for 2023 - 2029 are based on bid terms; actuals may differ based on delays in completion and commercial operation, as well as delivered volumes.

The total payment obligations for the three Companies for all Green Communities Act contracts in 2022 is estimated at $150 million. By 2025, the aggregate payment obligations are projected to grow to over nine times the level of 2022, and by 2028 to over twelvefold the 2022 amount.

Also, the duration of the contract purchase obligations has lengthened from terms of 10 years for two projects with contracts entered into in 2012, to 15 years for five subsequent projects, and then 20-year terms for all subsequent commitments, including the Contracts.

Furthermore, in addition to those already approved or pending regulatory approval or judicial review, the EDCs will be required to enter into long-term contracts for another 2,400 MW of offshore wind energy generation nameplate capacity not later than June 30, 2027 in order to satisfy the current Section 83C aggregate procurement requirement of 5,600 MW. Contracting for any of these would add materially to the contract obligations of the Companies over and above those reflected in Table 3.

IV. THE CONTRACTS CREATE ACTUAL FINANCIAL OBLIGATIONS

Fixed Financial Obligations Borne by the EDCs

Q. Do you agree with those parties who asserted in prior proceedings that the EDCs' obligations under energy purchase contracts pursuant to the Green Communities Act are not real financial obligations of the Companies and the Companies are merely acting as conduits?

A. No, I disagree with that view. In my opinion, the Contracts create actual financial obligations of the Companies, with attendant risks, despite the applicability of cost-recovery provisions in Section 83C and Department regulations. The Contracts impose a real burden upon the Companies as counterparties. If that were not the case, no such contracts would be necessary. The fact that the Companies have accepted the role of contract counterparty creates the ability for the Project developer to rely on the contracts to obtain financing at a cost-effective rate. The Companies have strong balance sheets and credit ratings, and the value of these attributes is conveyed to the Project developer (and, ultimately customers) with the execution of the Contracts. Therefore, the value conveyed by the Companies is essential to those parties that are relying on the existence of the Contracts to finance the Project.

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Q. By way of comparison, do the Companies act as conduits when EDC customers select a competitive energy supplier and the energy supplier delivers energy to the customer by means of the Companies' respective distribution systems?

A. Yes. The model in that case is that a competitive supplier delivers energy to the EDC's distribution interconnection with the New England Independent System Operator ("ISO") and the EDC delivers the energy to the customer's meter. The Companies do not take title to the power they receive for delivery to the end users. The energy supplier is responsible for volumetric risk, the power price, and providing capacity and ancillary services from the ISO. The Companies take no responsibility for changes in customer demand; assume no market price risk; and have no contract responsibility to supply energy to a competitive supply customer. [5]

Q. If the EDCs' customers opt for Basic Service (the EDC as default supplier) instead of choosing a competitive supplier, what is the EDC's role and responsibility?

A. For Basic Service load, the EDC enters into contracts with wholesale suppliers to procure energy, capacity, and ancillary services for a specific percentage of the load in each zone and separately for residential, commercial, and industrial customers under Full Requirements contracts.[6] When power is delivered to the EDC, title for the power delivered passes from the supplier to the EDC. In this type of contract, the wholesale

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[5] The competitive supplier has the option to bill the customer's account directly or to sell the customer receivable to the EDC for the EDC to collect from the customer. However, this does not alter the role of the EDCs as a conduit.

[6] For the sake of simplicity, the description here for Basic Service conforms to the procedures used by Eversource and National Grid and is not representative of Unitil's procedure.

supplier assumes full responsibility for volumetric and weather risk and for customers migrating in or out of Basic Service – that is, for all variations in demand. The term of supply contracts for industrial load is three months and for residential and commercial load twelve months. The EDC is not merely a conduit, but the EDC obligations are limited (appropriately) by two factors: first, the contracts are for short durations; and second, the EDCs have no responsibility for the volume of purchases, since the suppliers assume that risk under the Full Requirements contracts. All three major credit rating agencies accept the relatively short durations of the supply contracts, the lack of volumetric risk, and the successful cost recovery experience under the Department's procedures as being consistent with the risk profile of a healthy distribution and transmission utility.

Q. Would you please compare the Companies' role in relation to the Commonwealth and Mayflower Contracts with the Companies' role in serving customers on competitive supply and basic service?

A. Yes. In the arrangement where the EDCs deliver power to customers who have opted for Competitive Service, the Companies can reasonably be viewed as acting merely as a "conduit." In these arrangements, the only role the Companies play is to deliver the power and to bill and collect for volumes sold. The Companies never take title to the power and do not have any contractual obligations with respect to the purchase of supply. The Companies have a more active role with limited exposure under the contracts they enter into with energy suppliers relating to the provision of Basic Service. By comparison, the Companies' obligations and exposures pursuant to the Section 83C contracts in general, including the Commonwealth and Mayflower Round 3 Contracts in particular, are greater than those of the contracts pursuant to Basic Service. Table 4 below summarizes the key differences.

Table 4: Companies' Obligations Under Energy Supply Contracts

	Customer Service Options		**Section 83C**	**Section 83C**
	Competitive Supplier	**Basic Service** (a)	**Commonwealth Wind**	**Mayflower Wind, Round 3**
Term	None	3 months (industrial load); 12 months (residential & commercial)	20 year term after COD	20 year term after COD
Volumetric risk	None	None (Supplier assumes risk)	EDC must take and pay for all power delivered regardless of customer demand.	EDC must take and pay for all power delivered regardless of customer demand.
Exposure to energy market prices	None	Prices fixed for 3 months or 12 months	Energy + REC prices escalate at 2.5%; first year at $59.60/MWh up to year 20 at $95.28/MWh.	Energy + REC prices fixed at $76.73 for a term of 20 years.

(a) Reflects the practices of Eversource and National Grid.

Q. The proposed Contracts with Commonwealth and Mayflower Round 3 have prices that are fixed in advance (either fixed and escalating or fixed and level) for 20 years after their commercial operation date ("COD"). What is the full length of the Companies' offtake and price commitments under the Contracts?

A. Assuming that regulatory reviews, licensing, and construction will take at least five or six years prior to COD, the full length of the Companies' commitments is at least 25 to 26 years.

Q. Do you foresee that the fixed prices specified in the Contracts and the energy and RECs that the EDCs will receive will be economically competitive with wholesale market energy and REC prices during the entire 25 or 26-year terms of the Contracts?

A. It is difficult to predict the cost competitiveness of the Contracts in future years for the full term of the Section 83C contracts. Forecasters may model electric power prices and REC prices from 2023-49, but there is no forward market for New England electric power for 26 years; furthermore, Massachusetts REC prices are unknown for the full term, illiquid in the medium term, and more volatile due to legislatively driven changes to supply and demand. Energy commodity prices are volatile and have proven difficult to predict with any confidence for a period of five years, let alone for 26 years.

Longer term, the drive in Massachusetts and other nearby states to require renewable electricity supply will result in abundant supplies of solar and wind energy at zero fuel cost. If wholesale power market prices in the future are formed in the same method by which they are currently formed, the predominance of zero-cost power sources providing the majority of the power that will be delivered to the ISO suggests that wholesale energy prices may be lower than they are currently, and the abundance of new renewable generation projects may flood the market with RECs, depressing REC prices. Due to obligations under existing mandated contracts and programs, the EDCs are already purchasing far more RPS Class I RECs than are needed by the Basic Service supply customers.

Change of Circumstances

Q. Under the Contracts, what mechanisms are provided for the Companies to terminate or reduce their obligations if circumstances change in the future?

A. It is my understanding of the Contracts' terms that if Section 83C is invalidated by an "Adverse Determination" by a court or regulatory authority having jurisdiction over Section 83C or over any of the statutes or regulations supporting the Contract, each party shall have the right to suspend performance. Second, if there is a change in law, accounting standards, or rules that would result in an adverse balance sheet impact or credit-worthiness impact on the EDC as Buyer, the parties agree to negotiate in good faith to reach an amendment to avoid or mitigate such adverse impact provided that such amendment is without material disadvantage to the Seller, and without altering the purchase and sale obligations of either party or the price (unless with the agreement of the Seller.) This second remedy provides only limited protection to the Companies as Buyers; the EDCs have no mechanism to terminate the Contracts or reduce their obligations under these circumstances, as the Contracts are required to continue in an amended form. Such provisions further demonstrate that the Contracts are indeed fixed financial obligations and that the Companies are not serving merely as a conduit.

Q. Do the Contracts have any mechanism to allow the Companies to reduce the volume of their purchases if the EDCs experience declining customer demand in the future?

A. No, the Contracts do not provide any provisions to deal with material reductions in customer demand. The Sellers do not share any demand risks, while the EDCs remain obligated to purchase up to the Contract volumes, provided that the Sellers deliver the power.

Q. How could that be a problem for the Companies?

A. First, given the 20-year term of the Contracts after the Projects' COD, it is conceivable that customer demand could decline materially due to more efficient equipment or new energy technologies that may permit customers to self-generate or to tap decentralized energy sources and give up any connection to the EDCs' distribution systems. Second, as public policy and the Department's orders continue to require the Companies to layer on substantial long-term contracts pursuant to the Green Communities Act and other long-term Alternative Portfolio Standard, Renewable Portfolio Standard, Clean Peak Standard, Clean Energy Standard REC program purchases, the Companies will progressively purchase more renewable energy at fixed costs.

Q. There are strong cost recovery provisions pursuant to Section 83C and the Department's anticipated orders approving the Contracts. Even if the amount of a company's purchase obligations grows or demand is reduced, isn't the Department required to raise the price on the remaining customer sales to recover all costs relating to the Contracts?

A. Although that may be true, I have no doubt that investors and capital market participants will have some concerns, particularly if in the future the demand for electricity from the grid diminishes or if the prices for power and RECs under the Contracts are materially above the wholesale market for an extended period. Furthermore, it is certainly possible that technological developments during the terms of the Contracts could make it feasible for a material number of customers to reduce their demands, self-supply electricity, or

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switch to an alternate source of energy outside of the Department's jurisdiction.

Q. Are there historical examples in the energy and utility sector of legislative acts or regulations that provoked unintended or unforeseen consequences?

A. Yes. One that comes to mind is the enactment by the U.S. Congress of the Public Utility Regulatory Policy Act ("PURPA") in 1978. One aspect of PURPA requires electric utilities to enter into contracts to buy power from qualifying independent power facilities ("QF") at prices not exceeding an electric utility's "avoided cost." It took a couple of years after 1978 for state regulators to enact rules and regulations that defined avoided cost in each state and establish standardized forms of contracts for the resulting PPAs, during which time little or no contracting took place. By 1981-82, the earliest sales of power to utilities from such independent non-utility sources took place, but volumes of QF power were still quite low, mostly involving very small power sources (for example, 2 to 20 MW), and there was no noticeable impact upon the credit or financial standing of any electric utilities as power purchasers.

Over the next decade, some states established avoided cost determinations that were ample, and federal and state regulations provided opportunities for developers to pursue far larger projects that met the PURPA qualifications. As a result, certain utilities were required by law to accept ever larger purchase obligations over the next decade. By 1987, a few utilities were sounding alarms and seeking reforms to PURPA without success. Some utilities went to court unsuccessfully seeking to be relieved of the obligation to enter into new contracts or to make uneconomic purchases under existing contracts. Some utilities had difficulty recovering their full contractual power costs through state rate proceedings; there was substantial lag in purchased power cost recovery, and in a few cases explicit disallowances by regulators. By 1992-94, fourteen or more years after the passage of PURPA, the utilities with the greatest amounts of over-market purchased power under contract had experienced credit downgrades, in some cases to below investment grade. Investors and credit rating agencies who had initially shown no concerns became highly aware of the relative amounts and costs of utilities' contractual power purchases. A report published in mid-1994, reviewing the situation in 1993, commented:

> During the 1980s, many utilities contracted to purchase capacity and energy from QFs at rates based on the utility's projected avoided costs over the term of the contract which in some cases is 20 to 30 years. …However, energy prices have now fallen steeply and capacity is abundant, especially in the Northeast. Many of these fixed-rate contracts, although attractive when signed, have become uneconomic and a factor that causes rates to be higher than they otherwise might be, sometimes substantially.[7]

The same report notes that Maine utilities had a particularly significant problem of excessive amounts of power at above-market rates. Also, the owners of QFs contested in court and on appeal any efforts by utilities or state regulators to monitor whether the QFs actually complied with the QF qualifying rules.[8] Between 1994 and 2002, utilities with the greatest exposures to uneconomic power contracts negotiated buy-outs of power contracts that were partially recoverable from customers and partially came at the cost of

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[7] *1993 EEI Financial Review*, Edison Electric Institute, 1994 at 28.

[8] Ibid at 28.

shareholders in states with the largest burdens, although this was not the case in Massachusetts.

Q. What lessons did the capital market and credit rating agencies take from the PURPA QF experience?

A. The lessons of the PURPA QF experiences include:

- Adverse or unintended impacts may arise under laws or regulations that impose long-term obligations or contracts;
- Adverse consequences may not be visible initially, but may develop as the amounts in question rise or with changes in the market environment or other circumstances; and
- The financial community's analysis of financial obligations can change over time. Very large obligations lead investors and credit rating agencies (and sometimes financial accounting standards setters) to evolve new methodologies that acknowledge burdens previously unacknowledged.

The Seller's Securities Will Receive Support from the Companies' Financial Strength

Q. Why does Section 83C authorize Contracts of up to 20-years extending 26 years into the future between the Seller and the Companies?

A. As I discussed above, it is extremely difficult to predict wholesale energy and REC prices for an extended period. Price certainty is of great importance to investors in project bonds and equity. The provisions of Section 83C recognize that the project developers and sponsors of renewable energy projects would be unable to finance projects at all or would not be able to fund them at economically acceptable costs, without certainty of offtake prices and volumes. There were alternate structures that the Legislature could have used to ease funding or to provide price certainty for renewable projects that would not have relied upon contracts binding the EDCs to 20-year purchase obligations. However, the Legislature took the direction in Section 83C of requiring the EDCs to devote their creditworthiness to support the project developers via long-term supply contracts that primarily relied upon the Companies' credit. In 2008, the Green Communities Act authorized contract terms of up to 15 years, but in 2016 the Green Communities Act was amended and contract terms were expanded to 20 years. Perhaps that is an indication that by 2016 the need for credit support was found to be even greater than had been contemplated in 2008, but also because the amended act anticipated funding projects of greater cost, magnitude, and complexity than the earlier renewable projects.

Q. Have the Project Sponsors asserted that they need 20-year PPAs with the EDCs in order to fund their projects economically in the capital market?

A. Yes, Section 5.13 (Financing Status) of the Confidential Version of Mayflower's bid states as follows:

[redacted]

Q. Please explain how the project's debt and equity funding will utilize the EDCs' credit ratings and financial strength.

A. Based on Section 5.13 (Financing Status) and Section 5.3 (Financing Plan) of the Confidential Version of Mayflower's bid, combined with many years of experience with project financing of energy infrastructure projects, I understand that the developer will use a typical project financing process to fund construction and ownership of the facilities. During the construction phase, the project developers may fund the project with a combination of the developer's equity and by loans to the project from the project developers (although in some cases the project may borrow from commercial lenders using loans secured by all the project rights and assets, including the Contracts.) Typically, after completion and commercial operation, the construction debt is repaid from proceeds of a long-term bond issue secured by the project's assets and rights, including the Contracts. The project developer might then sell down some or all of its equity to an infrastructure equity investor such as a large pension fund or group of pension funds. The marketing materials for the secured project debt and for the sale of the project equity after completion and commercial operation will make prominent reference to the terms of the Contracts and the credit ratings of the EDCs as counterparties, and the Companies' contractual off-take obligations will be cited as a key credit factor underlying the project financing structure. If the project debt receives ratings from one or more credit rating agencies, the rating agencies will cite the strength of the offtake contracts as the primary source of credit support and vital to the credit rationale.

Q. Will the Contract obligations appear as liabilities on the balance sheets of the Companies?

A. That is unlikely under the current Generally Accepted Accounting Principles and International Financial Reporting Standards. It is more likely under current rules that the obligations will be disclosed in a footnote to the financial statements, along with material contracts, rents, leases, and so forth.

Q. If the Contracts are not reported as liabilities of the Companies, does that mean that the obligations will not be noticed by the capital market and will not affect the EDCs' financial flexibility and creditworthiness?

A. No. There are numerous technical accounting reasons why some obligations are captured on a counterparty's balance sheet as liabilities and others are not. Major off-balance sheet obligations are typically disclosed in footnotes to the financial statements and possibly noted in the risk disclosure section of financial reports. Large off-balance sheet obligations can figure heavily in the valuation of a counterparty's debt and equity.

Q. Are you able to provide an example of major contractual obligations that are not reflected as balance sheet liabilities?

A. For example, a financial institution does not book a balance sheet liability or asset for lending commitments such as corporate revolving credits and loan commitments, yet bank regulators require reporting of such off-balance sheet obligations, and the bank typically requires compensation for providing such commitments to commercial borrowers. Similarly, a contingent guarantee is not recorded on the guarantor's balance sheet as a liability unless or until it is deemed to be likely to be drawn upon. Nonetheless, the amount of such guarantees is disclosed in footnotes to financial statements, noted by financial analysts, and reported to regulators.

Q. Please summarize your conclusions of this section of your direct testimony.

A. The Contracts are meaningful obligations that rest upon the financial viability of the Companies as credit counterparties. The Companies are not mere conduits through which funds provided under Section 83C pass without any consequence for the Companies as contractual counterparties, and they will be seen by the financial community as carrying some contingent risks. Lastly, the contractual obligations of the Companies and their financial strength and credit ratings will figure heavily in marketing the debt and equity of the Commonwealth and Mayflower Round 3 Projects to investors and bankers, which will ultimately help to lower contract costs to customers.

The Contractual Obligations are Fundamental to the Commonwealth's Decarbonization Policy

Q. What is the relationship between the EDCs' Contract obligations and the Commonwealth's public policy?

A. Offshore wind is still a nascent and developing industry that requires long-term market support to drive investment. Independent power producers are not electing to build merchant offshore wind generation to participate in competitive energy markets in New England, or elsewhere. Therefore I understand that the EDCs participation in the Contracts is an essential part of the Commonwealth's approach to achieving its long-term energy policy goals, as set forth in the *2050 Decarbonization Roadmap* {and further affirmed by the legislative passage and enactment of S.9 *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy.}*. The development of large-scale, renewable offshore wind resources is a major source of future carbon-free power generation, without which Massachusetts would not fulfill the public policy set forth for the years 2030-2050.

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Q. Have the EDCs negotiated and entered into contracts to purchase offshore wind resources in order to meet incremental volumetric demand from their customers for electric energy?

A. My understanding is that they have not. In fact, the energy supplied by the contracts that the EDCs have undertaken or petition to undertake pursuant to Section 83C will not be delivered directly to the EDCs' customers and is not in response to customer demand growth. Rather, the impetus for signing these large forward supply contracts is to fulfill energy transition and decarbonization mandates of the Commonwealth.

Q. How do the Project Sponsors describe the function of the Contracts with the EDCs?

A. Section 5.1 of Mayflower Wind's confidential Mayflower RFP bid states:

[redacted]

My understanding is that neither Section 83C nor Chapter 8 of the Acts of 2021, *An Act Creating a Next Generation Roadmap for Massachusetts Climate Policy* called for the Commonwealth to provide guarantees or subsidies to support the financing of large-scale offshore wind development projects at economically viable terms, other than via the EDC Contracts; in a later section, I will explain that commercial insurers do not offer long-term surety coverage that would extend for the full financing tenors of the renewable energy facilities and could substitute for EDC contracts.[9]

Q. Is the continuing financial strength of the EDCs essential to the implementation of the Commonwealth's decarbonization goals for the coming years?

A. On information and belief, the answer is yes. Absent other forms of guarantees, state subsidies, or surety bonds that could support the public policy goals and 2050 decarbonization objectives, preserving the EDCs' continuing financial strength is fundamental to the development of substantial amounts of carbon-free resources.

Q. How does the EDCs' remuneration request relate to the future financial strength and viability of the EDCs and their ability to act as contractual counterparties?

A. As I will explain in the following Section V, the contracts will be viewed by capital market participants (fixed income investors and equity investors), providers of liquidity (banks and commercial paper buyers) and credit rating agencies as meaningful obligations. The contracts will meaningfully increase the operating leverage of the Companies, and as that operating leverage increases, fixed income investors and credit rating agencies will see that as increasing the potential default risk. Incremental revenue and income from the requested remuneration will provide at least a partial mitigant to the increase in operating leverage; furthermore, it will signal to investors that the Commonwealth and the Department recognize and support the role of the EDCs as contractual counterparties that are vital to meeting the Commonwealth's energy policy targets.

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[9] Lapson Direct, at 46:8 - 19.

In summary, the requested remuneration will foster the continuing financial health of the EDCs and enable them to continue to support such contracts; conversely, if the financial status of the EDCs is weakened by uncompensated or poorly compensated contractual obligations, contracts with the EDCs will have less and potentially no value to future project sponsors, and the EDC's capacity to advance the Commonwealth's environmental and energy policies will be significantly and negatively impacted.

V. CAPITAL MARKET EFFECTS ON THE COMPANIES

A. Debt and Credit Impacts

Q. Is it your opinion that the Contracts and other long-term PPAs procured pursuant to Section 83 will be viewed as meaningful obligations in the capital and credit market?

A. Yes, and especially so because the layering on of these and other contracts pursuant to Sections 83, 83A, 83C, and 83D will result in a rapidly growing and quite material amount of obligations, whether on or off the balance sheets of the Companies.

The aggregate annual payment obligations of all three Companies are approximately $150 million in 2022. Figure 1, below, shows that required payments by 2028 will be $1,894 million, over twelve times the 2022 level. In the following several years, the total amount of committed payments will likely be higher, because the Companies are required to enter into additional contracts for renewable energy for another 2,400 MW of offshore wind energy nameplate capacity not later than June 30, 2027 to satisfy the current Section 83C aggregate procurement requirement of 5,600 MW.

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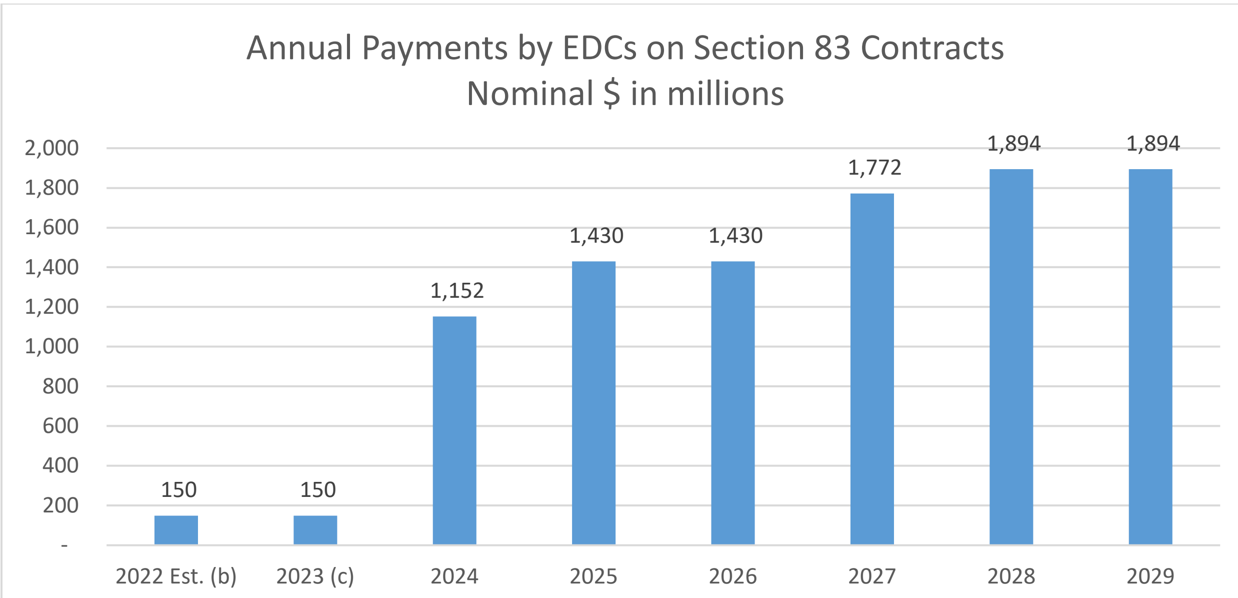
Figure 1 Growth in Annual Payment Obligations



Q. How will these payment obligations impact the Companies' access to debt capital?

A. Large contractual obligations will adversely affect the assessment of the Companies' financial strength by bond purchasers and providers of liquidity and it will impact credit ratings. Companies must pay their operating expenses in order to remain viable. Fixed-income investors and credit-rating agencies take the view that the Companies' senior debt instruments (bank loans, commercial paper notes, and long-term bonds) have a claim upon the Companies' residual cash flow only after the payment of operating expenses, which include the cost of power purchases. Anything that increases the Companies' operating expense obligations has the effect of reducing the stability and certainty of residual cash flow available to service the Companies' senior debt and thus is acknowledged to increase default risk.

Q. Will credit-rating agencies treat the obligations under the Contracts as imputed debt?

A. If the Massachusetts regulatory and political environment remains supportive, it is unlikely that any of the credit rating agencies will do so. The rating agencies are more likely to treat the annual amount of the obligations as expenses, and to note a trend of increased operating expenses and operating leverage. The mission of the credit rating agencies is to formulate ratings that predict default risk. Imputing the contractual commitments as a form of quasi-debt would certainly affect the financial ratio analysis component of their rating analyses, but even without debt imputation, the credit rating agencies also use other methods to capture an increase in the probability of default, assessing the operating leverage as well as qualitative measures of business risk, competitive exposure, and regulatory supportiveness.

Q. What do you mean by operating leverage, and how is that measured?

A. Operating leverage is driven by the ratio of operating expenses to operating revenues. The greater the ratio of operating expenses to total revenue, the greater is operating leverage, and the lower a company's operating margin (that is, the cash flow available to the company to cover financial costs, replenish its capital equipment, and sustain financial strength). The typical measure of operating leverage is the calculation of the operating margin as a percentage of revenues. Operating leverage is considered 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 Commonwealth and Mayflower Round 3 Contracts.

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Q. Please explain what qualitative mechanisms or methodologies rating agencies and bond investors use to deal with long-term contractual commitments that depend upon future regulatory recovery from customer rates.

A. Each of the agencies employs its individual methodology to recognize the effect on default probability from increased exposure to risks such as future technology changes, the energy market price environment, and the greater uncertainty of regulatory promises of cost recovery a decade or two in the future. I will review those methods for each of three credit rating agencies: Standard & Poor's ("S&P"), Moody's Investors Service ("Moody's"), and Fitch.

Q. Please summarize how the Contracts might affect the Companies' S&P ratings based upon the S&P utility rating methodology.

A. S&P ratings are driven by an evaluation of business risk profile, which is then merged with the evaluation of financial risk profile determined by an analysis of various ratios based upon Earnings before interest, income tax, depreciation, and amortization ("EBITDA"), a commonly used proxy for cash flow, or other cash flow ratios. Merging the business risk assessment with the financial risk assessment is performed by means of a matrix. The intersection of the business risk assessment and financial risk assessment suggests the appropriate credit rating prior to applying a few adjustment factors. S&P business risk profiles are: Excellent; Strong; Satisfactory; Fair; Weak; and Vulnerable. In the regulated utility sector, S&P typically assigns its highest business risk category of Excellent to utilities that engage purely in distribution and transmission and have no energy commodity exposure. U.S. utilities that have commodity exposure are typically assigned business risk profiles of Strong or occasionally Satisfactory. The effect of being assigned a certain business risk profile is that S&P applies more stringent financial ratio hurdles to entities deemed to have Strong business risk profile than to those with Excellent business risk profile, and the agency applies more stringent financial ratio hurdles to those with Satisfactory business risk profile relative to those with Strong profile, and so forth.

Q. Is Moody's methodology the same as that used by S&P?

A. It is not quite the same. Moody's also blends financial ratios and qualitative factors, giving approximately equal weighting to each, but it does so through a very different mechanism. Moody's approach for regulated utilities applies a scoring matrix that assigns an aggregate 50 percent weighting to two regulatory factors and nearly all of the remaining 50 percent of the rating is scored based on a set of Moody's financial ratios (primarily measures of cash flow relative to debt or relative to interest expense.)[10]

The regulatory scoring that determines 50 percent of the final rating uses the following sub-scores:

- Regulatory Framework - 25 percent comprised of:

a. Legislative and judicial underpinning	12.5%
b. Consistency and predictability	12.5%
	25.0%

[10] Moody's Investors Service, "Rating Methodology: Regulated Electric and Gas Utilities", June 23, 2017. Table: Factor/ Sub-Factor Weighting - Regulated Utilities at 4.

- Ability to Recover Costs and Earn Returns - 25 percent comprised of:

a. Timely Recovery of Operating and Capital Costs	12.5%
b. Sufficiency of rates and returns	12.5%
	25.0%

Another 10 percent of Moody's credit scoring is allocated to market position, i.e., the competitive position of a utility relative to alternate providers and its fuel exposure. Financial credit ratios together comprise approximately 40 percent of the rating assessment, focusing upon a set of key financial ratios, three out of four of which are ratios based upon a measure of cash flow as the numerator:

a. (Cash from Operations before working capital + interest)/ Interest
b. (Cash from Operations before working capital)/ Debt
c. (Cash from Operations before working capital – dividends)/ Debt
d. Debt to Capitalization ratio.

As shown above, Moody's scorecard places a heavy weight on several qualitative and subjective assessments; 40 percent upon the supportiveness of the regulatory environment (legal and regulatory framework, consistency, and ability to recover expenses and earn return on capital) and 10 percent on market position.

Q. Would you explain the basic principles of the Fitch methodology?

A. Similar to Moody's and S&P, Fitch's rating process uses subjective scoring of qualitative elements that capture changes in business risk, regulatory supportiveness, technological and commodity price risk, among other factors, to supplement financial credit ratio analysis. The primary financial ratios used in the Fitch analysis are Operating Cash Flow

/ Debt and Debt / EBITDA.

Another significant step in the Fitch methodology is the selection of peer companies as comparators for a company, summarized in Fitch reports under the heading: "Rating Derivation Versus Peers." Currently, the peers of the EDCs are companies that are purely providers of distribution and transmission without the energy supply function, companies that have little or no exposure to fuel and energy commodities.

Q. Have bond analysts or credit rating agencies taken note of the growing size of the obligations pursuant to the Section 83C offshore wind contracts?

A. So far, I am aware of only one explicit reference in any credit publications to an EDC's contractual commitments for Section 83C offshore wind purchases, and that is in a credit report by S&P regarding Unitil.[11] In that report, the S&P analyst indicates that Unitil's subsidiary FG&E has limited financial exposure to a contract with Vineyard Wind LLC, and that exposure is mitigated by the 2.75% remuneration.

> Further, we believe financial materiality associated with Unitil's long-term contractual agreement with Vineyard Wind LLC is limited. As per Massachusetts statute, FG&E, along with its electric distribution peers, is obligated to purchase power from Vineyard Wind over a 20-year power purchase agreement. However, to limit its financial implications and to compensate the distribution companies for accepting any financial obligation of the long-term contract, the Massachusetts Department of Public Utilities approved annual remuneration equal to 2.75% of the annual contractual payments under the contract.

[11] S&P Global Ratings, Ratings Direct, "Unitil Corp.", November 10, 2021 at 5 (Exhibit RBH-6).

However, it is thoroughly unsurprising that explicit notice of the contracts has not occurred to date. In 2021, the Vineyard Wind project had not completed construction or entered commercial operation, the final condition for the effectiveness of the Contracts' payment obligations, and construction of Mayflower Wind Rounds 1 and 2 has not begun. Thus, as of the end of 2021, the obligations remained contingent, and no quantitative information appeared in the Companies' annual reports or financial statements about the large offshore wind contracts, nor have any other rating agencies' reports yet referred to these obligations.

Q. Do the financial reports produced by the Companies disclose the magnitude of the Companies' purchase commitments under Section 83 contracts?

A. All the Companies provide disclosure in footnotes to their financial statement of a table that details the commitments under contracts, but the largest contracts still are not reflected in those numerical tables. For example, the footnotes to the financial statements in Eversource Energy's annual report contain a table of long-term contractual commitments, but the text states:

> The contractual obligations table above does not include long-term commitments signed by CL&P and NSTAR Electric, as required by the PURA and DPU, respectively, for the purchase of renewable energy and related products that are contingent on the future construction of energy facilities.[12]

[12] Eversource Energy, Annual Report to the SEC on Form 10-K as of December 31, 2021 at 120-121.

Unitil's annual report for the year 2021 describes more fully the recent rounds of solicitations and contracts under Section 83C for large-scale facilities. However, the monetary commitments relating to Unitil's contingent purchase obligations do not yet appear in the quantitative table in the financial statements footnote. Unitil's text regarding these contingent commitments concludes:

> The Company believes the power purchase obligations under these long-term contracts will have a material effect on the contractual obligations of Fitchburg, once certain conditions and contingencies are met.[13]

As for National Grid, a footnote to the financial statements of Massachusetts Electric describes in text the status of Section 83C offshore wind contracts Rounds 1 and 2, but similar to Eversource and Unitil, no quantitative information is provided concerning the future payment commitments by years in the numerical table.

Q. In your judgment, when will the financial market investors begin to take notice of the obligations under the Contracts?

A. There will be little or no attention by the bond market or lenders to the size or potential risks of the Contracts before the completion of the more significant projects and start of deliveries. However, financial reporting subsequent to project completion and deliveries under the Contracts will give investors more insight as to the magnitude of the contractual obligation. As shown in Figure 1, the annual payment obligations under these Contracts and other contracts required by the Green Communities Act will grow considerably more

[13] Unitil Corporation Annual Report to the SEC on Form 10-K as of December 31, 2021 at 71-72.

apparent as the annual payments expand in 2025 through 2028.

Further stimulus to the financial market to take greater notice of the Contracts would occur if in the future prices charged in Massachusetts substantially exceed those in other states, causing electric customers or local politicians to object to the level of electricity prices. That circumstance would likely cause credit rating agencies, bankers, and fixed income investors to become more concerned about the political support for the full recovery of above-market supply arrangements.

B. Equity Impacts

Q. How are equity investors likely to react to the Companies' obligations under these Contracts?

A. The interests of equity investors are not identical to those of bondholders and creditors. Equity investors will react favorably to the remuneration associated with the Contracts and initially are unlikely to recognize any associated risk. However, if the Companies' credit ratings decline in response to unexpected consequences of the Contracts, the interests of equity investors and creditors tend to become more aligned. This is because equity is a junior claim relative to debt. A company's equity has a call on residual cash flow after operating expenses (including power purchase costs under contracts) and after bonds and loans. Inflexible contracts that inflate the Companies' operating expense obligations increase operating leverage and the probability of default, thus boosting equity's risks. This could become a concern in the equity market if credit rating agencies begin to cite large contractual obligations as a potential source of credit downgrade.

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Q. When are these concerns likely to arise in the equity market?

A. If a company's credit ratings begin to arouse doubts, it may stimulate a corporation to issue more equity and/or reduce dividends. At such a time, the concerns of equity investors may become more aligned with those of fixed income investors. Awareness of a threat of potential equity dilution and suppressed dividends would arise in the equity market after large contracts pursuant to Sections 83C and 83D are visible in the financial statements of the EDCs in the form of expenses and in footnote disclosure of the future payment obligations pursuant to contracts. By 2029, the contractual obligations under the Section 83 contracts will be more visible in the Companies' financial reporting and relative to the Companies' common equity. If there are any unforeseen adverse consequences of the Contracts, these could become visible in the decade of the 2030s.

Q. Please summarize the key points in this section of your Direct Testimony.

A. The obligations pursuant to the Contracts will become noticeable to the financial community after the related facilities enter commercial operation and the annual payments commence. Even if the obligations are off-balance sheet, the obligations will be noted in explanations of higher operating expenses, in footnotes to the Companies' financial statements regarding contractual obligations, and perhaps in the Companies' risk disclosures. When credit-rating agencies and fixed-income investors express concern in the future, that will impact the Companies in the equity market, since equity investors will fear future constraints on dividends and dilution via new equity issuance to enhance the equity account. In short, these are real financial obligations with an unusually long tenor, and there are likely to be consequences for the Companies in the capital market and credit markets.

VI. RATIONALE FOR REMUNERATION REQUEST

Q. What Remuneration Rate are the Companies requesting?

A. The Companies request remuneration for serving as contractual counterparties and bearing the burden of the Contracts at the rate authorized in the Act's Section 83C, which is stated as "up to 2.75 percent of their annual payments." The actual burden upon the Companies of taking on the Contracts likely exceeds or even far exceeds 2.75 percent per annum of contractual payments, but since Section 83C caps remuneration at 2.75 percent, the Companies accordingly request the Department authorize remuneration at the maximum rate of 2.75 percent per annum of contractual payments as authorized by statute.

Q. Does Section 83C offer any rationale for providing remuneration to the EDCs?

A. Yes, it does. Section 83C recognizes that the Companies will assume financial obligations that will pose some burden and that compensation to the Companies is required.[14] Section 83C further acknowledges that the Companies will provide benefits to the public by working together to solicit jointly offshore wind resources, selecting contracts that are cost-

[14] The plain terms of Section 83C state that the Department "shall promulgate regulations" and that "the regulations **shall**": "(3) provide for an annual remuneration for the contracting distribution company up to 2.75 percent of the annual payments under the contract to compensate the company for accepting the financial obligation of the long-term contract, such provision to be acted upon by the department of public utilities at the time of contract approval." An Act Relative to Green Communities, St. 2008, c. 169, as amended by St. 2016, c. 188 §12, 83C (d)(3). Thus, the statute mandates that the Department set remuneration and specifies that the remuneration is compensation for accepting the financial obligation of the long-term contract pending before the Department for approval.

effective, and lending their own credit to the development of the project via the Contracts. It acknowledges that the anticipated benefits of the renewable energy facilities cannot be realized unless the Companies lend their financial strength and credit in the form of the Contracts to support the renewable energy plans. The implication is that without compensation for the use of their financial capacity, the Companies would be subjected to a financial burden and would have no incentive to assume this long-term financial obligation. Therefore, Section 83C provides compensation to the Companies by means of the Remuneration Rate.

Q. Will the requested remuneration provide a reasonable offset or mitigant for the concerns of the credit and debt markets that you described in the prior section of your Direct Testimony?

A. The requested remuneration is likely to partially mitigate investors' concerns. As I previously explained, higher committed operating expenses and reduced operating margin as a percentage of total revenue will be viewed by fixed-income investors as an increase in operating leverage. It is financially precarious for a company to have both high operating leverage and high debt leverage. Thus, the Companies would have to reduce their debt leverage to offset higher operating leverage. But with the remuneration, the Companies' operating cash flow and EBITDA will be slightly increased, which is a favorable cash flow factor affecting two financial credit ratios used by all three rating agencies.

Q. Are there any other ways that the approval of the request for a 2.75 percent Remuneration Rate would mitigate risks or enhance the perceptions of credit-rating agencies or fixed-income investors to mitigate the risks of the Contracts?

A. Approving the full 2.75 percent remuneration would be understood by fixed-income investors and rating agencies as a statement of the Department's intention to support the financial strength of the Companies. Qualitative factors involving the supportive policies of the regulatory commission are important credit rating inputs at each of the three credit-rating agencies. The effects of the section 83C contracts, including increased operating leverage and uncertainty about enduring support for long-term financial obligations, puts additional importance on the financial market's assessment of regulatory support and would exacerbate the effect of any decline in the rating of the regulatory environment. For the Companies to retain sound credit ratings and to maintain their capability as contractual counterparties, the Department must demonstrate that it is committed to sustaining the EDCs' financial strength. Approving the requested remuneration would achieve that aim.

Q. How would approving the Companies' requested Remuneration Rate alleviate the concerns of equity investors?

A. Remuneration produces increased cash flow metrics (cash flow from operations and EBITDA) that are meaningful to fixed income investors, and the same remuneration revenues would also enhance reported income, a key valuation factor for equity investors. Furthermore, enhanced net income would support the ability of the Companies to pay dividends, another favorable factor for common equity. Lastly, the Companies would avoid pressure from credit-rating agencies to boost the equity ratio to support the credit

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ratings, and this would be perceived favorably in the equity market. Thus, the requested Remuneration would also offset or mitigate concerns in the equity market.

Q. Does Section 83C require that the obligations relating to the Contracts be recognized as liabilities on the Companies' financial statements or that they be capitalized as debt-like obligations (imputed debt) by credit-rating agencies to justify the remuneration rate?

A. No, that is not required. Section 83C provides that the Companies are expected to work with the Seller to negotiate terms of the Contracts that will mitigate adverse credit impacts such as the appearance of liabilities or debt on the balance sheet of the Companies, but the Companies are entitled by Section 83C to remuneration after they have mitigated such effects.[15]

Q. Would you provide examples in financial accounting of obligations that are not recognized as liabilities and yet routinely earn compensation?

A. Certainly. As I noted in an earlier response, a bank does not book a balance sheet liability or asset for lending commitments such as corporate revolving credit commitments or loan

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[15] St. 2016, c. 188 §12, 83C (c) ("A distribution company may decline to pursue a proposal if the proposal's terms and conditions would require the contract obligation to place an unreasonable burden on the distribution company's balance sheet; provided, however, that the distribution company shall take all reasonable actions to structure the contracts, pricing or administration of the products purchased under this section in order to prevent or mitigate an impact on the balance sheet or income statement of the distribution company or its parent company, subject to the approval of the department of public utilities; provided further, that mitigation shall not increase costs to ratepayers."); Id. at (d)(3) (providing that the Department's regulations shall "provide for an annual remuneration for the contracting distribution company up to 2.75 percent of the annual payments under the contract to compensate the company for accepting the financial obligation of the long-term contract, such provision to be acted upon by the department of public utilities at the time of contract approval.")

commitments to corporate or commercial borrowers, nor for its obligations under open letters of credit, yet the bank requires compensation for providing such commitments.

Q. Does Section 83C require that the Companies prove that they have suffered a hardship or demonstrate increased financial costs to justify the remuneration rate?

A. No, it does not. Section 83C states that the Department "shall promulgate regulations" and that "the regulations shall:"

> (3) provide for an annual remuneration for the contracting distribution company up to 2.75 percent of the annual payments under the contract to compensate the company for accepting the financial obligation of the long-term contract, such provision to be acted upon by the department of public utilities at the time of contract approval.

Thus, the statute specifies that remuneration is compensation for "accepting" the financial obligation of the long-term contract pending before the Department for approval. The statute does not stipulate or even suggest that the EDCs must demonstrate that they have suffered a financial hardship or that financial costs have increased in order to qualify for remuneration.

Q. Although Section 83C does not require any quantitative demonstration to justify the remuneration, are you aware of any quantitative evidence that justifies a Remuneration Rate of 2.75 percent or greater?

A. Yes. The most effective and quantifiable means to measure the value of the financial support provided by the Contracts is the financial analysis performed by Mr. Hevert in which he demonstrates the probable cost of project financing for the debt and equity of an offshore wind project such as the Mayflower Wind and Commonwealth Wind Projects in the capital market secured by the cash flow provided by the Contracts with the Companies versus the capital costs of such financing without any contracts with the Companies. After reviewing his assumptions and his calculations, I endorse Mr. Hevert's conclusion that the expected cost of capital for the Mayflower Wind project would be significantly greater in the absence of the Contracts, if the project could be financed at all without the Contracts.[16] His analysis demonstrates that a Remuneration Rate of 17.53 percent would equate to the full financial benefit that the Contracts provide to the financing of the Mayflower facilities, as would a Remuneration Rate of 19.50 percent for the Commonwealth Wind facilities. Thus, the cap of 2.75 percent specified in Section 83C allocates to the Companies a minor portion of the financial benefit provided to the Project and to customers by virtue of the use of support from the Companies' creditworthiness and credit strength.

Q. Have you considered any other demonstrations of the quantitative basis for the Companies' request for remuneration at 2.75 percent of the annual payments under the Contracts?

A. Yes. I considered a hypothetical case in which the Companies would serve only as conduits for the delivery of power to electricity customers from the Mayflower Wind project, without taking on the financial encumbrance as counterparties to purchase and sale contracts with the project. In this hypothetical case, the primary mechanism assuring the price the projects would receive for sales of power to ultimate electric customers would be Section 83C, backed up by an insurance company's 20-year performance bond beginning

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[16] Direct Testimony of Robert B. Hevert, Sections V and VI.

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at the date of the facilities' commercial operation.

Q. In this hypothetical case, what role would the Companies play, if any?

A. The Companies would act as pure conduits; they would not have any contractual obligation to make payments. The Companies may be assigned an administrative role as agents for the project to bill for power and collect from customers (just as the Companies currently do for some competitive energy providers who elect to take billing and collection services from the EDCs.)

Q. Are there any insurers who would issue a surety bond policy covering the financial obligations of a 20-plus year power purchase contract with a non-cancelable term of 20 years?

A. No, I have searched and found no evidence that any commercial insurer would be willing to write such a surety bond for the required term. The principal barrier to finding an insurer willing to issue such a policy is the non-cancelable term of 20 years after commercial operation. Sureties do not like long-term obligations, because insurers are concerned about protecting their own solvency and capital adequacy. For an insurer to underwrite this surety bond, it would most likely have to be structured on a shorter term allowing the insurer cancellation provisions, preferably annual, but perhaps extending at the most for two or three years. Such cancellation provisions would make the coverage useless as a back-up to capital market issuance of long-term bonds or equity.

Q. Since there is no commercial source for a 20-year non-cancelable surety bond that would be acceptable to facilitate the capital market financing needed for the project, why does this hypothetical support the EDC's remuneration request?

A. The hypothetical highlights what a serious burden the Companies undertake by signing the Contracts, accepting risks for a term that commercial insurers will not accept. It underscores the point that the Commonwealth's desire to promote the development of large-scale offshore wind generation would be difficult or impossible to achieve through traditional commercial mechanisms, and these Projects won't be developed without the support provided by the Companies' financial strength.

In summary, the economic value that the Companies provide by committing up-front to take on the risk of a contractual commitment with a term of 20 years beyond the start of commercial operation of the facilities is substantially greater than the cap of 2.75 percent of annual payments provided under Section 83C.

VII. SUMMARY AND CONCLUSIONS

Q. Please summarize your Direct Testimony.

A. The following are my principal findings.

1. The Contracts are actual, impactful financial obligations of the Companies;
2. The obligations under the Contracts are substantially longer in duration and subject the Companies to a far greater burden than the Companies' current roles in providing either Basic Service or delivering energy supplied by competitive suppliers. This analysis demonstrates that as contractual counterparties under the

Contracts, the Companies are not merely acting as conduits without any financial risk or burden.

3. The aggregate amount of the Companies' obligations under these Contracts and all other contracts pursuant to the Green Communities Act (and any other additional long-term renewable solicitations in the future) will become very conspicuous to capital market investors, bankers, and credit rating agencies in coming years, even though they are not obvious at present.

4. The obligations that the Companies will bear as committed counterparties pursuant to the Contracts may indeed have adverse effects on the Companies' ability to attract debt and equity over time when the present value of all the long-term purchase obligations become large relative to the size of the Companies' equity.

Q. What is your recommendation regarding the Remuneration Rate?

A. I recommend that the Department approve the 2.75 percent Remuneration Rate requested by the Companies. In my professional opinion, the rate requested by the Companies will actually under-compensate the Companies for their role as contractual counterparties because it does not equal the cost the capital market or commercial insurance market would demand as compensation for exposure to such obligations. However, this is the maximum amount allowed by law and the Companies are therefore restricted to this proposed amount. Consequently, it is my opinion that the proposed Remuneration Rate of 2.75 percent is reasonable, warranted and appropriate for application to the proposed Contracts.

Q. Does this conclude your direct testimony?

A. Yes, it does.