December 27, 1999

D.T.E. 99-38

Investigation by the Department of Telecommunications and Energy upon its own motion, pursuant to Sections 201 and 210 of Title II of the Public Utility Regulatory Policies Act of 1978; G.L. c. 25, § 5; G.L. c 164, §§ 76C; and 220 C.M.R. §§ 2.00 et seq., commencing a rulemaking to modify 220 C.M.R. §§ 8.00 et seq.

I. INTRODUCTION

On April 27, 1999, the Department of Telecommunications and Energy ("Department") opened a rulemaking to revise 220 C.M.R. §§ 8.00 et. seq - Sales of Electricity by Qualifying Facilities and On-Site Generating Facilities to Distribution Companies, and Sales of Electricity by Distribution Companies to Qualifying Facilities and On-Site Generating Facilities ("Proposed QF Regulations"). Qualifying facilities ("QF") are a class of generating facilities established by the Public Utility Regulatory Policies Act of 1978 ("PURPA")[(1)] and regulations promulgated by the Federal Energy Regulatory Commission ("FERC").[(2)] See 18 C.F.R. §§ 292.101 et seq. In the past, consistent with PURPA and FERC's QF regulations, the Department has promulgated rules to prescribe the method for pricing electric utility purchases of QF power and to delineate the responsibilities of electric utilities when requested to interconnect with QFs. See D.P.U. 84-276-B (1986); D.P.U. 535, 535-A (1981).

On May 21, 1999, after notice duly issued, the Department conducted a public hearing concerning its Proposed QF Regulations. Written comments regarding the Proposed QF Regulations were accepted through May 28, 1999. Comments were received from Boston Edison Company ("BECo"), Cambridge Electric Light Company and Commonwealth Electric Company (together "COM/Electric"), Eastern Edison Company ("EECo"), Massachusetts Electric Company and Nantucket Electric Company (together, "MECo/Nantucket"), PG&E Energy Services Company ("PG&E"), U.S. Generating Company and USGen New England ("US Gen"), and the Western Massachusetts Electric Company ("WMECo"). After considering these comments and recommendations, the Department has revised its Proposed QF Regulations to produce the final regulations

which are attached to this Order. The following section consists of a statement of purpose and a discussion of the major revisions.

II. DISCUSSION AND ANALYSIS

- Purpose of These Regulations

In addition to fulfilling the requirements of PURPA, the final regulations are intended to conform with changes to the electric industry in Massachusetts brought about by Chapter 164 of the Acts of 1997, entitled, "An Act Relative to Restructuring the Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Enhanced Consumer Protection Therein" ("Restructuring Act"). In particular, the Restructuring Act introduced retail choice for generation products, thereby prohibiting Massachusetts electric utilities from providing generation services to their retail customers on a monopoly basis. See G.L. c. 164, § 1A.

In addition to Massachusetts' restructuring initiatives, the New England Power Pool ("NEPOOL"), which represents most of the electric industry operating in the six New England states, has also been restructured. On June 25, 1997, FERC approved NEPOOL's proposal to establish an independent system operator ("ISO"). See New England Power Pool, 79 F.E.R.C. ¶ 61,374 (1997). On July 1, 1997, NEPOOL transferred responsibility for the operation of New England's generation and transmission systems to ISO New England, Inc. ("ISO-NE"). On April 20, 1998, FERC approved NEPOOL's proposal to: (1) allow ISO-NE to provide non-discriminatory transmission service on a New England-wide basis, and

(2) implement competitive markets for wholesale electricity products. See New England Power Pool, 83 F.E.R.C. ¶ 61, 045 (1998). On May 1, 1999, under ISO-NE oversight, the wholesale electricity markets in New England began to operate competitively.

PURPA requires that electric utilities purchase QF power using avoided costs as a benchmark. Avoided costs are the costs to the electric utility of the electric energy which, but for the purchase from a QF, the electric utility would generate or purchase from another source. 16 U.S.C. § 824a-3(d). Prior to the Restructuring Act, one method of calculating avoided costs was based on electric generation and construction costs that the electric utility would incur but for purchase from a QF. As discussed below, this method of calculating avoided costs no longer accurately reflects the competitive nature of the restructured electric company operating environment.

The Restructuring Act requires that each electric company organized under the provisions of G.L. c. 164 file a plan for restructuring its operations to allow for the introduction of retail competition in generation supply in accordance with the provisions of G.L. c. 164. G.L. c. 164, § 1A(a). Among other things, the Restructuring Act requires that all restructuring plans contain a detailed accounting of the company's transition costs and a description of the strategy to mitigate those transition costs. Id. One mitigation strategy is the divestiture of a company's generating units. G.L. c. 164, § 1; see also 220 C.M.R.

§§ 11.00 et seq. As of the date of this Order, Massachusetts electric companies have chosen to divest nearly all of their non-nuclear generating facilities. See Cambridge Electric Light Company, Commonwealth Electric Company, and Canal Electric Company, D.T.E. 98-78/83 (1998); New England Power Company, Massachusetts Electric Company, and Nantucket Electric Company, D.P.U./D.T.E. 97-94 (1998). Thus, electric generation, transmission, and distribution services have become separate in order to facilitate a competitive generation market based upon customer choice. Formerly vertically-integrated electric companies are now distribution companies that are required to purchase electricity from separate generating companies, and distribute that electricity to their distribution customers.[3] G.L. c. 164, § 1A. The wholesale electricity products that distribution companies may purchase are now priced competitively in New England's wholesale electricity market. Therefore, in terms of avoided costs for distribution companies, the final regulations establish a distribution company's avoided costs based on the competitive wholesale electricity market price.

The final regulations also delineate the technical and cost obligations that arise when a distribution company is requested to interconnect with a QF or an On-Site Generating Facility ("On-Site Generating Facility"). On-Site Generating Facilities are a class of generating facilities defined in the Restructuring Act as 60 KW or below. G.L. c. 164, § 1G(g)(iii). While such technical and cost obligations have been delineated in the past with respect to QFs, On-Site Generating Facilities have been specifically referenced only since the date of the Restructuring Act. Thus, the technical and cost obligations associated with a request to interconnect On-Site Generating Facilities are delineated for the first time in these final regulations.[4]

B. Revisions to the Proposed QF Regulations

1. Section 8.02 Definitions

Four definitions were revised for clarification based on the comments received. The definition of a "Distribution Company" was revised in response to comments to indicate more clearly that the final regulations apply only to distribution companies subject to the Department's ratemaking authority (PG&E Comments at 3). Under PURPA, a state regulatory body may implement QF regulations only "for each electric utility for which it has ratemaking authority." 16 U.S.C. § 824a-3(f)(1).

"Independent System Operator" was revised to identify New England's Independent System Operator under its corporate name of ISO New England, Inc. (MECo/Nantucket Comments at 3). "Short-Run Rate" was expanded to include the monthly market clearing price for capacity as a QF transaction may involve capacity as well as energy (id.). "Transmission Facility" was broadened to encompass transmission plant and equipment in addition to transmission lines (BECo Comments at 2; WMECo Comments at 2-3).

2. Section 8.03 General Terms and Conditions

a. Section 8.03(1) Power Purchase Contracts

We revised section 8.03(1)(a) to clarify that the final regulations will not apply to any existing QF contract (PG&E Comments at 2-3). Section 8.03(1)(a) now reads "[n]othing in these regulations shall be construed to affect, modify or amend terms and conditions of any existing Qualifying Facility's contract."

In section 8.03(1)(c), the 120-day timeline was changed to 90 days so that the time interval allowed for QF contract negotiations would correspond with the time interval allowed for QF interconnections in section 8.04(6), discussed below (MECo/Nantucket Comments

at 2-3).

b. <u>Section 8.03(2) Other General Terms and Conditions</u>

Several commenters recommended that QFs pay the administrative costs incurred by the distribution company when it purchases or re-sells QF power, and when it transacts with NEPOOL or the ISO-NE regarding its purchase or re-sale of QF power (BECo Comments

at 3; COM/Electric Comments at 3, 5; MECo/Nantucket Comments at 4-5). The Department notes that FERC's QF regulations expressly provide for QF payment of interconnection costs, transmission charges, and line losses. 18 CFR §§ 292.303(d), 292.306. However, FERC's QF regulations do not address QF payment of costs attributable to distribution company administration of QF transactions. Commenters did not explain how recovery of these costs from QFs would: (1) be consistent with PURPA, <u>i.e.</u>, to encourage cogeneration and small power production and; (2) satisfy PURPA's non-discriminatory principles, particularly if newly-created QF's would be subject to such costs while existing QFs would not. <u>See</u>

18 C.F.R. § 292.101(b)(6). Further, no commenter addressed the magnitude of these costs.

The Department notes that under existing ratemaking practice, a distribution company's costs for administering QF transactions have not been separately stated from other administrative and general expenses. That is, such costs have been embedded in a distribution company's base rates, and, consequently, a representative level of such costs have been recovered from all distribution customers. No comment persuaded us to depart from this existing ratemaking practice. Accordingly, the Department declines to adopt this recommendation.

3. <u>Section 8.04 Interconnection, Metering, and Payment</u>

a. <u>Section 8.04(4) - Standards for Interconnection</u>

Commenters recommended adding four items to the five already listed in the Proposed QF Regulations (BECo Comments at 4; WMECo Comments at 5). Specifically, these

additions would require protection in case of: (1) islanding; (2) abnormal current and voltage, including transient current and voltage; (3) frequency and out-of-phase conditions outside permissible limits; and (4) harmonic voltage or flicker outside permissible limits (id.). The Department notes that section 8.04(4)(b) permits distribution companies to propose additional protections subject to a thorough explanation particularly if such protections are applicable to On-Site Generating Facilities. The Department declines to adopt this recommendation because additional protections are included in distribution company filings to the Department pursuant to 220 C.M.R. § 8.04(1). See QF Rulemaking, D.P.U. 84-276-B at 12 (1986).

In section 8.04(4)(a) 4, the Department deleted the phrase "(for synchronous generators only)" so that all interconnected QFs and On-Site Generating Facilities would be required to provide frequency protection.

b. Section 8.04(6) - Conditions for Interconnection

Commenters noted that the time intervals allowed for interconnecting QFs were inconsistent with the time intervals allowed for QF contract negotiations (MECo/Nantucket Comments at 2-3; WMECo Comments at 7). That is, 60 days were typically allowed for QF interconnections while 120 days were allowed for QF contract negotiations. See Proposed QF Regulations, §§ 8.04(6)(a), 8.03(1)(c). The Department notes that a distribution company could be required to interconnect with a QF prior to reaching an agreement to purchase, if such an agreement is reached at all. Accordingly, to establish consistent time intervals with respect to QF interconnections and QF contract negotiations,[(5)] the Department adjusts the interconnection time requirement from 60 days to 90 days in the first sentence of § 8.03(6)(a).[(6)]

The Department notes that, after the 90-day time period has expired, parties are afforded the right to petition the Department if agreement has not been reached in terms of a power purchase contract or an interconnection cost estimate. See 220 C.M.R. §§ 8.03(1)(c), 8.04(3). The Department recognizes that in the case of such an impasse, a postponement may be warranted. Accordingly, the Department adds the sentence, "Additional time may also be granted by the Department if a petition under § 8.03(1)(c) or § 8.04(3) is before the Department" following the second sentence in § 8.04(6)(a).

c. Section 8.04 (8) - Metering

To more clearly delineate the responsibilities associated with metering, the following sentence was added to the introductory paragraph: "The Distribution Company shall furnish, read, and maintain the metering equipment."

One commenter noted that one megawatt ("MW") is the minimum size bid allowed in the NEPOOL/ISO-NE wholesale market (EECo Comments at 1-2). Because QFs with a design capacity of one MW or greater will be compensated using the Short-Run Rate in real time, such QFs must use a meter with equivalent capability.[(7)] See 220 C.M.R. § 8.05(2)(a). Thus, to address this issue, the threshold level for use of bidirectional, interval

recording metering was changed from 60 KW to one MW or greater in section 8.04(8)(a). For clarification, the sentence "The interval recording metering will be controlled, tested, maintained, and read by the Distribution Company" was added to section (a).

Several other adjustments were made to ensure that QF metering requirements would be compatible with QF compensation. Because QFs with a design capacity greater than 60 KW but less than one MW will be compensated using the Short-Run Energy Rate, as averaged for the prior month, such QFs must use a meter capable of recording output (BECo Comments at 8; MECo/Nantucket Comments at 7). See 220 C.M.R. § 8.05(2)(b). Accordingly, section 8.05(2)(b) was revised as follows, "Qualifying Facilities with a design capacity greater than 60 KW but less than 1 MW shall use a metering system that can record sales to the Distribution Company." For the same reason, section (c) was replaced as follows, "Qualifying Facilities with a design capacity of 60 KW or less that do not elect to net meter shall use a metering system that can record sales to the Distribution Company." Because QFs with a design capacity of 60 KW or less and On-Site Generating Facilities may elect to be compensated under the net metering method, section (d) was added as follows, "Qualifying Facilities and On-Site Generating Facilities with a design capacity of 60 KW or less that net meter shall use a standard service meter capable of running backwards." See G.L. c. 164, § 1G(g)(iii).

To ensure that costs related to metering are recovered by distribution companies, section (e) was added as follows, "Where the Qualifying Facility or On-Site Generating Facility chooses to own the meter, the Qualifying Facility or On-Site Generating Facility shall pay to the Distribution Company a monthly charge to cover meter maintenance and incremental reading and billing costs." Similarly, section (f) was added as follows, "Where the Qualifying Facility or On-Site Generating Facility chooses to have the Distribution Company own the meter, the Qualifying Facility or On-Site Generating Facility shall pay to the Distribution Company a monthly charge which covers taxes, meter maintenance, incremental reading and billing costs, the allowable return on the invoice cost of the meter, and the depreciation of the meter" (MECo/Nantucket Comments at 5).

d. Section 8.04 - (9) Payment

For clarification, in the first sentence in section (b) the word "equipment" was inserted following the word "interconnection."

4. Section 8.05 - Terms and Conditions for Sales of Electricity by Qualifying Facilities and On-Site Generating Facilities to Distribution Companies

This section was revised to recognize that: (1) all QFs are eligible to receive Short-Run Rates; (2) the minimum bid size allowed in the NEPOOL/ISO-NE wholesale market is one MW; and (3) QFs with a design capacity of 60 KW or less and On-Site Generating

Facilities are eligible to net meter. In addition, this section was revised to be congruent with revisions to section 8.04 (8), Metering.

The Department notes that the output of QFs with a design capacity of one MW or greater can be bid in the NEPOOL/ISO-NE wholesale market and be compensated by the distribution company at the hourly market clearing price. Accordingly, section 8.05(2)(a) has been rewritten to establish the hourly market clearing price as the method of compensation for this size QF.

While the output of QFs with a design capacity greater than 60 KW and less than one MW cannot be bid in the wholesale market, such facilities are nonetheless eligible to receive Short-Run Rates. Because the output of such facilities cannot be bid in the wholesale market, this output will not need to be recorded on an hourly basis. In lieu of an hour-by-hour compensation method, such facilities will be compensated using the Short-Run Energy Rate averaged for a month. Accordingly, section 8.05(2)(b) was replaced, as follows "Qualifying Facilities with a design capacity greater than 60 KW but less than 1 MW shall have their output metered and purchased at rates equal to the arithmetic average of the Short-Run Energy rate in the prior calendar month for the KWH which the Qualifying Facility generated electricity in excess of its requirements." Because the output of QFs with a design capacity of 60 KW or less cannot be bid in the NEPOOL/ISO-NE wholesale electricity market, section (c) was rewritten to allow such QFs to select the foregoing arithmetic average pricing method.

Sections 8.05(2)(d) and (e) were added because QFs with a design capacity of 60 KW or less and On-Site Generating Facilities are eligible to net meter.[(8)] See 220 C.M.R.

§ 11.04 (7)(c). Sections 8.05(d) and (e) allow such facilities to "receive a credit equal to the arithmetic average of the Short-Run Energy rate in the prior calendar month for any month during which there was a positive net difference between KWH generated and consumed."

One commenter noted that NEPOOL has developed line-loss factors (MECo/Nantucket Comments at 7). Accordingly, section 8.05(6) was modified to simplify line loss filing requirements while ensuring that line loss factors are developed in accordance with NEPOOL Market Rules and Procedures.

5. Section 8.07 - Reporting Requirements

The Department is required to issue a report, by July 1 of each year, concerning annual reductions in the purchases of electricity due to customer operations of, or purchases from, cogeneration systems, fuel cells, renewable energy technologies, and On-Site Generating Facilities. See G.L. c. 164, § 1G(g). Accordingly, the Department adds subsection (2) to

section 8.07 so that the information relevant to such customer activities can be provided to the Department by distribution companies by April 1 of each year.

III. ORDER

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

ORDERED: That, in accordance with Sections 201 and 210 of Title II of the Public Utility Regulatory Policies Act of 1978; G.L. c. 25, § 5; G.L. c 164, § 76C; and 220 C.M.R. §§ 2.00 et seq., the amendments to 220 C.M.R. §§ 8.00 et seq., attached hereto, are hereby ADOPTED; and it is

FURTHER ORDERED: That the Secretary of the Department attest to a true copy of this Order amending 220 C.M.R. §§ 8.00 et seq., and transmit said attested true copy to the Office of the Secretary of State for the Commonwealth for publication in the Massachusetts Register; and it is

FURTHER ORDERED: That the rules and regulations of the Department of Telecommunications and Energy at 220 Code of Massachusetts Regulations are amended as set forth in the following section, and shall take effect upon publication in the Massachusetts Register. By Order of the Department,

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Janet Gail Besser, Chair

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James Connelly, Commissioner

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W. Robert Keating, Commissioner

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Paul B. Vasington, Commissioner

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Eugene J. Sullivan, Jr., Commissioner

1. PURPA was enacted by Congress, in part, in an effort to remove institutional and regulatory barriers faced by developers of cogeneration and small power production facilities. Pursuant to PURPA, electric utilities are required to purchase electricity produced by QFs.

2. Pursuant to PURPA, FERC is authorized to promulgate rules that encourage cogeneration and small power production, including rules that require electric utilities to purchase power from, and sell power to, QFs. 16 U.S.C. § 824a-3(a). The rates associated with such purchases must be: (1) just and reasonable to the electric consumers of the purchasing utility; (2) in the public interest; (3) nondiscriminatory to QFs; and (4) must not exceed the incremental costs of alternative electric energy, i.e., the costs of energy to the utility, which, but for the purchase, the utility would generate itself or purchase from another source. 16 U.S.C. § 824a-3(d); 18 CFR

§ 292.101(b)(6).

3. Distribution companies are required to provide standard offer and default services for those customers who do not purchase electricity from a competitive generation company or supplier. See G.L. c. 164, § 1B. Standard offer service rates are in effect for seven

years, beginning March 1, 1998, and apply to customers who choose not to purchase electricity from a non-affiliated generation company See Id. at

§ 1B(b). Default service rates apply to customers who have chosen electric service from a non-utility generation company or supplier but who, for any reason, have stopped receiving such service, and to all customers at the end of the term of the standard offer service. See Id. at § 1B(d).

4. In this docket, the Department revises its regulations implementing PURPA for consistency with the Restructuring Act. The Department notes that many distribution companies and other entities are involved in a process with the Division of Energy Resources to improve voluntary interconnection standards for photovoltaic generating equipment. It is likely that this process is the first of many efforts in Massachusetts to address issues, such as interconnection, pertaining to the emergence of new technologies. We anticipate that, as electric industry restructuring progresses, many matters may surface related to the emergence of non-traditional generating technologies, such as small-scale generation that interconnects to the distribution system rather than the transmission system. These issues are beyond the scope of this proceeding. As such matters arise, the Department will consider appropriate regulatory action.

5. As noted above, the Department has also amended section 8.03(1)(c) which now allows 90 days, instead of 120 days, for QF's and distribution companies to agree to terms of power purchase contracts. If there is no agreement in 90 days, the QF may petition the Department to investigate the reasonableness of the distribution company's actions.

6. The Department notes that this 90-day interval is also consistent with the interconnection cost estimate time interval. See 220 C.M.R. § 8.04(3).

7. The Short-Run Rate has been defined as the hourly market clearing price for energy and the monthly market clearing price for capacity, as determined by the ISO and its successors. 220 C.M.R. § 8.02.

8. A customer shall not be subject to an exit fee if he reduces purchases through the operation of an on site generation or cogeneration facility of 60 KW or less which is eligible for net metering. G.L. c. 164, § 1G. The Department interpreted this statement to mean that facilities of 60 KW or less shall be eligible for net metering, rather than facilities of 30 KW or less, as previously allowed by 220 C.M.R. § 8.04. Electric Industry Restructuring, D.P.U./D.T.E. 96-100, at 23 (1998).