

December 22, 2022

VIA E-FILING

Mark D. Marini, Secretary
Department of Public Utilities
One South Station, 5th Floor
Boston, MA 02110

Re: D.P.U. 21-81 – Petition of Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid for approval of its Grid Modernization Plan for calendar years 2022 to 2025

Dear Secretary Marini:

On behalf of Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid (“Company”), I am submitting for filing in the captioned docket the Company’s updated revisions to its Residential Advanced Meter Reading Opt-Out Provision, Advanced Metering Infrastructure Provision, and Grid Modernization Factor Provision, as directed by the Department’s November 30, 2022 21-80-B/21-81-B/21-82-B Order On New Technologies and Advanced Metering Infrastructure Proposals, and a Certificate of Service. The only change from the Company’s December 21, 2022 filing of these provisions is a change to the effective date of the provisions, from January 1, 2023 to February 1, 2023.

Thank you for your time and attention to this matter. Please contact me with any questions regarding this filing.

Very truly yours,



Melissa G. Liazos

Enclosure

cc: Kerri DeYoung Phillips and Susan Geiser, Hearing Officers
D.P.U. 21-81 Service List
(all electronic only)

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY

RESIDENTIAL ADVANCED METER READING OPT-OUT PROVISION

Availability

Service under this provision is available to residential customers receiving metered retail delivery service under the Company's Rate R-1, Regular Residential tariff, and Rate R-2, Residential Low-Income tariff.

Description of Services

Unless otherwise determined by the Company, all residential premises shall be equipped with a meter that employs advanced metering technology (either Automatic Meter Reading ("AMR") or Advanced Metering Infrastructure ("AMI") technology) utilizing radio frequency or cellular transmitters to allow the Company to obtain meter readings remotely. However, residential customers may choose to "opt-out" by either notifying the Company of their request to not having an advanced meter installed at their location or having their advanced meter replaced with a non-advanced meter. At the customer's request, the Company shall exchange the existing advanced electric meter at the customer's location and install a non-advanced meter for the purpose of billing electric service to the customer. Upon receipt of the Customer's request, the Company shall use its best efforts to exchange meters as soon as possible after receiving the request. However, the Company reserves the right to flexibility in scheduling the meter exchange in an appropriate manner based on resource availability. Customers who choose to opt-out will be charged an initial fee for the removal of the existing advanced meter and the installation of the non-advanced meter, pursuant to the Schedule of Charges below. Customers who choose to opt-out will also be charged a monthly meter reading fee for the non-advanced meter, pursuant to the Schedule of Charges below. If the Company is unable for any reason to read the meter on the regularly scheduled monthly read date, the Company shall make a reasonable estimate of the consumption of electricity during those months when the meter is not read, based on available data, and such estimated bills shall be payable as rendered. The monthly meter reading fee will be charged on estimated bills. The Company will not assess any fees until after the Company has installed the non-advanced meter.

Any opt-out customer who subsequently wishes to have an AMI meter installed or re-installed will be charged a "re-installation fee" pursuant to the Schedule of Charges below. The re-installation fee will be charged for the removal of the non-advanced meter and the installation of an AMI meter. After an AMI meter has been re-installed, the Company will terminate billing the monthly meter reading fee. When a new customer of record at a service location at which a previous customer of record had opted out of an AMI meter requests the installation of an AMI meter, the new customer of record shall not be assessed the Re-installation of Advanced Meter fee below.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY

RESIDENTIAL ADVANCED METER READING OPT-OUT PROVISION

Schedule of Charges

The Advanced Meter Opt-Out Charges are as follows:

Removal of Advanced Meter/Installation of Non-Advanced Meter	\$26.00
Monthly Meter Reading	\$11.00
Re-installation of Advanced Meter	\$26.00

Terms and Conditions

The Company's Terms and Conditions for Distribution Service in effect from time to time where not inconsistent with any specific provisions hereof, are a part of this tariff.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY

RESIDENTIAL ~~AUTOMATIC~~ADVANCED METER READING OPT-OUT PROVISION

Availability

Service under this provision is available to residential customers receiving metered retail delivery service under the Company's Rate R-1, Regular Residential tariff, and Rate R-2, Residential Low-Income tariff.

Description of Services

Unless otherwise determined by the Company, all residential premises shall be equipped with a meter that employs advanced metering technology (either Automatic Meter Reading ("AMR") or Advanced Metering Infrastructure ("AMI") technology) utilizing radio frequency or cellular transmitters to allow the Company to obtain meter readings remotely. However, residential customers may choose to "opt-out" by either notifying the Company of their request to not having an advanced meter installed at their location or having their ~~AMR~~advanced meter replaced with a non-~~AMR~~advanced meter. At the customer's request, the Company shall exchange the existing ~~AMR~~advanced electric meter at the customer's location and install a non-~~AMR~~advanced meter for the purpose of billing electric service to the customer. Upon receipt of the Customer's request, the Company shall use its best efforts to exchange meters as soon as possible after receiving the request. However, the Company reserves the right to flexibility in scheduling the meter exchange in an appropriate manner based on resource availability. Customers who choose to opt-out will be charged an initial fee for the removal of the existing ~~AMR~~advanced meter and the installation of the non-~~AMR~~advanced meter, pursuant to the Schedule of Charges below. Customers who choose to opt-out will also be charged a monthly meter reading fee for the non-~~AMR~~advanced meter, pursuant to the Schedule of Charges below. ~~The Company, at its option, may choose to read the non-AMRmeter less frequently than once-per-month. In that case, or if~~ the Company is unable for any reason to read the meter on the regularly scheduled monthly read date, the Company shall make a reasonable estimate of the consumption of electricity during those months when the meter is not read, based on available data, and such estimated bills shall be payable as rendered. The monthly meter reading fee will be charged on estimated bills. The Company will not assess any fees until after the Company has installed the non-~~AMR~~advanced meter.

Any opt-out customer who subsequently wishes to have an ~~AMR~~AMI meter installed or re-installed will be charged a "re-installation fee" pursuant to the Schedule of Charges below. The re-installation fee will be charged for the removal of the non-~~AMR~~advanced meter and the installation of an ~~AMR~~AMI meter. After an ~~AMR~~AMI meter has been re-installed, the Company will terminate billing the monthly meter reading fee. When a new customer of record at a service location at which a previous customer of record had opted out of an AMI meter requests the installation of an AMI meter, the new customer of record shall not be assessed the Re-installation of Advanced Meter fee below.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY

RESIDENTIAL ~~AUTOMATIC~~ADVANCED METER READING OPT-OUT PROVISION

Schedule of Charges

The AMR Advanced Meter Opt-Out Charges are as follows:

Removal of <u>AMR Advanced</u> Meter/Installation of Non- <u>AMR Advanced</u> Meter	\$26.00
Monthly Meter Reading	\$11.00
Re-installation of <u>AMR Advanced</u> Meter	\$26.00

Terms and Conditions

The Company's Terms and Conditions for Distribution Service in effect from time to time where not inconsistent with any specific provisions hereof, are a part of this tariff.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

1.0 APPLICABILITY

This Advanced Metering Infrastructure (“AMI”) tariff provides for the recovery of incremental costs associated with the Company’s implementation and deployment of AMI as approved by the Department of Public Utilities (the “Department”). Recovery of Eligible AMI Investment is limited to investments made over a five-year term during calendar years 2023 through 2027.

The Company’s rates for retail Delivery Service are subject to adjustment to reflect the operation of this AMI tariff. The AMI Factor (“AMIF”), as defined herein, shall be applied to all retail delivery service kilowatt-hours (“kWhs”) as determined in accordance with the provisions of Section 3.0 below. The AMIF shall be determined annually by the Company, subject to the Department’s review and approval. The operation of this AMI tariff is subject to Chapter 164 of the General Laws.

2.0 DEFINITIONS

- 2.1 Accumulated Deferred Income Taxes (ADIT) means the accumulated deferred income taxes associated with the Company’s cumulative Eligible AMI Investments as of the end of the respective AMI Investment Year. For the year in which the Eligible AMI Investment was placed into service, the accumulative deferred income taxes will be determined on a monthly basis. The accumulated deferred income taxes for subsequent years shall be calculated based upon the average the beginning and ending calendar year balances.
- 2.2 Accumulated Reserve for Depreciation (ARD) means the Accumulated Reserve for Depreciation, including net salvage, associated with Company’s cumulative Eligible AMI Investments as of the end of the respective AMI Investment Year. For the year in which the Eligible AMI Investment was placed into service, the Accumulated Reserve for Depreciation will be determined on a monthly basis. The Accumulated Reserve for Depreciation for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.
- 2.3 Allowable AMI Recovery is the AMI Revenue Requirement defined below in Section 2.8. Allowable AMI Recovery can be an amount to be recovered from or credited to customers.
- 2.4 Allowed O&M Expense (O&M) is the incremental O&M expense that is incurred by the Company in association with the implementation and deployment of AMI, as approved by the Department, and is solely attributable to preauthorized preliminarily approved AMI investments, the cost of which is not being recovered in base distribution rates or through another cost recovery mechanism. Eligible O&M costs are the actual monthly AMI-related O&M expenses incurred in the AMI Investment Year prior to the Recovery Year. Allowed O&M Expense is subject to the requirements of Section 4.0 and will

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

exclude pension and post-retirement benefits other than pension costs recovered through any other reconciling mechanism. AMI-related cost savings realized in the deployment of AMI will be used to offset eligible O&M costs.

- 2.5 AMIF is the Automated Metering Infrastructure Factor that recovers or credits the annual Allowable AMI Recovery beginning May 1 of each Recovery Year.
- 2.6 AMI Investment Year is the annual period beginning on January 1 and ending on December 31.
- 2.7 AMI Reconciliation is the difference between each year's Allowable AMI Recovery to be recovered or credited through the AMIF as approved by the Department and the billed revenue from the AMIF associated with the recovery or credit of the Allowable AMI Recovery. The AMI Reconciliation shall include interest on any balance, accrued at the same rate as that paid on customer deposits.
- 2.8 AMI Revenue Requirement is the revenue requirement associated with the Company's AMI-related plant-in-service for each AMI Investment Year prior to the Recovery Year, including cost of removal less actual external funding received by the Company through the applicable AMI Investment Year, plus Allowable O&M Expense. For the year in which an Eligible AMI Investment is recorded as in-service, the AMI Revenue Requirement will be calculated on a monthly basis. The AMI Revenue Requirement for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances. The AMI Revenue Requirement will be calculated to recover (1) the monthly revenue requirement for Eligible AMI Investments recorded as in-service in the AMI Investment Year immediately prior to the Recovery Year; (2) the average annual revenue requirement for the calendar year ending December 31 of the AMI Investment Year two years prior to the Recovery Year, for cumulative Eligible AMI Investments placed into service in the AMI Investment Years two years prior to the Recovery Year; (3) the annual revenue requirement for the Recovery Year on Eligible AMI Investments recorded as in-service in the AMI Investment Year immediately prior to the Recovery Year; and (4) Allowed O&M Expense.
- 2.9 AMI Role is an advanced metering infrastructure position created for the specific purpose of implementing Eligible AMI Investment and Allowed O&M Expenses.
- 2.10 Company is Massachusetts Electric Company and Nantucket Electric Company, as applicable.
- 2.11 Depreciation Expense (DEPR) is the annual depreciation expense associated with the Company's average annual cumulative Eligible AMI Investments placed into service through the end of the calendar year prior to the Recovery Year. For the year during which the Eligible AMI Investment is placed into service, the Company shall calculate depreciation expense for use in the AMI Revenue Requirement by (1) dividing the annual

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

depreciation accrual rates determined in the Company's most recent base distribution rate case by 12, and (2) applying the resulting rate to the average monthly plant balances during the year. Depreciation expense for subsequent years may be calculated based on the average of the beginning and end of year plant balances.

- 2.12 Eligible AMI Investments are the cumulative capitalized costs of AMI implementation investments recorded as in-service, including net salvage, and are used and useful at the end of the AMI Investment Year that is prior to the Recovery Year and: (1) are preauthorized or approved by the Department as eligible for accelerated cost recovery, subject to Department review and approval; (2) contribute towards achieving the Department's grid modernization objectives; (3) are incremental relative to the Company's current investment practices or new types of technology for capital investments; (4) are incremental to those costs that the Company currently recovers through its base distribution rates for O&M expenses and solely attributable to preauthorized or approved AMI-related grid modernization investments; (5) are prudently incurred; (6) have aggregate total expenditures for preauthorized or approved AMI investments less than the relevant budget caps determined by the Department; and (7) are recorded as in-service by December 31 of each AMI Investment Year.
- 2.13 Gross Plant Investments are the capitalized costs of Eligible AMI Investments recorded on the Company's books for Eligible AMI Investments. Actual capitalized cost of Eligible AMI Investments shall include applicable overhead and burden costs subject to the test provided in Section 5.0.
- 2.14 Pre-Tax Rate of Return (PTRR) shall be the after-tax weighted average cost of capital established by the Department in the Company's most recent base distribution rate case, adjusted to a pre-tax basis by using currently effective federal and state income tax rates applicable to the period for which the AMI Revenue Requirement is calculated.
- 2.15 Property Tax Expense (PTE) means the property taxes calculated based on net Eligible AMI Investments multiplied by the Property Tax Rate. Property taxes will be excluded in the AMI Revenue Requirement in the first Recovery Year following the AMI Investment Year in which the eligible taxable plant went into service. Property taxes will be included in the AMI Revenue Requirement beginning in the second Recovery Year at 50% of the annual property tax amount. In subsequent years, the AMI Revenue Requirement will reflect a full year of property taxes.
- 2.16 Property Tax Rate is the Company's composite property tax rate determined in the Company's most recent base distribution rate case, calculated as the ratio of total annual property taxes paid to total taxable net plant in service.
- 2.17 Rate Base (RB) is the investment value upon which the Company is permitted to earn its authorized rate of return.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

- 2.18 Recovery Period is the 12-month period during which the AMIF is in effect beginning on May 1 and ending April 30 of each year.
- 2.19 Recovery Year is the calendar year in which the AMIF becomes effective.

3.0 AUTOMATED METERING INFRASTRUCTURE FACTOR (“AMIF”)

3.1 Rate Formula

$$AMIF_c = \frac{(AMI-ALLOW + PPRA) \times DRA_c}{FkWh_c}$$

Where:

- c Designates a separate factor for the following rate classes: R-1/R-2, G-1, G-2, G-3, and Streetlighting.
- AMIF_c The Automated Metering Infrastructure Factor, by rate class, as defined in Section 2.5.
- AMI-ALLOW The Allowable AMI Recovery as defined in Section 2.3.
- PPRA The AMI Reconciliation Amount as defined in Section 2.7. Interest calculated on the average monthly balance using the customer deposit rate, as outlined in 220 CMR 26.09, shall also be included in the PPRA.
- DRA_c The Distribution Revenue Allocator representing the percentage of final revenue requirement allocated to each rate class as determined in the Company’s most recent general rate case as follows:

Rate R-1/R-2	57.7%
Rate G-1	12.9%
Rate G-2	11.9%
Rate G-3	16.9%
Streetlighting	0.6%

- FkWh_c The forecasted kWh to be delivered to the Company’s retail delivery service customers.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

3.2 Request for AMIFs

The Company shall submit annually to the Department its proposed AMIFs by March 15 to become effective for usage on and after May 1.

3.3 Application of AMIFs on Customer Bills

For billing purposes, the AMIF will be included with the distribution kWh charge on customers' bills.

4.0 ELIGIBILITY FOR RECOVERY AS ALLOWED O&M EXPENSE

To be eligible for inclusion in Allowed O&M Expense and recoverable through the AMIF tariff, the Company shall demonstrate that all O&M expenses incurred as a result of AMI activities and proposed for recovery through the AMIF are:

- (1) O&M expenses required for AMI implementation; and
- (2) directly related to preauthorized and preliminarily approved AMI activities.

4.1 Internal Labor

Internal labor expense eligible for recovery as Allowed O&M Expense shall consist of:

- (i) the cost of non-employee individuals hired into AMI Roles created after November 30, 2022;
- (ii) the cost of non-employee individuals hired into AMI Roles created on or before November 30, 2022, provided that the Company can demonstrate that the associated costs are not already recovered through any other rate;
- (iii) the cost of employees who have transferred to an AMI Role and who were hired after the most recent test year provided that the internal transfer was originally hired into a new position whose labor expense is not reflected in base distribution rates; and
- (iv) the cost of employees who have transferred to an AMI Role and who were employees prior to the end of the test year used to establish current base distribution rates, provided the requirements set forth in Section 4.1.2 have been met. The Company shall separately account for the cost of employees hired into AMI Roles, and maintain documentation regarding the dates of hire, names of employees, detailed job descriptions and responsibilities, titles, salaries, and specific activities performed by each AMI Role in each applicable AMI Investment Year.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

4.1.1 New Hires

Non-employee individuals hired into AMI Roles and thereby becoming employees of the Company were not employees whose cost was included in the test year in the Company's most recent base distribution rate case; therefore, the cost of these employees is not recovered in base distribution rates approved in that base distribution rate case.

The Company may, at the time of the filing of a base distribution rate case, propose to recover certain ongoing administrative costs, such as the cost of incremental employees, through base distribution rates. If the Company, in the context of a future rate proceeding, opts not to incorporate such costs in base distribution rates, the Company would be required to demonstrate that such costs were not included for recovery in base distribution rates and adjust the test year accordingly to exclude the costs.

4.1.2 Internal Transfers

Annually, as a component of the annual AMI cost recovery filing described in Section 6.0, the Company shall perform a test to determine whether existing employees transferred into AMI Roles are incremental employees and their costs are not otherwise recovered through any other rate.

If the incremental role is filled by an internal transfer employed by the Company who was an employee as of the end of the test year for the most recent base distribution rate case, the employee will only be considered as incremental when a new employee is hired to backfill the transferred employee's prior position.

If the transferred employee's prior position was backfilled by a new employee making at least the same gross salary (or more) as the transferred employee was making in their former role, then the labor and labor-related costs associated with the transferred employee that are charged to the program as expense would be deemed recoverable.

If the Company backfills the transferred employee's prior position but does so at a total compensation, representing salary and labor-related overheads, less than the gross salary of the employee reflected in base distribution rates who was transferred to the program, the Company will deduct the difference in compensation from the amount recoverable through the AMIF.

If the Company does not backfill the transferred employee's prior position, the employee's labor expense will be eligible for recovery through the AMIF when the Company credits the AMIF for the associated labor expense already reflected in base distribution rates. The Company will not refund the expense reflected in base distribution

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

rates during the first year of recovery of the transferred employee's cost through the AMIF. If a backfill has not occurred by the start of the second year of recovery of the transferred employee's expenses through the AMIF, the Company shall credit, with interest at the customer deposit rate, the associated labor expense reflected in base distribution rates, adjusted for any applicable rate adjustments approved by the Department.

5.0 OVERHEAD AND BURDEN ADJUSTMENTS

For purposes of AMIF calculations, the actual overhead and burdens shall be reduced to the extent that actual O&M overhead and burdens in a given year are less than the amount included in base distribution rates as determined in the Company's most recent base distribution rate case. Such reduction shall be the difference between the actual O&M overhead and burdens and the amount included in base distribution rates.

In addition, the percentage of capitalized overhead and burdens assigned to AMIF projects shall be set equal to the ratio of AMIF to non-AMIF direct costs in any given year.

6.0 FILING WITH THE DEPARTMENT

The annual AMI cost recovery filing shall be submitted to the Department by March 15 and include, but not be limited to:

- (1) full project documentation of all Eligible AMI Investments, inclusive of capital investments recorded as in-service by the Company or its affiliate during the Prior AMI Investment Year and Allowed O&M Expense, with narrative providing justification that the costs meet the cost recovery eligibility requirements outlined in this tariff;
- (2) supporting documentation demonstrating that costs sought for recovery for categories of Eligible AMI Investments preauthorized by the Department are incremental, prudently incurred, and, where applicable, used and useful;
- (3) supporting documentation demonstrating that the costs sought for recovery for categories of Eligible AMI Investments preliminarily approved but not preauthorized by the Department are incremental, prudently incurred, and, where applicable, in service, and used and useful;
- (4) any cost variances in relation to the budget estimates for that investment year and as defined in the Company's capital authorization policies;
- (5) a demonstration that the proposed factors are calculated appropriately;
- (6) AMIF-specific bill impacts;

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION

- (7) consolidated bill impacts for the Company's Grid Modernization Factors and AMIFs effective on the same date;
- (8) a demonstration that Eligible AMI Investments preliminarily approved but not preauthorized are attributable to AMI implementation and incremental to business-as-usual investments;
- (9) a demonstration that the aggregate totals of expenditures for (i) preauthorized, and (ii) preliminarily approved, Eligible AMI Investments is under the relevant budget cap set by the Department;
- (10) details on alternative government funding obtained for the investments and the associated offset for such funding; and
- (11) The AMI Reconciliation.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE [PROVISION TARIFF](#)

1.0 APPLICABILITY

This Advanced Metering Infrastructure (“AMI”) tariff provides for the recovery of incremental costs associated with the Company’s implementation and deployment of AMI as approved by the Department of Public Utilities (the “Department”). [Recovery of Eligible AMI Investment is limited to investments made over a five-year term during calendar years 2023 through 2027.](#)

The Company’s rates for retail Delivery Service are subject to adjustment to reflect the operation of this AMI tariff. The AMI Factor (“AMIF”), as defined herein, shall be applied to all retail delivery service kilowatt-hours (“kWhs”) as determined in accordance with the provisions of Section 3.0 below. The AMIF shall be determined annually by the Company, subject to the Department’s review and approval. The operation of this AMI tariff is subject to Chapter 164 of the General Laws.

2.0 DEFINITIONS

2.1 [Accumulated Deferred Income Taxes \(ADIT\)](#) means the accumulated deferred income taxes associated with the Company’s cumulative Eligible [AMI](#) Investments as of the end of the respective AMI Investment Year. For the year in which the Eligible [AMI](#) Investment was placed into service, the accumulative deferred income taxes will be determined on a monthly basis. The accumulated deferred income taxes for subsequent years shall be calculated based upon the average the beginning and ending calendar year balances.

2.2 [Accumulated Reserve for Depreciation \(ARD\)](#) means the Accumulated Reserve for Depreciation, including net salvage, associated with Company’s cumulative Eligible [AMI](#) Investments as of the end of the respective AMI Investment Year. For the year in which the Eligible [AMI](#) Investment was placed into service, the Accumulated Reserve for Depreciation will be determined on a monthly basis. The Accumulated Reserve for Depreciation for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.

2.3 [Allowable AMI Recovery](#) is the AMI Revenue Requirement defined below in Section 2.87. Allowable AMI Recovery can be an amount to be recovered from or credited to customers.

~~2.32.4~~ [Allowed O&M Expense \(O&M\)](#) is the incremental O&M expense that is incurred by the Company in association with the implementation and deployment of AMI, as approved by the Department, and is solely attributable to preauthorized preliminarily approved AMI investments, the cost of which is not being recovered in base distribution rates or through another cost recovery mechanism. Eligible O&M costs are the actual monthly AMI-related O&M expenses incurred in the AMI Investment Year prior to the Recovery Year. Allowed O&M Expense is subject to the requirements of Section 4.0 and will

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION TARIFF

exclude pension and post-retirement benefits other than pension costs recovered through any other reconciling mechanism. AMI-related cost savings realized in the deployment of AMI will be used to offset eligible O&M costs.

2.42.5 AMIF is the Automated Metering Infrastructure Factor that recovers or credits the annual Allowable AMI Recovery beginning May 1 of each Recovery Year.

2.52.6 AMI Investment Year is the annual period beginning on January 1 and ending on December 31.

2.62.7 AMI Reconciliation is the difference between each year's Allowable AMI Recovery to be recovered or credited through the AMIF as approved by the Department and the billed revenue from the AMIF associated with the recovery or credit of the Allowable AMI Recovery. The AMI Reconciliation shall include interest on any balance, accrued at the same rate as that paid on customer deposits.

2.8 AMI Revenue Requirement is the revenue requirement associated with the Company's AMI-related plant-in-service for each AMI Investment Year prior to the Recovery Year, including cost of removal less actual external funding received by the Company through the applicable AMI Investment Year, plus Recoverable Allowable O&M Expense. For the year in which an Eligible AMI Investment is recorded as in-service, the AMI Revenue Requirement will be calculated on a monthly basis. The AMI Revenue Requirement for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances. The AMI Revenue Requirement will be calculated to recover (1) the monthly revenue requirement for Eligible AMI Investments recorded as in-service in the AMI Investment Year immediately prior to the Recovery Year; (2) the average annual revenue requirement for the calendar year ending December 31 of the AMI Investment Year two years prior to the Recovery Year, for cumulative Eligible AMI Investments placed into service in the AMI Investment Years two years prior to the Recovery Year; (3) the annual revenue requirement for the Recovery Year on Eligible AMI Investments recorded as in-service in the AMI Investment Year immediately prior to the Recovery Year; and (4) Recoverable Allowed O&M Expense.

2.72.9 AMI Role is an advanced metering infrastructure position created for the specific purpose of implementing Eligible AMI Investment and Allowed O&M Expenses.

2.82.10 Company is ~~insert company name~~ Massachusetts Electric Company and Nantucket Electric Company, as applicable.

2.92.11 Depreciation Expense (DEPR) is the annual depreciation expense associated with the Company's average annual cumulative Eligible AMI Investments placed into service through the end of the calendar year prior to the Recovery Year. For the year during which the Eligible AMI Investment is placed into service, the Company shall calculate depreciation expense for use in the AMI Revenue Requirement by (1) dividing the annual

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION TARIFF

depreciation accrual rates determined in the Company's most recent base distribution rate case by 12, and (2) applying the resulting rate to the average monthly plant balances during the year. Depreciation expense for subsequent years may be calculated based on the average of the beginning and end of year plant balances.

2.102.12 Eligible AMI Investments are the cumulative capitalized costs of AMI implementation investments directly attributable to implementation of AMI recorded as in-service, including net salvage, and are used and useful at the end of the AMI Investment Year that is prior to the Recovery Year and: (1) are preauthorized or approved by the Department as eligible for accelerated cost recovery, subject to Department review and approval; (2) contribute towards achieving the Department's grid modernization objectives; (3) are incremental relative to the Company's current investment practices or new types of technology for capital investments; (4) are incremental to those costs that the Company currently recovers through its base distribution rates for O&M expenses and solely attributable to preauthorized or approved AMI-related grid modernization investments; (5) are prudently incurred; (6) have aggregate total expenditures for preauthorized or approved AMI investments less than the relevant budget caps determined by the Department; and (7) are recorded as in-service by December 31 of each AMI Investment Year.

2.112.13 Gross Plant Investments are the capitalized costs of Eligible AMI Investments recorded on the Company's books for Eligible AMI Investments. Actual capitalized cost of Eligible AMI Investments shall include applicable overhead and burden costs subject to the test provided in Section 45.0.

2.122.14 Pre-Tax Rate of Return (PTRR) shall be the after-tax weighted average cost of capital established by the Department in the Company's most recent base distribution rate case, adjusted to a pre-tax basis by using currently effective federal and state income tax rates applicable to the period for which the AMI Revenue Requirement is calculated.

2.132.15 Property Tax Expense (PTE) means the property taxes calculated based on net Eligible AMI Investments multiplied by the Property Tax Rate. Property taxes will be excluded in the AMI Revenue Requirement in the first Recovery Year following the AMI Investment Year in which the eligible taxable plant went into service. Property taxes will be included in the AMI Revenue Requirement beginning in the second Recovery Year at 50% of the annual property tax amount. In subsequent years, the AMI Revenue Requirement will reflect a full year of property taxes.

2.142.16 Property Tax Rate is the Company's composite property tax rate determined in the Company's most recent base distribution rate case, calculated as the ratio of total annual property taxes paid to total taxable net plant in service.

2.152.17 Rate Base (RB) is the investment value upon which the Company is permitted to earn its authorized rate of return.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISIONTARIFF

~~2.16 Recoverable O&M Expense (O&M) is the incremental non-recurring O&M expense that is incurred by the Company as a result of implementing AMI, incurred directly by the Company or charged to the Company by its service company, including the amortization of capitalized information systems costs billed to the Company by its affiliate and recorded by the Company as expense, the cost of which is not being recovered through another cost recovery mechanism. Recoverable O&M Expense is the actual monthly AMI-related O&M expenses incurred in the AMI Investment Year prior to the Recovery Year. Recoverable O&M Expense will exclude pension and post-retirement benefits other than pension costs recovered through other reconciling mechanisms.~~

~~2.17~~.18 Recovery Period is the 12-month period during which the AMIF is in effect beginning on May 1 and ending April 30 of each year.

~~2.18~~.19 Recovery Year is the calendar year in which the AMIF becomes effective.

3.0 AUTOMATED METERING INFRASTRUCTURE FACTOR (“AMIF”)

3.1 Rate Formula

$$AMIF_c = \frac{(AMI-ALLOW + PPRA) \times DRA_c}{FkWh_c}$$

Where:

- c Designates a separate factor for the following rate classes: ~~{list rate classes}~~ R-1/R-2, G-1, G-2, G-3, and Streetlighting.
- AMIF_c The Automated Metering Infrastructure Factor, by rate class, as defined in Section 2.~~5~~4.
- AMI-ALLOW The Allowable AMI Recovery as defined in Section 2.3.
- PPRA The AMI Reconciliation Amount as defined in Section 2.~~7~~6. Interest calculated on the average monthly balance using the customer deposit rate, as outlined in 220 CMR 26.09, shall also be included in the PPRA.
- DRA_c The Distribution Revenue Allocator representing the percentage of final revenue requirement allocated to each rate class as determined in the Company’s most recent general rate case as follows:

{list of rate classes and allocation percentages}	
<u>Rate R-1/R-2</u>	<u>57.7%</u>
<u>Rate G-1</u>	<u>12.9%</u>

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE [PROVISIONTARIFF](#)

Rate G-2	11.9%
Rate G-3	16.9%
Streetlighting	0.6%

FkWh_c The forecasted kWh to be delivered to the Company's retail delivery service customers.

3.2 [Request for AMIFs](#)

The Company shall submit annually to the Department its proposed AMIFs by [March 15](#) to become effective for usage on and after [May 1](#).

3.3 [Application of AMIFs on Customer Bills](#)

For billing purposes, the AMIF will be included with the distribution kWh charge on customers' bills.

[4.0 ELIGIBILITY FOR RECOVERY AS ALLOWED O&M EXPENSE](#)

[To be eligible for inclusion in Allowed O&M Expense and recoverable through the AMIF tariff, the Company shall demonstrate that all O&M expenses incurred as a result of AMI activities and proposed for recovery through the AMIF are:](#)

- [\(1\) O&M expenses required for AMI implementation; and](#)
- [\(2\) directly related to preauthorized and preliminarily approved AMI activities.](#)

4.1 [Internal Labor](#)

[Internal labor expense eligible for recovery as Allowed O&M Expense shall consist of:](#)

- [\(i\) the cost of non-employee individuals hired into AMI Roles created after November 30, 2022;](#)
- [\(ii\) the cost of non-employee individuals hired into AMI Roles created on or before November 30, 2022, provided that the Company can demonstrate that the associated costs are not already recovered through any other rate;](#)
- [\(iii\) the cost of employees who have transferred to an AMI Role and who were hired after the most recent test year provided that the internal transfer was originally hired into a new position whose labor expense is not reflected in base distribution rates; and](#)

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISIONTARIFF

(iv) the cost of employees who have transferred to an AMI Role and who were employees prior to the end of the test year used to establish current base distribution rates, provided the requirements set forth in Section 4.1.2 have been met. The Company shall separately account for the cost of employees hired into AMI Roles, and maintain documentation regarding the dates of hire, names of employees, detailed job descriptions and responsibilities, titles, salaries, and specific activities performed by each AMI Role in each applicable AMI Investment Year.

4.1.1 New Hires

Non-employee individuals hired into AMI Roles and thereby becoming employees of the Company were not employees whose cost was included in the test year in the Company's most recent base distribution rate case; therefore, the cost of these employees is not recovered in base distribution rates approved in that base distribution rate case.

The Company may, at the time of the filing of a base distribution rate case, propose to recover certain ongoing administrative costs, such as the cost of incremental employees, through base distribution rates. If the Company, in the context of a future rate proceeding, opts not to incorporate such costs in base distribution rates, the Company would be required to demonstrate that such costs were not included for recovery in base distribution rates and adjust the test year accordingly to exclude the costs.

4.1.2 Internal Transfers

Annually, as a component of the annual AMI cost recovery filing described in Section 6.0, the Company shall perform a test to determine whether existing employees transferred into AMI Roles are incremental employees and their costs are not otherwise recovered through any other rate.

If the incremental role is filled by an internal transfer employed by the Company who was an employee as of the end of the test year for the most recent base distribution rate case, the employee will only be considered as incremental when a new employee is hired to backfill the transferred employee's prior position.

If the transferred employee's prior position was backfilled by a new employee making at least the same gross salary (or more) as the transferred employee was making in their former role, then the labor and labor-related costs associated with the transferred employee that are charged to the program as expense would be deemed recoverable.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION TARIFF

If the Company backfills the transferred employee's prior position but does so at a total compensation, representing salary and labor-related overheads, less than the gross salary of the employee reflected in base distribution rates who was transferred to the program, the Company will deduct the difference in compensation from the amount recoverable through the AMIF.

If the Company does not backfill the transferred employee's prior position, the employee's labor expense will be eligible for recovery through the AMIF when the Company credits the AMIF for the associated labor expense already reflected in base distribution rates. The Company will not refund the expense reflected in base distribution rates during the first year of recovery of the transferred employee's cost through the AMIF. If a backfill has not occurred by the start of the second year of recovery of the transferred employee's expenses through the AMIF, the Company shall credit, with interest at the customer deposit rate, the associated labor expense reflected in base distribution rates, adjusted for any applicable rate adjustments approved by the Department.

4.05.0 OVERHEAD AND BURDEN ADJUSTMENTS

For purposes of AMIF calculations, the actual overhead and burdens shall be reduced to the extent that actual O&M overhead and burdens in a given year are less than the amount included in base distribution rates as determined in the Company's most recent base distribution rate case. Such reduction shall be the difference between the actual O&M overhead and burdens and the amount included in base distribution rates.

In addition, the percentage of capitalized overhead and burdens assigned to AMIF projects shall be set equal to the ratio of AMIF to non-AMIF direct costs in any given year.

5.06.0 FILING WITH THE DEPARTMENT

5.1 Annual AMI Cost Recovery Filing

The annual AMI cost recovery filing shall be submitted to the Department by March 15 and include, but not be limited to:

- (1) full Pproject documentation of all Eligible AMI Investments, inclusive of capital investments recorded as in-service by the Company {for its affiliate} during the Prior AMI Investment Year and Allowed O&M Expense, with narrative providing justification that the costs meet the cost recovery eligibility requirements outlined in this tariff;

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
ADVANCED METERING INFRASTRUCTURE PROVISION TARIFF

- ~~(2)~~ Documentation supporting documentation demonstrating that costs sought for recovery for categories of Eligible AMI Investments preauthorized by the Department are incremental, prudently incurred, and, where applicable, used and useful;
- ~~(3)~~ supporting documentation demonstrating that the costs sought for recovery for categories of Eligible AMI Investments preliminarily approved but not preauthorized by the Department are incremental, prudently incurred, and, where applicable, in service, and used and useful;
- ~~(4)~~ any cost variances in relation to the budget estimates for that investment year and as defined in the Company's capital authorization policies;
- ~~(5)~~ a demonstration that the proposed factors are calculated appropriately;
- ~~(6)~~ AMIF-specific bill impacts;
- ~~(7)~~ consolidated bill impacts for the Company's Grid Modernization Factors and AMIFs effective on the same date;
- ~~(8)~~ a demonstration that Eligible AMI Investments preliminarily approved but not preauthorized are attributable to AMI implementation and incremental to business-as-usual investments;
- ~~(9)~~ a demonstration that the aggregate totals of expenditures for (i) preauthorized, and (ii) preliminarily approved, Eligible AMI Investments is under the relevant budget cap set by the Department;
- ~~(2)~~~~(10)~~ details on alternative government funding obtained for the investments and the associated offset for such funding; and
- ~~(3)~~~~(11)~~ The AMI Reconciliation; and
Bill impacts.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

1.0 APPLICABILITY

This Grid Modernization Factor (“GMF”) tariff provides for the recovery of incremental costs associated with the Company’s Grid Modernization Plan (“GMP”) approved by the Department of Public Utilities (the “Department”). To be eligible for recovery, GMP costs must: (1) be preauthorized by the Department; (2) be incremental relative to the Company’s current investment practices or new types of technology for capital investments; (3) be incremental to those costs that the Company currently recovers through its base distribution rates for operation and maintenance (“O&M”) expenses and solely attributable to preauthorized grid modernization investments; (4) be prudently incurred; (5) have aggregate total expenditures for preauthorized Eligible GMP Projects less than the four-year expenditure cap determined by the Department; and (6) be recorded as in-service by December 31 of each GMP Investment Year.

The Company’s rates for retail Delivery Service are subject to adjustment to reflect the operation of this GMF tariff. The Grid Modernization Factor (“GMF”), as defined herein, shall be applied to all retail delivery service kilowatt-hours (“kWhs”) as determined in accordance with the provisions of Section 3.0 below. The GMF shall be determined annually by the Company, subject to the Department’s review and approval. The operation of this GMF tariff is subject to Chapter 164 of the General Laws.

2.0 DEFINITIONS

- 2.1 Accumulated Deferred Income Taxes (ADIT) means the accumulated deferred income taxes associated with cumulative Eligible GMP Investments as of the end of the respective GMP Investment Year. For the year in which the Eligible GMP Investment was placed into service, the accumulative deferred income taxes will be determined on a monthly basis. The accumulated deferred income taxes for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.
- 2.2 Accumulated Reserve for Depreciation (ARD) means the Accumulated Reserve for Depreciation, including net salvage, associated with cumulative Eligible GMP Investments as of the end of the respective GMP Investment Year. For the year in which the Eligible GMP Investment was placed into service, the Accumulated Reserve for Depreciation will be determined on a monthly basis. The Accumulated Reserve for Depreciation for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.
- 2.3 Allowed O&M Expense (O&M) is the incremental O&M expense that is incurred by the Company as a result of implementing its GMP and is solely attributable to preauthorized grid modernization investments, including incremental GMP development and evaluation costs, the cost of which is not being recovered in base distribution rates or through another cost recovery mechanism. Eligible O&M costs are the actual monthly GMP-

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

related O&M expenses incurred in the GMP Investment Year prior to the Recovery Year. Allowed O&M Expense is subject to the requirements of Section 4.0 and will exclude pension and post-retirement benefits other than pension costs recovered through any other reconciling mechanism.

- 2.4 Depreciation Expense (DEPR) is the annual depreciation expense associated with the average annual cumulative Eligible GMP Investments placed into service through the end of the calendar year prior to the Recovery Year. For the year during which the Eligible GMP Investment is placed into service, the Company shall calculate depreciation expense for use in the GMP Revenue Requirement by (1) dividing the annual depreciation accrual rates determined in the Company's most recent base distribution rate case by 12, and (2) applying the resulting rate to the average monthly plant balances during the year. Depreciation expense for subsequent years may be calculated based on the average of the beginning and end of year plant balances.
- 2.5 Eligible GMP Investments are the cumulative capitalized costs of Eligible GMP Projects recorded as in-service, including net salvage, and are used and useful at the end of the GMP Investment Year that is prior to the GMP Recovery Year.
- 2.6 Eligible GMP Project is a project contained in the Company's GMP and preauthorized by the Department to be eligible for cost recovery as a project which contributes towards achieving the Department's grid modernization objectives to: (1) optimize system performance by attaining optimal levels of grid visibility, command and control, and self-healing; (2) optimize system demand by facilitating consumer price-responsiveness; and (3) interconnect and integrate distributed energy resources.
- 2.7 GMF is the Grid Modernization Factor that recovers the annual GMP Revenue Requirement approved by the Department.
- 2.8 GMP is the Company's five-year Grid Modernization Plan which includes a four-year short-term investment plan consisting of Eligible GMP Projects, plus a five-year strategic plan outlining how the Company intends to meet the Department's grid modernization objectives.
- 2.9 GMP Investment Year is the annual period beginning on January 1 and ending on December 31.
- 2.10 Recovery Year is the 12-month period for which the GMF is in effect beginning on May 1 and ending on April 30 of each year.
- 2.11 GMP Revenue Requirement is the revenue requirement associated with GMP plant-in-service for each GMP Investment Year prior to the Recovery Year less actual external funding received by the Company through the applicable GMP Investment Year, plus Allowed O&M Expense. For the year in which an Eligible GMP Investment is placed into service, the GMP Revenue Requirement will be calculated on a monthly basis. The

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

GMP Revenue Requirement for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances. The GMP Revenue Requirement will be calculated to recover (1) the monthly revenue requirement for Eligible GMP Investments placed into service in the GMP Investment Year immediately prior to the Recovery Year; (2) the average annual revenue requirement for the calendar year ending December 31 of the GMP Investment Year immediately prior to the Recovery Year, for cumulative Eligible GMP Investments placed into service in GMP Investment Years two years prior to the Recovery Year; and (3) Allowed O&M Expense.

- 2.12 Grid Mod Role is a grid modernization position created for the specific purpose of implementing the Company's GMP.
- 2.13 Gross Plant Investments are the capitalized costs of Eligible GMP Investments recorded on the Company's books for Eligible GMP Investments. Actual capitalized cost of Eligible GMP Investments shall include applicable overhead and burden costs subject to the test provided in Section 5.0.
- 2.14 Pre-Tax Rate of Return (PTRR) shall be the after-tax weighted average cost of capital established by the Department in the Company's most recent base distribution rate case, adjusted to a pre-tax basis by using currently effective federal and state income tax rates applicable to the period for which the GMP Revenue Requirement is calculated.
- 2.15 Property Tax Expense (PTE) means the property taxes calculated based on Eligible net GMP Investments multiplied by the Property Tax Rate. Property taxes will be excluded in the GMP Revenue Requirement in the first Recovery Year following the GMP Investment Year in which the eligible taxable plant went into service. Property taxes will be included in the GMP Revenue Requirement beginning in the second Recovery Year at 50% of the annual property tax amount. In subsequent years, the GMP Revenue Requirement will reflect a full year of property taxes.
- 2.16 Property Tax Rate is the Company's composite property tax rate determined in the Company's most recent base distribution rate case, calculated as the ratio of total annual property taxes paid to total taxable net plant in service.
- 2.17 Rate Base (RB) is the investment value upon which the Company is permitted to earn its authorized rate of return.

3.0 GRID MODERNIZATION FACTOR ("GMF")

3.1 Rate Formula

$$GMF_c = \frac{(GMR + PPRA) \times DRA_c}{FkWh_c}$$

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

Where:

c Designates a separate factor for the following rate classes: R-1/R-2, G-1, G-2, G-3, and Streetlighting.

GMF_c The Grid Modernization Factor, by rate class, as defined in Section 2.7.

GMR The GMP Revenue Requirement as defined in Section 2.11.

PPRA The Past Period Reconciliation Amount defined as the difference between (a) the amount authorized to be recovered through the prior year's GMFs as approved by the Department and (b) the actual revenue billed through the applicable GMFs. Interest calculated on the average monthly balance using the customer deposit rate, as outlined in 220 CMR 26.09, shall also be included in the PPRA.

DRA_c The Distribution Revenue Allocator representing the percentage of final revenue requirement allocated to each rate class as determined in the Company's most recent general rate case as follows:

Rate R-1/R-2	57.7%
Rate G-1	12.9%
Rate G-2	11.9%
Rate G-3	16.9%
Streetlighting	0.6%

FkWh_c The forecasted kWh to be delivered to the Company's retail delivery service customers.

3.2 Request for GMFs

The Company shall submit annually to the Department its proposed GMFs by March 15 to become effective for usage on and after May 1.

3.3 Application of GMFs on Customer Bills

For billing purposes, the GMF will be included with the distribution kWh charge on customers' bills.

4.0 **ELIGIBILITY FOR RECOVERY AS ALLOWED O&M EXPENSE**

To be eligible for inclusion in Allowed O&M Expense as an incremental expense and recoverable through the GMF tariff, the Company shall demonstrate that all O&M expenses incurred as a result of grid modernization activities and proposed for recovery through the GMF are:

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

- (1) incremental to the representative level of O&M expenses recovered through all other rates billed by the Company to its customers; and
- (2) directly related to preauthorized grid modernization activities.

4.1 Internal Labor

Internal labor expense eligible for recovery as Allowed O&M Expense shall consist of:

- (i) the cost of non-employee individuals hired into Grid Mod Roles created after May 10, 2018;
- (ii) the cost of non-employee individuals hired into Grid Mod Roles created on or before May 10, 2018, provided that the Company can demonstrate that the associated costs are not already recovered through any other rate;
- (iii) the cost of employees who have transferred to a Grid Mod Role and who were hired after the most recent test year provided that the internal transfer was originally hired into a new position whose labor expense is not reflected in base distribution rates; and
- (iv) the cost of employees who have transferred to a Grid Mod Role and who were employees prior to the end of the test year used to establish current base distribution rates, provided the requirements set forth in Section 4.1.2 have been met. The Company shall separately account for the cost of employees hired into Grid Mod Roles, and maintain documentation regarding the dates of hire, names of employees, detailed job descriptions and responsibilities, titles, salaries, and specific activities performed by each Grid Mod Role in each applicable GMP Investment Year.

4.1.1 New Hires

Non-employee individuals hired into Grid Mod Roles and thereby becoming employees of the Company were not employees whose cost was included in the test year in the Company's most recent general rate case; therefore, the cost of these employees is not recovered in base distribution rates approved in that general rate case.

The Company may, at the time of the filing of a general rate case, propose to recover certain ongoing administrative costs, such as the cost of incremental employees, through base distribution rates. If the Company, in the context of a future rate proceeding, opts not to incorporate such costs in base distribution rates, the Company would be required to demonstrate that such costs were not included for recovery in base distribution rates and adjust the test year accordingly to exclude the costs.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

4.1.2 Internal Transfers

Annually, as a component of the Annual GMP Cost Recovery Filing described in Section 6.2, the Company shall perform a test to determine whether existing employees transferred into Grid Mod Roles are incremental employees and their costs are not otherwise recovered through any other rate.

If the incremental role is filled by an internal transfer employed by the Company who was an employee as of the end of the test year for the most recent base-rate proceeding, the employee will only be considered as incremental when a new employee is hired to backfill the transferred employee's prior position.

If the transferred employee's prior position was backfilled by a new employee making at least the same gross salary (or more) as the transferred employee was making in their former role, then the labor and labor-related costs associated with the transferred employee that are charged to the program as expense would be deemed recoverable.

If the Company backfills the transferred employee's prior position but does so at a total compensation, representing salary and labor-related overheads, less than the gross salary of the employee reflected in base distribution rates who was transferred to the program, the Company will deduct the difference in compensation from the amount recoverable through the GMF.

If the Company does not backfill the transferred employee's prior position, the employee's labor expense will be eligible for recovery through the GMF when the Company credits the GMF for the associated labor expense already reflected in base distribution rates. The Company will not refund the expense reflected in base distribution rates during the first year of recovery of the transferred employee's cost through the GMF. If a backfill has not occurred by the start of the second year of recovery of the transferred employee's expenses through the GMF, the Company shall credit, with interest at the customer deposit rate, the associated labor expense reflected in base distribution rates, adjusted for any applicable rate adjustments approved by the Department.

5.0 OVERHEAD AND BURDEN ADJUSTMENTS

For purposes of GMF calculations, the actual overhead and burdens shall be reduced to the extent that actual O&M overhead and burdens in a given year are less than the amount included in base distribution rates as determined in the Company's most recent base distribution rate case. Such reduction shall be the difference between the actual O&M overhead and burdens and the amount included in base distribution rates.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

In addition, the percentage of capitalized overhead and burdens assigned to GMF projects shall be set equal to the ratio of GMF to non-GMF direct costs in any given year.

6.0 FILINGS WITH THE DEPARTMENT

6.1 GMP Term Filing.

The Department preauthorized the Company's first three-year short term investment plan Eligible GMP Projects and spending cap in D.P.U. 15-120 (2018), establishing three years of GMP spending for the GMP Investment Years 2018 through 2020 (first authorization term). The Department extended the first authorization term by one year, establishing four years of GMP spending for the GMP Investment Years 2018 through 2021 in D.P.U. 15-120-D (2020). In D.P.U. 20-69-A (2021), the Department established that by July 1, 2021, the Company shall submit its next GMP term filing that shall include a second four-year short term investment plan for GMP Investment Years 2022 through 2025 (second authorization term). The operation of this GMF tariff is applicable to Eligible GMP Investment and Allowed O&M Expense associated with the first two GMP terms (2018 through 2021, and 2022 through 2025).

6.2 Annual GMP Cost Recovery Filing.

The annual GMP cost recovery filing shall be submitted to the Department by March 15 and include, but not be limited to:

- (1) Full project documentation of all Eligible GMP Projects' capital investment recorded as in-service during the Prior GMP Investment Year and documentation of Allowed O&M Expense, with narrative providing justification that the costs meet the cost recovery eligibility requirements in Section 1.0;
- (2) Supporting documentation demonstrating that the costs sought for recovery are preauthorized, incremental, prudently incurred, in service, and used and useful (where applicable);
- (3) Any cost variances as defined in the Company's capital authorization policies;
- (4) A demonstration that the proposed factors are calculated appropriately;
- (5) Bill impacts; and
- (6) Demonstration that aggregate total of expenditures for preauthorized Eligible GMP Projects is under the four-year expenditure cap determined by the Department. This information shall also be included in the Term Report indicated below.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

6.3 Grid Modernization Annual Report.

The Grid Modernization Annual Report shall be submitted to the Department by April 1 following the completion of the GMP Investment Year.

6.4 Grid Modernization Term Report.

The Grid Modernization Term Report shall be submitted to the Department by April 1 following the completion of the four-year short term investment plan.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

1.0 APPLICABILITY

This Grid Modernization Factor (“GMF”) tariff provides for the recovery of incremental costs associated with the Company’s Grid Modernization Plan (“GMP”) approved by the Department of Public Utilities (the “Department”). To be eligible for recovery, GMP costs must: (1) be preauthorized by the Department; (2) be incremental relative to the Company’s current investment practices or new types of technology for capital investments; (3) be incremental to those costs that the Company currently recovers through its base distribution rates for operation and maintenance (“O&M”) expenses and solely attributable to preauthorized grid modernization investments; (4) be prudently incurred; (5) have aggregate total expenditures for preauthorized Eligible GMP Projects less than the four-year expenditure cap determined by the Department; and (6) be recorded as in-service by December 31 of each GMP Investment Year.

The Company’s rates for retail Delivery Service are subject to adjustment to reflect the operation of this GMF tariff. The Grid Modernization Factor (“GMF”), as defined herein, shall be applied to all retail delivery service kilowatt-hours (“kWhs”) as determined in accordance with the provisions of Section 3.0 below. The GMF shall be determined annually by the Company, subject to the Department’s review and approval. The operation of this GMF tariff is subject to Chapter 164 of the General Laws.

2.0 DEFINITIONS

- 2.1 Accumulated Deferred Income Taxes (ADIT) means the accumulated deferred income taxes associated with cumulative Eligible GMP Investments as of the end of the respective GMP Investment Year. For the year in which the Eligible GMP Investment was placed into service, the accumulative deferred income taxes will be determined on a monthly basis. The accumulated deferred income taxes for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.
- 2.2 Accumulated Reserve for Depreciation (ARD) means the Accumulated Reserve for Depreciation, including net salvage, associated with cumulative Eligible GMP Investments as of the end of the respective GMP Investment Year. For the year in which the Eligible GMP Investment was placed into service, the Accumulated Reserve for Depreciation will be determined on a monthly basis. The Accumulated Reserve for Depreciation for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances.
- 2.3 Allowed O&M Expense (O&M) is the incremental O&M expense that is incurred by the Company as a result of implementing its GMP and is solely attributable to preauthorized grid modernization investments, including incremental GMP development and evaluation costs, the cost of which is not being recovered in base distribution rates or through another cost recovery mechanism. Eligible O&M costs are the actual monthly GMP-

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

related O&M expenses incurred in the GMP Investment Year prior to the Recovery Year. Allowed O&M Expense is subject to the requirements of Section 4.0 and will exclude pension and post-retirement benefits other than pension costs recovered through any other reconciling mechanism.

- 2.4 Depreciation Expense (DEPR) is the annual depreciation expense associated with the average annual cumulative Eligible GMP Investments placed into service through the end of the calendar year prior to the Recovery Year. For the year during which the Eligible GMP Investment is placed into service, the Company shall calculate depreciation expense for use in the GMP Revenue Requirement by (1) dividing the annual depreciation accrual rates determined in the Company's most recent base distribution rate case by 12, and (2) applying the resulting rate to the average monthly plant balances during the year. Depreciation expense for subsequent years may be calculated based on the average of the beginning and end of year plant balances.
- 2.5 Eligible GMP Investments are the cumulative capitalized costs of Eligible GMP Projects recorded as in-service, including net salvage, and are used and useful at the end of the GMP Investment Year that is prior to the GMP Recovery Year.
- 2.6 Eligible GMP Project is a project contained in the Company's GMP and preauthorized by the Department to be eligible for cost recovery as a project which contributes towards achieving the Department's grid modernization objectives to: (1) optimize system performance by attaining optimal levels of grid visibility, command and control, and self-healing; (2) optimize system demand by facilitating consumer price-responsiveness; and (3) interconnect and integrate distributed energy resources.
- 2.7 GMF is the Grid Modernization Factor that recovers the annual GMP Revenue Requirement approved by the Department.
- 2.8 GMP is the Company's five-year Grid Modernization Plan which includes a four-year short-term investment plan consisting of Eligible GMP Projects, plus a five-year strategic plan outlining how the Company intends to meet the Department's grid modernization objectives.
- 2.9 GMP Investment Year is the annual period beginning on January 1 and ending on December 31.
- 2.10 Recovery Year is the 12-month period for which the GMF is in effect beginning on May 1 and ending on April 30 of each year.
- 2.11 GMP Revenue Requirement is the revenue requirement associated with GMP plant-in-service for each GMP Investment Year prior to the Recovery Year less actual external funding received by the Company through the applicable GMP Investment Year, plus Allowed O&M Expense. For the year in which an Eligible GMP Investment is placed into service, the GMP Revenue Requirement will be calculated on a monthly basis. The

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

GMP Revenue Requirement for subsequent years shall be calculated based upon the average of the beginning and ending calendar year balances. The GMP Revenue Requirement will be calculated to recover (1) the monthly revenue requirement for Eligible GMP Investments placed into service in the GMP Investment Year immediately prior to the Recovery Year; (2) the average annual revenue requirement for the calendar year ending December 31 of the GMP Investment Year immediately prior to the Recovery Year, for cumulative Eligible GMP Investments placed into service in GMP Investment Years two years prior to the Recovery Year; and (3) Allowed O&M Expense.

- 2.12 Grid Mod Role is a grid modernization position created for the specific purpose of implementing the Company's GMP.
- 2.13 Gross Plant Investments are the capitalized costs of Eligible GMP Investments recorded on the Company's books for Eligible GMP Investments. Actual capitalized cost of Eligible GMP Investments shall include applicable overhead and burden costs subject to the test provided in Section 5.0.
- 2.14 Pre-Tax Rate of Return (PTRR) shall be the after-tax weighted average cost of capital established by the Department in the Company's most recent base distribution rate case, adjusted to a pre-tax basis by using currently effective federal and state income tax rates applicable to the period for which the GMP Revenue Requirement is calculated.
- 2.15 Property Tax Expense (PTE) means the property taxes calculated based on Eligible net GMP Investments multiplied by the Property Tax Rate. Property taxes will be excluded in the GMP Revenue Requirement in the first Recovery Year following the GMP Investment Year in which the eligible taxable plant went into service. Property taxes will be included in the GMP Revenue Requirement beginning in the second Recovery Year at 50% of the annual property tax amount. In subsequent years, the GMP Revenue Requirement will reflect a full year of property taxes.
- 2.16 Property Tax Rate is the Company's composite property tax rate determined in the Company's most recent base distribution rate case, calculated as the ratio of total annual property taxes paid to total taxable net plant in service.
- 2.17 Rate Base (RB) is the investment value upon which the Company is permitted to earn its authorized rate of return.

3.0 GRID MODERNIZATION FACTOR ("GMF")

3.1 Rate Formula

$$GMF_c = \frac{(GMR + PPRA) \times DRA_c}{FkW_h_c}$$

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

Where:

c Designates a separate factor for the following rate classes: R-1/R-2, G-1, G-2, G-3, and Streetlighting.

GMF_c The Grid Modernization Factor, by rate class, as defined in Section 2.7.

GMR The GMP Revenue Requirement as defined in Section 2.11.

PPRA The Past Period Reconciliation Amount defined as the difference between (a) the amount authorized to be recovered through the prior year’s GMFs as approved by the Department and (b) the actual revenue billed through the applicable GMFs. Interest calculated on the average monthly balance using the customer deposit rate, as outlined in 220 CMR 26.09, shall also be included in the PPRA.

DRA_c The Distribution Revenue Allocator representing the percentage of final revenue requirement allocated to each rate class as determined in the Company’s most recent general rate case as follows:

Rate R-1/R-2	57.7%
Rate G-1	12.9%
Rate G-2	11.9%
Rate G-3	16.9%
Streetlighting	0.6%

FkWh_c The forecasted kWh to be delivered to the Company’s retail delivery service customers.

3.2 Request for GMFs

The Company shall submit annually to the Department its proposed GMFs by March 15 to become effective for usage on and after May 1.

3.3 Application of GMFs on Customer Bills

For billing purposes, the GMF will be included with the distribution kWh charge on customers’ bills.

4.0 ELIGIBILITY FOR RECOVERY AS ALLOWED O&M EXPENSE

To be eligible for inclusion in Allowed O&M Expense as an incremental expense and recoverable through the GMF tariff, the Company shall demonstrate that all O&M expenses incurred as a result of grid modernization activities and proposed for recovery through the GMF are:

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

- (1) incremental to the representative level of O&M expenses recovered through all other rates billed by the Company to its customers; and
- (2) directly related to preauthorized grid modernization activities.

4.1 Internal Labor

Internal labor expense eligible for recovery as Allowed O&M Expense shall consist of:

- (i) the cost of non-employee individuals hired into Grid Mod Roles created after May 10, 2018;
- (ii) the cost of non-employee individuals hired into Grid Mod Roles created on or before May 10, 2018, provided that the Company can demonstrate that the associated costs are not already recovered through any other rate;
- (iii) the cost of employees who have transferred to a Grid Mod Role and who were hired after the most recent test year provided that the internal transfer was originally hired into a new position whose labor expense is not reflected in base distribution rates; and
- (iv) the cost of employees who have transferred to a Grid Mod Role and who were employees prior to the end of the test year used to establish current base distribution rates, provided the requirements set forth in Section 4.1.2 have been met. The Company shall separately account for the cost of employees hired into Grid Mod Roles, and maintain documentation regarding the dates of hire, names of employees, detailed job descriptions and responsibilities, titles, salaries, and specific activities performed by each Grid Mod Role in each applicable GMP Investment Year.

4.1.1 New Hires

Non-employee individuals hired into Grid Mod Roles and thereby becoming employees of the Company were not employees whose cost was included in the test year in the Company's most recent general rate case; therefore, the cost of these employees is not recovered in base distribution rates approved in that general rate case.

The Company may, at the time of the filing of a general rate case, propose to recover certain ongoing administrative costs, such as the cost of incremental employees, through base distribution rates. If the Company, in the context of a future rate proceeding, opts not to incorporate such costs in base distribution rates, the Company would be required to demonstrate that such costs were not included for recovery in base distribution rates and adjust the test year accordingly to exclude the costs.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

4.1.2 Internal Transfers

Annually, as a component of the Annual GMP Cost Recovery Filing described in Section 6.2, the Company shall perform a test to determine whether existing employees transferred into Grid Mod Roles are incremental employees and their costs are not otherwise recovered through any other rate.

If the incremental role is filled by an internal transfer employed by the Company who was an employee as of the end of the test year for the most recent base-rate proceeding, the employee will only be considered as incremental when a new employee is hired to backfill the transferred employee's prior position.

If the transferred employee's prior position was backfilled by a new employee making at least the same gross salary (or more) as the transferred employee was making in their former role, then the labor and labor-related costs associated with the transferred employee that are charged to the program as expense would be deemed recoverable.

If the Company backfills the transferred employee's prior position but does so at a total compensation, representing salary and labor-related overheads, less than the gross salary of the employee reflected in base distribution rates who was transferred to the program, the Company will deduct the difference in compensation from the amount recoverable through the GMF.

If the Company does not backfill the transferred employee's prior position, the employee's labor expense will be eligible for recovery through the GMF when the Company credits the GMF for the associated labor expense already reflected in base distribution rates. The Company will not refund the expense reflected in base distribution rates during the first year of recovery of the transferred employee's cost through the GMF. If a backfill has not occurred by the start of the second year of recovery of the transferred employee's expenses through the GMF, the Company shall credit, with interest at the customer deposit rate, the associated labor expense reflected in base distribution rates, adjusted for any applicable rate adjustments approved by the Department.

5.0 OVERHEAD AND BURDEN ADJUSTMENTS

For purposes of GMF calculations, the actual overhead and burdens shall be reduced to the extent that actual O&M overhead and burdens in a given year are less than the amount included in base distribution rates as determined in the Company's most recent base distribution rate case. Such reduction shall be the difference between the actual O&M overhead and burdens and the amount included in base distribution rates.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

In addition, the percentage of capitalized overhead and burdens assigned to GMF projects shall be set equal to the ratio of GMF to non-GMF direct costs in any given year.

6.0 FILINGS WITH THE DEPARTMENT

6.1 GMP Term Filing.

The Department preauthorized the Company's first three-year short term investment plan Eligible GMP Projects and spending cap in D.P.U. 15-120 (2018), establishing three years of GMP spending for the GMP Investment Years 2018 through 2020 (first authorization term). The Department extended the first authorization term by one year, establishing four years of GMP spending for the GMP Investment Years 2018 through 2021 in D.P.U. 15-120-D (2020). In D.P.U. 20-69-A (2021), the Department established that by July 1, 2021, the Company shall submit its next GMP term filing that shall include a second four-year short term investment plan for GMP Investment Years 2022 through 2025 (second authorization term). The operation of this GMF tariff is applicable to Eligible GMP Investment and Allowed O&M Expense associated with the first two GMP terms (2018 through 2021, and 2022 through 2025).

6.2 Annual GMP Cost Recovery Filing.

The annual GMP cost recovery filing shall be submitted to the Department by March 15 and include, but not be limited to:

- (1) Full project documentation of all Eligible GMP Projects' capital investment recorded as in-service during the Prior GMP Investment Year and documentation of Allowed O&M Expense, with narrative providing justification that the costs meet the cost recovery eligibility requirements in Section 1.0;
- (2) Supporting documentation demonstrating that the costs sought for recovery are preauthorized, incremental, prudently incurred, in service, and used and useful (where applicable);
- (3) Any cost variances as defined in the Company's capital authorization policies;
- (4) A demonstration that the proposed factors are calculated appropriately;
- (5) Bill impacts; and
- (6) Demonstration that aggregate total of expenditures for preauthorized Eligible GMP Projects is under the four-year expenditure cap determined by the Department. This information shall also be included in the Term Report indicated below.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY
GRID MODERNIZATION FACTOR

6.3 Grid Modernization Annual Report.

The Grid Modernization Annual Report shall be submitted to the Department by April 1 following the completion of the GMP Investment Year.

6.4 Grid Modernization Term Report.

The Grid Modernization Term Report shall be submitted to the Department by April 1 following the completion of the four-year short term investment plan.

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC UTILITIES

_____)
Petition of Massachusetts Electric Company)
and Nantucket Electric Company each d/b/a)
National Grid for approval of its Grid) D.P.U. 21-81
Modernization Plan for calendar years 2022)
to 2025)
_____)

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused to be served the foregoing documents in the above-referenced docket upon all parties of record in this proceeding electronically, in accordance with the requirements of 220 C.M.R. 1.05 (Department’s Rules of Practice and Procedure) and the Department’s March 12, 2020 Letter on Temporary Changes to Filing Requirements.

MASSACHUSETTS ELECTRIC COMPANY
NANTUCKET ELECTRIC COMPANY each
d/b/a NATIONAL GRID



Melissa G. Liazos
Assistant General Counsel
National Grid USA Service Company, Inc.
170 Data Drive
Waltham, MA 02451
(781) 906-8662
melissa.liazos@nationalgrid.com

Date: December 22, 2022