Filed Date: 10/29/2021



Patrick J. Tarmey Senior Counsel

October 29, 2021

Honorable Kimberly D. Bose Secretary Federal Energy Regulatory Commission 888 First Street, N.E. Washington, D.C. 20426

Re: New England Power Company, Updates to Depreciation Rates Under Appendix D to Attachment F of the ISO-NE OATT, Docket No. ER21- -000

New England Power Company, Amendment to Attachment 4 of Service Agreement No. TSA-NEP-22, Docket No. ER21-\_\_\_-000

**Request for Approval of Updated Depreciation Rates** 

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act ("FPA"), and Part 35 of the Federal Energy Regulatory Commission's ("FERC" or "Commission") regulations, hereby submits for approval updates to the depreciation rates set forth in its wholesale Regional Network Service ("RNS") and Local Network Service ("LNS") rate formulas under Appendix D to Attachment F of the ISO New England Inc. ("ISO-NE") Open Access Transmission Tariff ("ISO-NE OATT"). Additionally, NEP submits for approval an amendment to its Generation in Support of Transmission ("GISOT") rate formula under Attachment 4 of the Local Service Agreement among NEP, Massachusetts Electric Company ("MECO"), and Nantucket Electric Company ("Nantucket"), designated as Service Agreement No. TSA-NEP-22 under Schedule 21-NEP, to include stated depreciation rates relevant to the facilities included in the formula.

<sup>2</sup> 18 C.F.R. Part 35 (2020).

<sup>&</sup>lt;sup>1</sup> 16 U.S.C. § 824d.

NEP proposes the changes to Appendix D to Attachment F of the ISO-NE OATT in accordance with NEP's rights under Section 3.04(a)(i) of the Transmission Operating Agreement ("TOA") among ISO-NE and the New England Participating Transmission Owners ("PTOs") to submit filings under Section 205 to revise an individual PTO's revenue requirements.

ISO-NE submits the updates to NEP's depreciation rates under Appendix D to Attachment F of the ISO-NE OATT on behalf of NEP because ISO-NE holds the administrative rights to submit filings through eTariff pertaining to the ISO-NE OATT. NEP is directly filing the eTariff submission to amend Attachment 4 of Service Agreement No. TSA-NEP-22 to include the relevant stated depreciation rates and understands that this submission will be assigned a separate docket number. Although these eTariff filings will result in two Commission dockets, the same transmittal letter, testimony, and attachments support both sets of changes.

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The proposed updates to NEP's depreciation rates are justified in order to allow NEP to recover in a timely manner the costs of NEP's investments in transmission infrastructure needed to provide reliable service to customers in New England. The proposed updates to NEP's depreciation rates also will allow NEP to recover costs of removal (less any salvage value) that are not being recovered under NEP's current depreciation rates.

NEP submits these depreciation rate updates as a single-issue filing pursuant to Section 205 of the FPA. The Commission has found that such single-issue Section 205 filings are appropriate for updating depreciation rates.<sup>5</sup> As such, and to the extent necessary, NEP requests waiver of the full requirements of Section 35.13 of the Commission's regulations.<sup>6</sup> As further detailed below, NEP respectfully requests an effective date of January 1, 2022 for the updated depreciation accrual rates and proposed tariff changes.

#### I. BACKGROUND

NEP is a public utility subject to the Commission's jurisdiction that owns and operates transmission facilities located in New England. NEP's primary business is the transmission of electricity at wholesale to electric utilities and municipalities in New England. NEP is a PTO under the terms of the TOA by and among the New England PTOs and ISO-NE. NEP has made transmission facilities it operates, including those owned by its New England distribution affiliates, subject to the operating authority of ISO-NE under the terms of the TOA and available for open access transmission service under the terms of the ISO-NE OATT set forth in Section II of ISO-NE's Transmission, Markets and Services Tariff. NEP offers certain local transmission services in accordance with Schedule 21-NEP to the ISO-NE OATT.

NEP, MECO, and Nantucket are all corporate affiliates and wholly owned subsidiaries of National Grid USA ("National Grid"). MECO and Nantucket provide electric distribution service in the Commonwealth of Massachusetts.

ISO-NE provides regional transmission service in accordance with the ISO-NE OATT over high-voltage network facilities owned by NEP and other New England PTOs that meet the ISO-NE OATT definition of Pool Transmission Facilities ("PTF"). The service provided over these facilities is referred to as Regional Network Service ("RNS"). The formula rate for RNS service ("RNS Rate") recovers the aggregate revenue requirement for certain PTF facilities owned by PTOs in New England, including NEP. The RNS Rate is determined annually in accordance with a FERC-approved formula included in Attachment F of the ISO-NE OATT. Under Schedule 21-NEP of the ISO-NE OATT, NEP provides transmission service over its lower voltage facilities that do not meet the definition of PTF ("Non-PTF"). The service provided by PTOs over Non-PTF is referred to as Local Network Service ("LNS").

See, e.g., Ameren Illinois Co., 141 FERC  $\P$  61,264, at P 32 (2012); DATC Midwest Holdings, LLC, 139 FERC  $\P$  61,224, at P 98 (2012); Midwest Independent Transmission System Operator, Inc., 138 FERC  $\P$  61,234, at P 19 (2012).

<sup>&</sup>lt;sup>6</sup> 18 C.F.R. § 35.13.

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Pursuant to Attachment RR of Schedule 21-NEP currently in effect, NEP calculates its total transmission revenue requirement for PTF and Non-PTF facilities and credits the RNS revenues remitted by ISO-NE for RNS Rates against the total revenue requirement to determine the net amount to be collected through NEP's local rates. Through the end of 2021, LNS rates are calculated and charged monthly to local network load customers on a load ratio share basis. Effective January 1, 2022, pursuant to the terms of the total comprehensive settlement filed with the Commission on June 15, 2020, and accepted by the Commission in Docket No. ER20-2054 (the "Settlement Filing"),<sup>7</sup> the RNS and LNS revenue requirement will be calculated in accordance with the formula rate template included in Attachment F of the ISO-NE OATT.

Depreciation expense is among the inputs to NEP's RNS and LNS rate formulas under Appendix D to Attachment F of the ISO-NE OATT. NEP last filed revisions to its depreciation rates in 1994, which were approved by the Commission in Docket No. ER95-267. Several years ago, NEP conducted a depreciation study based on several developments which indicated that the previously accepted depreciation rates had become inadequate. At that time, there was evidence that the estimated average service life of NEP assets had changed significantly since depreciation rates were last set. In addition, the previously accepted depreciation rates were not sufficiently recovering NEP's costs of removal. NEP's cost of removal reserves are currently in a debit position. In the aggregate, for NEP's depreciation groups, cost of removal reserves have been depleted since 2016, and NEP has been covering the shortfall in cost of removal since that time.

The Settlement Agreement approved by the Commission in 2020 was negotiated over a number of years. As of 2018, NEP agreed with the Settling Parties as part of those settlement negotiations that any changes to its depreciation rates would be subject to a moratorium and could not be modified prior to January 1, 2021. In other words, as part of that settlement, NEP agreed to a delay in updates to its depreciation rates.

As explained below, NEP has prepared an updated depreciation study in support of the instant filing. Based on the results of the current study, higher depreciation rates are warranted due to the current age, estimated average service life, and resulting average remaining life of NEP's assets. NEP's depreciation reserves are currently insufficient to support the cost of removal of assets used in the provision of transmission service. Establishing appropriate rates without delay will enable the continued provision of service and ensure that depreciation expense is equitably assigned as between current and future customers. Consistent with the results of the depreciation study submitted with

The Settlement Filing resolved all issues in Docket No. EL16-19. The tariff revisions in the Settlement Filing were assigned to Docket No. ER20-2054 to comply with eTariff requirements. The settlement was approved by the Commission in a letter order issued on December 28, 2020. 173 FERC ¶ 61,270 (2020).

<sup>&</sup>lt;sup>8</sup> See New England Power Co., 70 FERC ¶ 61,152 (1995).

See Section 18 of the Settlement Agreement in Docket No. ER20-2054 and the moratorium provisions in Attachment F to the ISO-NE OATT as revised by the Settlement Filing. Under the "moratorium exceptions" provisions of Attachment F, a "Filing by New England Power Company to make changes in depreciation rates" may be submitted to become effective no earlier than January 1, 2021.

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this filing, NEP proposes changes to the NEP depreciation rates set forth in Appendix D to Attachment F of the ISO-NE OATT.<sup>10</sup>

NEP's depreciation rates apply to an additional formula rate in addition to the RNS and LNS formula rates. The predecessor to Schedule 21-NEP to the ISO-NE OATT was NEP's Tariff No. 9, a separate open access transmission tariff (FERC Electric Tariff, Second Revised Volume No. 9). In 1998, the Commission accepted amendments to a service agreement under NEP Tariff No. 9 which provided for NEP to recover from MECO the costs of certain production facilities on Nantucket Island needed to support reliable local transmission service in Massachusetts. When NEP Tariff No. 9 was converted to Schedule 21-NEP in the ISO-NE OATT, the relevant "generation in support of transmission" provisions from that service agreement were carried over into a local service agreement under Schedule 21-NEP, Service Agreement No. TSA-NEP-22. Those GISOT provisions allow for NEP recovery of the costs of production facilities that support reliable transmission service to MECO. NEP's depreciation rates are applied to the GISOT rates in Attachment 4 of TSA-NEP-22. Attachment 4 did not previously include stated depreciation rates. NEP is adding stated depreciation rates to Attachment 4 in the instant filing.

#### II. REVISIONS TO THE DEPRECIATION RATES

As further detailed in the testimony of Earl M. Robinson (Exhibit No. NEP-1) and the Depreciation Study he prepared (Exhibit No. NEP-3), updates to NEP's depreciation rates are justified. The application of the present rates to the depreciable plant in service as of December 31, 2020 results in an annual depreciation expense of \$74,873,674. The application of the proposed depreciation rates to the depreciable plant in service as of December 31, 2020 results in an annual depreciation expense of \$112,872,245—an annual increase of \$37,998,571 from current rates. The composite annual depreciation rate under current rates is 2.37 percent and the proposed composite depreciation rate is 3.57 percent. As the Commission has recognized, such a change in depreciation rates "affects the timing of recovery of the costs and does not change the overall amount of recovery" and "does not change the value of the underlying asset, and would not result in any over- or underrecovery of costs." 14

The stated depreciation rates in Attachment D are not subject to challenge under the formula rate protocols accepted by the Commission in the Settlement Filing. The information exchange process under those protocols does allow for information requests related to the recording and accounting of costs pursuant to Commission accounting practices and procedures. That process will facilitate transparency on NEP costs of removal as recorded in applicable FERC accounts.

See February 24, 1998, filing in Docket No. ER98-1988. The amended service agreements were accepted in New England Power Co., Docket No. ER98-1988 (Apr. 20, 1998) (unpublished letter order).

TSA-NEP-22 was included in NEP's Electric Quarterly Reports.

This is consistent with the Commission's policies on stated depreciation rates in formula rates. *See, e.g., ISO New England Inc. Participating Transmission Owners Admin. Comm.*, 153 FERC ¶ 61,343, at P 8 n.19 (2015).

<sup>&</sup>lt;sup>14</sup> *Ameren Illinois*, 141 FERC ¶ 61,264, at P 32.

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The following summary, provided for illustrative purposes only, compares the present and proposed composite depreciation rates.<sup>15</sup>

#### **Present Depreciation Rates**

Depreciable Plant In Service at December 31, 2020	\$3,164,444,135			
Annual Depreciation Expense	\$74,873,674			
Composite Annual Depreciation Rate	2.37%			
<b>Proposed Depreciation Rates</b>				
Depreciable Plant In Service at December 31, 2020	\$3,164,444,135			
Annual Depreciation Expense	\$112,872,245			
Composite Annual Depreciation Rate	3.57%			

#### III. METHODOLOGY OF THE DEPRECIATION STUDY

The methodology utilized in the Depreciation Study is described in detail in Mr. Robinson's testimony (Exhibit No. NEP-1) and the Depreciation Study itself (Exhibit No. NEP-3). The depreciation study analysis and report were prepared using NEP's recorded data through December 31, 2020 for both the life and salvage analysis portion of the depreciation report, as well as for the development of the resulting proposed annual depreciation rates.

The proposed depreciation rates were developed utilizing the Straight Line Method, Broad Group Procedure, and the Average Remaining Life Technique. Utilizing the recommended depreciation rates based upon the Straight Line Average Remaining Life Procedure results in the setting of depreciation rates that will continuously true up NEP's level of capital recovery over the life of each asset group. Application of this procedure, which is based upon the current best estimates of service life and net salvage together with NEP's plant in service and accrued depreciation, produces annual depreciation rates that will allow NEP to recover its capital costs and ensure the continued provision of service to customers. Mr. Robinson explains that the Depreciation Study does not account for the impacts of climate change, including extreme weather events. Because climate change and extreme weather events could shorten service lives and affect net salvage, NEP believes that the recommendations supported by the Depreciation Study are somewhat conservative.

Table 1 (at pages 2-1 and 2-2 of Exhibit No. NEP-3) lists the recommended annual depreciation rates for each property account.

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#### IV. EFFECT ON TRANSMISSION CHARGES

The attached testimony of Tiffany M. Escalona of National Grid (Exhibit No. NEP-2) addresses the effect of the proposed depreciation rate updates on RNS, LNS, and GISOT rates. The exhibits and schedules submitted in support of Ms. Escalona's testimony contain abbreviated cost of service statements, detailing the revenue requirements for both Period I and Period II as required by the Commission. Period I is revenue requirement data for the 12 months ending December 31, 2020, and Period II is the adjusted Period I data with the proposed depreciation rate updates. As explained in Ms. Escalona's testimony, NEP's use of the updated depreciation rates produces an increase to NEP's calendar year 2020 RNS pre-1997 and post-1996 revenue requirements of \$3.2 million and \$21.7 million, respectively, and an increase to NEP's calendar year 2020 LNS revenue requirements of \$9 million. The depreciation rate changes result in a decrease of \$873,031 to the GISOT annual revenue requirement calculation.

#### V. EFFECTIVE DATE

NEP requests an effective date of January 1, 2022 for the updated depreciation accrual rates and the proposed changes to both Appendix D to Attachment F of the ISO-NE OATT and Attachment 4 of TSA-NEP-22. The proposed effective date is more than 60 days after the date of this filing. Granting an effective date of January 1, 2022 also will allow the effective date of the proposed depreciation rate updates to be synchronized with the proposed effective date for the formula rate templates resulting from the Settlement Filing that apply to other regional and local transmission rates under the ISO-NE OATT. Accordingly, NEP respectfully submits that good cause exists to grant the effective date as requested.

### VI. REQUEST FOR WAIVER OF PART 35 FILING REQUIREMENTS

To the extent necessary, NEP requests waiver of the full requirements of Section 35.13 of the Commission's regulations.<sup>16</sup> Good cause exists for granting waiver of the requirement to file the full range of information required by 18 C.F.R. § 35.13, as the Commission generally permits single-issue rate filings for changes in depreciation rates, and Commission has granted waiver of the full requirements of Section 35.13 in similar circumstances in other proceedings.<sup>17</sup>

In addition, the information submitted with this filing substantially complies with the requirements of Part 35 of the Commission's regulations applicable to filings of this type. NEP requests a waiver of any applicable requirement of Part 35 for which a waiver is not specifically requested, if necessary, in order to permit this filing to become effective as proposed.

<sup>18</sup> C.F.R. § 35.13.

See, e.g., Ameren Illinois, 141 FERC ¶ 61,264, at P 38; DATC Midwest Holdings, 139 FERC ¶ 61,224, at P 98; Midwest Independent Transmission System Operator, 138 FERC ¶ 61,234, at P 19.

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#### VII. DOCUMENTS SUBMITTED WITH THIS FILING

In addition to this transmittal letter, this filing includes the following exhibits and attachments:

- Exhibit No. NEP-1: Direct Testimony of Earl M. Robinson
- Exhibit No. NEP-2: Direct Testimony of Tiffany M. Escalona
- Exhibit No. NEP-3: Depreciation Rate Study
- Exhibit No. NEP-4: Estimated Cost of Service Impacts
- Attachment A: Clean Appendix D to Attachment F of the ISO-NE OATT
- Attachment B: Redlined Appendix D to Attachment F of the ISO-NE OATT
- Attachment C: Clean Attachment 4 of Service Agreement No. TSA-NEP-22 under Schedule 21-NEP
- Attachment D: Redlined Attachment 4 of Service Agreement No. TSA-NEP-22 under Schedule 21-NEP
- Attachment E: Service Listing

#### VIII. COMMUNICATIONS AND SERVICE

Communications regarding this filing should be addressed to the following individuals, whose names should be entered on the official service list maintained by the Secretary for this proceeding.

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#### IX. SERVICE

Service of this transmittal letter and the accompanying materials has been sent to the governors and electric utility regulatory agencies for the six New England states and to the New England Conference of Public Utilities Commissioners ("NECPUC"). The names and addresses of these governors and regulatory agencies are shown in Attachment E. Service of this transmittal letter and the accompanying materials has also been sent to the New England Power Pool ("NEPOOL") Participants, who include customers affected by this filing.

#### X. CONCLUSION

For the reasons stated herein, New England Power Company respectfully requests that the Commission accept the revisions to Appendix D to Attachment F of the ISO-NE OATT and Attachment 4 of Service Agreement No. TSA-NEP-22 contained in this filing to be effective January 1, 2022, without suspension, condition, or modification.

Respectfully submitted,

/s/ Patrick J. Tarmey
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Exhibit No. NEP-1

### FEDERAL ENERGY REGULATORY COMMISSION

## PRE-FILED TESTIMONY OF EARL M. ROBINSON

## ON THE SUBJECT OF DEPRECIATION ON BEHALF OF

**NEW ENGLAND POWER COMPANY** D/B/A NATIONAL GRID

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#### I. WITNESS INTRODUCTION

- 2 Q1. Please state your name, occupation, and business address.
- 3 A. My name is Earl M. Robinson. I am a semi-retired Principal of AUS Consultants
- 4 (AUS), who continues to provide consulting services with AUS. AUS Consultants
- 5 is a consulting firm specializing in preparing various financial studies including
- 6 depreciation, valuation, revenue requirements, cost of service, and other analysis
- 7 and studies for the utility industry and numerous other entities. My office is located
- 8 at 792 NM Hwy 333 (Old Highway 66), Suite 200, Tijeras, NM 87059.
- 9 Q2. Have you prepared an appendix which contains your qualifications and
- 10 experience?
- 11 A. Yes. Appendix A to my direct testimony contains a summary of my qualifications
- and experience.
- 13 II. PURPOSE OF TESTIMONY
- 14 Q3. What is the purpose of your testimony?
- 15 A. The purpose of my testimony is to set forth the results of my depreciation review
- and analysis of the plant in service of New England Power Company ("NEP" or the
- 17 "Company"), which was conducted in the process of preparing the depreciation
- study of the Company's electric plant assets as of December 31, 2020. The
- depreciation rates were calculated based on the study parameters (average service
- lives and net salvage factors) using the most recent data through December 31,
- 21 2020. The report of my review and analyses is contained in Exhibit NEP-3, titled
- "New England Power Company Depreciation Study as of December 31, 2020".
- This testimony and accompanying exhibit are being offered in support of NEP's
- request for approval of updated depreciation rates.

A.

In preparing the depreciation report, I investigated and analyzed the Company's historical plant data and reviewed the Company's past experience and future expectations to determine the remaining lives of the Company's electric plant assets. The study utilized the resulting remaining lives, the results of a salvage analysis, the Company's vintaged plant in service investment and depreciation reserve to develop recommended average remaining life depreciation rates and depreciation expense related to the Company's plant in service.

#### III. BACKGROUND

#### Q4. How is depreciation defined?

Depreciation is defined in the 1996 NARUC "Public Utility Depreciation Practices" publication as follows: "Depreciation, as applied to depreciable utility plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and requirements of public authorities."

# Q5. Why is depreciation important to the revenue requirements of a utility company?

A. Depreciation is important because, as the above definition describes, depreciation expense enables a company to recover in a timely manner the capital costs related to its plant in service benefiting the company's customers. Appropriate

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that you utilized?

23	Q9.	What steps were involved in preparing the service life and salvage database
22		lives.
21		each of the Company's property group investments over their average remaining
20		incorporate the service life and net salvage parameters currently anticipated for
19		comprehensive depreciation study are reasonable and appropriate given that they
18	A.	In my opinion, the proposed depreciation rates resulting from the completed
17		study that you performed?
16	Q8.	What is your professional opinion with regard to the results of the depreciation
15	A.	Yes.
14		accepted practices in the field of depreciation?
13	<b>Q7.</b>	In conducting your analysis and preparing the study, did you follow generally
12	A.	Yes.
11		as of December 31, 2020?
10	Q6.	Does Exhibit NEP-3 accurately portray the results of your Depreciation Study
9		IV. DEPRECIATION STUDY OVERVIEW
8		inadequate level of annual depreciation expense is currently being provided in rates.
7		of depreciation and return) to customers as opposed to a situation where an
6		depreciation recovery in revenue requirements serves to reduce overall costs (total
5		service to customers. Furthermore, the inclusion of the appropriate level of
4		not be able to meet its financial obligations related to the continued provision of
3		Without the appropriate recovery of depreciation costs, the company ultimately will
2		assets over a life that provides for full recovery of the investments, less net salvage.
1		depreciation rates will allow recovery of a company's investments in depreciable

A.

A. My comprehensive depreciation study included a detailed analysis of the
Company's fixed capital books and records through December 31, 2020. The
Company's historical investment cost records for each account have been
assembled into a depreciation database upon which detailed service life and salvage
analysis were performed using standard depreciation procedures.

#### Q10. What is the purpose of the historical database?

The historical service life and net salvage databases are basic depreciation study tools used to prepare a depreciation study analysis. The historical database is used to make assessments and judgments concerning the service lives and salvage factors that have actually been achieved, and (along with information relative to current and prospective factors) to determine the appropriate future lives over which to recover the Company's depreciable fixed capital investments. In accordance with this standard depreciation analysis, the Company's depreciation database compiled through December 31, 2020, which contains detailed vintage level information, was used to develop observed life tables. The development of the observed life tables from the historical information was completed by grouping like-aged investments within each property category and identifying the level of retirements that occur through each successive age to develop the applicable observed life tables. The resulting observed lives were then fitted to standard Iowa Curves to estimate each property group's historically achieved average service life.

Likewise, the net salvage database was used as a basis to identify historical experience and trends and to determine each property group's recommended net salvage factors. This was accomplished by analyzing the annual historical data as

In the preparation of the depreciation study, have you utilized information

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- well as preparing various three-year rolling band analyses of salvage components
   based on the Company's historical salvage experience.
- from additional sources when estimating service life and salvage parameters?
- Yes. In addition to the historical data obtained from the Company's books and records, information was obtained from Company personnel relative to current operations and future expectations with respect to depreciation. Discussions were held with Company planning and operations management. In addition, physical inspections were also previously conducted of various representative sites of the Company's operating property.
- 11 Q12. Please briefly describe the information included in the depreciation study report.
  - A. The NEP depreciation study report is divided into seven (7) sections. Section 1 of the report contains a brief narrative summary of the report, and Section 3 is a general narrative that discusses standard methods, procedures, and techniques plus various approaches used to analyze data, estimate depreciation parameters, and develop depreciation rates. Two key portions of the report are Sections 2 and 4. Section 2 includes the summary schedules listing the present and proposed depreciation rates for each depreciable property group and other depreciation rate development schedules. Section 4 contains a narrative description of the factors considered in selecting service life parameters for the Company's property. The various other sections of the report contain detailed information and/or documentation supporting the schedules contained in Sections 2 and 4. For

1		example, Section 5 is the graphical presentation of the average service life analysis,
2		Section 6 is the detailed Average Remaining Life calculations, and Section 7 is
3		detailed Net Salvage analysis schedules.
4	Q13.	What was the source of the data utilized as a basis for determining the
5		depreciation rates?
6	A.	As previously discussed, all of the historical data utilized in the course of
7		performing the detailed service life and salvage study was obtained from the
8		Company's books and records. Historical vintaged data (additions, retirements,
9		adjustments, and balances) were obtained for each depreciable property group.
10	Q14.	Are there standard methods utilized to complete a service life analysis of a
11		company's historical property investments?
12	A.	Yes. As discussed in Section 3 of the depreciation study report as well as later in
13		this testimony, the two most common methods are the Retirement Rate Method and
14		the Simulated Plant Record Method. The method chosen to study a company's
15		historical data is dependent upon whether aged or un-aged data is available. If
16		specific aged data is available, the Retirement Rate Method is used. If only un-
17		aged data is available, the Simulated Plant Record Method is used.
18	Q15.	Was your study prepared utilizing one of these accepted standard methods?
19	A.	Yes. The Company maintains aged plant records. Therefore, the Retirement Rate
20		Method was utilized in the depreciation study of the Company's property.
21		V. METHODS, PROCEDURES, & TECHNIQUES
22	Q16.	Please describe the depreciation methods, procedures and techniques
23		commonly utilized to develop depreciation rates for utility property.

A.

Inherent in all depreciation calculations is an overall method, such as the Straight-Line Method (which is the most widely used approach within the utility industry) to depreciate property. Other methods available to develop average service lives and depreciation rates are accelerated and/or deferral approaches such as the Sum of the Years Digits Method or Sinking Fund Method.

In addition, there are several procedures that can be used to arrange or group property by sub-groups of vintages to develop applicable service lives and depreciation rates. These procedures include the Broad Group, the Equal Life Group and other procedures. Due to the existence of very large quantities of property units within utility operating property, utility property is typically grouped into homogeneous categories as opposed to being depreciated on an individual unit basis. While the Equal Life Group procedure is viewed as being the more definitive procedure for identifying the life characteristics of utility property and as a basis for developing service lives and depreciation rates, the Broad Group Procedure is more widely utilized throughout the utility industry by regulatory commissions as a basis for depreciation rates. My comments on the Equal Life Group procedure are discussed later in my testimony.

The distinction between the two procedures is in the manner in which recovery of the cost is achieved. Under the Broad Group Procedure, the useful life and resulting depreciation rate is based upon the overall average life of all of the property within the group, while under the Equal Life Group Procedure, the useful life and resulting depreciation rate is based upon separately recovering the

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investment in each equal life group within the property category over the actual life of the property in that group.

A brief example (with a property group that has three units/three equal life groups of like property) will demonstrate the difference between the two procedures. The example incorporates the assumption that unit No. 1 (or equal life group of property) will retire after one year, unit No. 2 (or equal life group) will retire after two years, and Unit No. 3 (or equal life group) will retire after three years. In general, the average life of all three groups is two years  $((1+2+3)\div 3)$ . under the Broad Group Procedure, the average useful life and resulting depreciation rate is calculated based upon the two-year average life. The resulting annual depreciation rates would be 50 percent in every year. Conversely, under the Equal Life Group Procedure, each year's average life and resulting depreciation rate is calculated by using the period of time during which the portion of the property group remains in service. Since unit No. 1 (or that portion of the account) was retired from service after one year, the entire investment for that property is recovered over one year. Likewise, since unit No. 2 (or that portion of the account) will have a service life of two years, the recovery of that portion of the account will occur over two years. Lastly, unit No. 3 (or that portion of the account) is recovered over three years. Hence, the useful average life for the property group in the first year is 1.64 years and the first year's annual depreciation rate is 61.11 percent. In the second year, the useful average life of the surviving group is 2.4 years and the second year's depreciation rate drops to 41.67 percent. This occurs because during the first year, unit No. 1 (or that portion of the account) was fully recovered.

- Likewise, in year three the useful life of the surviving group is 3 years and the 1
- 2 depreciation rate further drops to 33.33 percent. The following Table EMR-1 (BG
- 3 and ELG) illustrates these calculations.

### **Table EMR-1 (BG and ELG)**

300 300 300 300 900	2 2	ASL (Years)	Weight 150 150	Investment 300	Recovery Period (Yrs)	Annual Rate-%	Recovery Amount
300 300 300	2 2 2	(Years)	150	300		Rate-%	<u>Amount</u>
300 300	2 2				2		
300	2		150		_		150
				300	2		150
900			<u>150</u>	300	2		<u>150</u> 450
		2.00	450	900		50.00%	450
0	0		0	0	0		C
300	2		150	300	2		150
300	2		<u>150</u>	300	2		<u>150</u>
600		2.00	300	600		50.00%	300
0	0		0	0	0		C
0	0		0	0	0		C
300	2		<u>150</u>	300	2		<u>150</u> 150
300		2.00	150	300		50.00%	150
1,800		2.00	900	1,800		50.00%	900
	<u>300</u> 300		300 2 300 2.00	300     2     150       300     2.00     150	300         2         150         300           300         2.00         150         300	300         2         150         300         2           300         2.00         150         300         2	300         2         150         300         2           300         2.00         150         300         50.00%

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		FI	G Average Life	Calculation		FLG	Depreciation R	ate Calculatio	n
			O Average Life	Calculation		<u> </u>	Depreciation is	ate Calculatio	<u></u>
			Recovery	ASL			Recovery	Annual	Recovery
<u>Year</u>		Investment	Period (Yrs)	(Years)	Weight	Investment	Period (Yrs)	Rate-%	Amount
1	Group # 1	300	1		300	300	1		300
	Group # 2	300	2		150	300	2		150
	Group # 3	300	3		100	300	3		100
	Total	900		1.64	550	900		61.11%	550
2	Group # 1	0	0		0	0	0		(
	Group # 2	300	2		150	300	2		150
	Group # 3	300	3		100	300	3		100
	Total	600		2.40	250	600		41.67%	250
3	Group # 1	0	0		0	0	0		(
	Group # 2	0	0		0	0	0		(
	Group # 3	300	3		100	300	3		100
	Total	300		3.00	100	300		33.33%	100

Finally, the depreciable investment needs to be recovered over a defined period of time through the use of a technique, such as the Whole Life or Average Remaining Life of the property group. The distinction between the Whole Life and Average Remaining Life techniques is that under the Whole Life Technique, the depreciation rate is based on a snapshot and determines the recovery of the investment and average net salvage over the average service life of the property group for that moment in time. The Whole Life Technique requires either frequent updates to keep the "snapshot" current or the use of an artificial deferred account that holds "excess" or "deficient" depreciation reserves.

In comparison, under the Average Remaining Life Technique, the resulting annual depreciation rate incorporates the recovery of the investment (and future net salvage) less any recovery experienced to date over the average remaining life of the property group. The Average Remaining Life Technique is clearly superior in

that it incorporates all of the current and future cost components in setting the proposed annual depreciation rate as opposed to only some of the current and future cost components as is the case with the Whole Life Technique. Specifically, the utilization of the Average Remaining Life Technique to develop the applicable annual depreciation expense (over the average remaining life) assures that the Company's property investment is fully recovered over the useful life of the property, and that inter-generational inequities are avoided as current and future customers will pay their fair share of depreciation expense. The determination of the productive remaining life for each property group relies on a study of both past experience and future expectations and develops the appropriate total life and applicable depreciation rates for each of the Company's property groups. The Average Remaining Life Technique is used by regulated companies and regulatory agencies because it allows full recovery by the end of the property's useful life —no more and no less.

This means that any changes that occur in between depreciation studies are automatically trued-up in the subsequent study. No artificial deferral account needs to be established to accomplish such a true-up.

The depreciation methods, procedures, and techniques can be used interchangeably. For example, one could use the Straight-Line Method with the Broad Group Procedure and the Average Remaining Life Technique, or the Straight-Line Method with the Equal Life Group Procedure and Average Remaining Life Technique, or combinations thereof.

1	Q17.	Which of these methods, procedures and techniques did you use in your
2		depreciation study?
3	A.	The depreciation rates set forth in my depreciation study were developed utilizing
4		the Straight-Line Method, the Broad Group Procedure, and the Average Remaining
5		Life Technique.
6	Q18.	In selecting the appropriate method, procedure and technique for your study,
7		why did you utilize the Straight-Line Method, Broad Group Procedure and
8		Average Remaining Life Technique?
9	A.	The Straight-Line Method is widely understood, recognized, and utilized almost
10		exclusively for depreciating utility property.
11		The Broad Group Procedure recovers the Company's investments over the
12		average period of time in which the property is providing service to the Company's
13		customers. While I have used the Equal Life Group procedure in other studies, first
14		and foremost, I used the Broad Group Procedure in this study because it is
15		consistent with depreciation methods and procedures widely accepted by regulatory
16		commissions across the U.S., and is the approach underlying the Company's
17		current depreciation rates. The Broad Group Procedure produces sound and
18		reasonable recovery levels of the Company fixed capital investments.
19		VI. GROUP DEPRECIATION
20	Q19.	Please explain the utilization of group depreciation.
21	A.	Group depreciation is utilized to depreciate property when more than one item of
22		property is being depreciated. Such an approach is appropriate because all of the
23		items within a specific group typically do not have identical service lives, but have

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lives which are dispersed over a range of time. Utilizing group depreciation allows for a uniform application of depreciation rates to groups of similar property in lieu of performing extensive depreciation calculations on an item-by-item basis. The Broad Group Procedure is a recognized common group depreciation approach.

The Broad Group Procedure recovers the investment within the asset group over the average service life of the property group. Because there is a dispersion within each property group, there are variations of retirement ages for the many investments within each property group. That is, some properties retire early (before average service life) while others retire at older ages (after average service life). This dispersion of retirement ages defines the survival pattern experienced by the applicable property group.

# Q20. What factors influence the determination of the recommended annual depreciation rates included in your depreciation report?

The depreciation rates reflect four principal factors: (1) the plant in service by vintage, (2) the book depreciation reserve, (3) the future net salvage, and (4) the composite remaining life for the property group. Factors considered in arriving at the service life are the average age, realized life and the survival characteristics of the property. The net salvage estimate is influenced by both past experience and future estimates of the cost of removal and gross salvage amounts.

# Q21. Please explain further the assumptions considered when utilizing yourdepreciation approach.

A. Using my approach, the Company will recover its un-depreciated fixed capital
 investment through annual depreciation expense in each year throughout the useful

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life of the property. The Average Remaining Life Technique incorporates the future life expectancy of the property, the vintaged surviving plant in service, the survival characteristics, together with the book depreciation reserve balance and future net salvage in developing the amounts for each property account. Accordingly, Average Remaining Life based depreciation meets the objective of providing a Straight-Line recovery of the Company's fixed capital property investments.

#### Q22. Please explain further the group you have used.

My depreciation calculations, as applied in this study, follow a group depreciation approach. The group approach refers to the method of calculating annual depreciation based on the summation of the investment in any one plant group rather than calculation of depreciation for each individual unit of plant. In theory, each unit achieves average service life by the time of retirement. Accordingly, the full cost of the investment will be credited to plant in service when the retirement occurs, and likewise the depreciation reserve will be debited with an equal retirement cost. No gain or loss is recognized at the time of property retirement because of the assumption that the property was retired at average service life.

#### VII. NET SALVAGE

## Q23. What are the net salvage factors included in the determination of depreciation

20 rates?

A. Net salvage is the difference between gross salvage, or the proceeds received when an asset is disposed of, and the cost of removing the asset from service. Net salvage is said to be positive if gross salvage exceeds the cost of removal. If the cost of removal exceeds gross salvage, the result is negative salvage. Many retired assets

generate little, if any, positive salvage. Instead, numerous Company asset groups generate negative net salvage at the end of their lives due to the cost of removal/retirement.

The cost of removal includes costs such as demolishing, dismantling, tearing down, disconnecting or otherwise retiring/removing plant, as well as any environmental clean-up costs associated with the property. Net salvage includes any proceeds received from any sale of plant.

Net salvage experience is studied for a period of years to determine the trends which have occurred in the past. These trends are considered, together with any changes that are anticipated in the future, to determine the future net salvage factor for remaining life depreciation purposes. The historic net salvage percentage is determined by comparing the total net positive or negative salvage to the book cost of the property investment retired.

The method used to estimate the retirement cost is a standard analysis approach, which is used to identify a company's historical experience with regard to what the end-of-life cost will be relative to the cost of the plant when first placed into service. This information, along with knowledge about the average age of the historical retirements that have occurred to date, allows an estimation of the level of retirement cost that will be experienced by the company at the end of each property group's useful life. The study methodology utilized has been extensively set forth in depreciation textbooks and has been the accepted practice by depreciation professionals for many decades. Furthermore, the cost of removal analysis is the current standard practice used for mass assets by essentially all

depreciation professionals in estimating future net salvage for the purpose of identifying the applicable depreciation rate for a property group. There is a direct relationship between the installation of specific plant and its corresponding retirement/removal costs. The installation is its beginning of life cost while the removal is its end-of-life cost. Also, it is important to note that Average Remaining Life depreciation rates incorporate future net salvage which is typically more representative of recent versus long-term historical average net salvage.

The Company's historical net salvage experience was analyzed to identify the historical net salvage factor for each applicable property group and is included in Section 7 of the study. This analysis routinely finds that historical retirements have occurred at average ages shorter than the property group's average service life. The occurrence of historical retirements at an age which is younger than the average service life of the property category demonstrates that the historical data does not appropriately recognize the true level of retirement cost at the end of the property group's useful life. An additional level of cost to retire will occur due to the passage of time until all the current plant is retired at the end of its life. That is, the level of retirement costs will increase over time until the average service life is attained. The additional inflation in the estimate of retirement cost is related to those additional years' cost increases (primarily the result of higher labor costs over time) that will occur prior to the end of the property group's average life.

To provide further explanation of the issue, several general principles surrounding property retirements and related net salvage should be highlighted. As property continues to age, assets that typically generate positive salvage when

retired will generate a lower percentage of positive salvage as compared to the original cost of the property. By comparison, if the class of assets is one that typically generates negative net salvage (cost of retirement/removal) with increasing age at retirement, the negative net salvage percentage as compared to original cost will typically be greater. This situation is routinely driven by the higher labor costs that occur with the passage of time.

A simple example will aid in understanding the above net salvage analysis and the required adjustment to the historical results. Assume the following scenario: A company has two cars, Car #1 and Car #2, each purchased for \$20,000. Car #1 is retired after 2 years and Car #2 is retired after 10 years. Accordingly, the average life of the two cars is six years. Car #1 generates 75 percent salvage or \$15,000 when retired and Car #2 generates 5 percent salvage or \$1,000 when retired. This calculation is illustrated in Table EMR-2 as follows:

14 <u>Table EMR-2</u>

	<b>Unit Cost</b>	Ret.Age (Yrs.)	<u>% Salv.</u>	Salvage Amount
Car #1	\$20,000	2	75%	\$15,000
<u>Car #2</u>	\$20,000	10	5%	<u>\$ 1,000</u>
Total	\$40,000	6	40%	\$16,000

Assume further an analysis of the experienced net salvage at year three. Based upon the Car #1 retirement, which was retired at a young age (2 yrs.) as compared to the average six-year life of the property group, the analysis indicates that the property group would generate 75 percent salvage. This indication is incorrect, however, because it is the result of basing the estimate on incomplete data. That is, the estimate is based upon the salvage generated from a retirement

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that occurred at an age which is far less than the average service life of the property
group. The actual total net salvage that occurred over the average life of the assets
(which experienced a six-year average life for the property group) is 40 percent, as
opposed to the initial incorrect estimate of 75 percent.

This is exactly the situation that occurs with the majority of the Company's historical net salvage data, except that most of the Company's property groups routinely experience negative net salvage (cost of removal) as opposed to positive salvage.

#### VIII. DEPRECIATION STUDY ANALYSIS

Q24. Please explain what factors affect the length of the average service life that the
 Company's property may achieve.

Several factors contribute to the length of the average service life which the property achieves. The three major factors are: (1) physical; (2) functional; and (3) contingent casualties.

The physical factor includes such things as deterioration, wear and tear, and the action of the natural elements. The functional factor includes inadequacy, obsolescence and requirements of governmental authorities. Obsolescence occurs when it is no longer economically feasible to use the property to provide service to customers or when technological advances have provided a substitute with superior performance. The remaining factor, contingent casualties, includes retirements caused by accidental damage or construction activity of one type or another.

In performing the life analysis for any property being studied, both past experience and future expectations must be considered in order to fully evaluate the circumstances that may have a bearing on the remaining life of the property. This

1		ensures the selection of an average service life which best represents the expected
2		life of each property investment.
3	Q25.	What study procedures were utilized to determine service lives for the
4		Company's property?
5	A.	Several study procedures were used to determine the prospective service lives
6		recommended for the Company's plant in service. These include the review and
7		analysis of historical and anticipated retirements, current and future construction
8		technology, historical experience, and future expectations.
9		Service lives are affected by many different factors, some of which can be
10		determined from studying past experience, others of which must rely heavily on
11		future expectations. When physical characteristics are the controlling factor in
12		determining the service life of property, historical experience is a useful tool in
13		selecting service lives. In cases where there are changes in technology, regulatory
14		requirements, Company policy or the development of a less costly alternative,
15		historical experience is of lesser or little value. However, even when considering
16		physical factors, the future lives of various properties may vary from those
17		experienced in the recent past.
18		While a number of methods are available to study historical data, as I
19		mentioned previously, the two methods most commonly utilized to determine
20		average service lives for a company's property are the Retirement Rate Method and
21		the Simulated Plant Record Method.

Q26. Please explain further the use of the Retirement Rate Method.

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A. With this method of analysis, the Company's actuarial service life data, which is sorted by age, is used to develop a survivor curve (observed life table). This survivor curve is the basis upon which smooth curves (standard Iowa Curves) are matched or fitted to then determine the average service life being experienced by the property account under study. Computer processing provides the capability to review various experience bands throughout the life of the account to observe trends and changes. For each experience band analysis, an "observed life table" is constructed using the exposure and retirement experience within the selected band of years. In some cases, the total life cycle of the property has not been achieved and the experienced life table, when plotted, results in a "stub curve." It is the "stub curve," or the total life curve, if the total life curve is achieved, which is matched or fitted to the standard Iowa Curves. The matching process is performed both by computer analysis, using a least squares technique, and by overlaying the observed life tables on the selected smooth curves for visual reference. The fitted smooth curve is a benchmark which provides a basis to determine the estimated average service life for the property group under study.

Q27. Does the depreciation study report contain charts which compare the analysis 18 of the Company's actual historical data to the service life parameters you are 19 proposing as a basis for your recommended annual depreciation rates?

- 20 A. Yes. Graphical representations of a study of the Company's historical experience 21 versus the estimated lives and Iowa Curves are contained in Section 5 of the report.
- 22 Q28. You have referred to the use of the Iowa Curves, or smoothed survivor curves.
- 23 Can you generally describe these curves and their purpose?

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The preparation of a depreciation study typically incorporates smoothed curves to represent the experienced or estimated survival characteristics of the property. The "smoothed" or standard survivor curves are the "Iowa" family of curves developed at Iowa State University and which are widely used and accepted throughout the utility industry. The shape of the curves within the Iowa family is dependent upon whether the maximum rate of retirement occurs before, during, or after the average service life. If the maximum retirement rate occurs earlier in life, it is a left (L) mode curve; if it occurs at average life, it is a symmetrical (S) mode curve; if it occurs after average life, it is a right (R) mode curve. In addition, there is the origin (O) mode curve for plant which has heavy retirements at the beginning of life.

At any particular point in time, a company's plant may not have completed its life cycle. Therefore, the survivor table generated from the company data is not complete. This situation requires that an estimate be made with regard to the incomplete segment of the property group's life experience. Further, actual company experience often varies from age interval to age interval, making its utilization for average service estimation difficult. Accordingly, the Iowa Curves are used to both extend company experience to zero percent surviving as well as to smooth actual company data.

# Q29. What is the principal reason for completing the detailed historical life and salvage analysis?

The detailed historical analysis is prepared as a tool from which to make informed assessments as to the appropriate service life and salvage parameters over which to recover the Company's plant investment. However, in addition to the available

1		historic data, consideration must be given to current events, the Company's ongoing
2		operations, Company management's future plans, and general industry events
3		which are anticipated to impact the lives that will be achieved by plant in service.
4		IX. COMPREHENSIVE DEPRECIATION STUDY RESULTS AS OF
5		<b>DECEMBER 31, 2020</b>
6	Q30.	What is the basis for the Company's depreciation rates currently in effect?
7	A.	The prior depreciation rates, which are summarized in Exhibit NEP-3, Section 2,
8		Table 1, pages 2-1 to 2-2, for the Company's plant were based upon depreciation
9		parameters set forth in a study completed using the Company's plant investment
10		data through December 31, 1993. The current account level depreciation rates
11		composite to an annual depreciation rate of 2.37 percent when applied to each of
12		the December 31, 2020 depreciable plant in service account balances.
13	Q31.	What are the most notable changes in annual depreciation rates and expense
13 14	Q31.	What are the most notable changes in annual depreciation rates and expense between the present rates and the proposed rates?
	Q31.	
14		between the present rates and the proposed rates?
14 15		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as
<ul><li>14</li><li>15</li><li>16</li></ul>		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as outlined in Section 4 of the study) from the current depreciation rates.
<ul><li>14</li><li>15</li><li>16</li><li>17</li></ul>		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as outlined in Section 4 of the study) from the current depreciation rates.  The most notable changes in depreciation occurred relative to Account 353 –
14 15 16 17 18		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as outlined in Section 4 of the study) from the current depreciation rates.  The most notable changes in depreciation occurred relative to Account 353 – Station Equipment, Account 355 – Poles & Fixtures, and Account 356 – O/H
14 15 16 17 18 19		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as outlined in Section 4 of the study) from the current depreciation rates.  The most notable changes in depreciation occurred relative to Account 353 – Station Equipment, Account 355 – Poles & Fixtures, and Account 356 – O/H Conductors & Devices.
14 15 16 17 18 19		between the present rates and the proposed rates?  With regard to plant in service, several of the proposed rates reflect changes (as outlined in Section 4 of the study) from the current depreciation rates.  The most notable changes in depreciation occurred relative to Account 353 – Station Equipment, Account 355 – Poles & Fixtures, and Account 356 – O/H Conductors & Devices.  The depreciation rate for Account 353 – Station Equipment increased from 2.29

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property group is forty-five (45) years. This change in average service life together with the increase of estimated future net salvage from negative 10 percent to negative 15 percent are the drivers underlying the increase in depreciation expense. Historical life analysis of this property group has demonstrated that the Company has routinely experienced replacements/retirements of increasing levels of property components, resulted in progressively shorter average service life indications. Such levels are not only anticipated to continue, but significantly increase. Accordingly, the life indication experience of the latest decade is the basis for the current estimate of future average service life for the property group. Also contributing to the resulting higher depreciation rate is the fact that the Company's current book depreciation reserve is less than required when given consideration to the current age and estimated average service life and resulting average remaining life of the property group. That is, the lower level of the current book depreciation reserve and the use of average remaining life depreciation procedure drives the proposed depreciation rate to a higher level because of the need to recover the required additional recovery amount over the shorter average remaining life of the property group. The depreciation rate for Account 355 – Poles Towers & Fixtures increased from 2.36 percent to 4.71 percent. The proposed average service life is fifty-eight (58) years, based upon overall and recent Company experience, while the average service life underlying the present depreciation rate is forty-five (45) years. The future net salvage underlying the proposed depreciation rates is negative 140

percent while the future net salvage underlying the present depreciation rates is negative 10 percent.

The average service life underlying the current depreciation rate was shorter, at 45 years, than the current proposed average service life. Contributing to the circumstance is that the experienced lives of the property group assets increased to a somewhat greater life during the 1990 and early 2000 decades to the mid 50-year life range due to a change in the level of and age of retirement. However, current expectations are for this property class to experience a substantial increase in replacement activity over the coming decades. The anticipated result of such activity is that the average service life will likely ultimately decline from the more recent 5-year experience to of that last couple of years to a life of 50 years and less.

Notwithstanding the current increase in the underlying average service life for the property group, based upon ongoing significant levels of experienced cost of removal, the estimated future net salvage is proposed to be revised from -10% to -140%. In general, throughout the industry, Poles experience a high level of negative net salvage. Even with this proposed significant increase in the future negative net salvage estimate that is included with the proposed depreciation rate, the book depreciation reserve is less than required, thus an even higher recovery level can be anticipated to be required during subsequent periods. That is, the lower level of the current book depreciation reserve and the use of average remaining life depreciation procedure drives the proposed depreciation rate to a

1 higher level because of the need to recover the required additional recovery 2 amount over the average remaining life of the property group. 3 The depreciation rate for Account 356 – O/H Conductors & Devices increased from 4 2.30 percent to 3.38 percent. The proposed depreciation rate is the result of 5 combined changes of both the average service life and net salvage parameters. The 6 proposed average service life is sixty-five (65) years, based upon actual Company 7 historical experience, while the average service life underlying the present 8 depreciation rate is forty-five (45) years. The future net salvage underlying the 9 proposed depreciation rates is negative 100 percent while the future net salvage 10 underlying the present depreciation rates is negative 10 percent. 11 While the average service life underlying the current depreciation, rate was 12 shorter at 45 years, the experienced lives of the property group assets increased to 13 a greater life during the 1990 and early 2000 decades to a life in the range of 55-14 60 plus years. 15 Historical life analysis of this property group has demonstrated that the Company 16 has experienced replacements/retirements of increasing levels of property 17 components, resulted in a leveling off of the prior period life increases, reversing, 18 and experiencing a shorter average service life indication with the ongoing 19 passage of time. Current expectations are for this property class to experience a 20 substantial increase in replacement activity over the next decade or more. The 21 anticipated result of such activity is that the average service life will likely

1	ultimately decline from the more recent 5-year experience to of that last couple of
2	years to a life of 53 years and less.
3	At the present time, based upon the experience of the past decade a life of 65 years
4	is currently estimated for the property group. Considering the
5	expected/forthcoming significant increases in plant upgrades and change outs,
6	there is a potential for the future experience life to decline towards the earlier
7	average service life underlying the present depreciation rate.
8	Also contributing to the higher depreciation rates is the fact that the level of the
9	Company's book depreciation reserve for this property group is less than required
10	(based upon the current age of the property along with the estimated life and net
11	salvage depreciation parameters). The lower level of the current book
12	depreciation reserve and the use of average remaining life depreciation procedure
13	drives the proposed depreciation rate to a higher level because of the need to
14	recover the required additional recovery amount over the average remaining life
15	of the property group.
16	Various of the remaining account/sub-accounts experienced increases and/or
17	declines in recommended depreciation rates to a lesser degree, as noted per
18	Exhibit NEP-3, Section 2, Table 1, pages 2-1 to 2-2. This revision in annual
19	depreciation rates and expense is the result of both changes in the estimated
20	service lives and salvage factors, and reflects the impact of the Company's
21	property changes since the most recent study.

1	With regard to the inclusion of negative net salvage levels in the development of
2	proposed depreciation rates, some accounts have been increased while others
3	were reduced. Contributing to the current estimates of future net salvage, which
4	is consistent with the industry in general, is negative net salvage.

## Q32. Was climate change and/or potential future extreme weather conditions incorporated into the depreciation study results?

A. Specific consideration of climate change and resulting extreme weather conditions have not been incorporated into the proposed depreciation rates set forth in the study results. While the severity of storms has, and will continue to impact the company's property, such events other than those that have occurred to date, are difficult to predict with certainty with regard to when and at what level they will occur. Accordingly, no such likely or potential events are currently included within the proposed depreciation rates set forth in this study. To the extent that climate change driven and/or other weather factors cause increased damage and the need for the Company to replace assets at an accelerated rate over that of the past, those levels of items will be addressed/analyzed as they occur in future depreciation study data and recommendations.

# Q33. What was the net change to the composite depreciation rate for depreciable plant based on the deprecation study as of December 31, 2020 in comparison to the present depreciation rates?

A. Application of the proposed account level depreciation rates to the Company's depreciable plant in service as of December 31, 2020 produced a composite

1	depreciation rate of 3.57 percent. Conversely, as previously noted, the application
2	of the December 31, 1993 currently utilized account level depreciation rates to the
3	Company's depreciable plant in service as of December 31, 2020 produced a
4	composite depreciation rate of 2.37 percent. The net result was an aggregate
5	increase in the composite depreciation rate of 1.20 from the present composite
6	depreciation rate.

## 7 Q34. Have you prepared a schedule of present and proposed depreciation rates and resulting depreciation expense using through December 31, 2020?

9 A. Yes, Exhibit NEP-3, Section 2, Table 1, pages 2-1 to 2-2 identifies a net increase in annualized depreciation expense. The annual depreciation expense applicable to Company's plant in service using the proposed depreciation rates is \$112,872,238 which is an increase of \$37,998,571 from the resulting annual depreciation expense of \$74,837,674 when applying the present depreciation rates to the Company's depreciable plant in service investment as of December 31, 2020.

#### 15 X. RECOMMENDATION

#### 16 Q35. What is your recommendation in this proceeding?

17 A. I recommend that the proposed depreciation rates from the comprehensive 18 depreciation study parameters through December 31, 2020 be uniformly and 19 prospectively adopted by the Commission for purposes of establishing the 20 Company's depreciation rates.

#### 21 Q36. Does this conclude your direct testimony?

22 A. Yes, it does.

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

#### APPENDIX A

Professional Qualifications of Earl M. Robinson, CDP AUS Consultants

#### APPENDIX A

## PROFESSIONAL QUALIFICATIONS OF EARL M. ROBINSON, CDP AUS CONSULTANTS

Experience includes approximately 40 years of service in the public utility field. Mr. Robinson has performed services in the areas of depreciation, original cost, valuation, cost of service, and bill analysis within numerous regulatory jurisdictions and property tax agencies throughout the Eastern, Midwestern, Southwestern, and Pacific regions of the United States, Canada plus various areas of the Caribbean.

#### **EXPERIENCE**

#### 1977 to Date

AUS Consultants. Various positions - currently Principal. Mr. Robinson has prepared studies and coordinated analysis related to valuation, depreciation, original cost, trended original cost, cost of service, bill analysis, as well as analysis of expenses, revenues and income for various municipal and an extensive number of investor-owned electric, gas, water, wastewater, and telecommunications utilities.

Studies prepared have required the review of company records, inspection of property, the preparation of property inventories and original costs, preparation and review of mortality studies, selection of proper service lives, life characteristics and analysis of salvage, and analysis of capital recovery impact of changing depreciation methods.

During his many years of experience, Mr. Robinson has been involved in and/or responsible for an extensive quantity of comprehensive depreciation studies. Numerous early year's depreciation studies were prepared manually without the convenience of computer software systems. Subsequent, during the mid/late 1970's, Mr. Robinson became responsible for the completion of the many depreciation studies performed for the firm's clients. As part of that responsibility, Mr. Robinson was involved in not only performing the studies, but also in assisting AUS Consultants' MIS department in developing and testing various computer depreciation models. The studies performed by Mr. Robinson or under his direction have included all types of utilities, including electric, gas, water, wastewater, and telecommunications. During Mr. Robinson's career he has been involved in the preparation of more than a hundred depreciation related projects.

A Certified Depreciation Professional (CDP), Mr. Robinson, as a Principal of AUS Consultants provides services to the firm's clients with regard to depreciation and cost based valuation issues. With more than forty (40) years' experience, he began his career as a staff member of the Plant Accounting Department of United Telephone (now Sprint) Eastern Group Headquarters subsequent to which he has spent the past thirty-five (35) plus years, as a consultant, preparing depreciation and valuation studies for gas, pipeline, electric, telecommunications, water, and wastewater utilities. In conjunction with the provision of these services, Mr. Robinson has testified on many occasions before numerous regulatory agencies (including state, federal, and property tax agencies throughout the U.S., Canada, and the Caribbean in support of the many studies completed for his diverse list of clients. In addition he has negotiated depreciation rates with various state regulatory agencies, the FCC Staff, and the FERC Staff. Mr. Robinson has also participated in several FCC, State, Company three-way depreciation re-prescription meetings

With regard to valuation matters Mr. Robinson has been involved with the development of cost indexes from the earliest part of his career through the present. During his earlier years, he assisted and/or developed and utilized cost indexes to prepare reproduction cost and related fair value determinations for various of the firm's regulated utility clients. Subsequently, he attained extensive experience in preparing custom indexes, replacement cost, and depreciated replacement cost studies, having been responsible for preparing many such cost studies relative to various clients within the telecommunications industry during the past twenty (20) plus year period



He is also responsible for developing and publishing the firm's AUS Telephone Plant Index (successor to the Handy Whitman and C A Turner Telephone Construction Cost Index), a reproduction cost index subscribed to by various operating companies, regulatory agencies, and consultants.

Mr. Robinson is a founding member and past President of the Society of Depreciation Professionals, a professional organization that provides depreciation training, as well as provides a forum for discussion of depreciation issues. He is also a member of the American Gas Association (AGA) Accounting Services Committee and past chairman of the Statistics, Bibliography, Court Regulatory Sub-Committee of the AGA Depreciation Committee. As a member of that organization, he co-authored a publication entitled "An Introduction to Net Salvage of Public Utility Plant". Mr. Robinson has completed various previous presentations on the subject of depreciation studies as well as depreciated replacement cost to industry organizations and to property tax appraiser staffs.

#### 1975 to 1977

Gannett, Fleming, Corddry & Carpenter, Inc. Valuation Analyst in the Valuation Division where his duties and responsibilities included the classifications, analysis and coordination of data in the development of depreciation rates for various companies including telephone, gas, water and electric utilities.

#### 1971 to 1975

Weber, Fick & Wilson (Acquired by AUS Consultants), Public Utility Analyst engaged in the unitization and subsequent application of costs in the pricing of inventories for original cost determination, depreciation and salvage studies to determine proper annual depreciation rates and trended original cost studies used in the determination of utility rate base.

#### 1966 to 1971

United Telephone Company of Pennsylvania (then Sprint/United Telephone Company of Pa., Embarq, and now Century Link). As a staff member of the Plant Accounting Department, his duties and responsibilities included various plant accounting ledgers, unitization of location and mass property accounts, as well as special studies related to insurance and tax valuations of utility plant in service.

#### **TESTIMONY**

Jurisdictions testified in include Alberta, Arizona, California, Connecticut, Delaware, District of Columbia, FERC, Florida, Indiana, Illinois, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Nevada, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, and Virgin Islands. Extensive expert testimony has been presented on the subjects including Depreciation, Capital Recovery, Plant in Service Measures of Value, Depreciated Reproduction Cost, and Depreciated Replacement Cost. Numerous additional depreciation studies have been completed and filed in various different jurisdictions for which testimony appearances were not required.

#### **PERSONAL**

#### Education:

Graduate of Harrisburg Area Community College with an Associate of Arts Degree in Accounting, and has undertaken further studies at University Center of Harrisburg. Successfully completed numerous programs related to service life and salvage estimation, forecasting, and evaluation sponsored by Depreciation



Programs, Inc. at Calvin College Campus, Grand Rapids, Michigan. In addition, Mr. Robinson successfully completed cost of service seminars sponsored by the American Water Works Association. He received his CDP (Certified Depreciation Professional) designation by Exam during 1996.

#### **List of Clients Served**

#### **CATV**

Storer Broadcasting Company (DE, MD, MN)

Cable Television Consortium

#### **ELECTRIC**

Atlantic City Electric d/b/a Conectiv Power Delivery

Borough of Butler - Electric Dept.

Conectiv Power Delivery

Consolidated Edison Co of NY

Consolidated Hydro, Inc.

Delmarva Power and Light Company

Delaware Maryland

Duguesne Light Company

Hershey Electric Company

Kentucky Utilities

**Lockhart Power Company** 

Montana - Dakota Utilities Co - Elec. Div

Louisville Gas & Electric Co. - Elec. Div.

Nantahala Power and Light Company New York State Electric and Gas Corp Northern Indiana Public Service Co Pennsylvania Power Company Philadelphia Electric Company Potomac Electric Power Company Marvland

Washington DC

Progress Energy - Carolinas Progress Energy - Florida, Inc.

Public Service Company of New Mexico Public Service Electric & Gas Company Rochester Gas and Electric Corporation

Wellsboro Electric Company Vermont Electric Power, Inc.

#### GAS

ATCO Gas

**ATCO Pipelines** 

Atlanta Gas Light Company Bay State Gas Company C & T Enterprises, Inc.

Valley Cities Waverly Gas Company

Canadian Western Natural Gas Company Limited

Cascade Natural Gas Corporation

Citizens Gas & Coke Utility

Columbia Gas of Pennsylvania. Inc. **Connecticut Natural Gas Corporation** Consolidated Edison Co of New York

East Ohio Gas

Elkton Gas Service

Granite State Gas Transmission, Inc.

Great Plains Natural Gas Co.

Kansas Gas Service

Louisville Gas & Electric Co. - Gas Division Montana Dakota Utilities - Gas Division

North Carolina Gas Service

North Penn Gas

Northern Indiana Public Service Co.

Northern Utilities, Inc.-Maine

Northern Utilities, Inc.-New Hampshire

Oklahoma Natural Gas Company Pacific Gas & Electric Company

Paiute Pipeline

Pennsylvania Gas & Water Company

PG Energy Inc.

Pennsylvania and Southern Gas Company

Valley Cities Division Waverly Division

Pipeline Industry Group Providence Gas Company

Public Service Electric & Gas Co

Public Service Company of New Mexico

Roanoke Gas Company

Rochester Gas and Electric Corporation

Saxonburg Heat & Light Company



National Fuel Gas Distr. Corp., NY National Fuel Gas Supply New York State Electric & Gas Corp NICOR Gas Company Northeast Heat & Light Company Sierra Pacific Power Co/NV Energy Southern Connecticut Gas Company Southwest Gas Corporation T.W. Phillips Gas & Oil Company Williams Companies

#### **GENERAL CLIENTS**

Arthur Andersen Pricewaterhouse Coopers Ernst & Young Standard & Poors

#### REGULATORY AND GOVERNMENTAL

Regulatory Commission of Alaska
Alaska Electric Light & Power Company
Interior Telephone Company, Inc
Fairbanks Water & Wastewater
Mukluk Telephone Company, Inc
TDX North Slope Generating
United KUC, Inc
United Utilities, Inc.
Arizona Corporation Commission

Arizona Corporation Commission
Mountain States Telephone & Telegraph
Southwest Gas Corporation
Baltimore County, MD
Bensalem Township - Water
Bethlehem Authority - Water
Borough of Butler, NJ

Borough of Media Water Works
City of New Orleans, LA
Delaware Public Service Commission
Delaware River Port Authority
Diamond State Telephone Company
Kansas Corporation Commission
Southwest Bell
Public Service Comm. of Nevada
Nevada Bell
Town of Waterford, CT
Northeast Utilities
Washington, D.C. - PSC
C&P Telephone Company
Potomac Electric Power Company

#### **TELECOMMUNICATIONS**

Ace Telephone Association - IA & MN Air Touch Communications ALLTEL Pennsylvania, Inc. AT&T-Advance Solutions, Inc-CA **BellSouth Telecommunications** Buffalo Valley Telephone Company Cellular Industry Study Group AT&T Wireless **BellSouth Communications GTE Mobilnet** Brighthouse Networks-Citrus County Cable & Wireless Chenango & Unadilla Telephone Company Cingular Wireless Cingular Wireless – California Cingular Wireless – Houston Cingular Wireless - Massachusetts Commonwealth Telephone Company CTC of Michigan CTC of Virginia

Paging Industry Study Group AirTouch Paging Mobile Comm Paging Network, Inc. Skytel **USA Mobile Communications** Quaker State Telephone Company **Qwest Communications Corporation** Qwest – Arizona Qwest - Iowa Qwest -- Montana Qwest -- Washington RCA Global Communications, Inc. SBC Ameritech Corporation SBC -- Arkansas SBC -- Kansas SBC -- Michigan SBC -- Missouri SBC -- Ohio SBC -- Oklahoma



Denver & Ephrata Telephone & Telegraph Co.

D & E Network D & E System Embarq Florida, Inc.

**Empire Telephone Corporation** Illinois Consolidated Telephone Co. Jamestown Telephone Corporation

Leesport Telephone Company

Lewisberry Telephone Company Los Angeles Cellular Telephone Co.

MCI International, Inc.

MCI Telecommunications Corp. MFS Communication Company, Inc. Marianna & Scenery Hill Tel. Co.

Mid State Telephone Company

Motorola, Inc. Nevada Bell

New Jersey Telephone Company

The North-Eastern Pennsylvania Tel. Co.

Pacific Bell Pactel Cellular

SBC – Wisconsin SBC – West – California SBC – West – Nevada

Southwestern Bell Telephone Company

Standard Telephone Company Telecommunications d'Haiti Telephone Utilities of Pennsylvania

United Telephone Company of New Jersey

Verizon Wireless

Verizon - California Verizon – Kentucky Verizon – Massachusetts Verizon -- Montana Verizon – South Carolina

Verizon -- Utah Verizon -- Washington Verizon – Wyoming Verizon – Total Company

Virgin Islands Telephone Corporation

Williams Communication

WilTel, Inc.

#### WATER

Arizona Water Company Artesian Water Company

City of Auburn

Bethlehem Authority – Water

California Water Service Company California-American Water Company

Citizens Water – California Citizens Water – Arizona Clinton Water Company Columbia Water Company

Commonwealth Water Company

Consumers New Jersey Water Company Dauphin Consolidated Water Supply Co.

Dominguez Water Company Elizabethville Water Company

City of Fairfax

Garden State Water Company Hackensack Water Company

Hawaii Water Service Ka'anapali Water Kona Water

Waikoloa Village Water Waikoloa Resort Water Waikoloa Resort Irrigation Hershey Water Company

Illinois-American Water Company Indian Rock Water Company Indianapolis Water Company **Iowa-American Water Company** 

Monarch Utilities, Inc.

Monmouth Consolidated Water Company

New Haven Water Company **New Jersey Water Company** 

New Mexico-American Water Company, Inc.

Newtown Artesian Water Company New York-American Water Company Ohio-American Water Company Palm Coast Utility Corporation Pennichuck East Utility Pennichuck Water Works

Pennsylvania-American Water Company Pennsylvania Gas & Water Company

Pennsylvania Water Company Erie & Sayre Divisions

Philadelphia Suburban Water Company

**Pinelands Water Company** Public Service Water Company

Riverton Consolidated Water Company

Roaring Creek Water Company **Rock Springs Water Company** Shenango Valley Water Company Southern California Water Company Spring Valley Water Company Spring Valley Water Company

Tidewater Utilities, Inc. United Water - Delaware United Water - Toms River United Water - New Jersey Document Accession #: 20211029-5051





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Keystone Water Company Manufacturers Water Company Masury Water Company Middlesex Water Company Monarch Utilities, Inc. United Water - Pennsylvania United Water - Virginia Virginia American Water Company Western Pennsylvania Water Company York Water Company

#### **STEAM**

Consolidated Edison Co of New York

#### WASTEWATER

California - American Water Company Citizens Sewer – Arizona Hawaii Water Service Company-Wastewater Kona Wastewater Pukalani Wastewater Company Wailoloa Resort Wastewater Illinois-American Company – Wastewater Monarch Utilities, Inc.
New Jersey Water Company
Sewer Districts
Palm Coast Utility Corporation
Pinelands Sewer Company
Wynnewood Sewer Company

#### PROFESSIONAL QUALIFICATIONS

CDP (Certified Depreciation Professional) by Exam during October, 1996

#### PROFESSIONAL AFFILIATIONS

American Water Works Association
American Gas Association
American Railway Engineering Association
Pennsylvania Gas Association
Pennsylvania Municipal Authorities Association
Member AGA Accounting Services Committee
Society of Depreciation Professionals-Founding Member, Chairman Coordinating and Membership Committees, Treasurer, President, and Past President

#### **PUBLICATIONS**

AGA/EEI Depreciation Accounting Committee, Contributing Author 1989, "An Introduction to Net Salvage of Public Utility Plant"

"Replacement Cost and Service Life Studies", Journal of Property Tax Management, Fall 1994, Volume 6, Issue 2

#### **SPEECHES AND PRESENTATIONS**

"Depreciated Replacement Cost", Institute of Property Taxation - 18th Annual Conference, San Francisco, CA

"RCNLD Issues for Utilities", The National Association of Railroad & Public Utilities Tax Representative, 1997 Annual Conference, North Lake Tahoe, NV

"Useful Service Lives of Cellular Industry Assets", State of Florida, Department of Revenue, Industry/Government

#### Task Force (April 1997)

*"Appraisal and Valuation Issues Associated with Technology Changes within the Wireless Industry"*, 30<sup>th</sup> Annual Wichita Program - Appraisal for Ad Valorem Taxation of Communications, Energy, and Transportation Program, Wichita State University - July 30-August 3, 2000

"Physical/Functional Obsolescence, Residual Values/Floors (Net Salvage)", 32th Annual Wichita Program - Appraisal for Ad Valorem Taxation of Communications, Energy, and Transportation Program Wichita State University - July 28-August 1, 2002

"Depreciation Study Preparation", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, Lake Tahoe, Nevada - October 28, 2002

*"Use of Replacement Cost to Value High Tech Equipment"* Southeastern Association of Tax Administrators, 53rd. Annual Conference, Savannah, Georgia - July 14-July 16, 2003

"Property Tax: Use of Replacement Cost in the Appraisal of Telecommunications Companies", Western States Association of Tax Representatives (WSATR), WSATA 2003 Annual Meeting, Austin, TX - Sept. 9, 2003

"Replacement Cost & Depreciated Replacement Cost Presentation", Southwestern Bell Telephone Company – Arkansas PSC – Tax Division - August, 2003

"Valuation of Assets", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, Scottsdale, Arizona - December 9, 2003

"Property Tax: Use of Replacement Cost in the Appraisal of Telecommunications Companies", Oklahoma State Board of Equalization Public Service Valuation Guidelines Subcommittee – Oklahoma City, OK – Feb 5, 2004

"Net Salvage Issues In Rate Cases", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, San Antonio, Texas - May 17, 2004

"Current Depreciation Issues: Point-Counterpoint", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, Savannah, Georgia – November 14, 2006

"Depreciation & Cost of Removal", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, Tucson, Arizona – October 24, 2007
"Whole Life versus Remaining Life", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, San Francisco, California – May 21, 2008

"Obsolescence-Measuring the Impact for Industries Experiencing Change" "Depreciation & Cost of Removal", IPT 32nd Annual Conference, Atlanta, Georgia, June 23, 2008

"An Alternative to IFRS Unit Depreciation", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, Baltimore, Maryland – May 18, 2009

"Alternative to IFRS Unit Depreciation", Society of Depreciation Professionals, Albuquerque, New Mexico, – October 5, 2009

"Depreciation Training", Regulatory Commission of Alaska (RCA), Anchorage, Alaska, October 26 & 28, 2010

"Physical Depreciation – The Uses and Abuses of Iowa Curves and Other Errors", IPT Property Tax Symposium, Austin, Texas, November 2, 2010

"Preparing To Be A Depreciation Witness", AGA Accounting Services Committee/EEI Property Accounting & Valuation Committee, New Orleans, Louisiana – May 19, 2011



"Depreciation – The Last 25 Years & More", Society of Depreciation Professionals, Atlanta, Georgia, – September 20, 2011

"A Roadmap to Replacement Cost", 42nd Annual Wichita Program - Appraisal for Ad Valorem Taxation of Communications, Energy, and Transportation Program, Wichita State University - July 29-August 2, 2012

#### **DEPRECIATION TRAINING INSTRUCTOR-CLASSES**

Regulatory Commission of Alaska, Anchorage, AK, Oct 2012

EUCI Depreciation Training, Houston, TX, Nov 8-9, 2012

EUCI Depreciation Training, Denver, CO, May 6-7, 2013

EUCI Depreciation Training, Chicago, IL, Nov 14-15, 2013

EUCI Depreciation Training, Pasadena, IL, Apr 22-23, 2014

EUCI Depreciation Training, Newport Beach, CA, Dec 16-17, 2014

EUCI Depreciation Training, Denver, CO, June 24-25, 2015

EUCI Depreciation Training, Anaheim, CA Apr 25-26, 2016

EUCI Fortis Depreciation Training, Calgary, AB May 10-11, 2016

EUCI Depreciation Training, Denver, CO Oct 27-28, 2016

EUCI Depreciation Training, Denver, CO Feb 7-8, 2017

EUCI Depreciation Training, Phoenix, AZ Dec 4-5, 2017

EUCI Depreciation Training, Baltimore, MD, Jun 14-15, 2018

EUCI Depreciation Training, Chicago, IL, Feb 28-Mar 1, 2019



#### Earl M. Robinson—Testimony Appearances

#### **TESTIMONY**

Jurisdictions testified in include Alberta, Arizona, California, Connecticut, Delaware, District of Columbia, FERC, Florida, Indiana, Illinois, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Montana, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Nevada, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, and Virgin Islands. Extensive expert testimony has been presented on the subjects including Depreciation, Capital Recovery, Plant in Service Measures of Value, Depreciated Reproduction Cost, and Depreciated Replacement Cost. Numerous additional depreciation studies have been completed and filed in various different jurisdictions for which testimony appearances were not required.

<u>Jurisdiction</u>	Client	Docket/Application	Subject
Alberta	Canadian Western Natural Gas Company Limited	980413	Depreciation
	ATCO Pipelines	1292783 ppl. 1527976, Proc ID 13	Depreciation Depreciation
Arizona	Arizona Corp. Comm./ Mtn. Bell	9981-E-1051	RCN/RCND*
	Arizona Corp. Comm./ Southwest Gas Corp.	U-1551-80-70	RCN/RCND*
	Qwest Corporation-Arizona	TX2001-000662	Property Tax Valuation Deposition
California	MCI Telecommunications	274	Replacement Cost/
(PUC & State Board of	Corporation	SAU87-38	Depr. Repl. Co Replacement Cost/ Depr. Repl. Cost
Equalization)		SAU91-101	Replacement Cost/ Depr. Repl. Cost
Valuation	SBC-California	SAU 279	Property Tax
Valuation	SBC-California	Declaration January 31, 2005	Property Tax
valuation		Declaration	
	Southern California Water Company	ABJ-4	Depreciation
Connecticut	Connecticut Natural Gas Corp	08-12-06 13-06-08	Depreciation Depreciation
	Southern Connecticut Gas Co.	89-09-06	P.I.S. Measures of
		08-12-07	Value and Depreciation



<u>Jurisdiction</u>	Client	Docket/Application	<u>Subject</u>
Delaware	Artesian Water Company	82-20 87-3	Depreciation Depreciation
	United Water - Delaware	96-164 98-98	Depreciation Depreciation
	Delaware Public Service Comm. Diamond State Telephone Co.	81-8	P.I.S. Measures of Value and Depr.
	Delmarva Power & Light Company	05-304	Depreciation
	Tidewater Utilities, Inc/ Public Water and Supply, Inc	99-466	Depreciation
District of Columbia	Potomac Electric Power Co.	F.C. 869	Depreciation
	Washington, DC PSC/C&P Tel Corp.	F.C. 777	Depreciation
	Washington, DC PSC/ Potomac Electric Power Co.	F.C. 785 F.C. 813	Capital Recovery/ Depreciation
FERC	Granite State Gas Transmission, Inc.	RP91-164-000	Depreciation
	Paiute Pipeline	RP96-306-000	Depreciation
	Public Service Company of NM	ER-11-1915-000	Depreciation
Florida (County of Duval)	BellSouth Telecommunications	Petitions 1795-1800	Replacement Cost/ Depr. Repl. Cos
(County of Lee)	Sprint-Florida, Inc (Embarq)	Case No. 02-CA-013330-1	Replacement Cost
(County of St. Lucie)	BellSouth Telecommunications	1999 Petitions	Replacement Cost/ Depr. Repl. Cost
(County of Citrus)	Embarq	Case No. 2003-CA4473, 2004-CA4565, 2005-CA5010	Property Tax Valuation Deposition
(County of Lee)	Embarg	Case No. 02-13330 CA-WCM	Property Tax Valuation Deposition
Lee)	Progress Energy – Florida Progress Energy – Florida	050078-EI 090079-EI	Depreciation Depreciation
Illinois	Illinois - American Water Company	00-0340	Depreciation
		02-0690 07-0507	Depreciation Depreciation



<u>Jurisdiction</u>	Client	Docket/Application	<u>Subject</u>
	Illinois Consolidated Telephone Co.	81-0264 82-0623	RCN/RCND* RCN/RCND*
Indiana	Northern Indiana Public Service Company	Cause No. 41746	Depreciation
lowa (Dept of Rev)	Qwest Corporation-lowa	883	PropertyTax
Kansas	Kansas Gas Service	03-KGSG-602-RTS	Valuation Deposition Depreciation
Kentucky	Kentucky Utilities	Case No. 2003-00434	Depreciation
	Louisville Gas & Electric Electric Gas	Case No. 2003-00433	Depreciation
Maryland	Delmarva Power & Light Company	9093	Depreciation
	Potomac Electric Power Company	9092	Depreciation
Massachusetts	Bay State Gas Company	92-111 DTE 05-27	Depreciation Depreciation
Montana	Montana-Dakota Utilities Co-Gas	Docket #2012.9.100	Depreciation
	Montana-Dakota Utilities Co-Elec	Docket # 2007.7.79 Docket # 2010.8.82	Depreciation Depreciation
	Qwest Corporation-Montana	06DORFC001 06DOTFC017	Property Tax Valuation Deposition
Nevada	Southwest Gas Corporation	04-3011	Depreciation
New Jersey	Atlantic City Electric d/b/a Conectiv Power Delivery	ER03020110	Depreciation
	Borough of Butler/ Butler Elec. Dept.	792-84	Valuation of Plant in Service Customer
Revenue			and Purchase
Power			
	Commonwealth Water Co.	842-100	Depreciation
	Consumers NJ Water Company	WR00030174	Depreciation
	Garden State Water Co.	WR91091483	Depreciation
	Middlesex Water Company	WR8602-240 WR90080884J WR96110818	Depreciation Depreciation Depreciation
	Monmouth Cons. Water Co.	8312-1113	Depreciation



<u>Jurisdiction</u>	Client	Docket/Application	<u>Subject</u>
	New Jersey Water Company	834-292	Depreciation
	Public Service Electric & Gas	GR05100845	Depreciation
	United Water Resources (formerly Hackensack Water Co.)	8506-663 WR90080792J WR95070303	Depreciation Depreciation Depreciation
	Toms River Water Company	WR95050219	Depreciation
New Hampshire	Northern Utilities, Inc.	DR91-081	Depreciation
New Mexico	New-Mexico American Water Company, Inc.	2813 03-00206-UT	Depreciation Depreciation
	Public Service Company of NM	08-00273-UT	Depreciation
New York	New York-American Water Co.	10-00086-UT 28911	Depreciation Depreciation
	New York State Elec. & Gas Corp. Electric Business & Common Plant	05-E-1222	Depreciation
	New York State Elec. & Gas Corp-Elec.	09-E-0715	Depreciation
	New York State Elec. & Gas Corp-Gas	09-G-0716	Depreciation
	Rochester Gas and Elec. Corp-Elec.	09-E-0717	Depreciation
	Rochester Gas and Elec. Corp-Gas	09-G-0718	Depreciation
	Spring Valley Water Co., Inc.	89-W-1151 92-W-0645	Depreciation Depreciation
North Carolina	Nantahala Power and Light Co.	E-13, SUB157	Depreciation
North Dakota Oklahoma	Montana-Dakota Utilities Co-Gas	Case No. PU-399-02-183	Depreciation
(State Board of Equalization)	SWBT-Oklahoma Valuation Deposition	EQ-2004-10	Property Tax
Pennsylvania	Borough of Media Water Works	R-912150	Depreciation
	Columbia Gas of Penna.	R-80031129	Depreciation And Valuation
	Commonwealth Telephone Co.	I-00920020	Depreciation
	Keystone Water Company	R-842755	Capital Recovery/ Depreciation
		R-842756	Capital Recovery/ Depreciation
		R-842759	Capital Recovery/ Depreciation



<u>Jurisdiction</u>	Client	Docket/Application	<u>Subject</u>
<del></del>	Mid Penn Tel. Corp.	R-80071264	Depreciation
	PennaAmerican Water Co.	R-891208	Depreciation
	Penna. Gas & Water Co	R-821961	Depreciation
	Gas Division	R-832475	Depreciation
	Penna. Gas & Water Co Water Division	R-822102 R-850178	Depreciation Capital Recovery/ Depreciation
		R-870853	Capital Recovery/ Depreciation
	Penna. Gas & Water Co	R-901726	PIS Meas. of
	Scranton Division	R-922482	Value/Depreciation Depreciation
	Penna. Gas & Water Co Spring Brook Division Nesbitt Service Area	R-911966	PIS Meas. of Value/Depreciation
	Crystal Lake Service Area	R-922404	PIS Meas. of Value/Depreciation
	Cease town/Watres Service Area	R-93266	Depreciation
	Penna. Power Company	R-811510	PIS Meas. of Value/Depreciation R-821918 PIS Meas. of Value/Depreciation
		R-832409	PIS Meas. of
		R-842740	Value/Depreciation PIS Meas. of
		R-850267	Value/Depreciation PIS Meas. of
		R-870732	Value/Depreciation PIS Meas. of Value/Depreciation
	Pennsylvania & Southern Gas Company	R-870686	Depreciation
	PG Energy Inc.	R-963612	PIS Meas. Of
		R-984280	Value/Depr. PIS Meas. Of Value/
		R-00061365	Depreciation. PIS Meas. Of Value.Depr.
	Philadelphia Suburban Water Company	R-911892 R-922476	Depreciation PIS Meas. of
	vvater Company	R-932868	Value/Depreciation PIS Meas. of Value/Depreciation



<u>Jurisdiction</u>	Client	Docket/Application	<u>Subject</u>
	Riverton Consolidated Water Co.	R-842675	Capital Recovery/Depr
	United Water - Pennsylvania Western Pennsylvania	R-00973947 R-842621	Depreciation Capital Recovery/Depreciati
	Water Company	R-842622	on. Capital Recovery/Depreciati
		R-842623	on Capital Recovery/Depreciati
		R-842624	on Capital Recovery/Depreciati
		R-842625	on Capital Recovery/Depreciati on
	Wellsboro Electric Company	R-00016356	Depreciation
Rhode Island	Providence Gas Company	1914 2286	Depreciation Depreciation
South Carolina	Lockhart Power Company	87-435-E	Depreciation
Tennessee (Board of Equa	Bellsouth – Tennessee alization)	67-5-903	Property Tax Valuation Deposition
Utah Valuation	Verizon Wireless	05-0826, 05-0829	Property Tax
Hearing			Deposition &
Virgin Islands	Virgin Islands Tel. Corp.	264 314 316	Depreciation Depreciation Depreciation

Reproduction Cost New/Reproduction Cost New Depreciated.

#### FEDERAL ENERGY REGULATORY COMMISSION

### PRE-FILED TESTIMONY OF TIFFANY M. ESCALONA

### ON THE SUBJECT OF DEPRECIATION ON BEHALF OF

**NEW ENGLAND POWER COMPANY D/B/A NATIONAL GRID** 

#### **Table of Contents**

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II.	Purpose of Testimony	2
III.	Background	4
IV.	Proposed Amendment to NEP's Transmission Formula Rates	6
V.	Generation in Support of Transmission Services Provided by NEP	8
VI.	Conclusion	.10

#### I. INTRODUCTION AND QUALIFICATIONS

1	Q1.	Please state your name, current position, and business address.
2	A.	My name is Tiffany M. Escalona. I am a Director in New England Regulation for
3		National Grid USA Service Company, Inc. My business address is 2 Hanson
4		Place, 11 <sup>th</sup> floor, Brooklyn, NY 11217.
5	Q2.	Please summarize your education and professional background.
6	A.	I graduated from St. Francis College with a Bachelor of Science degree in
7		Accounting and Business Management and from Baruch College in New York,
8		New York with a Master of Business Administration in Finance. I have been with
9		National Grid USA for seventeen years in various positions in the Accounting and
10		Regulatory functions. I was promoted to a Director in Strategy & Regulation in
11		July 2015. As Director in the current New England Regulation Department, my
12		responsibilities include supporting National Grid's Federal Energy Regulatory
13		Commission ("FERC" or "Commission") regulated companies on rate matters,
14		including New England Power Company ("NEP") rates.
15	Q3.	Have you previously been a witness in proceedings before the Federal Energy
16		Regulatory Commission?
17	A.	Yes. I testified on behalf of Niagara Mohawk Power Corporation ("NMPC") in
18		Docket No. ER19-132-000 to update the depreciation rates in NMPC's wholesale
19		Transmission Service Charge ("TSC") formula rate under the New York
20		Independent System Operator's ("NYISO") Open Access Transmission Tariff
21		("OATT"). I also submitted pre-filed testimony in Docket No. RP21-100. My
22		testimony in that docket addressed a National Grid LNG LLC storage rate update

1		pursuant to section 4 of the Natural Gas Act and Part 154 of the Commission's
2		Regulations.
3		II. PURPOSE OF TESTIMONY
4	Q4.	What is the purpose of your testimony?
5		The purpose of my testimony is two-fold. First, I support NEP's filing of an
6		amendment to its formula rates to update the depreciation rates stated in its
7		wholesale Regional Network Service ("RNS") and Local Network Service
8		("LNS") rate formulas set forth in Appendix D to Attachment F to the ISO New
9		England Inc.'s ("ISO-NE's") Open Access Transmission Tariff ("ISO-NE
10		OATT").
11		Second, I support NEP's amendment to its Generation in Support of Transmission
12		("GISOT") rate formulas under Attachment 4 ("Attachment 4") of a Local
13		Service Agreement designated as TSA-NEP-22 by and among NEP,
14		Massachusetts Electric Company ("MECO"), and Nantucket Electric Company
15		("Nantucket") to include stated depreciation rates relevant to the facilities
16		included in the formula.
17		NEP proposes to amend both sets of depreciation rates to become effective
18		January 1, 2022.
19		I understand NEP is submitting updates to its depreciation rates in the ISO-NE
20		OATT and Attachment 4 to TSA-NEP-22 concurrently, supported by the same
21		depreciation study, testimony, and exhibits, even though the Commission may
22		assign two separate docket numbers to these updates.
23	Q5.	Please provide a summary of the depreciation rate changes proposed in this
24		proceeding.

1	A.	NEP is proposing to reflect updated depreciation rates in its RNS, LNS, and
2		GISOT formula rates pursuant to the depreciation study included in Exhibit NEP-
3		3 of this filing. The depreciation rates set forth in this docket are proposed to be
4		approved with an effective date of January 1, 2022.
5	<b>Q6.</b>	Are you sponsoring any statements as part of this proceeding?
6		Yes. Exhibit NEP-4 (Estimated Cost of Service Impacts), contains abbreviated
7		cost of service statements, detailing the revenue requirements for both Period I
8		and Period II as required by the Commission. Period I is revenue requirement for
9		the 12-months ending December 31, 2020, and Period II is the adjusted Period I
10		data with the proposed depreciation rate updates. The schedules included as part
11		of Exhibit NEP-4 are described in greater detail in my testimony below.
12	<b>Q7.</b>	Are you sponsoring any other exhibits as part of this proceeding?
12 13	<b>Q7.</b> A.	Are you sponsoring any other exhibits as part of this proceeding?  Yes. Attachment A (Clean Tariffs) contains the proposed clean version of
	-	
13	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of
13 14	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become
13 14 15	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become effective January 1, 2022, whereas Attachment B (Redlined Tariffs) contains the
<ul><li>13</li><li>14</li><li>15</li><li>16</li></ul>	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become effective January 1, 2022, whereas Attachment B (Redlined Tariffs) contains the proposed changes shown in redline. The changes are limited to the stated
13 14 15 16 17	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become effective January 1, 2022, whereas Attachment B (Redlined Tariffs) contains the proposed changes shown in redline. The changes are limited to the stated depreciation rates for NEP's applicable classes of Plant in Service, located in
13 14 15 16 17	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become effective January 1, 2022, whereas Attachment B (Redlined Tariffs) contains the proposed changes shown in redline. The changes are limited to the stated depreciation rates for NEP's applicable classes of Plant in Service, located in Appendix D to Attachment F to the ISO-NE OATT.
13 14 15 16 17 18 19	-	Yes. Attachment A (Clean Tariffs) contains the proposed clean version of Appendix D to Attachment F of the ISO New England OATT that will become effective January 1, 2022, whereas Attachment B (Redlined Tariffs) contains the proposed changes shown in redline. The changes are limited to the stated depreciation rates for NEP's applicable classes of Plant in Service, located in Appendix D to Attachment F to the ISO-NE OATT.  Attachment C (Clean Tariffs) contains the proposed clean version of Attachment

- 1 of stated depreciation rates for NEP's applicable classes of Plant in Service,
- 2 located in a new Attachment 4.

#### 3 III. BACKGROUND

#### 4 Q8. Please provide an overview of New England Power Company

A. NEP operates electric transmission facilities in Massachusetts, New Hampshire,
Vermont, and Rhode Island, which includes facilities operated on behalf of
associated companies MECO and the Narragansett Electric Company ("NECO").

NEP is a wholly-owned subsidiary of National Grid USA ("NGUSA"), a public
utility holding company with regulated subsidiaries engaged in the generation of
electricity and the transmission, distribution, and sale of both natural gas and
electricity. NGUSA is a direct wholly-owned subsidiary of National Grid North
America Inc. and an indirect wholly-owned subsidiary of National Grid plc, a
public limited company incorporated under the laws of England and Wales. NEP
also owns non-controlling interests in three companies which own nuclear
generating facilities that are permanently retired and are being decommissioned.
In addition, NEP has equity shares in New England Hydro-Transmission Electric
Company, Inc. and New England Hydro-Transmission Corporation, which are
two of its affiliates.

#### Q9. Please further explain the transmission services provided by NEP

New England's transmission rates under the ISO-NE OATT utilize a highway/local pricing structure. Under this structure, NEP provides regional transmission service under the ISO-NE OATT and provides local transmission service under Schedule 21-NEP of the ISO-NE OATT.

Under the ISO-NE OATT, transmission service is provided over New England
generally high voltage looped transmission facilities, more commonly known as
Pool Transmission Facilities ("PTF") or bulk transmission facilities. These
facilities serve as New England's electric transmission "highway," and the service
provided over these facilities is referred to as Regional Network Service ("RNS")
The ISO-NE Regional Network Service formula rate ("RNS Rate") recovers the
aggregate revenue requirement for certain PTF facilities owned by transmission
owners in New England including NEP. The RNS Rate is determined annually in
accordance with a FERC-approved formula included in Attachment F of the ISO-
NE OATT.
Under Schedule 21-NEP of the ISO-NE OATT, NEP provides transmission
service over its lower voltage, non-highway transmission facilities, also known as
Non-PTF facilities ("Non-PTF"). The service provided over Non-PTF is referred
to as Local Network Service ("LNS"). NEP also provides metering,
transformation, and certain ancillary services to its customers to the extent that
such services are required by each customer and not otherwise provided under the
ISO-NE tariff.
Pursuant to Attachment RR of Schedule 21-NEP currently in effect, NEP
calculates its total transmission revenue requirement for PTF and Non-PTF
facilities and credits the regional network service revenues remitted by ISO-NE
for PTF facilities against the total revenue requirement to determine the net
amount to be collected through NEP's local rates. LNS rates are calculated and
charged monthly to local network load customers on a load ratio share basis.

1		Effective January 1, 2022, pursuant to the terms of the total comprehensive		
2		settlement approved by the Commission in Docket No. ER20-2054, the RNS and		
3		LNS revenue requirement will be calculated in accordance with the formula rate		
4		included in Attachment F of the ISO-NE OATT. The fully synchronized rates will		
5		be a stated (\$/kW-month) annual rate subject to true up to actual costs.		
6		The following section discusses the estimated impact on RNS and LNS rates		
7	resulting from the proposed depreciation rates filed in this proceeding. Because			
8		the settlement formula rates have not yet been implemented in New England, the		
9		analysis and supporting exhibits were calculated using the RNS and LNS formula		
10		rates currently in effect.		
11		IV. PROPOSED AMENDMENT TO NEP'S TRANSMISSION		
12		FORMULA RATES		
13	Q10.	Please describe the depreciation rate changes being proposed to NEP's RNS		
14		and LNS formula rates under the ISO-NE OATT.		
15	A.	NEP's depreciation rates currently in effect were approved by the FERC in 1995,		
16		in Docket ER95-267. NEP is requesting that the depreciation rates shown in		
17		Exhibit NEP-3 and explained in detail in the testimony of Mr. Earl Robinson in		
18		Exhibit NEP-1, be placed into effect January 1, 2022. The implementation of the		
19		proposed depreciation rates as filed will ensure that the rates charged to customers		
20		reflect the appropriate service life and cost of removal of the assets currently used		
21		in the provision of transmission service.		

1	A.	In accordance with the total comprehensive settlement approved by the
2		Commission in Docket No. ER20-2054, RNS and LNS rates are to be calculated
3		and filed annually by July 31st for rates effective January 1st of the following year
4		As explained earlier, the terms of settlement take effect on January 1, 2022. NEP
5		is requesting that the depreciation rates as submitted in this filing take effect as of
6		the same date. These new depreciation rates would therefore be included in RNS
7		and LNS rates effective January 1, 2024, which will be calculated based on
8		calendar year 2022 annual FERC Form 1 data. NEP's request is justified because
9		the currently inadequate depreciation rates do not allow NEP to fully recover its
10		costs of removal or to timely recover its investment in needed transmission
11		infrastructure.
12	Q12.	What parts of Attachment F to the ISO-NE OATT is NEP proposing to
13		amend to reflect these depreciation rate changes?
14	A.	As shown in Attachment B (Redlined Tariffs), NEP is proposing to change the
15		depreciation rates stated in Appendix D to Attachment F to the ISO-NE OATT.
16		These rates are used in the calculation of RNS and LNS formula rates.
17	Q13.	Please explain the rate impact of the changes in depreciation rates
18	A.	Exhibit No. NEP-4, Schedule 1, Estimated Cost of Service Impacts, shows the
19		change in NEP's RNS and LNS revenue requirements that results from the
20		proposed depreciation rate changes utilizing calendar year 2020 data. Lines 1 and
21		2 demonstrate that the proposed depreciation rate change results in an increase to
22		NEP's calendar year 2020 RNS pre-1997 and post-1996 Revenue Requirements
23		of \$3.2 million and \$21.7 million, respectively. This increase is estimated to

1	impact the pooled RNS rate by 0.97%. Line 3 demonstrates that the proposed		
2	depreciation rate change results in an increase to NEP's calendar year 2020 LNS		
3		revenue requirements of \$9 million or 5.85%.	
4		As shown in Exhibit NEP-4, Schedules 2, 3, and 4, the change in depreciation	
5		rates also impacts the calculation of depreciation reserves, deferred taxes, and the	
6		return on investment in the revenue requirement calculation.	
7		V. GENERATION IN SUPPORT OF TRANSMISSION SERVICES	
8		PROVIDED BY NEP	
9	Q14.	Please explain Generation in Support of Transmission charges under	
10		Schedule 21-NEP?	
11	A.	Generation in Support of Transmission ("GISOT") charges are charges for certain	
12		Production Facilities owned by NEP and used for the sole purpose of backup	
13		support for transmission reliability in the provisions of transmission service by	
14		NEP to MECO. All Production Facilities on Nantucket Island currently support	
15		the transmission function. The support charges to MECO are based on a fixed	
16		annual expense charge and a monthly variable charge in accordance with TSA-	
17		NEP-22, the Local Service Agreement among MECO, Nantucket, and NEP.	
18		The Fixed Expense Charge in the accepted GISOT formula rate is updated	
19		annually and is based on actual historical data from the preceding calendar year.	
20		The Fixed Expense Charge calculates the revenue requirement of the Production	
21		Facilities which includes return on the investment base, associated income taxes,	
22		depreciation expense, property tax expense, operation and maintenance, and	
23		associated administrative and general expense. The annual revenue requirement is	
24		divided by 12 and charged to MECO monthly as a component of the monthly	

1		Schedule 21 charges from NEP.
2		The variable expense charge is the monthly fuel expense of the production
3		facilities and is charged to MECO monthly.
4	Q15.	What parts of TSA-NEP-22 under Schedule 21-NEP are proposed to be
5		amended to reflect these depreciation rate changes?
6	A.	As shown in Attachment D (Redlined Tariffs), NEP is proposing to state in
7		Attachment 4 to the Local Service Agreement among NEP, MECO, and
8		Nantucket the depreciation rates related to the applicable facilities included in the
9		GISOT charge as calculated and explained in the exhibits and testimony
10		sponsored by Mr. Robinson. The update of these rates will ensure that NEP will
11		be able to fully recover cost of removal and to recover its investment in a timely
12		manner.
13	Q16.	Please explain the GISOT rate impact of the changes in depreciation rates
13 14	<b>Q16.</b> A.	Please explain the GISOT rate impact of the changes in depreciation rates  Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line
14		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line
14 15		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the
14 15 16		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the proposed depreciation rate changes for the calendar year 2020. The change in
<ul><li>14</li><li>15</li><li>16</li><li>17</li></ul>		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the proposed depreciation rate changes for the calendar year 2020. The change in depreciation rates also impacts the calculation of depreciation reserves, deferred
14 15 16 17 18		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the proposed depreciation rate changes for the calendar year 2020. The change in depreciation rates also impacts the calculation of depreciation reserves, deferred taxes, and the return on investment in the revenue requirement calculation. In
14 15 16 17 18 19		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the proposed depreciation rate changes for the calendar year 2020. The change in depreciation rates also impacts the calculation of depreciation reserves, deferred taxes, and the return on investment in the revenue requirement calculation. In total, the depreciation rate changes result in a decrease of \$873,031 to the GISOT
14 15 16 17 18 19 20		Exhibit No. NEP-4, Schedule 5, Estimated Cost of Service Impacts - GISOT, Line 11 shows the change in NEP's GISOT depreciation expense that results from the proposed depreciation rate changes for the calendar year 2020. The change in depreciation rates also impacts the calculation of depreciation reserves, deferred taxes, and the return on investment in the revenue requirement calculation. In total, the depreciation rate changes result in a decrease of \$873,031 to the GISOT revenue requirement calculation, which is reflected on line 19 column B of

- 1 VI. CONCLUSION
- Q17. Does this conclude your testimony? 2
- 3 A. Yes, it does.

### nationalgrid

#### **NATIONAL GRID**

**New England Power Company** 

Depreciation Study as of December 31, 2020

Earl M. Robinson, Principal David A. Sheffer, Principal

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August 5, 2021

Hanna Abada, CPA Sr. Analyst, Plant accounting **National Grid** One Metrotech Center-12<sup>th</sup> Floor Brooklyn, NY 11201

Re: New England Power Co. Depreciation Study

Dear Ms. Abada:

In accordance with your authorization, we have prepared a depreciation study related to the utility plant in service of New England Power Company as of December 31, 2020. Our findings and recommendations, together with supporting schedules and exhibits, are set forth in the accompanying report.

Summary schedules have been prepared to illustrate the impact of instituting the recommended annual depreciation rates as a basis for the Company's annual depreciation expense as compared to the rates presently utilized. The application of the present rates to the depreciable plant in service as of December 31, 2020 results in an annual depreciation expense of \$74,873,674. In comparison, the application of the proposed depreciation rates to the depreciable plant in service at December 31, 2020 results in an annual depreciation expense of \$112,872,245 which is an increase of \$37,998,571 from current rates. The composite annual depreciation rate under present rates is 2.37 percent, while the proposed pro forma composite depreciation rate is 3.57 percent.

Section 2 of our report contains the summary schedules showing the results of our service life and salvage studies and summaries of presently utilized depreciation rates. The subsequent sections of the report present a detailed outline of the methodology and procedures used in the study together with supporting calculations and analyses used in the development of the results. A detailed table of contents follows this letter.

> Respectfully submitted, Earl M Robinson

EARL M. ROBINSON, CDP

DAVID A. SHEFFER, Principal

-->c. SMu

#### **NEW ENGLAND POWER COMPANY**

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## **SECTION 1**

#### **NEW ENGLAND POWER COMPANY**

#### **Executive Summary**

Table 1 on pages 2-1 to 2-2 is a comparative summary which illustrates the effect of instituting the revised depreciation rates. The schedule includes a comparison of the annual depreciation rates and annual depreciation expense under both present and proposed rates applied using the Straight-Line Method for each depreciable property group of New England Power Company (the "Company") plant in service as of December 31, 2020. The proposed depreciation rates were developed utilizing the Straight Line (SL) Method, Broad Group (BG) Procedure, and the Average Remaining Life (ARL) Technique. The utilization of the recommended depreciation rates based upon the Straight Line Average Remaining Life Procedure results in the setting of depreciation rates which will continuously true up the Company's level of capital recovery over the life of each asset group. Application of this procedure, which is based upon the current best estimates of service life and net salvage together with the Company's plant in service and accrued depreciation, produces annual depreciation rates that will result in the Company recovering 100 percent of its investment -- no more, no less.

Table 1a on pages 2-3 and 2-4 summarizes the segmentation of the Company's property group's December 31, 2020 book depreciation reserves into the plant only, gross salvage, and cost of removal components.

Table 2 - Plant Only on pages 2-5 and 2-6, (which is the development of average remaining life depreciation rates for the Plant Only recovery component) provides a summary of the detailed life estimates and service life parameters utilized in preparing the Average Remaining Life depreciation rates for each property group. The schedule provides a summary of the detailed data and narrative of the study results set forth in Sections 4 through 7. The developed depreciation rates (Column I) were determined by studying the Company's historical investment data together with the interpretation of future life expectancies which will have a bearing on the overall service life of the Company's property. This study included an analysis of the content of the property groups, discussions with senior management regarding current and anticipated events that may impact the various property groups.

Table 2 - Gross Salvage on pages 2-7 and 2-8 is a similar table to Table 2 - Plant Only, except that this table develops the component level depreciation rates for the recovery of the gross salvage portion of the property cost.

Table 2 - Cost of Removal on pages 2-9 and 2-10 summarizes the depreciation recovery rates for the cost of removal segment of the total plant cost.

Table 3 on pages 2-11 and 2-12 reconciles the December 31, 2020 account level plant in service balances per books versus the balances utilized in the performance of the depreciation study. The table incorporates pending (unrecorded) retirements identified during the course of completing the depreciation study.

Likewise, Table 4, on pages 2-13 and 2-14, reconciles the December 31, 2020 book depreciation reserve balances per books versus the balances utilized in preparing the depreciation rates per this study. The table incorporates the pending (unrecorded) retirements identified in assembling the detailed accounting data for this study.

Table 5 on pages 2-15 and 2-16 summarizes the depreciation parameters underlying the Company's current depreciation rates and also provides similar information relative to the proposed depreciation parameters and depreciation rates as of December 31, 2020.

It is recommended that the Company continue to apply depreciation rates and maintain its book depreciation reserve on an account-level basis. The maintenance of the book reserve on an account-level basis requires both the development of annual depreciation expense and distribution of other reserve account charges to an individual level. Maintaining the Company's depreciation records in this detail will aid in completing the various rate studies and, most importantly, clearly identifies the Company's level of capital recovery relative to each category of plant investment.

The general drivers for the proposed depreciation rates include an assessment of the Company's historical experience with regard to achieved service lives and net salvage factors. In addition, consideration is given to current events as well as items which are anticipated to impact the Company's ability to recover its fixed capital costs related to utility plant in service utilized to provide service to the Company's customers.

The depreciation rate for each individual account changed as a result of reflecting estimates obtained through the in-depth analysis of the Company's most recent data together with an interpretation of ongoing and anticipated future events. Some of the changes from the existing underlying service lives and net salvage percents to the proposed average service lives and net salvage percents are not overly significant and typically reflect fine tuning of previously utilized depreciation rates while others are more substantial in nature. Several of the accounts did reflect more significant changes (as outlined in Section 4 of this report) from the previously utilized depreciation rates.

The most notable changes in depreciation occurred relative to Account 353 – Station Equipment, Account 355 – Poles & Fixtures, and Account 356 – O/H Conductors & Devices.

The depreciation rate for Account 353 – Station Equipment increased from 2.29 percent to 3.28 percent. The proposed average service life for the property group is thirty-nine (39) years, based upon overall and recent company experience, while the average service life underlying the current depreciation rate of the property group is forty-five (45) years. This change in average service life together with the increase of estimated future net salvage from negative 10 percent to negative 15 percent are the drivers underlying the increase in depreciation expense. Historical life analysis of this property group has demonstrated that the Company has routinely experienced replacements/retirements of increasing levels of property components, resulted in progressively shorter average service life indications. Such levels are not only anticipated to continue, but significantly increase. Accordingly, the life indication experience of the latest decade is the basis for the current estimate of future average service life for the property group.

Also contributing to the resulting higher depreciation rate is the fact that the Company's current book depreciation reserve is less than required when given consideration to the current age and estimated average service life and resulting average remaining life of the property group. That is, the lower level of the current book depreciation reserve and the use of average remaining life depreciation procedure drives the proposed depreciation rate to a higher level because of the need to recover the required additional recovery amount over the shorter average remaining life of the property group.

The depreciation rate for Account 355 – Poles Towers & Fixtures increased from 2.36 percent to 4.71 percent. The proposed average service life is fifty-eight (58) years, based upon overall and recent Company experience, while the average service life underlying the present

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depreciation rate is forty-five (45) years. The future net salvage underlying the proposed depreciation rates is negative 140 percent while the future net salvage underlying the present depreciation rates is negative 10 percent.

The average service life underlying the current depreciation rate was shorter, at 45 years, than the current proposed average service life. Contributing to the circumstance is that the experienced lives of the property group assets increased to a somewhat greater life during the 1990 and early 2000 decades to the mid 50-year life range due to a change in the level of and age of retirement. However, current expectations are for this property class to experience a substantial increase in replacement activity over the coming decades. The anticipated result of such activity is that the average service life will likely ultimately decline from the more recent 5year experience to of that last couple of years to a life of 50 years and less.

Notwithstanding the currently increase in the underlying average service life for the property group, based upon ongoing significant levels of experienced cost of removal, the estimated future net salvage is proposed to be revised from -10% to -140%. Even with this proposed significant increase in the future negative net salvage estimate that is included with the proposed depreciation rate, the book depreciation reserve is less than required, thus an even higher recovery level can be anticipated to be required during subsequent periods. That is, the lower level of the current book depreciation reserve and the use of average remaining life depreciation procedure drives the proposed depreciation rate to a higher level because of the need to recover the required additional recovery amount over the average remaining life of the property group.

The depreciation rate for Account 356 – O/H Conductors & Devices increased from 2.30

percent to 3.38 percent. The proposed depreciation rate is the result of combined changes of both the average service life and net salvage parameters. The proposed average service life is sixty-five (65) years, based upon actually Company historical experience, while the average service life underlying the present depreciation rate is forty-five (45) years. The future net salvage underlying the proposed depreciation rates is negative 100 percent while the future net salvage underlying the present depreciation rates is negative 10 percent.

While the average service life underlying the current depreciation, rate was shorter at 45 years, the experienced lives of the property group assets increased to a greater life during the 1990 and early 2000 decades to a life in the range of 55-60 plus years.

Historical life analysis of this property group has demonstrated that the Company has experienced replacements/retirements of increasing levels of property components, resulted in a leveling off of the prior period life increases, reversing, and experiencing a shorter average service life indication with the ongoing passage of time. Current expectations are for this property class to experience a substantial increase in replacement activity over the next decade or more. The anticipated result of such activity is that the average service life will likely ultimately decline from the more recent 5-year experience to of that last couple of years to a life of 53 years and less.

At the present time, based upon the experience of the past decade a life of 65 years is currently estimated for the property group. Considering the expected/forthcoming significant increases in plant upgrades and change outs, there is a potential for the future experience life to decline towards the earlier average service life underlying the present depreciation rate.

Also contributing to the higher depreciation rates is the fact that the level of the Company's book depreciation reserve for this property group is less than required (based upon the current age of the property along with the estimated life and net salvage depreciation parameters). The lower level of the current book depreciation reserve and the use of average remaining life depreciation procedure drives the proposed depreciation rate to a higher level because of the need to recover the required additional recovery amount over the average remaining life of the property group.

Various of the remaining account/sub-accounts experienced increases and/or declines in recommended depreciation rates to a lesser degree, as noted per Table 1 of this report. This revision in annual depreciation rates and expense is the result of both changes in the estimated service lives and salvage factors, and reflects the impact of the Company's property changes since the most recent study.

With regard to the inclusion of negative net salvage levels in the development of proposed depreciation rates, some accounts have been increased while others were reduced. Contributing to the current estimates of future net salvage, which is consistent with the industry in general, is negative net salvage.

Applying the proposed depreciation rates to the Company's December 31, 2020 plant in service produces annual depreciation expense of \$112,872,245 which is an increase of \$37,998,571 from the current depreciation rates.

The following summary compares the present and proposed composite depreciation rates for illustrative purposes only. The Composite Depreciation Rate should not be applied to the total Company investment inasmuch as the non-proportional change in plant investment as a result of property additions or retirements would render the composite rate inappropriate. The Table 1 schedule lists the recommended annual depreciation rates for each property account.

#### Present Depreciation Rates

Depreciable Plant In Service at December 31, 2020	\$3,164,444,135
Annual Depreciation Expense	\$74,873,674
Composite Annual Depreciation Rate	2.37%
Proposed Depreciation Rates	
Depreciable Plant In Service at December 31, 2020	\$3,164,444,135
Annual Depreciation Expense	\$112,872,245
Composite Annual Depreciation Rate	3.57%

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### **SECTION 2**

Summary of Original Cost of Utility Plant in Service as of December 31, 2020 and Related Annual Depreciation Expense Under Present and Proposed Rates

Proposed Rates Proposed Gross Salv Rates Annual Accrual (1) (9) (h) (h) (h) (h) (h) (h) (h) (h) (h) (h
572,198.64         3.26%         359,415.71         0.00%           0.00         3.33%         (5.09)         (1)           0.00         3.33%         (45,693.24)         (1)           618,570.27         3.40%         77,800.97         0.00%           618,570.13         3.28%         390,926.79         0.00%           7,778,030.37         3.95%         1,353,221.57         0.00%           4,064,501.20         3.54%         2,775,666.71         0.00%
1,842,341,46     2.14%     1,783,986.75     0.00%       36,897,335.39     2.81%     45,275,769.63     0.00%       16,382,328,97     1.63%     11,314,913.66     0.00%       12,741,597.07     1.39%     7,700,356.49     0.00%       1,093,258.03     1.73%     859,698.36     0.00%       1,093,258.03     1.85%     121,242.73     0.00%
131.43 2.22% 68,190,125.79 0.00%
1,512.33     0.00%     0.00%       2,713.01     0.00%     0.00     0.00%       3,790.22     0.00%     0.00     0.00%       21.79     0.76%     8.49     0.00%       487.62     0.00%     0.00     0.00%       527.08     0.00%     0.00     0.00%       92,196.90     0.26%     19,835.82     0.00%
248.96 0.25% 19,844.31 0.00%
3,456.73       2.00%       3,005.85       0.00%         2,455.99       3.20%       2,041.34       0.00%         54,226.44       4.38%       66,529.92       0.00%         72,871.82       3.01%       50,423.95       0.00%         123,429.29       1.42%       29,114.55       0.00%         8,452.44       3.01%       6,604.09       0.00%
264,892.71 2.78% 157,719.70 0.00%
74,873,674.29 2.25% 71,143,356.51 0.00%

Summary of Original Cost of Utility Plant in Service as of December 31, 2020 and Related Annual Depreciation Expense Under Present and Proposed Rates

	Net	Change	Depr., Exp.	(i)								
	Total Proposed Rates			(m)								
	Total Pr		Rate %	€								
	d COR Rates	Annual	Accrual	(k)								
Proposed Rates	Propos		Rate %	9								
Propo	Proposed Gross Salv Rates Proposed COR Rates	Annual	Accrual	(h)								
	Proposed G		Rate %	æ								
			Rate % Accrual									
	Proposed P		Rate %	(J)								
	Present Rates	Annual	Accrual	(e)								
	Pres		Rate %	( <del>p</del> )			<b>~</b>			0		
	Original	Cost	12-31-20	(0)		55,271,909.02 142,570.20 121.358.01	55,535,837.23	0.00	203,580.00	203,580.00		5,039,224.51 87,919.73 8,006.34
			Description	(q)	NON-DEPRECIABLE PLANT	350.00 Land - Transmission 360.00 Land & Land Rights-Distribution 389.00 Land - General Plant	TOTAL Non-Depreciable Plant	301.00 Organization	302.00 Franchises & Consents 303.00 Miscellaneous Intangible Plant	TOTAL Intangible Plant	Non-Utility Property	121.000 Non Utility Property 121.341 Non Utility Property-Other Bldgs & Add 121.352 Non Utility Property-Struct & Improv-Tr
		Account	No	(a)		360.00		301.00	302.00			121.000 L 121.341 L 121.352 L

N/A=Not Applicable/Not Avauilable 3,225,318,702.97 **TOTAL Plant in Service** 

5,135,150.58

TOTAL - Non-Utility Property

### Calculation of Cost of Removal In Book Depreciation Reserve as of December 31, 2020 Based Upon Theoretical Depreciation Reserves (By Location and Account) Using Existing Depreciation Parameters

			Prosp	ective				
Account		Original Cost	A.S.L./	Net Salvage	Total Book Depr Reserve	Cost of Removal	Gross Salvage	Plant Only Depr Reserve
No.	Description	12-31-20	Curve	<u>%</u>	12-31-20	In Book Res.	In Book Res.	12-31-20
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	DEPRECIABLE PLANT							
	Other Production							
	Structures & Improvements	11,025,021.91	30-R3	-10%	1,307,996.13	465,065.70	0.00	842,930.43
	Fuel Holder & Accessories	0.00	N/A	0%	23.87	(1.58)	0.00	25.45
	Diesel Units Conductors & Generators	0.00 21,111,793.20	N/A 30-R3	0% -10%	227,037.09 1,319,804.56	(1,429.11) 19,907.71	0.00 0.00	228,466.20 1,299,896.85
	Miscellaneous Equipment	11,918,499.61	30-R3	-10%	775,936.54	(40,059.54)	0.00	815,996.08
	Energy Storage Equipment	34,258,773.93	25-R4	-10%	2,430,792.05	0.00	0.00	2,430,792.05
	TOTAL Other Production Plant	78,314,088.65			6,061,590.24	443,483.18	0.00	5,618,107.06
050.00	Transmission Plant		47.54	=0/	47.000.070.00	0.440.704.00		45.070.404.00
	Structures and Improvements	83,363,866.96	47-R4 39-L3	-5% -15%	17,986,979.88	2,110,794.89	0.00 0.00	15,876,184.99
	Station Equipment Towers & Fixtures	1,611,237,353.36 33,171,852.26	39-L3 60-R4	-15%	345,919,077.40 12,301,030.01	26,023,799.62 (2,897,192.59)	0.00	319,895,277.78 15,198,222.60
	Poles & Fixtures	694,166,481.93	58-R2	-140%	130,398,359.25	(33,671,390.07)	0.00	164,069,749.32
	Overhead Conductors & Devices	553,982,481.19		-100%	112,435,571.19	(31,710,283.78)	0.00	144,145,854.97
	Underground Conduit	40,352,637.24		-10%	8,380,293.93	972,973.85	0.00	7,407,320.08
	UG Conductors & Devices	49,693,546.97		-75%	10,895,672.00	(4,377,931.36)	0.00	15,273,603.36
359.00	Roads & Trails	6,553,661.08	50-R5	0%	3,646,986.99	236,754.58	0.00	3,410,232.41
	TOTAL Transmission Plant	3,072,521,880.99			641,963,970.65	(43,312,474.86)	0.00	685,276,445.51
	<b>Distribution Plant</b>							
362.00	Station Equipment	63,013.85	45-R2.5	0%	69,315.23	6,301.38	0.00	63,013.85
	Poles, Towers & Fixtures	87,235.03		0%	95,958.53	8,723.50	0.00	87,235.03
	Overhead Conductors & Devices	121,481.57		0%	133,629.73	12,148.16	0.00	121,481.57
	Underground Conduit	1,117.57		0%	1,023.32	66.50	0.00	956.82
	Underground Conductors & Devices Line Transformers-Installation	15,729.80	35-R2.5 25-S3	0% 0%	17,302.78 13,546.44	1,572.98 1,231.49	0.00	15,729.80
	Large Meters-Installation	12,314.95 7,629,161.79		0%	7,788,143.51	518,525.02	0.00 0.00	12,314.95 7,269,618.49
570.00			70-114	070				
	TOTAL Distribution Plant	7,930,054.56			8,118,919.54	548,569.03	0.00	7,570,350.51
	General Plant							
	Structures and Improvements	150,292.60	50-R5	-5%	19,899.46	3,492.66	0.00	16,406.80
	Office Furniture & Fixtures Tools & Work Equipment	63,791.84 1,518,947.88	26-SQ 24-R2	0% -10%	22,564.03 164,242.53	652.68 (77,363.56)	0.00 0.00	21,911.35 241,606.09
	Laboratory Equipment	1,675,214.27	29-L4	0%	535,773.16	1,463.57	0.00	534,309.59
	Communication Equipment	2,050,320.40	25-L4	0%	2,065,644.62	489,642.97	0.00	1,576,001.65
	Miscellaneous Equipment	219,543.97	33-S6	0%	33,398.26	89.63	0.00	33,308.63
	TOTAL General Plant	5,678,110.96			2,841,522.06	417,977.95	0.00	2,423,544.11
	TOTAL Depreciable Plant	3,164,444,135.16			658,986,002.49	(41,902,444.70)	0.00	700,888,447.19
	NON-DEPRECIABLE PLANT							
	Land - Transmission	55,271,909.02			643,582.66	644,547.50	0.00	(964.84)
	Land & Land Rights-Distribution	142,570.20			0.00	0.00	0.00	0.00
389.00	Land - General Plant	121,358.01			0.00	0.00	0.00	0.00
	TOTAL Non-Depreciable Plant	55,535,837.23			643,582.66	644,547.50	0.00	-964.84
	INTANGIBLE PLANT							
	Organization	0.00			0.00	0.00	0.00	0.00
	Franchises & Consents Miscellaneous Intangible Plant	203,580.00 0.00			0.00 (0.00)	0.00 0.00	0.00 0.00	0.00
303.00	, and the second							(0.00)
	TOTAL Intangible Plant	203,580.00			0.00	0.00	0.00	0.00

### Calculation of Cost of Removal In Book Depreciation Reserve as of December 31, 2020 Based Upon Theoretical Depreciation Reserves (By Location and Account) Using Existing Depreciation Parameters

			Pros	pective				
Account		Original Cost	A.S.L./	Net Salvage	Total Book Depr Reserve	Cost of Removal	Gross Salvage	Plant Only Depr Reserve
No.	Description	12-31-20	Curve	<u>%</u>	12-31-20	In Book Res.	In Book Res.	12-31-20
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
(a)	(b)	(0)	(u)	(6)	(1)	(9)	(11)	(1)
	Non-Utility Property							
121.000	Non Utility Property	5,039,224.51			1,001,164.64	1,021,479.07	0.00	(20,314.43)
121.341	Non Utility Property-Other Bldgs & Add.	87,919.73			0.00	0.00	0.00	0.00
121.352	Non Utility Property-Struct & Improv-Trans	8.006.34			0.00	0.00	0.00	0.00
	, , , , , ,	,,,,,,						
	TOTAL - Non-Utility Property	5,135,150.58			1,001,164.64	1,021,479.07	0.00	-20,314.43
	Steam Production							
311.00	Structuctures & Improvements				(0.01)	35.18	0.00	(35.19)
312.00	Boiler Plant Equipment				(0.03)	0.00	0.00	(0.03)
314.00	Turbogenerator Units				0.01	0.00	0.00	0.01
315.00	· ·				0.00	0.00	0.00	0.00
	Total Steam Production Plant				-0.03	35.18	0.00	-35.21
	TOTAL Plant in Service	3,225,318,702.97			660,630,749.76	(40,236,382.95)	0.00	700,867,132.71

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

Annual Deprecation Rate (1)		3.26% 3.33% (2) 3.40% 3.28% 3.95% 3.55%	2.14% 2.81% 1.57% 1.39% 1.73% 1.73%	2.22%	0.00% 0.00% 0.00% 0.06% 0.00% 0.26%	0.25%	2.00% 3.20% 4.38% 3.01% 1.42% 3.01%	2.78%	2.25%
Annual Depreciation Accrual (k)		359,791.22 (5.09) (1) (45,693.24) (1) 717,822.33 390,933.22 1,354,382.21 2,777,230.65	1,780,677.62 45,230,895.82 519,619.24 11,281,054.11 7,726,934.88 612,594.22 858,352.71 121,134.05	68,131,262.66	0.00 0.00 0.00 8.54 0.00 19,744.28	19,752.81	3,008.67 2,042.95 66,562.89 50,460.18 29,063.65 6,604.09	157,742.43	71,085,988.55
Average Remaining Life (i)		28.3 5.0 5.0 27.6 23.4 23.5 26.2	37.9 28.6 2 34.6 47.0 53.0 53.8 53.8	35.0	7. 6. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	18.2	44.5 20.5 19.2 22.6 16.3 28.2	20.6	34.7 7
A.S.L./ Survivor Curve		30-R3 N/A N/A 30-R3 30-R3 25-R4	47-R4 39-L3 60-R4 58-R2 65-S0.5 60-R5 55-R2.5		45-R2.5 35-R3 35-R3 60-R5 35-R2.5 25-S3 45-R4		50-R5 26-SQ 24-R2 29-L4 25-L4 33-S6		
Net Original Cost Less <u>Salvage</u> (n)		10,182,091.48 -25.45 -228,466.20 19,811,896.35 11,102,503.53 31,827,981.88 72,695,981.59	67,487,681.97 1,291,342,075.58 17,973,629.66 530,096,732.61 409,836,626.22 32,945,317.16 34,419,943.61 3,143,428.67	2,387,245,435.48	0.00 0.00 0.00 160.75 0.00 359,543.30	359,704.05	133,885.80 41,880.49 1,277,341.79 1,140,904.68 474,318.75 186,235.34	3,254,566.85	2,463,555,687.97
Book Depreciation Reserve (g)		842,930,43 25,45 228,466.20 1,299,896.85 815,996.08 2,430,792.05 5,618,107.06	15,876,184.99 319,895,277.78 15,198,222.60 164,069,749.32 144,145,854.97 7,407,320.08 15,273,603.36 3,410,232.41	685,276,445.51	63,013.85 87,235.03 121,481.57 956.82 15,729.80 7,269,618.49	7,570,350.51	16,406.80 21,911.35 241,606.09 534,309.59 1,576,001.65 33,308.63	2,423,544.11	700,888,447.19
Original Cost Less Net Salvage (f)		11,025,021,91 0.00 0.00 21,111,793.20 11,918,499.61 34,258,773.93 78,314,088.65	83,363,866.96 1,611,237,353.36 33,171,852.26 694,166,481.93 553,982,481.19 40,352,637.24 49,693,546.97 6,553,661.08	3,072,521,880.99	63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 12,314.95 7,629,161.79	7,930,054.56	150,292.60 63,791.84 1,518,947.88 1,675,214.27 2,050,320.40 219,543.97	5,678,110.96	3,164,444,135.16
d Future <u>Ilvage</u> Amount (e)		0.0000000000000000000000000000000000000	00.00	0.00	0.00	0.00	0.0000000000000000000000000000000000000	0.00	0.00
Estimated Future  Net Salvage  % Amount (d) (e)		%0.0 %0 %0 %0 %0	%%% %0	%0.0	%%%%% %0000000000000000000000000000000	%0.0	%%%%% %000	%0.0	%0:0
Original Cost 12-31-20 (c)		11,025,021.91 0.00 0.00 21,111,793.20 11,918,499.61 34,256,773.93 78,314,088.65	83,363,866.96 1,611,237,335.36 33,171,852.26 694,166,481.93 553,982,481.19 40,352,637.24 49,693,546.97 6,553,661.08	3,072,521,880.99	63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 7,629,161.79	7,930,054.56	150,292.60 63,791.84 1,518,947.88 1,675,214.27 2,050,320.40 219,543.97	5,678,110.96	3,164,444,135.16
Description (b)	DEPRECIABLE PLANT Other Production	Structures & Improvements Fuel Holder & Accessories Diesel Units Conductors & Generators Miscellaneous Equipment Energy Storage Equipment TOTAL Other Production Plant	Transmission Plant Structures and Improvements Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit UG Conductors & Devices Roads & Trails	TOTAL Transmission Plant  Distribution Plant	Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices Line Transformers-Installation Large Meters-Installation	TOTAL Distribution Plant	General Plant Structures and Improvements Office Furniture & Fixtures Tools & Work Equipment Laboratory Equipment Communication Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL Depreciable Plant
Account No(a)		341.00 342.00 343.00 344.00 345.00	352.00 353.00 354.00 355.00 356.00 357.00 358.00 359.00		362.00 364.00 365.00 366.00 367.00 370.00		390.00 391.00 394.00 395.00 397.00		

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

	Account			Estimatec Net Sal	Estimated Future Net Salvage	Original Cost Less	Book Depreciation	Net Original Cost Less	A.S.L./ Survivor	Average Remaining	Annual Depreciation	Annual Deprecation
	(a)	Description (b)	12-31-20 (c)	(p)		Net Salvage (f)	Reserve (g)	<u>Salvage</u> (h)	Curve (i)	()	Accrual (k)	Rate (I)
	350.00 L 360.00 L 389.00 L	NON-DEPRECIABLE PLANT  Land - Transmission  Land & Land Rights-Distribution  Land - General Plant	55,271,909.02 142,570.20 121,358.01									
		TOTAL Non-Depreciable Plant	55,535,837.23									
	301.00 302.00 303.00	INTANGIBLE PLANT Organization Franchises & Consents Miscellaneous Intangible Plant	0.00 203,580.00 0.00									
		TOTAL Intangible Plant	203,580.00									
2-6	121.000 N 121.341 N 121.352 N	Non Utility Property Non Utility Property Non Utility Property-Other Bldgs & Add. Non Utility Property-Struct & Improv-Trans	5,039,224.51 87,919.73 8,006.34									

3,225,318,702.97 TOTAL Plant in Service

5,135,150.58

TOTAL - Non-Utility Property

(1) No remaining plant investment. Amortized residual book reserve balance over 5 years.
(2) If additional invesments are added, initially use 3.33% based upon 30 year life estimated for related Other Production account service lives-until the completion of the next depereciaiton study.

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

Annual Deprecation Rate (I)			0.00%	0.00%	%00.0 0.00% 0.00%		%00.0 0.00%	%00:0 0:00%	0.00%	%00.0 0.00%	0.00%	%00.0		%00.0 %00.0 %00.0 %00.0 %00.0	%00.0	%00:0 %00:0 %00:0 %00:0	%00.0	%00.0
Annual Depreciation E Accrual (k)			00.00	0.00	0.00		0.00	00:0	0.00	0.00	0.00	0.00		0.00	00.00	0.00 0.00 0.00 0.00 0.00	0.00	0.00
Average Remaining D Life (j)			28.3 5.0	27.6	23.5 0.0		37.9 28.6	34.6 47.0	53.0	53.8 40.1	26.0	0.0		5.7 7.4 7.8 8.8 1.1 1.1	0.0	44.5 20.5 19.2 22.6 16.3	0.0	0.0
A.S.L./ Survivor Curve			30-R3 N/A	30-R3	30-R3 25-R4		47-K4 39-L3	60-R4 58-R2	65-80.5	60-K5 55-R2.5	50-R5			45-R2.5 35-R3 35-R3 60-R5 35-R2.5 25-S3 45-R4		50-R5 26-SQ 24-R2 29-L4 25-L4 33-S6		
Net Original Cost Less Gross Salvage (h)			0.00	0.00	0.00	;	0.00	0.00	0.00	0.00	0.00	00:00		0.0000000000000000000000000000000000000	0.00	0.0000000000000000000000000000000000000	0.00	0.00
Book Depreciation Reserve (9)			0.00	00.0	0.00	;	0.00	0.00 0.00	0.00	0.00	0.00	0.00		00.0	00.00	00.0	00.00	0.00
Original Cost Less Gross Salvage (f)			11,025,021.91	21,111,793.20	11,916,499.61 34,258,773.93 78,314,088.65		83,363,866.96 1,611,237,353.36	33,171,852.26 694,166,481.93	553,982,481.19	40,352,637.24 49,693,546.97	6,553,661.08	3,072,521,881		63,013.85 87,235.03 121,481.57 1,117.67 15,729.80 12,314.95 7,629,161.79	7,930,054.56	150,292.60 63,791.84 1,518,947.88 1,675,214.27 2,050,320.40 219,543.97	5,678,110.96	3,164,444,135.16
Estimated Future  Gross Salvage  Amount  (e)			0.00	0.00	0.00	;	0.00	0.00	0.00	0.00	0.00	0		0.00	0.00	0.00	0.00	0.00
Estimate Gross % (d)			%%	%%	%0.0 0.0%		%%	%° °	%0	%%	%0	%0:0		%%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	%0.0	%%%%% %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	%0.0	%0:0
Original Cost 12-31-20 (c)			11,025,021.91	21,111,793.20	11,918,499.61 34,258,773.93 78,314,088.65		83,363,866.96 1,611,237,353.36	33,171,852.26 694,166,481.93	553,982,481.19	40,352,637.24	6,553,661.08	3,072,521,880.99		63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 12,314.95 7,629,161.79	7,930,054.56	150,292.60 63,791.84 1,518,947.88 1,675,214.27 2,050,320.40 219,543.97	5,678,110.96	3,164,444,135.16
Description (b)	DEPRECIABLE PLANT	Other Production	Structures & Improvements Fuel Holder & Accessories Discel Diffe		Niscellaneous Equipment Energy Storage Equipment TOTAL Other Production Plant	Transmission Plant	,, 0,	Towers & Fixtures Poles & Fixtures		Underground Conduit UG Conductors & Devices		TOTAL Transmission Plant	Distribution Plant	Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conduit Line Transformers-Installation Large Meters-Installation	TOTAL Distribution Plant	General Plant. Structures and Improvements Office Furniture & Fixtures Tools & Work Equipment Laboratory Equipment Communication Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL Depreciable Plant
Account No. (a)			341.00	344.00	348.00		352.00 353.00	354.00 355.00	356.00	357.00	359.00			362.00 364.00 365.00 366.00 367.00 368.00		390.00 391.00 394.00 395.00 397.00 398.00		

Annual Deprecation Rate (1)

## **New England Power Company**

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

			Poor Pehie	DOOR Deplecation reserve and Average nemaining Lives as of December 51, 2020	alla Avelay	d Nelliaming LIV	es as oi Deceil	Del 31, 2020				
	Account No. (a)	<u>Description</u> (b)	Original Cost 12-31-20 (c)	Estimated Future  Gross Salvage  % Amount  (d) (e)		Original Cost Less Gross Salvage (f)	Book Depreciation Reserve (g)	Net Original Cost Less Gross Salvage (h)	A.S.L./ Survivor Curve (i)	Average Remaining Life (j)	Annual Depreciation I Accrual (k)	
	350.00 360.00 389.00	NON-DEPRECIABLE PLANT Land - Transmission Land & Land Rights-Distribution Land - General Plant	55,271,909.02 142,570.20 121,358.01									
		TOTAL Non-Depreciable Plant	55,535,837.23									
	301.00 302.00 303.00	INTANGIBLE PLANT Organization Franchises & Consents Miscellaneous Intangible Plant	0.00 203,580.00 0.00									
		TOTAL Intangible Plant	203,580.00									
2-8	121.000 121.341 121.352	Non-Utility Property 121.300 Non Utility Property 121.341 Non Utility Property-Other Bldgs & Add. 121.352 Non Utility Property-Struct & Improv-Tran	5,039,224.51 87,919.73 8,006.34									

5,135,150.58

TOTAL - Non-Utility Property

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

Annual Deprecation Rate (1)		0.20% (1) (1) 0.36% 0.36% 0.43%	0.07% 0.47% 1.12% 3.08% 1.99% 0.14% 2.09%	1.35%	-1.76% -1.86% -2.14% -0.32% -1.79% -0.37%	-0.44%	0.06% -0.05% 0.79% 0.00% -1.46% 0.00%	-0.32%	1.32%
Annual Depreciation C Accrual (k)		22,524.26 0.32 285.82 75,770.71 43,377.10 145,782.02 287,740.22	54,284.92 7,553,828.49 371,458.46 21,398,264.84 11,042,472.94 56,941.05 1,038,605,78 (9,123.49)	41,506,733.00	(1,111.35) (1,618.46) (2,601.32) (3.53) (281.39) (1,140.27) (28,474.74)	(35,231.07)	90.38 (31.84) 11,946.76 (64.73) (30,002.63)	(18,065.24)	41,741,176.91
Average Remaining Life (i)		28. 5.00 27.50 28.4 23.55 7.7	37.9 28.6 34.6 47.0 2 53.0 1 26.0	45.0 4	7. 3. 3. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.	15.6	20.5 19.5 22.6 16.3 28.3	14.3	44.9 4
A.S.L./ Survivor Curve		30-R3 N/A N/A 30-R3 30-R3 25-R4	47-R4 39-L3 60-R4 58-R2 65-S0.5 60-R5 56-R2.5		45-R2.5 35-R3 35-R3 60-R5 35-R2.5 25-S3 45-R4		50-R5 26-SQ 24-R2 29-L4 25-L4 33-S6		
Net Original Cost Less COR (h)		637,436,49 1.58 1,429.11 2,091,271.61 1,231,909.50 3,425,877.39 7,387,925.68	2,057,398.46 215,661,803.38 12,848,748.27 1,005,504,464.77 585,692,764.97 3,062,289.87 41,648,091.59 (236,754.58)	1,866,238,806.73	(6,301,38) (8,723,50) (12,148.16) (66,50) (1,572,98) (1,231.49) (518,525.02)	-548,569.03	4,021.97 (652.68) 229,258.35 (1,463.57) (489,642.97) (89.63)	-258,568.53	1,872,819,594.85
Book Depreciation Reserve (9)		465,065.70 (1.58) (1.429.11) 19,907.71 (40,059.54) 0.00 443,483.18	2,110,794.89 26,023,799.62 (2,897,192.59) (33,671,390.07) (31,710,283.78) 972,973.85 (4,377,931.36) 236,754.58	(43,312,474.86)	6,301.38 8,723.50 12,148.16 66.50 1,572.98 1,231.49 518,525.02	548,569.03	3,492.66 652.68 (77,363.56) 1,463.57 489,642.97 89.63	417,977.95	(41,902,444.70)
Original Cost Less COR (f)		12,127,524.10 0.00 0.00 23,222,972.52 13,110,349.57 37,684,651.32 86,145,497.51	87,532,060.31 1,852,922,956.36 43,123,407.94 1,665,999,556.63 1,107,964,962.38 44,387,900.96 86,963,707.20 6,553,661.08	4,895,448,212.86	63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 12,314.95 7,629,161.79	7,930,054.56	157,807.23 63,791.84 1,670,842.67 1,675,214.27 2,050,320.40 219,543.97	5,837,520.38	4,995,361,285.31
Estimated Future Cost of Removal Amount (e)		(1,102,502.19) 0.00 0.00 (2,111,179.32) (1,191,849.96) (3,425,877.39) -7,831,408.86	(4,168,193.35) (241,685,603.00) (9,951,555.68) (971,833,074.70) (553,982,481.19) (4,035,263.72) (37,270,160.23)	(1,822,926,331.87)	0.00	00:00	(7,514.63) 0.00 (151,894.79) 0.00 0.00	-159,409.42	-1,830,917,150.15
Estin Cost (d)		-10% 0% 0% -10% -10% -10%	-5% -15% -30% -140% -100% -75%	-59.3%	% % % % % 0 % 0 0 0 0 0 0 0 0 0 0 0 0 0	%0.0	-5% 0% -10% 0% 0%	-2.8%	-57.9%
Original Cost 12-31-20 (c)		11,025,021.91 0.00 0.00 21,111,793.20 11,918,499.61 34,288,773.93 78,314,088.65	83,363,866.96 1,611,237,353.36 33,171,852.26 694,166,481.93 553,982,481.19 40,352,637.24 49,633,546.97 6,553,661.08	3,072,521,880.99	63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 7,629,161.79	7,930,054.56	150,292.60 63,791.84 1,518,947.88 1,675,214.27 2,050,320.40 219,543.97	5,678,110.96	3,164,444,135.16
t <u>Description</u> (b)	DEPRECIABLE PLANT Other Production	Structures & Improvements Fuel Holder & Accessories Diesel Units Conductors & Generators Miscellaneous Equipment Energy Storage Equipment TOTAL Other Production Plant	Structures and Improvements Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit UG Conductors & Devices Roads & Trails	TOTAL Transmission Plant <u>Distribution Plant</u>	Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conduit Line Transformers-Installation Large Meters-Installation	TOTAL Distribution Plant	Structures and Improvements Office Fumiture & Fixtures Tools & Work Equipment Laboratory Equipment Communication Equipment Miscellaneous Equipment	TOTAL General Plant	TOTAL Depreciable Plant
Account No.		341.00 342.00 343.00 344.00 345.00 348.00	352.00 353.00 354.00 355.00 355.00 357.00 358.00 359.00		362.00 364.00 365.00 366.00 367.00 370.00		390.00 391.00 394.00 395.00 397.00		

(1) No remaining plant investment. Amortized residual book reserve balance over 5 years.

3,225,318,702.97

TOTAL Plant in Service

# **New England Power Company**

Summary of Original Cost of Utility Plant in Service and Calculation of Annual Depreciation Rates and Depreciation Expense Based Upon Utilization of Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020

	Book De	precation R	eserve and Avera	Book Deprecation Reserve and Average Remaining Lives as of December 31, 2020	s as of December	31, 2020				
Account	Original Cost	Estima Cost o	Estimated Future Cost of Removal	Original Cost Less	Book Depreciation	Net Original Cost Less	A.S.L./ Survivor	Average Remaining	Annual Depreciation	Annual Deprecation
No. Description (a) (b)	12-31-20 (c)	(p)	Amount (e)	(f)	Reserve (g)	COR (h)	Curve (i)	Life ()	Accrual (k)	Rate (l)
NON-DEPRECIABLE PLANT										
350.00 Land - Transmission	55,271,909.02									
360.00 Land & Land Rights-Distribution	142,570.20									
389.00 Land - General Plant	121,358.01									
TOTAL Non-Depreciable Plant	55,535,837.23									
	•									
301.00 Organization 302.00 Franchises & Consents 303.00 Miscellaneous Intancible Plant	0.00 203,580.00 0.00									
TOTAL Intangible Plant	203,580.00									
	5,039,224.51									
121.341 Non Utility Property-Other Bidgs & Add. 121.352 Non Utility Property-Struct & Improv-Trans	87,919.73 ns 8,006.34									
TOTAL - Non-Utility Property	5,135,150.58									

Table 3

#### **New England Power Company**

Summary of Original Cost of Utility Plant in Service as of December 31, 2020 Per Books, Adjustments, and Adjusted Original Cost Per Depreciation Study

		Original		Adjusted Original
		Cost		Cost Per
Acct.		Per Books	Adjustments	Depr. Study
<u>No.</u>	Account Description	<u>12-31-20</u>	12-31-20	<u>12-31-20</u>
(a)	(b)	(c)	(d)	(e)
	DEPRECIABLE PLANT			
	Other Production			
341.00	Structures & Improvements	16,231,082.03	(5,206,060.12)	11,025,021.91
342.00	Fuel Holder & Accessories	0.00	,	0.00
343.00	Diesel Units	0.00		0.00
344.00	Conductors & Generators	43,575,037.00	(22,463,243.80)	21,111,793.20
345.00	Miscellaneous Equipment	18,507,969.62	(6,589,470.01)	11,918,499.61
348.00	Energy Storage Equipment	0.00	34,258,773.93	34,258,773.93
	TOTAL Other Production Plant	78,314,088.65	0.00	78,314,088.65
	_Transmission Plant_			
352.00	Structures and Improvements	83,363,866.96		83,363,866.96
353.00	Station Equipment	1,604,375,911.54	6,861,441.82	1,611,237,353.36
354.00	Towers & Fixtures	33,171,852.26		33,171,852.26
355.00	Poles & Fixtures	692,107,144.71	2,059,337.22	694,166,481.93
356.00	Overhead Conductors & Devices	553,982,481.19	, ,	553,982,481.19
357.00	Underground Conduit	40,352,637.24		40,352,637.24
358.00	UG Conductors & Devices	49,693,546.97		49,693,546.97
359.00	Roads & Trails	6,553,661.08		6,553,661.08
000.00				
	TOTAL Transmission Plant	3,063,601,101.95	8,920,779.04	3,072,521,880.99
	<u>Distribution Plant</u>			
362.00	Station Equipment	63,013.85		63,013.85
364.00	Poles, Towers & Fixtures	87,235.03		87,235.03
365.00	Overhead Conductors & Devices	121,481.57		121,481.57
366.00	Underground Conduit	1,117.57		1,117.57
367.00	Underground Conductors & Devices	15,729.80		15,729.80
368.00	Line Transformers-Installation	12,314.95		12,314.95
370.00	Large Meters-Installation	7,629,161.79		7,629,161.79
	TOTAL Distribution Plant	7,930,054.56	0.00	7,930,054.56
	General Plant			
390.00	Structures and Improvements	150,292.60		150,292.60
391.00	Office Furniture & Fixtures	63,791.84		63,791.84
394.00	Tools & Work Equipment	1,518,947.88		1,518,947.88
395.00	Laboratory Equipment	1,675,214.27		1,675,214.27
397.00	Communication Equipment	2,050,320.40		2,050,320.40
398.00	Miscellaneous Equipment	219,543.97		219,543.97
			2.22	
	TOTAL General Plant	5,678,110.96	0.00	5,678,110.96
	TOTAL Depreciable Plant	3,155,523,356.12	8,920,779.04	3,164,444,135.16

Table 3

#### **New England Power Company**

### Summary of Original Cost of Utility Plant in Service as of December 31, 2020 Per Books, Adjustments, and Adjusted Original Cost Per Depreciation Study

		Original		Adjusted Original
		Cost	A 11	Cost Per
Acct.		Per Books	Adjustments	Depr. Study
No.	Account Description	<u>12-31-20</u>	<u>12-31-20</u>	<u>12-31-20</u>
(a)	(b)	(c)	(d)	(e)
	NON-DEPRECIABLE PLANT			
350.00	Land - Transmission	55,271,909.02		55,271,909.02
360.00	Land & Land Rights-Distribution	142,570.20		142,570.20
389.00	Land - General Plant	121,358.01		121,358.01
	TOTAL Non-Depreciable Plant	55,535,837.23	0.00	55,535,837.23
	INTANGIBLE PLANT			
301.00	Organization	0.00		0.00
302.00	Franchises & Consents	203,580.00		203,580.00
303.00	Miscellaneous Intangible Plant	8,920,779.04	(8,920,779.04)	0.00
	TOTAL Intangible Plant	9,124,359.04	(8,920,779.04)	203,580.00
	Non-Utility Property			
121.000	Non Utility Property	5,039,224.51		5,039,224.51
121.341	Non Utility Property-Other Bldgs & Add.	87,919.73		87,919.73
121.352	Non Utility Property-Struct & Improv-Trans	8,006.34		8,006.34
	TOTAL - Non-Utility Property	5,135,150.58	0.00	5,135,150.58
	TOTAL Plant in Service	3,225,318,702.97	0.00	3,225,318,702.97

Table 4

#### Summary of Depreciation Reserve Related to Utility Plant in Service as of December 31, 2020 Per Books, Adjustments, and Adjusted Depreciation Reserve Per Depreciation Study

Acct. No. (a)	Account Description (b)  DEPRECIABLE PLANT	Depreciation Reserve Per Books 12-31-20 (c)	Reserve Trfs 	Adjusted Depr Reserve Per Depr. Study 12-31-20 (e)	
	Other Production				
342.00 343.00 344.00	Structures & Improvements Fuel Holder & Accessories Diesel Units Conductors & Generators Miscellaneous Equipment	1,731,378.97 23.87 227,037.09 3,055,927.12 1,047,223.19	(423,382.84) (1,736,122.56) (271,286.65)	1,307,996.13 23.87 227,037.09 1,319,804.56 775,936.54	
	Energy Storage Equipment	0.00	2,430,792.05	2,430,792.05	
	TOTAL Other Production Plant	6,061,590.24	0.00	6,061,590.24	
	To a substant a Blood				
353.00	Transmission Plant Structures and Improvements Station Equipment Towers & Fixtures	15,857,085.96 341,187,529.50 12,301,030.01	2,129,893.92 4,731,547.90	17,986,979.88 345,919,077.40 12,301,030.01	
	Poles & Fixtures	128,339,022.03	2,059,337.22	130,398,359.25	
	Overhead Conductors & Devices	112,435,571.19	, ,	112,435,571.19	
	Underground Conduit	8,380,293.93		8,380,293.93	
	UG Conductors & Devices	10,895,672.00		10,895,672.00	
359.00	Roads & Trails	3,646,986.99		3,646,986.99	
	TOTAL Transmission Plant	633,043,191.61	8,920,779.04	641,963,970.65	
	<b>Distribution Plant</b>				
362.00	Station Equipment	69,315.23		69,315.23	
364.00	Poles, Towers & Fixtures	95,958.53		95,958.53	
	Overhead Conductors & Devices	133,629.73		133,629.73	
	Underground Conduit	1,023.32		1,023.32	
	Underground Conductors & Devices Line Transformers-Installation	17,302.78 13,546.44		17,302.78 13,546.44	
	Large Meters-Installation	7,788,143.51		7,788,143.51	
070.00	Large Motore metallation	7,700,140.01		7,700,140.01	
	TOTAL Distribution Plant	8,118,919.54	0.00	8,118,919.54	
	General Plant				
390.00	Structures and Improvements	19,899.46		19,899.46	
391.00		22,564.03		22,564.03	
394.00	Tools & Work Equipment	164,242.53		164,242.53	
	Laboratory Equipment	535,773.16	2.22	535,773.16	
397.00 398.00	• •	2,065,644.62 33,398.26	0.00	2,065,644.62	(1)
390.00	Miscellatieous Equipitietit	აა,აფი.20		33,398.26	(1)
	TOTAL General Plant	2,841,522.06	0.00	2,841,522.06	
	TOTAL Depreciable Plant	650,065,223.45	8,920,779.04	658,986,002.49	

Table 4

#### Summary of Depreciation Reserve Related to Utility Plant in Service as of December 31, 2020 Per Books, Adjustments, and Adjusted Depreciation Reserve Per Depreciation Study

Acct. No.	Account Description (b)	Depreciation Reserve Per Books 12-31-20 (c)	Reserve Trfs 	Adjusted Depr Reserve Per Depr. Study 12-31-20 (e)
	NON-DEPRECIABLE PLANT			
350.00	Land - Transmission	643,582.66		643,582.66
360.00	Land & Land Rights-Distribution	0.00		0.00
389.00	Land - General Plant	0.00		0.00
	TOTAL Non-Depreciable Plant	643,582.66	0.00	643,582.66
	INTANGIBLE PLANT			
301.00	Organization	0.00		0.00
302.00	Franchises & Consents	0.00		0.00
303.00		8,920,779.04	(8,920,779.04)	(0.00)
	TOTAL Intangible Plant	8,920,779.04	(8,920,779.04)	(0.00)
	Non-Utility Property			
121.000	Non Utility Property	1,001,164.64		1,001,164.64
121.341	Non Utility Property-Other Bldgs & Add.	0.00		0.00
121.352	Non Utility Property-Struct & Improv-Trans	0.00		0.00
	TOTAL - Non-Utility Property	1,001,164.64	0.00	1,001,164.64
	Steam Production - Residual			
311.00	Structuctures & Improvements	(0.01)		(0.01)
	Boiler Plant Equipment	(0.03)		(0.03)
	Turbogenerator Units	0.01		0.01
315.00	Accessory Electric Equipment	0.00		0.00
	Total Steam Production Plant	(0.03)	0.00	(0.03)
	TOTAL Plant in Service	660,630,749.76	0.00	660,630,749.76
	(1) No remaining plant investment Amortized	residual book reserve hals	ance over 5 years	

**New England Power Company** 

Summary of Original Cost of Utility Plant in Service as of December 31, 2020 and Present and Proposed Parameters

Account No. (a)	Description (b)	Original Cost 12-31-20 (c)	W/ COR %	Present Parameters  Net Salvage Gross Salv Gross COR  (e) % %	Present Parameters Salvage Sas Salv Gross COR % (e) (f)	ASL/Surv Curve (9)	Present A Depr A Rate (1)	Avg W/COR (Yrs) (J)		alvage Salv Gı	oposed Ps	Proposed Parameters  A.S.L./ A oss COR Survivor R  (I) (m)	Average Remain. Life (n)	Proposed Depr <u>Rates</u> (o)
	DEPRECIABLE PLANT Other Production													
341.00 342.00 343.00 344.00 345.00 348.00	Structures & Improvements Fuel Holder & Accessories Diesel Units Conductors & Generators Miscellaneous Equipment Energy Storage Equipment TOTAL Other Production Plant	11,025,021.91 0.00 0.00 21,111,793.20 11,918,499.61 34,258,773.93 78,314,088.65	-10% -10% -10% -10% -10%	%0 %0 %0	-10% -10% -10% -10% -10%	25-R4 25-R4 25-R4 25-R3 25-R2.5 N/A	5.19% N N 19% N N N 19% N N N 19% N N N N N N N N N N N N N N N N N N N	19.5 -10% N/A 0% N/A 0% 21.8 -10% 20.9 -10% N/A -10%	%0) %0) %0	%0 %0 %0	-10% 0% -10% -10%	30-R3 N/A N/A 30-R3 30-R3 25-R4	28.3 5.0 (1) 5.0 (1) 27.6 28.4 23.5	3.46% (1) (1) 3.76% 3.64% 4.38% 3.91%
352.00 353.00 354.00 355.00 356.00 358.00 359.00	Structures and Improvements Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit UG Conductors & Devices Roads & Trails	83,363,866,96 1,611,237,353.36 33,171,852.26 694,166,481,93 553,982,481.19 40,352,637.24 49,693,546,97 6,553,661.08	-10% -10% -10% -10% -10%	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	-10.0% -10.0% -10.0% -10.0% -10.0% -10.0%	45-R5 45-R2.5 60-R4 45-S2 45-S2 60-R5 50-R5	2.21% 1.52% 3.1.52% 3.1.52% 3.1.52% 3.2.36% 11.60% 12.20% 12.20% 12.20% 12.20% 2.20% 2.00%	14.2 -5% 10.7 -15% 34.6 -30% 12.0 -140% 13.0 -100% 14.5 -10% 13.3 -75% 29.6 0%	-5% 15% 30% 00% 10% 75%	%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%	-5% -15% -30% -140% -100% 6 -10% -75% 5	47-R4 39-L3 60-R4 58-R2 65-S0.5 60-R5 55-R2.5	37.9 28.6 34.6 47.0 53.0 53.8 40.1	2.21% 3.28% 2.69% 4.71% 3.38% 1.66% 3.82%
	TOTAL Transmission Plant <u>Distribution Plant</u>	3,072,521,880.99												3.57%
362.00 364.00 365.00 366.00 367.00 370.00	Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices Line Transformers-Installation Large Meters-Installation	63,013.85 87,235.03 121,481.57 1,117.57 15,729.80 12,314.95 7,629,161.79	-10% -10% -10% -10% -10%	%0 %0 %0 %0	- 10% - 10% - 10% - 10% - 10%	45-R2.5 35-R3 35-R3 60-R5 35-R2.5 26-S3 28-L0.5	2.40% 3 3.11% 3 3.12% 3 1.95% 3 3.10% 3 3.80% 3	58.9 39.1 39.5 39.5 39.5 39.5 26.2	%00 %00 %00	%0 %0 %0	, % % % % % % % % % % % % % % % % % % %	45-R2.5 35-R3 60-R5 35-R2.5 25-S3 45-R4	7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7	-1.76% -2.14% 0.44% -1.79% -9.26%
	TOTAL Distribution Plant	7,930,054.56												-0.19%
390.00 391.00 394.00 395.00 397.00 398.00	General Plant Structures and Improvements Office Furniture & Fixtures Tools & Work Equipment Laboratory Equipment Communication Equipment Miscellaneous Equipment	150,292,60 63,791,84 1,518,947,88 1,675,214,27 2,050,320,40 219,543,97	-5% -5% -5% -5% -5%	%% %0 0 0	-5.00% -5.00% -5.00% -5.00% -5.00%	50-R5 26-SQ 28-SQ 23-SQ 18-L1 26-SQ	2.30% 3.85% 3.57% 4.35% 6.02% 1.385% N	2.5 -5% 2.5 0% 7.9 -10% 6.7 0% 16.4 0% N/A 0%	-5% 10% 0% 0%	%% %0 0	-5% 0% 0% 0% 0%	50-R5 26-SQ 24-R2 29-L4 25-L4 33-S6	44.5 20.5 19.2 22.6 16.3	2.06% 3.15% 5.17% 3.01% -0.04%
	TOTAL General Plant TOTAL Depreciable Plant	5,678,110.96 3,164,444,135.16												2.46%

TOTAL Plant in Service 3,225,318,702.97 (1) No remaining plant investment. Amortized residual book reserve balance over 5 years.

Proposed
Depr
Rates
(o)

**New England Power Company** 

Summary of Original Cost of Utility Plant in Service as of December 31, 2020 and Present and Proposed Parameters

					Present F	Present Parameters					Proposed	Proposed Parameters	
					Net Salvage			Present	Avg	Net Salva	ge	A.S.L./	Average
	Account		Cost	W/ COR	Gross Salv (	W/ COR Gross Salv Gross COR	ASL/Surv	Depr	Age W/CO	Age W/COR Gross Salv Gross COR Survivor Remain.	Gross COR	Survivor	Remain.
	No.	Description		%	%	%	Curve		(Yrs) %	%	%	Curve	Life
	(a)	(q)		(p)	(e)	(J)	(a)		9	(k)	()	(E)	(u)
		NON-DEPRECIABLE PLANT											
		Land - Transmission	55,271,909.02										
		Land & Land Rights-Distribution	142,570.20										
	389.00	Land - General Plant	171,338.01										
		TOTAL Non-Depreciable Plant	55,535,837.23										
		INTANGIBLE PLANT											
	301.00	Organization	0.00										
	302.00	Franchises & Consents	203,580.00										
	303.00	Miscellaneous Intangible Plant	0.00										
		TOTAL Intangible Plant	203,580.00										
		Non-Utility Property											
	121.000	Non Utility Property	5,039,224.51										
2-16	121.341 121.352	121.341 Non Utility Property-Other Bidgs & Add. 121.352 Non Utility Property-Struct & Improv-Trans	87,919.73 8,006.34										
		TOTAL - Non-Utility Property	5,135,150.58										

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### **SECTION 3**

#### NEW ENGLAND POWER COMPANY

#### General

This report sets forth the results of our study of the depreciable property of New England Power Company ("NEP") as of December 31, 2020 and contains the basic parameters (recommended average service lives and life characteristics) for the proposed average remaining life depreciation rates. All average service lives set forth in this report are developed based upon plant in service as of December 31, 2020.

The scope of the study included an analysis of NEP's historical data through December 31, 2020, discussions with NEP's management and staff to identify prior and prospective factors affecting NEP's plant in service, as well as interpretation of past service life data experience and future life expectancies to determine the appropriate average service lives of NEP's surviving plant. The service lives and life characteristics resulting from the in-depth study were utilized together with NEP's plant in service and book depreciation reserve to determine the recommended Average Remaining Life (ARL) depreciation rates for NEP's plant in service as of December 31, 2020.

In preparing the study, NEP's historical investment data were studied using various service life analysis techniques. Further, discussions were held with the NEP's management to obtain an overview of NEP's facilities and to discuss the general scope of operations together with other factors which could have a bearing on the service lives of NEP's property.

NEP investment data was analyzed and summarized by property group and/or sub group and vintage then utilized as a basis for the various depreciation calculations.

#### Depreciation Study Overview

There are numerous methods utilized to recover property investment depending upon the

goal. For example, accelerated methods such as double declining balance and sum of years digits are methods used in tax accounting to motivate additional investments. Broad Group (BG) and Equal Life Group (ELG) are both Straight Line Grouping Procedures recognized and utilized by various regulatory jurisdictions depending upon the policy of the specific agency.

The Straight-Line Group Method of depreciation utilized in this study to develop the recommended depreciation rates is the Broad Group Procedure together with the Average Remaining Life Technique.

The distinction between the Whole Life and Remaining Life Techniques is that under the Whole Life Technique, the depreciation rate is based on the recovery of the investment and average net salvage over the average service life of the property group. In comparison, under the Average Remaining Life Technique, the resulting annual depreciation rate incorporates the recovery of the investment (and future net salvage) less any recovery experienced to date over the average remaining life of the property group.

That is, the Average Remaining Life technique (ARL) is based upon recovering the net book cost (original cost less book reserve) of the surviving plant in service over its estimated remaining useful life. Any variance between the book reserve and an implied theoretical calculated reserve is compensated for under this procedure. As New England Power Company's book reserve increases above or declines below the theoretical reserve at a specific point in time, NEP's average remaining life depreciation rate in subsequent years will be increased or decreased to compensate for the variance, thereby, assuring full recovery of NEP's investment by the end of the property's life.

NEP, like any other business, includes as an annual operating expense an amount which reflects a portion of the capital investment which was consumed in providing service during the

accounting period. The annual depreciation amount (rate) to be used is based upon the remaining productive life over which the un-depreciated capital investment needs to be recovered. The determination of the productive remaining life for each property group includes an in-depth study of past experience in addition to estimates of future expectations.

#### Annual Depreciation Accrual

Through the utilization of the Average Remaining Life Technique, NEP will recover the un-depreciated fixed capital investment in the appropriate amounts as annual depreciation expense in each year throughout the remaining life of the property. The procedure incorporates the future life expectancy of the property, the vintaged surviving plant in service, and estimated net salvage, together with the book depreciation reserve balance to develop the annual depreciation rate for each property account. Accordingly, the ARL technique meets the objective of providing a straight-line recovery of the un-depreciated fixed capital property investment.

The use of the Average Remaining Life Technique results in charging the appropriate annual depreciation amounts over the remaining life of the property to insure full recovery by the end of the life of the property. The annual expense is calculated on a Straight-Line Method rather than by the previously mentioned, "sum of the years digits" or "double declining balance" methods, etc. The "group" refers to the method of calculating annual depreciation on the summation of the investment in any one depreciable group or plant account rather than calculating depreciation for each individual unit.

Under Broad Group Depreciation some units may be over depreciated and other units may be under depreciated at the time when they are retired from service, but overall, the account is fully depreciated when average service life is attained. By comparison, Equal Life Group depreciation rates are designed to fully accrue the cost of the asset group by the time of retirement. For both the Broad Group and Equal Life Group Procedures the full cost of the investment is credited to plant in service when the retirement occurs and likewise the depreciation reserve is debited with an equal retirement cost. No gain or loss is recognized at the time of property retirement because of the assumption that the retired property was at average service life.

#### **Group Depreciation Procedures**

Group depreciation procedures are utilized to depreciate property when more than one item of property is being depreciated. Such a procedure is appropriate because all of the items within a specific group typically do not have identical service lives, but have lives which are dispersed over a range of time. Utilizing a group depreciation procedure allows for a condensed application of depreciation rates to groups of similar property in lieu of extensive depreciation calculations on an item-by-item basis. The two more common group depreciation procedures are the Broad Group (BG) and Equal Life Group (ELG) approach.

In developing depreciation rates using the Broad Group procedure, the annual depreciation rate is based on the average life of the overall property group, which is then applied to the group's surviving original cost investment. A characteristic of this procedure is that retirements of individual units occurring prior to average service life will be under depreciated, while individual units retired after average service life will be over depreciated when removed from service, but overall, the group investment will achieve full recovery by the end of the life of the total property group. That is, the under recovery occurring early in the life of the account is balanced by the over recovery occurring subsequent to average service life. In summary, the cost of the investment is complete at the end of the property's life cycle, but the rate of recovery

does not match the consumption pattern which was used to provide service to NEP's customers.

Under the average service life procedure, the annual depreciation rate is calculated by the following formula:

The application of the broad group procedure to life span groups results in each vintage investment having a different average service life. This circumstance exists because the concurrent retirement of all vintages at the anticipated retirement year results in truncating and, therefore, restricting the life of each successive year's vintage investment. An average service life is calculated for each vintage investment in accordance with the above formula. Subsequently, a composite service life and depreciation rate is calculated relative to all vintages within the property group by weighting the life for each vintage by the related surviving vintage investment within the group.

In the Equal Life Group, the property group is subdivided, through the use of plant life tables, into equal life groups. In each equal life group, portions of the overall property group includes that portion which experiences the life of the specific sub-group. The relative size of each sub-group is determined from the overall group life characteristic (property dispersion curve). This procedure both overcomes the disadvantage of voluminous record requirements of unit depreciation, as well as eliminates the need to base depreciation on overall lives as required under the broad group procedure. The application of this procedure results in each sub-group of the property having a single life. In this procedure, the full cost of short lived units is accrued during their lives leaving no under accruals to be recovered by over accruals on long lived plant. The annual depreciation for the group is the summation of the depreciation accruals based on the service life of each Equal Life Group.

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The ELG Procedure is viewed as being the more definitive procedure for identifying the life characteristics of utility property and as a basis for developing service lives and depreciation rates, nevertheless, the Broad Group procedure is more widely utilized throughout the utility industry by regulatory commissions as a basis for depreciation rates. That is, the ELG Procedure is more definitive because it allocates the capital cost of a group property to annual expense in accordance with the consumption of the property group providing service to customers. In this regard, NEP's customers are more appropriately charged with the cost of the property consumed in providing them service during the applicable service period. The more timely return of plant cost is accomplished by fully accruing each unit's cost during its service life, thereby not only reducing the risk of incomplete cost recovery, but also resulting in less return on rate base over the life of a depreciable group. The total depreciation expense over the life of the property is the same for all procedures which allocate the full capital cost to expense, but at any specific point in time, the depreciated original cost is less under the ELG procedure than under the BG procedure. This circumstance exists because under the equal life group procedure, the rate base is not maintained at a level of greater than the future service value of the surviving plant as is the case when using the average service life procedure. Consequently, the total return required from the ratepayers is less under the ELG procedure.

While the Equal Life Group procedure has been known to depreciation experts for many years, widespread interest in applying the procedure developed only after high speed electronic computers became available to perform the large volume of arithmetic computations required in developing ELG based depreciation lives and rates. The table below illustrates the procedure for calculating equal life group depreciation accrual rates and summarizes the results of the underlying calculations. Depreciation rates are determined for each age interval (one year

increment) during the life of a group of property which was installed in a given year or vintage

CALCULATI	•	ARL AND ACCRU				OCEDURE			Table 6	
AGE AT	LIFE TABLE BEGIN OF	RETIREMENT DURING	AVERAGE	AGE OF	AMOUNT FOR EACH	AMOUNT FOR REMAINING	EQUAL LII  AVERAGE  SERVICE	FE GROUP PRO AVERAGE REMAINING	OCEDURE ELG/ARL DEPR	ACCRUED DEPR RES
INTERVAL	INTERVAL	INTERVAL	SURVIVING	RETIRED	<u>LIFE</u> GROUP	<u>LIFE</u> GROUPS	LIFE	LIFE	RATE	FACTOR
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)
0.0	1.0000000	0.0009198	0.9995401	0.25	0.0009198	0.0583036	8.57	8.57	11.67	0.0000000
0.5	0.9990802	0.0033314	0.9974145	1.0	0.0033314	0.1131019	8.82	8.32	11.34	0.0566975
1.5	0.9957488	0.0065393	0.9924792	2.0	0.0032697	0.1098013	9.04	7.54	11.06	0.1659501
2.5	0.9892095	0.0117037	0.9833577	3.0	0.0039012	0.1062159	9.26	6.76	10.80	0.2700337
3.5	0.9775058	0.0193690	0.9678213	4.0	0.0048422	0.1018442	9.50	6.00	10.52	0.3683062
4.5	0.9581368	0.0300339	0.9431199	5.0	0.0060068	0.0964196	9.78	5.28	10.22	0.4600565
5.5	0.9281029	0.0442969	0.9059545	6.0	0.0073828	0.0897248	10.10	4.60	9.90	0.5447146
6.5	0.8838060	0.0631367	0.8522377	7.0	0.0090195	0.0815237	10.45	3.95	9.57	0.6217794
7.5	0.8206693	0.0876232	0.7768577	8.0	0.0109529	0.0715375	10.86	3.36	9.21	0.6906424
8.5	0.7330461	0.1166879	0.6747022	9.0	0.0129653	0.0595783	11.32	2.82	8.83	0.7505770
9.5	0.6163582	0.1431836	0.5447664	10.0	0.0143184	0.0459365	11.86	2.36	8.43	0.8010714
10.5	0.4731746	0.1533568	0.3964962	11.0	0.0139415	0.0318066	12.47	1.97	8.02	0.8423003
11.5	0.3198178	0.1363216	0.2516570	12.0	0.0113601	0.0191557	13.14	1.64	7.61	0.8753616
12.5	0.1834962	0.0975199	0.1347363	13.0	0.0075015	0.0097249	13.85	1.35	7.22	0.9022159
13.5	0.0859763	0.0559043	0.0580242	14.0	0.0039932	0.0039775	14.59	1.09	6.85	0.9254232
14.5	0.0300720	0.0244398	0.0178521	15.0	0.0016293	0.0011663	15.31	0.81	6.53	0.9473077
15.5	0.0056322	0.0055324	0.0028660	16.0	0.0003458	0.0001788	16.03	0.53	6.24	0.9667657
16.5	0.0000998	0.0000998	0.0000499	17.0	0.0000059	0.0000029	17.00	0.50	5.88	0.9705882
17.5	0.0000000	0.0000000	0.0000000	18.0	0.0000000	0.0000000				
		1.0000000				1.0000000				

group. The age of the vintage group is shown in column (A) of the ELG table. The percent surviving at the beginning of each age interval is determined from the Iowa 10-R3 survivor curve which is set forth in column (B). The percent retired during each age interval, as shown in

column (C), is the difference between the percent surviving at successive age intervals. Accordingly, the percentage amount of the vintage group retired defines the size of each equal life group. For example, during the interval 3 1/2 to 4 1/2, 1.93690 percent of the vintage group is retired at an average age of four years. In this case, the 1.93690 percent of the group experiences an equal life of four years. Likewise, 3.00339 percent is retired during the interval 4 1/2 to 5 1/2 and experiences a service life of five years. Furthermore, 4.42969 percent experiences a six-year life; etc. Calculations are made for each age interval from the zero age interval through the end of the life of the vintage group. The average service life for each age interval's equal life group is shown in column (E) of the table.

The amount to be accrued annually for each equal life group is equal to the percentage retired in the equal life group divided by its service life. In as much as additions retirements are assumed, for calculation purposes, to occur at midyear only one-half of the equal life group's annual accrual is allocated to expense during its first and last years of service life. The accrual amount for the property retired during age interval 0 to .5 must be equal to the amount retired to insure full recovery of that component during that period. The accruals for each equal life group during the age intervals of the vintage group's life cycle are shown in column (F). The total accrual for a given year is the summation of the equal life group accruals for that year. For example, the total accrual for the second year, as shown in column (G), is 11.31019 percent and is the sum of all succeeding years remaining equal life group accruals plus one half of the current years life group accrual listed in column (F). For the zero-age interval year the total accrual is equal to one half of the sum of all succeeding years remaining equal life accruals plus the amount for the zero interval equal life group accrual. The one-half year accrual for the zero age interval is consistent with the half year convention relative to property during its installation

year. The sum of the annual accruals for each age interval contained in column (G) total to 1.000 demonstrating that the developed rates will recover 100% of plant no more and no less. The annual accrual rate which will result in the accrual amount is the ratio of the accrual amount (11.31019 percent) to the average percent surviving during the interval, column (D), (99.74145 percent), which is a rate of 11.34% (column J). Column (J) contains a summary of the accrual rates for each age interval of the property groups life cycle based upon an Iowa 10-R3 survivor curve.

#### Remaining Life Technique

In the Average Remaining Life depreciation technique, the annual accrual is calculated according to the following formula where, (A) the annual depreciation for each group equals, (D) the depreciable cost of plant less (U) the accumulated provision for depreciation less (S) the estimated future net salvage, divided by (R) the composite remaining life of the group:

$$A = \frac{D - U - S}{R}$$

The annual accrual rate (a) is expressed as a percentage of the depreciable plant balance by dividing the equation by (D) the depreciable cost of plant times 100:

(a) = 
$$\frac{D - U - S}{R} \times \frac{1}{D} \times 100$$

As further indicated by the equation, the accumulated provision for depreciation by vintage is required in order to calculate the remaining life depreciation rate for each property group. In practice, most often such detail is not available; therefore, composite remaining lives are determined for each depreciable group, (i.e., property account).

The remaining life for a depreciable group is calculated by first determining the remaining life for each vintage year in which there is surviving investment. This is accomplished by solving the area under the survivor curve selected to represent the average life and life characteristic of the property account. The remaining life for each vintage is determined by dividing (D) the depreciable cost of each vintage, by (L) its average service life, and multiplying this ratio by its average remaining life (E). The composite remaining life of the group (R) equals the sums of products divided by the sum of the quotients:

$$R Group = \sum_{\sum} \frac{D/L \times E}{D/L}$$

The accumulated provision for depreciation, which was the basis for developing the composite average remaining life accrual and annual depreciation rate for each property account as per this report, was obtained from NEP's books and records.

#### Salvage

Net salvage is the difference between gross salvage, or what is received when an asset is disposed of, and the cost of removing it from service. Salvage experience is normally included with the depreciation rate so that current accounting periods reflect a proportional share of the ultimate abandonment and removal cost or salvage received at the end of the property service life. Net salvage is said to be positive if gross salvage exceeds the cost of removal, but if cost of removal exceeds gross salvage the result is then negative salvage.

The cost of removal includes such costs as demolishing, dismantling, tearing down, disconnecting or otherwise removing plant, as well as normal environmental clean up costs associated with the property. Salvage includes proceeds received for the sale of plant and materials or the return of equipment to stores for reuse.

Net salvage experience is studied for a period of years to determine the trends which have occurred in the past. These trends are considered together with any changes that are anticipated in the future to determine the future net salvage factor for remaining life depreciation purposes. The net salvage percentage is determined by relating the total net positive or negative salvage to the book cost of the property investment.

Many retired assets generate little, if any, positive salvage. Instead, many of NEP's asset property groups generate negative net salvage at end of their life as a result of the cost of removal (retirement cost).

The method used to estimate the retirement cost is a standard analysis approach which is used to identify a company's historical experience with regard to what the end--of--life cost will be relative to the cost of the plant when first placed into service. This information, along with knowledge about the average age of the historical retirements that have occurred to date, enables the depreciation professional to estimate the level of retirement cost that will be experienced by NEP at the end of each property group's useful life. The study methodology utilized has been extensively set forth in depreciation textbooks and has been the accepted practice by depreciation professionals for many decades. Furthermore, the cost of removal analysis approach is the current standard practice used for mass assets by essentially all depreciation professionals in estimating future net salvage for the purpose of identifying the applicable depreciation for a property group. There is a direct relationship to the installation of specific plant in service and its corresponding removal in that the installation is its beginning of life cost while the removal is its end--of--life cost. Also, it is important to note that average remaining life-based depreciation rates incorporate future net salvage which is routinely more representative of recent versus long-term past average net salvage.

NEP's historical net salvage experience was analyzed to identify the historical net salvage factor for each applicable property group. This analysis routinely identifies that the historical retirements have occurred at average ages significantly prior to the property group's average service life. This occurrence of historical retirements, at an age which is significantly younger

than the average service life of the property category, clearly demonstrates that the historical data does not appropriately recognize the true level of retirement cost at the end of the property's useful life. An additional level of cost to retire will occur due to the passage of time until all the current in service plant is retired at end of life. That is, the level of retirement costs will increase over time until the average service life is attained. The estimated additional inflation, within the estimate of retirement cost, is related to those additional year's cost increases (primarily higher labor costs over time) that will occur prior to the end of the property group's average life.

To provide an additional explanation of the issue, several general principles surrounding property retirements and related net salvage need to be highlighted. For example, as property continues to age, the retirement of assets, if generating positive salvage when retired, will typically generate a lower percent of positive salvage. By comparison, if the class of property is one that typically generates negative net salvage (cost of removal), with increasing age at retirement the negative percentage as related to original cost will typically be greater. This situation is routinely driven by the higher labor cost with the passage of time.

A simple example will aid in a better understanding of the above discussed net salvage analysis and the required adjustment to the historical analysis results. Assume the following scenario. A company has two (2) cars, Car #1 and Car #2, each purchased for \$20,000. Car #1 is retired after 2 years and Car #2, is retired after 10 years. Accordingly, the average life of the two cars is six (6) years (2 Yrs. Plus 10 Yrs./2). Car #1 generates 75% salvage or \$15,000 when retired and Car #2 generates 5% salvage or \$1,000 when retired.

<u>Unit</u>	Cost	Ret. Age (Yrs)	<u>% Salv.</u>	Salvage Amount
Car # 1	\$20,000	2	75%	\$15,000
<u>Car # 2</u>	20,000	<u>10</u>	_ 5%	1,000
Total	40,000	6	40%	16,000

Assume an analysis of the experienced net salvage at year three (3). Based upon the Car #1 retirement, which was retired at a young age (2 Yrs.) as compared to the average six (6) year life of the property group, the analysis indicates that the property group would generate 75% This analysis indication is incorrect and is the result of basing the estimate on incomplete data. That is, the estimate is based upon the salvage generated from a retirement that occurred at an age which is far less than the average service life of the property group. The actual total net salvage, that occurred over the average life of the assets (which experienced a six (6) year average life for the property group) is 40% as opposed to the initial incorrect estimate of 75%.

This is exactly the situation with the majority of NEP's historical net salvage data except that most of NEP's plant property groups routinely experience negative net salvage (cost of removal) as opposed to positive salvage.

The total end of life net salvage amount must be incorporated in the development of annual depreciation rates to enable NEP to fully recover its total plant life costs. Otherwise, upon retirement of the plant, NEP will incur end of life costs without having recovered those plant related costs from the customers who benefitted from the use of the expired plant.

With regard to location type properties (e.g. generation facilities, etc.) a company will routinely experience both interim and terminal net salvage. Interim net salvage occurs in conjunction with interim retirements that occur throughout the life of the asset group. This net salvage activity (routinely and largely cost of removal) is attributable to the removal of components within NEP's facilities to enable the placement of a new asset component.

With regard to the inclusion of negative net salvage levels in the development of proposed depreciation rates, some accounts have been increased while others were reduced. Contributing to the current estimates of future net salvage, which is consistent with the industry in general, is negative net salvage.

To appropriately and proportionately allocate the true total asset cost (original cost adjusted for net salvage) over its applicable service life, proper consideration must be given in each accounting period, to the total costs that are anticipated to occur relative to NEP's assets that provide customer service.

#### Service Lives

Several factors contribute to the length of time or average service life which the property achieves. The three (3) major categories under which these factors fall are: (1) physical; (2) functional; and (3) contingent casualties.

The physical category includes such things as deterioration, wear and tear and the action of the natural elements. The functional category includes inadequacy, obsolescence and requirements of governmental authorities. Obsolescence occurs when it is no longer economically feasible to use the property to provide service to customers or when technological advances have provided a substitute of superior performance. The remaining factor of contingent casualties relates to retirements caused by accidental damage or construction activity of one type or another.

In performing the life analysis for any property being studied, both past experience and future expectations must be considered in order to fully evaluate the circumstances which may have a bearing on the remaining life of the property. This ensures the selection of an average service life which best represents the expected life of each property investment.

#### Survivor Curves

The preparation of a depreciation study or theoretical depreciation reserve typically

incorporates smooth curves to represent the experienced or estimated survival characteristics of the property. The "smoothed" or standard survivor curves generally used are the family of curves developed at Iowa State University which are widely used and accepted throughout the utility industry.

The shape of the curves within the Iowa family of curves are dependent upon whether the maximum rate of retirement occurs before, during or after the average service life. If the maximum retirement rate occurs earlier in life, it is a left (L) mode curve; if occurring at average life, it is a symmetrical (S) mode curve; if it occurs after average life, it is a right (R) mode curve. In addition, there is the origin (O) mode curve for plant which has heavy retirements at the beginning of life.

Many times, actual Company data has not completed its life cycle, therefore, the survivor table generated from NEP's data is not extended to zero percent surviving. This situation requires an estimate be made with regard to the remaining segment of the property group's life experience. Furthermore, actual Company experience is often erratic, making its utilization for average service life estimating difficult. Accordingly, the Iowa curves are used to both extend Company experience to zero percent surviving as well as to smooth actual Company data.

#### **Study Procedures**

Several study procedures were used to determine the prospective service lives recommended for NEP's plant in service. These include the review and analysis of historical retirements, current and future construction, historical experience and future expectations of salvage and cost of removal as related to plant investment. Service lives are affected by many different factors, some of which can be obtained from studying plant experience, others which may rely heavily on future expectations. When physical aspects are the controlling factor in

determining the service life of property, historical experience is a valuable tool in selecting service lives. In the case where changing technology or a less costly alternative develops, then historical experience is of lesser value.

While various methods are available to study historical data, the principal methods utilized to determine average service lives for a Company's property are the Retirement Rate Method, the Simulated Plant Record Method, the Life Span Method, and the Judgment Method.

Retirement Rate Method - The Retirement Rate Method uses actual Company retirement experience to develop a survivor curve (Observed Life Table) which is used to determine the average service life being experienced in the account under study. Computer processing provides the opportunity to review various experience bands throughout the life of the account to observe trends and changes. For each experience band studied, the "observed life table" is constructed based on retirement experience within the band of years. In some cases, the total life of the account has not been achieved and the experienced life table, when plotted, results in a "stub curve." It is this "stub curve" or total life curve, if achieved, which is matched or fitted to a standard Survivor curve. The matching process is performed both by computer analysis, using a least squares technique, and by manually plotting observed life tables to which smooth curves are fitted. The fitted smooth curve provides the basis to determine the average service life of the property group under study.

Simulated Balances Method - In this method of analysis, simulated surviving balances are determined for each balance included in the test band by multiplying each proceeding year's original gross additions installed by NEP by the appropriate factor of each Standard Survivor Curve, summing the products, and comparing the results with the related year end plant balance to determine the "best fitting" curve and life within the test period. Various test bands are reviewed to determine trends or changes to indicated service lives in various bands of years. By definition, the curve with the "best fit" is the curve which produces simulated plant balances that most closely matches the actual plant balances as determined by the sum of the "least squares". The sum of the "least squares" is arrived at by starting with the difference between the simulated balances and the actual balance for a given year, squaring the difference, and the curve which produces the smallest sum (of squared difference) is judged to be the "best fit".

Period Retirements Method - The application of the Period Retirements Method is similar to the "Simulated Plant Balances" Method, except the procedure utilizes a Standard Survivor Curve and service life to simulate annual retirements instead of balances in performing the "least squares" fitting process during the test period. This procedure does tend to experience wider fluctuations due to the greater variations in level of experienced retirements versus additions and balances thereby producing greater variation in the study results.

Life Span Method - The Life Span or Forecast Method is a method utilized to study various accounts in which the expected retirement dates of specific property or locations can be reasonably estimated. In the Life Span Method, an estimated probable retirement year is determined for each location of the property group. An example of this would be a structure account, in which the various segments of the account are "life spanned" to a probable retirement date which is determined after considering a number of factors, such as management plans, industry standards, the original construction date, subsequent additions, resultant average age and the current - as well as the overall - expected service life of the property being studied. If, in the past, the property has experienced interim retirements, these are studied to determine an interim retirement rate. Otherwise, interim retirement rate parameters are estimated for properties which are anticipated to experience such retirements. The selected interim service life parameters (Iowa curve and life) are then used with the vintage investment and probable retirement year of the property to determine the average remaining life as of the study date.

Judgment Method - Standard quantitative methods such as the Retirement Rate Method, Simulated Plant Record Method, etc. are normally utilized to analyze a Company's available historical service life data. The results of the analysis together with information provided by management as well as judgment are utilized in estimating the prospective recommended average service lives. However, there are some circumstances where sufficient retirements have not occurred, or where prospective plans or guidelines are unavailable. In these circumstances, judgment alone is utilized to estimate service lives based upon service lives used by other utilities for this class of plant as well as what is considered to be a reasonable life for this plant giving consideration to the current age and use of the facilities.

# **SECTION 4**

# **NATIONAL GRID**

# **NEW ENGLAND POWER COMPANY**

# **Study Analysis & Results**

### ACCOUNT – 341.00 Structures & Improvements

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$11,025,022

> Average Age of Survivors = 1.71 years Original Gross Additions = \$11.098,605

Oldest Surviving vintage = 1998

Retirements = \$73,583 or 0.7% of historical additions.

Average Age of Retirements = 8.5 years

**Experience Bands** Estimated 30-R3

> 2011 - 2020 ----- N/A 2003 -2020 (Full Depth) 15-R3 2016 -2020 ----- N/A

Historical Net Salvage: (2006-20)

Three Year Average Net Salvage Percent 2016-18 2017-19 2018-20

2006-20 0% 0% 0% 636%

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: 1,678%

#### **Future Expectations and Considerations**

Previously the surviving plant in this property account was a quite small investment related to facilities located at Nantucket.

During 2019, the company replaced the then existing limited facilities with new generating facilities. Accordingly, the historical analysis of the investments in this property group indicated a short life years life, that being less than 20 years, due to the change out of the prior small investment. Notwithstanding, the historical analysis results are not anticipated to be representative of the future, inasmuch company has added significant new property facilities.

Full Depth

Thus, it is anticipated that this property class will experience a more normal life of 30 years as opposed to what historical data currently indicates.

Life Analysis Method: Retirement Rate Method (Actuarial)

<u>Current Depreciation Parameters</u>

ASL/Curve: 25-R4 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 30-R3 Net Salv: -10%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.46% 5.19% Average Remaining Life 28.3 years 10.4 years

#### **ACCOUNT – 344.00 Conductors & Generators**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$21,111,793

> Average Age of Survivors = 2.59 years Original Gross Additions = \$39,488,407

Oldest Surviving vintage = 1992

Retirements = \$2,256,804 or 6.7% of historical additions.

Average Age of Retirements = 15.5 years

Estimated 30-R3 Experience Bands

> 2011 - 2020 ----- N/A 2003 -2020 (Full Depth) 15-R3 2016 -2020 ----- N/A

Historical Net Salvage: (2006-20)

Three Year Average Net Salvage Percent Full Depth 2006-20 2016-18 2017-19 2018-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 20 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

Previously the surviving plant in this property account was a quite small investment related to facilities located at Nantucket.

During 2019, the company replaced the then existing limited facilities with new generating facilities. Accordingly, the historical analysis of the investments in this property group indicated a short life years life, that being less than 20 years, due to the change out of the prior small investment. Notwithstanding, the historical analysis results are not anticipated to be representative of the future, inasmuch company has added significant new property facilities.

Thus, it is anticipated that this property class will experience a more normal life of 30 years as opposed to what historical data currently indicates.

Life Analysis Method: Retirement Rate Method (Actuarial)

# **Current Depreciation Parameters**

ASL/Curve: 25-R3 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: **3**0-R3 Net Salv: -10%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.76% 5.19% Average Remaining Life 27.6 years 11.5 years

#### ACCOUNT - 345.00 Miscellaneous Equipment

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$11,918,500

> Average Age of Survivors = 1.63 years Original Gross Additions = \$12,179,832

Oldest Surviving vintage = 1992

Retirements = \$261,332 or 2.1% of historical additions.

Average Age of Retirements = 9.8 years

Estimated 30-R3 Experience Bands

> 2011 - 2020 ----- N/A 2003 -2020 (Full Depth) 10-R5 2016 -2020 ----- N/A

Historical Net Salvage: (2008-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2008-20 0% 0% 0% -15%

Gross Salvage Trend Analysis

15 Year 10 Year 20 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: -38%

#### **Future Expectations and Considerations**

Previously the surviving plant in this property account was a quite small investment related to facilities located at Nantucket.

During 2019, the company replaced the then existing limited facilities with new generating facilities. Accordingly, the historical analysis of the investments in this property group indicated a short life years life, that being less than 20 years, due to the change out of the prior small investment. Notwithstanding, the historical analysis results are not anticipated to be representative of the future, inasmuch company has added significant new property facilities.

Thus, it is anticipated that this property class will experience a more normal life of 30 years as opposed to what historical data currently indicates.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

# **Current Depreciation Parameters**

ASL/Curve: 25-R2.5

Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 30-R3 Net Salv: -10%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.64% 5.19% Average Remaining Life 28.4 years 8.7 years

#### ACCOUNT – 348.00 Energy Storage Equipment

### **Historical Experience**

**Plant Statistics** Plant Balance = \$34,258,774

> Average Age of Survivors = 1.50 years Original Gross Additions = \$34,258,774

Oldest Surviving vintage = 2019

Retirements = \$0 or 0.0% of historical additions.

Average Age of Retirements = N/A

Estimated 25-R4 Experience Bands

> 2011 - 2020 ----- N/A 2003 -2020 (Full Depth) N/A 2016 -2020 ----- N/A

Historical Net Salvage: (2019-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2008-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 20 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: -38%

#### **Future Expectations and Considerations**

During 2019, the company installed a 7MVA, 6MW, 48MWH Battery Energy Storage System (BESS) at Bunker Road Substation, in the Town of Nantucket, Massachusetts. At the point where the BESS connects to the electric grid the BESS system consists of underground cable, metering pedestal, one grounding transformer, three inverter transformers, 18 invertors, 234 battery packs, and a supporting control system.

Given that the equipment was only placed in service during 2019, sufficient time has not passed to generate any empirical historical data for life analysis. General industry literature indicates that the life of the property will be impacted by the number and depth of battery discharge cycles that will occur. Referenced lives routinely range from 10 to 20 years, with significant components of the property group likely having shorter service lives. However, within the supplier's contract for the BESS system, the vendor has provided a performance guarantee for the BESS system. The guarantee protects the company from a degradation of the original designed capability during the initial 20-year period. Even with the performance guarantee, it can be anticipated that during the 20-year period, there will be significant technology improvements within the product line. Accordingly, it is not anticipated that

useful service life of the assets will extend materially beyond the performance guarantee period. Thus, at the present time, a 25-R4 life and curve is initially estimated as the applicable service life parameters.

With regard to net salvage, negative 10 (-10%) net salvage is currently be used for "Other Production" property groups. Accordingly, negative 10% percent net salvage is estimated for this property group.

Life Analysis Method: Retirement Rate Method (Actuarial)—Historical Data Not Yet Available

#### **Current Depreciation Parameters**

ASL/Curve: N/A Net Salv: N/A

# **Proposed Depreciation Parameters**

ASL/Curve: 25-R4 Net Salv: -10%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 4.38% N/A Average Remaining Life 23.5 years N/A

#### **ACCOUNT – 352.00 Structures & Improvements**

#### **Historical Experience**

Plant Statistics Plant Balance = \$83,363,867

Average Age of Survivors = 9.80 years Original Gross Additions = \$47,563,445

Oldest Surviving vintage = 1909

Retirements = \$1,792,867 or 3.8% of historical additions.

Average Age of Retirements = 51.3 years

Experience Bands 2011 - 2020 ----- 45-R4

2001 -2020 (Full Depth) 55-R4 2016 -2020 ----- 47-R4

Historical Net Salvage: (2004-20)

 Three Year Average Net Salvage Percent
 Full Depth

 2016-18
 2017-19
 2018-20
 2004-20

-2% -4% -15%

Gross Salvage Trend Analysis

<u>20 Year</u> <u>15 Year</u> <u>10 Year</u> <u>5 Year</u> <u>0%</u>

Forecasted Net Salvage: -4%

#### **Future Expectations and Considerations**

This property investment group is principally related to structures located at the company's numerous transmission sites and are utilized to house various items of control equipment. This investment category includes investment component items such as not only the overall building structures, but also heaters, air conditioners, generators, station framework, fencing, etc. During recent years, this property group has routinely experienced replacements/retirements of increasing levels of property, which when analyzed, resulted in a shorter average service life indication than the overall experience band--as noted via the above listed historical band analysis results.

In the coming years various substation locations are anticipated to be upgraded resulting in ongoing retirements of existing facilities. Management's expectation is that the future activity will equal or exceed the experience of more recent periods. Accordingly, the recent experienced life is the driver for the proposed depreciation life parameters for this property group.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

-2%

# **Current Depreciation Parameters**

ASL/Curve: 45-R5 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 47-R4 Net Salv: -5%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 2.21% 2.21% Average Remaining Life 37.9 years 25.3 years

#### ACCOUNT - 353.00 Station Equipment

#### **Historical Experience**

Plant Statistics Plant Balance = \$1,611,237,353

Average Age of Survivors = 11.54 years Original Gross Additions = \$1,741,096,716

Oldest Surviving vintage = 1909

Retirements = \$95,232,967 or 5.5% of historical additions.

Average Age of Retirements = 29.6 years

Experience Bands 2011 - 2020 ----- 39-L3

1994 -2020 (Full Depth) 50-L2 2016 -2020 ----- 39-L3

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent <u>2016-18</u> <u>2017-19</u> <u>2018-20</u>

-22% -23% -36%

Full Depth 2004-20 -23%

Gross Salvage Trend Analysis

20 Year 0% 15 Year 0% 5 Year 0% 0%

Forecasted Net Salvage: -48%

#### **Future Expectations and Considerations**

The costs included in this account investment are related to numerous distribution substation equipment (including items such as transformers, voltage regulators, circuit breakers, etc) used to transformer power between transmission voltages and/or to primary distribution voltages. Some of the changes tend to proportionately impact older vintages of plant to a greater degree, therefore, older vintage property has often had the greatest exposure to retirement.

In the coming years, various substations are anticipated to be upgraded resulting in ongoing retirements of existing facilities. Improvements are anticipated as a result of automation standards plus changes will include, but not be limited to, full station rebuilds (with changes over the coming decade anticipated to much great that which occurred during prior years). Localized component level upgrades/replacements will include change outs of Oil Circuit Breakers with SF-6 Breaker technology as well as other component changes.

Historical life analysis of this property group has demonstrated that the Company has routinely experienced replacements/retirements of increasing levels of property components, resulted in

progressively shorter average service life indications, versus that of the overall experience band, as noted via the above listed historical band analysis results. As noted, such levels are not only anticipated to continue, but increase. Accordingly, the life indication experience of the latest decade is the basis for the current estimate of future average service life for the property group.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 45-R2.5

Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 39-L3 Net Salv: -15%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.28% 2.29% Average Remaining Life 28.6 years 31.2 years

#### **ACCOUNT – 354.00 Towers & Fixtures**

#### **Historical Experience**

Plant Statistics Plant Balance = \$33,171,852

Average Age of Survivors = 36.26 years Original Gross Additions = \$35,729,651

Oldest Surviving vintage = 1912

Retirements = \$1,679,819 or 4.7% of historical additions.

Average Age of Retirements = 45.3 years

Experience Bands 2011 - 2020 ----- N/A

1997 -2020 (Full Depth) 60-R4 FTA 65

2016 -2020 ----- N/A

Historical Net Salvage: (2005-20)

Three Year Average Net Salvage Percent

2016-18 2017-19 2018-20 2005-20

-1030% -1684% -310% -293%

Gross Salvage Trend Analysis

<u>20 Year</u> <u>15 Year</u> <u>10 Year</u> <u>5 Year</u> <u>6%</u> <u>24%</u> <u>30%</u>

Forecasted Net Salvage: -790%

#### **Future Expectations and Considerations**

The Company has a variety of different tower systems comprised of a modest quantity of lattice towers within its transmission system with the remaining quantity transmission structures being Metal Monopole and/or Metal or Wood H-frame Structures. The Company completes a physical inspection of its Towers and Fixture at five-year intervals. The Company also has a painting program and a 20-year footer inspection. Design changes have occurred over time with the goal of reduction of related operating expenses.

During the recent decade plus there has been a modest amount of component replacement activity.

Given the range of the available historical actuarial data, which generally produced an average service life indication of 60 years, lack of any current specific Company property upgrade plans, and fact that the present underlying average service life of 60 years is within the life range of a majority of the industry's Transmission Tower property group lives, the Company's current Iowa 60-R4 life parameters are proposed to be continued at the present time.

Along with the available plant retirement activity, the experienced level of negative net salvage has continued to occur at very high percentage levels. This is not unexpected given the location and type of property. High levels of negative net salvage are anticipated to continue thus a modest increase in the negative net salvage estimate to -30% is proposed at this time.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 60-R4 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 60-R4 Net Salv: -30%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 2.69% 1.52% Average Remaining Life 34.6 years 25.2 years

# **ACCOUNT – 355.00 Poles & Fixtures**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$694,166,482

> Average Age of Survivors = 13.08 years Original Gross Additions = \$724,465,821

Oldest Surviving vintage = 1909

Retirements = \$30,840,870 or 4.3% of historical additions.

Average Age of Retirements = 24.2 years

Experience Bands 2011 - 2020 ----- 58-R2 **FTA 85** 

> 1997 -2020 (Full Depth) 55-R2.5 FTA 85 2016 -2020 ----- 55-R2 FTA 85

> > -148%

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2004-20 -222% -167%

Gross Salvage Trend Analysis

-184%

20 Year 15 Year 10 Year 5 Year 3% 4% 1% 1%

Forecasted Net Salvage: -509%

#### **Future Expectations and Considerations**

Poles are inspected in the field on an ongoing basis and those that require replacement are evaluated based on several design criteria. The large quantity of the Company transmission lines is H-frame structure construction along with a variety of various types of monopole facilities.

The replacement of poles within the Company's operating system varies from year to year depending upon inspection results, resulting in projects to replace both cross-arms and structures, etc. The facilities are visually inspected at five-year intervals plus tested and treated, as required, at 10-year intervals. The property inventory is comprised of more than 3,000 Steel Poles and upward of 15,000 wood structures (which would include multiple Wood Poles). In is anticipated that there will be an increasing trend in the use of steel poles in lieu of wood poles over time.

While the average service life underlying the current depreciation, rate is a shorter 45 years, the experienced lives of the property group assets increased to a somewhat greater life during the 1990 and early 2000 decades to the mid 50-year life range likely due to older age pole retirements. However, current expectations are for this property class to continue experiencing a substantial ongoing

replacement activity over future decades. The result of such activity is that the average service life will likely ultimately decline from the more recent 5-year experience, shown above, to a life of 50 years and less.

At the present time, based upon the experience of the past decade, a life of 58 years is current estimated for the property group. Considering the expected/forthcoming significant increases in plant upgrades and change outs, there is a potential for the future experienced life to decline towards the earlier average service life underlying the present depreciation rate.

Notwithstanding the current increase in the estimated average service life for the property group, based upon ongoing significant levels of experienced cost of removal, the estimated future net salvage is proposed to be revised from -10% to -140%. Even with this proposed significant increase in the future negative net salvage estimate that is included with the proposed depreciation rate, the book depreciation reserve is less than required, thus an even higher recovery level can be anticipated to be required during subsequent periods.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 45-S2 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 58-R2 Net Salv: -140%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 4.71% 2.36% Average Remaining Life 47.0 years 35.5 years

#### ACCOUNT – 356.00 O/H Conductor & Devices

#### **Historical Experience**

Plant Statistics Plant Balance = \$533,982,481

Average Age of Survivors = 14.62 years Original Gross Additions = \$576,002,769

Oldest Surviving Vintage = 1909

Retirements = \$22,129,212 or 3.8% of historical additions.

Average Age of Retirements = 26.5 years

Experience Bands 2011 - 2020 ----- 65-S0.5 FTA 90

1997 -2020 (Full Depth) 70-R2 FTA 90 2016 -2020 ----- 55-S0.5 FTA 90

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent 2016-18 2017-19 2018-20

-272% -439% -231%

2004-20 -206%

Full Depth

Gross Salvage Trend Analysis

<u>20 Year</u> <u>15 Year</u> <u>10 Year</u> <u>5 Year</u> <u>15%</u> <u>2%</u>

Forecasted Net Salvage: -796%

#### **Future Expectations and Considerations**

This property group contains the Company's investment applicable to overhead conductors and related property. Change outs of conductors and appurtenant equipment are driven by both physical attributes and load growth that are constantly occurring within the Company's service area. The largest portion of the Company's current system operate at 69Kv (440 miles or in excess of 19%) and 115Kv (1170 miles or in excess of 50%) out of a total system of approximately 2,300 plus total miles. The remaining portion of the Company's system is generally split between 230Kv and 345Kv property.

In coming years there are a variety of items or events that will be drivers for ongoing upgrades/replacements of the Company's existing Conductors and Devices. Such upgrades would be the product of significant change outs of the shield wire on each of the transmission line, changes due to line clearance limitations, and overall system reliability. Another item that could significantly alter the transmission load requirements is the extent to which electric vehicles are introduced into the service territory.

While the average service life underlying the current depreciation, rate is a shorter 45 years, the experienced lives of the property group assets increased to a greater life during the 1990 and early 2000 decades to a life in the range of 55-60 plus years.

However, current expectations are for this property class to experience a substantial increase in replacement activity over future decades. The anticipated result of such activity is that the average service life will likely ultimately decline from the more recent 5-year experience, shown above, to that of the more recent time period to a life of 55 years and less.

At the present time, based upon the experience of the past decade a life of 65 years is currently estimated for the property group. Considering the expected/forthcoming significant increases in plant upgrades and change outs, there is a potential for the future experience life to decline towards the earlier average service life underlying the present depreciation rate.

Notwithstanding the currently increase in the underlying average service life for the property group, based upon ongoing significant levels of experienced cost of removal, the estimated future net salvage is proposed to be revised from -10% to -100%. Even with this significant increase in the future negative net salvage estimate included with the proposed depreciation rate, a further higher Cost of Removal recovery level can be anticipated to be required during subsequent periods.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 45-S2 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 65-S0.5 Net Salv: -100%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.38% 2.30% Average Remaining Life 53.0 years 32.8 years

# ACCOUNT - 357.00 U/G Conduit

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$40,352,637

> Average Age of Survivors = 14.30 years Original Gross Additions = \$40,405,578

Oldest Surviving Vintage = 1919

Retirements = \$47,320 or .12% of historical additions.

Average Age of Retirements = 60.1 years

Experience Bands Estimated 60-R5

Historical Net Salvage: (2018-20)

Three Year Average Net Salvage Percent Full Depth 2017-19 2018-20 2018-20 2016-18 0% 0% 0% -84%

Gross Salvage Trend Analysis

10 Year 5 Year 20 Year 15 Year 19% 19% 19% 19%

Forecasted Net Salvage: -213%

#### **Future Expectations and Considerations**

This property equipment account is related to facilities that are used in conjunction with the Company's underground cable systems. The majority of conduit systems are installed in the distribution system where: 1) additional mechanical protection of cable systems is required; 2) future destructive surface construction associated with cable repairs is to be avoided.

The primary cause for conduit system retirement is abandonment of existing conduit associated with facility relocations.

Also, replacement of conduit systems is due to damage caused by a third party.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 60-R5

Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 60-R5 Net Salv: -10%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 1.66% 1.60% Average Remaining Life 53.8 years 26.1 years

#### ACCOUNT - 358.00 U/G Conductors & Devices

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$49,693,547

> Average Age of Survivors = 17.49 years Original Gross Additions = \$54.082.567

Oldest Surviving Vintage = 1919

Retirements = \$3,058,330 or 5.7% of historical additions.

Average Age of Retirements = 33.4 years

Experience Bands 2011 - 2020 ----- 55-R2.5

> 2003 -2020 (Full Depth) 55-R3 2016 -2020 ----- 40-R1.5

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20

-211% -237% -211%

2004-20 -209%

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year 8% 10% 2% 16%

Forecasted Net Salvage: -1190%

#### **Future Expectations and Considerations**

This property group includes the investment related to approximately 32 miles of underground Transmission cables. The cables are comprised of several different plant technologies, including oil filled and gas filled properties A modest level of retirements have occurred over the life of this property group. In the foreseeable future, the Company anticipates replacing various additional components of the cable.

The historical retirements that have occurred to date have experienced high level of Cost of Removal averaging more than 200% negative net salvage. While the entire remaining assets are not necessarily anticipated to experience such levels of overall negative net salvage, far higher levels of negative net salvage than the negative 10% incorporated in the present depreciation rate can be expected. Accordingly, future negative net salvage of -75% is presently estimated for the property group.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

# **Current Depreciation Parameters**

ASL/Curve: 45-R3 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 55-R2.5 Net Salv: -75%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.82% 2.20% Average Remaining Life 40.1 years 25.8 years

#### ACCOUNT - 359.00 Roads and Trails

### **Historical Experience**

**Plant Statistics** Plant Balance = \$6,553,661

> Average Age of Survivors = 27.59 years Original Gross Additions = \$5,587,407 Oldest Surviving Vintage = 1923

Retirements = \$377 or 0% of historical additions.

Average Age of Retirements = 50.5 years

Estimated 50-R5 Experience Bands

Historical Net Salvage: (2013-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2013-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 5 Year 20 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

This investment is related to Company private roads used to access the various operating property sites. Few retirements have occurred to date from this property category. The continued use of the current depreciation life parameters is proposed at this time.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 50-R5 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 50-R5

Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 1.71% 2.08% Average Remaining Life 26.0 years 32.8 years

# **ACCOUNT – 362.00 Station Equipment**

### **Historical Experience**

**Plant Statistics** Plant Balance = \$63,014

> Average Age of Survivors = 61.94 years Original Gross Additions = \$53,185 Oldest Surviving vintage = 1938

Retirements = \$1,925 or 3.6% of historical additions.

Average Age of Retirements = 44.5 years

Estimated 45-R2.5 Experience Bands

Historical Net Salvage: (2008-20)

Three Year Average Net Salvage Percent Full Depth 2017-19 2008-20 2016-18 2018-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

1<u>5 Year</u> 20 Year 10 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The costs included in this account investment is related to minor amount of distribution substation equipment. The continued use of the current depreciation life parameters is proposed at this time.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 45-R2.5 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 45-R2.5

Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

-1.76% 2.40% Rate Average Remaining Life 5.7 years 17.1 years

4-25

**AUS Consultants** 

#### **ACCOUNT – 364.00 Poles, Towers & Fixtures**

### **Historical Experience**

**Plant Statistics** Plant Balance = \$87,235

> Average Age of Survivors = 42.10 years Original Gross Additions = \$110,265 Oldest Surviving vintage = 1938

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

Experience Bands Estimated 35-R3

Historical Net Salvage: N/A

Three Year Average Net Salvage Percent Full Depth 2004-20 2016-18 2017-19 2018-20 N/A N/A N/A N/A

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year N/A N/A N/A N/A

Forecasted Net Salvage: N/A

#### **Future Expectations and Considerations**

The Company has only a limited quantity of distribution poles. The continued use of the current depreciation life parameters is proposed at this time.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 35-R3 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 35-R3

Net Salv: 0%

	New Rate (a) New Parameters	Old Rate (a) Old Parameters
Rate Average Remaining Life	-1.86% 5.4 years	3.11% 19.9 years
Tiverage Remaining Line	3.1 y cars	1).) yours

#### **ACCOUNT – 365.00 Overhead Conductors & Devices**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$121,482

> Average Age of Survivors = 42.52 years Original Gross Additions = \$155,445 Oldest Surviving vintage = 1938

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

Estimated 35-R3 Experience Bands

Historical Net Salvage: (2005-20)

Three Year Average Net Salvage Percent Full Depth 2005-20 2016-18 2017-19 2018-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The continued use of the current depreciation life parameters is proposed at this time.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 35-R3 Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 35-R3

Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

-2.14% Rate 3.12% Average Remaining Life 4.7 years 20.8 years

4-28

#### ACCOUNT – 366.00 U/G Conduit

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$1,118

> Average Age of Survivors = 41.74 years Original Gross Additions = \$1,118 Oldest Surviving Vintage = 1978

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

**Experience Bands** Estimated 60-R5

Historical Net Salvage: N/A

Three Year Average Net Salvage Percent Full Depth 2018-20 2016-18 2017-19 2004-20 N/AN/AN/AN/A

Gross Salvage Trend Analysis

15 Year 10 Year 20 Year 5 Year N/A N/AN/A N/A

Forecasted Net Salvage: N/A

#### **Future Expectations and Considerations**

The continued use of the current depreciation life parameters is proposed at this time.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 60-R5

Net Salv: -10%

# **Proposed Depreciation Parameters**

ASL/Curve: 60-R5

Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

1.95% 0.44% Rate Average Remaining Life 18.8 years 45.3 years

#### ACCOUNT - 367.00 U/G Conductors & Devices

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$15,730

> Average Age of Survivors = 42.50 years Original Gross Additions = \$15,730 Oldest Surviving Vintage = 1978

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

Estimated 35-R2.5 Experience Bands

Historical Net Salvage: N/A

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2004-20 N/AN/AN/AN/A

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year N/AN/AN/A N/A

Forecasted Net Salvage: N/A

#### **Future Expectations and Considerations**

The continued use of the current depreciation life parameters is proposed at this time.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 35-R2.5 Net Salv: -10%

#### **Proposed Depreciation Parameters**

ASL/Curve: 35-R2.5

Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

-1.79% 3.10% Rate 5.6 years 22.0 years Average Remaining Life

4-30

#### **ACCOUNT - 368.00 Line Transformers-Installation**

#### **Historical Experience**

Plant Statistics Plant Balance = \$12,315

Average Age of Survivors = 42.25 years Original Gross Additions = \$12,315 Oldest Surviving Vintage = 1976

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

Experience Bands Estimated 25-S3

Historical Net Salvage: N/A

 Three Year Average Net Salvage Percent
 Full Depth

 2016-18
 2017-19
 2018-20
 2004-20

 N/A
 N/A
 N/A

Gross Salvage Trend Analysis

 $\begin{array}{cccc} \underline{20 \ Year} & \underline{15 \ Year} & \underline{10 \ Year} & \underline{5 \ Year} \\ N/A & N/A & N/A & N/A \end{array}$ 

Forecasted Net Salvage: N/A

#### **Future Expectations and Considerations**

The continued use of the current depreciation life parameters is proposed at this time.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 25-S3 Net Salv: -10%

#### **Proposed Depreciation Parameters**

ASL/Curve: 25-S3 Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

Rate -9.26% 4.28% Average Remaining Life 1.1 years 12.1 years

4-31

#### ACCOUNT - 370.00 Large Meters-Installation

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$7,629,162

> Average Age of Survivors = 29.24 years Original Gross Additions = \$7,474,338 Oldest Surviving Vintage = 1958

Retirements = \$12,883 or 0.2% of historical additions.

Average Age of Retirements = 15.7 years

Estimated 45-R4 Experience Bands

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2004-20 0% 0% 0% 0%

Gross Salvage Trend Analysis 20 Year 15 Year 10 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The investment in this property group is related to internal Meters located at various substation sites to measure energy flows. Few retirements have occurred from the property class during the study period. The Company has no specific plans and/or pending changes for the property group. Given that the average age of the property investment is currently 29 years, a life of 45 is present estimated for the property category investment.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 28-L0.5 Net Salv: -10%

### **Proposed Depreciation Parameters**

ASL/Curve: 45-R4 Net Salv: 0%

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New Rate @New Parameters Old Rate @ Old Parameters

Rate -0.11% 3.83% Average Remaining Life 18.2 years 22.8 years

#### **ACCOUNT – 390.0 Structures & Improvements**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$150,293

Average Age of Survivors = 5.50 years

Original Gross Additions = \$0 Oldest Surviving Vintage = 2015

Retirements = \$0 or 0% of historical additions.

Average Age of Retirements = N/A

Estimated 50-R5 Experience Bands

Historical Net Salvage: (2004-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2004-20 N/AN/AN/AN/A

Gross Salvage Trend Analysis

20 Year 15 Year 10 Year 5 Year N/AN/AN/A N/A

Forecasted Net Salvage: N/A

#### **Future Expectations and Considerations**

There is only a minor investment that was added to this property account in recent years, thus no retirements have occurred to date. The continued use of the current depreciation life parameters is proposed at this time.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 50-R5 Net Salv: -5%

#### **Proposed Depreciation Parameters**

ASL/Curve: 50-R5 Net Salv: -5%

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New Rate @New Parameters Old Rate @ Old Parameters

Rate 2.06% 2.30% Average Remaining Life 44.5 years 28.9 years

•

#### **ACCOUNT – 391.00 Office Furniture & Fixtures**

#### **Historical Experience**

Plant Statistics Plant Balance = \$63,792

Average Age of Survivors = 5.50 years Original Gross Additions = \$68,616 Oldest Surviving Vintage = 2015

Retirements = \$68,616 or 100.0% of historical additions.

Average Age of Retirements = 30.4 years

Experience Bands Estimated 26-SQ

Historical Net Salvage: (2004-20)

Gross Salvage Trend Analysis

<u>20 Year</u> <u>15 Year</u> <u>10 Year</u> <u>5 Year</u> <u>0%</u> <u>0%</u>

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The continued use of the current depreciation life parameters is proposed at this time.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 26-SQ Net Salv: -5%

#### **Proposed Depreciation Parameters**

ASL/Curve: 26-SQ Net Salv: 0%

New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.15% 3.85% Average Remaining Life 20.5 years 19.3 years

4-36

**AUS Consultants** 

#### ACCOUNT – 394.00 Tools & Work Equipment

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$1,518,948

> Average Age of Survivors = 5.73 years Original Gross Additions = \$1.877.099 Oldest Surviving Vintage = 1996

Retirements = \$468,684 or 25.0% of historical additions.

Average Age of Retirements = 25.4 years

Experience Bands 2003 – 2020 (Full Depth) 24-R2

Historical Net Salvage: (2006-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2006-20 -21% -169% -7% -17%

Gross Salvage Trend Analysis

15 Year 10 Year 20 Year 5 Year 0% 0% 0% 0%

Forecasted Net Salvage: -23%

#### **Future Expectations and Considerations**

The investment in this account is related to tools and work equipment used by the Company's workforce. All of these items are subject to ongoing upgrades and replacements. The estimated average service life for the property group is based upon the results of the overall study period.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 28-SQ Net Salv: -5%

### **Proposed Depreciation Parameters**

ASL/Curve: 24-R2 Net Salv: -10%

> New Rate @New Parameters Old Rate @ Old Parameters

Rate 5.17% 3.57% Average Remaining Life 19.2 years 18.1 years

4-37

**AUS Consultants** 

#### **ACCOUNT – 395.00 Laboratory Equipment**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$1,675,214

> Average Age of Survivors = 6.53 years Original Gross Additions = \$2,172,645 Oldest Surviving Vintage = 1998

Retirements = \$497,431 or 22.90% of historical additions.

Average Age of Retirements = 26.9 years

Experience Bands 2003–2020 (Full Depth) 29-L4

Historical Net Salvage: (2011-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2011-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 5 Year 20 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The equipment category typically includes facilities use for testing and/or research purposes. The estimated average service life for the property group is based upon the results of the overall study period.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 23-SQ Net Salv: -5%

#### **Proposed Depreciation Parameters**

ASL/Curve: 29-L4 Net Salv: 0%

> New Rate @New Parameters Old Rate @ Old Parameters

3.01% 4.35% Rate Average Remaining Life 22.6 years 12.7 years

4-38

**AUS Consultants** 

#### **ACCOUNT – 397.00 Communications Equipment**

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$2,050,320

> Average Age of Survivors = 9.0 years Original Gross Additions = \$6.012.835 Oldest Surviving Vintage = 2002

Retirements = \$4,125,330 or 68.6% of historical additions.

Average Age of Retirements = 28.8 years

Experience Bands 2001–2020 (Full Depth) 25-L4

Historical Net Salvage: (2007-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2007-20 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 5 Year 20 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The investment in this account is related to communication equipment, such as radios used by the Company's workforce. The estimated average service life for the property group is based upon the results of the overall study period.

**Life Analysis Method:** Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 18-L1 Net Salv: -5%

#### **Proposed Depreciation Parameters**

ASL/Curve: 25-L4

Net Salv: 0%

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New Rate @New Parameters Old Rate @ Old Parameters

Rate -0.04% 6.02% Average Remaining Life 16.3 years 10.1 years

#### ACCOUNT – 398.00 Miscellaneous Equipment

#### **Historical Experience**

**Plant Statistics** Plant Balance = \$219,544

> Average Age of Survivors = 4.80 years Original Gross Additions = \$232,962 Oldest Surviving Vintage = 2011

Retirements = \$13,418 or 5.8% of historical additions.

Average Age of Retirements = 33.1 years

Experience Bands 2001–2020 (Full Depth) 33-S6

Historical Net Salvage: (2011-20)

Three Year Average Net Salvage Percent Full Depth 2016-18 2017-19 2018-20 2011-20 0% 0% 0% 0% 0% 0%

Gross Salvage Trend Analysis

15 Year 10 Year 5 Year 20 Year 0% 0% 0% 0%

Forecasted Net Salvage: 0%

#### **Future Expectations and Considerations**

The investment in this account is related to communication equipment, such as radios used by the Company's workforce. The estimated average service life for the property group is based upon the results of the overall study period.

Life Analysis Method: Retirement Rate Method (Actuarial)

#### **Current Depreciation Parameters**

ASL/Curve: 26-SQ Net Salv: -5%

### **Proposed Depreciation Parameters**

ASL/Curve: 33-S6 Net Salv: 0%

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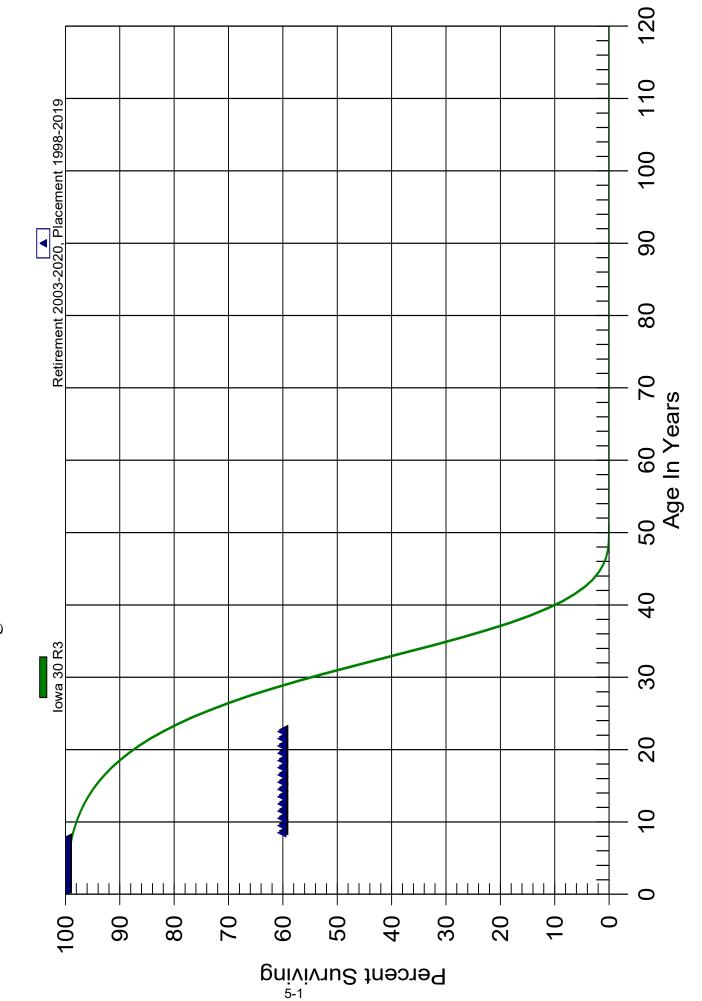
New Rate @New Parameters Old Rate @ Old Parameters

Rate 3.01% 3.85% Average Remaining Life 28.2 years 10.1 years

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# **SECTION 5**

# New England Power Company ALL Divisions 341.00 STRUCTURES & IMPROVEMENTS Original And Smooth Survivor Curves

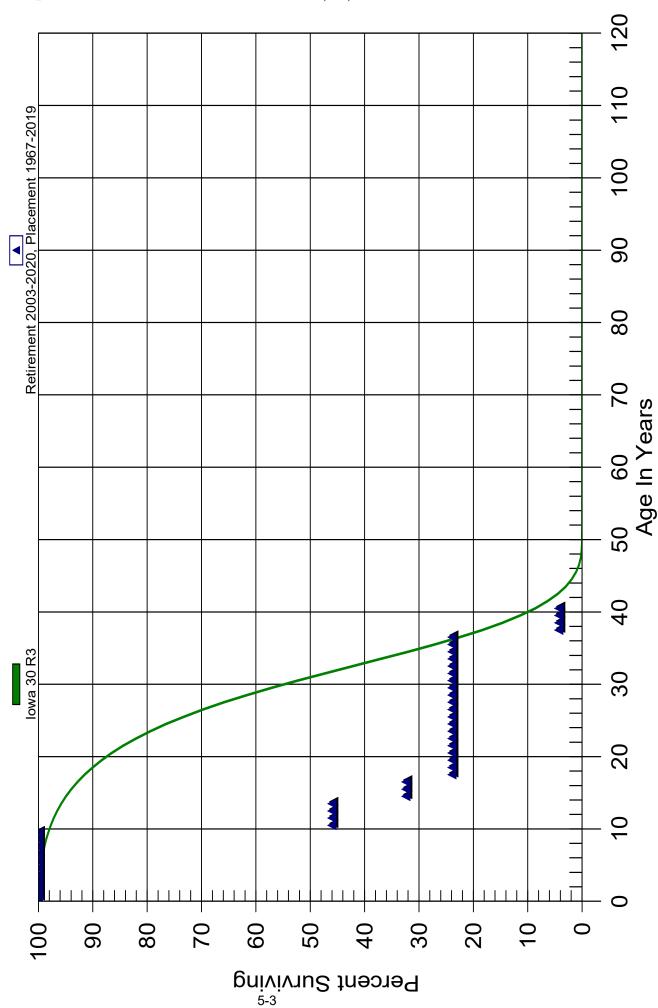


# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$16,119,810.44	\$0.00	0.00000	100.00
0.5 - 1.5	\$16,119,810.44	\$0.00	0.00000	100.00
1.5 - 2.5	\$0.00	\$0.00	0.00000	100.00
2.5 - 3.5	\$0.00	\$0.00	0.00000	100.00
3.5 - 4.5	\$0.00	\$0.00	0.00000	100.00
4.5 - 5.5	\$184,854.59	\$0.00	0.00000	100.00
5.5 - 6.5	\$184,854.59	\$0.00	0.00000	100.00
6.5 - 7.5	\$184,854.59	\$0.00	0.00000	100.00
7.5 - 8.5	\$184,854.59	\$73,583.00	0.39806	100.00
8.5 - 9.5	\$111,271.59	\$0.00	0.00000	60.19
9.5 - 10.5	\$111,271.59	\$0.00	0.00000	60.19
10.5 - 11.5	\$111,271.59	\$0.00	0.00000	60.19
11.5 - 12.5	\$111,271.59	\$0.00	0.00000	60.19
12.5 - 13.5	\$111,271.59	\$0.00	0.00000	60.19
13.5 - 14.5	\$111,271.59	\$0.00	0.00000	60.19
14.5 - 15.5	\$111,271.59	\$0.00	0.00000	60.19
15.5 - 16.5	\$111,271.59	\$0.00	0.00000	60.19
16.5 - 17.5	\$111,271.59	\$0.00	0.00000	60.19
17.5 - 18.5	\$111,271.59	\$0.00	0.00000	60.19
18.5 - 19.5	\$111,271.59	\$0.00	0.00000	60.19
19.5 - 20.5	\$111,271.59	\$0.00	0.00000	60.19
20.5 - 21.5	\$111,271.59	\$0.00	0.00000	60.19
21.5 - 22.5	\$111,271.59	\$0.00	0.00000	60.19

# New England Power Company 344.00 CONDUCTORS & GENERATORS ALL Divisions





# New England Power Company **ALL Divisions** 344.00 CONDUCTORS & GENERATORS

# Observed Life Table

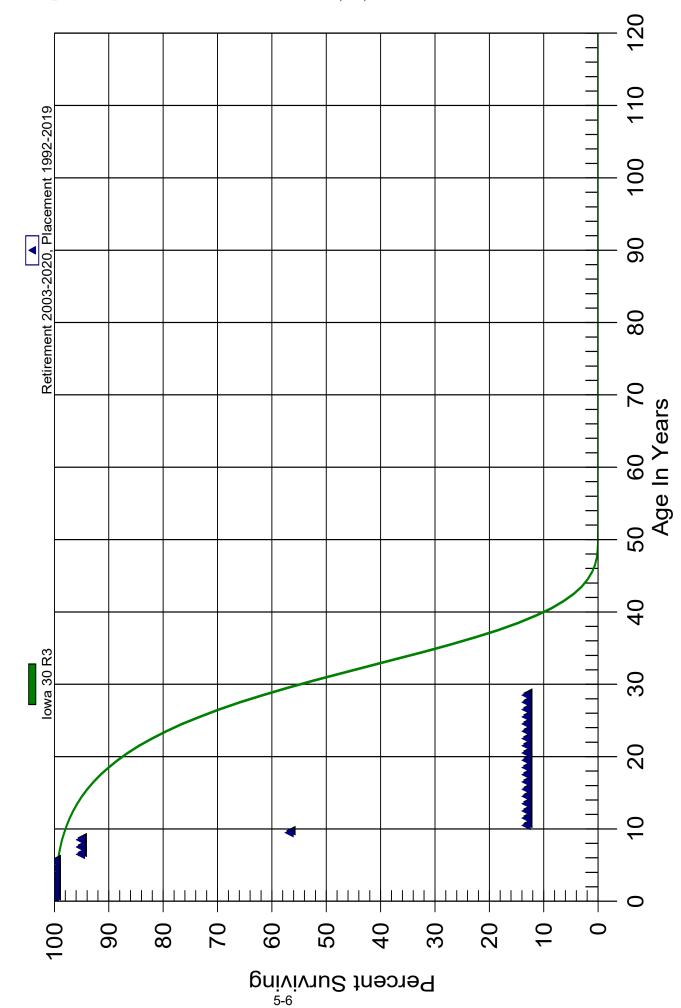
Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$42,771,767.95	\$0.00	0.00000	100.00
0.5 - 1.5	\$42,771,767.95	\$0.00	0.00000	100.00
1.5 - 2.5	\$200,605.06	\$0.00	0.00000	100.00
2.5 - 3.5	\$199,779.23	\$0.00	0.00000	100.00
3.5 - 4.5	\$185,695.18	\$0.00	0.00000	100.00
4.5 - 5.5	\$1,431,176.94	\$0.00	0.00000	100.00
5.5 - 6.5	\$1,431,176.94	\$0.00	0.00000	100.00
6.5 - 7.5	\$1,431,176.94	\$0.00	0.00000	100.00
7.5 - 8.5	\$1,431,176.94	\$0.00	0.00000	100.00
8.5 - 9.5	\$2,307,783.94	\$0.00	0.00000	100.00
9.5 - 10.5	\$2,307,783.94	\$1,245,481.76	0.53969	100.00
10.5 - 11.5	\$1,445,875.23	\$0.00	0.00000	46.03
11.5 - 12.5	\$1,445,875.23	\$0.00	0.00000	46.03
12.5 - 13.5	\$1,445,875.23	\$0.00	0.00000	46.03
13.5 - 14.5	\$1,544,827.05	\$456,911.00	0.29577	46.03
14.5 - 15.5	\$1,087,916.05	\$0.00	0.00000	32.42
15.5 - 16.5	\$1,087,916.05	\$0.00	0.00000	32.42
16.5 - 17.5	\$1,087,916.05	\$284,647.00	0.26164	32.42
17.5 - 18.5	\$803,269.05	\$0.00	0.00000	23.94
18.5 - 19.5	\$803,269.05	\$0.00	0.00000	23.94
19.5 - 20.5	\$803,269.05	\$0.00	0.00000	23.94
20.5 - 21.5	\$803,269.05	\$0.00	0.00000	23.94
21.5 - 22.5	\$803,269.05	\$0.00	0.00000	23.94
22.5 - 23.5	\$803,269.05	\$0.00	0.00000	23.94
23.5 - 24.5	\$803,269.05	\$0.00	0.00000	23.94
24.5 - 25.5	\$803,269.05	\$0.00	0.00000	23.94
25.5 - 26.5	\$803,269.05	\$0.00	0.00000	23.94
26.5 - 27.5	\$383,573.05	\$0.00	0.00000	23.94
27.5 - 28.5	\$383,573.05	\$0.00	0.00000	23.94
28.5 - 29.5	\$0.00	\$0.00	0.00000	23.94
29.5 - 30.5	\$0.00	\$0.00	0.00000	23.94
30.5 - 31.5	\$0.00	\$0.00	0.00000	23.94
31.5 - 32.5	\$221,398.02	\$0.00	0.00000	23.94
32.5 - 33.5	\$221,398.02	\$0.00	0.00000	23.94
33.5 - 34.5	\$221,398.02	\$0.00	0.00000	23.94
34.5 - 35.5	\$221,398.02	\$0.00	0.00000	23.94
35.5 - 36.5	\$269,764.00	\$0.00	0.00000	23.94

# New England Power Company **ALL Divisions** 344.00 CONDUCTORS & GENERATORS

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$269,764.00	\$221,398.02	0.82071	23.94
37.5 - 38.5	\$48,365.98	\$0.00	0.00000	4.29
38.5 - 39.5	\$48,365.98	\$0.00	0.00000	4.29
39.5 - 40.5	\$48,365.98	\$0.00	0.00000	4.29

# New England Power Company ALL Divisions 345.00 MISC OTHER PRODUCTION PLANT Original And Smooth Survivor Curves

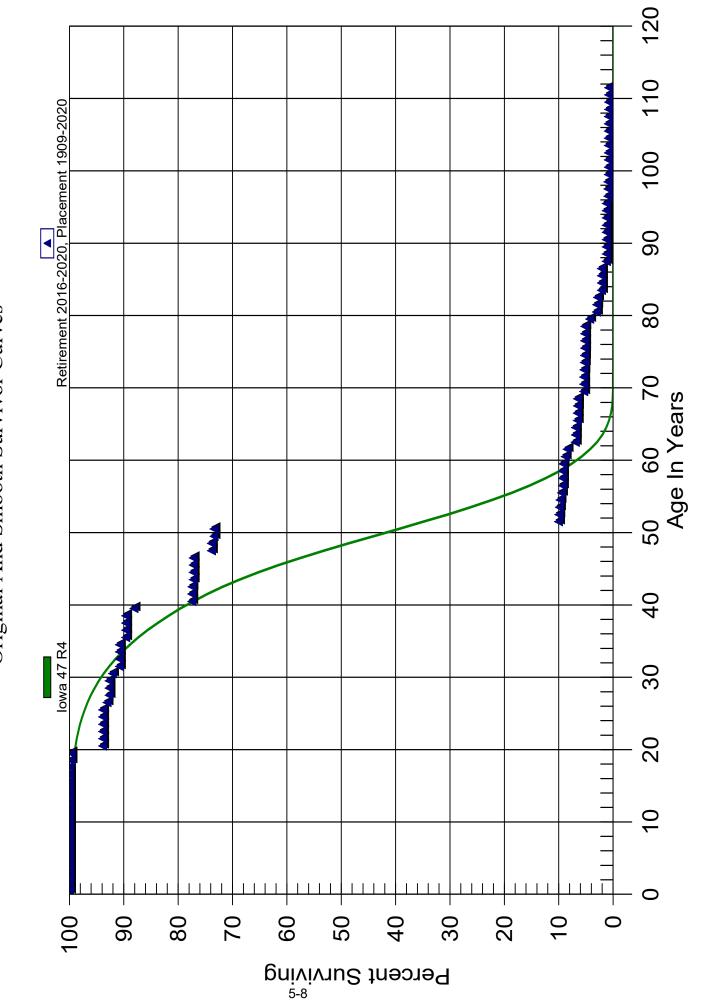


# New England Power Company **ALL Divisions** 345.00 MISC OTHER PRODUCTION PLANT

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$18,438,158.81	\$0.00	0.00000	100.00
0.5 - 1.5	\$18,473,059.30	\$0.00	0.00000	100.00
1.5 - 2.5	\$34,900.49	\$0.00	0.00000	100.00
2.5 - 3.5	\$34,900.49	\$0.00	0.00000	100.00
3.5 - 4.5	\$150,584.67	\$0.00	0.00000	100.00
4.5 - 5.5	\$301,236.67	\$0.00	0.00000	100.00
5.5 - 6.5	\$301,236.67	\$14,340.84	0.04761	100.00
6.5 - 7.5	\$286,895.83	\$0.00	0.00000	95.24
7.5 - 8.5	\$286,895.83	\$0.00	0.00000	95.24
8.5 - 9.5	\$286,895.83	\$115,684.18	0.40323	95.24
9.5 - 10.5	\$171,211.65	\$131,307.00	0.76693	56.84
10.5 - 11.5	\$69,810.81	\$0.00	0.00000	13.25
11.5 - 12.5	\$69,810.81	\$0.00	0.00000	13.25
12.5 - 13.5	\$69,810.81	\$0.00	0.00000	13.25
13.5 - 14.5	\$69,810.81	\$0.00	0.00000	13.25
14.5 - 15.5	\$69,810.81	\$0.00	0.00000	13.25
15.5 - 16.5	\$69,810.81	\$0.00	0.00000	13.25
16.5 - 17.5	\$69,810.81	\$0.00	0.00000	13.25
17.5 - 18.5	\$69,810.81	\$0.00	0.00000	13.25
18.5 - 19.5	\$49,251.16	\$0.00	0.00000	13.25
19.5 - 20.5	\$49,251.16	\$0.00	0.00000	13.25
20.5 - 21.5	\$49,251.16	\$0.00	0.00000	13.25
21.5 - 22.5	\$49,251.16	\$0.00	0.00000	13.25
22.5 - 23.5	\$29,906.16	\$0.00	0.00000	13.25
23.5 - 24.5	\$29,906.16	\$0.00	0.00000	13.25
24.5 - 25.5	\$29,906.16	\$0.00	0.00000	13.25
25.5 - 26.5	\$29,906.16	\$0.00	0.00000	13.25
26.5 - 27.5	\$29,906.16	\$0.00	0.00000	13.25
27.5 - 28.5	\$29,906.16	\$0.00	0.00000	13.25

# New England Power Company ALL Divisions 352.00 STRUCTURES AND IMPROVEMENTS Original And Smooth Survivor Curves



# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$35,043,276.51	\$0.00	0.00000	100.00
0.5 - 1.5	\$22,215,009.29	\$0.00	0.00000	100.00
1.5 - 2.5	\$879,536.82	\$0.00	0.00000	100.00
2.5 - 3.5	\$3,899,674.67	\$0.00	0.00000	100.00
3.5 - 4.5	\$4,160,149.11	\$0.00	0.00000	100.00
4.5 - 5.5	\$4,316,338.74	\$0.00	0.00000	100.00
5.5 - 6.5	\$7,725,313.86	\$0.00	0.00000	100.00
6.5 - 7.5	\$20,332,023.07	\$0.00	0.00000	100.00
7.5 - 8.5	\$18,050,226.48	\$0.00	0.00000	100.00
8.5 - 9.5	\$21,220,365.22	\$0.00	0.00000	100.00
9.5 - 10.5	\$26,046,136.19	\$0.00	0.00000	100.00
10.5 - 11.5	\$23,174,041.69	\$0.00	0.00000	100.00
11.5 - 12.5	\$10,128,612.78	\$0.00	0.00000	100.00
12.5 - 13.5	\$10,466,968.25	\$0.00	0.00000	100.00
13.5 - 14.5	\$7,123,921.85	\$0.00	0.00000	100.00
14.5 - 15.5	\$4,249,185.14	\$0.00	0.00000	100.00
15.5 - 16.5	\$5,015,894.98	\$0.00	0.00000	100.00
16.5 - 17.5	\$5,715,048.31	\$0.00	0.00000	100.00
17.5 - 18.5	\$4,720,118.53	\$12,392.39	0.00263	100.00
18.5 - 19.5	\$4,904,763.86	\$0.00	0.00000	99.74
19.5 - 20.5	\$3,071,546.18	\$179,645.93	0.05849	99.74
20.5 - 21.5	\$1,614,556.45	\$0.00	0.00000	93.90
21.5 - 22.5	\$4,972,483.99	\$0.00	0.00000	93.90
22.5 - 23.5	\$4,949,056.69	\$0.00	0.00000	93.90
23.5 - 24.5	\$4,616,709.27	\$0.00	0.00000	93.90
24.5 - 25.5	\$4,705,733.51	\$0.00	0.00000	93.90
25.5 - 26.5	\$4,735,181.62	\$40,519.98	0.00856	93.90
26.5 - 27.5	\$883,000.38	\$3,709.13	0.00420	93.10
27.5 - 28.5	\$673,975.28	\$0.00	0.00000	92.71
28.5 - 29.5	\$619,465.18	\$0.00	0.00000	92.71
29.5 - 30.5	\$304,321.49	\$2,013.39	0.00662	92.71
30.5 - 31.5	\$263,104.04	\$3,625.63	0.01378	92.10
31.5 - 32.5	\$133,890.06	\$0.00	0.00000	90.83
32.5 - 33.5	\$133,612.92	\$0.00	0.00000	90.83
33.5 - 34.5	\$220,437.70	\$0.00	0.00000	90.83
34.5 - 35.5	\$231,372.86	\$2,964.11	0.01281	90.83
35.5 - 36.5	\$296,841.71	\$0.00	0.00000	89.66

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$279,788.73	\$0.00	0.00000	89.66
37.5 - 38.5	\$273,875.87	\$0.00	0.00000	89.66
38.5 - 39.5	\$249,266.98	\$4,233.27	0.01698	89.66
39.5 - 40.5	\$346,675.57	\$41,836.02	0.12068	88.14
40.5 - 41.5	\$247,922.40	\$25.00	0.00010	77.50
41.5 - 42.5	\$968,102.58	\$147.27	0.00015	77.50
42.5 - 43.5	\$1,198,504.55	\$3,699.28	0.00309	77.48
43.5 - 44.5	\$1,223,736.29	\$0.00	0.00000	77.25
44.5 - 45.5	\$1,139,452.88	\$0.00	0.00000	77.25
45.5 - 46.5	\$1,281,280.34	\$0.00	0.00000	77.25
46.5 - 47.5	\$559,151.67	\$24,283.97	0.04343	77.25
47.5 - 48.5	\$325,290.67	\$0.00	0.00000	73.89
48.5 - 49.5	\$246,659.76	\$1,566.55	0.00635	73.89
49.5 - 50.5	\$842,912.00	\$0.00	0.00000	73.42
50.5 - 51.5	\$714,653.71	\$616,979.59	0.86333	73.42
51.5 - 52.5	\$91,207.11	\$349.70	0.00383	10.03
52.5 - 53.5	\$117,120.29	\$1,425.13	0.01217	10.00
53.5 - 54.5	\$169,720.96	\$2,142.25	0.01262	9.87
54.5 - 55.5	\$166,768.85	\$4,102.70	0.02460	9.75
55.5 - 56.5	\$151,186.80	\$3,091.06	0.02045	9.51
56.5 - 57.5	\$169,123.94	\$472.63	0.00279	9.32
57.5 - 58.5	\$102,565.84	\$0.00	0.00000	9.29
58.5 - 59.5	\$128,042.26	\$976.52	0.00763	9.29
59.5 - 60.5	\$126,884.22	\$5,675.95	0.04473	9.22
60.5 - 61.5	\$138,150.93	\$5,565.96	0.04029	8.81
61.5 - 62.5	\$208,017.23	\$36,627.69	0.17608	8.45
62.5 - 63.5	\$188,795.61	\$1,007.54	0.00534	6.96
63.5 - 64.5	\$99,824.85	\$0.00	0.00000	6.93
64.5 - 65.5	\$188,252.46	\$9,265.90	0.04922	6.93
65.5 - 66.5	\$173,963.46	\$0.00	0.00000	6.59
66.5 - 67.5	\$117,132.11	\$739.79	0.00632	6.59
67.5 - 68.5	\$133,769.83	\$0.00	0.00000	6.54
68.5 - 69.5	\$148,399.63	\$25,750.01	0.17352	6.54
69.5 - 70.5	\$42,992.52	\$0.00	0.00000	5.41
70.5 - 71.5	\$37,128.47	\$10.00	0.00027	5.41
71.5 - 72.5	\$35,440.41	\$151.15	0.00426	5.41
72.5 - 73.5	\$27,381.36	\$521.71	0.01905	5.38

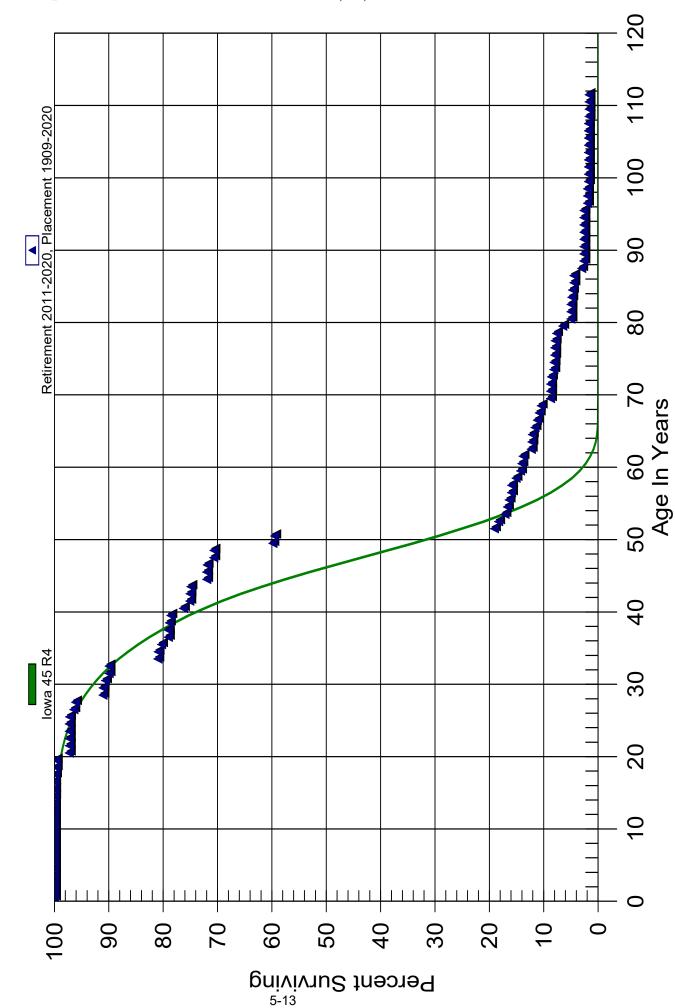
# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$4,869.14	\$20.25	0.00416	5.28
74.5 - 75.5	\$21,106.64	\$80.71	0.00382	5.26
75.5 - 76.5	\$24,494.21	\$0.00	0.00000	5.24
76.5 - 77.5	\$29,281.96	\$0.00	0.00000	5.24
77.5 - 78.5	\$33,288.94	\$206.04	0.00619	5.24
78.5 - 79.5	\$92,562.42	\$16,154.39	0.17452	5.21
79.5 - 80.5	\$63,141.94	\$17,949.47	0.28427	4.30
80.5 - 81.5	\$43,779.83	\$949.36	0.02168	3.08
81.5 - 82.5	\$50,454.22	\$2,449.43	0.04855	3.01
82.5 - 83.5	\$48,006.71	\$12,152.96	0.25315	2.86
83.5 - 84.5	\$2,748.86	\$0.00	0.00000	2.14
84.5 - 85.5	\$373.86	\$0.00	0.00000	2.14
85.5 - 86.5	\$278,595.53	\$0.00	0.00000	2.14
86.5 - 87.5	\$284,490.18	\$117,352.20	0.41250	2.14
87.5 - 88.5	\$207,997.76	\$0.00	0.00000	1.26
88.5 - 89.5	\$220,798.57	\$0.00	0.00000	1.26
89.5 - 90.5	\$220,798.57	\$0.00	0.00000	1.26
90.5 - 91.5	\$59,929.10	\$0.00	0.00000	1.26
91.5 - 92.5	\$54,034.45	\$0.00	0.00000	1.26
92.5 - 93.5	\$13,034.51	\$0.00	0.00000	1.26
93.5 - 94.5	\$0.00	\$0.00	0.00000	1.26
94.5 - 95.5	\$3,003.94	\$0.00	0.00000	1.26
95.5 - 96.5	\$3,025.13	\$725.33	0.23977	1.26
96.5 - 97.5	\$2,885.81	\$0.00	0.00000	0.96
97.5 - 98.5	\$2,885.81	\$0.00	0.00000	0.96
98.5 - 99.5	\$23,407.44	\$1,897.58	0.08107	0.96
99.5 - 100.5	\$19,231.25	\$0.00	0.00000	0.88
100.5 - 101.5	\$19,234.85	\$0.00	0.00000	0.88
101.5 - 102.5	\$18,744.94	\$0.00	0.00000	0.88
102.5 - 103.5	\$18,744.94	\$0.00	0.00000	0.88
103.5 - 104.5	\$120.89	\$0.00	0.00000	0.88
104.5 - 105.5	\$120.89	\$0.00	0.00000	0.88
105.5 - 106.5	\$96.10	\$0.00	0.00000	0.88
106.5 - 107.5	\$17,849.18	\$0.00	0.00000	0.88
107.5 - 108.5	\$17,849.18	\$1,172.89	0.06571	0.88
108.5 - 109.5	\$16,676.29	\$0.00	0.00000	0.82
109.5 - 110.5	\$16,676.29	\$0.00	0.00000	0.82

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$16,676.29	\$0.00	0.00000	0.82

# New England Power Company ALL Divisions 352.00 STRUCTURES AND IMPROVEMENTS Original And Smooth Survivor Curves



# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
0.0 - 0.5	\$35,759,828.49	\$0.00	0.00000	100.00
0.5 - 1.5	\$18,886,731.83	\$0.00	0.00000	100.00
1.5 - 2.5	\$12,719,835.04	\$0.00	0.00000	100.00
2.5 - 3.5	\$17,691,364.29	\$0.00	0.00000	100.00
3.5 - 4.5	\$17,023,575.41	\$0.00	0.00000	100.00
4.5 - 5.5	\$24,898,823.63	\$0.00	0.00000	100.00
5.5 - 6.5	\$30,391,544.18	\$0.00	0.00000	100.00
6.5 - 7.5	\$29,223,401.33	\$0.00	0.00000	100.00
7.5 - 8.5	\$27,075,001.21	\$0.00	0.00000	100.00
8.5 - 9.5	\$26,007,811.39	\$0.00	0.00000	100.00
9.5 - 10.5	\$26,857,937.65	\$0.00	0.00000	100.00
10.5 - 11.5	\$26,103,725.79	\$0.00	0.00000	100.00
11.5 - 12.5	\$14,796,144.29	\$0.00	0.00000	100.00
12.5 - 13.5	\$14,546,378.85	\$0.00	0.00000	100.00
13.5 - 14.5	\$11,379,059.90	\$6,000.00	0.00053	100.00
14.5 - 15.5	\$7,044,640.52	\$0.00	0.00000	99.95
15.5 - 16.5	\$2,816,119.05	\$0.00	0.00000	99.95
16.5 - 17.5	\$6,602,270.40	\$9,815.81	0.00149	99.95
17.5 - 18.5	\$9,422,689.32	\$12,392.39	0.00132	99.80
18.5 - 19.5	\$9,097,517.87	\$0.00	0.00000	99.67
19.5 - 20.5	\$7,483,711.16	\$179,645.93	0.02400	99.67
20.5 - 21.5	\$6,260,754.70	\$0.00	0.00000	97.27
21.5 - 22.5	\$5,837,983.59	\$0.00	0.00000	97.27
22.5 - 23.5	\$5,669,507.53	\$0.00	0.00000	97.27
23.5 - 24.5	\$5,290,141.59	\$0.00	0.00000	97.27
24.5 - 25.5	\$5,035,355.51	\$2,246.45	0.00045	97.27
25.5 - 26.5	\$5,042,925.44	\$40,519.98	0.00804	97.23
26.5 - 27.5	\$1,063,778.56	\$3,709.13	0.00349	96.45
27.5 - 28.5	\$781,220.74	\$41,007.98	0.05249	96.11
28.5 - 29.5	\$704,771.16	\$241.12	0.00034	91.07
29.5 - 30.5	\$441,166.16	\$2,013.39	0.00456	91.04
30.5 - 31.5	\$502,505.37	\$3,625.63	0.00722	90.62
31.5 - 32.5	\$384,667.85	\$0.00	0.00000	89.97
32.5 - 33.5	\$347,702.73	\$34,752.52	0.09995	89.97
33.5 - 34.5	\$286,389.45	\$198.20	0.00069	80.98
34.5 - 35.5	\$388,255.26	\$2,964.11	0.00763	80.92
35.5 - 36.5	\$465,102.18	\$7,141.80	0.01536	80.30

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$948,535.28	\$0.00	0.00000	79.07
37.5 - 38.5	\$1,187,318.47	\$3,252.83	0.00274	79.07
38.5 - 39.5	\$1,301,933.12	\$4,233.27	0.00325	78.85
39.5 - 40.5	\$1,430,199.17	\$41,836.02	0.02925	78.60
40.5 - 41.5	\$1,590,581.82	\$24,992.48	0.01571	76.30
41.5 - 42.5	\$1,578,594.48	\$147.27	0.00009	75.10
42.5 - 43.5	\$1,585,468.05	\$3,699.28	0.00233	75.09
43.5 - 44.5	\$1,537,178.59	\$60,158.33	0.03914	74.92
44.5 - 45.5	\$1,992,902.91	\$0.00	0.00000	71.98
45.5 - 46.5	\$2,190,033.78	\$2,091.09	0.00095	71.98
46.5 - 47.5	\$1,459,637.29	\$24,963.18	0.01710	71.92
47.5 - 48.5	\$1,267,399.87	\$149.37	0.00012	70.69
48.5 - 49.5	\$1,257,818.02	\$193,190.13	0.15359	70.68
49.5 - 50.5	\$1,045,548.54	\$6,123.60	0.00586	59.82
50.5 - 51.5	\$908,486.94	\$617,269.87	0.67945	59.47
51.5 - 52.5	\$312,103.53	\$12,452.29	0.03990	19.06
52.5 - 53.5	\$264,261.24	\$16,778.81	0.06349	18.30
53.5 - 54.5	\$338,147.42	\$9,094.11	0.02689	17.14
54.5 - 55.5	\$325,704.03	\$6,480.39	0.01990	16.68
55.5 - 56.5	\$339,251.64	\$8,869.62	0.02614	16.35
56.5 - 57.5	\$420,764.84	\$698.18	0.00166	15.92
57.5 - 58.5	\$373,329.18	\$18,887.65	0.05059	15.89
58.5 - 59.5	\$285,658.01	\$16,013.84	0.05606	15.09
59.5 - 60.5	\$362,005.07	\$5,675.95	0.01568	14.24
60.5 - 61.5	\$365,009.31	\$5,871.77	0.01609	14.02
61.5 - 62.5	\$342,327.27	\$37,517.03	0.10959	13.80
62.5 - 63.5	\$351,245.68	\$2,930.42	0.00834	12.28
63.5 - 64.5	\$282,907.94	\$1,776.47	0.00628	12.18
64.5 - 65.5	\$280,653.08	\$11,581.70	0.04127	12.10
65.5 - 66.5	\$257,616.25	\$9,560.26	0.03711	11.60
66.5 - 67.5	\$189,546.58	\$5,909.89	0.03118	11.17
67.5 - 68.5	\$168,113.98	\$5,855.14	0.03483	10.83
68.5 - 69.5	\$157,936.66	\$25,767.01	0.16315	10.45
69.5 - 70.5	\$69,111.22	\$171.81	0.00249	8.74
70.5 - 71.5	\$67,815.74	\$10.88	0.00016	8.72
71.5 - 72.5	\$70,763.40	\$1,270.03	0.01795	8.72
72.5 - 73.5	\$66,506.64	\$3,281.93	0.04935	8.56

# Observed Life Table

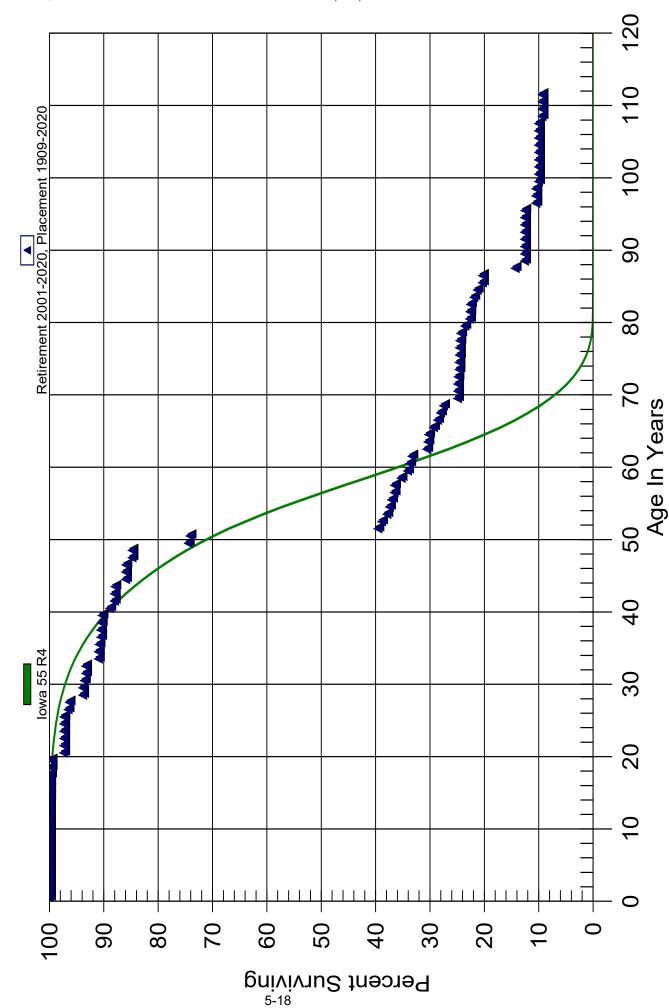
Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$102,494.04	\$802.88	0.00783	8.14
74.5 - 75.5	\$107,120.11	\$1,269.05	0.01185	8.08
75.5 - 76.5	\$107,906.70	\$0.00	0.00000	7.98
76.5 - 77.5	\$119,609.23	\$1,635.53	0.01367	7.98
77.5 - 78.5	\$115,911.10	\$3,531.15	0.03046	7.87
78.5 - 79.5	\$111,175.79	\$16,516.51	0.14856	7.63
79.5 - 80.5	\$78,624.45	\$17,949.47	0.22829	6.50
80.5 - 81.5	\$346,724.29	\$949.36	0.00274	5.02
81.5 - 82.5	\$366,470.76	\$2,449.43	0.00668	5.00
82.5 - 83.5	\$408,701.91	\$12,152.96	0.02974	4.97
83.5 - 84.5	\$410,727.78	\$12,747.23	0.03104	4.82
84.5 - 85.5	\$395,605.55	\$19,393.78	0.04902	4.67
85.5 - 86.5	\$376,211.77	\$0.00	0.00000	4.44
86.5 - 87.5	\$376,211.77	\$120,556.43	0.32045	4.44
87.5 - 88.5	\$255,515.18	\$34,482.91	0.13495	3.02
88.5 - 89.5	\$220,798.57	\$0.00	0.00000	2.61
89.5 - 90.5	\$223,802.51	\$0.00	0.00000	2.61
90.5 - 91.5	\$63,282.60	\$0.00	0.00000	2.61
91.5 - 92.5	\$57,973.96	\$0.00	0.00000	2.61
92.5 - 93.5	\$24,146.30	\$0.00	0.00000	2.61
93.5 - 94.5	\$31,633.42	\$0.00	0.00000	2.61
94.5 - 95.5	\$31,633.42	\$328.37	0.01038	2.61
95.5 - 96.5	\$31,338.84	\$7,897.61	0.25201	2.58
96.5 - 97.5	\$23,537.33	\$0.00	0.00000	1.93
97.5 - 98.5	\$23,537.33	\$0.00	0.00000	1.93
98.5 - 99.5	\$23,537.33	\$1,897.58	0.08062	1.93
99.5 - 100.5	\$19,361.14	\$9.00	0.00046	1.78
100.5 - 101.5	\$19,330.95	\$0.00	0.00000	1.78
101.5 - 102.5	\$36,594.12	\$0.00	0.00000	1.78
102.5 - 103.5	\$36,594.12	\$0.00	0.00000	1.78
103.5 - 104.5	\$17,970.07	\$0.00	0.00000	1.78
104.5 - 105.5	\$17,970.07	\$0.00	0.00000	1.78
105.5 - 106.5	\$17,945.28	\$0.00	0.00000	1.78
106.5 - 107.5	\$17,849.18	\$0.00	0.00000	1.78
107.5 - 108.5	\$17,849.18	\$1,172.89	0.06571	1.78
108.5 - 109.5	\$16,676.29	\$0.00	0.00000	1.66
109.5 - 110.5	\$16,676.29	\$0.00	0.00000	1.66

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$16,676.29	\$0.00	0.00000	1.66

# 352.00 STRUCTURES AND IMPROVEMENTS New England Power Company ALL Divisions





# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$43,996,429.37	\$0.00	0.00000	100.00
0.5 - 1.5	\$31,691,408.73	\$0.00	0.00000	100.00
1.5 - 2.5	\$13,768,501.31	\$0.00	0.00000	100.00
2.5 - 3.5	\$21,105,020.23	\$0.00	0.00000	100.00
3.5 - 4.5	\$21,958,579.41	\$0.00	0.00000	100.00
4.5 - 5.5	\$25,636,837.14	\$2.00	0.00000	100.00
5.5 - 6.5	\$26,696,632.22	\$0.00	0.00000	100.00
6.5 - 7.5	\$30,457,978.24	\$0.00	0.00000	100.00
7.5 - 8.5	\$27,422,482.34	\$0.00	0.00000	100.00
8.5 - 9.5	\$28,057,930.97	\$0.00	0.00000	100.00
9.5 - 10.5	\$28,469,730.79	\$0.00	0.00000	100.00
10.5 - 11.5	\$27,189,946.36	\$0.00	0.00000	100.00
11.5 - 12.5	\$15,503,765.74	\$0.00	0.00000	100.00
12.5 - 13.5	\$15,404,792.04	\$0.00	0.00000	100.00
13.5 - 14.5	\$12,146,590.34	\$6,000.00	0.00049	100.00
14.5 - 15.5	\$7,557,384.88	\$0.00	0.00000	99.95
15.5 - 16.5	\$7,227,452.90	\$0.00	0.00000	99.95
16.5 - 17.5	\$7,247,765.55	\$9,815.81	0.00135	99.95
17.5 - 18.5	\$9,863,033.48	\$12,392.39	0.00126	99.82
18.5 - 19.5	\$9,795,988.96	\$0.00	0.00000	99.69
19.5 - 20.5	\$7,816,896.16	\$179,645.93	0.02298	99.69
20.5 - 21.5	\$6,666,375.35	\$0.00	0.00000	97.40
21.5 - 22.5	\$6,061,733.31	\$0.00	0.00000	97.40
22.5 - 23.5	\$5,827,218.67	\$0.00	0.00000	97.40
23.5 - 24.5	\$5,376,325.47	\$0.00	0.00000	97.40
24.5 - 25.5	\$5,220,360.84	\$2,246.45	0.00043	97.40
25.5 - 26.5	\$5,171,583.60	\$40,519.98	0.00784	97.36
26.5 - 27.5	\$1,627,071.32	\$3,709.13	0.00228	96.59
27.5 - 28.5	\$1,605,645.53	\$41,007.98	0.02554	96.37
28.5 - 29.5	\$1,511,853.47	\$241.12	0.00016	93.91
29.5 - 30.5	\$1,310,354.24	\$4,158.42	0.00317	93.90
30.5 - 31.5	\$1,449,881.35	\$3,625.63	0.00250	93.60
31.5 - 32.5	\$1,359,885.38	\$0.00	0.00000	93.37
32.5 - 33.5	\$1,389,789.68	\$34,752.52	0.02501	93.37
33.5 - 34.5	\$1,399,313.75	\$198.20	0.00014	91.03
34.5 - 35.5	\$1,975,109.78	\$2,964.11	0.00150	91.02
35.5 - 36.5	\$2,316,080.61	\$7,141.80	0.00308	90.88

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$2,339,578.64	\$0.00	0.00000	90.60
37.5 - 38.5	\$2,425,615.60	\$3,252.83	0.00134	90.60
38.5 - 39.5	\$2,613,972.00	\$4,233.27	0.00162	90.48
39.5 - 40.5	\$2,663,000.37	\$41,836.02	0.01571	90.33
40.5 - 41.5	\$2,680,995.15	\$24,992.48	0.00932	88.91
41.5 - 42.5	\$2,697,834.27	\$147.27	0.00005	88.09
42.5 - 43.5	\$2,667,604.41	\$3,699.28	0.00139	88.08
43.5 - 44.5	\$2,709,447.61	\$60,158.33	0.02220	87.96
44.5 - 45.5	\$2,552,526.88	\$0.00	0.00000	86.01
45.5 - 46.5	\$2,571,889.35	\$2,091.09	0.00081	86.01
46.5 - 47.5	\$1,935,401.90	\$24,963.18	0.01290	85.94
47.5 - 48.5	\$1,685,044.94	\$149.37	0.00009	84.83
48.5 - 49.5	\$1,584,230.39	\$193,190.13	0.12195	84.82
49.5 - 50.5	\$1,460,349.05	\$6,123.60	0.00419	74.48
50.5 - 51.5	\$1,324,487.92	\$617,269.87	0.46604	74.16
51.5 - 52.5	\$702,706.28	\$12,452.29	0.01772	39.60
52.5 - 53.5	\$695,704.34	\$16,778.81	0.02412	38.90
53.5 - 54.5	\$680,612.45	\$9,094.11	0.01336	37.96
54.5 - 55.5	\$667,517.31	\$6,480.39	0.00971	37.45
55.5 - 56.5	\$649,075.54	\$8,869.62	0.01367	37.09
56.5 - 57.5	\$636,473.63	\$839.93	0.00132	36.58
57.5 - 58.5	\$571,170.82	\$18,887.65	0.03307	36.53
58.5 - 59.5	\$480,201.01	\$16,013.84	0.03335	35.33
59.5 - 60.5	\$480,659.12	\$5,675.95	0.01181	34.15
60.5 - 61.5	\$479,458.58	\$5,871.77	0.01225	33.74
61.5 - 62.5	\$459,542.11	\$37,517.03	0.08164	33.33
62.5 - 63.5	\$427,064.38	\$2,930.42	0.00686	30.61
63.5 - 64.5	\$390,069.87	\$1,776.47	0.00455	30.40
64.5 - 65.5	\$392,785.25	\$11,581.70	0.02949	30.26
65.5 - 66.5	\$371,632.25	\$9,560.26	0.02573	29.37
66.5 - 67.5	\$315,113.96	\$5,909.89	0.01875	28.61
67.5 - 68.5	\$290,771.07	\$5,855.14	0.02014	28.08
68.5 - 69.5	\$276,330.81	\$25,767.01	0.09325	27.51
69.5 - 70.5	\$170,607.20	\$171.81	0.00101	24.95
70.5 - 71.5	\$454,172.69	\$10.88	0.00002	24.92
71.5 - 72.5	\$477,107.21	\$1,270.03	0.00266	24.92
72.5 - 73.5	\$510,455.34	\$3,281.93	0.00643	24.85

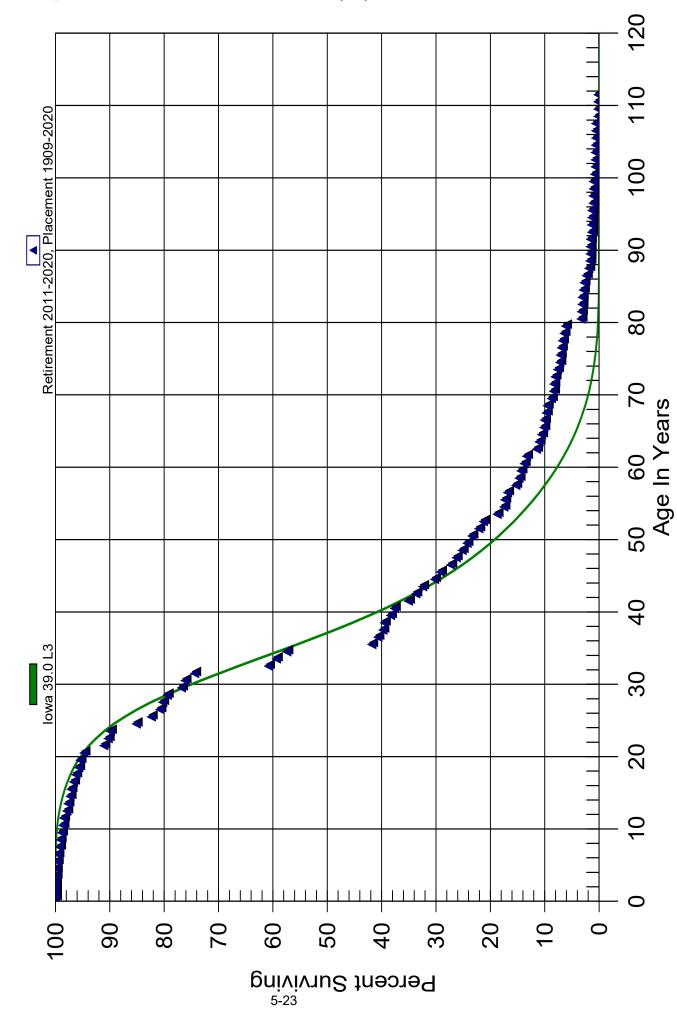
# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$531,242.21	\$802.88	0.00151	24.69
74.5 - 75.5	\$530,075.28	\$1,269.05	0.00239	24.66
75.5 - 76.5	\$528,412.44	\$0.00	0.00000	24.60
76.5 - 77.5	\$527,962.01	\$1,635.53	0.00310	24.60
77.5 - 78.5	\$524,123.72	\$3,531.15	0.00674	24.52
78.5 - 79.5	\$519,154.71	\$16,516.51	0.03181	24.36
79.5 - 80.5	\$489,101.05	\$17,949.47	0.03670	23.58
80.5 - 81.5	\$467,639.07	\$949.36	0.00203	22.72
81.5 - 82.5	\$462,746.51	\$2,449.43	0.00529	22.67
82.5 - 83.5	\$467,331.12	\$12,152.96	0.02601	22.55
83.5 - 84.5	\$442,361.20	\$12,747.23	0.02882	21.96
84.5 - 85.5	\$427,238.97	\$19,393.78	0.04539	21.33
85.5 - 86.5	\$407,878.98	\$0.00	0.00000	20.36
86.5 - 87.5	\$407,975.08	\$120,556.43	0.29550	20.36
87.5 - 88.5	\$287,278.49	\$34,482.91	0.12003	14.35
88.5 - 89.5	\$252,561.88	\$0.00	0.00000	12.62
89.5 - 90.5	\$252,561.88	\$0.00	0.00000	12.62
90.5 - 91.5	\$91,692.41	\$0.00	0.00000	12.62
91.5 - 92.5	\$103,646.94	\$0.00	0.00000	12.62
92.5 - 93.5	\$62,647.00	\$0.00	0.00000	12.62
93.5 - 94.5	\$49,612.49	\$0.00	0.00000	12.62
94.5 - 95.5	\$49,612.49	\$328.37	0.00662	12.62
95.5 - 96.5	\$49,284.12	\$7,897.61	0.16025	12.54
96.5 - 97.5	\$41,386.51	\$0.00	0.00000	10.53
97.5 - 98.5	\$41,386.51	\$0.00	0.00000	10.53
98.5 - 99.5	\$41,386.51	\$1,897.58	0.04585	10.53
99.5 - 100.5	\$37,210.32	\$9.00	0.00024	10.05
100.5 - 101.5	\$37,180.13	\$0.00	0.00000	10.05
101.5 - 102.5	\$36,594.12	\$0.00	0.00000	10.05
102.5 - 103.5	\$36,594.12	\$0.00	0.00000	10.05
103.5 - 104.5	\$17,970.07	\$0.00	0.00000	10.05
104.5 - 105.5	\$17,970.07	\$0.00	0.00000	10.05
105.5 - 106.5	\$17,945.28	\$0.00	0.00000	10.05
106.5 - 107.5	\$17,849.18	\$0.00	0.00000	10.05
107.5 - 108.5	\$17,849.18	\$1,172.89	0.06571	10.05
108.5 - 109.5	\$16,676.29	\$0.00	0.00000	9.39
109.5 - 110.5	\$16,676.29	\$0.00	0.00000	9.39

# Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$16,676.29	\$0.00	0.00000	9.39

### New England Power Company ALL Divisions 353.00 STATION EQUIPMENT Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$915,573,969.54	\$0.00	0.00000	100.00
0.5 - 1.5	\$899,447,262.77	\$34,358.57	0.00004	100.00
1.5 - 2.5	\$884,485,217.98	\$23,911.44	0.00003	100.00
2.5 - 3.5	\$859,715,413.27	\$1,023,733.34	0.00119	99.99
3.5 - 4.5	\$879,053,182.28	\$184,435.16	0.00021	99.87
4.5 - 5.5	\$812,394,723.73	\$1,548,234.33	0.00191	99.85
5.5 - 6.5	\$783,092,782.74	\$819,636.51	0.00105	99.66
6.5 - 7.5	\$733,324,899.92	\$2,342,131.22	0.00319	99.56
7.5 - 8.5	\$547,769,233.38	\$712,607.56	0.00130	99.24
8.5 - 9.5	\$492,643,578.62	\$1,150,190.64	0.00233	99.11
9.5 - 10.5	\$473,205,350.95	\$1,190,286.33	0.00252	98.88
10.5 - 11.5	\$471,088,971.36	\$716,468.03	0.00152	98.63
11.5 - 12.5	\$360,281,414.14	\$2,110,217.14	0.00586	98.48
12.5 - 13.5	\$353,353,330.93	\$752,548.25	0.00213	97.90
13.5 - 14.5	\$287,744,601.92	\$1,128,434.53	0.00392	97.70
14.5 - 15.5	\$216,261,527.59	\$423,642.37	0.00196	97.31
15.5 - 16.5	\$204,255,984.34	\$972,143.05	0.00476	97.12
16.5 - 17.5	\$224,155,533.95	\$933,003.75	0.00416	96.66
17.5 - 18.5	\$213,307,804.82	\$1,209,390.43	0.00567	96.26
18.5 - 19.5	\$208,101,182.70	\$502,438.21	0.00241	95.71
19.5 - 20.5	\$178,927,421.86	\$1,401,318.43	0.00783	95.48
20.5 - 21.5	\$169,700,834.65	\$6,495,094.69	0.03827	94.73
21.5 - 22.5	\$156,983,491.54	\$1,410,966.98	0.00899	91.11
22.5 - 23.5	\$140,597,889.03	\$604,530.22	0.00430	90.29
23.5 - 24.5	\$120,257,384.92	\$6,368,741.00	0.05296	89.90
24.5 - 25.5	\$103,177,063.49	\$3,355,554.94	0.03252	85.14
25.5 - 26.5	\$95,510,201.32	\$1,852,662.04	0.01940	82.37
26.5 - 27.5	\$71,331,467.60	\$443,660.65	0.00622	80.77
27.5 - 28.5	\$55,611,392.90	\$571,717.51	0.01028	80.27
28.5 - 29.5	\$53,284,135.18	\$1,768,978.25	0.03320	79.45
29.5 - 30.5	\$41,858,469.70	\$359,889.36	0.00860	76.81
30.5 - 31.5	\$40,679,264.62	\$938,007.64	0.02306	76.15
31.5 - 32.5	\$23,239,762.13	\$4,240,192.42	0.18245	74.39
32.5 - 33.5	\$21,712,426.28	\$518,558.34	0.02388	60.82
33.5 - 34.5	\$22,617,353.68	\$739,814.74	0.03271	59.37
34.5 - 35.5	\$26,274,241.74	\$7,142,966.90	0.27186	57.42
35.5 - 36.5	\$21,741,304.62	\$581,774.66	0.02676	41.81

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$30,342,210.86	\$691,582.83	0.02279	40.69
37.5 - 38.5	\$38,717,662.02	\$263,406.86	0.00680	39.77
38.5 - 39.5	\$41,198,485.62	\$1,193,833.28	0.02898	39.50
39.5 - 40.5	\$42,571,041.89	\$754,509.19	0.01772	38.35
40.5 - 41.5	\$41,738,338.32	\$2,884,970.44	0.06912	37.67
41.5 - 42.5	\$39,924,894.46	\$1,557,889.57	0.03902	35.07
42.5 - 43.5	\$37,985,049.99	\$1,411,780.17	0.03717	33.70
43.5 - 44.5	\$35,335,052.93	\$2,373,186.91	0.06716	32.45
44.5 - 45.5	\$29,741,553.44	\$1,090,671.03	0.03667	30.27
45.5 - 46.5	\$28,278,219.76	\$1,803,881.35	0.06379	29.16
46.5 - 47.5	\$20,420,030.06	\$766,986.92	0.03756	27.30
47.5 - 48.5	\$14,649,636.51	\$605,701.99	0.04135	26.27
48.5 - 49.5	\$12,883,214.58	\$458,937.31	0.03562	25.19
49.5 - 50.5	\$10,643,872.18	\$396,991.33	0.03730	24.29
50.5 - 51.5	\$10,041,523.29	\$537,444.84	0.05352	23.38
51.5 - 52.5	\$9,246,826.58	\$369,757.88	0.03999	22.13
52.5 - 53.5	\$10,029,259.90	\$1,178,000.61	0.11746	21.25
53.5 - 54.5	\$10,423,566.10	\$682,239.16	0.06545	18.75
54.5 - 55.5	\$9,599,220.79	\$100,134.19	0.01043	17.52
55.5 - 56.5	\$8,334,662.21	\$247,906.20	0.02974	17.34
56.5 - 57.5	\$9,495,466.47	\$850,055.96	0.08952	16.83
57.5 - 58.5	\$8,482,603.26	\$327,185.82	0.03857	15.32
58.5 - 59.5	\$8,810,762.01	\$219,369.55	0.02490	14.73
59.5 - 60.5	\$8,911,923.10	\$378,344.14	0.04245	14.36
60.5 - 61.5	\$8,529,926.21	\$267,976.67	0.03142	13.75
61.5 - 62.5	\$8,064,291.65	\$1,103,828.35	0.13688	13.32
62.5 - 63.5	\$4,407,484.28	\$185,660.85	0.04212	11.50
63.5 - 64.5	\$3,507,730.69	\$145,692.54	0.04153	11.01
64.5 - 65.5	\$3,340,054.03	\$127,362.84	0.03813	10.55
65.5 - 66.5	\$2,913,172.02	\$29,695.21	0.01019	10.15
66.5 - 67.5	\$2,205,343.32	\$76,397.72	0.03464	10.05
67.5 - 68.5	\$1,894,057.49	\$35,309.52	0.01864	9.70
68.5 - 69.5	\$972,289.94	\$74,757.61	0.07689	9.52
69.5 - 70.5	\$628,020.01	\$30,582.00	0.04870	8.79
70.5 - 71.5	\$478,059.15	\$1,761.15	0.00368	8.36
71.5 - 72.5	\$432,216.31	\$13,316.48	0.03081	8.33
72.5 - 73.5	\$370,584.84	\$20,878.38	0.05634	8.07

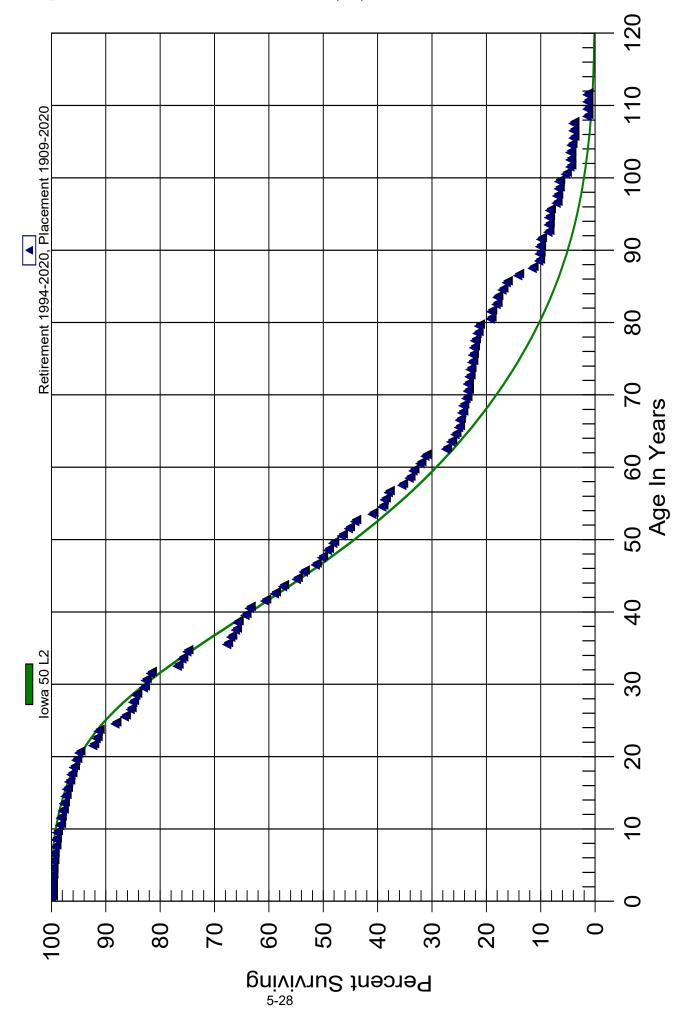
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$496,893.84	\$25,855.37	0.05203	7.62
74.5 - 75.5	\$457,721.32	\$4,909.88	0.01073	7.22
75.5 - 76.5	\$456,560.03	\$13,714.28	0.03004	7.14
76.5 - 77.5	\$448,657.48	\$13,402.30	0.02987	6.93
77.5 - 78.5	\$437,650.43	\$18,883.13	0.04315	6.72
78.5 - 79.5	\$425,162.18	\$19,242.90	0.04526	6.43
79.5 - 80.5	\$379,602.18	\$176,348.49	0.46456	6.14
80.5 - 81.5	\$877,270.14	\$9,314.79	0.01062	3.29
81.5 - 82.5	\$1,088,969.19	\$41,201.24	0.03784	3.25
82.5 - 83.5	\$1,358,079.99	\$14,511.18	0.01069	3.13
83.5 - 84.5	\$1,463,016.57	\$93,562.77	0.06395	3.10
84.5 - 85.5	\$1,503,791.80	\$75,981.91	0.05053	2.90
85.5 - 86.5	\$1,437,941.35	\$204,916.48	0.14251	2.75
86.5 - 87.5	\$1,288,755.74	\$255,993.67	0.19864	2.36
87.5 - 88.5	\$1,033,135.14	\$119,776.55	0.11594	1.89
88.5 - 89.5	\$907,176.12	\$6,982.21	0.00770	1.67
89.5 - 90.5	\$911,552.28	\$9,067.52	0.00995	1.66
90.5 - 91.5	\$441,503.22	\$8,050.54	0.01823	1.64
91.5 - 92.5	\$360,553.17	\$53,899.82	0.14949	1.61
92.5 - 93.5	\$247,137.73	\$1,865.85	0.00755	1.37
93.5 - 94.5	\$203,778.68	\$2,008.81	0.00986	1.36
94.5 - 95.5	\$104,844.20	\$1,883.09	0.01796	1.35
95.5 - 96.5	\$95,755.40	\$14,447.90	0.15088	1.32
96.5 - 97.5	\$76,668.78	\$1,268.45	0.01654	1.12
97.5 - 98.5	\$74,026.43	\$3,034.86	0.04100	1.11
98.5 - 99.5	\$70,991.57	\$903.88	0.01273	1.06
99.5 - 100.5	\$28,803.69	\$5,870.69	0.20382	1.05
100.5 - 101.5	\$23,235.10	\$3,914.32	0.16847	0.83
101.5 - 102.5	\$20,660.30	\$0.00	0.00000	0.69
102.5 - 103.5	\$19,516.18	\$1.68	0.00009	0.69
103.5 - 104.5	\$17,644.22	\$826.01	0.04681	0.69
104.5 - 105.5	\$2,246.07	\$180.30	0.08027	0.66
105.5 - 106.5	\$2,065.77	\$0.00	0.00000	0.61
106.5 - 107.5	\$2,065.77	\$0.00	0.00000	0.61
107.5 - 108.5	\$2,065.77	\$1,306.02	0.63222	0.61
108.5 - 109.5	\$759.75	\$0.00	0.00000	0.22
109.5 - 110.5	\$759.75	\$0.00	0.00000	0.22

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$457.65	\$0.00	0.00000	0.22

### New England Power Company ALL Divisions 353.00 STATION EQUIPMENT Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$1,565,193,695.59	\$0.00	0.00000	100.00
0.5 - 1.5	\$1,544,442,216.29	\$400,358.66	0.00026	100.00
1.5 - 2.5	\$1,397,872,696.14	\$23,911.44	0.00002	99.97
2.5 - 3.5	\$1,358,017,802.41	\$1,023,733.34	0.00075	99.97
3.5 - 4.5	\$1,291,144,790.22	\$304,339.14	0.00024	99.90
4.5 - 5.5	\$1,160,356,730.03	\$1,569,147.12	0.00135	99.87
5.5 - 6.5	\$1,108,600,889.72	\$823,902.44	0.00074	99.74
6.5 - 7.5	\$1,047,996,935.08	\$3,423,708.08	0.00327	99.66
7.5 - 8.5	\$837,593,276.69	\$732,744.34	0.00087	99.34
8.5 - 9.5	\$768,428,393.10	\$1,449,520.16	0.00189	99.25
9.5 - 10.5	\$711,897,095.01	\$4,123,388.09	0.00579	99.06
10.5 - 11.5	\$691,505,850.43	\$819,654.63	0.00119	98.49
11.5 - 12.5	\$557,858,602.17	\$2,171,821.40	0.00389	98.37
12.5 - 13.5	\$530,644,662.97	\$1,130,374.15	0.00213	97.99
13.5 - 14.5	\$444,314,562.60	\$1,425,015.08	0.00321	97.78
14.5 - 15.5	\$360,044,148.13	\$806,400.17	0.00224	97.47
15.5 - 16.5	\$340,248,620.75	\$1,514,837.98	0.00445	97.25
16.5 - 17.5	\$330,500,963.64	\$1,368,597.60	0.00414	96.82
17.5 - 18.5	\$307,353,105.66	\$1,492,831.88	0.00486	96.42
18.5 - 19.5	\$295,967,014.19	\$1,299,185.72	0.00439	95.95
19.5 - 20.5	\$263,789,621.44	\$1,587,855.18	0.00602	95.53
20.5 - 21.5	\$256,505,540.12	\$6,906,292.61	0.02692	94.95
21.5 - 22.5	\$225,883,850.45	\$1,555,443.40	0.00689	92.40
22.5 - 23.5	\$212,439,686.45	\$871,487.55	0.00410	91.76
23.5 - 24.5	\$192,086,084.35	\$6,478,845.70	0.03373	91.38
24.5 - 25.5	\$175,134,967.55	\$3,408,793.13	0.01946	88.30
25.5 - 26.5	\$168,215,745.28	\$2,071,370.46	0.01231	86.58
26.5 - 27.5	\$136,394,184.39	\$733,062.90	0.00537	85.52
27.5 - 28.5	\$120,051,176.94	\$831,667.12	0.00693	85.06
28.5 - 29.5	\$114,316,097.32	\$1,886,374.25	0.01650	84.47
29.5 - 30.5	\$101,418,303.44	\$383,917.92	0.00379	83.07
30.5 - 31.5	\$99,872,853.66	\$1,149,108.16	0.01151	82.76
31.5 - 32.5	\$82,430,464.93	\$4,983,692.91	0.06046	81.81
32.5 - 33.5	\$76,769,896.44	\$854,213.13	0.01113	76.86
33.5 - 34.5	\$75,534,448.07	\$928,076.55	0.01229	76.01
34.5 - 35.5	\$73,938,878.42	\$7,208,796.26	0.09750	75.07
35.5 - 36.5	\$69,235,569.89	\$769,884.55	0.01112	67.75

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
36.5 - 37.5	\$69,373,117.04	\$900,438.83	0.01298	67.00
37.5 - 38.5	\$68,219,133.31	\$320,895.46	0.00470	66.13
38.5 - 39.5	\$67,306,859.73	\$1,465,595.11	0.02177	65.82
39.5 - 40.5	\$65,808,321.50	\$788,669.62	0.01198	64.38
40.5 - 41.5	\$64,317,714.79	\$2,899,760.33	0.04508	63.61
41.5 - 42.5	\$61,961,080.63	\$1,816,346.74	0.02931	60.75
42.5 - 43.5	\$57,611,659.47	\$1,474,219.18	0.02559	58.96
43.5 - 44.5	\$54,849,731.35	\$2,390,872.08	0.04359	57.46
44.5 - 45.5	\$48,356,409.48	\$1,140,123.33	0.02358	54.95
45.5 - 46.5	\$44,683,009.19	\$1,814,351.82	0.04060	53.66
46.5 - 47.5	\$36,253,367.86	\$838,942.56	0.02314	51.48
47.5 - 48.5	\$28,945,958.80	\$617,106.36	0.02132	50.29
48.5 - 49.5	\$25,779,346.22	\$512,274.93	0.01987	49.21
49.5 - 50.5	\$23,191,635.34	\$755,897.72	0.03259	48.24
50.5 - 51.5	\$21,787,665.37	\$608,804.94	0.02794	46.66
51.5 - 52.5	\$20,163,895.73	\$518,908.26	0.02573	45.36
52.5 - 53.5	\$17,822,639.28	\$1,276,405.23	0.07162	44.19
53.5 - 54.5	\$16,259,292.47	\$713,318.28	0.04387	41.03
54.5 - 55.5	\$15,145,108.55	\$177,918.69	0.01175	39.23
55.5 - 56.5	\$13,414,510.36	\$248,656.64	0.01854	38.77
56.5 - 57.5	\$13,071,809.39	\$853,774.33	0.06531	38.05
57.5 - 58.5	\$11,565,414.93	\$446,104.42	0.03857	35.56
58.5 - 59.5	\$10,666,317.24	\$220,936.75	0.02071	34.19
59.5 - 60.5	\$10,298,698.61	\$387,355.01	0.03761	33.48
60.5 - 61.5	\$9,612,282.17	\$274,567.73	0.02856	32.22
61.5 - 62.5	\$9,032,063.55	\$1,104,652.66	0.12230	31.30
62.5 - 63.5	\$5,349,244.45	\$185,660.85	0.03471	27.47
63.5 - 64.5	\$4,994,100.83	\$145,896.84	0.02921	26.52
64.5 - 65.5	\$5,045,867.54	\$127,661.62	0.02530	25.75
65.5 - 66.5	\$5,000,285.04	\$31,710.78	0.00634	25.09
66.5 - 67.5	\$4,437,394.16	\$76,584.26	0.01726	24.94
67.5 - 68.5	\$4,260,174.87	\$35,475.74	0.00833	24.51
68.5 - 69.5	\$3,321,055.65	\$78,008.36	0.02349	24.30
69.5 - 70.5	\$2,931,988.45	\$30,642.02	0.01045	23.73
70.5 - 71.5	\$2,727,755.00	\$1,761.15	0.00065	23.48
71.5 - 72.5	\$2,670,701.43	\$34,802.33	0.01303	23.47
72.5 - 73.5	\$2,601,608.64	\$20,878.38	0.00803	23.16

### Observed Life Table

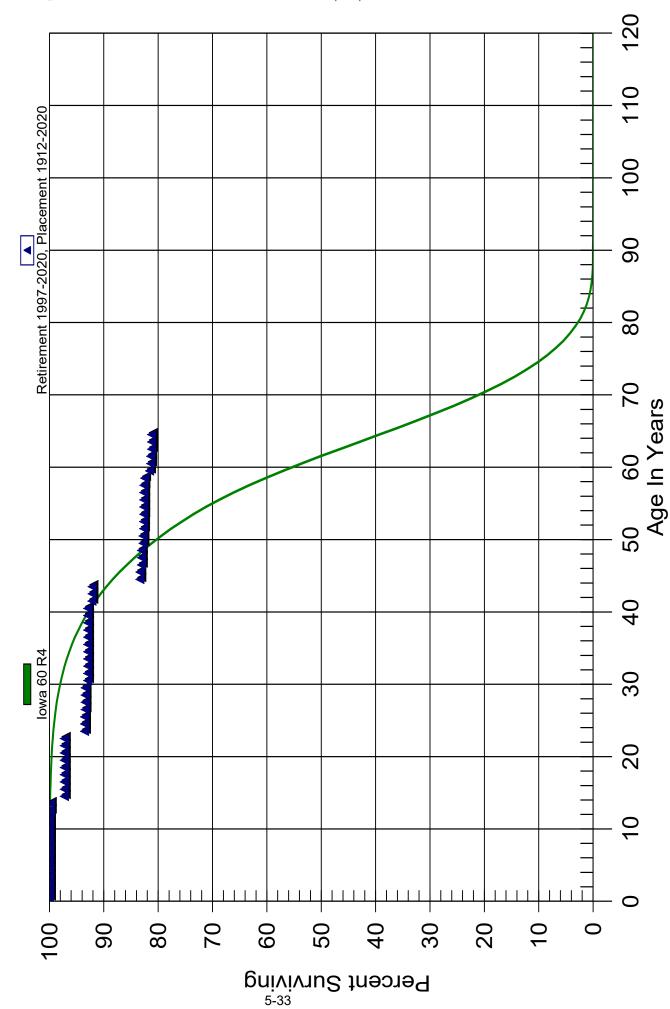
Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$2,481,540.53	\$34,129.66	0.01375	22.98
74.5 - 75.5	\$2,432,274.84	\$10,014.48	0.00412	22.66
75.5 - 76.5	\$2,429,330.03	\$24,281.35	0.01000	22.57
76.5 - 77.5	\$2,399,469.64	\$16,476.70	0.00687	22.34
77.5 - 78.5	\$2,402,637.01	\$54,453.53	0.02266	22.19
78.5 - 79.5	\$2,340,904.25	\$27,979.48	0.01195	21.68
79.5 - 80.5	\$2,234,102.77	\$223,147.77	0.09988	21.43
80.5 - 81.5	\$1,975,257.26	\$11,418.09	0.00578	19.29
81.5 - 82.5	\$1,956,967.79	\$99,527.13	0.05086	19.17
82.5 - 83.5	\$1,850,529.41	\$14,627.16	0.00790	18.20
83.5 - 84.5	\$1,767,489.48	\$93,562.77	0.05294	18.05
84.5 - 85.5	\$1,673,397.90	\$75,981.91	0.04541	17.10
85.5 - 86.5	\$1,597,415.99	\$205,847.40	0.12886	16.32
86.5 - 87.5	\$1,389,761.16	\$257,520.12	0.18530	14.22
87.5 - 88.5	\$1,131,223.72	\$119,776.55	0.10588	11.58
88.5 - 89.5	\$1,004,561.02	\$6,982.21	0.00695	10.36
89.5 - 90.5	\$956,719.38	\$9,270.08	0.00969	10.29
90.5 - 91.5	\$486,126.32	\$8,050.54	0.01656	10.19
91.5 - 92.5	\$402,598.53	\$53,985.99	0.13409	10.02
92.5 - 93.5	\$280,374.31	\$1,865.85	0.00665	8.67
93.5 - 94.5	\$227,969.92	\$2,008.81	0.00881	8.62
94.5 - 95.5	\$108,006.02	\$1,972.83	0.01827	8.54
95.5 - 96.5	\$98,827.48	\$14,447.90	0.14619	8.38
96.5 - 97.5	\$79,740.86	\$1,268.45	0.01591	7.16
97.5 - 98.5	\$77,098.51	\$3,034.86	0.03936	7.04
98.5 - 99.5	\$74,063.65	\$903.88	0.01220	6.77
99.5 - 100.5	\$31,875.77	\$5,870.69	0.18417	6.69
100.5 - 101.5	\$26,005.08	\$3,914.32	0.15052	5.45
101.5 - 102.5	\$20,660.30	\$0.00	0.00000	4.63
102.5 - 103.5	\$19,516.18	\$1.68	0.00009	4.63
103.5 - 104.5	\$17,644.22	\$826.01	0.04681	4.63
104.5 - 105.5	\$2,246.07	\$180.30	0.08027	4.42
105.5 - 106.5	\$2,065.77	\$0.00	0.00000	4.06
106.5 - 107.5	\$2,065.77	\$0.00	0.00000	4.06
107.5 - 108.5	\$2,065.77	\$1,306.02	0.63222	4.06
108.5 - 109.5	\$759.75	\$0.00	0.00000	1.49
109.5 - 110.5	\$759.75	\$0.00	0.00000	1.49

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$457.65	\$0.00	0.00000	1.49

### New England Power Company ALL Divisions

354.00 TOWERS AND FIXTURES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$19,577,196.45	\$0.00	0.00000	100.00
0.5 - 1.5	\$18,053,595.68	\$0.00	0.00000	100.00
1.5 - 2.5	\$16,782,014.71	\$0.00	0.00000	100.00
2.5 - 3.5	\$13,966,345.10	\$0.00	0.00000	100.00
3.5 - 4.5	\$13,978,805.15	\$0.00	0.00000	100.00
4.5 - 5.5	\$13,732,059.38	\$0.00	0.00000	100.00
5.5 - 6.5	\$12,168,501.98	\$0.00	0.00000	100.00
6.5 - 7.5	\$10,683,931.82	\$0.00	0.00000	100.00
7.5 - 8.5	\$11,216,540.99	\$0.00	0.00000	100.00
8.5 - 9.5	\$10,822,249.99	\$0.00	0.00000	100.00
9.5 - 10.5	\$10,853,585.11	\$0.00	0.00000	100.00
10.5 - 11.5	\$10,187,972.49	\$0.00	0.00000	100.00
11.5 - 12.5	\$9,970,078.96	\$14,705.13	0.00147	100.00
12.5 - 13.5	\$8,912,068.32	\$0.00	0.00000	99.85
13.5 - 14.5	\$7,874,371.29	\$203,771.04	0.02588	99.85
14.5 - 15.5	\$6,601,030.36	\$0.00	0.00000	97.27
15.5 - 16.5	\$6,601,648.14	\$0.00	0.00000	97.27
16.5 - 17.5	\$6,120,278.90	\$0.00	0.00000	97.27
17.5 - 18.5	\$5,074,299.00	\$169.96	0.00003	97.27
18.5 - 19.5	\$5,411,413.17	\$0.00	0.00000	97.27
19.5 - 20.5	\$5,465,454.41	\$0.00	0.00000	97.27
20.5 - 21.5	\$5,466,000.60	\$0.00	0.00000	97.27
21.5 - 22.5	\$5,480,835.62	\$0.00	0.00000	97.27
22.5 - 23.5	\$5,579,777.73	\$213,520.45	0.03827	97.27
23.5 - 24.5	\$2,310,123.89	\$0.00	0.00000	93.54
24.5 - 25.5	\$2,996,922.12	\$0.00	0.00000	93.54
25.5 - 26.5	\$3,147,085.41	\$3,105.72	0.00099	93.54
26.5 - 27.5	\$6,397,437.29	\$0.00	0.00000	93.45
27.5 - 28.5	\$6,384,977.24	\$95.58	0.00001	93.45
28.5 - 29.5	\$6,485,082.48	\$179.70	0.00003	93.45
29.5 - 30.5	\$6,478,714.77	\$33,108.40	0.00511	93.45
30.5 - 31.5	\$6,498,636.75	\$0.00	0.00000	92.97
31.5 - 32.5	\$6,558,212.93	\$0.00	0.00000	92.97
32.5 - 33.5	\$7,743,406.84	\$0.00	0.00000	92.97
33.5 - 34.5	\$7,914,888.97	\$0.00	0.00000	92.97
34.5 - 35.5	\$8,105,338.36	\$0.00	0.00000	92.97
35.5 - 36.5	\$8,277,523.04	\$0.00	0.00000	92.97

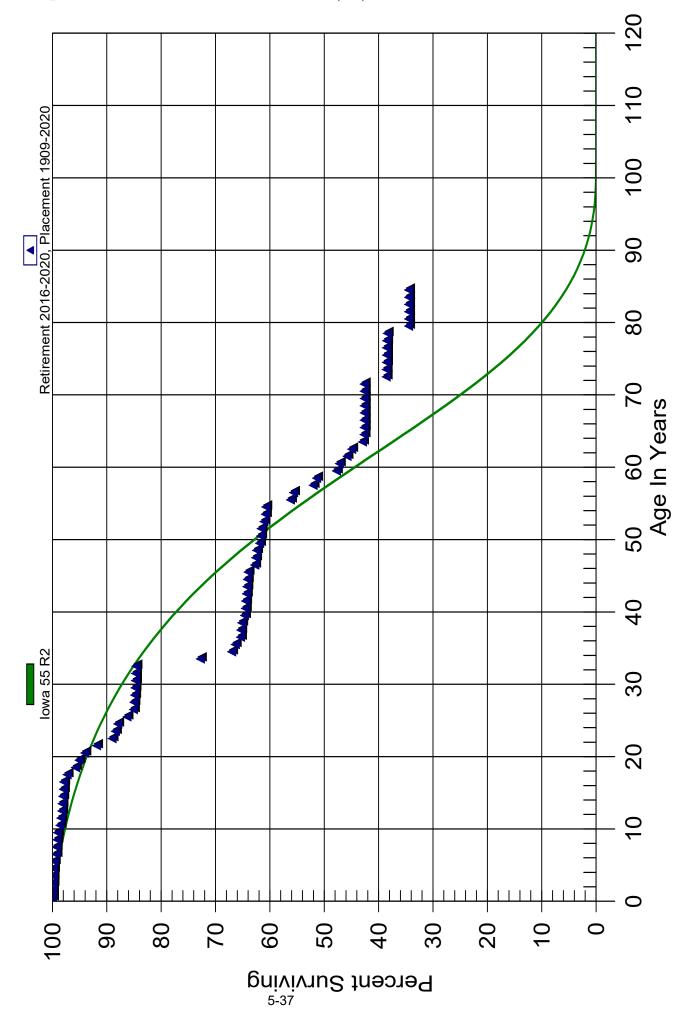
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$8,315,800.08	\$0.00	0.00000	92.97
37.5 - 38.5	\$8,319,640.43	\$0.00	0.00000	92.97
38.5 - 39.5	\$8,655,813.29	\$0.00	0.00000	92.97
39.5 - 40.5	\$8,701,807.35	\$0.00	0.00000	92.97
40.5 - 41.5	\$8,789,680.26	\$73,510.19	0.00836	92.97
41.5 - 42.5	\$8,953,247.41	\$924.75	0.00010	92.19
42.5 - 43.5	\$8,429,633.49	\$0.00	0.00000	92.18
43.5 - 44.5	\$8,451,961.34	\$805,629.30	0.09532	92.18
44.5 - 45.5	\$7,645,785.85	\$0.00	0.00000	83.40
45.5 - 46.5	\$7,634,177.05	\$26,506.54	0.00347	83.40
46.5 - 47.5	\$7,618,063.89	\$335.93	0.00004	83.11
47.5 - 48.5	\$7,029,397.65	\$363.99	0.00005	83.10
48.5 - 49.5	\$6,352,309.47	\$22,434.39	0.00353	83.10
49.5 - 50.5	\$6,180,368.64	\$0.00	0.00000	82.80
50.5 - 51.5	\$2,893,394.16	\$3,826.69	0.00132	82.80
51.5 - 52.5	\$2,889,567.47	\$0.00	0.00000	82.70
52.5 - 53.5	\$2,758,493.14	\$1,281.25	0.00046	82.70
53.5 - 54.5	\$2,757,211.89	\$0.00	0.00000	82.66
54.5 - 55.5	\$2,644,314.89	\$0.00	0.00000	82.66
55.5 - 56.5	\$2,053,700.34	\$0.00	0.00000	82.66
56.5 - 57.5	\$1,951,662.01	\$432.80	0.00022	82.66
57.5 - 58.5	\$1,748,411.96	\$3,295.87	0.00189	82.64
58.5 - 59.5	\$1,526,399.92	\$16,193.66	0.01061	82.48
59.5 - 60.5	\$1,337,381.20	\$3,629.84	0.00271	81.61
60.5 - 61.5	\$1,262,703.51	\$0.00	0.00000	81.39
61.5 - 62.5	\$1,246,163.83	\$2,375.37	0.00191	81.39
62.5 - 63.5	\$952,904.41	\$0.00	0.00000	81.23
63.5 - 64.5	\$906,388.15	\$0.00	0.00000	81.23
64.5 - 65.5	\$814,717.98	\$0.00	0.00000	81.23
65.5 - 66.5	\$706,512.56	\$0.00	0.00000	81.23
66.5 - 67.5	\$2,682,067.06	\$1,645.59	0.00061	81.23
67.5 - 68.5	\$2,889,797.27	\$0.00	0.00000	81.18
68.5 - 69.5	\$3,489,140.20	\$0.00	0.00000	81.18
69.5 - 70.5	\$3,638,524.05	\$3,368.76	0.00093	81.18
70.5 - 71.5	\$3,446,594.13	\$0.00	0.00000	81.11
71.5 - 72.5	\$3,430,161.15	\$0.00	0.00000	81.11
72.5 - 73.5	\$3,418,036.30	\$0.00	0.00000	81.11

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$5,415,611.59	\$0.00	0.00000	81.11
74.5 - 75.5	\$5,415,611.59	\$1,328.98	0.00025	81.11
75.5 - 76.5	\$5,414,282.61	\$3,118.01	0.00058	81.09
76.5 - 77.5	\$5,410,948.43	\$0.00	0.00000	81.04
77.5 - 78.5	\$5,410,948.43	\$0.00	0.00000	81.04
78.5 - 79.5	\$5,410,948.43	\$0.00	0.00000	81.04
79.5 - 80.5	\$5,410,302.38	\$0.00	0.00000	81.04
80.5 - 81.5	\$5,136,818.75	\$0.00	0.00000	81.04
81.5 - 82.5	\$5,272,605.56	\$4,156.25	0.00079	81.04
82.5 - 83.5	\$5,267,941.82	\$0.00	0.00000	80.98
83.5 - 84.5	\$5,312,335.23	\$0.00	0.00000	80.98
84.5 - 85.5	\$5,629,772.19	\$705.35	0.00013	80.98
85.5 - 86.5	\$5,629,066.84	\$540.54	0.00010	80.97
86.5 - 87.5	\$5,628,526.30	\$0.00	0.00000	80.96
87.5 - 88.5	\$5,628,526.30	\$0.00	0.00000	80.96
88.5 - 89.5	\$5,628,526.30	\$3,727.82	0.00066	80.96
89.5 - 90.5	\$5,499,971.75	\$0.00	0.00000	80.90
90.5 - 91.5	\$3,525,122.60	\$627.60	0.00018	80.90
91.5 - 92.5	\$3,238,750.11	\$11,395.94	0.00352	80.89
92.5 - 93.5	\$2,629,656.79	\$63,394.23	0.02411	80.60
93.5 - 94.5	\$2,414,820.63	\$7,241.59	0.00300	78.66
94.5 - 95.5	\$2,407,579.04	\$23,747.47	0.00986	78.43
95.5 - 96.5	\$2,383,831.57	\$0.00	0.00000	77.65
96.5 - 97.5	\$2,383,831.57	\$115,490.29	0.04845	77.65
97.5 - 98.5	\$470,890.54	\$8,315.29	0.01766	73.89
98.5 - 99.5	\$462,575.25	\$0.00	0.00000	72.59
99.5 - 100.5	\$462,575.25	\$0.00	0.00000	72.59
100.5 - 101.5	\$462,575.25	\$0.00	0.00000	72.59
101.5 - 102.5	\$462,575.25	\$0.00	0.00000	72.59
102.5 - 103.5	\$462,575.25	\$1,189.28	0.00257	72.59
103.5 - 104.5	\$461,385.97	\$0.00	0.00000	72.40
104.5 - 105.5	\$461,385.97	\$0.00	0.00000	72.40
105.5 - 106.5	\$328,578.33	\$429.01	0.00131	72.40
106.5 - 107.5	\$328,149.32	\$0.00	0.00000	72.30
107.5 - 108.5	\$284,184.92	\$0.00	0.00000	72.30

# New England Power Company ALL Divisions 355.00 POLES AND FIXTURES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$183,633,530.11	\$0.00	0.00000	100.00
0.5 - 1.5	\$219,609,029.38	\$0.00	0.00000	100.00
1.5 - 2.5	\$229,757,033.00	\$243,268.44	0.00106	100.00
2.5 - 3.5	\$221,639,877.25	\$60,192.10	0.00027	99.89
3.5 - 4.5	\$190,541,037.86	\$127,965.68	0.00067	99.87
4.5 - 5.5	\$178,016,624.78	\$235,178.52	0.00132	99.80
5.5 - 6.5	\$126,235,397.58	\$386,044.01	0.00306	99.67
6.5 - 7.5	\$80,592,529.41	\$38,009.22	0.00047	99.36
7.5 - 8.5	\$102,590,245.58	\$146,812.76	0.00143	99.32
8.5 - 9.5	\$107,517,113.81	\$96,412.09	0.00090	99.17
9.5 - 10.5	\$93,147,413.44	\$416,068.80	0.00447	99.09
10.5 - 11.5	\$97,887,913.54	\$186,296.50	0.00190	98.64
11.5 - 12.5	\$152,147,334.35	\$272,310.60	0.00179	98.46
12.5 - 13.5	\$120,910,642.78	\$42,363.65	0.00035	98.28
13.5 - 14.5	\$113,874,351.22	\$139,615.64	0.00123	98.24
14.5 - 15.5	\$100,674,693.67	\$143,557.35	0.00143	98.12
15.5 - 16.5	\$100,286,465.12	\$54,149.27	0.00054	97.98
16.5 - 17.5	\$45,479,084.08	\$288,968.21	0.00635	97.93
17.5 - 18.5	\$37,718,073.13	\$594,992.16	0.01577	97.31
18.5 - 19.5	\$43,019,273.68	\$295,078.42	0.00686	95.77
19.5 - 20.5	\$45,610,484.74	\$509,674.71	0.01117	95.12
20.5 - 21.5	\$32,926,920.30	\$758,670.60	0.02304	94.05
21.5 - 22.5	\$30,577,554.50	\$946,957.13	0.03097	91.89
22.5 - 23.5	\$31,009,558.20	\$215,223.43	0.00694	89.04
23.5 - 24.5	\$16,513,617.22	\$78,080.20	0.00473	88.42
24.5 - 25.5	\$12,078,438.16	\$233,620.11	0.01934	88.01
25.5 - 26.5	\$10,193,457.46	\$140,073.67	0.01374	86.30
26.5 - 27.5	\$55,208,959.23	\$52,273.39	0.00095	85.12
27.5 - 28.5	\$53,576,784.35	\$92,487.35	0.00173	85.04
28.5 - 29.5	\$52,259,912.12	\$35,444.43	0.00068	84.89
29.5 - 30.5	\$50,839,150.74	\$49,259.03	0.00097	84.83
30.5 - 31.5	\$50,380,866.74	\$5,897.48	0.00012	84.75
31.5 - 32.5	\$4,644,542.52	\$4,499.32	0.00097	84.74
32.5 - 33.5	\$3,943,970.81	\$552,254.35	0.14002	84.66
33.5 - 34.5	\$3,908,229.10	\$309,496.15	0.07919	72.80
34.5 - 35.5	\$3,997,859.21	\$39,873.47	0.00997	67.04
35.5 - 36.5	\$3,558,753.77	\$50,200.21	0.01411	66.37

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$5,529,370.54	\$6,268.19	0.00113	65.43
37.5 - 38.5	\$5,091,710.04	\$13,259.47	0.00260	65.36
38.5 - 39.5	\$10,003,863.26	\$78,048.57	0.00780	65.19
39.5 - 40.5	\$9,558,324.19	\$22,923.40	0.00240	64.68
40.5 - 41.5	\$10,020,946.57	\$10,630.95	0.00106	64.53
41.5 - 42.5	\$11,127,151.87	\$21,896.99	0.00197	64.46
42.5 - 43.5	\$12,663,343.68	\$15,786.19	0.00125	64.33
43.5 - 44.5	\$8,946,431.35	\$11,362.96	0.00127	64.25
44.5 - 45.5	\$11,051,151.62	\$25,811.70	0.00234	64.17
45.5 - 46.5	\$13,703,994.04	\$260,139.55	0.01898	64.02
46.5 - 47.5	\$9,383,104.87	\$26,882.98	0.00287	62.80
47.5 - 48.5	\$8,090,491.81	\$21,415.49	0.00265	62.62
48.5 - 49.5	\$6,438,094.15	\$58,200.75	0.00904	62.46
49.5 - 50.5	\$4,184,569.40	\$12,533.60	0.00300	61.89
50.5 - 51.5	\$1,456,317.63	\$2,047.48	0.00141	61.71
51.5 - 52.5	\$2,295,747.01	\$19,278.03	0.00840	61.62
52.5 - 53.5	\$2,344,321.66	\$10,566.42	0.00451	61.10
53.5 - 54.5	\$3,810,424.87	\$4,636.43	0.00122	60.83
54.5 - 55.5	\$3,520,128.98	\$263,143.87	0.07475	60.75
55.5 - 56.5	\$3,005,895.12	\$30,337.48	0.01009	56.21
56.5 - 57.5	\$2,227,213.60	\$143,553.70	0.06445	55.64
57.5 - 58.5	\$1,898,430.58	\$23,289.68	0.01227	52.06
58.5 - 59.5	\$387,937.68	\$27,422.78	0.07069	51.42
59.5 - 60.5	\$476,695.69	\$5,646.65	0.01185	47.78
60.5 - 61.5	\$334,584.77	\$9,925.18	0.02966	47.22
61.5 - 62.5	\$274,038.01	\$5,182.98	0.01891	45.82
62.5 - 63.5	\$290,206.18	\$12,725.10	0.04385	44.95
63.5 - 64.5	\$245,230.09	\$1,658.06	0.00676	42.98
64.5 - 65.5	\$70,254.96	\$65.23	0.00093	42.69
65.5 - 66.5	\$164,826.45	\$32.61	0.00020	42.65
66.5 - 67.5	\$165,739.80	\$0.00	0.00000	42.64
67.5 - 68.5	\$117,399.76	\$0.00	0.00000	42.64
68.5 - 69.5	\$117,849.85	\$0.00	0.00000	42.64
69.5 - 70.5	\$135,185.25	\$0.00	0.00000	42.64
70.5 - 71.5	\$46,785.17	\$0.00	0.00000	42.64
71.5 - 72.5	\$42,287.31	\$3,988.14	0.09431	42.64
72.5 - 73.5	\$34,776.60	\$0.00	0.00000	38.62

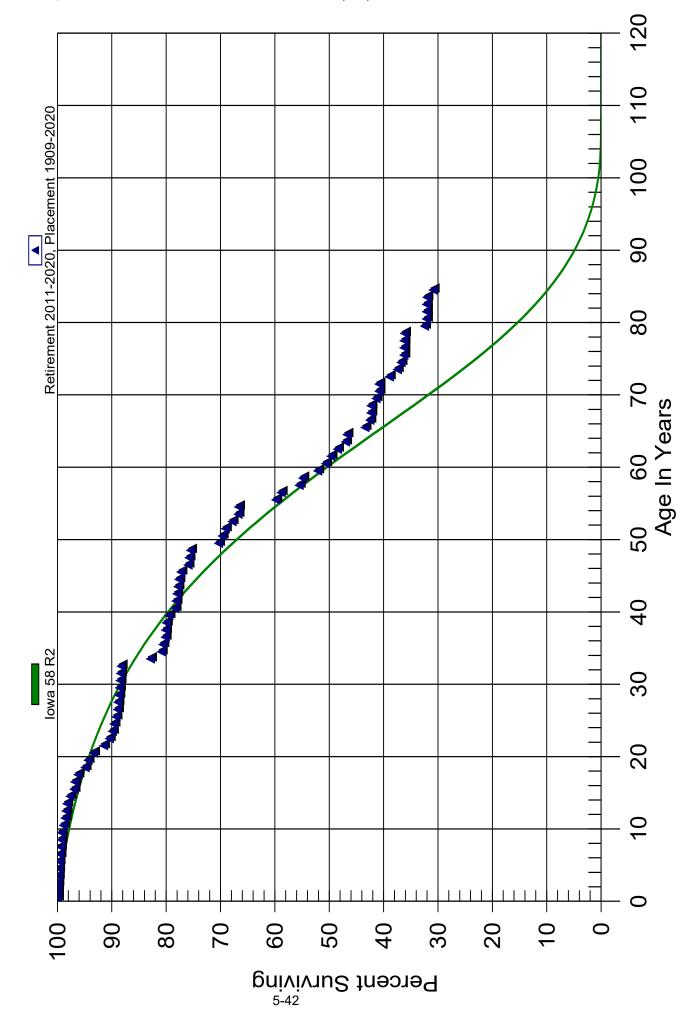
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$40,222.54	\$70.55	0.00175	38.62
74.5 - 75.5	\$26,133.03	\$0.00	0.00000	38.55
75.5 - 76.5	\$41,411.69	\$0.00	0.00000	38.55
76.5 - 77.5	\$40,798.39	\$32.10	0.00079	38.55
77.5 - 78.5	\$41,547.05	\$114.30	0.00275	38.52
78.5 - 79.5	\$40,643.56	\$4,152.11	0.10216	38.42
79.5 - 80.5	\$28,714.45	\$0.00	0.00000	34.49
80.5 - 81.5	\$2,410.73	\$0.00	0.00000	34.49
81.5 - 82.5	\$2,291.14	\$0.00	0.00000	34.49
82.5 - 83.5	\$1,399.10	\$0.00	0.00000	34.49
83.5 - 84.5	\$0.00	\$0.00	0.00000	34.49
84.5 - 85.5	\$18,493.76	\$0.00	0.00000	34.49
85.5 - 86.5	\$70,200.11	\$1,065.86	0.01518	34.49
86.5 - 87.5	\$80,492.10	\$0.00	0.00000	33.97
87.5 - 88.5	\$80,492.10	\$12,871.21	0.15991	33.97
88.5 - 89.5	\$70,732.59	\$2,267.50	0.03206	28.54
89.5 - 90.5	\$51,037.19	\$0.00	0.00000	27.62
90.5 - 91.5	\$12,414.98	\$0.00	0.00000	27.62
91.5 - 92.5	\$1,057.13	\$0.00	0.00000	27.62
92.5 - 93.5	\$60,078.25	\$0.00	0.00000	27.62
93.5 - 94.5	\$59,021.12	\$0.00	0.00000	27.62
94.5 - 95.5	\$62,527.35	\$0.00	0.00000	27.62
95.5 - 96.5	\$62,527.35	\$0.00	0.00000	27.62
96.5 - 97.5	\$62,527.35	\$2,304.49	0.03686	27.62
97.5 - 98.5	\$1,201.74	\$0.00	0.00000	26.60
98.5 - 99.5	\$2,163.54	\$0.00	0.00000	26.60
99.5 - 100.5	\$961.80	\$0.00	0.00000	26.60
100.5 - 101.5	\$961.80	\$0.00	0.00000	26.60
101.5 - 102.5	\$961.80	\$0.00	0.00000	26.60
102.5 - 103.5	\$961.80	\$0.00	0.00000	26.60
103.5 - 104.5	\$137.92	\$0.00	0.00000	26.60
104.5 - 105.5	\$137.92	\$0.00	0.00000	26.60
105.5 - 106.5	\$137.92	\$0.00	0.00000	26.60
106.5 - 107.5	\$3,987.01	\$0.00	0.00000	26.60
107.5 - 108.5	\$3,987.01	\$0.00	0.00000	26.60
108.5 - 109.5	\$3,849.09	\$0.00	0.00000	26.60
109.5 - 110.5	\$3,849.09	\$0.00	0.00000	26.60

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$3,849.09	\$0.00	0.00000	26.60

### New England Power Company ALL Divisions 355.00 POLES AND FIXTURES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
0.0 - 0.5	\$361,972,018.03	\$21,390.75	0.00006	100.00
0.5 - 1.5	\$346,445,356.12	\$4,049.88	0.00001	99.99
1.5 - 2.5	\$311,104,066.81	\$243,268.44	0.00078	99.99
2.5 - 3.5	\$325,066,674.30	\$237,189.23	0.00073	99.91
3.5 - 4.5	\$298,369,851.12	\$138,173.69	0.00046	99.84
4.5 - 5.5	\$271,496,807.50	\$281,168.96	0.00104	99.80
5.5 - 6.5	\$224,827,244.75	\$408,597.34	0.00182	99.69
6.5 - 7.5	\$233,962,081.43	\$110,748.58	0.00047	99.51
7.5 - 8.5	\$225,086,616.40	\$254,808.70	0.00113	99.46
8.5 - 9.5	\$222,642,277.14	\$149,859.86	0.00067	99.35
9.5 - 10.5	\$195,052,525.40	\$724,220.16	0.00371	99.28
10.5 - 11.5	\$199,505,981.85	\$608,130.76	0.00305	98.92
11.5 - 12.5	\$198,463,925.86	\$398,199.82	0.00201	98.61
12.5 - 13.5	\$160,583,207.32	\$228,886.32	0.00143	98.42
13.5 - 14.5	\$159,754,594.39	\$985,818.27	0.00617	98.28
14.5 - 15.5	\$148,648,265.02	\$1,085,293.53	0.00730	97.67
15.5 - 16.5	\$134,653,555.05	\$188,596.58	0.00140	96.96
16.5 - 17.5	\$77,961,022.40	\$459,262.75	0.00589	96.82
17.5 - 18.5	\$71,603,617.84	\$995,870.26	0.01391	96.25
18.5 - 19.5	\$61,592,987.76	\$361,979.76	0.00588	94.91
19.5 - 20.5	\$58,554,672.31	\$627,933.02	0.01072	94.35
20.5 - 21.5	\$44,045,975.24	\$866,104.83	0.01966	93.34
21.5 - 22.5	\$86,748,485.03	\$981,288.83	0.01131	91.51
22.5 - 23.5	\$85,404,209.52	\$546,267.23	0.00640	90.47
23.5 - 24.5	\$69,121,219.59	\$218,482.17	0.00316	89.89
24.5 - 25.5	\$63,103,753.56	\$264,842.42	0.00420	89.61
25.5 - 26.5	\$60,750,016.88	\$169,409.55	0.00279	89.23
26.5 - 27.5	\$60,034,015.88	\$64,514.93	0.00107	88.98
27.5 - 28.5	\$57,625,300.33	\$121,387.07	0.00211	88.89
28.5 - 29.5	\$56,812,344.86	\$62,827.93	0.00111	88.70
29.5 - 30.5	\$55,780,174.87	\$75,230.04	0.00135	88.60
30.5 - 31.5	\$54,897,938.28	\$41,597.75	0.00076	88.48
31.5 - 32.5	\$11,143,949.31	\$16,887.01	0.00152	88.42
32.5 - 33.5	\$9,396,755.79	\$574,793.73	0.06117	88.28
33.5 - 34.5	\$13,988,428.60	\$335,592.80	0.02399	82.88
34.5 - 35.5	\$13,667,871.41	\$48,253.71	0.00353	80.89
35.5 - 36.5	\$13,700,264.12	\$71,235.69	0.00520	80.61

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$16,913,942.05	\$13,937.69	0.00082	80.19
37.5 - 38.5	\$18,132,703.33	\$33,817.08	0.00186	80.12
38.5 - 39.5	\$19,350,014.45	\$117,505.80	0.00607	79.97
39.5 - 40.5	\$20,982,886.61	\$298,888.34	0.01424	79.49
40.5 - 41.5	\$23,923,543.73	\$46,534.70	0.00195	78.36
41.5 - 42.5	\$20,744,728.40	\$41,133.51	0.00198	78.20
42.5 - 43.5	\$20,921,418.64	\$57,091.35	0.00273	78.05
43.5 - 44.5	\$15,521,023.16	\$32,169.97	0.00207	77.84
44.5 - 45.5	\$15,367,127.12	\$73,773.02	0.00480	77.67
45.5 - 46.5	\$15,190,938.32	\$260,442.69	0.01714	77.30
46.5 - 47.5	\$11,726,269.41	\$27,924.12	0.00238	75.98
47.5 - 48.5	\$10,565,395.26	\$38,188.91	0.00361	75.79
48.5 - 49.5	\$11,138,022.08	\$757,989.33	0.06805	75.52
49.5 - 50.5	\$7,937,428.16	\$78,896.28	0.00994	70.38
50.5 - 51.5	\$5,078,671.08	\$42,193.52	0.00831	69.68
51.5 - 52.5	\$5,115,368.80	\$91,265.27	0.01784	69.10
52.5 - 53.5	\$4,687,735.85	\$76,309.91	0.01628	67.87
53.5 - 54.5	\$4,571,853.42	\$5,838.78	0.00128	66.77
54.5 - 55.5	\$4,256,871.41	\$437,711.97	0.10282	66.68
55.5 - 56.5	\$3,437,070.17	\$55,799.98	0.01623	59.82
56.5 - 57.5	\$2,568,414.89	\$144,955.58	0.05644	58.85
57.5 - 58.5	\$2,243,109.38	\$26,353.20	0.01175	55.53
58.5 - 59.5	\$668,279.39	\$33,484.58	0.05011	54.88
59.5 - 60.5	\$581,380.94	\$16,389.97	0.02819	52.13
60.5 - 61.5	\$520,754.05	\$9,982.31	0.01917	50.66
61.5 - 62.5	\$445,657.88	\$10,622.82	0.02384	49.69
62.5 - 63.5	\$409,022.28	\$12,725.10	0.03111	48.50
63.5 - 64.5	\$368,815.37	\$2,000.45	0.00542	46.99
64.5 - 65.5	\$226,879.42	\$16,111.40	0.07101	46.74
65.5 - 66.5	\$217,041.38	\$4,382.83	0.02019	43.42
66.5 - 67.5	\$212,820.56	\$976.11	0.00459	42.54
67.5 - 68.5	\$161,998.16	\$103.43	0.00064	42.35
68.5 - 69.5	\$167,791.76	\$3,713.91	0.02213	42.32
69.5 - 70.5	\$163,536.85	\$2,016.32	0.01233	41.38
70.5 - 71.5	\$91,900.85	\$1.00	0.00001	40.87
71.5 - 72.5	\$88,235.13	\$4,118.84	0.04668	40.87
72.5 - 73.5	\$81,851.86	\$3,130.57	0.03825	38.97

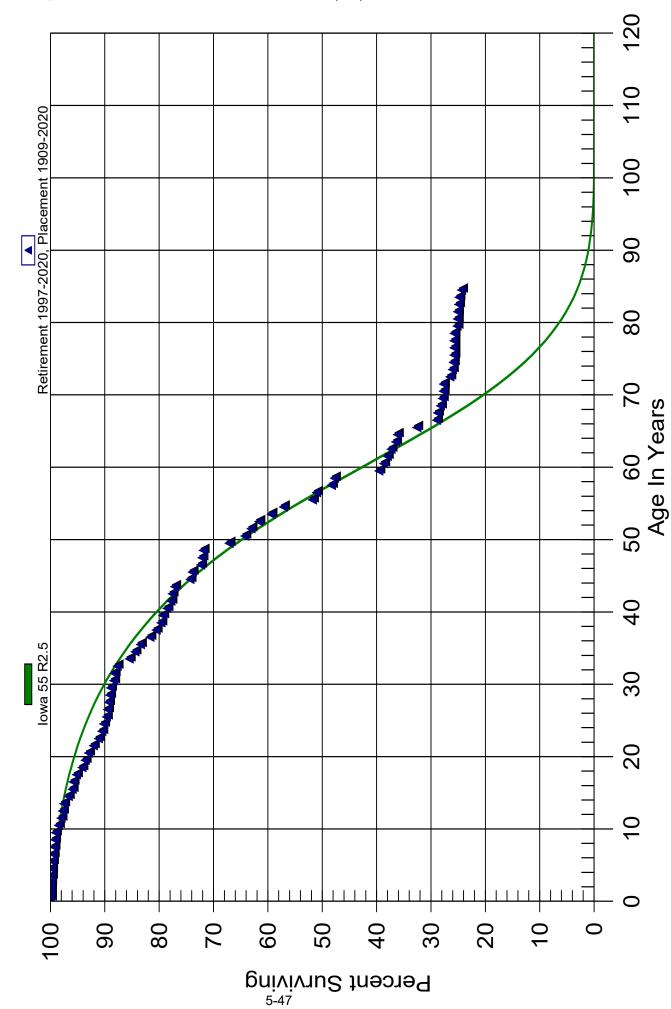
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$83,307.49	\$1,516.99	0.01821	37.48
74.5 - 75.5	\$59,962.44	\$848.55	0.01415	36.79
75.5 - 76.5	\$48,088.83	\$0.00	0.00000	36.27
76.5 - 77.5	\$47,355.94	\$32.10	0.00068	36.27
77.5 - 78.5	\$47,098.26	\$114.30	0.00243	36.25
78.5 - 79.5	\$40,643.56	\$4,152.11	0.10216	36.16
79.5 - 80.5	\$47,983.26	\$490.79	0.01023	32.47
80.5 - 81.5	\$72,895.10	\$0.00	0.00000	32.13
81.5 - 82.5	\$86,500.56	\$0.00	0.00000	32.13
82.5 - 83.5	\$85,608.52	\$284.26	0.00332	32.13
83.5 - 84.5	\$87,786.92	\$3,117.26	0.03551	32.03
84.5 - 85.5	\$84,669.66	\$0.00	0.00000	30.89
85.5 - 86.5	\$84,669.66	\$1,065.86	0.01259	30.89
86.5 - 87.5	\$83,603.80	\$0.00	0.00000	30.50
87.5 - 88.5	\$142,624.92	\$12,871.21	0.09025	30.50
88.5 - 89.5	\$129,753.71	\$2,267.50	0.01748	27.75
89.5 - 90.5	\$118,045.27	\$0.00	0.00000	27.26
90.5 - 91.5	\$79,423.06	\$0.00	0.00000	27.26
91.5 - 92.5	\$68,065.21	\$4,480.73	0.06583	27.26
92.5 - 93.5	\$63,584.48	\$0.00	0.00000	25.47
93.5 - 94.5	\$63,489.15	\$0.00	0.00000	25.47
94.5 - 95.5	\$63,489.15	\$0.00	0.00000	25.47
95.5 - 96.5	\$63,489.15	\$0.00	0.00000	25.47
96.5 - 97.5	\$63,489.15	\$2,304.49	0.03630	25.47
97.5 - 98.5	\$2,163.54	\$0.00	0.00000	24.54
98.5 - 99.5	\$2,301.46	\$0.00	0.00000	24.54
99.5 - 100.5	\$1,099.72	\$0.00	0.00000	24.54
100.5 - 101.5	\$1,099.72	\$0.00	0.00000	24.54
101.5 - 102.5	\$4,948.81	\$0.00	0.00000	24.54
102.5 - 103.5	\$4,948.81	\$0.00	0.00000	24.54
103.5 - 104.5	\$3,987.01	\$0.00	0.00000	24.54
104.5 - 105.5	\$3,987.01	\$0.00	0.00000	24.54
105.5 - 106.5	\$3,987.01	\$0.00	0.00000	24.54
106.5 - 107.5	\$3,987.01	\$0.00	0.00000	24.54
107.5 - 108.5	\$3,987.01	\$0.00	0.00000	24.54
108.5 - 109.5	\$3,849.09	\$0.00	0.00000	24.54
109.5 - 110.5	\$3,849.09	\$0.00	0.00000	24.54

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$3,849.09	\$0.00	0.00000	24.54

### New England Power Company ALL Divisions 355.00 POLES AND FIXTURES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$602,074,286.69	\$21,390.75	0.00004	100.00
0.5 - 1.5	\$584,414,680.10	\$4,049.88	0.00001	100.00
1.5 - 2.5	\$548,007,185.93	\$263,988.45	0.00048	100.00
2.5 - 3.5	\$523,199,837.39	\$684,210.85	0.00131	99.95
3.5 - 4.5	\$482,250,725.77	\$212,614.78	0.00044	99.82
4.5 - 5.5	\$439,597,826.69	\$568,421.31	0.00129	99.77
5.5 - 6.5	\$378,826,580.49	\$597,667.99	0.00158	99.64
6.5 - 7.5	\$330,394,833.27	\$407,144.05	0.00123	99.49
7.5 - 8.5	\$358,420,665.73	\$453,902.25	0.00127	99.36
8.5 - 9.5	\$346,753,916.73	\$503,119.01	0.00145	99.24
9.5 - 10.5	\$314,342,534.65	\$1,738,922.34	0.00553	99.09
10.5 - 11.5	\$302,497,826.06	\$1,533,953.82	0.00507	98.55
11.5 - 12.5	\$297,242,370.83	\$761,519.21	0.00256	98.05
12.5 - 13.5	\$256,698,984.37	\$612,422.25	0.00239	97.80
13.5 - 14.5	\$239,725,483.16	\$2,074,877.19	0.00866	97.56
14.5 - 15.5	\$220,673,372.99	\$1,625,282.33	0.00737	96.72
15.5 - 16.5	\$204,129,531.60	\$366,666.28	0.00180	96.01
16.5 - 17.5	\$145,356,881.16	\$929,621.15	0.00640	95.83
17.5 - 18.5	\$137,714,580.48	\$1,451,038.20	0.01054	95.22
18.5 - 19.5	\$125,666,549.46	\$784,510.82	0.00624	94.22
19.5 - 20.5	\$126,013,470.06	\$864,299.85	0.00686	93.63
20.5 - 21.5	\$110,782,744.58	\$1,044,361.31	0.00943	92.99
21.5 - 22.5	\$106,717,910.75	\$1,051,588.92	0.00985	92.11
22.5 - 23.5	\$108,296,799.01	\$757,535.50	0.00699	91.20
23.5 - 24.5	\$93,563,439.55	\$361,993.21	0.00387	90.56
24.5 - 25.5	\$88,686,078.67	\$494,099.77	0.00557	90.21
25.5 - 26.5	\$88,996,427.61	\$226,658.81	0.00255	89.71
26.5 - 27.5	\$91,121,256.90	\$156,702.56	0.00172	89.48
27.5 - 28.5	\$87,380,625.24	\$206,423.77	0.00236	89.33
28.5 - 29.5	\$86,084,595.71	\$171,817.98	0.00200	89.12
29.5 - 30.5	\$84,077,025.33	\$536,572.01	0.00638	88.94
30.5 - 31.5	\$83,417,928.77	\$95,017.13	0.00114	88.37
31.5 - 32.5	\$36,823,881.56	\$222,217.98	0.00603	88.27
32.5 - 33.5	\$36,098,010.58	\$913,330.38	0.02530	87.74
33.5 - 34.5	\$35,472,299.24	\$439,063.15	0.01238	85.52
34.5 - 35.5	\$37,075,955.23	\$433,070.17	0.01168	84.46
35.5 - 36.5	\$36,469,008.37	\$771,485.29	0.02115	83.47

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving Ai Beginning of Age Interval
36.5 - 37.5	\$35,026,578.57	\$498,467.51	0.01423	81.71
37.5 - 38.5	\$34,156,077.94	\$364,120.99	0.01066	80.55
38.5 - 39.5	\$33,392,990.27	\$143,497.77	0.00430	79.69
39.5 - 40.5	\$32,425,894.55	\$323,215.44	0.00997	79.34
40.5 - 41.5	\$32,461,803.52	\$292,259.08	0.00900	78.55
41.5 - 42.5	\$29,064,422.76	\$91,017.18	0.00313	77.85
42.5 - 43.5	\$28,774,939.08	\$163,511.04	0.00568	77.60
43.5 - 44.5	\$23,410,099.90	\$854,724.34	0.03651	77.16
44.5 - 45.5	\$21,936,195.05	\$123,198.94	0.00562	74.34
45.5 - 46.5	\$21,302,070.14	\$447,125.74	0.02099	73.93
46.5 - 47.5	\$16,898,727.51	\$51,933.90	0.00307	72.37
47.5 - 48.5	\$15,152,685.02	\$54,120.79	0.00357	72.15
48.5 - 49.5	\$13,532,698.03	\$892,563.54	0.06596	71.89
49.5 - 50.5	\$9,949,718.04	\$430,004.52	0.04322	67.15
50.5 - 51.5	\$6,436,419.34	\$114,409.24	0.01778	64.25
51.5 - 52.5	\$6,325,359.49	\$144,041.61	0.02277	63.11
52.5 - 53.5	\$5,758,783.94	\$210,889.37	0.03662	61.67
53.5 - 54.5	\$5,451,133.93	\$206,711.35	0.03792	59.41
54.5 - 55.5	\$4,752,037.74	\$444,039.12	0.09344	57.16
55.5 - 56.5	\$3,938,433.68	\$56,406.37	0.01432	51.82
56.5 - 57.5	\$3,115,640.36	\$168,518.94	0.05409	51.08
57.5 - 58.5	\$2,713,409.27	\$29,651.79	0.01093	48.31
58.5 - 59.5	\$1,140,100.74	\$195,423.60	0.17141	47.79
59.5 - 60.5	\$882,822.89	\$19,916.91	0.02256	39.60
60.5 - 61.5	\$719,243.92	\$12,206.17	0.01697	38.70
61.5 - 62.5	\$636,632.67	\$11,860.19	0.01863	38.04
62.5 - 63.5	\$594,035.44	\$13,253.02	0.02231	37.34
63.5 - 64.5	\$547,918.67	\$4,833.46	0.00882	36.50
64.5 - 65.5	\$361,287.34	\$35,701.96	0.09882	36.18
65.5 - 66.5	\$340,065.77	\$37,767.09	0.11106	32.61
66.5 - 67.5	\$349,909.31	\$2,070.62	0.00592	28.98
67.5 - 68.5	\$309,475.55	\$5,773.31	0.01866	28.81
68.5 - 69.5	\$303,187.32	\$3,713.91	0.01225	28.28
69.5 - 70.5	\$296,373.09	\$2,016.32	0.00680	27.93
70.5 - 71.5	\$194,931.63	\$211.97	0.00109	27.74
71.5 - 72.5	\$189,488.91	\$8,067.93	0.04258	27.71
72.5 - 73.5	\$177,672.83	\$3,130.57	0.01762	26.53

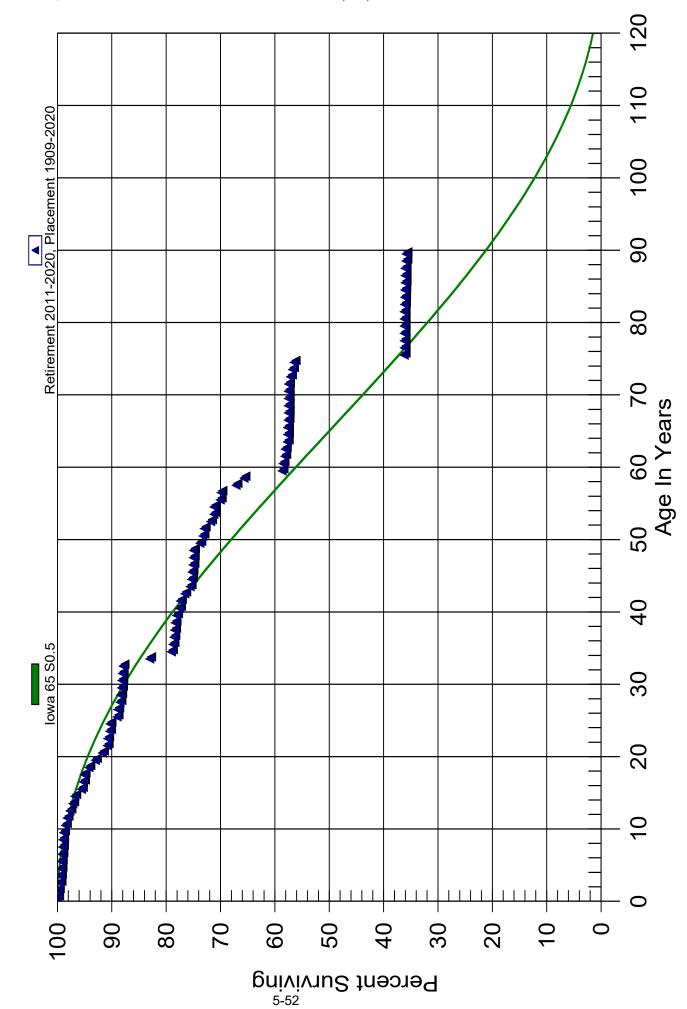
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$232,598.37	\$1,516.99	0.00652	26.06
74.5 - 75.5	\$209,253.32	\$848.55	0.00406	25.89
75.5 - 76.5	\$208,194.86	\$0.00	0.00000	25.79
76.5 - 77.5	\$207,461.97	\$32.10	0.00015	25.79
77.5 - 78.5	\$207,204.29	\$303.37	0.00146	25.78
78.5 - 79.5	\$200,560.52	\$4,152.11	0.02070	25.75
79.5 - 80.5	\$189,593.21	\$490.79	0.00259	25.21
80.5 - 81.5	\$162,798.70	\$120.86	0.00074	25.15
81.5 - 82.5	\$163,409.68	\$1,397.86	0.00855	25.13
82.5 - 83.5	\$161,119.78	\$284.26	0.00176	24.91
83.5 - 84.5	\$159,436.42	\$3,117.26	0.01955	24.87
84.5 - 85.5	\$156,457.08	\$2,425.87	0.01551	24.38
85.5 - 86.5	\$154,031.21	\$1,468.18	0.00953	24.01
86.5 - 87.5	\$152,563.03	\$0.00	0.00000	23.78
87.5 - 88.5	\$156,412.12	\$12,871.21	0.08229	23.78
88.5 - 89.5	\$143,540.91	\$2,267.50	0.01580	21.82
89.5 - 90.5	\$123,845.51	\$0.00	0.00000	21.48
90.5 - 91.5	\$85,223.30	\$0.00	0.00000	21.48
91.5 - 92.5	\$73,865.45	\$5,332.16	0.07219	21.48
92.5 - 93.5	\$68,533.29	\$0.00	0.00000	19.92
93.5 - 94.5	\$67,476.16	\$0.00	0.00000	19.92
94.5 - 95.5	\$67,476.16	\$0.00	0.00000	19.92
95.5 - 96.5	\$67,476.16	\$0.00	0.00000	19.92
96.5 - 97.5	\$67,476.16	\$2,304.49	0.03415	19.92
97.5 - 98.5	\$6,150.55	\$0.00	0.00000	19.24
98.5 - 99.5	\$6,150.55	\$0.00	0.00000	19.24
99.5 - 100.5	\$4,948.81	\$0.00	0.00000	19.24
100.5 - 101.5	\$4,948.81	\$0.00	0.00000	19.24
101.5 - 102.5	\$4,948.81	\$0.00	0.00000	19.24
102.5 - 103.5	\$4,948.81	\$0.00	0.00000	19.24
103.5 - 104.5	\$3,987.01	\$0.00	0.00000	19.24
104.5 - 105.5	\$3,987.01	\$0.00	0.00000	19.24
105.5 - 106.5	\$3,987.01	\$0.00	0.00000	19.24
106.5 - 107.5	\$3,987.01	\$0.00	0.00000	19.24
107.5 - 108.5	\$3,987.01	\$0.00	0.00000	19.24
108.5 - 109.5	\$3,849.09	\$0.00	0.00000	19.24
109.5 - 110.5	\$3,849.09	\$0.00	0.00000	19.24

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$3,849.09	\$0.00	0.00000	19.24

# New England Power Company ALL Divisions 356.00 O/H CONDUCTORS & DEVICES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$268,121,580.06	\$89,085.79	0.00033	100.00
0.5 - 1.5	\$308,806,004.31	\$382,660.38	0.00124	99.97
1.5 - 2.5	\$316,304,737.40	\$1,004,207.51	0.00317	99.84
2.5 - 3.5	\$318,268,255.17	\$204,198.64	0.00064	99.53
3.5 - 4.5	\$277,482,662.61	\$331,357.45	0.00119	99.46
4.5 - 5.5	\$268,966,216.36	\$109,827.49	0.00041	99.34
5.5 - 6.5	\$248,348,551.22	\$295,251.63	0.00119	99.30
6.5 - 7.5	\$241,764,873.85	\$276,865.83	0.00115	99.18
7.5 - 8.5	\$227,714,364.97	\$86,310.82	0.00038	99.07
8.5 - 9.5	\$196,432,128.08	\$277,955.46	0.00142	99.03
9.5 - 10.5	\$173,359,149.85	\$625,181.36	0.00361	98.89
10.5 - 11.5	\$133,055,332.14	\$428,575.92	0.00322	98.54
11.5 - 12.5	\$123,061,813.91	\$641,711.95	0.00521	98.22
12.5 - 13.5	\$97,224,281.40	\$519,568.18	0.00534	97.71
13.5 - 14.5	\$101,748,631.52	\$376,087.65	0.00370	97.19
14.5 - 15.5	\$94,813,549.22	\$1,196,148.42	0.01262	96.83
15.5 - 16.5	\$86,703,697.49	\$330,773.07	0.00381	95.60
16.5 - 17.5	\$61,344,728.56	\$97,168.95	0.00158	95.24
17.5 - 18.5	\$54,321,000.23	\$503,246.02	0.00926	95.09
18.5 - 19.5	\$43,842,712.83	\$543,477.75	0.01240	94.21
19.5 - 20.5	\$45,319,546.62	\$637,647.65	0.01407	93.04
20.5 - 21.5	\$39,666,417.36	\$379,975.35	0.00958	91.73
21.5 - 22.5	\$66,639,032.13	\$74,986.99	0.00113	90.85
22.5 - 23.5	\$67,151,743.76	\$257,916.51	0.00384	90.75
23.5 - 24.5	\$48,912,245.04	\$46,078.56	0.00094	90.40
24.5 - 25.5	\$45,406,377.71	\$653,174.18	0.01439	90.32
25.5 - 26.5	\$44,114,167.53	\$47,997.46	0.00109	89.02
26.5 - 27.5	\$44,127,216.93	\$199,847.97	0.00453	88.92
27.5 - 28.5	\$42,895,254.39	\$78,348.25	0.00183	88.52
28.5 - 29.5	\$42,271,871.41	\$68,435.17	0.00162	88.36
29.5 - 30.5	\$38,259,795.94	\$21,963.40	0.00057	88.21
30.5 - 31.5	\$37,764,299.90	\$34,690.07	0.00092	88.16
31.5 - 32.5	\$12,800,139.88	\$19,022.67	0.00149	88.08
32.5 - 33.5	\$11,221,046.83	\$627,627.71	0.05593	87.95
33.5 - 34.5	\$13,864,777.17	\$665,373.43	0.04799	83.03
34.5 - 35.5	\$13,753,329.06	\$51,560.51	0.00375	79.05
35.5 - 36.5	\$13,725,713.72	\$29,124.28	0.00212	78.75

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$17,172,539.12	\$26,076.89	0.00152	78.58
37.5 - 38.5	\$16,891,335.69	\$21,373.00	0.00127	78.46
38.5 - 39.5	\$17,515,515.93	\$64,615.11	0.00369	78.36
39.5 - 40.5	\$19,723,216.18	\$138,356.80	0.00701	78.08
40.5 - 41.5	\$25,086,165.86	\$50,318.89	0.00201	77.53
41.5 - 42.5	\$20,332,392.81	\$206,539.78	0.01016	77.37
42.5 - 43.5	\$20,198,718.88	\$260,207.66	0.01288	76.59
43.5 - 44.5	\$16,445,151.05	\$57,721.70	0.00351	75.60
44.5 - 45.5	\$16,228,350.58	\$14,978.31	0.00092	75.33
45.5 - 46.5	\$16,106,809.42	\$40,860.97	0.00254	75.26
46.5 - 47.5	\$13,310,696.61	\$7,245.83	0.00054	75.07
47.5 - 48.5	\$14,589,194.78	\$5,754.51	0.00039	75.03
48.5 - 49.5	\$15,766,267.97	\$252,267.28	0.01600	75.00
49.5 - 50.5	\$12,545,202.65	\$94,703.27	0.00755	73.80
50.5 - 51.5	\$7,247,338.96	\$22,715.42	0.00313	73.25
51.5 - 52.5	\$7,213,340.96	\$119,371.34	0.01655	73.02
52.5 - 53.5	\$7,063,790.58	\$57,975.44	0.00821	71.81
53.5 - 54.5	\$7,293,797.02	\$1,390.85	0.00019	71.22
54.5 - 55.5	\$6,592,250.15	\$105,831.45	0.01605	71.20
55.5 - 56.5	\$6,604,688.86	\$14,181.16	0.00215	70.06
56.5 - 57.5	\$5,360,950.69	\$210,911.02	0.03934	69.91
57.5 - 58.5	\$3,609,497.67	\$79,651.92	0.02207	67.16
58.5 - 59.5	\$1,839,514.90	\$196,205.09	0.10666	65.68
59.5 - 60.5	\$1,412,877.04	\$4,420.32	0.00313	58.67
60.5 - 61.5	\$1,225,510.86	\$6,381.43	0.00521	58.49
61.5 - 62.5	\$1,214,570.44	\$1,847.26	0.00152	58.19
62.5 - 63.5	\$2,169,548.01	\$13,853.26	0.00639	58.10
63.5 - 64.5	\$1,971,751.70	\$737.35	0.00037	57.73
64.5 - 65.5	\$1,545,464.50	\$204.20	0.00013	57.70
65.5 - 66.5	\$1,367,572.57	\$2,491.86	0.00182	57.70
66.5 - 67.5	\$1,376,086.45	\$705.69	0.00051	57.59
67.5 - 68.5	\$1,337,928.97	\$0.00	0.00000	57.56
68.5 - 69.5	\$1,300,074.32	\$369.66	0.00028	57.56
69.5 - 70.5	\$1,275,613.08	\$93.08	0.00007	57.55
70.5 - 71.5	\$1,318,664.82	\$1,121.02	0.00085	57.54
71.5 - 72.5	\$1,349,720.72	\$7,907.63	0.00586	57.49
72.5 - 73.5	\$219,158.46	\$1,436.06	0.00655	57.16

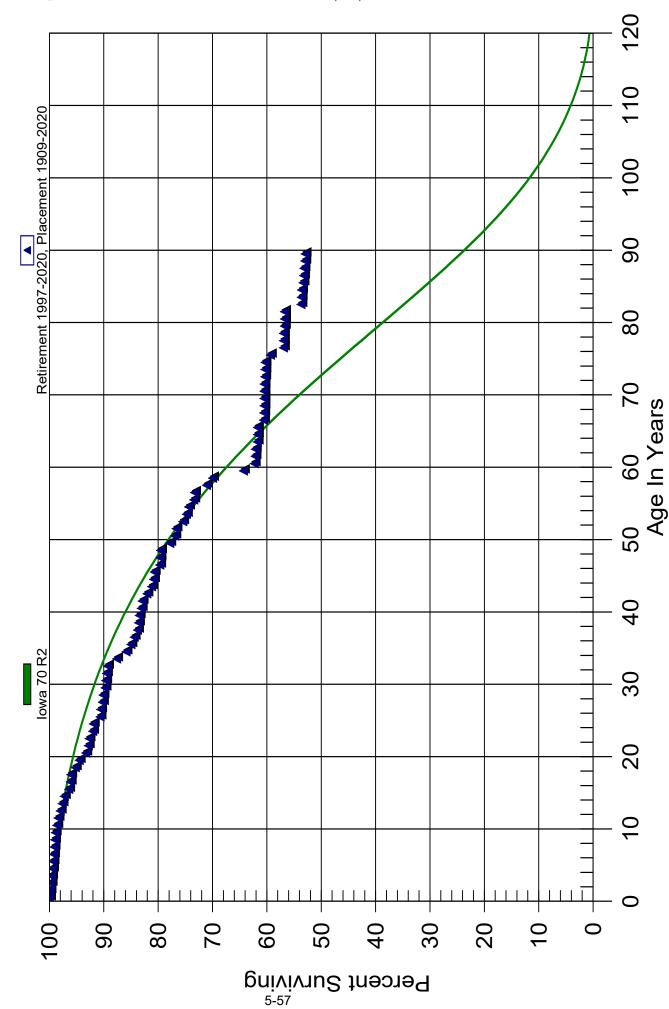
### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$189,890.96	\$1,059.26	0.00558	56.78
74.5 - 75.5	\$184,319.10	\$66,055.00	0.35837	56.46
75.5 - 76.5	\$112,603.94	\$0.00	0.00000	36.23
76.5 - 77.5	\$102,408.22	\$0.75	0.00001	36.23
77.5 - 78.5	\$102,366.37	\$57.00	0.00056	36.23
78.5 - 79.5	\$100,709.02	\$0.00	0.00000	36.21
79.5 - 80.5	\$126,765.05	\$0.00	0.00000	36.21
80.5 - 81.5	\$2,119,308.94	\$0.00	0.00000	36.21
81.5 - 82.5	\$2,112,021.83	\$1,866.11	0.00088	36.21
82.5 - 83.5	\$2,315,123.23	\$3,498.06	0.00151	36.18
83.5 - 84.5	\$2,349,495.33	\$626.45	0.00027	36.12
84.5 - 85.5	\$2,348,868.88	\$3,518.54	0.00150	36.11
85.5 - 86.5	\$2,345,350.34	\$1,240.74	0.00053	36.06
86.5 - 87.5	\$2,344,109.60	\$16.80	0.00001	36.04
87.5 - 88.5	\$3,820,145.98	\$13,248.31	0.00347	36.04
88.5 - 89.5	\$3,814,898.84	\$4,410.27	0.00116	35.91
89.5 - 90.5	\$3,831,071.01	\$84.07	0.00002	35.87
90.5 - 91.5	\$1,798,277.30	\$640.79	0.00036	35.87
91.5 - 92.5	\$1,771,812.43	\$92,411.13	0.05216	35.86
92.5 - 93.5	\$1,477,895.40	\$539,924.86	0.36533	33.99
93.5 - 94.5	\$917,446.33	\$10,094.97	0.01100	21.57
94.5 - 95.5	\$907,351.36	\$709.31	0.00078	21.33
95.5 - 96.5	\$909,899.95	\$82.72	0.00009	21.32
96.5 - 97.5	\$909,817.23	\$123,379.99	0.13561	21.32
97.5 - 98.5	\$44,468.99	\$0.00	0.00000	18.42
98.5 - 99.5	\$45,578.25	\$0.00	0.00000	18.42
99.5 - 100.5	\$28,484.74	\$0.00	0.00000	18.42
100.5 - 101.5	\$28,484.74	\$0.00	0.00000	18.42
101.5 - 102.5	\$29,808.39	\$0.00	0.00000	18.42
102.5 - 103.5	\$29,448.16	\$0.00	0.00000	18.42
103.5 - 104.5	\$17,211.89	\$0.00	0.00000	18.42
104.5 - 105.5	\$17,211.89	\$0.00	0.00000	18.42
105.5 - 106.5	\$13,953.99	\$0.00	0.00000	18.42
106.5 - 107.5	\$13,953.99	\$0.00	0.00000	18.42
107.5 - 108.5	\$13,953.99	\$0.00	0.00000	18.42
108.5 - 109.5	\$4,845.72	\$0.00	0.00000	18.42
109.5 - 110.5	\$4,845.72	\$0.00	0.00000	18.42

### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$4,845.72	\$0.00	0.00000	18.42

356.00 O/H CONDUCTORS & DEVICES Original And Smooth Survivor Curves



### Observed Life Table

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$474,270,904.06	\$89,085.79	0.00019	100.00
0.5 - 1.5	\$474,218,260.52	\$382,660.38	0.00081	99.98
1.5 - 2.5	\$470,221,329.63	\$1,007,283.46	0.00214	99.90
2.5 - 3.5	\$445,372,339.89	\$313,948.18	0.00070	99.69
3.5 - 4.5	\$392,997,959.69	\$657,092.70	0.00167	99.62
4.5 - 5.5	\$374,453,781.36	\$335,805.96	0.00090	99.45
5.5 - 6.5	\$351,091,519.10	\$381,241.41	0.00109	99.36
6.5 - 7.5	\$318,061,314.03	\$375,981.52	0.00118	99.25
7.5 - 8.5	\$324,570,336.99	\$229,822.61	0.00071	99.14
8.5 - 9.5	\$282,993,416.01	\$300,702.60	0.00106	99.07
9.5 - 10.5	\$256,534,301.36	\$771,319.99	0.00301	98.96
10.5 - 11.5	\$210,835,750.60	\$523,250.12	0.00248	98.66
11.5 - 12.5	\$198,246,251.62	\$770,645.11	0.00389	98.42
12.5 - 13.5	\$170,787,228.06	\$644,108.31	0.00377	98.03
13.5 - 14.5	\$158,059,785.23	\$609,677.79	0.00386	97.67
14.5 - 15.5	\$146,693,391.46	\$1,251,792.90	0.00853	97.29
15.5 - 16.5	\$138,904,283.70	\$398,900.75	0.00287	96.46
16.5 - 17.5	\$112,717,430.58	\$116,066.62	0.00103	96.18
17.5 - 18.5	\$107,669,759.67	\$935,727.95	0.00869	96.08
18.5 - 19.5	\$95,079,252.68	\$710,490.02	0.00747	95.25
19.5 - 20.5	\$94,630,125.94	\$1,210,339.54	0.01279	94.54
20.5 - 21.5	\$89,113,505.44	\$443,528.09	0.00498	93.33
21.5 - 22.5	\$86,479,923.81	\$130,405.34	0.00151	92.86
22.5 - 23.5	\$89,444,071.46	\$638,005.62	0.00713	92.72
23.5 - 24.5	\$71,145,012.20	\$93,815.99	0.00132	92.06
24.5 - 25.5	\$68,060,429.80	\$919,641.16	0.01351	91.94
25.5 - 26.5	\$69,941,030.64	\$92,648.06	0.00132	90.70
26.5 - 27.5	\$74,749,204.58	\$240,864.06	0.00322	90.58
27.5 - 28.5	\$71,938,942.98	\$108,697.79	0.00151	90.28
28.5 - 29.5	\$70,973,398.74	\$285,694.46	0.00403	90.15
29.5 - 30.5	\$65,285,556.57	\$95,782.18	0.00147	89.79
30.5 - 31.5	\$65,736,314.51	\$88,890.32	0.00135	89.65
31.5 - 32.5	\$36,071,780.40	\$86,879.14	0.00241	89.53
32.5 - 33.5	\$35,560,136.60	\$666,480.16	0.01874	89.32
33.5 - 34.5	\$36,308,094.04	\$714,429.52	0.01968	87.64
34.5 - 35.5	\$36,823,754.48	\$380,803.68	0.01034	85.92
35.5 - 36.5	\$36,695,891.28	\$268,041.41	0.00730	85.03

### Observed Life Table

Retirement Expr. 1997 TO 2020 Placement Years 1909 TO 2020

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
36.5 - 37.5	\$36,214,318.80	\$260,134.80	0.00718	84.41
37.5 - 38.5	\$35,380,148.87	\$64,603.04	0.00183	83.80
38.5 - 39.5	\$35,361,242.97	\$67,528.40	0.00191	83.65
39.5 - 40.5	\$34,435,626.73	\$155,201.53	0.00451	83.49
40.5 - 41.5	\$34,634,108.59	\$62,542.57	0.00181	83.11
41.5 - 42.5	\$30,041,727.76	\$320,562.95	0.01067	82.96
42.5 - 43.5	\$29,509,262.81	\$312,891.76	0.01060	82.08
43.5 - 44.5	\$25,719,782.13	\$105,191.39	0.00409	81.21
44.5 - 45.5	\$24,353,586.05	\$46,200.39	0.00190	80.88
45.5 - 46.5	\$24,136,242.79	\$300,301.06	0.01244	80.72
46.5 - 47.5	\$19,915,565.52	\$17,245.88	0.00087	79.72
47.5 - 48.5	\$19,446,125.21	\$20,693.25	0.00106	79.65
48.5 - 49.5	\$19,817,269.30	\$423,072.28	0.02135	79.56
49.5 - 50.5	\$15,949,195.44	\$189,352.77	0.01187	77.87
50.5 - 51.5	\$10,197,656.36	\$29,806.30	0.00292	76.94
51.5 - 52.5	\$10,138,440.50	\$163,064.01	0.01608	76.72
52.5 - 53.5	\$9,709,547.99	\$84,728.70	0.00873	75.48
53.5 - 54.5	\$9,551,330.69	\$52,814.28	0.00553	74.82
54.5 - 55.5	\$8,369,613.66	\$106,317.73	0.01270	74.41
55.5 - 56.5	\$8,186,545.14	\$17,105.46	0.00209	73.46
56.5 - 57.5	\$7,097,095.54	\$210,911.02	0.02972	73.31
57.5 - 58.5	\$5,337,714.01	\$83,831.96	0.01571	71.13
58.5 - 59.5	\$3,524,444.83	\$285,747.93	0.08108	70.02
59.5 - 60.5	\$2,978,918.57	\$92,393.60	0.03102	64.34
60.5 - 61.5	\$2,618,831.45	\$6,450.86	0.00246	62.34
61.5 - 62.5	\$2,601,705.79	\$2,486.40	0.00096	62.19
62.5 - 63.5	\$2,432,258.91	\$13,871.68	0.00570	62.13
63.5 - 64.5	\$2,204,120.88	\$737.35	0.00033	61.78
64.5 - 65.5	\$1,773,321.08	\$204.20	0.00012	61.76
65.5 - 66.5	\$1,624,895.19	\$29,510.75	0.01816	61.75
66.5 - 67.5	\$3,828,417.56	\$2,899.59	0.00076	60.63
67.5 - 68.5	\$3,810,349.21	\$2,211.76	0.00058	60.58
68.5 - 69.5	\$4,192,687.14	\$521.66	0.00012	60.55
69.5 - 70.5	\$4,216,431.13	\$94.58	0.00002	60.54
70.5 - 71.5	\$4,131,958.55	\$1,572.56	0.00038	60.54
71.5 - 72.5	\$4,124,270.18	\$8,238.23	0.00200	60.51
72.5 - 73.5	\$2,993,359.29	\$1,436.06	0.00048	60.39

#### Observed Life Table

Retirement Expr. 1997 TO 2020 Placement Years 1909 TO 2020

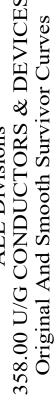
Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$4,450,867.52	\$1,059.26	0.00024	60.36
74.5 - 75.5	\$4,454,345.03	\$71,562.50	0.01607	60.35
75.5 - 76.5	\$4,441,250.58	\$178,790.93	0.04026	59.38
76.5 - 77.5	\$4,252,263.93	\$0.75	0.00000	56.99
77.5 - 78.5	\$4,259,306.59	\$353.55	0.00008	56.99
78.5 - 79.5	\$4,257,712.92	\$13,519.85	0.00318	56.98
79.5 - 80.5	\$4,255,490.19	\$1,574.01	0.00037	56.80
80.5 - 81.5	\$4,193,750.35	\$502.66	0.00012	56.78
81.5 - 82.5	\$4,161,316.49	\$221,249.98	0.05317	56.78
82.5 - 83.5	\$3,940,048.48	\$3,936.79	0.00100	53.76
83.5 - 84.5	\$3,936,111.69	\$4,437.95	0.00113	53.70
84.5 - 85.5	\$3,940,782.01	\$19,879.28	0.00504	53.64
85.5 - 86.5	\$3,920,902.73	\$9,276.92	0.00237	53.37
86.5 - 87.5	\$3,911,625.81	\$3,274.65	0.00084	53.25
87.5 - 88.5	\$3,913,196.88	\$13,250.60	0.00339	53.20
88.5 - 89.5	\$3,899,946.28	\$4,411.49	0.00113	53.02
89.5 - 90.5	\$3,866,174.86	\$84.07	0.00002	52.96
90.5 - 91.5	\$1,833,381.15	\$640.79	0.00035	52.96
91.5 - 92.5	\$1,803,394.21	\$94,184.52	0.05223	52.94
92.5 - 93.5	\$1,507,343.56	\$539,924.86	0.35820	50.18
93.5 - 94.5	\$934,658.22	\$10,094.97	0.01080	32.20
94.5 - 95.5	\$924,563.25	\$709.31	0.00077	31.86
95.5 - 96.5	\$923,853.94	\$82.72	0.00009	31.83
96.5 - 97.5	\$923,771.22	\$123,379.99	0.13356	31.83
97.5 - 98.5	\$58,422.98	\$0.00	0.00000	27.58
98.5 - 99.5	\$50,423.97	\$0.00	0.00000	27.58
99.5 - 100.5	\$33,330.46	\$0.00	0.00000	27.58
100.5 - 101.5	\$33,330.46	\$0.00	0.00000	27.58
101.5 - 102.5	\$29,808.39	\$0.00	0.00000	27.58
102.5 - 103.5	\$29,448.16	\$0.00	0.00000	27.58
103.5 - 104.5	\$17,211.89	\$0.00	0.00000	27.58
104.5 - 105.5	\$17,211.89	\$0.00	0.00000	27.58
105.5 - 106.5	\$13,953.99	\$0.00	0.00000	27.58
106.5 - 107.5	\$13,953.99	\$0.00	0.00000	27.58
107.5 - 108.5	\$13,953.99	\$0.00	0.00000	27.58
108.5 - 109.5	\$4,845.72	\$0.00	0.00000	27.58
109.5 - 110.5	\$4,845.72	\$0.00	0.00000	27.58

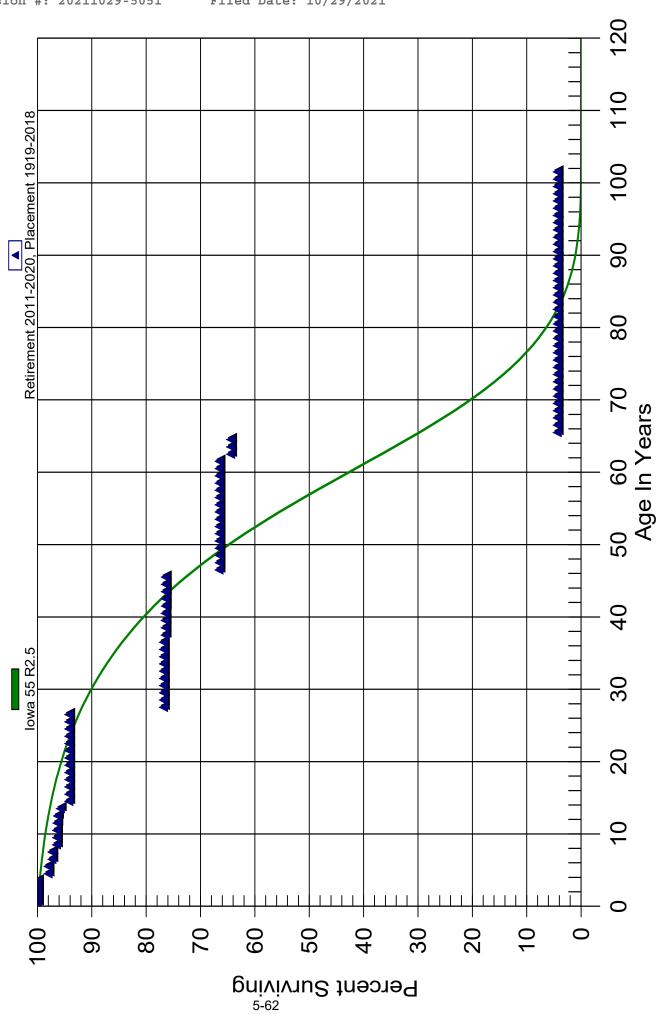
### Observed Life Table

Retirement Expr. 1997 TO 2020 Placement Years 1909 TO 2020

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
110.5 - 111.5	\$4,845.72	\$0.00	0.00000	27.58

# New England Power Company 358.00 U/G CONDUCTORS & DEVICES ALL Divisions





#### Observed Life Table

Retirement Expr. 2011 TO 2020 Placement Years 1919 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$25,875,629.49	\$0.00	0.00000	100.00
0.5 - 1.5	\$27,763,888.68	\$929.76	0.00003	100.00
1.5 - 2.5	\$27,762,958.92	\$0.00	0.00000	100.00
2.5 - 3.5	\$27,631,482.21	\$0.00	0.00000	100.00
3.5 - 4.5	\$29,085,833.34	\$567,609.85	0.01951	100.00
4.5 - 5.5	\$20,336,847.43	\$0.00	0.00000	98.05
5.5 - 6.5	\$21,241,959.80	\$146,809.45	0.00691	98.05
6.5 - 7.5	\$20,931,414.50	\$0.00	0.00000	97.37
7.5 - 8.5	\$20,992,028.05	\$184,121.98	0.00877	97.37
8.5 - 9.5	\$5,253,977.73	\$1,531.00	0.00029	96.51
9.5 - 10.5	\$4,879,995.56	\$0.00	0.00000	96.49
10.5 - 11.5	\$3,177,199.35	\$1,069.00	0.00034	96.49
11.5 - 12.5	\$15,581,352.36	\$19,742.71	0.00127	96.45
12.5 - 13.5	\$15,697,583.01	\$83,262.50	0.00530	96.33
13.5 - 14.5	\$13,871,378.19	\$229,311.50	0.01653	95.82
14.5 - 15.5	\$13,463,944.04	\$0.00	0.00000	94.24
15.5 - 16.5	\$12,934,952.62	\$0.00	0.00000	94.24
16.5 - 17.5	\$12,891,554.71	\$0.00	0.00000	94.24
17.5 - 18.5	\$13,366,794.73	\$0.00	0.00000	94.24
18.5 - 19.5	\$13,368,668.84	\$0.00	0.00000	94.24
19.5 - 20.5	\$13,222,347.28	\$0.00	0.00000	94.24
20.5 - 21.5	\$13,222,075.28	\$0.00	0.00000	94.24
21.5 - 22.5	\$836,595.98	\$0.00	0.00000	94.24
22.5 - 23.5	\$938,081.95	\$0.00	0.00000	94.24
23.5 - 24.5	\$938,081.95	\$0.00	0.00000	94.24
24.5 - 25.5	\$938,081.95	\$0.00	0.00000	94.24
25.5 - 26.5	\$938,081.95	\$0.00	0.00000	94.24
26.5 - 27.5	\$938,081.95	\$173,190.74	0.18462	94.24
27.5 - 28.5	\$229,037.64	\$0.00	0.00000	76.84
28.5 - 29.5	\$227,163.53	\$0.00	0.00000	76.84
29.5 - 30.5	\$154,196.83	\$0.00	0.00000	76.84
30.5 - 31.5	\$154,196.83	\$0.00	0.00000	76.84
31.5 - 32.5	\$156,883.40	\$0.00	0.00000	76.84
32.5 - 33.5	\$2,686.57	\$0.00	0.00000	76.84
33.5 - 34.5	\$3,269.59	\$0.00	0.00000	76.84
34.5 - 35.5	\$3,269.59	\$0.00	0.00000	76.84
35.5 - 36.5	\$33,128.05	\$0.00	0.00000	76.84

### Observed Life Table

Retirement Expr. 2011 TO 2020 Placement Years 1919 TO 2018

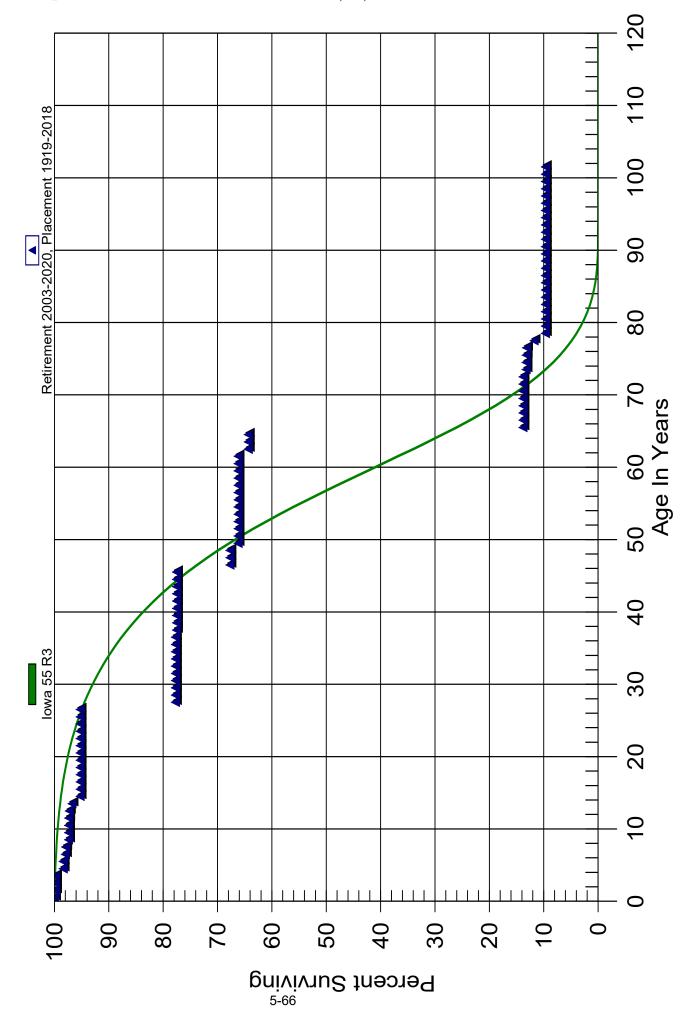
Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
36.5 - 37.5	\$3,491,829.87	\$14,784.08	0.00423	76.84
37.5 - 38.5	\$5,634,299.09	\$0.00	0.00000	76.51
38.5 - 39.5	\$6,452,938.87	\$0.00	0.00000	76.51
39.5 - 40.5	\$6,452,938.87	\$0.00	0.00000	76.51
40.5 - 41.5	\$6,452,938.87	\$583.02	0.00009	76.51
41.5 - 42.5	\$6,449,669.28	\$0.00	0.00000	76.51
42.5 - 43.5	\$6,457,499.17	\$1,252.01	0.00019	76.51
43.5 - 44.5	\$6,456,247.16	\$0.00	0.00000	76.49
44.5 - 45.5	\$6,456,247.16	\$0.00	0.00000	76.49
45.5 - 46.5	\$6,426,388.70	\$829,609.27	0.12909	76.49
46.5 - 47.5	\$2,219,134.54	\$0.00	0.00000	66.62
47.5 - 48.5	\$98,322.76	\$0.00	0.00000	66.62
48.5 - 49.5	\$74,102.74	\$0.00	0.00000	66.62
49.5 - 50.5	\$74,102.74	\$0.00	0.00000	66.62
50.5 - 51.5	\$74,102.74	\$0.00	0.00000	66.62
51.5 - 52.5	\$74,102.74	\$0.00	0.00000	66.62
52.5 - 53.5	\$124,035.61	\$0.00	0.00000	66.62
53.5 - 54.5	\$124,035.61	\$0.00	0.00000	66.62
54.5 - 55.5	\$192,206.29	\$0.00	0.00000	66.62
55.5 - 56.5	\$192,206.29	\$0.00	0.00000	66.62
56.5 - 57.5	\$125,933.44	\$0.00	0.00000	66.62
57.5 - 58.5	\$601,173.00	\$0.00	0.00000	66.62
58.5 - 59.5	\$601,173.00	\$0.00	0.00000	66.62
59.5 - 60.5	\$601,173.00	\$0.00	0.00000	66.62
60.5 - 61.5	\$601,173.00	\$0.00	0.00000	66.62
61.5 - 62.5	\$601,173.00	\$19,345.83	0.03218	66.62
62.5 - 63.5	\$524,370.69	\$0.00	0.00000	64.47
63.5 - 64.5	\$524,370.69	\$0.00	0.00000	64.47
64.5 - 65.5	\$457,298.43	\$426,116.82	0.93181	64.47
65.5 - 66.5	\$31,181.61	\$0.00	0.00000	4.40
66.5 - 67.5	\$31,181.61	\$0.00	0.00000	4.40
67.5 - 68.5	\$306.28	\$0.00	0.00000	4.40
68.5 - 69.5	\$61,458.58	\$0.00	0.00000	4.40
69.5 - 70.5	\$85,724.46	\$0.00	0.00000	4.40
70.5 - 71.5	\$85,724.46	\$0.00	0.00000	4.40
71.5 - 72.5	\$85,724.46	\$0.00	0.00000	4.40
72.5 - 73.5	\$85,418.18	\$0.00	0.00000	4.40

#### Observed Life Table

Retirement Expr. 2011 TO 2020 Placement Years 1919 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$85,418.18	\$0.00	0.00000	4.40
74.5 - 75.5	\$85,418.18	\$0.00	0.00000	4.40
75.5 - 76.5	\$85,418.18	\$0.00	0.00000	4.40
76.5 - 77.5	\$327,965.54	\$0.00	0.00000	4.40
77.5 - 78.5	\$327,965.54	\$0.00	0.00000	4.40
78.5 - 79.5	\$266,813.24	\$0.00	0.00000	4.40
79.5 - 80.5	\$242,547.36	\$0.00	0.00000	4.40
80.5 - 81.5	\$242,547.36	\$0.00	0.00000	4.40
81.5 - 82.5	\$530,642.64	\$0.00	0.00000	4.40
82.5 - 83.5	\$530,642.64	\$0.00	0.00000	4.40
83.5 - 84.5	\$530,642.64	\$0.00	0.00000	4.40
84.5 - 85.5	\$530,642.64	\$0.00	0.00000	4.40
85.5 - 86.5	\$530,642.64	\$0.00	0.00000	4.40
86.5 - 87.5	\$288,095.28	\$0.00	0.00000	4.40
87.5 - 88.5	\$288,095.28	\$0.00	0.00000	4.40
88.5 - 89.5	\$288,095.28	\$0.00	0.00000	4.40
89.5 - 90.5	\$288,095.28	\$0.00	0.00000	4.40
90.5 - 91.5	\$288,095.28	\$0.00	0.00000	4.40
91.5 - 92.5	\$64,744.90	\$0.00	0.00000	4.40
92.5 - 93.5	\$64,744.90	\$0.00	0.00000	4.40
93.5 - 94.5	\$64,744.90	\$0.00	0.00000	4.40
94.5 - 95.5	\$64,744.90	\$0.00	0.00000	4.40
95.5 - 96.5	\$64,744.90	\$0.00	0.00000	4.40
96.5 - 97.5	\$64,744.90	\$0.00	0.00000	4.40
97.5 - 98.5	\$64,744.90	\$0.00	0.00000	4.40
98.5 - 99.5	\$64,744.90	\$0.00	0.00000	4.40
99.5 - 100.5	\$64,744.90	\$0.00	0.00000	4.40
100.5 - 101.5	\$64,744.90	\$0.00	0.00000	4.40

# New England Power Company ALL Divisions 358.00 U/G CONDUCTORS & DEVICES Original And Smooth Survivor Curves



### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1919 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$30,793,590.01	\$0.00	0.00000	100.00
0.5 - 1.5	\$32,128,873.01	\$57,628.35	0.00179	100.00
1.5 - 2.5	\$32,463,723.66	\$0.00	0.00000	99.82
2.5 - 3.5	\$31,001,366.95	\$0.00	0.00000	99.82
3.5 - 4.5	\$43,130,936.77	\$611,954.79	0.01419	99.82
4.5 - 5.5	\$34,295,456.63	\$0.00	0.00000	98.40
5.5 - 6.5	\$34,295,456.63	\$146,809.45	0.00428	98.40
6.5 - 7.5	\$33,941,513.42	\$12,939.00	0.00038	97.98
7.5 - 8.5	\$33,928,574.42	\$184,121.98	0.00543	97.95
8.5 - 9.5	\$18,188,993.10	\$1,531.00	0.00008	97.41
9.5 - 10.5	\$17,958,385.50	\$0.00	0.00000	97.41
10.5 - 11.5	\$16,256,122.40	\$1,069.00	0.00007	97.41
11.5 - 12.5	\$16,501,210.84	\$19,742.71	0.00120	97.40
12.5 - 13.5	\$16,481,468.13	\$83,262.50	0.00505	97.28
13.5 - 14.5	\$14,655,263.31	\$229,311.50	0.01565	96.79
14.5 - 15.5	\$14,402,025.99	\$0.00	0.00000	95.28
15.5 - 16.5	\$13,873,034.57	\$0.00	0.00000	95.28
16.5 - 17.5	\$13,829,636.66	\$0.00	0.00000	95.28
17.5 - 18.5	\$13,769,023.11	\$0.00	0.00000	95.28
18.5 - 19.5	\$13,769,023.11	\$0.00	0.00000	95.28
19.5 - 20.5	\$13,376,544.11	\$0.00	0.00000	95.28
20.5 - 21.5	\$13,376,272.11	\$0.00	0.00000	95.28
21.5 - 22.5	\$990,792.81	\$0.00	0.00000	95.28
22.5 - 23.5	\$938,081.95	\$0.00	0.00000	95.28
23.5 - 24.5	\$940,768.52	\$0.00	0.00000	95.28
24.5 - 25.5	\$940,768.52	\$0.00	0.00000	95.28
25.5 - 26.5	\$941,351.54	\$0.00	0.00000	95.28
26.5 - 27.5	\$941,351.54	\$173,190.74	0.18398	95.28
27.5 - 28.5	\$262,165.69	\$0.00	0.00000	77.75
28.5 - 29.5	\$3,718,993.40	\$0.00	0.00000	77.75
29.5 - 30.5	\$5,803,280.00	\$0.00	0.00000	77.75
30.5 - 31.5	\$6,621,919.78	\$0.00	0.00000	77.75
31.5 - 32.5	\$6,621,919.78	\$0.00	0.00000	77.75
32.5 - 33.5	\$6,467,722.95	\$0.00	0.00000	77.75
33.5 - 34.5	\$6,467,722.95	\$0.00	0.00000	77.75
34.5 - 35.5	\$6,475,552.84	\$0.00	0.00000	77.75
35.5 - 36.5	\$6,475,552.84	\$0.00	0.00000	77.75

### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1919 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$6,475,552.84	\$14,784.08	0.00228	77.75
37.5 - 38.5	\$6,460,768.76	\$0.00	0.00000	77.57
38.5 - 39.5	\$6,527,041.61	\$0.00	0.00000	77.57
39.5 - 40.5	\$6,527,041.61	\$0.00	0.00000	77.57
40.5 - 41.5	\$6,527,041.61	\$583.02	0.00009	77.57
41.5 - 42.5	\$6,523,772.02	\$0.00	0.00000	77.56
42.5 - 43.5	\$6,523,772.02	\$1,252.01	0.00019	77.56
43.5 - 44.5	\$6,522,520.01	\$0.00	0.00000	77.55
44.5 - 45.5	\$6,584,867.24	\$0.00	0.00000	77.55
45.5 - 46.5	\$6,555,008.78	\$829,609.27	0.12656	77.55
46.5 - 47.5	\$2,349,652.45	\$0.00	0.00000	67.73
47.5 - 48.5	\$228,840.67	\$0.00	0.00000	67.73
48.5 - 49.5	\$204,620.65	\$4,584.47	0.02240	67.73
49.5 - 50.5	\$675,275.74	\$0.00	0.00000	66.22
50.5 - 51.5	\$675,275.74	\$0.00	0.00000	66.22
51.5 - 52.5	\$675,275.74	\$0.00	0.00000	66.22
52.5 - 53.5	\$667,445.85	\$0.00	0.00000	66.22
53.5 - 54.5	\$667,445.85	\$0.00	0.00000	66.22
54.5 - 55.5	\$667,752.13	\$0.00	0.00000	66.22
55.5 - 56.5	\$667,752.13	\$0.00	0.00000	66.22
56.5 - 57.5	\$601,479.28	\$0.00	0.00000	66.22
57.5 - 58.5	\$601,479.28	\$0.00	0.00000	66.22
58.5 - 59.5	\$601,479.28	\$0.00	0.00000	66.22
59.5 - 60.5	\$601,479.28	\$0.00	0.00000	66.22
60.5 - 61.5	\$662,631.58	\$0.00	0.00000	66.22
61.5 - 62.5	\$686,897.46	\$19,345.83	0.02816	66.22
62.5 - 63.5	\$609,788.87	\$0.00	0.00000	64.35
63.5 - 64.5	\$609,788.87	\$0.00	0.00000	64.35
64.5 - 65.5	\$542,716.61	\$426,116.82	0.78516	64.35
65.5 - 66.5	\$116,599.79	\$0.00	0.00000	13.83
66.5 - 67.5	\$116,599.79	\$0.00	0.00000	13.83
67.5 - 68.5	\$85,724.46	\$0.00	0.00000	13.83
68.5 - 69.5	\$342,610.98	\$0.00	0.00000	13.83
69.5 - 70.5	\$342,610.98	\$0.00	0.00000	13.83
70.5 - 71.5	\$342,610.98	\$0.00	0.00000	13.83
71.5 - 72.5	\$342,610.98	\$0.00	0.00000	13.83
72.5 - 73.5	\$342,304.70	\$14,339.16	0.04189	13.83

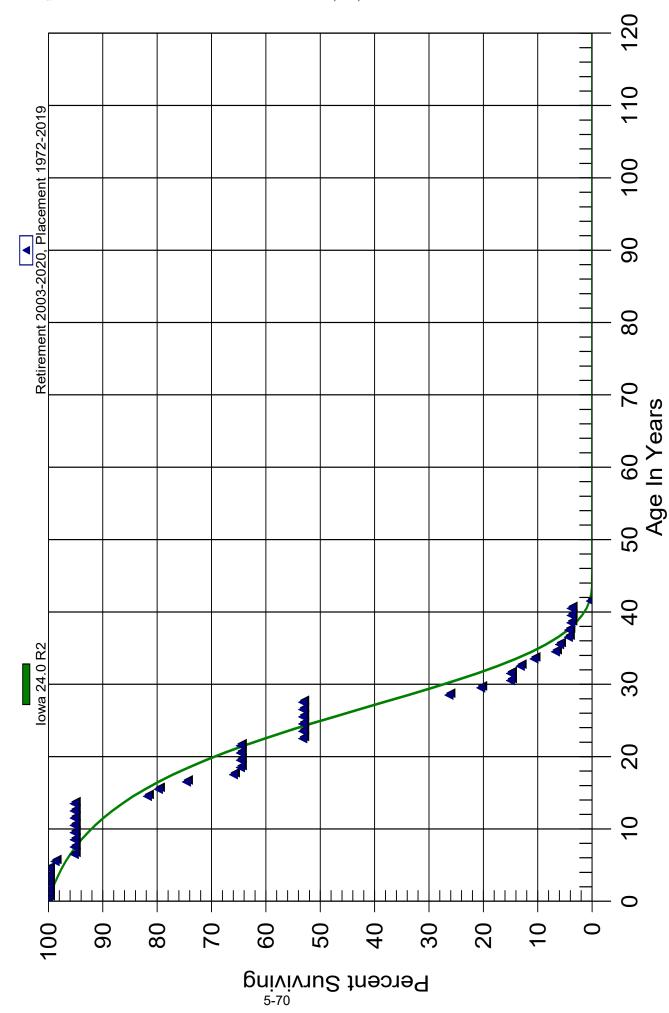
### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1919 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$842,214.99	\$0.00	0.00000	13.25
74.5 - 75.5	\$842,214.99	\$2,538.25	0.00301	13.25
75.5 - 76.5	\$839,676.74	\$3,514.50	0.00419	13.21
76.5 - 77.5	\$836,162.24	\$86,784.72	0.10379	13.15
77.5 - 78.5	\$749,377.52	\$133,316.70	0.17790	11.79
78.5 - 79.5	\$554,908.52	\$0.00	0.00000	9.69
79.5 - 80.5	\$530,642.64	\$0.00	0.00000	9.69
80.5 - 81.5	\$530,642.64	\$0.00	0.00000	9.69
81.5 - 82.5	\$530,642.64	\$0.00	0.00000	9.69
82.5 - 83.5	\$530,642.64	\$0.00	0.00000	9.69
83.5 - 84.5	\$595,387.54	\$0.00	0.00000	9.69
84.5 - 85.5	\$595,387.54	\$0.00	0.00000	9.69
85.5 - 86.5	\$595,387.54	\$0.00	0.00000	9.69
86.5 - 87.5	\$352,840.18	\$0.00	0.00000	9.69
87.5 - 88.5	\$352,840.18	\$0.00	0.00000	9.69
88.5 - 89.5	\$352,840.18	\$0.00	0.00000	9.69
89.5 - 90.5	\$352,840.18	\$0.00	0.00000	9.69
90.5 - 91.5	\$352,840.18	\$0.00	0.00000	9.69
91.5 - 92.5	\$64,744.90	\$0.00	0.00000	9.69
92.5 - 93.5	\$64,744.90	\$0.00	0.00000	9.69
93.5 - 94.5	\$64,744.90	\$0.00	0.00000	9.69
94.5 - 95.5	\$64,744.90	\$0.00	0.00000	9.69
95.5 - 96.5	\$64,744.90	\$0.00	0.00000	9.69
96.5 - 97.5	\$64,744.90	\$0.00	0.00000	9.69
97.5 - 98.5	\$64,744.90	\$0.00	0.00000	9.69
98.5 - 99.5	\$64,744.90	\$0.00	0.00000	9.69
99.5 - 100.5	\$64,744.90	\$0.00	0.00000	9.69
100.5 - 101.5	\$64,744.90	\$0.00	0.00000	9.69

# New England Power Company ALL Divisions

394.00 TOOLS, SHOP & GARAGE EQUIPMENT Original And Smooth Survivor Curves



### New England Power Company **ALL Divisions** 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1972 TO 2019

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$1,487,321.17	\$0.00	0.00000	100.00
0.5 - 1.5	\$1,487,321.17	\$0.00	0.00000	100.00
1.5 - 2.5	\$1,205,170.86	\$0.00	0.00000	100.00
2.5 - 3.5	\$798,238.33	\$0.00	0.00000	100.00
3.5 - 4.5	\$798,238.33	\$0.00	0.00000	100.00
4.5 - 5.5	\$720,691.18	\$8,839.24	0.01226	100.00
5.5 - 6.5	\$372,062.11	\$13,206.13	0.03549	98.77
6.5 - 7.5	\$408,109.50	\$0.00	0.00000	95.27
7.5 - 8.5	\$413,130.57	\$0.00	0.00000	95.27
8.5 - 9.5	\$413,130.57	\$0.00	0.00000	95.27
9.5 - 10.5	\$413,130.57	\$0.00	0.00000	95.27
10.5 - 11.5	\$388,712.30	\$0.00	0.00000	95.27
11.5 - 12.5	\$446,357.28	\$0.00	0.00000	95.27
12.5 - 13.5	\$345,070.34	\$0.00	0.00000	95.27
13.5 - 14.5	\$341,926.78	\$48,393.54	0.14153	95.27
14.5 - 15.5	\$293,533.24	\$7,234.86	0.02465	81.78
15.5 - 16.5	\$279,232.66	\$18,028.40	0.06456	79.77
16.5 - 17.5	\$278,577.24	\$32,249.59	0.11577	74.62
17.5 - 18.5	\$262,083.01	\$5,021.07	0.01916	65.98
18.5 - 19.5	\$271,723.17	\$0.00	0.00000	64.72
19.5 - 20.5	\$299,805.25	\$1.00	0.00000	64.72
20.5 - 21.5	\$310,419.95	\$0.00	0.00000	64.72
21.5 - 22.5	\$324,811.65	\$57,644.98	0.17747	64.72
22.5 - 23.5	\$286,785.61	\$0.00	0.00000	53.23
23.5 - 24.5	\$257,810.10	\$0.00	0.00000	53.23
24.5 - 25.5	\$251,119.08	\$0.00	0.00000	53.23
25.5 - 26.5	\$252,457.07	\$0.00	0.00000	53.23
26.5 - 27.5	\$253,961.06	\$0.00	0.00000	53.23
27.5 - 28.5	\$254,219.28	\$128,485.41	0.50541	53.23
28.5 - 29.5	\$125,733.87	\$27,967.57	0.22243	26.33
29.5 - 30.5	\$119,879.99	\$32,034.21	0.26722	20.47
30.5 - 31.5	\$89,578.07	\$0.00	0.00000	15.00
31.5 - 32.5	\$89,578.07	\$10,615.70	0.11851	15.00
32.5 - 33.5	\$78,962.37	\$15,182.35	0.19227	13.22
33.5 - 34.5	\$63,780.02	\$23,521.05	0.36878	10.68
34.5 - 35.5	\$40,258.97	\$4,581.17	0.11379	6.74
35.5 - 36.5	\$35,677.80	\$9,522.26	0.26690	5.97

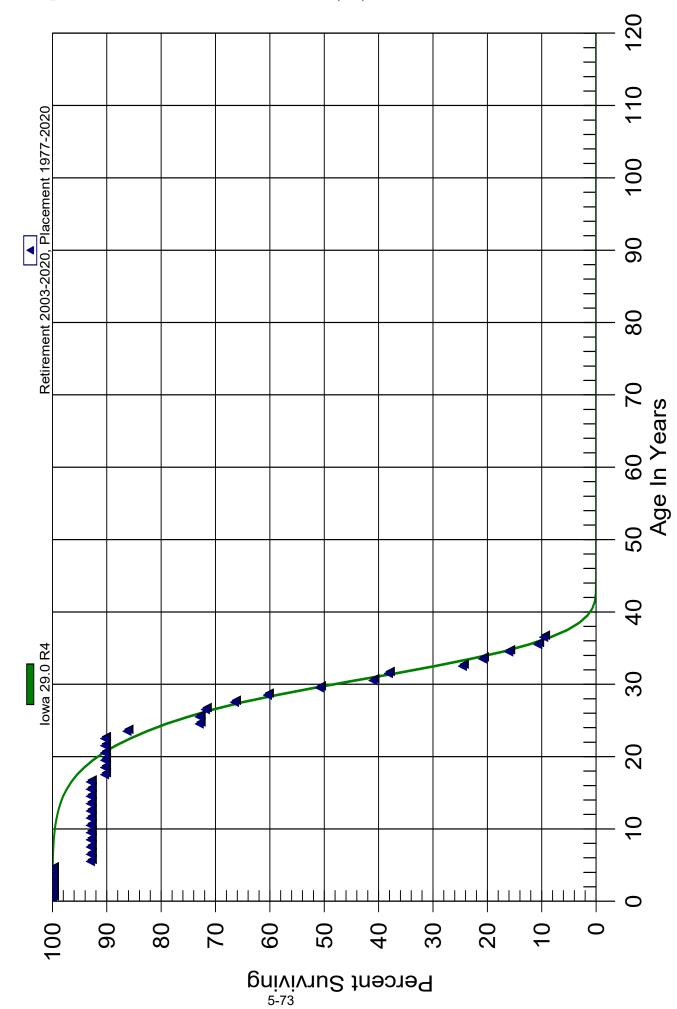
### New England Power Company **ALL Divisions** 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1972 TO 2019

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$26,155.54	\$547.35	0.02093	4.38
37.5 - 38.5	\$25,608.19	\$2,358.89	0.09211	4.29
38.5 - 39.5	\$23,249.30	\$258.22	0.01111	3.89
39.5 - 40.5	\$22,991.08	\$0.00	0.00000	3.85
40.5 - 41.5	\$22,991.08	\$21,258.79	0.92465	3.85

# New England Power Company ALL Divisions 395.00 LABORATORY EQUIPMENT Original And Smooth Survivor Curves



### New England Power Company **ALL Divisions** 395.00 LABORATORY EQUIPMENT

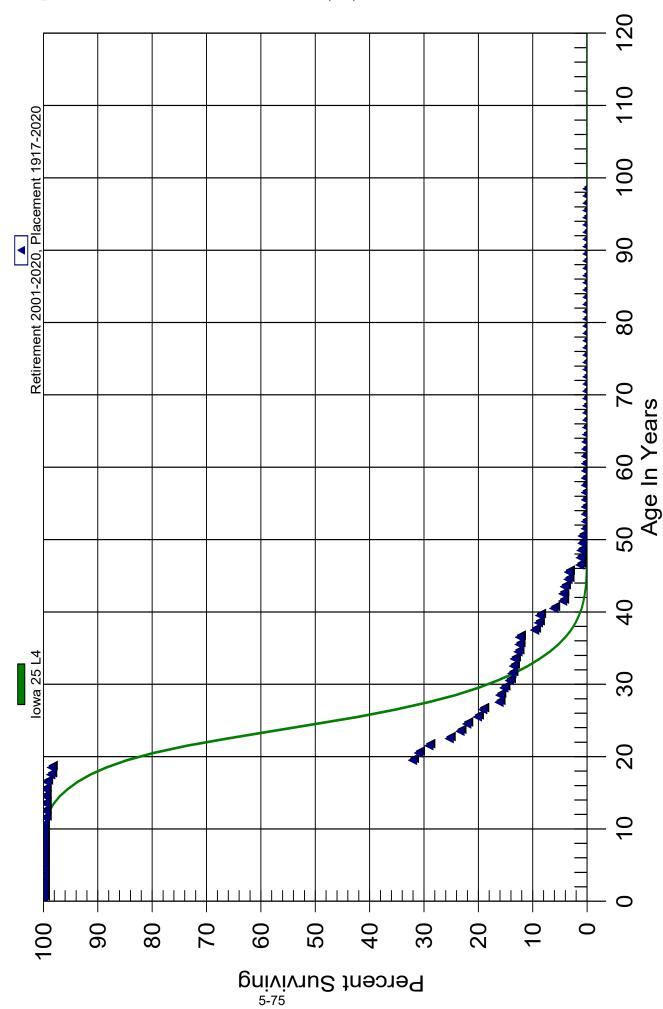
### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1977 TO 2020

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$1,633,559.17	\$0.00	0.00000	100.00
0.5 - 1.5	\$1,317,308.58	\$0.00	0.00000	100.00
1.5 - 2.5	\$1,045,693.31	\$0.00	0.00000	100.00
2.5 - 3.5	\$1,038,409.29	\$0.00	0.00000	100.00
3.5 - 4.5	\$1,077,938.47	\$0.00	0.00000	100.00
4.5 - 5.5	\$1,067,455.15	\$74,402.15	0.06970	100.00
5.5 - 6.5	\$455,737.42	\$0.00	0.00000	93.03
6.5 - 7.5	\$462,347.40	\$0.00	0.00000	93.03
7.5 - 8.5	\$465,562.99	\$0.00	0.00000	93.03
8.5 - 9.5	\$470,923.24	\$0.00	0.00000	93.03
9.5 - 10.5	\$473,868.58	\$0.00	0.00000	93.03
10.5 - 11.5	\$410,070.36	\$0.00	0.00000	93.03
11.5 - 12.5	\$388,689.68	\$0.00	0.00000	93.03
12.5 - 13.5	\$331,803.02	\$0.00	0.00000	93.03
13.5 - 14.5	\$323,712.86	\$0.00	0.00000	93.03
14.5 - 15.5	\$306,208.30	\$0.00	0.00000	93.03
15.5 - 16.5	\$275,722.41	\$0.00	0.00000	93.03
16.5 - 17.5	\$234,388.04	\$6,609.98	0.02820	93.03
17.5 - 18.5	\$279,324.72	\$0.00	0.00000	90.41
18.5 - 19.5	\$326,133.02	\$0.00	0.00000	90.41
19.5 - 20.5	\$348,079.73	\$0.00	0.00000	90.41
20.5 - 21.5	\$404,725.88	\$0.00	0.00000	90.41
21.5 - 22.5	\$374,309.15	\$0.00	0.00000	90.41
22.5 - 23.5	\$318,304.68	\$14,451.18	0.04540	90.41
23.5 - 24.5	\$329,482.06	\$50,754.50	0.15404	86.30
24.5 - 25.5	\$289,745.49	\$0.00	0.00000	73.01
25.5 - 26.5	\$351,212.94	\$5,444.44	0.01550	73.01
26.5 - 27.5	\$345,768.50	\$25,806.30	0.07463	71.88
27.5 - 28.5	\$319,962.20	\$29,120.36	0.09101	66.51
28.5 - 29.5	\$290,841.84	\$46,102.22	0.15851	60.46
29.5 - 30.5	\$244,739.62	\$47,332.76	0.19340	50.87
30.5 - 31.5	\$197,406.86	\$13,535.18	0.06856	41.04
31.5 - 32.5	\$183,871.68	\$65,466.33	0.35604	38.22
32.5 - 33.5	\$118,405.35	\$17,958.49	0.15167	24.61
33.5 - 34.5	\$100,446.86	\$23,098.37	0.22996	20.88
34.5 - 35.5	\$77,348.49	\$25,628.56	0.33134	16.08
35.5 - 36.5	\$51,719.93	\$5,299.20	0.10246	10.75

# New England Power Company 397.00 COMMUNICATION EQUIPMENT ALL Divisions





### New England Power Company **ALL Divisions** 397.00 COMMUNICATION EQUIPMENT

### Observed Life Table

Retirement Expr. 2001 TO 2020 Placement Years 1917 TO 2020

Age Surviving A Age Beginning of Interval Age Interval		\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$2,189,500.31	\$0.00	0.00000	100.00
0.5 - 1.5	\$2,057,677.94	\$0.00	0.00000	100.00
1.5 - 2.5	\$3,579,848.38	\$0.00	0.00000	100.00
2.5 - 3.5	\$3,581,320.33	\$0.00	0.00000	100.00
3.5 - 4.5	\$3,582,290.69	\$0.00	0.00000	100.00
4.5 - 5.5	\$2,682,958.14	\$0.00	0.00000	100.00
5.5 - 6.5	\$2,681,943.07	\$0.00	0.00000	100.00
6.5 - 7.5	\$2,769,740.09	\$0.00	0.00000	100.00
7.5 - 8.5	\$2,777,496.77	\$0.00	0.00000	100.00
8.5 - 9.5	\$2,826,288.53	\$0.00	0.00000	100.00
9.5 - 10.5	\$2,864,891.63	\$0.00	0.00000	100.00
10.5 - 11.5	\$2,957,742.46	\$9,713.02	0.00328	100.00
11.5 - 12.5	\$3,187,765.35	\$0.00	0.00000	99.67
12.5 - 13.5	\$2,982,531.31	\$0.00	0.00000	99.67
13.5 - 14.5	\$2,969,821.86	\$0.00	0.00000	99.67
14.5 - 15.5	\$2,995,644.48	\$0.00	0.00000	99.67
15.5 - 16.5	\$3,037,564.66	\$8,094.27	0.00266	99.67
16.5 - 17.5	\$3,066,662.13	\$23,065.98	0.00752	99.41
17.5 - 18.5	\$3,078,295.01	\$3,165.41	0.00103	98.66
18.5 - 19.5	\$2,645,454.89	\$1,783,649.14	0.67423	98.56
19.5 - 20.5	\$881,981.37	\$30,007.22	0.03402	32.11
20.5 - 21.5	\$867,663.86	\$53,653.49	0.06184	31.01
21.5 - 22.5	\$1,077,636.66	\$138,971.76	0.12896	29.10
22.5 - 23.5	\$970,110.88	\$75,740.93	0.07807	25.34
23.5 - 24.5	\$1,004,251.26	\$53,817.91	0.05359	23.37
24.5 - 25.5	\$1,059,052.47	\$93,795.76	0.08857	22.11
25.5 - 26.5	\$1,089,034.44	\$52,619.63	0.04832	20.15
26.5 - 27.5	\$1,062,400.88	\$165,951.19	0.15620	19.18
27.5 - 28.5	\$991,439.84	\$8,888.37	0.00897	16.18
28.5 - 29.5	\$1,015,817.93	\$47,074.55	0.04634	16.04
29.5 - 30.5	\$1,122,520.90	\$73,996.81	0.06592	15.30
30.5 - 31.5	\$1,287,072.70	\$41,656.85	0.03237	14.29
31.5 - 32.5	\$1,250,354.51	\$25,140.25	0.02011	13.83
32.5 - 33.5	\$1,240,225.99	\$18,101.14	0.01460	13.55
33.5 - 34.5	\$1,223,586.96	\$60,309.29	0.04929	13.35
34.5 - 35.5	\$1,165,228.13	\$18,506.29	0.01588	12.69
35.5 - 36.5	\$1,283,251.58	\$5,940.80	0.00463	12.49

### New England Power Company **ALL Divisions** 397.00 COMMUNICATION EQUIPMENT

### Observed Life Table

Retirement Expr. 2001 TO 2020 Placement Years 1917 TO 2020

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving A Beginning of Age Interval
36.5 - 37.5	\$1,280,000.51	\$288,269.06	0.22521	12.43
37.5 - 38.5	\$993,009.35	\$71,349.22	0.07185	9.63
38.5 - 39.5	\$921,732.24	\$22,572.29	0.02449	8.94
39.5 - 40.5	\$899,185.97	\$268,343.47	0.29843	8.72
40.5 - 41.5	\$631,405.51	\$168,731.41	0.26723	6.12
41.5 - 42.5	\$462,799.90	\$4,423.77	0.00956	4.48
42.5 - 43.5	\$459,222.14	\$29,479.54	0.06419	4.44
43.5 - 44.5	\$433,215.30	\$68,900.84	0.15905	4.16
44.5 - 45.5	\$364,563.99	\$9,181.68	0.02519	3.49
45.5 - 46.5	\$355,532.76	\$220,027.75	0.61887	3.41
46.5 - 47.5	\$139,142.65	\$5,833.66	0.04193	1.30
47.5 - 48.5	\$136,643.37	\$15,301.20	0.11198	1.24
48.5 - 49.5	\$147,082.97	\$23,854.78	0.16219	1.10
49.5 - 50.5	\$125,280.93	\$1,843.34	0.01471	0.93
50.5 - 51.5	\$124,182.47	\$80,355.42	0.64708	0.91
51.5 - 52.5	\$45,528.66	\$1,741.51	0.03825	0.32
52.5 - 53.5	\$44,051.26	\$1,069.47	0.02428	0.31
53.5 - 54.5	\$42,981.79	\$72.11	0.00168	0.30
54.5 - 55.5	\$43,914.49	\$26.02	0.00059	0.30
55.5 - 56.5	\$46,203.19	\$563.01	0.01219	0.30
56.5 - 57.5	\$46,257.83	\$470.00	0.01016	0.30
57.5 - 58.5	\$46,462.21	\$846.01	0.01821	0.29
58.5 - 59.5	\$45,828.22	\$3,472.70	0.07578	0.29
59.5 - 60.5	\$43,227.30	\$367.53	0.00850	0.27
60.5 - 61.5	\$43,109.82	\$32.45	0.00075	0.27
61.5 - 62.5	\$43,364.35	\$3,781.05	0.08719	0.26
62.5 - 63.5	\$40,088.43	\$2,846.77	0.07101	0.24
63.5 - 64.5	\$37,622.78	\$25,740.80	0.68418	0.22
64.5 - 65.5	\$11,977.64	\$2,052.74	0.17138	0.07
65.5 - 66.5	\$10,755.89	\$744.88	0.06925	0.06
66.5 - 67.5	\$10,011.01	\$1,701.61	0.16997	0.05
67.5 - 68.5	\$8,405.06	\$264.11	0.03142	0.05
68.5 - 69.5	\$8,427.93	\$0.00	0.00000	0.04
69.5 - 70.5	\$8,427.93	\$1,397.45	0.16581	0.04
70.5 - 71.5	\$7,030.48	\$1,922.08	0.27339	0.04
71.5 - 72.5	\$5,108.40	\$818.97	0.16032	0.03
72.5 - 73.5	\$4,289.43	\$473.06	0.11029	0.02

### New England Power Company **ALL Divisions** 397.00 COMMUNICATION EQUIPMENT

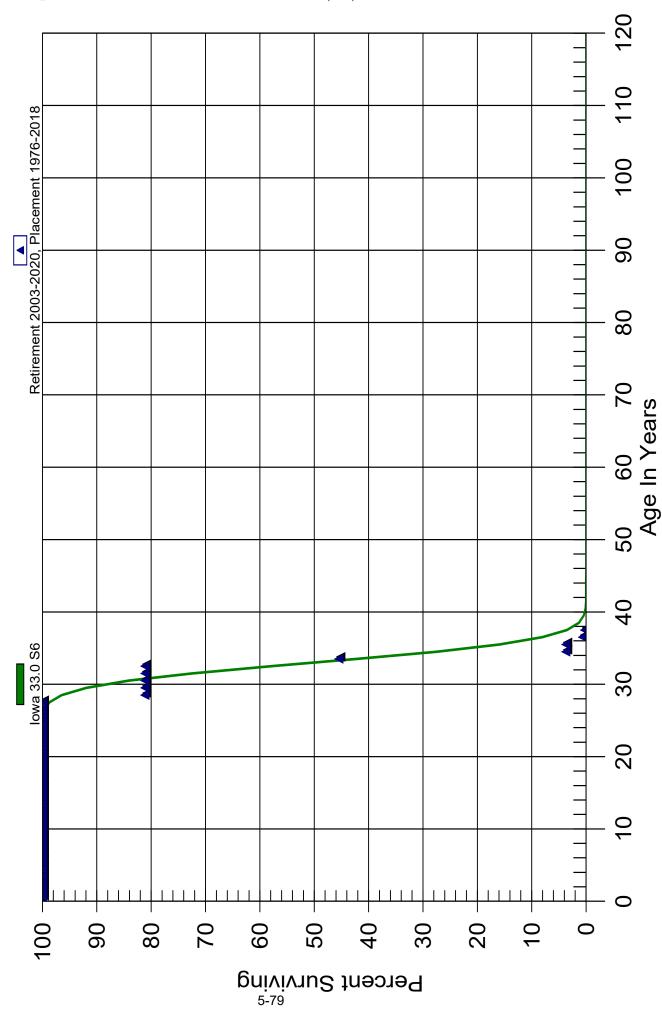
### Observed Life Table

Retirement Expr. 2001 TO 2020 Placement Years 1917 TO 2020

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
73.5 - 74.5	\$3,816.37	\$370.58	0.09710	0.02
74.5 - 75.5	\$3,445.79	\$713.22	0.20698	0.02
75.5 - 76.5	\$2,732.57	\$250.05	0.09151	0.01
76.5 - 77.5	\$2,543.21	\$286.98	0.11284	0.01
77.5 - 78.5	\$2,256.23	\$505.13	0.22388	0.01
78.5 - 79.5	\$1,751.10	\$381.12	0.21765	0.01
79.5 - 80.5	\$1,644.93	\$95.66	0.05815	0.01
80.5 - 81.5	\$1,549.27	\$830.99	0.53638	0.01
81.5 - 82.5	\$1,050.58	\$0.00	0.00000	0.00
82.5 - 83.5	\$1,050.58	\$95.66	0.09105	0.00
83.5 - 84.5	\$1,068.34	\$286.98	0.26862	0.00
84.5 - 85.5	\$781.36	\$0.00	0.00000	0.00
85.5 - 86.5	\$781.36	\$0.00	0.00000	0.00
86.5 - 87.5	\$781.36	\$0.00	0.00000	0.00
87.5 - 88.5	\$781.36	\$0.00	0.00000	0.00
88.5 - 89.5	\$781.36	\$0.00	0.00000	0.00
89.5 - 90.5	\$781.36	\$0.00	0.00000	0.00
90.5 - 91.5	\$781.36	\$0.00	0.00000	0.00
91.5 - 92.5	\$781.36	\$60.69	0.07767	0.00
92.5 - 93.5	\$720.67	\$0.00	0.00000	0.00
93.5 - 94.5	\$720.67	\$0.00	0.00000	0.00
94.5 - 95.5	\$720.67	\$607.25	0.84262	0.00
95.5 - 96.5	\$113.42	\$0.00	0.00000	0.00
96.5 - 97.5	\$113.42	\$0.00	0.00000	0.00
97.5 - 98.5	\$113.42	\$0.00	0.00000	0.00

# New England Power Company 398.00 MISCELLANEOUS EQUIPMENT ALL Divisions

Original And Smooth Survivor Curves



### New England Power Company **ALL Divisions** 398.00 MISCELLANEOUS EQUIPMENT

### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1976 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
0.0 - 0.5	\$219,543.97	\$0.00	0.00000	100.00
0.5 - 1.5	\$219,543.97	\$0.00	0.00000	100.00
1.5 - 2.5	\$219,543.97	\$0.00	0.00000	100.00
2.5 - 3.5	\$119,617.34	\$0.00	0.00000	100.00
3.5 - 4.5	\$119,617.34	\$0.00	0.00000	100.00
4.5 - 5.5	\$68,574.29	\$0.00	0.00000	100.00
5.5 - 6.5	\$68,574.29	\$0.00	0.00000	100.00
6.5 - 7.5	\$65,875.29	\$0.00	0.00000	100.00
7.5 - 8.5	\$45,735.01	\$0.00	0.00000	100.00
8.5 - 9.5	\$16,336.97	\$0.00	0.00000	100.00
9.5 - 10.5	\$0.00	\$0.00	0.00000	100.00
10.5 - 11.5	\$0.00	\$0.00	0.00000	100.00
11.5 - 12.5	\$0.00	\$0.00	0.00000	100.00
12.5 - 13.5	\$0.00	\$0.00	0.00000	100.00
13.5 - 14.5	\$0.00	\$0.00	0.00000	100.00
14.5 - 15.5	\$2,529.52	\$0.00	0.00000	100.00
15.5 - 16.5	\$2,529.52	\$0.00	0.00000	100.00
16.5 - 17.5	\$2,529.52	\$0.00	0.00000	100.00
17.5 - 18.5	\$2,529.52	\$0.00	0.00000	100.00
18.5 - 19.5	\$2,529.52	\$0.00	0.00000	100.00
19.5 - 20.5	\$2,529.52	\$0.00	0.00000	100.00
20.5 - 21.5	\$2,529.52	\$0.00	0.00000	100.00
21.5 - 22.5	\$2,529.52	\$0.00	0.00000	100.00
22.5 - 23.5	\$8,130.98	\$0.00	0.00000	100.00
23.5 - 24.5	\$8,130.98	\$0.00	0.00000	100.00
24.5 - 25.5	\$13,329.77	\$0.00	0.00000	100.00
25.5 - 26.5	\$13,380.65	\$0.00	0.00000	100.00
26.5 - 27.5	\$13,418.37	\$0.00	0.00000	100.00
27.5 - 28.5	\$13,418.37	\$2,529.52	0.18851	100.00
28.5 - 29.5	\$10,888.85	\$0.00	0.00000	81.15
29.5 - 30.5	\$10,888.85	\$0.00	0.00000	81.15
30.5 - 31.5	\$10,888.85	\$0.00	0.00000	81.15
31.5 - 32.5	\$10,888.85	\$0.00	0.00000	81.15
32.5 - 33.5	\$10,888.85	\$4,787.75	0.43969	81.15
33.5 - 34.5	\$6,101.10	\$5,601.46	0.91811	45.47
34.5 - 35.5	\$499.64	\$0.00	0.00000	3.72
35.5 - 36.5	\$499.64	\$411.04	0.82267	3.72

### New England Power Company **ALL Divisions** 398.00 MISCELLANEOUS EQUIPMENT

### Observed Life Table

Retirement Expr. 2003 TO 2020 Placement Years 1976 TO 2018

Age Interval	\$ Surviving At Beginning of Age Interval	\$ Retired During The Age Interval	Retirement Ratio	% Surviving At Beginning of Age Interval
36.5 - 37.5	\$88.60	\$50.88	0.57427	0.66

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### **SECTION 6**

### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Survivor Curve: R3 Average Service Life: 30

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<i>(1)</i>	(2)	(3)	(4)	(5)	(6)
1998	111,271.59	30.00	3,709.05	10.43	38,675.66
2019	10,913,750.32	30.00	363,791.20	28.53	10,377,848.12
<b>Total</b>	11,025,021.91	30.00	367,500.24	28.34	10,416,523.78

Composite Average Remaining Life ... 28.34 Years

### New England Power Company **ALL Divisions** 344.00 CONDUCTORS & GENERATORS

### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 30 Survivor Curve: R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1992	383,573.05	30.00	12,785.75	6.80	86,916.79
1994	419,696.00	30.00	13,989.85	7.89	110,433.35
2007	185,695.18	30.00	6,189.83	17.40	107,709.54
2017	14,084.05	30.00	469.47	26.58	12,478.61
2018	825.83	30.00	27.53	27.55	758.41
2019	20,107,919.09	30.00	670,263.08	28.53	19,120,551.98
Total	21,111,793.20	30.00	703,725.51	27.62	19,438,848.68

Composite Average Remaining Life ... 27.62 Years

### New England Power Company **ALL Divisions** 345.00 MISC OTHER PRODUCTION PLANT

### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 30 Survivor Curve: R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1992	29,906.16	30.00	996.87	6.80	6,776.67
1998	19,345.00	30.00	644.83	10.43	6,723.91
2002	20,559.65	30.00	685.32	13.34	9,141.46
2019	11,848,688.80	30.00	394,955.77	28.53	11,266,877.94
Total	11,918,499.61	30.00	397,282.79	28.42	11,289,519.99

Composite Average Remaining Life ... 28.42 Years

### New England Power Company **ALL Divisions** 348.00 ENERGY STORAGE EQUIPMENT

### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 Survivor Curve: R4

Year (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
2019	34,258,773.93	25.00	1,370,344.16	23.50	32,205,711.06
Total	34,258,773.93	25.00	1,370,344.16	23.50	32,205,711.06

Composite Average Remaining Life ... 23.50 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 47 Survivor Curve: R4

	Original Cost	Avg. Service Life	0	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1909	16,676.29	0.00	0.00	0.00	0.00
1914	96.10	0.00	0.00	0.00	0.00
1915	24.79	0.00	0.00	0.00	0.00
1917	18,624.05	0.00	0.00	0.00	0.00
1919	586.01	0.00	0.00	0.00	0.00
1920	21.19	0.00	0.00	0.00	0.00
1921	2,278.61	0.00	0.00	0.00	0.00
1927	13,034.51	0.00	0.00	0.00	0.00
1928	40,999.94	0.00	0.00	0.00	0.00
1929	5,894.65	0.00	0.00	0.00	0.00
1930	160,869.47	0.00	0.00	0.00	0.00
1932	233.70	0.00	0.00	0.00	0.00
1933	140.16	0.00	0.00	0.00	0.00
1936	2,375.00	0.00	0.00	0.00	0.00
1937	33,338.59	0.00	0.00	0.00	0.00
1938	138.24	0.00	0.00	0.00	0.00
1939	4,529.21	0.00	0.00	0.00	0.00
1940	3,862.07	0.00	0.00	0.00	0.00
1941	16,541.09	0.00	0.00	0.00	0.00
1942	1,437.86	0.00	0.00	0.00	0.00
1943	2,202.76	0.00	0.00	0.00	0.00
1944	450.43	0.00	0.00	0.00	0.00
1945	393.79	0.00	0.00	0.00	0.00
1946	364.05	0.00	0.00	0.00	0.00
1947	23,448.62	0.00	0.00	0.00	0.00
1948	10,200.66	0.00	0.00	0.00	0.00
1949	2,279.64	47.00	48.50	0.50	24.25

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 47 Survivor Curve: R4

Year Original Cost	<u> </u>	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
(1)	(2)	(3)	(4)	(5)	(6)
1950	6,257.84	47.00	133.14	0.51	67.42
1951	80,462.86	47.00	1,711.96	0.61	1,037.20
1952	8,818.82	47.00	187.63	0.76	142.50
1953	18,573.16	47.00	395.17	0.94	371.01
1954	59,110.99	47.00	1,257.67	1.11	1,395.65
1955	12,020.73	47.00	255.76	1.34	341.63
1956	1,301.15	47.00	27.68	1.56	43.29
1957	96,782.04	47.00	2,059.17	1.80	3,702.32
1958	2,174.63	47.00	46.27	2.04	94.34
1959	20,306.42	47.00	432.05	2.29	987.74
1960	575.00	47.00	12.23	2.54	31.06
1961	1,954.47	47.00	41.58	2.80	116.29
1962	76,578.80	47.00	1,629.32	3.05	4,965.53
1963	68,260.10	47.00	1,452.33	3.32	4,815.82
1964	254.74	47.00	5.42	3.59	19.45
1965	12,526.98	47.00	266.53	3.87	1,031.23
1966	4,823.79	47.00	102.63	4.16	426.68
1967	29,829.55	47.00	634.66	4.46	2,828.30
1968	43,159.72	47.00	918.28	4.77	4,379.40
1969	6,984.38	47.00	148.60	5.10	757.68
1970	141,134.97	47.00	3,002.84	5.45	16,357.02
1971	23,984.59	47.00	510.30	5.82	2,970.96
1972	108,460.46	47.00	2,307.64	6.22	14,362.20
1973	254,303.30	47.00	5,410.65	6.66	36,011.09
1974	729,113.05	47.00	15,512.87	7.12	110,450.52
1975	13,192.51	47.00	280.69	7.62	2,138.42
1976	108,268.00	47.00	2,303.55	8.15	18,778.33

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 47 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1977	79,529.44	47.00	1,692.10	8.72	14,754.39
1978	37,852.31	47.00	805.36	9.32	7,509.12
1979	9,055.14	47.00	192.66	9.95	1,917.36
1980	70,109.66	47.00	1,491.68	10.60	15,816.70
1981	48,487.16	47.00	1,031.63	11.27	11,629.69
1982	108,371.60	47.00	2,305.75	11.96	27,572.54
1983	43,765.17	47.00	931.16	12.66	11,786.14
1984	26,108.12	47.00	555.49	13.37	7,427.71
1985	1,676.70	47.00	35.67	14.10	503.04
1986	40,516.11	47.00	862.04	14.85	12,800.96
1987	21,546.82	47.00	458.44	15.61	7,156.95
1988	44,042.31	47.00	937.06	16.39	15,358.02
1989	151,696.47	47.00	3,227.55	17.18	55,460.72
1990	41,509.58	47.00	883.17	17.99	15,891.16
1991	358,656.61	47.00	7,630.91	18.82	143,601.56
1992	78,070.31	47.00	1,661.05	19.66	32,653.86
1993	249,358.28	47.00	5,305.44	20.51	108,831.10
1994	3,964,735.02	47.00	84,355.14	21.38	1,803,845.66
1995	26,246.66	47.00	558.43	22.27	12,433.93
1996	298,299.00	47.00	6,346.72	23.16	146,989.11
1997	410,417.73	47.00	8,732.20	24.07	210,145.37
1998	272,785.58	47.00	5,803.88	24.98	144,993.14
1999	606,807.48	47.00	12,910.66	25.91	334,496.61
2000	1,303,590.46	47.00	27,735.66	26.84	744,542.17
2001	2,131,516.68	47.00	45,350.92	27.79	1,260,270.23
2002	213,380.01	47.00	4,539.95	28.74	130,482.67
2003	1,267,715.36	47.00	26,972.37	29.70	801,064.65

### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 47 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
2004	99,692.47	47.00	2,121.09	30.66	65,041.12
2005	536,880.62	47.00	11,422.87	31.63	361,349.15
2006	5,006,253.39	47.00	106,514.86	32.61	3,473,284.63
2007	3,556,426.41	47.00	75,667.82	33.59	2,541,469.08
2008	929,359.89	47.00	19,773.40	34.57	683,556.61
2009	13,145,121.38	47.00	279,680.36	35.56	9,944,114.76
2010	3,408,975.12	47.00	72,530.59	36.54	2,650,510.04
2011	180,482.42	47.00	3,840.01	37.53	144,129.46
2012	386,287.67	47.00	8,218.80	38.53	316,635.49
2013	3,211,156.48	47.00	68,321.73	39.52	2,700,039.68
2014	538,412.17	47.00	11,455.45	40.51	464,111.79
2016	24,292.79	47.00	516.86	42.51	21,970.51
2017	125,813.23	47.00	2,676.85	43.51	116,456.75
2018	191,018.63	47.00	4,064.18	44.50	180,869.74
2019	21,873,884.64	47.00	465,396.69	45.50	21,176,468.71
2020	15,953,709.35	47.00	339,436.90	46.50	15,784,132.22
tal	83,363,866.96	34.40	1,766,046.68	37.90	66,932,721.58

Composite Average Remaining Life ... 37.90 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 39 Survivor Curve: L3

<i>Year</i> (1)	Original Cost (2)	Avg. Service Life (3)	Avg. Annual Accrual (4)	Avg. Remaining Life (5)	Future Annual Accruals (6)
1910	302.10	0.00	0.00	0.00	0.00
1916	14,572.14	0.00	0.00	0.00	0.00
1917	1,870.28	0.00	0.00	0.00	0.00
1918	1,144.12	0.00	0.00	0.00	0.00
1919	1,430.46	0.00	0.00	0.00	0.00
1921	41,284.00	0.00	0.00	0.00	0.00
1923	1,373.90	0.00	0.00	0.00	0.00
1924	4,638.72	0.00	0.00	0.00	0.00
1925	7,205.71	0.00	0.00	0.00	0.00
1926	117,955.09	0.00	0.00	0.00	0.00
1927	50,538.54	0.00	0.00	0.00	0.00
1928	68,238.23	0.00	0.00	0.00	0.00
1929	75,477.25	39.00	1,935.34	0.50	967.67
1930	461,322.98	39.00	11,828.96	0.65	7,717.91
1931	40,859.43	39.00	1,047.69	0.84	880.00
1932	6,886.15	39.00	176.57	1.02	180.85
1933	1,017.32	39.00	26.09	1.18	30.88
1934	1,807.43	39.00	46.35	1.37	63.61
1936	3,298.79	39.00	84.59	1.73	146.64
1937	68,714.87	39.00	1,761.94	1.91	3,357.63
1938	6,911.25	39.00	177.21	2.10	372.92
1939	7,047.29	39.00	180.70	2.28	412.23
1940	35,697.74	39.00	915.34	2.47	2,261.45
1941	78,822.00	39.00	2,021.11	2.67	5,398.45
1942	7,279.23	39.00	186.65	2.86	534.23
1943	1,386.06	39.00	35.54	3.07	109.00

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 39 Survivor Curve: L3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1944	14,624.38	39.00	374.99	3.26	1,222.97
1945	1,854.79	39.00	47.56	3.47	165.06
1946	17,713.77	39.00	454.21	3.67	1,666.50
1947	101,057.62	39.00	2,591.26	3.87	10,040.86
1948	87,439.18	39.00	2,242.06	4.09	9,165.67
1949	55,996.10	39.00	1,435.82	4.30	6,170.94
1950	174,898.06	39.00	4,484.63	4.52	20,254.95
1951	368,597.14	39.00	9,451.34	4.73	44,714.01
1952	913,774.94	39.00	23,430.46	4.96	116,108.44
1953	238,642.51	39.00	6,119.12	5.18	31,667.17
1954	729,308.28	39.00	18,700.47	5.41	101,089.50
1955	304,068.10	39.00	7,796.73	5.63	43,904.34
1956	58,432.66	39.00	1,498.29	5.86	8,783.73
1957	913,080.68	39.00	23,412.65	6.10	142,832.70
1958	2,663,504.05	39.00	68,295.93	6.34	432,863.55
1959	318,301.46	39.00	8,161.69	6.58	53,729.08
1960	304,760.76	39.00	7,814.49	6.83	53,347.17
1961	168,838.09	39.00	4,329.24	7.08	30,644.07
1962	461,704.95	39.00	11,838.75	7.33	86,753.49
1963	656,269.98	39.00	16,827.67	7.58	127,586.19
1964	367,866.00	39.00	9,432.59	7.84	73,955.61
1965	1,591,978.33	39.00	40,820.53	8.10	330,573.74
1966	413,078.83	39.00	10,591.91	8.36	88,548.09
1967	342,783.58	39.00	8,789.45	8.62	75,753.53
1968	1,923,578.44	39.00	49,323.22	8.88	437,996.96
1969	1,042,281.61	39.00	26,725.54	9.14	244,148.03
1970	649,684.40	39.00	16,658.81	9.39	156,398.00

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 39 Survivor Curve: L3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1971	2,126,610.74	39.00	54,529.25	9.64	525,545.54
1972	2,554,259.45	39.00	65,494.75	9.88	646,981.56
1973	6,496,781.37	39.00	166,586.48	10.11	1,684,772.89
1974	6,821,030.11	39.00	174,900.66	10.34	1,807,702.78
1975	2,652,217.55	39.00	68,006.53	10.55	717,556.66
1976	4,216,882.64	39.00	108,126.71	10.75	1,162,493.69
1977	1,703,701.70	39.00	43,685.27	10.95	478,167.82
1978	3,140,677.85	39.00	80,531.33	11.12	895,860.35
1979	611,828.22	39.00	15,688.12	11.30	177,223.42
1980	1,253,680.15	39.00	32,146.10	11.47	368,591.23
1981	1,714,293.05	39.00	43,956.85	11.63	511,228.03
1982	851,508.82	39.00	21,833.87	11.80	257,623.58
1983	484,739.56	39.00	12,429.39	11.97	148,794.74
1984	1,403,366.04	39.00	35,984.25	12.16	437,466.19
1985	626,711.19	39.00	16,069.74	12.36	198,565.40
1986	1,306,023.93	39.00	33,488.26	12.58	421,217.66
1987	746,058.44	39.00	19,129.97	12.83	245,357.92
1988	996,501.22	39.00	25,551.67	13.10	334,837.38
1989	17,538,209.26	39.00	449,703.98	13.42	6,033,582.45
1990	2,866,962.52	39.00	73,512.89	13.77	1,012,219.50
1991	11,730,354.65	39.00	300,782.54	14.16	4,259,400.55
1992	7,365,904.22	39.00	188,871.99	14.60	2,757,597.00
1993	16,617,828.88	39.00	426,104.16	15.08	6,426,206.74
1994	30,231,798.91	39.00	775,185.21	15.61	12,103,951.49
1995	6,366,736.71	39.00	163,251.95	16.19	2,643,486.41
1996	12,302,830.33	39.00	315,461.61	16.81	5,304,179.21
1997	20,806,368.98	39.00	533,504.13	17.48	9,326,917.55

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 39 Survivor Curve: L3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1998	16,383,556.29	39.00	420,097.08	18.19	7,640,743.22
1999	27,631,293.12	39.00	708,504.64	18.93	13,415,405.17
2000	15,592,459.41	39.00	399,812.26	19.71	7,880,707.02
2001	42,215,495.19	39.00	1,082,463.78	20.52	22,212,196.53
2002	13,272,067.02	39.00	340,314.19	21.35	7,266,612.99
2003	24,335,804.41	39.00	624,003.74	22.21	13,856,194.41
2004	10,654,695.07	39.00	273,201.14	23.08	6,304,815.23
2005	22,626,482.17	39.00	580,174.35	23.96	13,903,570.29
2006	83,581,450.70	39.00	2,143,144.19	24.87	53,294,069.74
2007	87,239,833.11	39.00	2,236,950.19	25.78	57,673,011.91
2008	26,412,367.41	39.00	677,249.69	26.71	18,090,007.43
2009	137,266,320.54	39.00	3,519,698.63	27.65	97,325,598.93
2010	15,540,429.48	39.00	398,478.14	28.60	11,397,845.73
2011	63,187,188.27	39.00	1,620,207.05	29.57	47,904,029.49
2012	68,771,057.60	39.00	1,763,385.19	30.54	53,851,923.41
2013	208,053,472.92	39.00	5,334,779.29	31.52	168,154,899.76
2014	60,780,720.54	39.00	1,558,501.88	32.51	50,664,633.46
2015	47,202,565.83	39.00	1,210,339.18	33.50	40,549,490.92
2016	148,959,722.44	39.00	3,819,533.66	34.50	131,773,580.90
2017	74,314,502.01	39.00	1,905,526.79	35.50	67,645,194.52
2018	47,570,522.32	39.00	1,219,774.10	36.50	44,521,087.07
2019	148,690,737.00	39.00	3,812,636.50	37.50	142,971,782.25
2020	39,429,086.60	39.00	1,011,016.41	38.50	38,923,578.40
Total	1,611,237,353.36	34.12	41,306,383.26	28.59	1,180,861,024.31

Composite Average Remaining Life ... 28.59 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1912	284,184.92	0.00	0.00	0.00	0.00
1913	43,964.40	0.00	0.00	0.00	0.00
1915	132,807.64	0.00	0.00	0.00	0.00
1923	1,797,450.74	0.00	0.00	0.00	0.00
1927	151,441.93	0.00	0.00	0.00	0.00
1928	597,697.38	0.00	0.00	0.00	0.00
1929	285,744.89	0.00	0.00	0.00	0.00
1930	1,974,849.15	60.00	32,914.06	0.50	16,457.03
1931	124,826.73	60.00	2,080.44	0.57	1,180.48
1938	507.49	60.00	8.46	1.93	16.32
1940	273,483.63	60.00	4,558.05	2.40	10,961.72
1941	646.05	60.00	10.77	2.67	28.73
1944	216.17	60.00	3.60	3.40	12.26
1947	656.85	60.00	10.95	4.21	46.09
1948	12,124.85	60.00	202.08	4.47	903.92
1949	16,432.98	60.00	273.88	4.75	1,299.77
1950	188,561.16	60.00	3,142.68	5.03	15,800.53
1951	3,226.22	60.00	53.77	5.32	286.14
1953	76,369.09	60.00	1,272.81	5.93	7,549.54
1955	234,701.97	60.00	3,911.69	6.58	25,754.14
1956	91,670.17	60.00	1,527.83	6.94	10,598.22
1957	46,516.26	60.00	775.27	7.31	5,666.10
1958	290,884.05	60.00	4,848.05	7.70	37,334.06
1959	16,539.68	60.00	275.66	8.12	2,237.28
1960	71,047.85	60.00	1,184.13	8.55	10,129.03
1961	172,825.06	60.00	2,880.41	9.02	25,982.09
1962	219,223.66	60.00	3,653.72	9.51	34,756.95

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1963	202,817.25	60.00	3,380.28	10.03	33,903.46
1964	383,313.48	60.00	6,388.54	10.58	67,579.91
1965	591,260.60	60.00	9,854.32	11.15	109,841.73
1966	112,897.00	60.00	1,881.61	11.75	22,105.38
1968	131,290.50	60.00	2,188.17	13.01	28,471.35
1970	3,286,974.48	60.00	54,782.76	14.34	785,548.05
1971	150,163.29	60.00	2,502.71	15.02	37,589.28
1972	688,849.04	60.00	11,480.79	15.72	180,428.64
1973	604,763.29	60.00	10,079.36	16.42	165,528.46
1974	181,797.62	60.00	3,029.95	17.14	51,934.43
1975	14,835.02	60.00	247.25	17.87	4,417.96
1976	546.19	60.00	9.10	18.61	169.42
1977	54,041.24	60.00	900.68	19.36	17,440.16
1978	522,689.17	60.00	8,711.46	20.13	175,383.56
1980	3,797.26	60.00	63.29	21.71	1,373.74
1981	522.20	60.00	8.70	22.51	195.91
1982	2,539.84	60.00	42.33	23.33	987.48
1983	12,699.33	60.00	211.65	24.15	5,112.39
1984	32,770.81	60.00	546.18	25.00	13,652.78
1985	640.38	60.00	10.67	25.85	275.90
1986	28,774.27	60.00	479.57	26.71	12,810.95
1987	31,335.12	60.00	522.25	27.59	14,406.81
1988	4,084.80	60.00	68.08	28.47	1,938.28
1989	532,609.17	60.00	8,876.79	29.36	260,642.65
1990	59,866.62	60.00	997.77	30.27	30,198.93
1991	6,188.01	60.00	103.13	31.18	3,215.53
1992	31,089.68	60.00	518.16	32.10	16,632.01

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1993	12,460.05	60.00	207.67	33.02	6,858.16
1994	33,516.88	60.00	558.61	33.96	18,970.44
1996	75,561.00	60.00	1,259.35	35.85	45,145.25
1997	3,687,403.22	60.00	61,456.55	36.80	2,261,708.95
1998	82,855.51	60.00	1,380.92	37.76	52,144.00
2002	185,405.04	60.00	3,090.08	41.64	128,663.50
2003	1,045,979.90	60.00	17,432.95	42.62	742,928.04
2004	485,346.20	60.00	8,089.08	43.60	352,660.67
2006	1,072,109.73	60.00	17,868.45	45.57	814,223.33
2007	1,050,396.36	60.00	17,506.56	46.56	815,026.24
2008	1,076,076.32	60.00	17,934.56	47.55	852,710.08
2009	218,533.90	60.00	3,642.22	48.54	176,783.33
2010	696,748.05	60.00	11,612.44	49.53	575,164.62
2012	398,375.80	60.00	6,639.58	51.52	342,064.20
2014	1,577,545.18	60.00	26,292.35	53.51	1,406,937.35
2015	1,569,745.41	60.00	26,162.35	54.51	1,426,070.35
2016	96,927.00	60.00	1,615.45	55.51	89,667.22
2018	2,852,292.21	60.00	47,538.07	57.50	2,733,571.19
2019	1,229,680.12	60.00	20,494.61	58.50	1,198,965.62
2020	943,137.75	60.00	15,718.92	59.50	935,284.55
tal	33,171,852.26	54.32	497,974.63	34.59	17,224,332.62

Composite Average Remaining Life ... 34.59 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 58 Survivor Curve: R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1909	3,849.09	0.00	0.00	0.00	0.00
1912	137.92	0.00	0.00	0.00	0.00
1917	961.80	58.00	16.58	1.13	18.67
1921	1,201.74	58.00	20.72	2.18	45.27
1923	59,021.12	58.00	1,017.60	2.71	2,756.98
1927	1,057.13	58.00	18.23	3.84	69.91
1929	11,357.85	58.00	195.82	4.42	864.72
1930	38,622.21	58.00	665.90	4.70	3,129.90
1931	17,427.90	58.00	300.48	4.99	1,498.77
1937	1,399.10	58.00	24.12	6.74	162.50
1938	892.04	58.00	15.38	7.03	108.12
1939	119.59	58.00	2.06	7.33	15.12
1940	26,303.72	58.00	453.51	7.63	3,459.27
1941	7,777.00	58.00	134.09	7.93	1,063.05
1942	6,340.40	58.00	109.32	8.23	900.04
1943	225.58	58.00	3.89	8.55	33.24
1944	732.89	58.00	12.64	8.86	111.94
1945	11,025.06	58.00	190.09	9.18	1,744.56
1946	21,828.06	58.00	376.34	9.50	3,576.39
1947	965.01	58.00	16.64	9.84	163.66
1948	3,748.15	58.00	64.62	10.17	657.45
1949	5,230.75	58.00	90.19	10.52	948.64
1950	99,425.14	58.00	1,714.22	10.87	18,639.29
1951	8,480.80	58.00	146.22	11.23	1,642.57
1952	514.92	58.00	8.88	11.60	103.01
1953	52,088.19	58.00	898.07	11.98	10,759.42
1954	4,284.79	58.00	73.88	12.37	913.68

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 58 Survivor Curve: R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1955	4,788.42	58.00	82.56	12.76	1,053.77
1956	181,797.87	58.00	3,134.44	13.17	41,278.91
1957	32,863.75	58.00	566.61	13.58	7,697.32
1958	30,737.04	58.00	529.95	14.01	7,424.26
1959	70,405.08	58.00	1,213.88	14.44	17,533.92
1960	143,662.06	58.00	2,476.92	14.89	36,880.68
1961	67,616.43	58.00	1,165.80	15.34	17,887.86
1962	1,549,089.55	58.00	26,708.36	15.81	422,251.19
1963	235,278.18	58.00	4,056.51	16.29	66,062.90
1964	835,182.68	58.00	14,399.66	16.77	241,506.79
1965	398,048.22	58.00	6,862.88	17.27	118,499.70
1966	499,002.25	58.00	8,603.46	17.77	152,916.66
1967	102,053.33	58.00	1,759.54	18.29	32,183.59
1968	427,964.68	58.00	7,378.68	18.82	138,838.48
1969	7,955.39	58.00	137.16	19.35	2,654.65
1970	3,127,778.97	58.00	53,927.07	19.90	1,073,260.79
1971	2,696,929.36	58.00	46,498.65	20.46	951,346.17
1972	1,734,974.45	58.00	29,913.27	21.03	628,934.14
1973	1,700,497.47	58.00	29,318.84	21.60	633,380.69
1974	4,081,279.33	58.00	70,366.68	22.19	1,561,474.04
1975	937,182.53	58.00	16,158.27	22.79	368,200.98
1976	623,788.30	58.00	10,754.94	23.39	251,576.89
1977	5,449,898.80	58.00	93,963.50	24.01	2,255,862.06
1978	221,889.49	58.00	3,825.67	24.63	94,237.15
1979	3,161,085.35	58.00	54,501.31	25.26	1,376,959.32
1980	116,643.00	58.00	2,011.08	25.91	52,103.89
1981	1,013,590.49	58.00	17,475.65	26.56	464,163.77

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 58 Survivor Curve: R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1982	551,250.82	58.00	9,504.30	27.22	258,718.04
1983	657,333.94	58.00	11,333.31	27.89	316,069.57
1984	1,237,334.05	58.00	21,333.28	28.57	609,421.73
1985	455,633.08	58.00	7,855.72	29.25	229,802.00
1986	632,084.60	58.00	10,897.98	29.95	326,359.33
1987	322,549.30	58.00	5,561.18	30.65	170,436.28
1988	1,965,629.67	58.00	33,890.07	31.36	1,062,723.01
1989	46,986,192.43	58.00	810,104.42	32.08	25,984,772.53
1990	882,948.95	58.00	15,223.21	32.80	499,313.63
1991	2,029,260.65	58.00	34,987.15	33.53	1,173,226.28
1992	1,554,572.54	58.00	26,802.90	34.27	918,634.32
1993	4,025,451.72	58.00	69,404.14	35.02	2,430,623.49
1994	1,907,305.13	58.00	32,884.48	35.77	1,176,432.37
1995	2,614,348.58	58.00	45,074.84	36.54	1,646,898.64
1996	6,469,519.61	58.00	111,543.12	37.31	4,161,214.31
1997	16,134,906.57	58.00	278,187.24	38.08	10,593,288.21
1998	2,431,987.44	58.00	41,930.70	38.86	1,629,534.63
1999	3,556,556.92	58.00	61,319.77	39.65	2,431,434.63
2000	15,166,832.33	58.00	261,496.35	40.45	10,576,766.12
2001	5,671,585.99	58.00	97,785.68	41.25	4,033,405.53
2002	10,884,034.64	58.00	187,655.23	42.06	7,891,994.21
2003	10,134,034.73	58.00	174,724.23	42.87	7,490,448.03
2004	58,663,570.72	58.00	1,011,437.95	43.69	44,189,951.82
2005	16,020,963.57	58.00	276,222.71	44.52	12,296,134.68
2006	17,893,552.40	58.00	308,508.63	45.35	13,990,116.01
2007	18,141,188.08	58.00	312,778.20	46.19	14,445,769.23
2008	41,140,757.00	58.00	709,321.34	47.03	33,357,513.04

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 58 Survivor Curve: R2

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
2009	4,380,239.59	58.00	75,521.15	47.88	3,615,700.88
2010	10,953,895.39	58.00	188,859.72	48.73	9,203,352.51
2011	32,325,132.96	58.00	557,328.26	49.59	27,638,327.44
2012	13,478,450.48	58.00	232,386.40	50.45	11,724,955.19
2013	19,226,970.91	58.00	331,498.54	51.32	17,014,097.69
2014	49,731,006.35	58.00	857,428.66	52.20	44,757,642.56
2015	62,563,015.47	58.00	1,078,669.56	53.08	57,255,336.92
2016	44,789,362.91	58.00	772,228.16	53.96	41,672,089.05
2017	45,141,363.83	58.00	778,297.12	54.85	42,691,884.01
2018	27,116,792.32	58.00	467,529.55	55.75	26,063,289.19
2019	39,811,421.62	58.00	686,401.83	56.64	38,880,688.49
2020	26,680,444.22	58.00	460,006.33	57.55	26,472,059.16
otal	694,166,481.93	56.75	11,968,284.22	46.95	561,949,981.41

Composite Average Remaining Life ... 46.95 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 Survivor Curve: S0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1909	4,845.72	65.00	74.55	6.37	474.92
1912	9,108.27	65.00	140.13	7.37	1,032.68
1915	3,257.90	65.00	50.12	8.37	419.75
1917	12,236.27	65.00	188.25	9.05	1,703.43
1918	360.23	65.00	5.54	9.39	52.04
1919	3,522.07	65.00	54.19	9.73	527.01
1921	17,093.51	65.00	262.98	10.41	2,736.83
1922	7,999.01	65.00	123.06	10.75	1,323.16
1923	741,968.25	65.00	11,414.90	11.09	126,621.21
1927	32,760.48	65.00	504.01	12.48	6,290.06
1928	201,866.13	65.00	3,105.63	12.83	39,843.40
1929	29,346.15	65.00	451.48	13.18	5,951.78
1930	2,032,709.64	65.00	31,272.46	13.54	423,285.09
1931	29,359.93	65.00	451.69	13.89	6,275.07
1938	18.03	65.00	0.28	16.44	4.56
1939	36,962.49	65.00	568.65	16.81	9,557.86
1940	60,165.83	65.00	925.63	17.18	15,905.27
1941	3,562.67	65.00	54.81	17.56	962.46
1942	1,600.35	65.00	24.62	17.94	441.70
1943	41.10	65.00	0.63	18.32	11.59
1944	10,195.72	65.00	156.86	18.71	2,934.47
1945	5,660.16	65.00	87.08	19.10	1,662.80
1946	4,512.60	65.00	69.42	19.49	1,352.85
1947	27,831.44	65.00	428.18	19.88	8,512.05
1948	1,122,672.66	65.00	17,271.89	20.28	350,222.11
1949	6,115.81	65.00	94.09	20.68	1,945.43
1950	84,378.00	65.00	1,298.12	21.08	27,363.51

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 Survivor Curve: S0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1951	27,654.25	65.00	425.45	21.49	9,141.10
1952	39,455.00	65.00	607.00	21.90	13,290.41
1953	44,961.33	65.00	691.71	22.31	15,431.01
1954	324.35	65.00	4.99	22.72	113.40
1955	183,347.89	65.00	2,820.74	23.15	65,286.47
1956	430,062.45	65.00	6,616.35	23.57	155,941.17
1957	214,266.35	65.00	3,296.41	24.00	79,103.01
1958	166,960.48	65.00	2,568.62	24.43	62,747.38
1959	10,674.80	65.00	164.23	24.86	4,083.34
1960	267,693.52	65.00	4,118.36	25.30	104,209.82
1961	259,778.33	65.00	3,996.59	25.75	102,901.38
1962	1,729,785.85	65.00	26,612.09	26.20	697,123.48
1963	1,587,216.28	65.00	24,418.72	26.65	650,720.90
1964	1,230,070.34	65.00	18,924.16	27.11	512,945.86
1965	81,581.75	65.00	1,255.10	27.57	34,599.77
1966	1,130,607.98	65.00	17,393.97	28.03	487,612.00
1967	80,998.14	65.00	1,246.13	28.50	35,520.78
1968	277,177.01	65.00	4,264.26	28.98	123,581.72
1969	35,444.46	65.00	545.30	29.46	16,065.91
1970	5,571,282.17	65.00	85,712.05	29.95	2,566,948.13
1971	3,475,392.88	65.00	53,467.59	30.44	1,627,603.55
1972	824,762.72	65.00	12,688.66	30.94	392,555.64
1973	458,310.24	65.00	7,050.93	31.44	221,689.28
1974	4,089,687.85	65.00	62,918.29	31.95	2,010,167.29
1975	200,626.30	65.00	3,086.56	32.46	100,202.82
1976	1,303,246.12	65.00	20,049.94	32.99	661,349.72
1977	3,574,524.39	65.00	54,992.69	33.51	1,842,876.46

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 Survivor Curve: S0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1978	212,415.33	65.00	3,267.93	34.04	111,255.79
1979	4,748,698.46	65.00	73,056.91	34.58	2,526,562.00
1980	124,029.32	65.00	1,908.14	35.13	67,033.31
1981	1,422,038.74	65.00	21,877.52	35.68	780,633.94
1982	235,187.50	65.00	3,618.27	36.24	131,135.04
1983	775,621.36	65.00	11,932.64	36.81	439,218.15
1984	875,925.61	65.00	13,475.78	37.38	503,766.40
1985	276,976.77	65.00	4,261.18	37.96	161,767.95
1986	794,281.01	65.00	12,219.71	38.55	471,110.27
1987	356,528.14	65.00	5,485.05	39.15	214,731.23
1988	1,816,907.49	65.00	27,952.43	39.75	1,111,234.74
1989	29,689,022.50	65.00	456,754.27	40.37	18,438,153.42
1990	619,738.98	65.00	9,534.45	40.99	390,798.36
1991	5,400,216.55	65.00	83,080.27	41.62	3,457,658.09
1992	1,254,094.97	65.00	19,293.77	42.26	815,267.55
1993	2,617,630.01	65.00	40,271.24	42.90	1,727,775.10
1994	852,570.69	65.00	13,116.47	43.56	571,331.70
1995	981,106.01	65.00	15,093.94	44.22	667,527.16
1996	4,275,299.66	65.00	65,773.85	44.90	2,953,125.62
1997	18,387,052.98	65.00	282,877.79	45.58	12,894,711.32
1998	1,306,321.68	65.00	20,097.26	46.28	930,033.44
1999	2,499,119.47	65.00	38,448.00	46.98	1,806,389.80
2000	5,739,518.20	65.00	88,300.30	47.70	4,211,512.86
2001	3,513,401.12	65.00	54,052.33	48.42	2,617,344.99
2002	11,978,400.29	65.00	184,283.11	49.16	9,059,179.09
2003	9,787,942.43	65.00	150,583.76	49.90	7,514,868.96
2004	25,993,304.01	65.00	399,897.05	50.66	20,260,307.34

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 65 Survivor Curve: S0.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
2005	8,082,414.53	65.00	124,344.86	51.43	6,395,293.50
2006	11,484,166.83	65.00	176,679.52	52.21	9,225,138.20
2007	14,300,299.38	65.00	220,004.64	53.01	11,661,380.65
2008	27,641,479.27	65.00	425,253.60	53.81	22,883,434.40
2009	12,453,777.78	65.00	191,596.61	54.63	10,466,241.67
2010	45,887,820.08	65.00	705,966.59	55.46	39,151,145.15
2011	26,586,801.07	65.00	409,027.78	56.30	23,027,264.40
2012	43,316,681.60	65.00	666,410.60	57.15	38,088,385.36
2013	23,920,889.12	65.00	368,013.74	58.02	21,352,322.48
2014	33,406,699.43	65.00	513,949.31	58.90	30,273,877.06
2015	28,699,251.13	65.00	441,527.02	59.80	26,403,665.83
2016	20,005,946.91	65.00	307,783.85	60.71	18,685,397.24
2017	55,065,403.59	65.00	847,160.20	61.64	52,214,725.51
2018	24,880,706.90	65.00	382,780.17	62.57	23,951,822.78
2019	4,759,678.43	65.00	73,225.83	63.53	4,652,097.42
2020	5,171,072.21	65.00	79,554.97	64.50	5,131,534.88
tal	553,982,481.19	65.00	8,522,808.89	53.04	452,029,385.04

Composite Average Remaining Life ... 53.04 Years

### New England Power Company ALL Divisions

357.00 UNDERGROUND CONDUIT

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 Survivor Curve: R5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1919	2,883,866.88	0.00	0.00	0.00	0.00
1929	372,598.05	0.00	0.00	0.00	0.00
1934	186,546.48	0.00	0.00	0.00	0.00
1942	46,438.03	60.00	773.97	0.92	715.05
1953	254,266.36	60.00	4,237.81	3.39	14,367.05
1956	46,316.49	60.00	771.95	4.23	3,266.23
1958	46,227.04	60.00	770.46	4.93	3,800.34
1963	3,194.38	60.00	53.24	7.17	381.86
1964	13,201.25	60.00	220.02	7.71	1,696.71
1973	58,600.54	60.00	976.68	13.86	13,541.19
1974	44,331.38	60.00	738.86	14.68	10,843.59
1993	127,305.30	60.00	2,121.77	32.50	68,965.40
1999	1,008,413.50	60.00	16,807.03	38.50	647,062.72
2000	2,767.57	60.00	46.13	39.50	1,821.98
2001	3,906.38	60.00	65.11	40.50	2,636.80
2005	314,959.22	60.00	5,249.36	44.50	233,594.09
2012	3,814,424.38	60.00	63,574.26	51.50	3,274,043.20
2016	30,337,880.85	60.00	505,635.46	55.50	28,062,521.28
2017	760,398.47	60.00	12,673.41	56.50	716,041.53
2020	26,994.69	60.00	449.92	59.50	26,769.73
tal	40,352,637.24	51.00	615,165.43	53.78	33,082,068.74

Composite Average Remaining Life ... 53.78 Years

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 Survivor Curve: R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1919	64,744.90	55.00	1,177.18	0.50	588.59
1929	288,095.28	55.00	5,238.09	2.83	14,842.80
1934	242,547.36	55.00	4,409.94	4.06	17,909.93
1941	24,265.88	55.00	441.20	5.61	2,474.49
1942	61,152.30	55.00	1,111.86	5.83	6,481.72
1948	306.28	55.00	5.57	7.25	40.37
1953	30,875.33	55.00	561.37	8.58	4,814.57
1956	67,072.26	55.00	1,219.49	9.48	11,559.48
1958	57,762.76	55.00	1,050.23	10.14	10,652.05
1964	66,272.85	55.00	1,204.96	12.47	15,030.14
1968	7,829.89	55.00	142.36	14.34	2,041.68
1972	24,220.02	55.00	440.36	16.46	7,247.34
1973	2,120,811.78	55.00	38,560.14	17.02	656,446.99
1974	3,443,917.74	55.00	62,616.56	17.60	1,102,169.53
1975	29,858.46	55.00	542.88	18.20	9,878.71
1979	2,686.57	55.00	48.85	20.70	1,011.32
1988	154,196.83	55.00	2,803.57	27.00	75,693.46
1991	72,966.70	55.00	1,326.66	29.27	38,832.26
1992	1,874.11	55.00	34.07	30.05	1,023.82
1993	535,853.57	55.00	9,742.77	30.83	300,372.50
1998	52,710.86	55.00	958.38	34.87	33,417.60
1999	12,385,479.30	55.00	225,190.07	35.70	8,039,281.65
2000	272.00	55.00	4.95	36.54	180.70
2001	392,479.00	55.00	7,135.97	37.38	266,766.15
2003	60,613.55	55.00	1,102.06	39.09	43,083.35
2004	43,397.91	55.00	789.05	39.96	31,529.63
2005	528,991.42	55.00	9,618.01	40.83	392,709.54

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 55 Survivor Curve: R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
2006	178,122.65	55.00	3,238.59	41.71	135,076.38
2007	1,742,942.32	55.00	31,689.80	42.59	1,349,699.23
2010	1,704,137.21	55.00	30,984.25	45.28	1,402,851.22
2011	764,930.17	55.00	13,907.79	46.18	642,285.47
2012	15,555,459.34	55.00	282,825.95	47.09	13,318,829.93
2014	207,133.76	55.00	3,766.06	48.93	184,258.26
2016	8,359,498.71	55.00	151,990.57	50.78	7,717,787.59
2017	288,591.19	55.00	5,247.10	51.71	271,327.79
2018	131,476.71	55.00	2,390.48	52.65	125,847.02
Total	49,693,546.97	55.00	903,517.19	40.10	36,234,043.27

Composite Average Remaining Life ... 40.10 Years

## New England Power Company ALL Divisions 359.00 ROADS & TRAILS

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 Survivor Curve: R5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1923	74,371.39	0.00	0.00	0.00	0.00
1936	4,081.71	0.00	0.00	0.00	0.00
1939	2,339.82	0.00	0.00	0.00	0.00
1946	93.81	0.00	0.00	0.00	0.00
1947	1,155.40	0.00	0.00	0.00	0.00
1949	9,933.03	0.00	0.00	0.00	0.00
1950	12,933.61	0.00	0.00	0.00	0.00
1954	231.67	50.00	4.63	0.62	2.86
1955	14,851.36	50.00	297.03	0.80	238.78
1956	127,790.83	50.00	2,555.84	1.02	2,599.77
1957	19,744.83	50.00	394.90	1.25	492.54
1958	19,628.75	50.00	392.58	1.49	584.94
1959	14,719.18	50.00	294.39	1.73	509.20
1960	103,297.73	50.00	2,065.97	1.94	4,017.61
1961	70,212.45	50.00	1,404.26	2.14	3,004.26
1962	38,394.15	50.00	767.89	2.33	1,790.26
1963	198,158.67	50.00	3,963.20	2.54	10,051.51
1964	148,062.36	50.00	2,961.27	2.76	8,182.89
1965	10,631.73	50.00	212.64	3.02	641.64
1966	269,093.97	50.00	5,381.92	3.30	17,767.75
1968	1,670.13	50.00	33.40	3.96	132.35
1970	582,606.12	50.00	11,652.21	4.75	55,392.90
1971	74,652.14	50.00	1,493.05	5.20	7,765.13
1972	265.76	50.00	5.32	5.68	30.21
1973	134,412.23	50.00	2,688.26	6.20	16,671.63
1974	118,777.09	50.00	2,375.56	6.76	16,050.89
1977	106,526.62	50.00	2,130.55	8.64	18,409.04

#### New England Power Company **ALL Divisions** 359.00 ROADS & TRAILS

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 Survivor Curve: R5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1978	58,205.37	50.00	1,164.12	9.34	10,871.39
1979	152,891.47	50.00	3,057.85	10.07	30,791.40
1981	11,396.67	50.00	227.94	11.62	2,648.72
1982	30,445.46	50.00	608.91	12.44	7,572.26
1983	103,050.24	50.00	2,061.02	13.27	27,358.16
1987	30,562.27	50.00	611.25	16.82	10,280.33
1989	778,028.03	50.00	15,560.68	18.68	290,722.22
1990	31,803.61	50.00	636.08	19.63	12,488.67
1992	53,925.23	50.00	1,078.51	21.57	23,258.66
1993	2,976.43	50.00	59.53	22.54	1,341.99
1995	206,065.00	50.00	4,121.33	24.52	101,041.17
2013	843,075.18	50.00	16,861.63	42.50	716,612.97
2015	180,487.33	50.00	3,609.77	44.50	160,633.58
2016	831,242.61	50.00	16,624.97	45.50	756,430.22
2018	917,513.75	50.00	18,350.41	47.50	871,637.72
2019	163,355.89	50.00	3,267.14	48.50	158,455.18
otal	6,553,661.08	41.86	128,976.00	25.95	3,346,480.81

Composite Average Remaining Life ... 25.95 Years

#### New England Power Company **ALL Divisions** 362.00 STATION EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 45 Survivor Curve: R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1938	17,466.73	45.00	388.15	0.50	194.07
1948	332.20	45.00	7.38	2.93	21.64
1957	11,331.13	45.00	251.80	4.94	1,243.04
1962	1,872.70	45.00	41.62	6.14	255.51
1964	2,960.79	45.00	65.80	6.67	438.67
1966	3,362.82	45.00	74.73	7.23	540.24
1968	5,487.00	45.00	121.93	7.85	956.74
1969	522.57	45.00	11.61	8.18	94.94
1970	11,968.00	45.00	265.95	8.52	2,266.66
1971	1,198.19	45.00	26.63	8.89	236.63
1973	641.15	45.00	14.25	9.67	137.77
1978	5,870.57	45.00	130.46	11.96	1,560.75
otal	63,013.85	45.00	1,400.30	5.67	7,946.65

Composite Average Remaining Life ... 5.67 Years

#### New England Power Company **ALL Divisions**

364.00 POLES, TOWERS, AND FIXTURES

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 35 Survivor Curve: R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1938	783.11	0.00	0.00	0.00	0.00
1955	95.87	0.00	0.00	0.00	0.00
1968	910.52	35.00	26.01	1.64	42.56
1970	30,373.28	35.00	867.81	2.14	1,857.23
1971	45.04	35.00	1.29	2.40	3.08
1978	36,900.75	35.00	1,054.31	4.26	4,486.45
1987	37.94	35.00	1.08	7.80	8.46
1992	5,304.60	35.00	151.56	10.68	1,618.25
1993	6,093.32	35.00	174.09	11.32	1,971.35
1999	2,596.93	35.00	74.20	15.63	1,159.47
2000	733.01	35.00	20.94	16.40	343.53
2003	3,360.66	35.00	96.02	18.83	1,807.83
Total	87,235.03	29.17	2,467.31	5.39	13,298.22

Composite Average Remaining Life ... 5.39 Years

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 35 Survivor Curve: R3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1938	208.39	0.00	0.00	0.00	0.00
1955	1,135.08	0.00	0.00	0.00	0.00
1968	2,143.35	35.00	61.24	1.64	100.20
1970	19,488.37	35.00	556.81	2.14	1,191.65
1978	83,670.59	35.00	2,390.59	4.26	10,172.81
1987	108.55	35.00	3.10	7.80	24.19
1992	12,243.28	35.00	349.81	10.68	3,735.01
1993	2,265.72	35.00	64.73	11.32	733.02
1994	218.24	35.00	6.24	11.99	74.78
otal	121,481.57	27.22	3,432.52	4.67	16,031.66

Composite Average Remaining Life ... 4.67 Years

#### New England Power Company **ALL Divisions** 366.00 UNDERGROUND CONDUIT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 60 Survivor Curve: R5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1978	1,060.79	60.00	17.68	18.10	320.04
1993	56.78	60.00	0.95	32.50	30.76
<b>Total</b>	1,117.57	60.00	18.63	18.83	350.80

Composite Average Remaining Life ... 18.83 Years

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 35 Survivor Curve: R2.5

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1978	15,729.80	35.00	449.42	5.59	2,514.15
Total	15,729.80	35.00	449.42	5.59	2,514.15

Composite Average Remaining Life ... 5.59 Years

#### New England Power Company **ALL Divisions** 368.00 LINE TRANSFORMERS-INSTALLATION

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 Survivor Curve: S3

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
(1)	(2)	(3)	(4)	(5)	(6)
1976	1,916.34	25.00	76.65	0.77	59.27
1978	9,791.57	25.00	391.66	1.02	397.55
1987	365.02	25.00	14.60	2.52	36.83
1993	242.02	25.00	9.68	4.08	39.49
Total	12,314.95	25.00	492.60	1.08	533.14

Composite Average Remaining Life ... 1.08 Years

### New England Power Company ALL Divisions

370.00 LARGE METERS-INSTALLATION

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 45 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1958	10,375.65	45.00	230.57	1.34	309.16
1960	6,331.78	45.00	140.71	1.78	251.03
1962	1,246.14	45.00	27.69	2.28	63.22
1963	3,099.94	45.00	68.89	2.54	174.99
1965	6,091.88	45.00	135.37	3.06	413.62
1966	3,793.02	45.00	84.29	3.33	280.43
1968	3,258.45	45.00	72.41	3.89	281.69
1970	68,782.13	45.00	1,528.48	4.49	6,862.72
1971	541,530.00	45.00	12,033.94	4.82	57,959.55
1972	110,193.33	45.00	2,448.73	5.16	12,643.15
1973	229,906.80	45.00	5,109.02	5.53	28,272.14
1974	174,402.17	45.00	3,875.59	5.93	22,994.10
1975	72,317.81	45.00	1,607.05	6.36	10,226.39
1976	65,750.41	45.00	1,461.11	6.83	9,975.68
1977	72,923.95	45.00	1,620.52	7.33	11,873.48
1978	42,026.36	45.00	933.91	7.87	7,347.08
1979	25,920.08	45.00	576.00	8.44	4,861.07
1980	35,162.48	45.00	781.38	9.04	7,066.99
1981	16,927.91	45.00	376.17	9.68	3,640.33
1982	78,282.23	45.00	1,739.60	10.33	17,975.95
1983	6,275.72	45.00	139.46	11.01	1,535.61
1985	14,085.66	45.00	313.01	12.41	3,883.31
1986	69,819.75	45.00	1,551.54	13.13	20,366.86
1987	96,055.97	45.00	2,134.57	13.87	29,598.97
1988	184,996.89	45.00	4,111.02	14.62	60,106.42
1989	829,457.57	45.00	18,432.30	15.39	283,704.93
1990	120,383.70	45.00	2,675.18	16.18	43,282.49

### New England Power Company ALL Divisions

370.00 LARGE METERS-INSTALLATION

# Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 45 Survivor Curve: R4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
1991	518,873.80	45.00	11,530.48	16.98	195,825.35
1992	944,358.76	45.00	20,985.65	17.81	373,679.64
1993	234,043.74	45.00	5,200.95	18.64	96,961.32
1994	204,792.02	45.00	4,550.91	19.49	88,718.50
1995	66,262.74	45.00	1,472.50	20.36	29,981.18
1996	36,264.15	45.00	805.87	21.24	17,118.64
1997	328,189.99	45.00	7,293.08	22.14	161,438.56
1998	282,053.15	45.00	6,267.82	23.04	144,418.26
1999	233,072.55	45.00	5,179.37	23.96	124,086.20
2000	643,336.20	45.00	14,296.29	24.88	355,759.08
2001	477,269.35	45.00	10,605.94	25.82	273,872.45
2002	18,919.49	45.00	420.43	26.77	11,254.03
2003	60,947.64	45.00	1,354.39	27.72	37,544.62
2004	9,239.18	45.00	205.31	28.68	5,888.54
2006	91,598.45	45.00	2,035.51	30.62	62,325.07
2008	78,209.70	45.00	1,737.99	32.58	56,615.47
2010	236,863.30	45.00	5,263.60	34.55	181,837.82
2011	107,763.14	45.00	2,394.73	35.54	85,097.94
2012	51,118.41	45.00	1,135.96	36.53	41,493.18
2013	116,588.25	45.00	2,590.84	37.52	97,208.65
otal	7,629,161.79	45.00	169,536.14	18.21	3,087,075.83

Composite Average Remaining Life ... 18.21 Years

#### New England Power Company **ALL Divisions** 390.00 STRUCTURES AND IMPROVEMENTS

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 50 Survivor Curve: R5

Year	Cost Life		Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
( <u>1)</u> 2015	(2) 150,292.60	50.00	3,005.87	(5) 44.50	133,760.29
Total	150,292.60	50.00	3,005.87	44.50	133,760.29

Composite Average Remaining Life ... 44.50 Years

#### New England Power Company **ALL Divisions** 391.00 OFFICE FURNITURE & EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 26 Survivor Curve: SQ

Year (1)	Original Avg. Service Avg. Annual Cost Life Accrual (2) (3) (4)		Avg. Remaining Life (5)	Future Annual Accruals (6)	
2015	63,791.84	26.00	2,453.53	20.50	50,297.41
Total	63,791.84	26.00	2,453.53	20.50	50,297.41

Composite Average Remaining Life ... 20.50 Years

#### New England Power Company **ALL Divisions** 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 24 Survivor Curve: R2

Year	Year Original Av Cost		Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals
<i>(1)</i>	(2)	(3)	(4)	(5)	(6)
1996	17,003.93	24.00	708.49	6.41	4,542.12
1997	33,556.68	24.00	1,398.17	6.89	9,627.61
1998	3,111.47	24.00	129.64	7.39	957.48
2005	19,278.93	24.00	803.28	11.55	9,280.70
2007	3,143.56	24.00	130.98	12.94	1,694.94
2008	105,450.59	24.00	4,393.71	13.66	60,027.73
2010	169,051.49	24.00	7,043.71	15.16	106,777.04
2015	391,374.91	24.00	16,307.05	19.18	312,835.66
2016	87,893.48	24.00	3,662.18	20.03	73,361.04
2018	406,932.53	24.00	16,955.28	21.77	369,064.47
2019	282,150.31	24.00	11,756.09	22.65	266,299.86
Total	1,518,947.88	24.00	63,288.58	19.19	1,214,468.66

Composite Average Remaining Life ... 19.19 Years

#### New England Power Company **ALL Divisions** 395.00 LABORATORY EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 29 Survivor Curve: L4

Year Original Cost		Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)	
1998	64,056.12	29.00	2,208.85	8.23	18,188.07	
1999	43,180.95	29.00	1,489.01	8.92	13,276.10	
2000	8,820.18	29.00	304.15	9.65	2,933.53	
2004	62,043.20	29.00	2,139.44	12.90	27,592.24	
2005	56,292.19	29.00	1,941.13	13.78	26,744.13	
2006	20,434.56	29.00	704.65	14.68	10,346.18	
2007	8,090.16	29.00	278.97	15.61	4,355.15	
2008	66,625.41	29.00	2,297.45	16.56	38,051.57	
2009	21,380.68	29.00	737.27	17.53	12,924.56	
2010	104,813.97	29.00	3,614.30	18.51	66,909.64	
2015	537,315.58	29.00	18,528.27	23.50	435,410.08	
2016	74,539.44	29.00	2,570.35	24.50	62,972.88	
2017	3,651.77	29.00	125.92	25.50	3,211.04	
2018	16,104.20	29.00	555.32	26.50	14,715.90	
2019	271,615.27	29.00	9,366.12	27.50	257,566.09	
2020	316,250.59	29.00	10,905.28	28.50	310,797.95	
tal	1,675,214.27	29.00	57,766.48	22.61	1,305,995.10	

Composite Average Remaining Life ... 22.61 Years

#### New England Power Company **ALL Divisions** 397.00 COMMUNICATION EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 25 Survivor Curve: L4

Year	Original Cost	Avg. Service Life	Avg. Annual Accrual	Avg. Remaining Life	Future Annual Accruals	
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)	
2002	469,778.42	25.00	18,791.14	7.71	144,908.20	
2003	4,668.88	25.00	186.76	8.45	1,577.45	
2005	10.05	25.00	0.40	10.04	4.03	
2006	25,968.38	25.00	1,038.74	10.88	11,302.10	
2007	31,657.00	25.00	1,266.28	11.75	14,884.54	
2008	304,913.56	25.00	12,196.54	12.66	154,383.71	
2009	43,887.96	25.00	1,755.52	13.59	23,855.62	
2013	11,430.83	25.00	457.23	17.50	8,002.01	
2014	18,416.94	25.00	736.68	18.50	13,628.57	
2015	1,015.07	25.00	40.60	19.50	791.75	
2016	909,045.57	25.00	36,361.82	20.50	745,417.38	
2017	3,133.20	25.00	125.33	21.50	2,694.55	
2018	35,932.61	25.00	1,437.30	22.50	32,339.35	
2019	58,639.56	25.00	2,345.58	23.50	55,121.19	
2020	131,822.37	25.00	5,272.89	24.50	129,185.92	
otal	2,050,320.40	25.00	82,012.81	16.32	1,338,096.38	

Composite Average Remaining Life ... 16.32 Years

#### New England Power Company **ALL Divisions** 398.00 MISCELLANEOUS EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 Survivor Curve: S6

Year	Original Cost			Avg. Remaining Life	Future Annual Accruals
<u>(1)</u>	(2)	(3)	(4)	(5)	(6)
2011	16,336.97	32.99	495.17	23.49	11,632.88
2012	29,398.04	32.99	891.04	24.49	21,824.17
2013	20,140.28	32.99	610.44	25.49	15,561.95
2014	2,699.00	32.99	81.81	26.49	2,167.26
2016	51,043.05	32.99	1,547.10	28.49	44,081.12
2018	99,926.63	32.99	3,028.74	30.49	92,354.78
Total	219,543.97	32.99	6,654.29	28.20	187,622.17

Composite Average Remaining Life ... 28.20 Years

#### New England Power Company **ALL Divisions** 398.00 MISCELLANEOUS EQUIPMENT

#### Original Cost Of Utility Plant In Service And Development Of Composite Remaining Life as of December 31, 2020 Based Upon Broad Group/Remaining Life Procedure and Technique

Average Service Life: 33 Survivor Curve: S6

Year	Original	Avg. Service	Avg. Annual	Avg. Remaining	Future Annual
	Cost	Life	Accrual	Life	Accruals
(1)	(2)	(3)	(4)	(5)	(6)

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#### **SECTION 7**

## New England Power Company ALL Divisions 341.00 STRUCTURES & IMPROVEMENTS

	Orginal Cost Of	Gross Salv	age	Cost of Removal		<u>Net Salvage</u>	
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>
<u>Annua</u>	<u>l Activity</u>						
2006	73,583.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	(155,000.00)	0.00%	155,000.00	0.00%
2008	0.00	0.00	0.00%	(318,195.09)	0.00%	318,195.09	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	5,110.98	0.00%	(5,110.98)	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

## New England Power Company ALL Divisions 341.00 STRUCTURES & IMPROVEMENTS

	Orginal Cost Of	Gross Salva	Gross Salvage		Cost of Removal		Net Salvage	
Year Retirements		Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Three - Yea</u>	r Rolling Bands							
2006 - 2008	73,583.00	0.00	0.00%	(473,195.09)	-643.08%	473,195.09	643.08%	
2007 - 2009	0.00	0.00	0.00%	(473,195.09)	0.00%	473,195.09	0.00%	
2008 - 2010	0.00	0.00	0.00%	(318,195.09)	0.00%	318,195.09	0.00%	
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2010 - 2012	0.00	0.00	0.00%	5,110.98	0.00%	(5,110.98)	0.00%	
2011 - 2013	0.00	0.00	0.00%	5,110.98	0.00%	(5,110.98)	0.00%	
2012 - 2014	0.00	0.00	0.00%	5,110.98	0.00%	(5,110.98)	0.00%	
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018 - 2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

**Cost Of Removal** 

**Net Salvage** 

-1677.82% 1677.82%

## New England Power Company ALL Divisions 341.00 STRUCTURES & IMPROVEMENTS

	Orginal Cost Of	)f	Gros	Gross Salvage		Cost of Remo	<u>oval</u>	Net Salvage	
<u>Year</u>	Retirements	_	Amount	<u>t</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Yea	r Rolling Bands								
2006 - 2020	73,583.00	)		0.00	0.00%	(468,084.11)	-636.13 %	468,084.11	636.13 %
Trend Analys	is (End Year)		2020						
*Based Upon	Three - Year Rolling	Averages					<u>Li</u>	Gross Salvage near Trend Analysis	
Annual Inflatio	n Rate	2.75%					2001-2020	20 - Year Trend	0.00%
Average Servi	ce Life (ASL)	40.0						15 - Year Trend	0.00%
Average Retire	ement Age (Yrs)	4.3					2011-2020 2016-2020		0.00% 0.00%
Years To ASL	<b>5</b> ( )	35.8					2010-2020	J - Tear Trend	0.0070
Inflation Facto	r At 2.75% to ASL	2.64							
Fo	rcasted								
Gross Salv ( Five \	<b>/age</b> 0.0 /ear Trend)	0%							

## New England Power Company ALL Divisions 344.00 CONDUCTORS & GENERATORS

	Orginal Cost Of	Gross Salv	<u>rage</u>	Cost of Remo	<u>val</u>	<u>Net Salvage</u>	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	l Activity						
2006	284,647.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	1,972,156.76	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	3,229.08	0.00%	(3,229.08)	0.00%

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### New England Power Company ALL Divisions 344.00 CONDUCTORS & GENERATORS

•	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	<u>Net Salvago</u>	2
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Yea</u>	r Rolling Bands						
2006 - 2008	2,256,803.76	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007 - 2009	1,972,156.76	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008 - 2010	1,972,156.76	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018 - 2020	0.00	0.00	0.00%	3,229.08	0.00%	(3,229.08)	0.00%

### New England Power Company ALL Divisions 344.00 CONDUCTORS & GENERATORS

**	Orginal Cos	t Of	Gros	s Salve	age	Cost of Rem	<u>oval</u>	<u>Net Salva</u>	<u>ge</u>
<u>Year</u>	Retiremen		<u>Amount</u>		<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>
<u>Three - Year</u>	· Rolling Band	<u>ls</u>							
2006 - 2020	2,256,80	3.76		0.00	0.00%	3,229.08	0.14%	(3,229.08)	-0.14%
Trend Analysis	s (End Year)		2020						
*Based Upon 1	Γhree - Year Roll	ing Averages					<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflation Average Servic Average Retire Years To ASL	e Life (ASL)	2.75% 40.0 7.8 32.2					2006-2020	20 - Year Trend 15 - Year Trend 10 - Year Trend 5 - Year Trend	0.00% 0.00% 0.00% 0.00%
Inflation Factor	At 2.75% to ASL	2.40							
For	casted								
Gross Salva ( Five Y	<b>age</b> ear Trend)	0.00%							
Cost Of Rer	moval	0.34%							
Net Salvage		-0.34%							

### New England Power Company ALL Divisions 345.00 MISC OTHER PRODUCTION PLANT

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	<u>val</u>	<u>Net Salvage</u>	2
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	l Activity						
2008	261,332.02	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	38,177.96	0.00%	(38,177.96)	0.00%
2020	0.00	0.00	0.00%	97.99	0.00%	(97.99)	0.00%

### New England Power Company ALL Divisions 345.00 MISC OTHER PRODUCTION PLANT

<b>T</b> 7	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage	<u>e</u>
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Yea</u>	r Rolling Bands						
2008 - 2010	261,332.02	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00	0.00	0.00%	38,177.96	0.00%	(38,177.96)	0.00%
2018 - 2020	0.00	0.00	0.00%	38,275.95	0.00%	(38,275.95)	0.00%

-37.95%

**Net Salvage** 

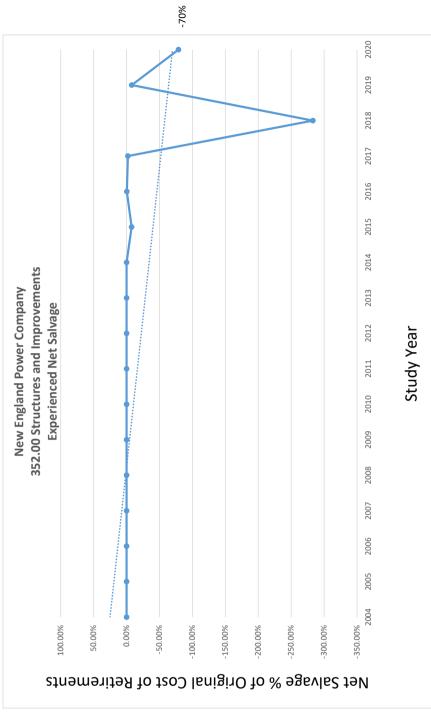
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### New England Power Company ALL Divisions 345.00 MISC OTHER PRODUCTION PLANT

	Orginal Cost Of	Gro	ss Salve	<u>age</u>	Cost of Rem	<u>oval</u>	<u>Net Salva</u>	<u>ge</u>
<u>Year</u>	<u>Retirements</u>	<u>Amoun</u>	t	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Year R</u>	olling Bands							
2008 - 2020	261,332.02		0.00	0.00%	38,275.95	14.65%	(38,275.95)	-14.65%
Trend Analysis (E	End Year)	2020						
*Based Upon Thr	ee - Year Rolling Averaç	ges				<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflation Randard Average Service Landard Retirement Years To ASL	ife (ASL) 4 nt Age (Yrs)	5% 0.0 4.9 5.1				2001-2020 2006-2020 2011-2020 2016-2020	20 - Year Trend 15 - Year Trend 10 - Year Trend 5 - Year Trend	0.00% 0.00% 0.00% 0.00%
Inflation Factor At	2.75% to ASL 2	.59						
Forca	ısted							
Gross Salvag ( Five Yea								
Cost Of Remo	oval 37.95%							

## New England Power Company Trend Analysis of Experienced Net Salv

ge					•				•	J	J	•		_	'	•	•	0,	
Trend Analysis of Experienced Net Salvage	Net Salvage % of Original Cost of Ret.	0.00%	%00.0	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-7.76%	-0.36%	-2.09%	-282.91%	-7.91%	-78.81%	-1.23%
alysis of Ex	Neg. Net Salv. Amount	0	0	0	0	0	0	-7,384	-2,482	0	0	0	-17,309	-500	-18,313	-6,123	-14,361	-8,195	-45,978
Trend An	Study Year	2004	2002	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total



-10%	<del>-5%</del>
Current Net Salvage Percent	Depr Study Proposed Negative Net Salvage

### New England Power Company ALL Divisions 352.00 STRUCTURES AND IMPROVEMENTS

	Orginal Cost Of	Gross Sa	<u>lvage</u>	Cost of Rem	<u>oval</u>	<u>Net Salvag</u>	<u>ge</u>
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Anı</u>	nual Activity						
2004	141.75	0.00	0.00%	2,966.38	2092.68%	(2,966.38) -	-2092.68%
2005	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2006	2,145.03	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	2.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	7,384.35	0.00%	(7,384.35)	0.00%
2011	0.00	0.00	0.00%	2,482.00	0.00%	(2,482.00)	0.00%
2012	614.65	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	2,490,214.40	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	223,015.54	0.00	0.00%	17,308.56	7.76%	(17,308.56)	-7.76%
2016	137,173.17	0.00	0.00%	500.00	0.36%	(500.00)	-0.36%
2017	875,361.38	0.00	0.00%	18,313.03	2.09%	(18,313.03)	-2.09%
2018	2,164.36	0.00	0.00%	6,123.14	282.91%	(6,123.14)	-282.91%
2019	181,529.93	0.00	0.00%	14,361.48	7.91%	(14,361.48)	-7.91%
2020	10,398.97	0.00	0.00%	8,194.97	78.81%	(8,194.97)	-78.81%

### New England Power Company ALL Divisions 352.00 STRUCTURES AND IMPROVEMENTS

••	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Rem	<u>ioval</u>	<u>Net Salva</u>	<u>ge</u>
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Yea	r Rolling Bands						
2004 - 2006	2,286.78	0.00	0.00%	2,966.38	129.72%	(2,966.38)	-129.72%
2005 - 2007	2,145.03	0.00	0.00%	0.00	0.00%	0.00	0.00%
2006 - 2008	2,145.03	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007 - 2009	2.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008 - 2010	2.00	0.00	0.00%	7,384.35	39217.50%	(7,384.35)	9217.50%
2009 - 2011	2.00	0.00	0.00%	9,866.35	€3317.50%	(9,866.35)	93317.50%
2010 - 2012	614.65	0.00	0.00%	9,866.35	1605.20%	(9,866.35)	-1605.20%
2011 - 2013	614.65	0.00	0.00%	2,482.00	403.81%	(2,482.00)	-403.81%
2012 - 2014	2,490,829.05	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	2,713,229.94	0.00	0.00%	17,308.56	0.64%	(17,308.56)	-0.64%
2014 - 2016	2,850,403.11	0.00	0.00%	17,808.56	0.62%	(17,808.56)	-0.62%
2015 - 2017	1,235,550.09	0.00	0.00%	36,121.59	2.92%	(36,121.59)	-2.92%
2016 - 2018	1,014,698.91	0.00	0.00%	24,936.17	2.46%	(24,936.17)	-2.46%
2017 - 2019	1,059,055.67	0.00	0.00%	38,797.65	3.66%	(38,797.65)	-3.66%
2018 - 2020	194,093.26	0.00	0.00%	28,679.59	14.78%	(28,679.59)	-14.78%

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### New England Power Company ALL Divisions 352.00 STRUCTURES AND IMPROVEMENTS

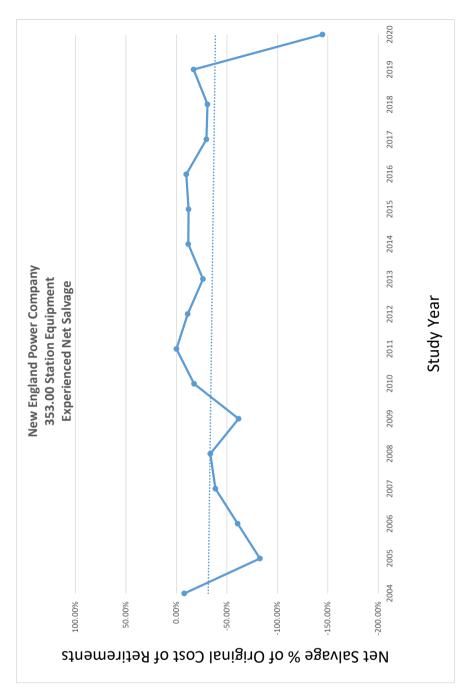
	Orginal Cos	st <b>O</b> f	Gros	s Salve	<u>age</u>	Cost of Rem	<u>oval</u>	<u>Net Salva</u>	<u>ge</u>
<u>Year</u>	Retireme		<u>Amount</u>		<u>%</u>	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>
Three - Year	Rolling Ban	<u>ds</u>							
2004 - 2020	3,922,76	31.18		0.00	0.00%	77,633.91	1.98%	(77,633.91)	-1.98%
Trend Analysis	s (End Year)		2020						
*Based Upon 1	Three - Year Rol	ling Averages					<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflation	ı Rate	2.75%						20 - Year Trend	0.00%
Average Servic	e Life (ASL)	45.0						15 - Year Trend 10 - Year Trend	0.00%
Average Retire	ment Age (Yrs)	16.1					2016-2020	5 - Year Trend	0.00%
Years To ASL		28.9							
Inflation Factor	At 2.75% to ASI	_ 2.19							
For	casted								
Gross Salva ( Five Y	<b>age</b> ear Trend)	0.00%							
Cost Of Rer	moval	4.34%							
Net Salvage	)	-4.34%							

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-40%

## New England Power Company Trend Analysis of Experienced Net Salvage

Net Salvage % of Original Cost of Ret.	-7.84%	-82.76%	-60.75%	-38.72%	-33.63%	-61.69%	-17.58%	-0.05%	-11.20%	-26.32%	-11.86%	-12.02%	-9.79%	-29.75%	-30.85%	-17.05%	-144.63%	-19.65%
Neg. Net Salv. Amount	-75.359	-984,575	-510,428	-1,797,778	-944,667	-798,668	-426,145	-979	-72,041	-374,693	-2,651,754	-1,567,930	-850,593	-3,418,140	-483,379	-2,580,074	-3,911,687	-14,473,751
study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total



Current Net Salvage Percent	-10%
Depr Study Proposed Negative Net Salvage	-15%

## New England Power Company ALL Divisions 353.00 STATION EQUIPMENT

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	oval	<u>Net Salvage</u>		
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	
Annu	<u>aal Activity</u>							
2004	999,744.35	0.00	0.00%	(22,759.46)	-2.28%	22,759.46	2.28%	
2005	1,189,627.75	0.00	0.00%	984,575.14	82.76%	(984,575.14)	-82.76%	
2006	334,592.32	0.00	0.00%	501,967.46	150.02%	(501,967.46)	-150.02%	
2007	5,148,201.27	0.00	0.00%	1,806,239.23	35.08%	(1,806,239.23)	-35.08%	
2008	2,809,184.50	0.00	0.00%	944,666.69	33.63%	(944,666.69)	-33.63%	
2009	1,294,728.97	0.00	0.00%	798,667.79	61.69%	(798,667.79)	-61.69%	
2010	2,423,534.53	0.00	0.00%	426,144.66	17.58%	(426,144.66)	-17.58%	
2011	1,435,125.56	0.00	0.00%	1,675,528.12	116.75%	(1,675,528.12)	-116.75%	
2012	1,048,781.10	0.00	0.00%	(1,602,507.77)	-152.80%	1,602,507.77	152.80%	
2013	1,423,820.19	0.00	0.00%	374,692.81	26.32%	(374,692.81)	-26.32%	
2014	22,366,256.12	31,506.15	0.14%	2,683,259.88	12.00%	(2,651,753.73)	-11.86%	
2015	13,048,676.16	0.00	0.00%	1,567,929.88	12.02%	(1,567,929.88)	-12.02%	
2016	8,690,628.02	0.00	0.00%	850,593.40	9.79%	(850,593.40)	-9.79%	
2017	11,489,373.95	6,102.89	0.05%	3,424,242.90	29.80%	(3,418,140.01)	-29.75%	
2018	1,566,958.28	0.00	0.00%	483,378.73	30.85%	(483,378.73)	-30.85%	
2019	15,129,229.24	29,683.58	0.20%	2,609,757.88	17.25%	(2,580,074.30)	-17.05%	
2020	2,704,610.83	10,600.47	0.39%	3,922,287.44	145.02%	(3,911,686.97)	-144.63%	

## New England Power Company ALL Divisions 353.00 STATION EQUIPMENT

	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage		
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>	
<u>Three - Yea</u>	r Rolling Bands							
2004 - 2006	2,523,964.42	0.00	0.00%	1,463,783.14	58.00%	(1,463,783.14)	-58.00%	
2005 - 2007	6,672,421.34	0.00	0.00%	3,292,781.83	49.35%	(3,292,781.83)	-49.35%	
2006 - 2008	8,291,978.09	0.00	0.00%	3,252,873.38	39.23%	(3,252,873.38)	-39.23%	
2007 - 2009	9,252,114.74	0.00	0.00%	3,549,573.71	38.36%	(3,549,573.71)	-38.36%	
2008 - 2010	6,527,448.00	0.00	0.00%	2,169,479.14	33.24%	(2,169,479.14)	-33.24%	
2009 - 2011	5,153,389.06	0.00	0.00%	2,900,340.57	56.28%	(2,900,340.57)	-56.28%	
2010 - 2012	4,907,441.19	0.00	0.00%	499,165.01	10.17%	(499,165.01)	-10.17%	
2011 - 2013	3,907,726.85	0.00	0.00%	447,713.16	11.46%	(447,713.16)	-11.46%	
2012 - 2014	24,838,857.41	31,506.15	0.13%	1,455,444.92	5.86%	(1,423,938.77)	-5.73%	
2013 - 2015	36,838,752.47	31,506.15	0.09%	4,625,882.57	12.56%	(4,594,376.42)	-12.47%	
2014 - 2016	44,105,560.30	31,506.15	0.07%	5,101,783.16	11.57%	(5,070,277.01)	-11.50%	
2015 - 2017	33,228,678.13	6,102.89	0.02%	5,842,766.18	17.58%	(5,836,663.29)	-17.57%	
2016 - 2018	21,746,960.25	6,102.89	0.03%	4,758,215.03	21.88%	(4,752,112.14)	-21.85%	
2017 - 2019	28,185,561.47	35,786.47	0.13%	6,517,379.51	23.12%	(6,481,593.04)	-23.00%	
2018 - 2020	19,400,798.35	40,284.05	0.21%	7,015,424.05	36.16%	(6,975,140.00)	-35.95%	

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#### New England Power Company **ALL Divisions** 353.00 STATION EQUIPMENT

Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

Year	<u>Orginal Cost Of</u>
<u>reur</u>	Retirements

**Gross Salvage** 

Cost of Removal

Net Salvage

Amount

Amount

Amount

#### Three - Year Rolling Bands

2004 - 2020 93,103,073.14 77,893.09

0.08%

21,428,664.78 23.02% (21,350,771.69) -22.93%

Trend Analysis (End Year)

2020

\*Based Upon Three - Year Rolling Averages

Annual Inflation Rate 2.75% Average Service Life (ASL) 42.0 Average Retirement Age (Yrs) 15.0 Years To ASL 27.0

Inflation Factor At 2.75% to ASL

**Gross Salvage Linear Trend Analysis** 

2001-2020 20 - Year Trend 0.04% 2006-2020 15 - Year Trend 0.13% 2011-2020 10 - Year Trend 0.15% 2016-2020 5 - Year Trend 0.20%

**Forcasted** 

**Gross Salvage** 

0.20%

2.08

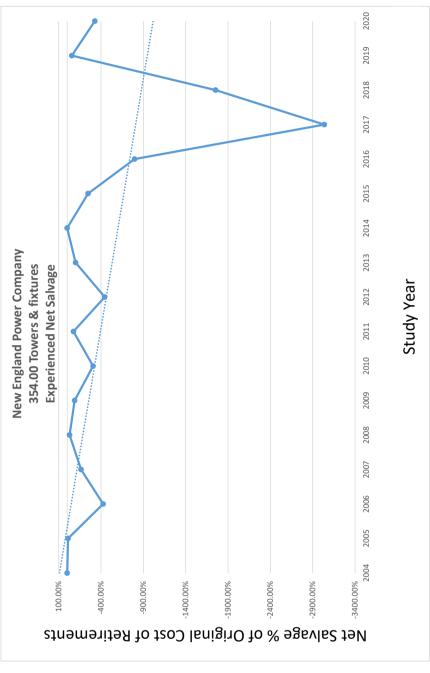
(Five Year Trend)

**Cost Of Removal** 47.95%

**Net Salvage** -47.74%

7-17

rew England Fower Company rend Analysis of Experienced Net Salv	Net Salvage % of Original Cost of Ret.	0.00%	-9.98%	-424.25%	-163.78%	-28.37%	-87.90%	-305.18%	-73.99%	-444.04%	-98.51%	%00.0	-246.87%	-796.15%	-3036.98%	-1753.09%	-55.32%	-326.30%	-287.72%
vew England Power Company rend Analysis of Experienced	N Neg. Net Salv. Amount	0	-415	-7,944	-87,463	-228,535	-3,606	-46,735	-1,197	-9,246	-72,946	0	-30,225	-2,230,391	-984,388	-11,002	-14,900	-1,191,732	-3,703,090
vew Engl	Study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total



-1000%

-10%	-30%
Current Net Salvage Percent	Depr Study Proposed Negative Net Salvage

### New England Power Company ALL Divisions 354.00 TOWERS AND FIXTURES

	Orginal Cost Of	Gross Salv	<u>vage</u>	Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Annuc</u>	al Activity							
2005	4,156.25	0.00	0.00%	414.84	9.98%	(414.84)	-9.98%	
2006	1,872.43	0.00	0.00%	7,943.74	424.25%	(7,943.74) -	424.25%	
2007	53,401.19	0.00	0.00%	87,462.80	163.78%	(87,462.80) -	163.78%	
2008	805,629.30	0.00	0.00%	115,017.41	14.28%	(115,017.41)	-14.28%	
2009	4,101.97	0.00	0.00%	3,605.65	87.90%	(3,605.65)	-87.90%	
2010	15,313.89	0.00	0.00%	46,735.45	305.18%	(46,735.45)	305.18%	
2011	1,617.18	0.00	0.00%	1,196.58	73.99%	(1,196.58)	-73.99%	
2012	2,082.27	0.00	0.00%	122,763.94	5895.68%	(122,763.94) -5	895.68%	
2013	74,050.73	0.00	0.00%	72,945.72	98.51%	(72,945.72)	-98.51%	
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015	12,243.14	3,648.12	29.80%	33,873.27	276.67%	(30,225.15) -	246.87%	
2016	280,148.77	6,290.21	2.25%	2,236,681.05	798.39%	(2,230,390.84) -	796.15%	
2017	32,413.42	26,127.99	80.61%	1,010,515.60	3117.58%	(984,387.61) -3	036.98%	
2018	627.60	0.00	0.00%	11,002.37	1753.09%	(11,002.37) -1	753.09%	
2019	26,935.55	354.52	1.32%	15,255.01	56.64%	(14,900.49)	-55.32%	
2020	365,224.86	39,100.11	10.71%	1,230,832.13	337.01%	(1,191,732.02) -	326.30%	

### New England Power Company ALL Divisions 354.00 TOWERS AND FIXTURES

	Orginal Cost Of	Gross Salv	age	Cost of Rem	<u>oval</u>	Net Salvage	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Yea	ar Rolling Bands						
2005 - 2007	59,429.87	0.00	0.00%	95,821.38	161.23%	(95,821.38)	-161.23%
2006 - 2008	860,902.92	0.00	0.00%	210,423.95	24.44%	(210,423.95)	-24.44%
2007 - 2009	863,132.46	0.00	0.00%	206,085.86	23.88%	(206,085.86)	-23.88%
2008 - 2010	825,045.16	0.00	0.00%	165,358.51	20.04%	(165,358.51)	-20.04%
2009 - 2011	21,033.04	0.00	0.00%	51,537.68	245.03%	(51,537.68)	-245.03%
2010 - 2012	19,013.34	0.00	0.00%	170,695.97	897.77%	(170,695.97)	-897.77%
2011 - 2013	77,750.18	0.00	0.00%	196,906.24	253.26%	(196,906.24)	-253.26%
2012 - 2014	76,133.00	0.00	0.00%	195,709.66	257.06%	(195,709.66)	-257.06%
2013 - 2015	86,293.87	3,648.12	4.23%	106,818.99	123.79%	(103,170.87)	-119.56%
2014 - 2016	292,391.91	9,938.33	3.40%	2,270,554.32	776.54%	(2,260,615.99)	-773.15%
2015 - 2017	324,805.33	36,066.32	11.10%	3,281,069.92	1010.17%	(3,245,003.60)	-999.06%
2016 - 2018	313,189.79	32,418.20	10.35%	3,258,199.02	1040.33%	(3,225,780.82)	-1029.98%
2017 - 2019	59,976.57	26,482.51	44.15%	1,036,772.98	1728.63%	(1,010,290.47)	-1684.48%
2018 - 2020	392,788.01	39,454.63	10.04%	1,257,089.51	320.04%	(1,217,634.88)	-310.00%

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### New England Power Company ALL Divisions 354.00 TOWERS AND FIXTURES

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2005 - 2020

Vaan	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Ren	<u>noval</u>	<u>Net Salv</u>	<u>age</u>
<u>Year</u>	Retirements	Amount	%	Amount	%	Amount	%

#### Three - Year Rolling Bands

Trend Analysis (End Year)

2005 - 2020	1.679.818.55	75.520.95	4.50%	4.996.245.56	297.43%	(4.920.724.61)	-292 93 %

	Cross Salvans
*Based Upon Three - Year Rolling Averages	<u>Gross Salvage</u>

2020

### \*Based Upon Three - Year Rolling Averages Annual Inflation Rate 2.75% Average Service Life (ASL) 60.0 \*Based Upon Three - Year Rolling Averages Linear Trend Analysis 2001-2020 20 - Year Trend 2006-2020 15 - Year Trend

Average Retirement Age (Yrs)

Years To ASL

2011-2020 10 - Year Trend 24.45%
2016-2020 5 - Year Trend 29.71%

5.99%

5.99%

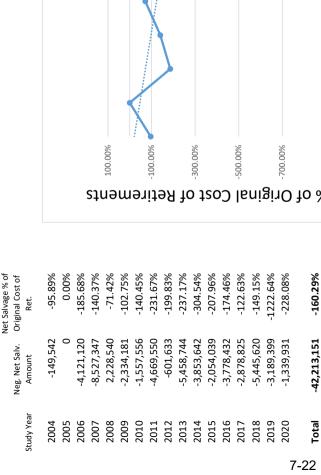
Inflation Factor At 2.75% to ASL 2.75

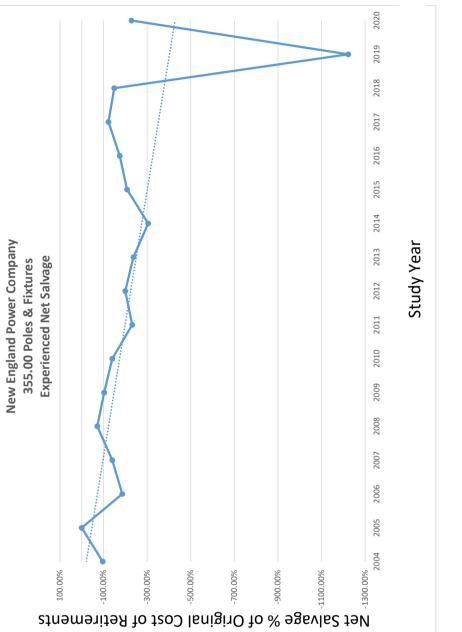
#### **Forcasted**

Gross Salvage 29.71%

(Five Year Trend)

Cost Of Removal 819.25% Net Salvage -789.53%





-450%

Current Net Salvage Percent

Depr Study Proposed Negative Net Salvage

-10%

-140%

### New England Power Company ALL Divisions 355.00 POLES AND FIXTURES

	Orginal Cost Of	Gross Sal	<u>vage</u>	Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>	
Ann	nual Activity							
2004	155,402.12	0.00	0.00%	93,268.84	60.02%	(93,268.84)	-60.02%	
2005	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2006	2,225,300.78	0.00	0.00%	3,558,982.81	159.93%	(3,558,982.81)	-159.93%	
2007	6,074,999.55	0.00	0.00%	8,527,346.67	140.37%	(8,527,346.67)	-140.37%	
2008	3,120,248.77	0.00	0.00%	2,228,539.55	71.42%	(2,228,539.55)	-71.42%	
2009	2,271,791.00	0.00	0.00%	2,334,181.38	102.75%	(2,334,181.38)	-102.75%	
2010	1,108,938.50	0.00	0.00%	1,557,555.71	140.45%	(1,557,555.71)	-140.45%	
2011	2,015,575.80	0.00	0.00%	4,669,549.90	231.67%	(4,669,549.90)	-231.67%	
2012	301,072.51	0.00	0.00%	601,632.69	199.83%	(601,632.69)	-199.83%	
2013	2,301,643.32	0.00	0.00%	5,458,744.20	237.17%	(5,458,744.20)	-237.17%	
2014	1,265,396.86	0.00	0.00%	3,853,642.22	304.54%	(3,853,642.22)	-304.54%	
2015	987,693.47	51,240.09	5.19%	2,105,279.48	213.15%	(2,054,039.39)	-207.96%	
2016	2,165,796.82	134,167.70	6.19%	3,912,600.07	180.65%	(3,778,432.37)	-174.46%	
2017	2,347,526.55	42,803.30	1.82%	2,921,627.86	124.46%	(2,878,824.56)	-122.63%	
2018	3,651,129.79	34,540.09	0.95%	5,480,160.49	150.09%	(5,445,620.40)	-149.15%	
2019	260,862.23	61,937.79	23.74%	3,251,337.13	1246.38%	(3,189,399.34)	-1222.64%	
2020	587,491.79	8,594.04	1.46%	1,348,525.39	229.54%	(1,339,931.35)	-228.08%	

### New England Power Company ALL Divisions 355.00 POLES AND FIXTURES

•	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
Three - Yea	r Rolling Bands							
2004 - 2006	2,380,702.90	0.00	0.00%	3,652,251.65	153.41%	(3,652,251.65)	-153.41%	
2005 - 2007	8,300,300.33	0.00	0.00%	12,086,329.48	145.61%	(12,086,329.48)	-145.61%	
2006 - 2008	11,420,549.10	0.00	0.00%	14,314,869.03	125.34%	(14,314,869.03)	-125.34%	
2007 - 2009	11,467,039.32	0.00	0.00%	13,090,067.60	114.15%	(13,090,067.60)	-114.15%	
2008 - 2010	6,500,978.27	0.00	0.00%	6,120,276.64	94.14%	(6,120,276.64)	-94.14%	
2009 - 2011	5,396,305.30	0.00	0.00%	8,561,286.99	158.65%	(8,561,286.99)	-158.65%	
2010 - 2012	3,425,586.81	0.00	0.00%	6,828,738.30	199.35%	(6,828,738.30)	-199.35%	
2011 - 2013	4,618,291.63	0.00	0.00%	10,729,926.79	232.34%	(10,729,926.79)	-232.34%	
2012 - 2014	3,868,112.69	0.00	0.00%	9,914,019.11	256.30%	(9,914,019.11)	-256.30%	
2013 - 2015	4,554,733.65	51,240.09	1.12%	11,417,665.90	250.68%	(11,366,425.81)	-249.55%	
2014 - 2016	4,418,887.15	185,407.79	4.20%	9,871,521.77	223.39%	(9,686,113.98)	-219.20%	
2015 - 2017	5,501,016.84	228,211.09	4.15%	8,939,507.41	162.51%	(8,711,296.32)	-158.36%	
2016 - 2018	8,164,453.16	211,511.09	2.59%	12,314,388.42	150.83%	(12,102,877.33)	-148.24%	
2017 - 2019	6,259,518.57	139,281.18	2.23%	11,653,125.48	186.17%	(11,513,844.30)	-183.94%	
2018 - 2020	4,499,483.81	105,071.92	2.34%	10,080,023.01	224.03%	(9,974,951.09)	-221.69%	

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#### New England Power Company **ALL Divisions** 355.00 POLES AND FIXTURES

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

***	Orginal Cost O	)f	Gross Salva	<u>ige</u>	Cost of Remo	<u>Net Salvage</u>		
<u>Year</u>	Retirements	_	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Yea	r Rolling Bands							
2004 - 2020	30,840,869.86	3	333,283.01	1.08%	51,902,974.39	168.29%	(51,569,691.38)	-167.21%
Trend Analys	is (End Year)		2020					
*Based Upon	Three - Year Rolling	Averages				<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflatio	n Rate	2.75%				2001-2020	20 - Year Trend	1.11%
Average Servi	ce Life (ASL)	53.0				2006-2020	15 - Year Trend	3.22%
Average Retire	ement Age (Yrs)	12.1				2011-2020 2016-2020	10 - Year Trend 5 - Year Trend	3.83% 1.41%
Years To ASL		40.9				20.0 2020	o roal front	1.1170
Inflation Facto	r At 2.75% to ASL	3.03						

#### **Forcasted**

**Gross Salvage** 1.41%

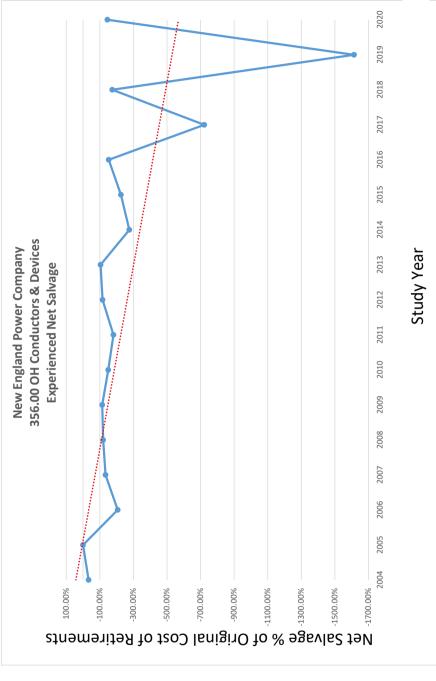
(Five Year Trend)

**Cost Of Removal** 510.26% **Net Salvage** -508.85% Filed Date: 10/29/2021

-220%

New England Power Company Trend Analysis of Experienced Net Salvage

								100.		-100		000	-300		-500.		-700.		-900		-1100.	
4.							sţı	uə	ш	ĸĢ	ite	Ве	ł	ţ c	SC	CC	le	uį	gin	Ю		%
: Salvage																						
rienced Net	Net Salvage %	of Original	Cost of Ret.	-33.44%	0.00%	-206.86%	-133.94%	-119.68%	-114.04%	-150.32%	-181.22%	-116.13%	-104.45%	-275.45%	-225.82%	-152.77%	-722.03%	-174.46%	-1614.18%	-145.48%	, , ,	-201.9 <i>/</i> %
Trend Analysis of Experienced Net Salvage	_	Neg. Net Salv.	Amount	-71,314	0	-3,675,522	-2,231,380	-1,548,064	-1,431,324	-1,138,512	-1,361,920	-726,919	-2,784,968	-4,630,725	-2,276,173	-5,763,041	-10,604,848	-3,828,128	-2,285,792	-1,246,981	000	-38,244,709
Trend Ana			Study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	ŀ	lotal



-10%	-100%
Current Net Salvage Percent	Depr Study Proposed Negative Net Salvage

### New England Power Company ALL Divisions 356.00 O/H CONDUCTORS & DEVICES

	Orginal Cost Of	Gross Salv	<u>vage</u>	Cost of Remo	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
Ann	ual Activity							
2004	213,239.93	0.00	0.00%	82,062.46	38.48%	(82,062.46)	-38.48%	
2005	0.00	0.00	0.00%	(10,747.53)	0.00%	10,747.53	0.00%	
2006	1,776,782.53	0.00	0.00%	3,675,522.37	206.86%	(3,675,522.37)	-206.86%	
2007	1,665,961.56	0.00	0.00%	2,231,379.67	133.94%	(2,231,379.67)	-133.94%	
2008	1,293,519.79	0.00	0.00%	1,548,063.89	119.68%	(1,548,063.89)	-119.68%	
2009	1,255,140.00	0.00	0.00%	1,431,324.09	114.04%	(1,431,324.09)	-114.04%	
2010	757,389.95	0.00	0.00%	1,138,512.09	150.32%	(1,138,512.09)	-150.32%	
2011	751,543.91	0.00	0.00%	1,361,919.76	181.22%	(1,361,919.76)	-181.22%	
2012	625,971.40	0.00	0.00%	726,918.90	116.13%	(726,918.90)	-116.13%	
2013	2,666,422.21	0.00	0.00%	2,784,967.81	104.45%	(2,784,967.81)	-104.45%	
2014	1,681,177.37	0.00	0.00%	4,630,723.72	275.45%	(4,630,723.72)	-275.45%	
2015	1,007,940.59	788,103.91	78.19%	3,064,276.92	304.01%	(2,276,173.01)	-225.82%	
2016	3,772,265.81	303,189.11	8.04%	6,066,230.07	160.81%	(5,763,040.96)	-152.77%	
2017	1,468,753.83	182,256.30	12.41%	10,787,104.06	734.44%	(10,604,847.76)	-722.03%	
2018	2,194,322.84	81,061.94	3.69%	3,909,189.84	178.15%	(3,828,127.90)	-174.46%	
2019	141,607.09	83,256.72	58.79%	2,369,049.08	1672.97%	(2,285,792.36)	-1614.18%	
2020	857,173.02	27,120.19	3.16%	1,274,101.62	148.64%	(1,246,981.43)	-145.48%	

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### New England Power Company ALL Divisions 356.00 O/H CONDUCTORS & DEVICES

•	Orginal Cost Of	Gross Salve	age	Cost of Rem	<u>oval</u>	<u>Net Salvage</u>		
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
Three - Yea	ur Rolling Bands							
2004 - 2006	1,990,022.46	0.00	0.00%	3,746,837.30	188.28%	(3,746,837.30)	-188.28%	
2005 - 2007	3,442,744.09	0.00	0.00%	5,896,154.51	171.26%	(5,896,154.51)	-171.26%	
2006 - 2008	4,736,263.88	0.00	0.00%	7,454,965.93	157.40%	(7,454,965.93)	-157.40%	
2007 - 2009	4,214,621.35	0.00	0.00%	5,210,767.65	123.64%	(5,210,767.65)	-123.64%	
2008 - 2010	3,306,049.74	0.00	0.00%	4,117,900.07	124.56%	(4,117,900.07)	-124.56%	
2009 - 2011	2,764,073.86	0.00	0.00%	3,931,755.94	142.24%	(3,931,755.94)	-142.24%	
2010 - 2012	2,134,905.26	0.00	0.00%	3,227,350.75	151.17%	(3,227,350.75)	-151.17%	
2011 - 2013	4,043,937.52	0.00	0.00%	4,873,806.47	120.52%	(4,873,806.47)	-120.52%	
2012 - 2014	4,973,570.98	0.00	0.00%	8,142,610.43	163.72%	(8,142,610.43)	-163.72%	
2013 - 2015	5,355,540.17	788,103.91	14.72%	10,479,968.45	195.68%	(9,691,864.54)	-180.97%	
2014 - 2016	6,461,383.77	1,091,293.02	16.89%	13,761,230.71	212.98%	(12,669,937.69)	-196.09%	
2015 - 2017	6,248,960.23	1,273,549.32	20.38%	19,917,611.05	318.73%	(18,644,061.73)	-298.35%	
2016 - 2018	7,435,342.48	566,507.35	7.62%	20,762,523.97	279.24%	(20,196,016.62)	-271.62%	
2017 - 2019	3,804,683.76	346,574.96	9.11%	17,065,342.98	448.54%	(16,718,768.02)	-439.43%	
2018 - 2020	3,193,102.95	191,438.85	6.00%	7,552,340.54	236.52%	(7,360,901.69)	-230.53%	

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### New England Power Company ALL Divisions 356.00 O/H CONDUCTORS & DEVICES

Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

Vagu	Orginal Cost Of	Gross Salv	Cost of Removal		
<u>Year</u>	Retirements	Amount	%	Amount	g

Net Salvage

Amount %

#### Three - Year Rolling Bands

2004 - 2020 22,129,211.83 1,464,988.17 6.62% 47,070,598.82 212.71% (45,605,610.65) -206.09%

Trend Analysis (End Year) 2020

### \*Based Upon Three - Year Rolling Averages \*Based Upon Three - Year Rolling Averages Linear Trend Analysis

2001-2020 20 - Year Trend 5.01% Annual Inflation Rate 2.75% 2006-2020 15 - Year Trend 13.45% Average Service Life (ASL) 62.0 2011-2020 10 - Year Trend 14.78% Average Retirement Age (Yrs) 13.2 2016-2020 5 - Year Trend 2.08% Years To ASL 48.8

Inflation Factor At 2.75% to ASL 3.75

#### **Forcasted**

Gross Salvage 2.08%

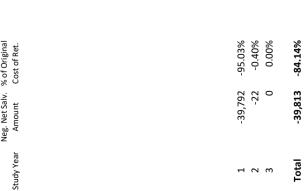
(Five Year Trend)

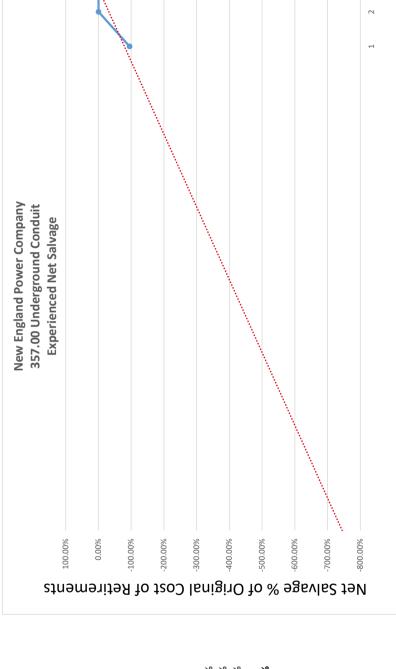
 Cost Of Removal
 798.54%

 Net Salvage
 -796.46%

%0

Net Salvage Neg. Net Salv. % of Original tudy Year Amount Cost of Ret.





Current Net Salvage Percent
-10%

Depr Study Proposed Negative Net Salvage
-10%

Study Year

7-30

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### New England Power Company ALL Divisions 357.00 UNDERGROUND CONDUIT

	Orginal Cost Of	Gross Sal	<u>vage</u>	Cost of Remo	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Annua</u>	<u>l Activity</u>							
2018	41,873.10	8,749.32	20.89%	48,540.17	115.92%	(39,790.85)	-95.03%	
2019	5,446.67	61.43	1.13%	83.37	1.53%	(21.94)	-0.40%	
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

### New England Power Company ALL Divisions 357.00 UNDERGROUND CONDUIT

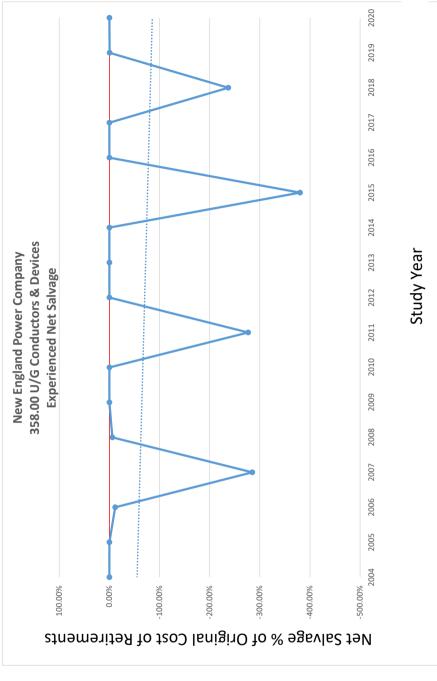
#### Forecasted Future Net Salvage

Based Upon Experienced Net Salvage 2018 - 2020

0	rginal Cost Of	Gross Sal	<u>vage</u>	Cost of Rem	<u>oval</u>	Net Salvage			
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>		
Three - Year Ro	lling Bands								
2018 - 2020	47,319.77	8,810.75	18.62%	48,623.54	102.76%	(39,812.79)	-84.14%		
2018 - 2020	47,319.77	8,810.75	18.62%	48,623.54	102.76%	(39,812.79)	-84.14 %		
Trend Analysis (Er	nd Year)	2020				Gross Salvage			
*Based Upon Thre	e - Year Rolling Avera	iges			<u>Lir</u>	near Trend Analysis			
Annual Inflation Rat	e 2.7	75%					18.63%		
Average Service Lif	e (ASL)	60.0			2006-2020 2011-2020		18.63% 18.63%		
Average Retirement	t Age (Yrs)	30.0			2016-2020		18.63%		
Years To ASL	;	30.0							
Inflation Factor At 2	2.75% to ASL 2	2.25							
Forcas	sted								
Gross Salvage ( Five Year									
Cost Of Remov	/al 231.70%								
Net Salvage	-213.07%								

-95%

Trend Analysis of Experienced Net Salva	Net Salvage %	or Original Cost of Ret.	%UU U	0.00%	-11.57%	-285.03%	-5.96%	0.00%	0.00%	-276.66%	%00.0	0.00%	0.00%	-380.17%	%00.0	%00.0	-237.11%	-0.40%	%00.0	-196.36%
alysis of Expe		Neg. Net Salv. Of Amount	c	0	-11,539	-433,929	-6,021	0	0	-739,232	0	0	0	-74,131	0	0	-5,088,023	-1,071	0	-1,264,853
Trend An		Study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total



-10%	-75%
Current Net Salvage Percent	Depr Study Proposed Negative Net Salvage

### New England Power Company ALL Divisions 358.00 U/G CONDUCTORS & DEVICES

	Orginal Cost Of	Gross Salv	<u>vage</u>	Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>	
<u>Annu</u>	al Activity							
2004	2,538.25	0.00	0.00%	23,948.91	943.52%	(23,948.91)	-943.52%	
2005	3,514.50	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2006	99,723.72	0.00	0.00%	11,539.27	11.57%	(11,539.27)	-11.57%	
2007	152,240.33	0.00	0.00%	433,928.99	285.03%	(433,928.99)	-285.03%	
2008	101,043.53	0.00	0.00%	6,020.93	5.96%	(6,020.93)	-5.96%	
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2011	267,198.74	0.00	0.00%	539,664.02	201.97%	(539,664.02)	-201.97%	
2012	929.76	0.00	0.00%	199,568.29	1464.50%	(199,568.29)	21464.50%	
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015	19,499.42	0.00	0.00%	74,131.17	380.17%	(74,131.17)	-380.17%	
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018	2,145,888.58	242,557.81	11.30%	5,330,580.69	248.41%	(5,088,022.88)	-237.11%	
2019	265,753.02	2,997.09	1.13%	4,068.47	1.53%	(1,071.38)	-0.40%	
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

### New England Power Company ALL Divisions 358.00 U/G CONDUCTORS & DEVICES

	Orginal Cost Of	Gross Salve	<u>age</u>	Cost of Rem	<u>ioval</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	
Three - Yea	ur Rolling Bands							
2004 - 2006	105,776.47	0.00	0.00%	35,488.18	33.55%	(35,488.18)	-33.55%	
2005 - 2007	255,478.55	0.00	0.00%	445,468.26	174.37%	(445,468.26)	-174.37%	
2006 - 2008	353,007.58	0.00	0.00%	451,489.19	127.90%	(451,489.19)	-127.90%	
2007 - 2009	253,283.86	0.00	0.00%	439,949.92	173.70%	(439,949.92)	-173.70%	
2008 - 2010	101,043.53	0.00	0.00%	6,020.93	5.96%	(6,020.93)	-5.96%	
2009 - 2011	267,198.74	0.00	0.00%	539,664.02	201.97%	(539,664.02)	-201.97%	
2010 - 2012	268,128.50	0.00	0.00%	739,232.31	275.70%	(739,232.31)	-275.70%	
2011 - 2013	268,128.50	0.00	0.00%	739,232.31	275.70%	(739,232.31)	-275.70%	
2012 - 2014	929.76	0.00	0.00%	199,568.29	21464.50%	(199,568.29)	21464.50%	
2013 - 2015	19,499.42	0.00	0.00%	74,131.17	380.17%	(74,131.17)	-380.17%	
2014 - 2016	19,499.42	0.00	0.00%	74,131.17	380.17%	(74,131.17)	-380.17%	
2015 - 2017	19,499.42	0.00	0.00%	74,131.17	380.17%	(74,131.17)	-380.17%	
2016 - 2018	2,145,888.58	242,557.81	11.30%	5,330,580.69	248.41%	(5,088,022.88)	-237.11%	
2017 - 2019	2,411,641.60	245,554.90	10.18%	5,334,649.16	221.20%	(5,089,094.26)	-211.02%	
2018 - 2020	2,411,641.60	245,554.90	10.18%	5,334,649.16	221.20%	(5,089,094.26)	-211.02%	

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### New England Power Company ALL Divisions 358.00 U/G CONDUCTORS & DEVICES

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

<u>Year</u>	Orginal Cost Of	Gross Sai	<u>vage</u>	Cost of Ken	<u>iovai</u>	<u>Net Salvage</u>		
	Retirements	Amount	%	Amount	<b>%</b>	Amount	%	

#### Three - Year Rolling Bands

2004 - 2020 3,058,329.85 245,554.90 8.03% 6,623,450.74 216.57% (6,377,895.84) -208.54%

Trend Analysis (End Year) 2020

#### \*Based Upon Three - Year Rolling Averages \*Based Upon Three - Year Rolling Averages Linear Trend Analysis

2001-2020 20 - Year Trend 2.13% Annual Inflation Rate 2.75% 2006-2020 15 - Year Trend 7.51% Average Service Life (ASL) 80.0 2011-2020 10 - Year Trend 10.48% Average Retirement Age (Yrs) 16.7 2016-2020 5 - Year Trend 15.50% Years To ASL 63.3

Inflation Factor At 2.75% to ASL 5.57

#### **Forcasted**

Gross Salvage 15.50%

(Five Year Trend)

 Cost Of Removal
 1205.81%

 Net Salvage
 -1190.32%

### New England Power Company ALL Divisions 359.00 ROADS & TRAILS

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	<u>val</u>	Net Salvage		
<u>Year</u>	<u>Retirements</u>	<u>Amount</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	
<u>Annual</u>	Activity							
2013	377.07	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

### New England Power Company ALL Divisions 359.00 ROADS & TRAILS

	Orginal Cost Of	<u>G</u>	ross Salv	<u>rage</u>	Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	<u>Retirements</u>	<u>Amo</u>	unt	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Three - Yea</u>	r Rolling Bands								
2013 - 2015	377.07		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014 - 2016	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015 - 2017	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2016 - 2018	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017 - 2019	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018 - 2020	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%	
2013 - 2020	377.07		0.00	0.00%	0.00	0.00%	0.00	0.00%	
Trend Analys	is (End Year)	2020	)						
*Based Upon	Three - Year Rolling Av	/erages				<u>Lir</u>	Gross Salvage near Trend Analysis		
Annual Inflatio	n Rate	2.75%					20 - Year Trend	0.00%	
Average Servi	ce Life (ASL)	50.0					15 - Year Trend 10 - Year Trend	0.00% 0.00%	
Average Retire	ement Age (Yrs)	25.3				2016-2020	5 - Year Trend	0.00%	
Years To ASL		24.8							
Inflation Facto	r At 2.75% to ASL	1.96							
<u>Fo</u>	rcasted								
Gross Salv ( Five Y	vage 0.009 Vear Trend)	%							
Cost Of Re	emoval 0.00	%							
Net Salvag	<b>e</b> 0.00	%							

# New England Power Company Trend Analysis of Experienced Net Salvage

Net Salvage % of Original Cost of Ret.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	
Neg. Net Salv. Amount	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
tudy Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	





0.00%

0

Total

#### New England Power Company **ALL Divisions** 362.00 STATION EQUIPMENT

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	<u>val</u>	Net Salvage		
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Annua</u>	l Activity							
2008	1,924.95	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

# New England Power Company ALL Divisions 362.00 STATION EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2008 - 2020

Year Orginal Cost Of Retirements		Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage	
		Amount	<u>%</u>	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>
<u>Three - Yea</u>	r Rolling Bands						
2008 - 2010	1,924.95	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018 - 2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

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# New England Power Company ALL Divisions 362.00 STATION EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2008 - 2020

*7	Orginal Cost Of	Gross	Gross Salvage		Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>		<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
<u>Three - Year I</u>	Rolling Bands								
2008 - 2020	1,924.95		0.00	0.00%	0.00	0.00%	0.00	0.00%	
Trend Analysis	(End Year)	2020							
*Based Upon Ti	nree - Year Rolling Averag	es				<u>Liı</u>	Gross Salvage near Trend Analysis		
Annual Inflation I Average Service Average Retirem Years To ASL	Life (ASL) 45	5.0				2006-2020	20 - Year Trend 15 - Year Trend 10 - Year Trend 5 - Year Trend	0.00% 0.00% 0.00% 0.00%	
Inflation Factor A	At 2.75% to ASL 1.6	85							
Ford	asted								
Gross Salva	ge 0.00% ar Trend)								
Cost Of Rem	oval 0.00%								
Net Salvage	0.00%								

# New England Power Company ALL Divisions 364.00 POLES, TOWERS, AND FIXTURES

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

YearOrginal Cost Of<br/>RetirementsGross Salvage<br/>AmountCost of Removal<br/>AmountNet Salvage<br/>AmountYearRetirementsAmount%Amount%

**Annual Activity** 

No Retirement / Net Salvage Data Found For This Account

# New England Power Company ALL Divisions 364.00 POLES, TOWERS, AND FIXTURES

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage

v Or	ginal Cost Of	<u>Gro</u>	Gross Salvage		Cost of Removal			Net Salvage	
	<u>Retirements</u>	<u>Amoun</u>	<u>ıt</u>	<u>%</u>	<u>Amount</u>		<u>%</u>	Amount	<u>%</u>
<u>Three - Year Rol</u>	lling Bands								
	No R	etirement /	Net S	alvage Dat	a Found Fo	r This	Account		
	0.00		0.00	#Num!%		0.00	#Num!%	0.00	#Num! %
Trend Analysis (En	d Year)	2020							
*Based Upon Three	e - Year Rolling Average	es					<u>Li</u>	Gross Salvage near Trend Analysis	
Annual Inflation Rate	e 2.759	%						20 - Year Trend	%
Average Service Life	e (ASL) 35.	0						15 - Year Trend 10 - Year Trend	% %
Average Retirement	Age (Yrs) 0.	0						5 - Year Trend	%
Years To ASL	35.	0							
Inflation Factor At 2	.75% to ASL 2.5	8							
<u>Forcas</u>	ted								
Gross Salvage (Five Year	% Trend)								
Cost Of Remov	al #Type!								
Net Salvage	#Type!								

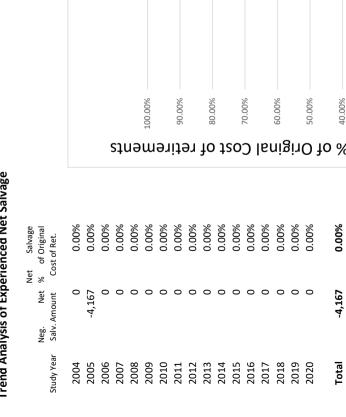
-10%

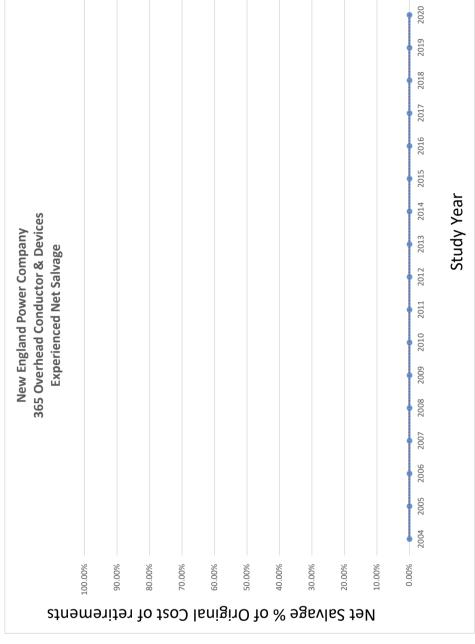
%0

Depr Study Proposed Negative Net Salvage

**Current Net Salvage Percent** 

New England Power Company Trend Analysis of Experienced Net Salvage





# New England Power Company ALL Divisions 365.00 OVERHEAD CONDUCTORS & DEVICES

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2005 - 2020

	Orginal Cost Of	Gross Salv	age	Cost of Remo	<u>val</u>	Net Salvage	<u>e</u>
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	<u>l Activity</u>						
2005	0.00	0.00	0.00%	4,166.72	0.00%	(4,166.72)	0.00%
2006	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

# New England Power Company ALL Divisions 365.00 OVERHEAD CONDUCTORS & DEVICES

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2005 - 2020

***	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Yea</u>	er Rolling Bands						
2005 - 2007	0.00	0.00	0.00%	4,166.72	0.00%	(4,166.72)	0.00%
2006 - 2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007 - 2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008 - 2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018 - 2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

# New England Power Company ALL Divisions 365.00 OVERHEAD CONDUCTORS & DEVICES

Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2005 - 2020

**	Orginal Cost Of	Gross	Gross Salvage		Cost of Rem	<u>oval</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>		<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
Three - Year K	Rolling Bands								
2005 - 2020	0.00		0.00 #Nun	n!%	4,166.72	#Div/0!%	(4,166.72)	#Div/0!%	
Trend Analysis (	End Year)	2020							
*Based Upon Th	ree - Year Rolling Averag	es				<u>Lir</u>	Gross Salvage near Trend Analysis		
Annual Inflation R	ate 2.75	5%					20 - Year Trend	0.00%	
Average Service	Life (ASL) 35	5.0					15 - Year Trend 10 - Year Trend	0.00%	
Average Retireme	ent Age (Yrs)	0.0				2016-2020	5 - Year Trend	0.00%	
Years To ASL	35	5.0							
Inflation Factor At	2.75% to ASL 2.	58							
Force	asted								
Gross Salvag ( Five Yea									
Cost Of Rem	oval #Type!								
Net Salvage	#Type!								

%0

2020

2019

2018

2017

2016

2015

2012 2013 2014

2011

2010

2009

2008

2007

2006

2005

2004

0.00%

10.00%

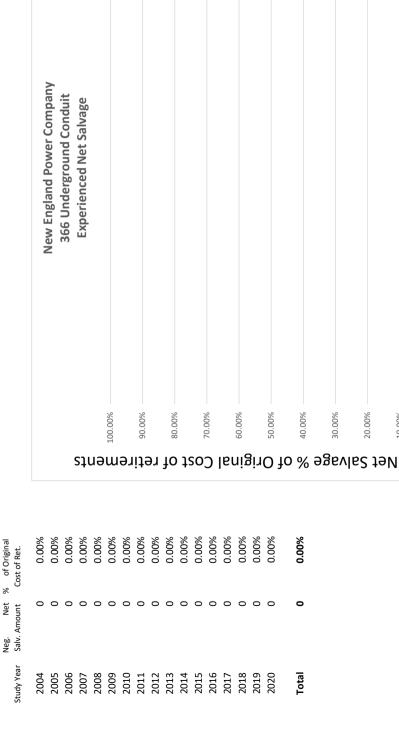
20.00%

Study Year

any	ed Net Salvage
<b>New England Power Comp</b>	<b>Trend Analysis of Experien</b>

t Salvage of Original

Net %





# New England Power Company ALL Divisions 366.00 UNDERGROUND CONDUIT

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

Orginal Cost Of<br/>YearGross Salvage<br/>RetirementsCost of Removal<br/>AmountNet Salvage<br/>AmountYearRetirementsAmount%Amount%

**Annual Activity** 

No Retirement / Net Salvage Data Found For This Account

#Type!

**Net Salvage** 

### New England Power Company ALL Divisions

### 366.00 UNDERGROUND CONDUIT

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

Year Orginal Co.	Cost Of	Gross Salvage			Cost o	f Rem	<u>oval</u>	Net Salvage	
<u>Year</u> <u>Retiren</u>		<u>Amoun</u>	<u>ıt</u>	<u>%</u>	<u>Amount</u>		<u>%</u>	Amount	<u>%</u>
Three - Year Rolling Ba	<u>unds</u>								
	No Ret	irement /	Net S	alvage Da	ta Found Fo	r This	Account		
	0.00		0.00	#Num!%		0.00	#Num!%	0.00	#Num! %
Trend Analysis (End Year)		2020							
*Based Upon Three - Year R	Rolling Averages						<u>Li</u>	Gross Salvage inear Trend Analysis	
Annual Inflation Rate	2.75%							20 - Year Trend	%
Average Service Life (ASL)	60.0							15 - Year Trend 10 - Year Trend	%
Average Retirement Age (Yrs	) 0.0							5 - Year Trend	% %
Years To ASL	60.0								
Inflation Factor At 2.75% to A	ASL 5.09								
Forcasted									
Gross Salvage ( Five Year Trend )	%								
Cost Of Removal	#Type!								

%0

2020

2019

2018

2017

2016

2015

2012 2013 2014

2011

2010

2009

2008

2007

2006

2005

2004

0.00%

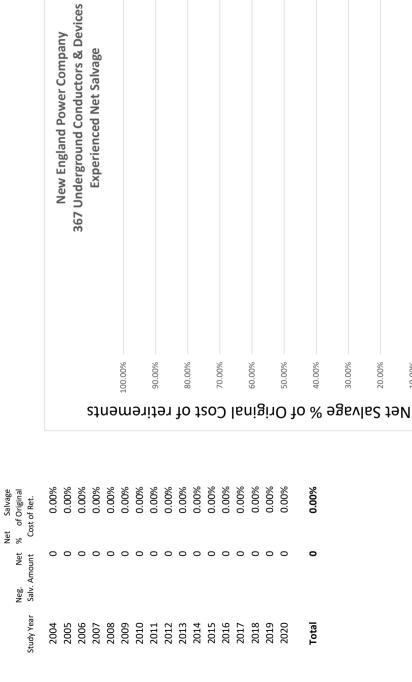
10.00%

20.00%

30.00%

Study Year

	Net Sa
Company	xperienced Net Sa
-	.53
ngland Power	lysis of E
v Engla	nd Analysis





7-52

# New England Power Company ALL Divisions 367.00 UNDERGROUND CONDUCTORS & DEVICES

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

Orginal Cost Of<br/>YearGross Salvage<br/>RetirementsCost of Removal<br/>AmountNet Salvage<br/>Amount4mount4mount4mount4mount4mount4mount

**Annual Activity** 

No Retirement / Net Salvage Data Found For This Account

# New England Power Company ALL Divisions 367.00 UNDERGROUND CONDUCTORS & DEVICES

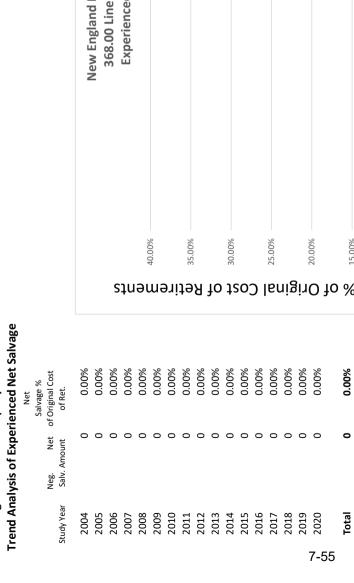
### Forecasted Future Net Salvage Based Upon Experienced Net Salvage

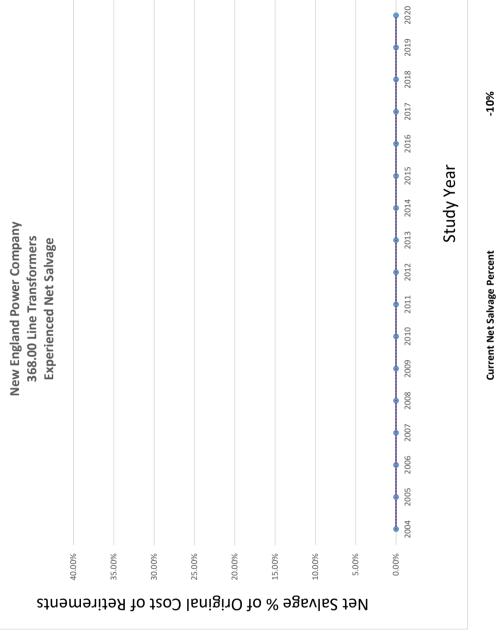
Voga Orginal C	Cost Of	Gros	s Salv	<u>vage</u>	Cost o	f Rem	<u>oval</u>	<u>Net Salva</u>	<u>ge</u>
Year Retiren		Amoun	t	<u>%</u>	Amount	<u> </u>	<u>%</u>	Amount	<u>%</u>
Three - Year Rolling Bo	<u>ands</u>								
	No Ret	irement /	Net S	alvage Da	ta Found Fo	r This	Account		
	0.00		0.00	#Num!%		0.00	#Num!%	0.00	#Num! %
Trend Analysis (End Year)		2020							
*Based Upon Three - Year F	Rolling Averages						<u>L</u>	Gross Salvage inear Trend Analysis	
Annual Inflation Rate	2.75%							20 - Year Trend	%
Average Service Life (ASL)	35.0							15 - Year Trend 10 - Year Trend	%
Average Retirement Age (Yrs	0.0							5 - Year Trend	% %
Years To ASL	35.0								
Inflation Factor At 2.75% to A	ASL 2.58								
Forcasted									
Gross Salvage ( Five Year Trend )	%								
Cost Of Removal	#Type!								
Net Salvage	#Type!								

%0

Depr Study Proposed Negative Net Salvage

**New England Power Company** 





# New England Power Company ALL Divisions 368.00 LINE TRANSFORMERS-INSTALLATION

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

Orginal Cost Of<br/>YearGross Salvage<br/>RetirementsCost of Removal<br/>AmountNet Salvage<br/>AmountYearRetirementsAmount%Amount%

**Annual Activity** 

No Retirement / Net Salvage Data Found For This Account

# New England Power Company ALL Divisions 368.00 LINE TRANSFORMERS-INSTALLATION

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage

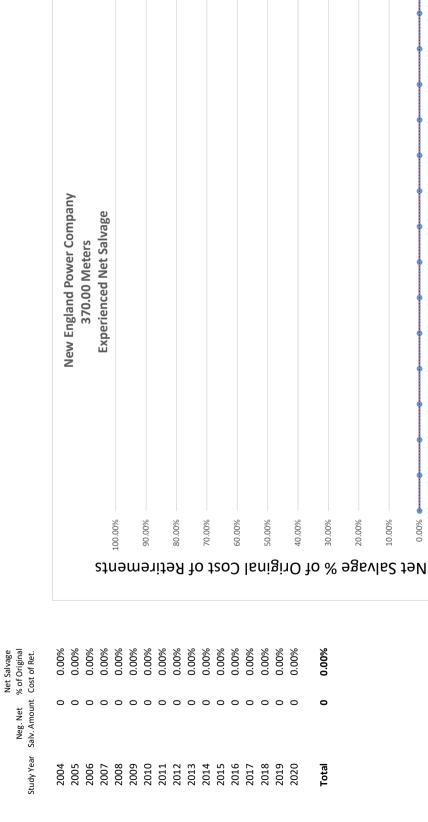
Voge Orginal C	Cost Of	Gross Salvage		Cost of Rea	<u>noval</u>	Net Salvage		
Year Retirem		Amoun	<u>t</u>	<u>%</u>	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>
Three - Year Rolling Ba	<u>ınds</u>							
	No Ret	irement /	Net S	alvage Dat	a Found For Thi	s Account		
	0.00		0.00	#Num!%	0.00	) #Num!%	0.00	#Num! %
Trend Analysis (End Year)		2020						
*Based Upon Three - Year R	colling Averages					<u>L</u>	Gross Salvage inear Trend Analysis	
Annual Inflation Rate	2.75%						20 - Year Trend	%
Average Service Life (ASL)	25.0						15 - Year Trend 10 - Year Trend	% %
Average Retirement Age (Yrs)	0.0						5 - Year Trend	%
Years To ASL	25.0							
Inflation Factor At 2.75% to A	SL 1.97							
Forcasted								
Gross Salvage	%							
(Five Year Trend)								
Cost Of Removal	#Type!							
Net Salvage	#Type!							

o	`
ř	•
٠.	•

0.00%

10.00%

Study Year





# New England Power Company ALL Divisions 370.00 LARGE METERS-INSTALLATION

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

	Orginal Cost Of	Gross Salv	age	Cost of Remo	<u>val</u>	Net Salvag	<u>e</u>
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Annua	ıl Activity						
2004	4,109.05	0.00	0.00%	0.00	0.00%	0.00	0.00%
2005	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2006	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	8,774.12	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

### New England Power Company **ALL Divisions** 370.00 LARGE METERS-INSTALLATION

### Forecasted Future Net Salvage

Based Upon Experienced Net Salvage 2004 - 2020

**	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage		
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>	
Three - Yea	ar Rolling Bands							
2004 - 2006	4,109.05	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2005 - 2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2006 - 2008	8,774.12	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2007 - 2009	8,774.12	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2008 - 2010	8,774.12	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2009 - 2011	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2010 - 2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2011 - 2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2012 - 2014	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2013 - 2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2014 - 2016	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2015 - 2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2016 - 2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	
2018 - 2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%	

#### Filed Date: 10/29/2021

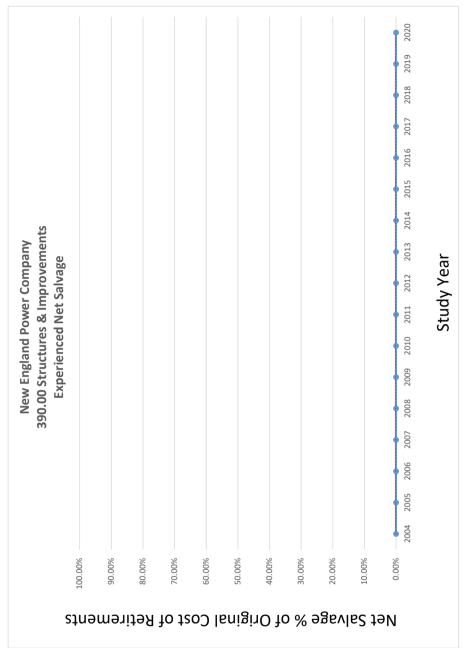
### New England Power Company **ALL Divisions**

### 370.00 LARGE METERS-INSTALLATION

Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

**	Orginal Cost Of	•	Gross	Salva	<u>ige</u>	Cost of Rem	<u>oval</u>	<u>Net Salve</u>	<u>ige</u>
<u>Year</u>	Retirements	-	<u>Amount</u>		<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Year</u>	Rolling Bands								
2004 - 2020	12,883.17			0.00	0.00%	0.00	0.00%	0.00	0.00%
Trend Analysis	s (End Year)		2020						
*Based Upon	Γhree - Year Rolling A	verages					<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflation	Rate	2.75%						20 - Year Trend	0.00%
Average Servic	e Life (ASL)	45.0						15 - Year Trend 10 - Year Trend	0.00%
Average Retire	ment Age (Yrs)	7.8						5 - Year Trend	0.00% 0.00%
Years To ASL		37.2							
Inflation Factor	At 2.75% to ASL	2.74							
<u>For</u>	casted								
Gross Salva ( Five Y	age 0.00 ear Trend)	%							
Cost Of Rei	moval 0.00	0%							
Net Salvage	9.00	0%							

ew Engla	New England Power Company	r Com	pany
nd Ana	IIYSIS OT E)	kperie	irend Analysis of Experienced Net Salvage <sub>Net</sub>
	Neg.	Salv	Salvage %
	Net Salv.	of Orig	of Original Cost
Study Year	Amount	б	of Ret.
2004		0	0.00%
2005		0	%00.0
2006		0	%00.0
2007		0	%00.0
2008		0	%00.0
2009		0	%00.0
2010		0	%00.0
2011		0	%00.0
2012		0	%00.0
2013		0	%00.0
2014		0	%00.0
2015		0	%00.0
2016		0	%00.0
2017		0	%00.0
2018		0	%00.0
2019		0	%00.0
2020		0	%00.0
Total	_	0	0.00%



%0

-5%

-5%

**Depr Study Proposed Negative Net Salvage** 

**Current Net Salvage Percent** 

# New England Power Company ALL Divisions 390.00 STRUCTURES AND IMPROVEMENTS

Forecasted Future Net Salvage Based Upon Experienced Net Salvage

YearOrginal Cost Of<br/>RetirementsGross Salvage<br/>AmountCost of Removal<br/>AmountNet Salvage<br/>AmountYearRetirementsAmount%Amount%

**Annual Activity** 

No Retirement / Net Salvage Data Found For This Account

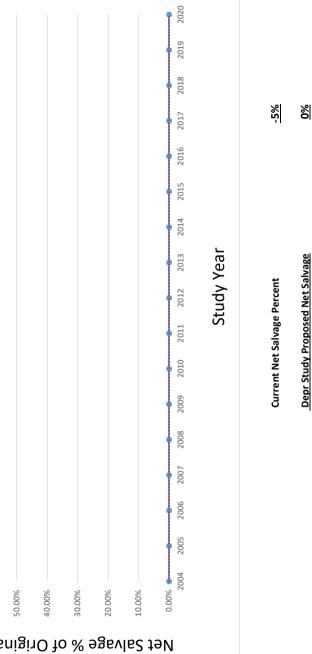
# New England Power Company ALL Divisions 390.00 STRUCTURES AND IMPROVEMENTS

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage

Orginal	Cost Of	Gros	s Salv	<u>vage</u>	Cost of R	Remo	<u>val</u>	<u>Net Salva</u>	<u>ge</u>
	<u>ements</u>	<u>Amoun</u>	<u>t</u>	<u>%</u>	Amount		<u>%</u>	Amount	<u>%</u>
Three - Year Rolling	<u>Bands</u>								
	No Ref	irement /	Net S	alvage Da	a Found For T	his <i>i</i>	Account		
	0.00		0.00	#Num!%	0	0.00	#Num!%	0.00	#Num! %
Trend Analysis (End Year	•)	2020							
*Based Upon Three - Yea	r Rolling Averages						<u>L</u>	Gross Salvage inear Trend Analysis	
Annual Inflation Rate	2.75%							20 - Year Trend	%
Average Service Life (ASL)	50.0							15 - Year Trend	%
Average Retirement Age (\)	⁄rs) 0.0							10 - Year Trend 5 - Year Trend	% %
Years To ASL	50.0								
Inflation Factor At 2.75% to	o ASL 3.88								
<u>Forcasted</u>									
Gross Salvage ( Five Year Trend	% I)								
Cost Of Removal	#Type!								
Net Salvage	#Type!								

# New England Power Company Trend Analysis of Experienced Net Salvage

	Nov. Caracles and Desired	New England Power Company	391.00 Office Furniture & Equipment	Experienced Net Salvage															
			;	sti	100:00%	u	90.00%	iite	- 80:00%	ło	† C		) (6.0%		ui:		1O	30:00%	
Net Salvage % of Original Cost of Ret.	0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	0.00%	0.00%	0.00%	0.00%	0.00%	
Net Salvage Neg. Net % of Origina Salv. Amount Cost of Ret	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ne Study Year Salv	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	
															<b>,</b>	٦.			



# New England Power Company ALL Divisions 391.00 OFFICE FURNITURE & EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

	Orginal Cost Of	Gross Salv	<u>vage</u>	Cost of Remo	<u>val</u>	<u>Net Salvag</u>	<u>e</u>
<u>Year</u>	Retirements	Amount	<u>%</u>	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>
Annu	al Activity						
2004	0.01	0.00	0.00%	0.00	0.00%	0.00	0.00%
2005	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2006	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	19,395.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	18,389.78	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	30,830.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

# New England Power Company ALL Divisions 391.00 OFFICE FURNITURE & EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2004 - 2020

**	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	<u>Net Salvag</u>	<u>e</u>
<u>Year</u>	<u>Retirements</u>	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Yea	ur Rolling Bands						
2004 - 2006	0.01	0.00	0.00%	0.00	0.00%	0.00	0.00%
2005 - 2007	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2006 - 2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007 - 2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008 - 2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	19,395.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	19,395.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	19,395.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	18,389.78	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	18,389.78	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	49,220.35	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	30,830.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	30,830.57	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018 - 2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

### New England Power Company ALL Divisions 391.00 OFFICE FURNITURE & EQUIPMENT

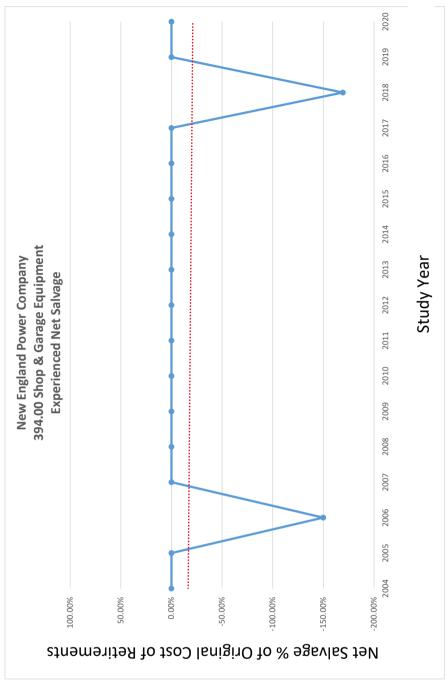
### Forecasted Future Net Salvage

Based Upon Experienced Net Salvage 2004 - 2020

. 0	rginal Cost Of	Gros	s Salve	<u>age</u>	Cost of Rem	<u>oval</u>	Net Salva	<u>ige</u>
<u>Year</u>	Retirements	<u>Amount</u>	t	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Year Ro	olling Bands							
2004 - 2020	68,615.93		0.00	0.00%	0.00	0.00%	0.00	0.00%
Trend Analysis (E	nd Year)	2020						
*Based Upon Thre	e - Year Rolling Averaç	jes				<u>Li</u>	Gross Salvage near Trend Analysis	
Annual Inflation Ra Average Service Li Average Retiremen Years To ASL	fe (ASL) 20 t Age (Yrs) 15	5% 6.0 5.2 0.8				2006-2020	20 - Year Trend 15 - Year Trend 10 - Year Trend 5 - Year Trend	0.00% 0.00% 0.00% 0.00%
Inflation Factor At		34						
<b>Gross Salvage</b> ( Five Year								
Cost Of Remo	val 0.00%							
Net Salvage	0.00%							

New England Power Company Trend Analysis of Experienced Net Salvage

Net Salvage % of Original Cost of Ret.	0.00%	0.00%	-149.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00:0	-169.23%	0.00%	%00:0	-149.81%
	0	0		0	0	0	0	0	0	0	0	0	0	0		0	0	
Neg. Net Salv. Amount	J	J	-72,498	J	•	J	J	J	J	J	J	J	•	J	-7,046	•	J	-72,498
Study Year	2004	2002	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total





# New England Power Company ALL Divisions 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2006 - 2020

	Orginal Cost Of	Gross Salv	age	Cost of Rem	oval	<u>Net Salvage</u>	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	ul Activity						
2006	48,393.54	0.00	0.00%	0.00	0.00%	0.00	0.00%
2007	1.00	0.00	0.00%	72,497.55	9755.00%	(72,497.55)	19755.00%
2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	30,518.27	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	136,639.90	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	123,142.84	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	29,585.19	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	4,163.65	0.00	0.00%	7,046.00	169.23%	(7,046.00)	-169.23%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	96,239.68	0.00	0.00%	0.00	0.00%	0.00	0.00%

# New England Power Company ALL Divisions 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2006 - 2020

••	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Removal		Net Salvage	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Yea</u>	r Rolling Bands						
2006 - 2008	48,394.54	0.00	0.00%	72,497.55	149.81%	(72,497.55)	-149.81%
2007 - 2009	1.00	0.00	0.00%	72,497.55	19755.00%	(72,497.55)	19755.00%
2008 - 2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	30,518.27	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	30,518.27	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2013	167,158.17	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	259,782.74	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	259,782.74	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	152,728.03	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	29,585.19	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	33,748.84	0.00	0.00%	7,046.00	20.88%	(7,046.00)	-20.88%
2017 - 2019	4,163.65	0.00	0.00%	7,046.00	169.23%	(7,046.00)	-169.23%
2018 - 2020	100,403.33	0.00	0.00%	7,046.00	7.02%	(7,046.00)	-7.02%

**Net Salvage** 

-23.05%

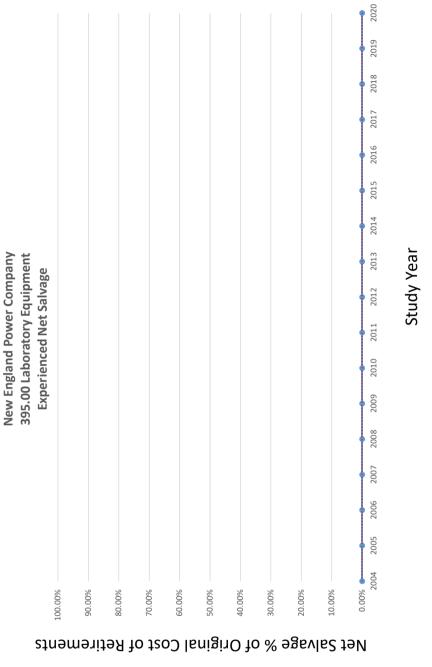
# New England Power Company ALL Divisions 394.00 TOOLS, SHOP & GARAGE EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2006 - 2020

<b>V</b>	Orginal Co	ost Of	Gros	s Salve	<u>ige</u>	Cost of Rem	<u>oval</u>	Net Salvage				
<u>Year</u>	Retirem		Amoun	t	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>			
Three - Year	r Rolling Bai	<u>nds</u>										
2006 - 2020	468,€	684.07		0.00	0.00%	79,543.55	16.97%	(79,543.55)	-16.97%			
Trend Analysi	is (End Year)		2020									
*Based Upon	Three - Year Ro	olling Averages					<u>Lir</u>	Gross Salvage near Trend Analysis				
Annual Inflation	n Rate	2.75%						20 - Year Trend	0.00%			
Average Service	ce Life (ASL)	24.0						15 - Year Trend 10 - Year Trend	0.00%			
Average Retire	ement Age (Yrs)	12.7					2011-2020	5 - Year Trend	0.00%			
Years To ASL		11.3										
Inflation Factor	r At 2.75% to As	SL 1.36										
For	rcasted											
Gross Salv ( Five Y	rage rear Trend)	0.00%										
Cost Of Re	moval	23.05%										

%0

				100.00%		%00.06		80.00%		70.00%		%00.09		20.00%		40.00%		30.00%
		,	sji	uə	ш	L.	įΤέ	ЭЯ	ł	ţ c	SC	C	le	uį	gi <sup>-</sup>	Ю	łс	%
%00.0	%00.0	%00.0	0.00%	0.00%	%00.0	%00.0	%00.0	%00.0	0.00%	0.00%	%00.0	%00.0	%00.0	0.00%	0.00%	%00.0		%00.0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		Total
														7-7	73			



-5% % **Depr Study Proposed Net Salvage Current Net Salvage Percent** 

7-73

# New England Power Company ALL Divisions 395.00 LABORATORY EQUIPMENT

### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2011 - 2020

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	<u>val</u>	Net Salvage			
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>		
Annua	ul Activity								
2011	38,075.88	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2013	67,763.38	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2014	325,805.81	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2015	13,248.75	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2016	43,961.09	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2017	5,360.25	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2018	3,215.59	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%		
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%		

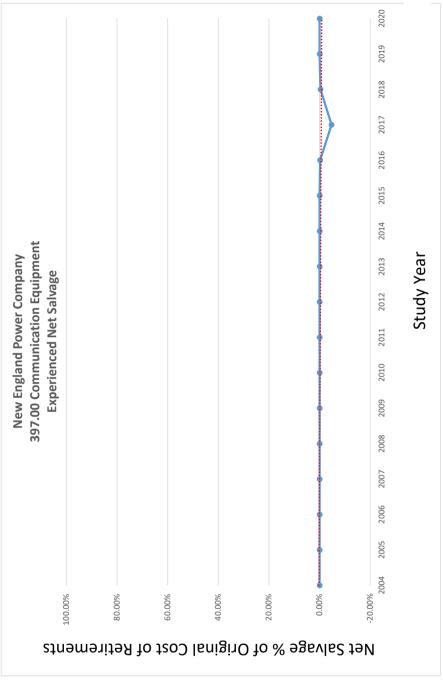
# New England Power Company ALL Divisions 395.00 LABORATORY EQUIPMENT

Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2011 - 2020

	Orginal Cost Of	f	Gross Salve	age	Cost of Rem	<u>oval</u>	Net Salvage			
Year Retirements			Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>		
Three - Yea	r Rolling Bands									
2011 - 2013	105,839.26		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2012 - 2014	393,569.19		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2013 - 2015	406,817.94		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2014 - 2016	383,015.65		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2015 - 2017	62,570.09		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2016 - 2018	52,536.93		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2017 - 2019	8,575.84		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2018 - 2020	3,215.59		0.00	0.00%	0.00	0.00%	0.00	0.00%		
2011 - 2020	497,430.75		0.00	0.00%	0.00	0.00%	0.00	0.00%		
Trend Analys	is (End Year)		2020							
*Based Upon	Three - Year Rolling A	Averages				<u>Lir</u>	Gross Salvage near Trend Analysis			
Annual Inflation	on Rate	2.75%				2001-2020 2006-2020	20 - Year Trend 15 - Year Trend	0.00% 0.00%		
Average Servi	ice Life (ASL)	28.0				2011-2020	10 - Year Trend	0.00%		
-	ement Age (Yrs)	13.5				2016-2020	5 - Year Trend	0.00%		
Years To ASL		14.5								
Inflation Facto	or At 2.75% to ASL	1.48								
<u>Fo</u>	ercasted									
Gross Salv ( Five )	<b>vage</b> 0.00 Year Trend)	)%								
Cost Of Re	emoval 0.0	0%								
Net Salvag	<b>je</b> 0.0	0%								

# New England Power Company Trend Analysis of Experienced Net Salvage

	sants 100,00%					of Retireme											iginO 1		
Net Salvage % of Original Cost of Ret.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	%00.0	0.00%	0.00%	-0.22%	-4.73%	-0.34%	%00.0	%00.0		-0.17%
Neg. Net · Salv. Amount	0	0	0	0	0	0	0	0	0	0	0	0	-2,764	-1,393	-5,318	0	0		-4,156
Study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		Total



## New England Power Company ALL Divisions 397.00 COMMUNICATION EQUIPMENT

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2007 - 2020

	Orginal Cost Of	Gross Salv	age	Cost of Remov	<u>val</u>	Net Salvage	
<u>Year</u>	Retirements	<u>Amount</u>	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	ul Activity						
2007	34,579.23	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009	5,240.88	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2011	540,019.26	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	(944.62)	0.00%	944.62	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	476,082.66	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	59,950.97	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	1,260,042.46	562.40	0.04%	4,271.04	0.34%	(3,708.64)	-0.29%
2017	29,424.18	0.00	0.00%	1,392.78	4.73%	(1,392.78)	-4.73%
2018	1,580,810.00	0.00	0.00%	5,317.57	0.34%	(5,317.57)	-0.34%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	139,179.91	0.00	0.00%	0.00	0.00%	0.00	0.00%

## New England Power Company ALL Divisions 397.00 COMMUNICATION EQUIPMENT

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2007 - 2020

••	Orginal Cost Of	Gross Salva	<u>ige</u>	Cost of Remo	<u>val</u>	Net Salvage	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
<u>Three - Yea</u>	r Rolling Bands						
2007 - 2009	39,820.11	0.00	0.00%	0.00	0.00%	0.00	0.00%
2008 - 2010	5,240.88	0.00	0.00%	0.00	0.00%	0.00	0.00%
2009 - 2011	545,260.14	0.00	0.00%	0.00	0.00%	0.00	0.00%
2010 - 2012	540,019.26	0.00	0.00%	(944.62)	-0.17%	944.62	0.17%
2011 - 2013	540,019.26	0.00	0.00%	(944.62)	-0.17%	944.62	0.17%
2012 - 2014	476,082.66	0.00	0.00%	(944.62)	-0.20%	944.62	0.20%
2013 - 2015	536,033.63	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	1,796,076.09	562.40	0.03%	4,271.04	0.24%	(3,708.64)	-0.21%
2015 - 2017	1,349,417.61	562.40	0.04%	5,663.82	0.42%	(5,101.42)	-0.38%
2016 - 2018	2,870,276.64	562.40	0.02%	10,981.39	0.38%	(10,418.99)	-0.36%
2017 - 2019	1,610,234.18	0.00	0.00%	6,710.35	0.42%	(6,710.35)	-0.42%
2018 - 2020	1,719,989.91	0.00	0.00%	5,317.57	0.31%	(5,317.57)	-0.31%

## New England Power Company ALL Divisions 397.00 COMMUNICATION EQUIPMENT

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2007 - 2020

<b>T</b> 7	Orginal Cost Of	dross Suivage		Cost of Ken	<u>iovai</u>	<u>Net Suivage</u>	
<u>Year</u>	Retirements	Amount	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
and the							

Gross Salvaga

#### Three - Year Rolling Bands

2007 - 2020 4,125,329.55 562.40 0.01% 10,036.77 0.24% (9,474.37) -0.23%

Trend Analysis (End Year) 2020

\*Based Upon Three - Year Rolling Averages

\*Based Upon Three - Year Rolling Averages

Linear Trend Analysis

2001-2020 20 - Year Trend 0.01% Annual Inflation Rate 2.75% 2006-2020 15 - Year Trend 0.01% Average Service Life (ASL) 30.0 2011-2020 10 - Year Trend 0.02% Average Retirement Age (Yrs) 14.4 2016-2020 5 - Year Trend 0.00% \* Years To ASL 15.6

Inflation Factor At 2.75% to ASL 1.53

Cost of Removal

Not Salvago

#### **Forcasted**

Gross Salvage 0.00% \*

(Five Year Trend)

Cost Of Removal 0.37% Net Salvage -0.37%

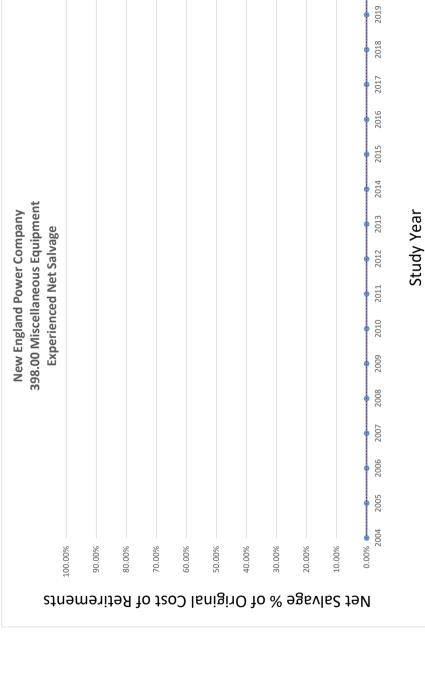
<sup>\*</sup>Forecasted Gross Salvage Calculates To Less Than 0.00%---Percentage Set To A Floor of 0.00%.

%0

2020

Net Salvage Neg. Net % of Original Year Salv. Amount Cost of Ret.

					100.00%		%00.06		80.00%		70.00%		%00.09		50.00%		40.00%		200
				sji	иə	ш	, L	it	ЭЯ	ł	ţ c	.SC	CC	le	uį	gin	Ю	łc	9
Cost of Ret.	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0	%00.0		0.00%
Salv. Amount	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
Study Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		Total





## New England Power Company ALL Divisions 398.00 MISCELLANEOUS EQUIPMENT

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2011 - 2020

	Orginal Cost Of	Gross Salv	<u>age</u>	Cost of Remo	<u>val</u>	Net Salvage	
<u>Year</u>	Retirements	Amount %		Amount	<u>%</u>	Amount	<u>%</u>
<u>Annua</u>	l Activity						
2011	4,787.75	0.00	0.00%	0.00	0.00%	0.00	0.00%
2012	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2013	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2014	6,101.10	0.00	0.00%	0.00	0.00%	0.00	0.00%
2015	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2016	2,529.52	0.00	0.00%	0.00	0.00%	0.00	0.00%
2017	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2018	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2019	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%
2020	0.00	0.00	0.00%	0.00	0.00%	0.00	0.00%

## New England Power Company ALL Divisions 398.00 MISCELLANEOUS EQUIPMENT

#### Forecasted Future Net Salvage Based Upon Experienced Net Salvage 2011 - 2020

***	Orginal Cost Of	<u>G</u>	ross Salv	age	Cost of Rem	<u>oval</u>	Net Salva	<u>ige</u>
<u>Year</u>	Retirements	Amo	unt	<u>%</u>	Amount	<u>%</u>	Amount	<u>%</u>
Three - Year	r Rolling Bands							
2011 - 2013	4,787.75		0.00	0.00%	0.00	0.00%	0.00	0.00%
2012 - 2014	6,101.10		0.00	0.00%	0.00	0.00%	0.00	0.00%
2013 - 2015	6,101.10		0.00	0.00%	0.00	0.00%	0.00	0.00%
2014 - 2016	8,630.62		0.00	0.00%	0.00	0.00%	0.00	0.00%
2015 - 2017	2,529.52		0.00	0.00%	0.00	0.00%	0.00	0.00%
2016 - 2018	2,529.52		0.00	0.00%	0.00	0.00%	0.00	0.00%
2017 - 2019	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%
2018 - 2020	0.00		0.00	0.00%	0.00	0.00%	0.00	0.00%
2011 - 2020	13,418.37		0.00	0.00%	0.00	0.00%	0.00	0.00%
Trend Analysi	is (End Year)	2020	)					
*Based Upon	Three - Year Rolling Av	erages				<u>Lir</u>	Gross Salvage near Trend Analysis	
Annual Inflation	n Rate	2.75%				2001-2020	20 - Year Trend	0.00%
Average Service	ce Life (ASL)	0.0					15 - Year Trend	0.00%
Average Retire	ement Age (Yrs)	16.5				2011-2020 2016-2020	10 - Year Trend 5 - Year Trend	0.00% 0.00%
Years To ASL		-16.5						
Inflation Factor	r At 2.75% to ASL	0.64						
	td							
Fo	<u>rcasted</u>							
Gross Salv		ó						
Gross Salv	rage 0.00% 'ear Trend )							

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

## **Exhibit NEP-4 Estimated Cost of Service Impacts**

# New England Power Company Estimated Cost of Service Impacts Summary of Revenue Requirements Impact For Costs in Calendar Year 2020 Exhibit NEP-4 Schedule 1

		(A)	(B)	(C) = (B) - (A)	
Line No.	Description	Present Rates CY20	Proposed Rates CY20	Effect of Depreciation Rate Change	Reference
1	RNS Pre-1997	159,193,743	162,419,270	3,225,527	Exhibit NEP - 7a
2	RNS Post-1996	266,639,967	288,329,180	21,689,213	Exhibit NEP - 7b
3	LNS	154,983,571	164,052,149	9,068,578	Exhibit NEP - 7c
4	GISOT	10,688,681	9,815,650	(873,031)	Exhibit NEP - 7d
5	Total	591,505,962	624,616,249	33,110,287	

# New England Power Company Estimated Cost of Service Impacts Annual Revenue Requirements of Pre-1997 PTF Facilities Comparison of Revenue Requirements based on Current and Proposed Depreciation Rates For Costs in Calendar Year 2020 Exhibit NEP-4 Selectule 2

Schedule 2

		(A)	(B)	(C) = (B) - (A) Effect of Depreciation Rate
<u>ne No.</u>	Transmission Investment Base:	Present Rates CY20 (a)	Proposed Rates CY20 (b)	Change
1	Transmission Plant	299,869,275	\$299,869,275	0
2	General Plant	554,711	554,711	0
3	Plant Held For Future Use	98,734	98,734	0
4	Total Plant (Lines 1+2+3)	300,522,720	\$300,522,720	0
5	Accumulated Depreciation	(59,567,081)	(63,316,664)	(3,749,583)
6	Accumulated Deferred Income Taxes	(34,920,917)	(36,234,743)	(1,313,826)
7	Loss On Reacquired Debt	-	-	0
8	Other Regulatory Assets	(25,949,785)	(25,949,785)	0
9	Net Investment (Line 4+5+6+7+8)	180,084,937	\$175,021,528	(5,063,409)
10	Prepayments	107,797	\$107,797	0
11	Materials & Supplies	384,498	\$384,498	0
12	Cash Working Capital	1,093,511	\$1,093,511	0
14	Total Investment Base (Line 9+10+11+12+13)	181,670,743	\$176,607,334	(5,063,409)
14	Total Investment Base (Line 9+10+11+12+13)  Transmission Revenue Requirements	181,670,743	\$176,607,334	(5,063,409)
14	· · · · · ·	181,670,743 18,867,924	\$176,607,334 \$18,343,868	(5,063,409)
	Transmission Revenue Requirements			
15	Transmission Revenue Requirements  Investment Return and Income Taxes	18,867,924	\$18,343,868	(524,056)
15 16	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense	18,867,924	\$18,343,868 \$10,483,705	(524,056) 3,749,583
15 16 17	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt	18,867,924 6,734,122	\$18,343,868 \$10,483,705 \$0	(524,056) 3,749,583 0
15 16 17 18	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit	18,867,924 6,734,122 - (23,325)	\$18,343,868 \$10,483,705 \$0 (\$23,325)	(524,056) 3,749,583 0
15 16 17 18 19	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense	18,867,924 6,734,122 - (23,325) 5,034,930	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930	(524,056) 3,749,583 0 0
15 16 17 18 19 20	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense	18,867,924 6,734,122 - (23,325) 5,034,930 251,834	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834	(524,056) 3,749,583 0 0 0
15 16 17 18 19 20 21	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836	(524,056) 3,749,583 0 0 0 0
15 16 17 18 19 20 21 22	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248	(524,056) 3,749,583 0 0 0 0 0
15 16 17 18 19 20 21 22 23	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248 123,486,148	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248 \$123,486,148	(524,056) 3,749,583 0 0 0 0 0 0
15 16 17 18 19 20 21 22 23 24	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248 123,486,148 (4,184,362)	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248 \$123,486,148 (\$4,184,362)	(524,056) 3,749,583 0 0 0 0 0 0 0
15 16 17 18 19 20 21 22 23 24 25	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248 123,486,148 (4,184,362)	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248 \$123,486,148 (\$4,184,362) \$465,355	(524,056) 3,749,583 0 0 0 0 0 0 0 0
15 16 17 18 19 20 21 22 23 24 25 26	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense Transmission Related Expense Transmission Related Expense	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248 123,486,148 (4,184,362)	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248 \$123,486,148 (\$4,184,362) \$465,355 \$0	(524,056) 3,749,583 0 0 0 0 0 0 0 0 0
15 16 17 18 19 20 21 22 23 24 25 26 27	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense Transmission Related Expense From Generators Transmission Related Taxes and Fees Charge	18,867,924 6,734,122 - (23,325) 5,034,930 251,834 4,126,836 4,621,248 123,486,148 (4,184,362) 465,355	\$18,343,868 \$10,483,705 \$0 (\$23,325) \$5,034,930 \$251,834 \$4,126,836 \$4,621,248 \$123,486,148 (\$4,184,362) \$465,355 \$0 \$0	(524,056) 3,749,583 0 0 0 0 0 0 0 0 0 0

Notes
(a)
(b) Period I Revenue Requirements - NEP's actual Pre-1997 PTF revenue requirement as filed in the 2021 PTO AC Annual Informational Filing on June 15, 2021. Period II Revenue Requirements - the adjusted Period I data with the proposed Depreciation Rate updates

#### New England Power Company

#### **Estimated Cost of Service Impacts**

### Annual Revenue Requirements of Post-1996 PTF Facilities Comparison of Revenue Requirements based on Current and Proposed Depreciation Rates

For Costs in Calendar Year 2020 Exhibit NEP-4 Schedule 3

		(A)	(B)	(C) = (B) - (A) Effect of Depreciation Rate
<u>ne No.</u>	Transmission Investment Base:	Present Rates CY20 (a)	Proposed Rates CY20 (b)	Change
1	Transmission Plant	\$2,017,236,646	\$2,017,236,646	\$0
2	General Plant	\$3,731,561	\$3,731,561	\$0
3	Plant Held For Future Use	\$664,189	\$664,189	\$0
4	Total Plant (Lines 1+2+3)	\$2,021,632,396	\$2,021,632,396	\$0
5	Accumulated Depreciation	(\$400,710,145)	(\$425,933,741)	(\$25,223,596)
6	Accumulated Deferred Income Taxes	(\$234,914,410)	(\$243,752,570)	(\$8,838,160)
7	Loss On Reacquired Debt	\$0	\$0	\$0
8	Other Regulatory Assets	(\$174,565,248)	(\$174,565,248)	\$0
9	Net Investment (Line 4+5+6+7+8)	\$1,211,442,593	\$1,177,380,837	(\$34,061,756)
10	Prepayments	\$725,155	\$725,155	\$0
11	Materials & Supplies	\$2,586,536	\$2,586,536	\$0
12	Cash Working Capital	\$7,356,089	\$7,356,089	\$0
13	NEEWS CWIP	\$0	\$0	\$0
			A. 100 010 11E	(024.051.755
14	Total Investment Base (Line 9+10+11+12+13)	\$1,222,110,373	\$1,188,048,617	(\$34,061,756
14	Total Investment Base (Line 9+10+11+12+13)  Transmission Revenue Requirements	\$1,222,110,373	\$1,188,048,617	(\$34,061,750
14		\$1,222,110,373 \$128,340,919	\$1,188,048,617 \$124,806,536	
	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense			(\$3,534,383
15	Transmission Revenue Requirements  Investment Return and Income Taxes	\$128,340,919	\$124,806,536	(\$3,534,383 \$25,223,596
15 16	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense	\$128,340,919 \$45,300,712	\$124,806,536 \$70,524,308	(\$3,534,383 \$25,223,596 \$(
15 16 17	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt	\$128,340,919 \$45,300,712 \$0	\$124,806,536 \$70,524,308 \$0	(\$3,534,383 \$25,223,596 \$( \$( \$6
15 16 17 18 19 20	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094	(\$3,534,383 \$25,223,596 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
15 16 17 18 19 20 21	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389	(\$3,534,383 \$25,223,596 \$( \$1 \$1 \$1
15 16 17 18 19 20 21 22	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322	(\$3,534,383) \$25,223,596 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
15 16 17 18 19 20 21 22 23	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0	(\$3,534,383 \$25,223,590 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0
15 16 17 18 19 20 21 22 23 24	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0	(\$3,534,383 \$25,223,596 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6
15 16 17 18 19 20 21 22 23 24 25	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0	(\$3,534,383 \$25,223,594 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6
15 16 17 18 19 20 21 22 23 24 25 26	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense Transmission Related Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0	(\$3,534,383) \$25,223,596 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6
15 16 17 18 19 20 21 22 23 24 25 26 27	Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Related Expense Transmission Related Expense Transmission Related Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0 \$0	(\$3,534,383 \$25,223,596 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1 \$1
15 16 17 18 19 20 21 22 23 24 25 26 27 28	Transmission Revenue Requirements  Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Support Expense Transmission Related Expense from Generators Transmission Related Taxes and Fees Charge Revenue for ST Trans. Service Under NEPOOL Tariff	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$1,465,329	(\$3,534,383 \$25,223,596 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6
15 16 17 18 19 20 21 22 23 24 25 26 27	Investment Return and Income Taxes Depreciation Expense Amortization of Loss on Reacquired Debt Investment Tax Credit Property Tax Expense Payroll Tax Expense Operation & Maintenance Expense Administrative & General Expense Transmission Related Integrated Facilities Charge Transmission Support Revenue Transmission Related Expense Transmission Related Expense Transmission Related Expense	\$128,340,919 \$45,300,712 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0	\$124,806,536 \$70,524,308 \$0 (\$156,909) \$33,870,179 \$1,694,094 \$27,761,389 \$31,087,322 \$0 \$0 \$0 \$0 \$0	(\$34,061,756)  (\$3,534,383) \$25,223,596 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00 \$0

#### Notes

(b) Period II Revenue Requirements - the adjusted Period I data with the proposed Depreciation Rate updates

<sup>(</sup>a) Period I Revenue Requirements - NEP's actual Post-1996 PTF revenue requirement as filed in the 2021 PTO AC Annual Informational Filing on June 15, 2021.

#### New England Power Company Estimated Cost of Service Impacts

## Local Network Service Comparison of Revenue Requirements based on Current and Proposed Depreciation Rates For Costs in Calendar Year 2020

#### For Costs in Calendar Year Exhibit NEP-4 Schedule 4

Line		(A)	<b>(B</b> )	$(\mathbf{C}) = (\mathbf{A}) + (\mathbf{B})$
No.	Transmission Investment Base:	Present Rates CY20 (a)	Effect of Depreciation Rate Change	Proposed Rates CY20 (b)
	Transmission Investment Base:			
1	Transmission Plant	\$3,073,639,814	\$0	\$3,073,639,814
2	Transmission-Related General Plant	\$5,769,161	\$0	\$5,769,161
3	Transmission Plant Held For Future Use	\$1,026,919	\$0	\$1,026,919
4	Transmission-Related Construction Work in Progress	\$0	\$0	\$0
5	Total Transmission Plant	\$3,080,435,893	\$0	\$3,080,435,893
6	Transmission-Related Depreciation Reserve	(\$602,184,085)	(\$20,653,298)	(\$622,837,383)
7	Transmission-Related Accumulated Deferred Taxes	(\$378,532,134)	(\$7,436,758)	(\$385,968,892)
8	Transmission-Related Loss on Reacquired Debt	\$0	\$0	\$0
9	Other Regulatory Assets	(\$276,658,037)	\$0	(\$276,658,037)
10	Allowance for Funds Used During Construction (AFUDC) Regulatory Liability	(\$1,730,257)	\$0	(\$1,730,257)
11	Transmission Prepayments	\$1,027,313	\$0	\$1,027,313
12	Transmission Materials and Supplies	\$3,353,116	\$0	\$3,353,116
13	Transmission-Related Cash Working Capital	\$12,815,185	\$0	\$12,815,185
14	Transmission Investment Base	\$1,838,526,995	(\$28,090,056)	\$1,810,436,939
	Transmission Revenue Requirements			
15	Return and Associated Income Taxes	\$184,102,697	(\$2,813,382)	\$181,289,315
16	Transmission Depreciation Expense	\$67,244,186	\$38,281,133	\$105,525,319
17	Transmission-Related Amortization of Loss on Reacquired Debt	\$0	\$0	\$0
18	Transmission-Related Amortization of Investment Tax Credits	(\$242,601)	\$0	(\$242,601)
19	Transmission-Related Amortization of FAS 109	\$0	\$0	\$0
20	Transmission-Related Municipal Tax Expense	\$52,371,347	\$0	\$52,371,347
21	Transmission Operation and Maintenance Expense	\$50,311,033	\$0	\$50,311,033
22	Transmission-Related Administration and General Expense	\$52,210,445	\$0	\$52,210,445
23	Transmission-Related Integrated Facilities Credit	\$178,415,531	\$0	\$178,415,531
24	Transmission Revenue Credit	(\$443,790,793)	(\$109,309)	(\$443,900,102)
25	Distribution-Related Integrated Facilities Credit	\$0	\$0	\$0
26	Billing Adjustments	\$3,473,191	\$0	\$3,473,191
27	Reactive Power Expense	\$0	\$0	\$0
28	Bad Debt Expense	\$161,416	\$0	\$161,416
29	Subtotal Transmission Revenue Requirements	\$144,256,451	\$35,358,443	\$179,614,894
30	Less: Out of period billing adjustments	\$4,496,285	\$0	\$4,496,285
31	Total Transmission Revenue Requirements	\$139,760,166	\$35,358,443	\$175,118,608
32	PTF Demand Charge	(\$15,223,405)	\$26,289,864	\$11,066,459
33	Non-PTF Demand Charge	\$154,983,571	\$9,068,578	\$164,052,149

#### Notes

<sup>(</sup>a) Period I Revenue Requirements - NEP's actual Local revenue requirement calculation as filed in the 2021 PTO AC Annual Informational Filing on June 15, 2021.

<sup>(</sup>b) Period II Revenue Requirements - the adjusted Period I data with the proposed Depreciation Rate updates

#### New England Power Company Estimated Cost of Service Impacts

#### Generation in Support of Transmission

#### Comparison of Revenue Requirements based on Current and Proposed Depreciation Rates

For Costs in Calendar Year 2020 Exhibit NEP-4 Schedule 5

Line		(A)	<b>(B)</b>	$(\mathbf{C}) = (\mathbf{A}) + (\mathbf{B})$
No.	Transmission Investment Base:	Present Rates CY20 (a)	Effect of Depreciation Rate change	Proposed Rates CY20 (b)
	Investment Base			
1	Supported Production Plant	\$77,777,406	\$0	\$77,777,406
2	Supported Production Depreciation Reserve	(\$5,647,481)	\$1,009,351	(\$4,638,130)
3	Allocated General Plant	\$1,453	\$0	\$1,453
4	Allocated General Depreciation Reserve	(\$712)	\$31	(\$680)
5	Accumulated Deferred Taxes	(\$15,820,024)	\$363,454	(\$15,456,569)
6	Prepayments	\$282	\$0	\$282
7	Materials and Supplies	\$0	\$0	\$0
8	Cash Working Capital	\$16,768	\$0	\$16,768
9	Investment Base	\$56,327,693	\$1,372,837	\$57,700,530
	Fixed Expense Charge			
10	Return and Associated Income Taxes	\$5,594,495	\$136,351	\$5,730,846
11	Depreciation Expense	\$3,973,208	(\$1,009,351)	\$2,963,857
12	Allocated General Depreciation Expense	\$66	(\$31)	\$34
13	Municipal Tax Expense	\$1,268,092	\$0	\$1,268,092
14	Operation and Maintenance Expense	\$118,051	\$0	\$118,051
15	Administration and General Expenses	\$12,122	\$0	\$12,122
16	Disposition of Property	\$0	\$0	\$0
17	Environmental Remediation Expense	\$0	\$0	\$0
18	Revenue Credit	(\$277,353)	\$0	(\$277,353)
19	Fixed Expense Charge	\$10,688,681	(\$873,031)	\$9,815,650

#### Notes

(b) Period II Revenue Requirements - the adjusted Period I data with the proposed Depreciation Rate updates

<sup>(</sup>a) Period I Revenue Requirements - NEP's actual GISOT revenue requirement as calculated on May 1, 2021 for the rates effective May 1, 2021 through April 30, 2022.

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### ATTACHMENT A

Clean Appendix D to Attachment F of the ISO-NE OATT

#### **New England Power Company** Appendix D to Attachment F of the ISO New England OATT **Depreciation and Amortization Rates**

	D	$\boldsymbol{C}$	
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Line	FERC Account		Annual Rate
No.	Number	FERC Account Description	Percentage
<u>I. Tran</u>	smission Plant		
1	350	Land and Land Rights	0.00%
2	352	Structures and Improvements	2.21%
3	353	Station Equipment	3.28%
4	354	Towers and Fixtures	2.69%
5	355	Poles and Fixtures	4.71%
6	356	Overhead Conductor and Devices	3.38%
7	357	Underground Conduit	1.66%
8	358	Underground Conductor and Devices	3.82%
9	359	Roads and Trails	1.71%
II. Genera	al Plant		
10	389	Land and Land Rights	0.00%
11	390	Structures & Improvements	2.06%
12	391	Office Furniture & Equipment	3.15%
13	394	Tools, Shop & Garage Equipment	5.17%
14	395	Laboratory Equipment	3.01%
15	397	Communication Equipment	-0.04%
16	398	Miscellaneous Equipment	3.01%
III. Intang	gible Plant		
17	301	Organization	0.00%
18	302	Franchises and Consents	0.00%
19	303	Miscellaneous Intangible Plant	4.14%
IV. Distril	bution Plant (a)		
20	360	Land & Land Rights-Distribution	0.00%
21	362	Station Equipment	-1.76%
22	364	Poles, Towers, and Fixtures	-1.86%
23	365	Conductors and Devices	-2.14%
24	366	Underground Conduit	0.44%
25	367	Underground Conductors and Devices	-1.79%
26	368	Line Transformers	-9.26%
27	370	Meters	-0.11%

#### **New England Power Company** Appendix D to Attachment F of the ISO New England OATT **Depreciation and Amortization Rates**

	FERC		
Line	Account		<b>Annual Rate</b>
No.	Number	FERC Account Description	Percentage
Notes:			
(a)	Reference Attachment 2	of Appendix B WS 2 NEP_ Inv Base Detail &	

WS 2a NEP\_ Expense Detail

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

### ATTACHMENT B

### Redlined Appendix D to Attachment F of the ISO-NE OATT

#### **New England Power Company** Appendix D to Attachment F of the ISO New England OATT **Depreciation and Amortization Rates**

	D	$\boldsymbol{C}$	
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No.   Number   FERC Account Description   Percentage		FERC		
Land and Land Rights				Annual Rate
1         350         Land and Land Rights         0.00%           2         352         Structures and Improvements         2.21%           3         353         Station Equipment         2.29 3.28           4         354         Towers and Fixtures         1.52 2.69           5         355         Poles and Fixtures         2.36 4.719           6         356         Overhead Conductor and Devices         2.30 3.889           7         357         Underground Conductor and Devices         2.20 3.829           9         359         Roads and Trails         2.08 1.719           II. General Plant           10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30 2.069           12         391         Office Furniture & Equipment         3.45 3.159           13         394         Tools, Shop & Garage Equipment         3.25 3.159           14         395         Laboratory Equipment         4.35 3.019           15         397         Communication Equipment         6.02 -0.04           16         398         Miscellaneous Equipment         3.85 3.019           III. Intangible Plant	No.	Number	FERC Account Description	Percentage
2       352       Structures and Improvements       2.21%         3       353       Station Equipment       2.29 3.28%         4       354       Towers and Fixtures       1.52 2.69%         5       355       Poles and Fixtures       2.36 4.71%         6       356       Overhead Conductor and Devices       2.30 3.38%         7       357       Underground Conduit       1.60 1.66%         8       358       Underground Conductor and Devices       2.20 3.82%         9       359       Roads and Trails       2.08 1.71%         III. General Plant         10       389       Land and Land Rights       0.00%         11       390       Structures & Improvements       2.30 2.06%         12       391       Office Furniture & Equipment       3.85 3.15%         13       394       Tools, Shop & Garage Equipment       3.57 5.17%         14       395       Laboratory Equipment       4.35 3.01%         15       397       Communication Equipment       6.02 -0.04%         16       398       Miscellaneous Equipment       3.85 3.01%         III. Intangible Plant         17       301       Organization       0.00%     <	<u>I. Tran</u>	smission Plant		
3       353       Station Equipment       2.29       3.28°         4       354       Towers and Fixtures       1.52       2.69°         5       355       Poles and Fixtures       2.36       4.71°         6       356       Overhead Conductor and Devices       2.30       3.38°         7       357       Underground Conductor and Devices       2.20       3.82°         9       359       Roads and Trails       2.00       8.82°         9       359       Roads and Trails       0.00%         10       389       Land and Land Rights       0.00%         11       390       Structures & Improvements       2.30       2.06°         12       391       Office Furniture & Equipment       3.85       3.1°         14       395       Laboratory Equipment       4.35       3.01°         15       397       Communication Equipment       6.02       -0.04°         16       398       Miscellaneous Equipment       3.85       3.01°         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19 <t< th=""><td>1</td><td>350</td><td>Land and Land Rights</td><td>0.00%</td></t<>	1	350	Land and Land Rights	0.00%
4       354       Towers and Fixtures       1.52 2.69°         5       355       Poles and Fixtures       2.36 4.71°         6       356       Overhead Conductor and Devices       2.30 3.38°         7       357       Underground Conductor and Devices       2.20 3.82°         8       358       Underground Conductor and Devices       2.20 3.82°         9       359       Roads and Trails       0.00%         10       389       Land and Land Rights       0.00%         11       390       Structures & Improvements       2.30 2.06°         12       391       Office Furniture & Equipment       3.85 3.15°         13       394       Tools, Shop & Garage Equipment       3.57 5.17°         14       395       Laboratory Equipment       4.35 3.01°         15       397       Communication Equipment       6.02 -0.04°         16       398       Miscellaneous Equipment       3.85 3.01°         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distributi	2	352	Structures and Improvements	2.21%
5         355         Poles and Fixtures         2.36 4.719           6         356         Overhead Conductor and Devices         2.30 3.389           7         357         Underground Conductor and Devices         2.20 3.829           8         358         Underground Conductor and Devices         2.20 3.829           9         359         Roads and Trails         2.08 1.719           III. General Plant           10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30 2.069           12         391         Office Furniture & Equipment         3.85 3.159           13         394         Tools, Shop & Garage Equipment         3.85 3.159           14         395         Laboratory Equipment         4.35 3.019           15         397         Communication Equipment         6.02 -0.049           16         398         Miscellaneous Equipment         3.85 3.019           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303         Miscellaneous Intangible Plant <t< th=""><td>3</td><td>353</td><td>Station Equipment</td><td><del>2.29</del> <u>3.28</u>%</td></t<>	3	353	Station Equipment	<del>2.29</del> <u>3.28</u> %
6         356         Overhead Conductor and Devices         2.30         3.389           7         357         Underground Conductor and Devices         2.20         3.829           8         358         Underground Conductor and Devices         2.20         3.829           9         359         Roads and Trails         2.08         1.719           II. General Plant           10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30         2.069           12         391         Office Furniture & Equipment         3.85         3.159           13         394         Tools, Shop & Garage Equipment         3.57         5.179           14         395         Laboratory Equipment         4.35         3.019           15         397         Communication Equipment         6.02         -0.04*           16         398         Miscellaneous Equipment         3.85         3.019           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303	4	354	Towers and Fixtures	<del>1.52</del> <u>2.69</u> %
7         357         Underground Conduit         1.60         1.60           8         358         Underground Conductor and Devices         2.20         3.829           9         359         Roads and Trails         2.08         1.719           II. General Plant           10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30         2.069           12         391         Office Furniture & Equipment         3.85         3.159           13         394         Tools, Shop & Garage Equipment         3.57         5.179           14         395         Laboratory Equipment         6.02         -0.044           16         398         Miscellaneous Equipment         3.85         3.019           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303         Miscellaneous Intangible Plant         4.14%           IV. Distribution Plant (a)           20         360         Land & Land Rights-Distribution         0.00%           21	5	355	Poles and Fixtures	<del>2.36</del> <u>4.71</u> %
8         358         Underground Conductor and Devices         2.20         3.829           9         359         Roads and Trails         2.08         1.719           II. General Plant           10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30         2.069           12         391         Office Furniture & Equipment         3.85         3.159           13         394         Tools, Shop & Garage Equipment         3.57         5.179           14         395         Laboratory Equipment         6.02         -0.049           16         398         Miscellaneous Equipment         3.85         3.019           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303         Miscellaneous Intangible Plant         4.14%           IV. Distribution Plant (a)           20         360         Land & Land Rights-Distribution         0.00%           21         362         Station Equipment         2.40 -1.769           22         364	6	356	Overhead Conductor and Devices	<del>2.30</del> <u>3.38</u> %
Plant	7	357	Underground Conduit	<del>1.60</del> <u>1.66</u> %
II. General Plant   10   389	8	358	Underground Conductor and Devices	<del>2.20</del> <u>3.82</u> %
10         389         Land and Land Rights         0.00%           11         390         Structures & Improvements         2.30 2.00%           12         391         Office Furniture & Equipment         3.85 3.15%           13         394         Tools, Shop & Garage Equipment         3.57 5.17%           14         395         Laboratory Equipment         4.35 3.01%           15         397         Communication Equipment         6.02 -0.04%           16         398         Miscellaneous Equipment         3.85 3.01%           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303         Miscellaneous Intangible Plant         4.14%           IV. Distribution Plant (a)           20         360         Land & Land Rights-Distribution         0.00%           21         362         Station Equipment         2.40 -1.76%           22         364         Poles, Towers, and Fixtures         3.11 -1.86%           23         365         Conductors and Devices         3.12 -2.14%           24         366         Underground Conductors and Devices	9	359	Roads and Trails	<del>2.08</del> <u>1.71</u> %
11       390       Structures & Improvements       2.30 2.069         12       391       Office Furniture & Equipment       3.85 3.159         13       394       Tools, Shop & Garage Equipment       3.57 5.179         14       395       Laboratory Equipment       4.35 3.019         15       397       Communication Equipment       6.02 -0.049         16       398       Miscellaneous Equipment       3.85 3.019         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.869         23       365       Conductors and Devices       3.12 -2.149         24       366       Underground Conductors and Devices       3.10 -1.790         24       366       Underground Conductors and Devices       3.10 -1.790         25       367       Un	II. Genera	al Plant		
12       391       Office Furniture & Equipment       3.85       3.159         13       394       Tools, Shop & Garage Equipment       3.57       5.179         14       395       Laboratory Equipment       4.35       3.019         15       397       Communication Equipment       6.02       -0.046         16       398       Miscellaneous Equipment       3.85       3.019         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         1V. Distribution Plant (a)       Value Consenses       0.00%         21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.86         23       365       Conductors and Devices       3.12 -2.14         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.790         26       368       Line Transformers       4.28 -9.26	10	389	Land and Land Rights	0.00%
13       394       Tools, Shop & Garage Equipment       3.57 5.179         14       395       Laboratory Equipment       4.35 3.019         15       397       Communication Equipment       6.02 -0.046         16       398       Miscellaneous Equipment       3.85 3.019         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.869         23       365       Conductors and Devices       3.12 -2.149         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.799         26       368       Line Transformers       4.28 -9.269	11	390	Structures & Improvements	<del>2.30</del> <u>2.06</u> %
14       395       Laboratory Equipment       4.35 3.019         15       397       Communication Equipment       6.02 -0.049         16       398       Miscellaneous Equipment       3.85 3.019         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.869         23       365       Conductors and Devices       3.12 -2.149         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.799         26       368       Line Transformers       4.28 -9.269	12	391	Office Furniture & Equipment	<del>3.85</del> <u>3.15</u> %
15       397       Communication Equipment       6.02 -0.049         16       398       Miscellaneous Equipment       3.85 3.019         III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.869         23       365       Conductors and Devices       3.12 -2.149         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.799         26       368       Line Transformers       4.28 -9.269	13	394	Tools, Shop & Garage Equipment	<del>3.57</del> <u>5.17</u> %
III. Intangible Plant         3.85 3.019           III. Intangible Plant           17         301         Organization         0.00%           18         302         Franchises and Consents         0.00%           19         303         Miscellaneous Intangible Plant         4.14%           IV. Distribution Plant (a)           20         360         Land & Land Rights-Distribution         0.00%           21         362         Station Equipment         2.40 -1.769           22         364         Poles, Towers, and Fixtures         3.11 -1.869           23         365         Conductors and Devices         3.12 -2.149           24         366         Underground Conduit         4.95 0.449           25         367         Underground Conductors and Devices         3.10 -1.799           26         368         Line Transformers         4.28 -9.269	14	395	Laboratory Equipment	<del>4.35</del> <u>3.01</u> %
III. Intangible Plant         17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.76%         22       364       Poles, Towers, and Fixtures       3.11 -1.86%         23       365       Conductors and Devices       3.12 -2.14%         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	15	397	Communication Equipment	<del>6.02</del> <u>-0.04</u> %
17       301       Organization       0.00%         18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.76%         22       364       Poles, Towers, and Fixtures       3.11 -1.86%         23       365       Conductors and Devices       3.12 -2.14%         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	16	398	Miscellaneous Equipment	3.85 <u>3.01</u> %
18       302       Franchises and Consents       0.00%         19       303       Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.76%         22       364       Poles, Towers, and Fixtures       3.11 -1.86%         23       365       Conductors and Devices       3.12 -2.14%         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	III. Intang	gible Plant		
19 303 Miscellaneous Intangible Plant       4.14%         IV. Distribution Plant (a)         20 360 Land & Land Rights-Distribution       0.00%         21 362 Station Equipment       2.40 -1.76%         22 364 Poles, Towers, and Fixtures       3.11 -1.86%         23 365 Conductors and Devices       3.12 -2.14%         24 366 Underground Conduit       1.95 0.44%         25 367 Underground Conductors and Devices       3.10 -1.79%         26 368 Line Transformers       4.28 -9.26%	17	301	Organization	0.00%
IV. Distribution Plant (a)         20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.76%         22       364       Poles, Towers, and Fixtures       3.11 -1.86%         23       365       Conductors and Devices       3.12 -2.14%         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	18	302	Franchises and Consents	0.00%
20       360       Land & Land Rights-Distribution       0.00%         21       362       Station Equipment       2.40 -1.76%         22       364       Poles, Towers, and Fixtures       3.11 -1.86%         23       365       Conductors and Devices       3.12 -2.14%         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	19	303	Miscellaneous Intangible Plant	4.14%
21       362       Station Equipment       2.40 -1.769         22       364       Poles, Towers, and Fixtures       3.11 -1.869         23       365       Conductors and Devices       3.12 -2.149         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.799         26       368       Line Transformers       4.28 -9.269	IV. Distril	bution Plant (a)		
22       364       Poles, Towers, and Fixtures       3.11 -1.860         23       365       Conductors and Devices       3.12 -2.140         24       366       Underground Conduit       1.95 0.449         25       367       Underground Conductors and Devices       3.10 -1.790         26       368       Line Transformers       4.28 -9.260	20	360	Land & Land Rights-Distribution	0.00%
23       365       Conductors and Devices       3.12 -2.14         24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	21	362	Station Equipment	<del>2.40</del> <u>-1.76</u> %
24       366       Underground Conduit       1.95 0.44%         25       367       Underground Conductors and Devices       3.10 -1.79%         26       368       Line Transformers       4.28 -9.26%	22	364	Poles, Towers, and Fixtures	<del>3.11</del> <u>-1.86</u> %
25 367 Underground Conductors and Devices 3.10 -1.79 26 368 Line Transformers 4.28 -9.26	23	365	Conductors and Devices	<del>3.12</del> <u>-2.14</u> %
26 368 Line Transformers 4.28 -9.26	24	366	Underground Conduit	<del>1.95</del> <u>0.44</u> %
——————————————————————————————————————	25	367	Underground Conductors and Devices	<del>3.10</del> <u>-1.79</u> %
	26	368	Line Transformers	<del>4.28</del> <u>-9.26</u> %
			Meters	3.83 <u>-0.11</u> %

#### **New England Power Company** Appendix D to Attachment F of the ISO New England OATT **Depreciation and Amortization Rates**

	FERC		
Line	Account		<b>Annual Rate</b>
No.	Number	FERC Account Description	Percentage
Notes:			
(a)	Reference Attachment 2	of Appendix B WS 2 NEP_ Inv Base Detail &	

WS 2a NEP\_ Expense Detail

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

#### ATTACHMENT C

Clean Attachment 4 of Service Agreement No. TSA-NEP-22 under Schedule 21-NEP

#### LOCAL SERVICE AGREEMENT

#### BY AND BETWEEN

#### **NEW ENGLAND POWER COMPANY**

AND

### MASSACHUSETTS ELECTRIC COMPANY / NANTUCKET ELECTRIC **COMPANY**

1.

2.

#### LOCAL SERVICE AGREEMENT

This LOCAL SERVICE AGREEMENT, dated as of October 1, 2005 and amended as of April 1, 2007, is entered into, by and between New England Power Company ("Transmission Owner") and Massachusetts Electric Company and Nantucket Electric Company ("Transmission Customer").

#### PART I. General Terms and Conditions

Service Provided (Check applicable):

<u>X</u>	Local Network Service Local Point-To-Point Service Firm Non-Firm
_	nal Network Service customers must take either Local Network Service or Local

The Transmission Customer is an Eligible Customer under the Tariff and is a party to

either a Market Participant Service `Agreement or a Transmission Service Agreement.

- 3. The Transmission Customer has submitted a Completed Application and the required deposit, if applicable, for service under this Local Service Agreement and the Tariff.
- 4. The Transmission Customer agrees to supply information to the Transmission Owner that the Transmission Owner deems reasonably necessary in accordance with Schedule 21 and Good Utility Practice in order for it to receive the requested service.
- 5. The Transmission Owner agrees to provide and the Transmission Customer agrees to take and pay for service in accordance with the provisions of the Tariff and this Local Service Agreement.
- 6. Service may be subject to some combination of the charges detailed in Schedule 21 of the GATT. The appropriate charges will be determined in accordance with the terms and conditions of Schedule 21 and Schedule 21-NEP.
- 7. Any notice or request made to or by either party regarding this Local Service Agreement shall be made to the representative of the other party as indicated below.

#### Transmission Customer:

Massachusetts Electric Company 55 Bearfoot Road Northborough, MA 01532

#### **Transmission Owner:**

New England Power Company Attention: Transmission Commercial Services 25 Research Drive Westborough, MA 01582

8. The Tariff is incorporated herein and made a part hereof.

9. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the right of the Transmission Owner to file with the Commission under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the ability of the Transmission Customer to file with the Commission under Section 206 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement.

#### PART II. Local Network Service

- 1. The Transmission Customer has been determined by the Transmission Owner to have a Completed Application for Local Network Service under the Tariff.
- 2. Service shall commence on the later of (1) the Contract Termination Date, as defined in the Stipulation and Agreement filed with the Commission on May 28, 1997 or (2) the date on which construction of all interconnection equipment, any Direct Assignment Facilities and/or facility or Local Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service shall terminate on or after the date that the Contract Termination Charges set forth in the Stipulation and Agreement and the Amendment to the Service Agreement between the Transmission Customer and Transmission Owner under the Transmission Owner's FERC Electric Tariff, Original Volume 1 (Amendment) are fully recovered from the Transmission Customer. Following that date service under this Agreement shall continue until modified or terminated upon the written consent of both parties or upon five years advance written notice by either party to the other.
- 3. Specifications for Local Network Service.
  - a. Term of Service: See 2 above.
  - b. List of Network Resources and Point(s) of Receipt:

See Attachment 1

- c. Description of capacity and energy to be transmitted:
- d. Description of Local Network Load:
- e. List of metering point(s) when they differ from Point(s) of Delivery:
- f. List of non-Network Resource(s), to the extent known:

None

g. Ancillary Services requested or proof of satisfactory arrangements for Ancillary Services:

The Transmission Customer has executed a Market Participant Service Agreement or a Transmission Service Agreement with ISO-New England, Inc. h. Identity of Designated Agent: See Attachment 2

Authority of Designated Agent: Term of Designated Agent's authority: Division of responsibilities and obligations between Transmission Customer and Designated Agent:

- i. Interconnection facilities and associated equipment:
- j. Project name:
- k. Interconnecting Transmission Customer:
- 1. Location:
- m. Transformer nameplate rating:
- n. Interconnection point:
- o. Additional facilities and/or associated equipment:
- p. Service under this Local Service Agreement shall be subject to the following charges:

As of this agreement date, the Schedule 21-NEP charges include a:

Monthly demand charge with PTF and non-PTF components

Transformer surcharge

Meter surcharge

Network load dispatch surcharge

Third party support payments

Direct Assignment Facility charge

Generation in support of transmission charge

q. Additional terms and conditions:

This Agreement is for the purpose of implementing wholesale competition or retail access for the Transmission Customer's retail customers pursuant to a Restructuring Settlement Agreement approved by the Massachusetts Department of Public Utilities on February 26, 1997.

In the event that Transmission Customer is denied recovery in its rates for local distribution service of access charges sufficient to collect the full amount of the Contract Termination Charges billed to Transmission Customer, its successors or assigns, by Transmission Owner, its successors or assigns, providing service over the transmission facilities covered by this Agreement shall collect the unrecovered balance of the Contract Termination Charges as a surcharge under this Agreement to the Transmission Customer or to any consumer taking delivery of electric energy over the transmission or distribution facilities of the Transmission Customer.

The obligations under this Agreement may be assigned only with the express written consent of the other party, which consent shall not be unreasonably withheld, provided, however, that the Transmission Owner shall not be obligated to consent to any assignment that adversely affects the ability of the Transmission Owner to recover from the Transmission Customer the payments required to be made under the Tariff, and this Agreement, including any Contract Termination Charges that may be billed to Transmission Customer pursuant to Section 5 above.

The Points of Delivery are listed in Attachment 3.

- The Transmission Owner has agreed to terminate those requirements of its FERC Electric Tariff, Original Volume No. 1 ("Tariff No. 1") that obligate the Transmission Customer to buy all of its electricity requirements under Tariff No. 1 and Transmission Customer has agreed to pay contract termination charges pursuant to the Stipulation and Agreement of even date and the Amendment. Service under this Agreement is conditioned on the Commission's approval of the Stipulation and Agreement and the Amendment filed on May 28, 1997.
- ii In no event shall the Transmission Owner bypass the Transmission Customer's distribution facilities and interconnect directly with a retail customer.
- The Transmission Owner has entered into agreements for use and support of facilities owned by other entities on behalf of the Transmission Customer. The charges incurred by the Transmission Owner from these agreements are directly assigned to the Transmission Customer as provided in Section 24.6 of Schedule 21-NEP. The following are the applicable agreements under this Section:

Transmission Service Agreement, dated February 23, 1993, as amended, or any successor agreement between Northeast Utilities Companies and New England Power Company and the Distribution and Transformation Service Agreement, dated February 23, 1993, as amended or its successor between New England Power Company and Western Massachusetts Electric Company.

Transmission billings under Boston Edison Company's Schedule 21 or under separate contract with New England Power Company for transmission for Massachusetts Electric Company's service area designated as the Quincy-Weymouth area.

Transmission billings under Commonwealth Electric Company's Schedule 21 or under separate interconnection agreements with New England Power Company dated June 3, 1996 and August 31, 2005, as amended or succeeded, for transmission service related to Nantucket Electric Company.

Charges by ISO New England, Inc. or transmission billings under the Open Access Transmission Tariff for transmission service to the retail

supply areas, referenced in this paragraph iii, only if NEPOOL or ISO New England, Inc. does not directly bill the Transmission Customer

Transmission Support Agreement, dated February 22, 1980, as amended, or any successor agreement between Boston Edison and New England Power Company in support of the 255-2337 and 255-2338 lines.

Charges equivalent to the credit provided by New England Power Company to Granite State Electric Company under the terms of Schedule III-B of New England Power Company's FERC Electric Tariff No. 1.

- iv The Transmission Owner either owns or has entered into agreements to support generation facilities for the sole use of the Transmission Customer in order to assure transmission reliability. The cost incurred by the Transmission Owner for these facilities are directly assigned to the Transmission Customer as provided in Attachment No. 4.
- To the extent ISO New England, Inc. or NEPOOL does not directly bill the Transmission Customer, any charges by ISO New England, Inc. or NEPOOL specifically incurred by the Transmission Owner, as a result of services provided to the Transmission Customer, will be directly assigned to the Transmission Customer as provided for under Section 24.6 of Schedule 21-NEP. The Transmission Owner will determine the direct charges to the Transmission Customer on the basis of the Transmission Customer's contribution to the incurrence of those charges using the same allocation methodology used by ISO New England, Inc. or NEPOOL to allocate those costs to the Transmission Owner.
- vi Transmission Owner will install a second transformer at its Pinehurst substation in advance of its normal planning criteria. Transmission Customer will pay a DAF on this transformer until such time as its load at this substation exceeds 30 MW. At that time, the DAF will be discontinued and Transmission Customer's transformer surcharge will be increased.
- 4. Planned work schedule.

Milestone Estimated Time
Period for Completion
(Activity) (# of months)

Payment schedule and costs.(Study grade estimate, ± \_\_\_\_% accuracy, year \$s)

Milestone Amount (\$)

- 6. Policy and practices for protection requirements for new or modified load interconnections.
- 7. Insurance requirements.

#### PART III. **Local Point-To-Point Service**

1.	The Transmission Customer has been determined by the Transmission Owner to have a Completed Application for Local Point-To-Point Service under the Tariff.	
2.	date or Upgra	e shall commence on the later of, (1), or (2) the n which construction of any Direct Assignment Facilities and/or Local Network des are completed, or (3) such other date as it is permitted to become effective by mmission. Service shall terminate on
3.		rm Local Point-To-Point Service shall be provided by the Transmission Owner equest by an authorized representative of the Transmission Customer.
4.	Specif	ications for Local Point-To-Point Service.
	a.	Term of Transaction:
	b.	Description of capacity and energy to be transmitted by the Transmission Owner including the electric Control Area in which the transaction originates:
	c.	Point(s) of Receipt:
	d.	Delivering Party:
	e.	Point(s) of Delivery:
	f.	Receiving Party:
	g.	Maximum amount of capacity and energy to be transmitted (Reserved Capacity):
	h.	Designation of party(ies) subject to reciprocal service obligation:
	i.	Name(s) of any intervening Control Areas providing transmission service:
	j.	Service under this Local Service Agreement shall be subject to the following charges:
	k.	Interconnection facilities and associated equipment:
	1.	Project name:
	m.	Interconnecting Transmission Customer:
	n.	Location:
	o.	Transformer nameplate rating:
	p.	Interconnection point:
	q.	Additional facilities and/or associated equipment:

Additional terms and conditions:

5.	Planned work sched	dule.	
	lestone ctivity)	Estimated Time Period for Completion (# of months)	
6.	Payment schedule a (Study grade estima	and costs. ate, ±% accuracy, year \$s)	
_Mi	lestone	Amount (\$)	
7.	Policy and practice interconnections.	s for protection requirements for new or modified l	oad
8.	Insurance requirem	ents.	
	thorized officials.	ties have caused this Local Service Agreement to b	e executed by their
By:		President, Massachusetts Electric Company Title	Date 3/30/07
Robert H. Mo	cLaren	Title	Bute 3/30/07
<u>Transmission</u>	Owner:		
By: Name		Vice President, Transmission Regulation ar Title	nd Commercial Date 3/29/07
Janet Gail Be	esser		

#### Attachment 1

<u>Division</u>	Points of Receipt
North Granite	Barre Landfill
	S. Barre Hydro
	L.P. Athol
	New Barre Hydro
	Orange Hydro #1
	Orange Hydro #2
	Powder Mill
	Ogden Martin
	Lawrence Hydro
	Boot Mills
	RESCO, N. Andover
	Methuen Hydro
	Refuse Fuels
	CPC Lowell
	MM Lowell
	Centennial Island
	Merrimac Paper
Bay State West	Cascade Diamond
	Collins Dam
	Ware Cogen
	Pioneer Hydro
	Webster Hydro
	Dudley Hydro
	Hunts Pond
	Tannery Pond
	Clark University
	Southbridge St. Diesel
	Attleboro Landfill
Bay State South	BFI-Randolph
Bay State West	MDC Wachusett
Bay State South	BFGSI – E. Bridgewater
	BFGSI – Halifax
	BFGSI – Fall River

Attachment 2

#### 1. Identity of Designated Company

The designated Agents may be either the suppliers to the Transmission Customer's retail customers provided that the suppliers are members of the New England Power Pool (NEPOOL) or the NEPOOL members with whom the suppliers have contracted to provide such supplies. The identity of the Designated Agents may be modified to reflect changes in NEPOOL rules.

#### 2. Authority of the Designated Agent

The Transmission Customer assigns its rights under the Tariff to the Designated Agent(s) as follows: A Designated Agent(s) shall have full authority to designate network resources, delete network resources, and purchase resources other than network resources for delivery to that portion of the Network Load that is assigned to that Designated Agent. A Designated Agent will be assigned all the Transmission Customer's firm allocated limited interface rights in proportion to its assigned ratio of Network Load, including the authority to schedule transactions over these limited interfaces. A designated Agent will also have the authority to integrate its assigned portion of the Transmission Customer's load and associated resources with the loads and resources of other transmission customers who have similarly designated rights to the same agent, for all NEPOOL purposes.

#### 3. Term of Designated Agent's Authority

The Transmission Customer may name another Designated Agent for purposes of this Tariff, to the extent that a portion of the Network Load changes suppliers.

4. Division of responsibilities and obligations between Transmission Customer and Designated Agent

The Transmission Customer is responsible for payment, operating its distribution system and maintaining proper load power factors in accordance with the Tariff, and any other obligations relating to the Transmission Customer's physical distribution system or its interconnections with the Transmission Owner's transmission system, or other transmission systems.

The Designated Agent is responsible for designating network resources, delivering network resources to the Transmission Owner's Transmission System, scheduling purchases from non-network resources, arranging for required re-dispatch of network resources, and supplying ancillary services, for the portion of the Transmission Customer's load that it has been assigned.

### Attachment 3

<u>Division</u>	Points of Delivery
Bay State West	Adams Substation
	Ashburnham Feeder 601w1
	Barre #2 Substation
	Chestnut Hill Substation, Athol
	East Westminster Substation, Gardner
	Park St. Substation, Gardner
	Royalston Substation
	Shutesbury Substation, Leverett
	Wendell Depot Substation
	Westminster Substation
	Ayer Substation
	Dunstable Substation
	East Main St. Substation #314, Westborough
	Fitch Rd. Substation, Clinton
	Groton St. Substation, Pepperell
	Laurel Circle
	Litchfield St: Substation
	Marlborough Substation #311
	Northborough Rd. Substation #317. Southboro
	North Marlborough Substation #318
	Pepperell Power, Station Service
	Pratt's Junction Substation, Sterling
	Prospect St. Substation, Leominster
	MDC Hilltop Station Service (13 kV)
	Sandy Pond Substation
	So. Marlborough Substation #310
	Westborough Substation #312
	Woodside Substation #313
	Florence Junction Substations

North & Granite	Billerica Substation
	Burtt Rd.
	East Beverly Substation
	East Dracut Substation
	East Methuen Substation
	East Tewksbury Substation
	NH/MA Border - Barron Ave. 10 L4 Feeder
	Everett - Boston City Line (from Mystic Station)
	Everett No. 37 Substation
	General Electric, Lynn
	Ipswich Reverse
	King Street Substation, Groveland
	L'Energia Station Service
	Lynnway Station, Lynn
	Maplewood Substation
	Meadowbrook Substation, Chelmsford
	Melrose #2 Substation
	North Chelmsford Substation
	North Dracut Substation
	Perry St. Substation
	Pinehurst Substation
	Railyard Substation
	Revere #7 Substation
	RESCO, Saugus Station Service
	South Broadway Substation, Lawrence
	Tewksbury Substation
	Ward Hill Substation, Haverhill
	West Andover Substation
	West Methuen Substation
	West Salem Substation
	West Salem Substation Westford Substation #57
	Woodchuck Hill #56
Bay State South	East Holbrook Substation #2
Bay State South	E. Weymouth Substation #9
	Field Street Substation #1, Quincy
	Mid-Weymouth Substation #12
	North Quincy Substation #12
	South Randolph Substation #97
	South Kandolph Substation #7

Bay State West East Longmeadow Substation Belchertown Substation Hampden Substation Lashaway Substation, N. Brookfield Little Rest Rd. Substation Meadow Street Substation, Spencer 330 Realty Trust/Chestnut Palmer Substation Shaker Road Substation Thorndike Substation Ware Substation Wilbraham Substation Deerfield #21 Feeder, #5 Substation Claremont Feeder, Deerfield #4 Rowe Feeder, Florida/Rowe town line James River (Pepperell Paper) East Webster Substation Main St. Substation, Webster North Oxford Substation **Snow Street Substation** West Charlton Substation Beaver Pond Substation, #344, Franklin Bloomingdale Substation Chaffins Substation (34 feet to Rutland) Cooks Pond Substation Chartley Pond Substation #8, Attleboro Depot St. Substation #335, Milford Greendale Substation, Worcester Leicester Substation Milford Power Station Service Millbury #4 Substation Mink St. Substation #7, Seekonk

> Nashua St. Substation, Worcester North Grafton Substation Pondville Substation Read St. Substation #9, Attleboro Rocky Hill #336 Substation, Milford **Shrewsbury Substation** South Wrentham Substation #3422 Temple St. Substation W. Boylston Union Street Substation Uxbridge Substation #321 Vernon Hill Substation, Worcester Webster St. Substation West St. Substation #1, Attleboro Wheelabrator Millbury Station Service Whitins Pond Substation #320 Northbridge East Winchendon Substation

> Wyman Gordon Substation, North Grafton

Eastern	Hathaway
	Swansea
	Dighton
	Sykes Rd.
	Bates Rd.
	Easton
	Mill St.
	East Bridgewater
	Belmont St.
	Stoughton
	Parkview
	Dupont
	Ames St.
	North Abington
	Norwell
	Scituate
	Water St.
	Plymouth St.
	Somerset
	Adamsville
	Somerset Station Service
	EMI Dighton Station Service

#### Bay State South - Nantucket Electric Company

The 115 kV Interconnections between (1) the underwater cable project at Lothrop Ave. Substation and 118 and 119 line at Harwich Substation, and (2) the underwater cable project at Merchants Way Substation and Barnstable Substation. In addition, the generation units at Bunker Road provide back-up delivery in the event of restricted transmission or failure of an undersea cable providing service to Nantucket.

Attachment 4

#### Generation in Support of Transmission

This attachment applies to charges for certain Production Facilities owned or leased by the Transmission Provider for the sole use of the Transmission Customer as backup support for transmission reliability.

In addition to the other applicable charges specified in the Transmission Owner's Open Access Transmission Tariff, the Transmission Customer shall pay the Production Support Charge as set forth in this Attachment 4.

For purposes of this Attachment, Production Facilities shall include:

- All Production Facilities on Nantucket Island supporting the Transmission Function

#### **Production Support Charge**

The Production Support Charge will be determined based on the calculation shown below. The calculation is broken into two components, a Fixed Expense Charge and a Variable Expense Charge. The Fixed Expense Charge will be updated annually, on or about May 1st of each year, based upon actual historical data from the preceding calendar year. The Variable Expense Charge will be calculated monthly.

The monthly Production Support Charge shall equal the sum of one twelfth of the annual Fixed Expense Charge and the monthly Variable Expense Charge.

- I. The Fixed Expense Charge shall equal the sum of NEP's (A) Return and Associated Income Taxes, (B) .Depreciation Expense, (C) Allocated General Depreciation Expense, (D) Municipal Tax Expense, (E) Operation and Maintenance Expense, (F) Administrative and General Expense, (G) Disposition of Property, and (H) Environmental Remediation Expense, less (I) Revenue Credits.
  - A. <u>Return and Associated Income Taxes</u> shall be the product of the Investment Base and the Cost of Capital Rate.
    - 1. Investment Base

The Investment Base will be (a) Supported Production Plan, less (b) Supported Production Depreciation Reserve, plus (c) Allocated General Plant, less (d) Allocated General Depreciation Reserve, less (e) Accumulated Deferred Taxes, plus (d) Prepayments, plus (e) Materials and Supplies, plus (f) Cash Working Capital.

(a) <u>Supported Production Plant</u> will equal the balance of NEP's investment in Production Facilities for the sole use of the Transmission Customer.

- (b) Supported Production Depreciation Reserve shall equal the balance of depreciation reserve on the Production Facilities as defined in Section I.A.1.(a).
- (c) Allocated General Plant shall equal the balance of NEP's investment in General Plant multiplied by the ratio of Production related direct Wages and Salaries including those of affiliated Companies to total direct Wages and Salaries including those of affiliated Companies, excluding Administrative and General Wages and Salaries (Production Wages and Salaries Allocator), multiplied by the ratio of Supported Production Plant to Total Production Plant Investment (Gross Production Plant Allocator).
- (d) Allocated General Depreciation Reserve shall equal the balance of NEP's General Plant Depreciation Reserve multiplied by the ratio Production Wages and Salaries Allocator described in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator also described in Section I.A.1.(c).
- Accumulated Deferred Taxes shall equal NEP's balance of Total Accumulated Deferred Income Taxes, multiplied by the ratio of Total Investment in Production Plant to Total Plant in Service (Plant Allocator) further multiplied by the ratio of supported Production Plant less Supported Production Depreciation Reserve to Total Production Plant less the Depreciation Reserve on Total Production Plant (Net Production Plant Allocator).(e)
- (f) Prepayments shall equal NEP's prepayments multiplied by the Production Wages and Salaries Allocator defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (g) Materials and Supplies shall equal NEP's balance of Production Plant Materials and Supplies multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (h) Cash Working Capital shall be a 12.5% allowance (45 days/360 days) of the total annual Variable Expense Charges and Operation and Maintenance Expense and Administrative and General Expenses.

#### 2. Cost of Capital Rate

The Cost of Capital Rate will equal (a) NEP's Weighted Cost of Capital, plus (b) The Yankee Adjustment, plus (c) Federal Income Tax plus (d) State Income Tax.

(a) The Weighted Cost of Capital will be calculated based upon the capital structure at the end of each month and will equal the sum of:

- (i) The <u>long-term debt component</u>, which equal the product of the actual weighted average embedded cost to maturity of NEP's long-term debt and the ratio that long-term debt is to NEP's total capital.
- (ii) The <u>preferred stock component</u>, which equals the product of the actual weighted average embedded cost to maturity of NEP's preferred stock then outstanding and the ratio that preferred stock is to NEP's total capital.
- (iii) The <u>return on equity component</u>, which equals the product of the return on common equity established under NEP's Open Access Transmission Tariff and the ratio that common equity is to NEP's total capital.
- (b) The Yankee Adjustment shall be calculated in accordance with FERC Opinion Nos. 49 and 49a issued in NEP's R-10 rate case and FERC Opinion No. 158 issued in NEP's W-3 rate case.
- (c) Federal Income Tax shall equal

$$\frac{A \times FT}{1 - FT}$$

where FT is the Federal Income Tax Rate and A is the sum of the preferred stock component and the return on equity component, as determine in Section (I)(A)(2)(a)(ii), and Section (I)(A)(2)(a)(iii) above.

(d) State Income Tax shall equal

where ST is the State Income Tax Rate, A is the sum of the preferred stock component and the return on equity component determined in Section (I)(A)(2)(a)(ii) and Section (I)(A)(2)(a)(iii) above, and Federal Income Tax is the rate determined in Section (I)(A)(2)(b) above.

- B. Depreciation Expense shall equal NEP's depreciation expense associated with the Production Facilities calculated using the depreciation rates set forth in Appendix A to this agreement.
- C. Allocated General Depreciation Expense shall equal the NEP's General Plant Depreciation Expense multiplied by the Production Wages and Salaries allocator defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.
- <u>D. Municipal Tax Expense</u> shall equal NEP's total municipal tax expenses multiplied by the Plant Allocator as defined in Section I.A.1.(e) above further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.

- <u>E. Operation and Maintenance Expense</u> shall equal the operation and maintenance expense of the Production Facilities, excluding fuel-related expenses.
- <u>F. Administrative and General Expenses</u> shall equal NEP's total administrative and general expenses multiplied by the Production Wages and Salaries Allocator as defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as also defined in Section I.A.1.(c) above
- <u>G. Disposition of Property</u> shall be the difference, if any, between (1) the net book value and (2) the consideration received for the sale of any Production Facilities, whether in-service or retired, less commissions and other expenses of making the sale, as specified in Account 421.1, Gain on Disposition of Property which shall be credited to total expenses, or Account 421.2 Loss on Disposition of Property which shall be treated as an expense.

H. Environmental Remediation Expense shall equal all costs associated with the Production Facilities not otherwise recoverable through the Environmental Response Fund for (a) the investigation, testing, remediation, liabilities, damages, claims, settlements, or judgments attributable to or incurred by NEP relating to deposits or waste from the Production Facilities and the site upon which the Production Facilities were located; and (b) the purchase of property that is acquired as part of an overall mitigation and response plan associated with the remediation of deposits or waste from the Production Facilities and the site upon which the Production Facilities were located

<u>Revenue Credit</u> shall equal any revenue received by NEP for the sale to third parties of energy or capacity from the Production Facilities.

The Variable Expense Charge shall equal the fuel expense (Account 501) of the Production Facilities.

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

Appendix A

#### **New England Power Company**

#### Local Service Agreement between New England Power Company and Massachussets Electric Company/ **Nantucket Electric Company**

### Generation in Support of Transmission Depreciation Rates

			Annual Rate
Line	FERC Account	FERC Account Description	Percentage
	D Dl		
	Production Plant		0.000/
1	340.00	Land and Land Rights	0.00%
2	341.00	Structures and Improvements	3.46%
3	342.00	Fuel Holders, Products, and Accessories	3.33%
4	343.00	Prime Movers	3.33%
5	344.00	Generators	3.76%
6	345.00	Accessory Electric Equipment	3.64%
7	348.00	Energy Storage Equipment	4.38%
	<b>General Plant</b>		
8	389	Land and Land Rights	0.00%
9	390	Structures and Improvements	2.06%
10	391	Office Furniture & Fixtures	3.15%
11	392	Transportation Equipment	0.00%
12	393	Stores Equipment	0.00%
13	394	Tools & Work Equipment	5.17%
14	395	Laboratory Equipment	3.01%
15	396	Power Operated Equipment	0.00%
16	397	Communication Equipment	-0.04%
17	398	Miscellaneous Equipment	3.01%
18	399	Other Tangible Property	0.00%
19	399.1	Asset Retirement Costs for General Plant	0.00%

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

#### ATTACHMENT D

Redlined Attachment 4 of Service Agreement No. TSA-NEP-22 under Schedule 21-NEP

### LOCAL SERVICE AGREEMENT

### BY AND BETWEEN

### **NEW ENGLAND POWER COMPANY**

AND

# MASSACHUSETTS ELECTRIC COMPANY / NANTUCKET ELECTRIC **COMPANY**

1.

#### LOCAL SERVICE AGREEMENT

This LOCAL SERVICE AGREEMENT, dated as of October 1, 2005 and amended as of April 1, 2007, is entered into, by and between New England Power Company ("Transmission Owner") and Massachusetts Electric Company and Nantucket Electric Company ("Transmission Customer").

#### PART I. **General Terms and Conditions**

Service Provided (Check applicable):

<u>X</u>	Local Network Service Local Point-To-Point Service Firm
	Non-Firm
Region	al Network Service customers must take either Local Network Service or Loca

al Point-To-Point Service.

- 2. The Transmission Customer is an Eligible Customer under the Tariff and is a party to either a Market Participant Service `Agreement or a Transmission Service Agreement.
- 3. The Transmission Customer has submitted a Completed Application and the required deposit, if applicable, for service under this Local Service Agreement and the Tariff.
- 4. The Transmission Customer agrees to supply information to the Transmission Owner that the Transmission Owner deems reasonably necessary in accordance with Schedule 21 and Good Utility Practice in order for it to receive the requested service.
- 5. The Transmission Owner agrees to provide and the Transmission Customer agrees to take and pay for service in accordance with the provisions of the Tariff and this Local Service Agreement.
- 6. Service may be subject to some combination of the charges detailed in Schedule 21 of the GATT. The appropriate charges will be determined in accordance with the terms and conditions of Schedule 21 and Schedule 21-NEP.
- 7. Any notice or request made to or by either party regarding this Local Service Agreement shall be made to the representative of the other party as indicated below.

### Transmission Customer:

Massachusetts Electric Company 55 Bearfoot Road Northborough, MA 01532

#### Transmission Owner:

New England Power Company Attention: Transmission Commercial Services 25 Research Drive Westborough, MA 01582

8. The Tariff is incorporated herein and made a part hereof. 9. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the right of the Transmission Owner to file with the Commission under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the ability of the Transmission Customer to file with the Commission under Section 206 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement.

#### PART II. Local Network Service

- 1. The Transmission Customer has been determined by the Transmission Owner to have a Completed Application for Local Network Service under the Tariff.
- 2. Service shall commence on the later of (1) the Contract Termination Date, as defined in the Stipulation and Agreement filed with the Commission on May 28, 1997 or (2) the date on which construction of all interconnection equipment, any Direct Assignment Facilities and/or facility or Local Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service shall terminate on or after the date that the Contract Termination Charges set forth in the Stipulation and Agreement and the Amendment to the Service Agreement between the Transmission Customer and Transmission Owner under the Transmission Owner's FERC Electric Tariff, Original Volume 1 (Amendment) are fully recovered from the Transmission Customer. Following that date service under this Agreement shall continue until modified or terminated upon the written consent of both parties or upon five years advance written notice by either party to the other.
- 3. Specifications for Local Network Service.
  - a. Term of Service: See 2 above.
  - b. List of Network Resources and Point(s) of Receipt:

See Attachment 1

- c. Description of capacity and energy to be transmitted:
- d. Description of Local Network Load:
- e. List of metering point(s) when they differ from Point(s) of Delivery:
- f. List of non-Network Resource(s), to the extent known:

None

g. Ancillary Services requested or proof of satisfactory arrangements for Ancillary Services:

The Transmission Customer has executed a Market Participant Service Agreement or a Transmission Service Agreement with ISO-New England, Inc. h. Identity of Designated Agent: See Attachment 2

Authority of Designated Agent: Term of Designated Agent's authority: Division of responsibilities and obligations between Transmission Customer and Designated Agent:

- i. Interconnection facilities and associated equipment:
- j. Project name:
- k. Interconnecting Transmission Customer:
- 1. Location:
- m. Transformer nameplate rating:
- n. Interconnection point:
- o. Additional facilities and/or associated equipment:
- p. Service under this Local Service Agreement shall be subject to the following charges:

As of this agreement date, the Schedule 21-NEP charges include a:

Monthly demand charge with PTF and non-PTF components

Transformer surcharge

Meter surcharge

Network load dispatch surcharge

Third party support payments

Direct Assignment Facility charge

Generation in support of transmission charge

q. Additional terms and conditions:

This Agreement is for the purpose of implementing wholesale competition or retail access for the Transmission Customer's retail customers pursuant to a Restructuring Settlement Agreement approved by the Massachusetts Department of Public Utilities on February 26, 1997.

In the event that Transmission Customer is denied recovery in its rates for local distribution service of access charges sufficient to collect the full amount of the Contract Termination Charges billed to Transmission Customer, its successors or assigns, by Transmission Owner, its successors or assigns, providing service over the transmission facilities covered by this Agreement shall collect the unrecovered balance of the Contract Termination Charges as a surcharge under this Agreement to the Transmission Customer or to any consumer taking delivery of electric energy over the transmission or distribution facilities of the Transmission Customer.

The obligations under this Agreement may be assigned only with the express written consent of the other party, which consent shall not be unreasonably withheld, provided, however, that the Transmission Owner shall not be obligated to consent to any assignment that adversely affects the ability of the Transmission Owner to recover from the Transmission Customer the payments required to be made under the Tariff, and this Agreement, including any Contract Termination Charges that may be billed to Transmission Customer pursuant to Section 5 above.

The Points of Delivery are listed in Attachment 3.

- The Transmission Owner has agreed to terminate those requirements of its FERC Electric Tariff, Original Volume No. 1 ("Tariff No. 1") that obligate the Transmission Customer to buy all of its electricity requirements under Tariff No. 1 and Transmission Customer has agreed to pay contract termination charges pursuant to the Stipulation and Agreement of even date and the Amendment. Service under this Agreement is conditioned on the Commission's approval of the Stipulation and Agreement and the Amendment filed on May 28, 1997.
- ii In no event shall the Transmission Owner bypass the Transmission Customer's distribution facilities and interconnect directly with a retail customer.
- The Transmission Owner has entered into agreements for use and support of facilities owned by other entities on behalf of the Transmission Customer. The charges incurred by the Transmission Owner from these agreements are directly assigned to the Transmission Customer as provided in Section 24.6 of Schedule 21-NEP. The following are the applicable agreements under this Section:

Transmission Service Agreement, dated February 23, 1993, as amended, or any successor agreement between Northeast Utilities Companies and New England Power Company and the Distribution and Transformation Service Agreement, dated February 23, 1993, as amended or its successor between New England Power Company and Western Massachusetts Electric Company.

Transmission billings under Boston Edison Company's Schedule 21 or under separate contract with New England Power Company for transmission for Massachusetts Electric Company's service area designated as the Quincy-Weymouth area.

Transmission billings under Commonwealth Electric Company's Schedule 21 or under separate interconnection agreements with New England Power Company dated June 3, 1996 and August 31, 2005, as amended or succeeded, for transmission service related to Nantucket Electric Company.

Charges by ISO New England, Inc. or transmission billings under the Open Access Transmission Tariff for transmission service to the retail

supply areas, referenced in this paragraph iii, only if NEPOOL or ISO New England, Inc. does not directly bill the Transmission Customer

Transmission Support Agreement, dated February 22, 1980, as amended, or any successor agreement between Boston Edison and New England Power Company in support of the 255-2337 and 255-2338 lines.

Charges equivalent to the credit provided by New England Power Company to Granite State Electric Company under the terms of Schedule III-B of New England Power Company's FERC Electric Tariff No. 1.

- iv The Transmission Owner either owns or has entered into agreements to support generation facilities for the sole use of the Transmission Customer in order to assure transmission reliability. The cost incurred by the Transmission Owner for these facilities are directly assigned to the Transmission Customer as provided in Attachment No. 4.
- To the extent ISO New England, Inc. or NEPOOL does not directly bill the Transmission Customer, any charges by ISO New England, Inc. or NEPOOL specifically incurred by the Transmission Owner, as a result of services provided to the Transmission Customer, will be directly assigned to the Transmission Customer as provided for under Section 24.6 of Schedule 21-NEP. The Transmission Owner will determine the direct charges to the Transmission Customer on the basis of the Transmission Customer's contribution to the incurrence of those charges using the same allocation methodology used by ISO New England, Inc. or NEPOOL to allocate those costs to the Transmission Owner.
- vi Transmission Owner will install a second transformer at its Pinehurst substation in advance of its normal planning criteria. Transmission Customer will pay a DAF on this transformer until such time as its load at this substation exceeds 30 MW. At that time, the DAF will be discontinued and Transmission Customer's transformer surcharge will be increased.
- 4. Planned work schedule.

Milestone Period for Completion
(Activity) (# of months)

5. Payment schedule and costs.
(Study grade estimate, ± \_\_\_\_% accuracy, year \$s)

Milestone Amount (\$)

- 6. Policy and practices for protection requirements for new or modified load interconnections.
- 7. Insurance requirements.

### PART III. Local Point-To-Point Service

1.		The Transmission Customer has been determined by the Transmission Owner to have a Completed Application for Local Point-To-Point Service under the Tariff.				
2.	date o Upgra	Service shall commence on the later of, (1), or (2) the date on which construction of any Direct Assignment Facilities and/or Local Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service shall terminate on				
3.		Non-firm Local Point-To-Point Service shall be provided by the Transmission Owner upon request by an authorized representative of the Transmission Customer.				
4.	Speci	Specifications for Local Point-To-Point Service.				
	a.	Term of Transaction:				
	b.	Description of capacity and energy to be transmitted by the Transmission Owner including the electric Control Area in which the transaction originates:				
	c.	Point(s) of Receipt:				
	d.	Delivering Party:				
	e.	Point(s) of Delivery:				
	f.	Receiving Party:				
	g.	Maximum amount of capacity and energy to be transmitted (Reserved Capacity):				
	h.	Designation of party(ies) subject to reciprocal service obligation:				
	i.	Name(s) of any intervening Control Areas providing transmission service:				
	j.	Service under this Local Service Agreement shall be subject to the following charges:				
	k.	Interconnection facilities and associated equipment:				
	1.	Project name:				
	m.	Interconnecting Transmission Customer:				
	n.	Location:				
	0.	Transformer nameplate rating:				
	p.	Interconnection point:				
	a.	Additional facilities and/or associated equipment:				

Additional terms and conditions:

5.	Planned work schedule.			
	stone ivity)		Estimated Time Period for Completion (# of months)	
6.	Payment schedule and co (Study grade estimate, ±		ear \$s)	
Mile	stone		Amount (\$)	
7.	Policy and practices for p interconnections.	protection requirem	nents for new or modified loa	d
8.	Insurance requirements.			
	orized officials.	ave caused this Loc	cal Service Agreement to be e	executed by their
By:Name		President, Massa Title	chusetts Electric Company	Date 3/30/07
Robert H. McL	aren			
Transmission C	<u>Owner</u> :			
By:Name Janet Gail Bess		Vice President, T Title	Fransmission Regulation and	Commercial Date 3/29/07
Janet Gan Dess	001			

# Attachment 1

<u>Division</u>	Points of Receipt
North Granite	Barre Landfill
	S. Barre Hydro
	L.P. Athol
	New Barre Hydro
	Orange Hydro #1
	Orange Hydro #2
	Powder Mill
	Ogden Martin
	Lawrence Hydro
	Boot Mills
	RESCO, N. Andover
	Methuen Hydro
	Refuse Fuels
	CPC Lowell
	MM Lowell
	Centennial Island
	Merrimac Paper
Bay State West	Cascade Diamond
	Collins Dam
	Ware Cogen
	Pioneer Hydro
	Webster Hydro
	Dudley Hydro
	Hunts Pond
	Tannery Pond
	Clark University
	Southbridge St. Diesel
	Attleboro Landfill
Bay State South	BFI-Randolph
Bay State West	MDC Wachusett
Bay State South	BFGSI – E. Bridgewater
-	BFGSI – Halifax
	BFGSI – Fall River

Attachment 2

#### 1. Identity of Designated Company

The designated Agents may be either the suppliers to the Transmission Customer's retail customers provided that the suppliers are members of the New England Power Pool (NEPOOL) or the NEPOOL members with whom the suppliers have contracted to provide such supplies. The identity of the Designated Agents may be modified to reflect changes in NEPOOL rules.

#### 2. Authority of the Designated Agent

The Transmission Customer assigns its rights under the Tariff to the Designated Agent(s) as follows: A Designated Agent(s) shall have full authority to designate network resources, delete network resources, and purchase resources other than network resources for delivery to that portion of the Network Load that is assigned to that Designated Agent. A Designated Agent will be assigned all the Transmission Customer's firm allocated limited interface rights in proportion to its assigned ratio of Network Load, including the authority to schedule transactions over these limited interfaces. A designated Agent will also have the authority to integrate its assigned portion of the Transmission Customer's load and associated resources with the loads and resources of other transmission customers who have similarly designated rights to the same agent, for all NEPOOL purposes.

#### 3. Term of Designated Agent's Authority

The Transmission Customer may name another Designated Agent for purposes of this Tariff, to the extent that a portion of the Network Load changes suppliers.

4. Division of responsibilities and obligations between Transmission Customer and Designated Agent

The Transmission Customer is responsible for payment, operating its distribution system and maintaining proper load power factors in accordance with the Tariff, and any other obligations relating to the Transmission Customer's physical distribution system or its interconnections with the Transmission Owner's transmission system, or other transmission systems.

The Designated Agent is responsible for designating network resources, delivering network resources to the Transmission Owner's Transmission System, scheduling purchases from non-network resources, arranging for required re-dispatch of network resources, and supplying ancillary services, for the portion of the Transmission Customer's load that it has been assigned.

# Attachment 3

Division	Points of Delivery
Bay State West	Adams Substation
	Ashburnham Feeder 601w1
	Barre #2 Substation
	Chestnut Hill Substation, Athol
	East Westminster Substation, Gardner
	Park St. Substation, Gardner
	Royalston Substation
	Shutesbury Substation, Leverett
	Wendell Depot Substation
	Westminster Substation
	Ayer Substation
	Dunstable Substation
	East Main St. Substation #314, Westborough
	Fitch Rd. Substation, Clinton
	Groton St. Substation, Pepperell
	Laurel Circle
	Litchfield St: Substation
	Marlborough Substation #311
	Northborough Rd. Substation #317. Southboro
	North Marlborough Substation #318
	Pepperell Power, Station Service
	Pratt's Junction Substation, Sterling
	Prospect St. Substation, Leominster
	MDC Hilltop Station Service (13 kV)
	Sandy Pond Substation
	So. Marlborough Substation #310
	Westborough Substation #312
	Woodside Substation #313
	Florence Junction Substations

North & Granite	Billerica Substation
	Burtt Rd.
	East Beverly Substation
	East Dracut Substation
	East Methuen Substation
	East Tewksbury Substation
	NH/MA Border - Barron Ave. 10 L4 Feeder
	Everett - Boston City Line (from Mystic Station)
	Everett No. 37 Substation
	General Electric, Lynn
	Ipswich Reverse
	King Street Substation, Groveland
	L'Energia Station Service
	Lynnway Station, Lynn
	Maplewood Substation
	Meadowbrook Substation, Chelmsford
	Melrose #2 Substation
	North Chelmsford Substation
	North Dracut Substation
	Perry St. Substation
	Pinehurst Substation
	Railyard Substation
	Revere #7 Substation
	RESCO, Saugus Station Service
	South Broadway Substation, Lawrence
	Tewksbury Substation
	Ward Hill Substation, Haverhill
	West Andover Substation
	West Methuen Substation
	West Salem Substation
	Westford Substation #57
	Woodchuck Hill #56
Bay State South	East Holbrook Substation #2
	E. Weymouth Substation #9
	Field Street Substation #1, Quincy
	Mid-Weymouth Substation #12
	North Quincy Substation #11
	South Randolph Substation #97

Bay State West

East Longmeadow Substation

Belchertown Substation

Hampden Substation

Lashaway Substation, N. Brookfield

Little Rest Rd. Substation

Meadow Street Substation, Spencer

330 Realty Trust/Chestnut

Palmer Substation

**Shaker Road Substation** 

Thorndike Substation

Ware Substation

Wilbraham Substation

Deerfield #21 Feeder, #5 Substation

Claremont Feeder, Deerfield #4

Rowe Feeder, Florida/Rowe town line

James River (Pepperell Paper)

East Webster Substation

Main St. Substation, Webster

North Oxford Substation

**Snow Street Substation** 

West Charlton Substation

Beaver Pond Substation, #344, Franklin

Bloomingdale Substation

Chaffins Substation (34 feet to Rutland)

Cooks Pond Substation

Chartley Pond Substation #8, Attleboro

Depot St. Substation #335, Milford

Greendale Substation, Worcester

Leicester Substation

Milford Power Station Service

Millbury #4 Substation

Mink St. Substation #7, Seekonk

Nashua St. Substation, Worcester

North Grafton Substation

Pondville Substation

Read St. Substation #9, Attleboro

Rocky Hill #336 Substation, Milford

Shrewsbury Substation

South Wrentham Substation #3422

Temple St. Substation W. Boylston

Union Street Substation

Uxbridge Substation #321

Vernon Hill Substation, Worcester

Webster St. Substation

West St. Substation #1, Attleboro

Wheelabrator Millbury Station Service

Whitins Pond Substation #320 Northbridge

East Winchendon Substation

Wyman Gordon Substation, North Grafton

Eastern	Hathaway
	Swansea
	Dighton
	Sykes Rd.
	Bates Rd.
	Easton
	Mill St.
	East Bridgewater
	Belmont St.
	Stoughton
	Parkview
	Dupont
	Ames St.
	North Abington
	Norwell
	Scituate
	Water St.
	Plymouth St.
	Somerset
	Adamsville
	Somerset Station Service
	EMI Dighton Station Service

Bay State South - Nantucket Electric Company

The 115 kV Interconnections between (1) the underwater cable project at Lothrop Ave. Substation and 118 and 119 line at Harwich Substation, and (2) the underwater cable project at Merchants Way Substation and Barnstable Substation. In addition, the generation units at Bunker Road provide back-up delivery in the event of restricted transmission or failure of an undersea cable providing service to Nantucket.

Attachment 4

### Generation in Support of Transmission

This attachment applies to charges for certain Production Facilities owned or leased by the Transmission Provider for the sole use of the Transmission Customer as backup support for transmission reliability.

In addition to the other applicable charges specified in the Transmission Owner's Open Access Transmission Tariff, the Transmission Customer shall pay the Production Support Charge as set forth in this Attachment 4.

For purposes of this Attachment, Production Facilities shall include:

 All Production Facilities on Nantucket Island supporting the Transmission Function

### **Production Support Charge**

The Production Support Charge will be determined based on the calculation shown below. The calculation is broken into two components, a Fixed Expense Charge and a Variable Expense Charge. The Fixed Expense Charge will be updated annually, on or about May 1st of each year, based upon actual historical data from the preceding calendar year. The Variable Expense Charge will be calculated monthly.

The monthly Production Support Charge shall equal the sum of one twelfth of the annual Fixed Expense Charge and the monthly Variable Expense Charge.

- I. The Fixed Expense Charge shall equal the sum of NEP's (A) Return and Associated Income Taxes, (B) .Depreciation Expense, (C) Allocated General Depreciation Expense, (D) Municipal Tax Expense, (E) Operation and Maintenance Expense, (F) Administrative and General Expense, (G) Disposition of Property, and (H) Environmental Remediation Expense, less (I) Revenue Credits.
  - A. <u>Return and Associated Income Taxes</u> shall be the product of the Investment Base and the Cost of Capital Rate.
    - 1. Investment Base

The Investment Base will be (a) Supported Production Plan, less (b) Supported Production Depreciation Reserve, plus (c) Allocated General Plant, less (d) Allocated General Depreciation Reserve, less (e) Accumulated Deferred Taxes, plus (d) Prepayments, plus (e) Materials and Supplies, plus (f) Cash Working Capital.

(a) <u>Supported Production Plant</u> will equal the balance of NEP's investment in Production Facilities for the sole use of the Transmission Customer.

- (b) Supported Production Depreciation Reserve shall equal the balance of depreciation reserve on the Production Facilities as defined in Section I.A.1.(a).
- (c) Allocated General Plant shall equal the balance of NEP's investment in General Plant multiplied by the ratio of Production related direct Wages and Salaries including those of affiliated Companies to total direct Wages and Salaries including those of affiliated Companies, excluding Administrative and General Wages and Salaries (Production Wages and Salaries Allocator), multiplied by the ratio of Supported Production Plant to Total Production Plant Investment (Gross Production Plant Allocator).
- (d) Allocated General Depreciation Reserve shall equal the balance of NEP's General Plant Depreciation Reserve multiplied by the ratio Production Wages and Salaries Allocator described in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator also described in Section I.A.1.(c).
- Accumulated Deferred Taxes shall equal NEP's balance of Total Accumulated Deferred Income Taxes, multiplied by the ratio of Total Investment in Production Plant to Total Plant in Service (Plant Allocator) further multiplied by the ratio of supported Production Plant less Supported Production Depreciation Reserve to Total Production Plant less the Depreciation Reserve on Total Production Plant (Net Production Plant Allocator).(e)
- (f) Prepayments shall equal NEP's prepayments multiplied by the Production Wages and Salaries Allocator defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (g) Materials and Supplies shall equal NEP's balance of Production Plant Materials and Supplies multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (h) Cash Working Capital shall be a 12.5% allowance (45 days/360 days) of the total annual Variable Expense Charges and Operation and Maintenance Expense and Administrative and General Expenses.

#### 2. Cost of Capital Rate

The Cost of Capital Rate will equal (a) NEP's Weighted Cost of Capital, plus (b) The Yankee Adjustment, plus (c) Federal Income Tax plus (d) State Income Tax.

(a) The Weighted Cost of Capital will be calculated based upon the capital structure at the end of each month and will equal the sum of:

- (i) The <u>long-term debt component</u>, which equal the product of the actual weighted average embedded cost to maturity of NEP's long-term debt and the ratio that long-term debt is to NEP's total capital.
- (ii) The <u>preferred stock component</u>, which equals the product of the actual weighted average embedded cost to maturity of NEP's preferred stock then outstanding and the ratio that preferred stock is to NEP's total capital.
- (iii) The <u>return on equity component</u>, which equals the product of the return on common equity established under NEP's Open Access Transmission Tariff and the ratio that common equity is to NEP's total capital.
- (b) The Yankee Adjustment shall be calculated in accordance with FERC Opinion Nos. 49 and 49a issued in NEP's R-10 rate case and FERC Opinion No. 158 issued in NEP's W-3 rate case.
- (c) Federal Income Tax shall equal

$$\frac{A \times FT}{1 - FT}$$

where FT is the Federal Income Tax Rate and A is the sum of the preferred stock component and the return on equity component, as determine in Section (I)(A)(2)(a)(ii), and Section (I)(A)(2)(a)(iii) above.

(d) State Income Tax shall equal

where ST is the State Income Tax Rate, A is the sum of the preferred stock component and the return on equity component determined in Section (I)(A)(2)(a)(ii) and Section (I)(A)(2)(a)(iii) above, and Federal Income Tax is the rate determined in Section (I)(A)(2)(b) above.

- B. Depreciation Expense shall equal NEP's depreciation expense associated with the Production Facilities calculated using the depreciation rates set forth in Appendix A to this agreement.
- C. Allocated General Depreciation Expense shall equal the NEP's General Plant Depreciation Expense multiplied by the Production Wages and Salaries allocatored defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.
- <u>D. Municipal Tax Expense</u> shall equal NEP's total municipal tax expenses multiplied by the Plant Allocator as defined in Section I.A.1.(e) above further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.

- <u>E. Operation and Maintenance Expense</u> shall equal the operation and maintenance expense of the Production Facilities, excluding fuel-related expenses.
- <u>F. Administrative and General Expenses</u> shall equal NEP's total administrative and general expenses multiplied by the Production Wages and Salaries Allocator as defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as also defined in Section I.A.1.(c) above
- <u>G. Disposition of Property</u> shall be the difference, if any, between (1) the net book value and (2) the consideration received for the sale of any Production Facilities, whether in-service or retired, less commissions and other expenses of making the sale, as specified in Account 421.1, Gain on Disposition of Property which shall be credited to total expenses, or Account 421.2 Loss on Disposition of Property which shall be treated as an expense.

H. Environmental Remediation Expense shall equal all costs associated with the Production Facilities not otherwise recoverable through the Environmental Response Fund for (a) the investigation, testing, remediation, liabilities, damages, claims, settlements, or judgments attributable to or incurred by NEP relating to deposits or waste from the Production Facilities and the site upon which the Production Facilities were located; and (b) the purchase of property that is acquired as part of an overall mitigation and response plan associated with the remediation of deposits or waste from the Production Facilities and the site upon which the Production Facilities were located

<u>Revenue Credit</u> shall equal any revenue received by NEP for the sale to third parties of energy or capacity from the Production Facilities.

The Variable Expense Charge shall equal the fuel expense (Account 501) of the Production Facilities.

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Appendix A

#### **New England Power Company**

#### Local Service Agreement between New England Power Company and Massachussets Electric Company/ **Nantucket Electric Company**

### Generation in Support of Transmission Depreciation Rates

			Annual Rate
Line	FERC Account	FERC Account Description	Percentage
	Production Plant		
1	340.00	Land and Land Rights	0.00%
2	341.00	Structures and Improvements	3.46%
3	342.00	Fuel Holders, Products, and Accessories	3.33%
4	343.00	Prime Movers	3.33%
5	344.00	Generators	3.76%
6	345.00	Accessory Electric Equipment	3.64%
7	348.00	Energy Storage Equipment	4.38%
	General Plant		
8	389	Land and Land Rights	0.00%
9	390	Structures and Improvements	2.06%
10	391	Office Furniture & Fixtures	3.15%
11	392	Transportation Equipment	0.00%
12	393	Stores Equipment	0.00%
13	394	Tools & Work Equipment	5.17%
14	395	Laboratory Equipment	3.01%
15	396	Power Operated Equipment	0.00%
16	397	Communication Equipment	-0.04%
17	398	Miscellaneous Equipment	3.01%
18	399	Other Tangible Property	0.00%
19	399.1	Asset Retirement Costs for General Plant	0.00%

# ATTACHMENT E

**Service Listing** 

#### New England Governors, State Utility Regulators and Related Agencies

#### Connecticut

The Honorable Ned Lamont Office of the Governor State Capitol 210 Capitol Ave. Hartford, CT 06106 bob.clark@ct.gov

Connecticut Attorney General's Office 165 Capitol Avenue Hartford, CT 06106 John.wright@ct.gov Lauren.bidra@ct.gov

Connecticut Department of Energy and Environmental Protection 79 Elm Street Hartford, CT 06106 <u>Eric.annes@ct.gov</u> Robert.snook@ct.gov

Connecticut Public Utilities Regulatory Authority 10
Franklin Square
New Britain, CT 06051-2605
steven.cadwallader@ct.gov
robert.luysterborghs@ct.gov
Seth.Hollander@ct.gov
Robert.Marconi@ct.gov

#### Maine

The Honorable Janet Mills
One State House Station
Office of the Governor
Augusta, ME 04333-0001
Jeremy.kennedy@maine.gov
Elise.baldacci@maine.gov

Maine Public Utilities Commission 18 State House Station Augusta, ME 04333-0018 Maine.puc@maine.gov

#### Massachusetts

The Honorable Charles Baker Office of the Governor State House Boston, MA 02133 Massachusetts Attorney General's Office One Ashburton Place Boston, MA 02108 rebecca.tepper@state.ma.us

Massachusetts Department of Energy Resources 100 Cambridge Street, Suite 1020 Boston, MA 02114 Robert.hoaglund@mass.gov ben.dobbs@state.ma.us

Massachusetts Department of Public Utilities One South Station
Boston, MA 02110
Nancy.Stevens@state.ma.us
morgane.treanton@state.ma.us
William.J.Anderson2@mass.gov
dpu.electricsupply@mass.gov

#### **New Hampshire**

The Honorable Chris Sununu Office of the Governor 26 Capital Street Concord NH 03301

New Hampshire Office of Strategic Initiatives 107 Pleasant Street Concord, NH 03301 Jared.chicoine@nh.gov

New Hampshire Public Utilities Commission 21 South Fruit Street, Ste. 10 Concord, NH 03301-2429

george.mccluskey@puc.nh.gov
David.Shulock@puc.nh.gov
David.goyette@puc.nh.gov
RegionalEnergy@puc.nh.gov
kate.bailey@puc.nh.gov
amanda.noonan@puc.nh.gov
Corrine.lemay@puc.nh.gov

tom.frantz@puc.nh.gov

#### New England Governors, State Utility Regulators and Related Agencies

#### **Rhode Island**

The Honorable Daniel McKee
Office of the Governor
82 Smith Street
Providence, RI 02903
Rosemary.powers@governor.ri.gov

Rhode Island Office of Energy Resources One Capitol Hill Providence, RI 02908 <a href="mailto:christopher.kearns@energy.ri.gov">christopher.kearns@energy.ri.gov</a>

nicholas.ucci@energy.ri.gov

Rhode Island Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888 ronald.gerwatowski@puc.ri.gov todd.bianco@puc.ri.gov Marion.Gold@puc.ri.gov

#### Vermont

The Honorable Phil Scott Office of the Governor 109 State Street, Pavilion Montpelier, VT 05609 jason.gibbs@vermont.gov

Vermont Public Utility Commission 112 State Street Montpelier, VT 05620-2701 mary-jo.krolewski@vermont.gov sarah.hofmann@vermont.gov Margaret.cheney@vermont.gov

Vermont Department of Public Service 112 State Street, Drawer 20 Montpelier, VT 05620-2601 bill.jordan@vermont.gov june.tierney@vermont.gov Ed.McNamara@vermont.gov

# New England Governors, Utility Regulatory and Related Agencies

Jay Lucey Coalition of Northeastern Governors 400 North Capitol Street, NW, Suite 370 Washington, DC 20001 coneg@sso.org Heather Hunt, Executive Director
New England States Committee on Electricity
424 Main Street
Osterville, MA 02655
HeatherHunt@nescoe.com
JasonMarshall@nescoe.com
JeffBentz@nescoe.com

Meredith Hatfield, Executive Director
New England Conference of Public Utilities
Commissioners
72 N. Main Street
Concord, NH 03301
mhatfield@pecpuc.org

Ron Gerwatowksi, President
New England Conference of Public Utilities
Commissioners
89 Jefferson Blvd.
Warwick, RI 02888
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FERC rendition of the electronically filed tariff records in Docket No. ER22-00248-000

Filing Data: CID: C001305

Filing Title: 2021-10-29 Amendment to Att. 4 of TSA-NEP-22 re Updated Depreciation Rates

Company Filing Identifier: 281 Type of Filing Code: 10 Associated Filing Identifier:

Tariff Title: Service Agreements Under ISO-NE OATT Schedule 21-NEP

Tariff ID: 133

Payment Confirmation: Suspension Motion:

Tariff Record Data:

Record Content Description, Tariff Record Title, Record Version Number, Option Code: LSA with MECO and NECO, New England Power Co. Service Agmt. No. TSA-NEP-22, 1.0.0, A

Record Narative Name: Tariff Record ID: 26

Tariff Record Collation Value: 3000000 Tariff Record Parent Identifier: 0

Proposed Date: 2022-01-01

Priority Order: 500

Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier:

#### LOCAL SERVICE AGREEMENT

#### BY AND BETWEEN

#### **NEW ENGLAND POWER COMPANY**

#### AND

# MASSACHUSETTS ELECTRIC COMPANY / NANTUCKET ELECTRIC **COMPANY**

1.

X

#### Filed Date: 10/29/2021

#### LOCAL SERVICE AGREEMENT

This LOCAL SERVICE AGREEMENT, dated as of October 1, 2005 and amended as of April 1, 2007, is entered into, by and between New England Power Company ("Transmission Owner") and Massachusetts Electric Company and Nantucket Electric Company ("Transmission Customer").

#### PART I. General Terms and Conditions

Service Provided (Check applicable):

Local Network Service

_	Loca	l Point-To-Point Service Firm Non-Firm	e			

Regional Network Service customers must take either Local Network Service or Local Point-To-Point Service.

- 2. The Transmission Customer is an Eligible Customer under the Tariff and is a party to either a Market Participant Service 'Agreement or a Transmission Service Agreement.
- 3. The Transmission Customer has submitted a Completed Application and the required deposit, if applicable, for service under this Local Service Agreement and the Tariff.
- 4. The Transmission Customer agrees to supply information to the Transmission Owner that the Transmission Owner deems reasonably necessary in accordance with Schedule 21 and Good Utility Practice in order for it to receive the requested service.
- 5. The Transmission Owner agrees to provide and the Transmission Customer agrees to take and pay for service in accordance with the provisions of the Tariff and this Local Service Agreement.
- 6. Service may be subject to some combination of the charges detailed in Schedule 21 of the GATT. The appropriate charges will be determined in accordance with the terms and conditions of Schedule 21 and Schedule 21-NEP.
- 7. Any notice or request made to or by either party regarding this Local Service Agreement shall be made to the representative of the other party as indicated below.

<u>Transmission Customer:</u>
Massachusetts Electric Company
55 Bearfoot Road
Northborough, MA 01532

Transmission Owner:

New England Power Company Attention: Transmission Commercial Services 25 Research Drive

### Westborough, MA 01582

- 8. The Tariff is incorporated herein and made a part hereof.
- 9. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the right of the Transmission Owner to file with the Commission under Section 205 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement. Nothing contained in this Local Service Agreement shall be construed as affecting in any way the ability of the Transmission Customer to file with the Commission under Section 206 of the Federal Power Act and pursuant to the Commission's rules and regulations promulgated thereunder for a change in any rates, terms and conditions of this Local Service Agreement.

#### PART II. Local Network Service

- 1. The Transmission Customer has been determined by the Transmission Owner to have a Completed Application for Local Network Service under the Tariff.
- 2. Service shall commence on the later of (1) the Contract Termination Date, as defined in the Stipulation and Agreement filed with the Commission on May 28, 1997 or (2) the date on which construction of all interconnection equipment, any Direct Assignment Facilities and/or facility or Local Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service shall terminate on or after the date that the Contract Termination Charges set forth in the Stipulation and Agreement and the Amendment to the Service Agreement between the Transmission Customer and Transmission Owner under the Transmission Owner's FERC Electric Tariff, Original Volume 1 (Amendment) are fully recovered from the Transmission Customer. Following that date service under this Agreement shall continue until modified or terminated upon the written consent of both parties or upon five years advance written notice by either party to the other.
- 3. Specifications for Local Network Service.
  - a. Term of Service: See 2 above.
  - b. List of Network Resources and Point(s) of Receipt:

See Attachment 1

- c. Description of capacity and energy to be transmitted:
- d. Description of Local Network Load:
- e. List of metering point(s) when they differ from Point(s) of Delivery:
- f. List of non-Network Resource(s), to the extent known:

None

g. Ancillary Services requested or proof of satisfactory arrangements for Ancillary Services:

The Transmission Customer has executed a Market Participant Service Agreement or a Transmission Service Agreement with ISO-New England, Inc.

h. Identity of Designated Agent: See Attachment 2

Authority of Designated Agent: Term of Designated Agent's authority: Division of responsibilities and obligations between Transmission Customer and Designated Agent:

- i. Interconnection facilities and associated equipment:
- i. Project name:
- k. Interconnecting Transmission Customer:
- 1. Location:
- m. Transformer nameplate rating:
- n. Interconnection point:
- o. Additional facilities and/or associated equipment:
- p. Service under this Local Service Agreement shall be subject to the following charges:

As of this agreement date, the Schedule 21-NEP charges include a:

Monthly demand charge with PTF and non-PTF components

Transformer surcharge

Meter surcharge

Network load dispatch surcharge

Third party support payments

Direct Assignment Facility charge

Generation in support of transmission charge

q. Additional terms and conditions:

This Agreement is for the purpose of implementing wholesale competition or retail access for the Transmission Customer's retail customers pursuant to a Restructuring Settlement Agreement approved by the Massachusetts Department of Public Utilities on February 26, 1997.

In the event that Transmission Customer is denied recovery in its rates for local distribution service of access charges sufficient to collect the full amount of the Contract Termination Charges billed to Transmission Customer, its successors or assigns, by Transmission Owner, its successors or assigns, providing service over the transmission facilities covered by this Agreement shall collect the

unrecovered balance of the Contract Termination Charges as a surcharge under this Agreement to the Transmission Customer or to any consumer taking delivery of electric energy over the transmission or distribution facilities of the Transmission Customer.

The obligations under this Agreement may be assigned only with the express written consent of the other party, which consent shall not be unreasonably withheld, provided, however, that the Transmission Owner shall not be obligated to consent to any assignment that adversely affects the ability of the Transmission Owner to recover from the Transmission Customer the payments required to be made under the Tariff, and this Agreement, including any Contract Termination Charges that may be billed to Transmission Customer pursuant to Section 5 above.

The Points of Delivery are listed in Attachment 3.

- The Transmission Owner has agreed to terminate those requirements of its FERC Electric Tariff, Original Volume No. 1 ("Tariff No. 1") that obligate the Transmission Customer to buy all of its electricity requirements under Tariff No. 1 and Transmission Customer has agreed to pay contract termination charges pursuant to the Stipulation and Agreement of even date and the Amendment. Service under this Agreement is conditioned on the Commission's approval of the Stipulation and Agreement and the Amendment filed on May 28, 1997.
- ii In no event shall the Transmission Owner bypass the Transmission Customer's distribution facilities and interconnect directly with a retail customer.
- The Transmission Owner has entered into agreements for use and support of facilities owned by other entities on behalf of the Transmission Customer. The charges incurred by the Transmission Owner from these agreements are directly assigned to the Transmission Customer as provided in Section 24.6 of Schedule 21-NEP. The following are the applicable agreements under this Section:

Transmission Service Agreement, dated February 23, 1993, as amended, or any successor agreement between Northeast Utilities Companies and New England Power Company and the Distribution and Transformation Service Agreement, dated February 23, 1993, as amended or its successor between New England Power Company and Western Massachusetts Electric Company.

Transmission billings under Boston Edison Company's Schedule 21 or under separate contract with New England Power Company for transmission for Massachusetts Electric Company's service area designated as the Quincy-Weymouth area.

Transmission billings under Commonwealth Electric Company's Schedule 21 or under separate interconnection agreements with New England Power Company dated June 3, 1996 and August 31, 2005, as

amended or succeeded, for transmission service related to Nantucket Electric Company.

Charges by ISO New England, Inc. or transmission billings under the Open Access Transmission Tariff for transmission service to the retail supply areas, referenced in this paragraph iii, only if NEPOOL or ISO New England, Inc. does not directly bill the Transmission Customer

Transmission Support Agreement, dated February 22, 1980, as amended, or any successor agreement between Boston Edison and New England Power Company in support of the 255-2337 and 255-2338 lines.

Charges equivalent to the credit provided by New England Power Company to Granite State Electric Company under the terms of Schedule III-B of New England Power Company's FERC Electric Tariff No. 1.

- iv The Transmission Owner either owns or has entered into agreements to support generation facilities for the sole use of the Transmission Customer in order to assure transmission reliability. The cost incurred by the Transmission Owner for these facilities are directly assigned to the Transmission Customer as provided in Attachment No. 4.
- V To the extent ISO New England, Inc. or NEPOOL does not directly bill the Transmission Customer, any charges by ISO New England, Inc. or NEPOOL specifically incurred by the Transmission Owner, as a result of services provided to the Transmission Customer, will be directly assigned to the Transmission Customer as provided for under Section 24.6 of Schedule 21-NEP. The Transmission Owner will determine the direct charges to the Transmission Customer on the basis of the Transmission Customer's contribution to the incurrence of those charges using the same allocation methodology used by ISO New England, Inc. or NEPOOL to allocate those costs to the Transmission Owner.
- vi Transmission Owner will install a second transformer at its Pinehurst substation in advance of its normal planning criteria. Transmission Customer will pay a DAF on this transformer until such time as its load at this substation exceeds 30 MW. At that time, the DAF will be discontinued and Transmission Customer's transformer surcharge will be increased.
- 4. Planned work schedule.

		Estimated Time
		Period for
Milestone		Completion
(Ac	tivity)	(# of months)
5.	Payment schedule and costs. (Study grade estimate, ±	% accuracy, year \$s)
Mile	estone	Amount

Filed Date: 10/29/2021

- 6. Policy and practices for protection requirements for new or modified load interconnections.
- 7. Insurance requirements.

#### PART III. **Local Point-To-Point Service**

1.	The Transmission Customer has been determined by the Transmission Owner to have a
	Completed Application for Local Point-To-Point Service under the Tariff.

- 2. Service shall commence on the later of, (1) , or (2) the date on which construction of any Direct Assignment Facilities and/or Local Network Upgrades are completed, or (3) such other date as it is permitted to become effective by the Commission. Service shall terminate on . .
- Non-firm Local Point-To-Point Service shall be provided by the Transmission Owner 3. upon request by an authorized representative of the Transmission Customer.
- 4. Specifications for Local Point-To-Point Service.
  - Term of Transaction: a.
  - b. Description of capacity and energy to be transmitted by the Transmission Owner including the electric Control Area in which the transaction originates:
  - c. Point(s) of Receipt:
  - d. Delivering Party:
  - Point(s) of Delivery: e.
  - f. Receiving Party:
  - Maximum amount of capacity and energy to be transmitted (Reserved Capacity): g.
  - Designation of party(ies) subject to reciprocal service obligation: h.
  - i. Name(s) of any intervening Control Areas providing transmission service:
  - Service under this Local Service Agreement shall be subject to the following j. charges:
  - k. Interconnection facilities and associated equipment:
  - 1. Project name:
  - Interconnecting Transmission Customer: m.
  - Location: n.

Document Accession #: 20211029-5051 Filed Date: 10/29/2021

Janet Gail Besser

# Attachment 1

<u>Division</u>	Points of Receipt
North Granite	Barre Landfill
	S. Barre Hydro
	L.P. Athol
	New Barre Hydro
	Orange Hydro #1
	Orange Hydro #2
	Powder Mill
	Ogden Martin
	Lawrence Hydro
	Boot Mills
	RESCO, N. Andover
	Methuen Hydro
	Refuse Fuels
	CPC Lowell
	MM Lowell
	Centennial Island
	Merrimac Paper
Bay State West	Cascade Diamond
	Collins Dam
	Ware Cogen
	Pioneer Hydro
	Webster Hydro
	Dudley Hydro
	Hunts Pond
	Tannery Pond
	Clark University
	Southbridge St. Diesel
	Attleboro Landfill
Bay State South	BFI-Randolph
Bay State West	MDC Wachusett
Bay State South	BFGSI – E. Bridgewater
	BFGSI – Halifax
	BFGSI – Fall River

Massachusetts Electric Company

Attachment 2

#### 1. Identity of Designated Company

The designated Agents may be either the suppliers to the Transmission Customer's retail customers provided that the suppliers are members of the New England Power Pool (NEPOOL) or the NEPOOL members with whom the suppliers have contracted to provide such supplies. The identity of the Designated Agents may be modified to reflect changes in NEPOOL rules.

#### 2. Authority of the Designated Agent

The Transmission Customer assigns its rights under the Tariff to the Designated Agent(s) as follows: A Designated Agent(s) shall have full authority to designate network resources, delete network resources, and purchase resources other than network resources for delivery to that portion of the Network Load that is assigned to that Designated Agent. A Designated Agent will be assigned all the Transmission Customer's firm allocated limited interface rights in proportion to its assigned ratio of Network Load, including the authority to schedule transactions over these limited interfaces. A designated Agent will also have the authority to integrate its assigned portion of the Transmission Customer's load and associated resources with the loads and resources of other transmission customers who have similarly designated rights to the same agent, for all NEPOOL purposes.

### 3. Term of Designated Agent's Authority

The Transmission Customer may name another Designated Agent for purposes of this Tariff, to the extent that a portion of the Network Load changes suppliers.

4. Division of responsibilities and obligations between Transmission Customer and Designated Agent

The Transmission Customer is responsible for payment, operating its distribution system and maintaining proper load power factors in accordance with the Tariff, and any other obligations relating to the Transmission Customer's physical distribution system or its interconnections with the Transmission Owner's transmission system, or other transmission systems.

The Designated Agent is responsible for designating network resources, delivering network resources to the Transmission Owner's Transmission System, scheduling purchases from non-network resources, arranging for required re-dispatch of network resources, and supplying ancillary services, for the portion of the Transmission Customer's load that it has been assigned.

Massachusetts Electric Company

Attachment 3

<u>Division</u>	Points of Delivery
Bay State West	Adams Substation
	Ashburnham Feeder 601w1

Barre #2 Substation

Chestnut Hill Substation, Athol

East Westminster Substation, Gardner

Park St. Substation, Gardner

**Royalston Substation** 

Shutesbury Substation, Leverett

Wendell Depot Substation

Westminster Substation

Aver Substation

**Dunstable Substation** 

East Main St. Substation #314, Westborough

Fitch Rd. Substation, Clinton

Groton St. Substation, Pepperell

Laurel Circle

Litchfield St: Substation

Marlborough Substation #311

Northborough Rd. Substation #317. Southboro

North Marlborough Substation #318

Pepperell Power, Station Service

Pratt's Junction Substation, Sterling

Prospect St. Substation, Leominster

MDC Hilltop Station Service (13 kV)

Sandy Pond Substation

So. Marlborough Substation #310

Westborough Substation #312

Woodside Substation #313

#### Florence Junction Substations

#### North & Granite

Billerica Substation

Burtt Rd.

East Beverly Substation

**East Dracut Substation** 

East Methuen Substation

East Tewksbury Substation

NH/MA Border - Barron Ave. 10 L4 Feeder

Everett - Boston City Line (from Mystic Station)

Everett No. 37 Substation

General Electric, Lynn

Ipswich Reverse

King Street Substation, Groveland

L'Energia Station Service

Lynnway Station, Lynn

Maplewood Substation

Meadowbrook Substation, Chelmsford

Melrose #2 Substation

North Chelmsford Substation

North Dracut Substation

Perry St. Substation

**Pinehurst Substation** 

Railyard Substation

Revere #7 Substation

	DECCO C C' ', C ;
	RESCO, Saugus Station Service
	South Broadway Substation, Lawrence
	Tewksbury Substation
	Ward Hill Substation, Haverhill
	West Andover Substation
	West Methuen Substation
	West Salem Substation
	Westford Substation #57
	Woodchuck Hill #56
Bay State South	East Holbrook Substation #2
	E. Weymouth Substation #9
	Field Street Substation #1, Quincy
	Mid-Weymouth Substation #12
	North Quincy Substation #11
	South Randolph Substation #97
Bay State West	East Longmeadow Substation
	Belchertown Substation
	Hampden Substation
	Lashaway Substation, N. Brookfield
	Little Rest Rd. Substation
	Meadow Street Substation, Spencer
	330 Realty Trust/Chestnut
	Palmer Substation
	Shaker Road Substation
	Thorndike Substation
	Ware Substation
	Wilbraham Substation
	Deerfield #21 Feeder, #5 Substation
	Claremont Feeder, Deerfield #4
	Rowe Feeder, Florida/Rowe town line
	James River (Pepperell Paper)
	East Webster Substation
	Main St. Substation, Webster
	North Oxford Substation
	Snow Street Substation
	West Charlton Substation
	Beaver Pond Substation, #344, Franklin
	Bloomingdale Substation
	Chaffins Substation (34 feet to Rutland)
	Cooks Pond Substation
	Chartley Pond Substation #8, Attleboro
	Depot St. Substation #335, Milford
	Greendale Substation, Worcester
	Leicester Substation
	Milford Power Station Service
	Millbury #4 Substation
	Mink St. Substation #7, Seekonk
	Nashua St. Substation, Worcester
	North Grafton Substation
	Pondville Substation
	Read St. Substation #9, Attleboro
	Tream on outsimiler, Timetori

	Rocky Hill #336 Substation, Milford	
	Shrewsbury Substation	
	South Wrentham Substation #3422	
	Temple St. Substation W. Boylston	
	Union Street Substation	
	Uxbridge Substation #321	
	Vernon Hill Substation, Worcester	
	Webster St. Substation	
	West St. Substation #1, Attleboro	
	Wheelabrator Millbury Station Service	
	Whitins Pond Substation #320 Northbridge	
	East Winchendon Substation	
	Wyman Gordon Substation, North Grafton	
Eastern	Hathaway	
	Swansea	
	Dighton	
	Sykes Rd.	
	Bates Rd.	
	Easton	
	Mill St.	
	East Bridgewater	
	Belmont St.	
	Stoughton	
	Parkview	
	Dupont	
	Ames St.	
	North Abington	
	Norwell	
	Scituate	
	Water St.	
	Plymouth St.	
	Somerset	
	Adamsville	
	Somerset Station Service	
	EMI Dighton Station Service	
	LIVII Digition Station Scrytec	

Bay State South - Nantucket Electric Company

The 115 kV Interconnections between (1) the underwater cable project at Lothrop Ave. Substation and 118 and 119 line at Harwich Substation, and (2) the underwater cable project at Merchants Way Substation and Barnstable Substation. In addition, the generation units at Bunker Road provide back-up delivery in the event of restricted transmission or failure of an undersea cable providing service to Nantucket.

Massachusetts Electric Company

Attachment 4

Generation in Support of Transmission

This attachment applies to charges for certain Production Facilities owned or leased by the Transmission Provider for the sole use of the Transmission Customer as backup support for transmission reliability.

In addition to the other applicable charges specified in the Transmission Owner's Open Access Transmission Tariff, the Transmission Customer shall pay the Production Support Charge as set forth in this Attachment 4.

For purposes of this Attachment, Production Facilities shall include:

- All Production Facilities on Nantucket Island supporting the Transmission Function

#### **Production Support Charge**

The Production Support Charge will be determined based on the calculation shown below. The calculation is broken into two components, a Fixed Expense Charge and a Variable Expense Charge. The Fixed Expense Charge will be updated annually, on or about May 1st of each year, based upon actual historical data from the preceding calendar year. The Variable Expense Charge will be calculated monthly.

The monthly Production Support Charge shall equal the sum of one twelfth of the annual Fixed Expense Charge and the monthly Variable Expense Charge.

- I. The Fixed Expense Charge shall equal the sum of NEP's (A) Return and Associated Income Taxes, (B) .Depreciation Expense, (C) Allocated General Depreciation Expense, (D) Municipal Tax Expense, (E) Operation and Maintenance Expense, (F) Administrative and General Expense, (G) Disposition of Property, and (H) Environmental Remediation Expense, less (I) Revenue Credits.
  - A. <u>Return and Associated Income Taxes</u> shall be the product of the Investment Base and the Cost of Capital Rate.
    - 1. Investment Base

The Investment Base will be (a) Supported Production Plan, less (b) Supported Production Depreciation Reserve, plus (c) Allocated General Plant, less (d) Allocated General Depreciation Reserve, less (e) Accumulated Deferred Taxes, plus (d) Prepayments, plus (e) Materials and Supplies, plus (f) Cash Working Capital.

- (a) <u>Supported Production Plant</u> will equal the balance of NEP's investment in Production Facilities for the sole use of the Transmission Customer.
- (b) Supported Production Depreciation Reserve shall equal the balance of depreciation reserve on the Production Facilities as defined in Section I.A.1.(a).
- (c) Allocated General Plant shall equal the balance of NEP's investment in General Plant multiplied by the ratio of Production related direct Wages and Salaries including those of affiliated Companies to total direct Wages and Salaries including those of affiliated Companies, excluding Administrative and General Wages and Salaries (Production Wages and Salaries Allocator), multiplied by the ratio of Supported Production Plant to Total Production Plant Investment (Gross Production Plant Allocator).

- (d) Allocated General Depreciation Reserve shall equal the balance of NEP's General Plant Depreciation Reserve multiplied by the ratio Production Wages and Salaries Allocator described in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator also described in Section I.A.1.(c).
- Accumulated Deferred Taxes shall equal NEP's balance of Total Accumulated Deferred Income Taxes, multiplied by the ratio of Total Investment in Production Plant to Total Plant in Service (Plant Allocator) further multiplied by the ratio of supported Production Plant less Supported Production Depreciation Reserve to Total Production Plant less the Depreciation Reserve on Total Production Plant (Net Production Plant Allocator).(e)
- (f) <u>Prepayments</u> shall equal NEP's prepayments multiplied by the Production Wages and Salaries Allocator defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (g) Materials and Supplies shall equal NEP's balance of Production Plant Materials and Supplies multiplied by the Gross Production Plant Allocator defined in Section I.A.1.(c).
- (h) Cash Working Capital shall be a 12.5% allowance (45 days/360 days) of the total annual Variable Expense Charges and Operation and Maintenance Expense and Administrative and General Expenses.

#### 2. <u>Cost of Capital Rate</u>

The Cost of Capital Rate will equal (a) NEP's Weighted Cost of Capital, plus (b) The Yankee Adjustment, plus (c) Federal Income Tax plus (d) State Income Tax.

- (a) <u>The Weighted Cost of Capital</u> will be calculated based upon the capital structure at the end of each month and will equal the sum of:
  - (i) The <u>long-term debt component</u>, which equal the product of the actual weighted average embedded cost to maturity of NEP's long-term debt and the ratio that long-term debt is to NEP's total capital.
  - (ii) The <u>preferred stock component</u>, which equals the product of the actual weighted average embedded cost to maturity of NEP's preferred stock then outstanding and the ratio that preferred stock is to NEP's total capital.
  - (iii) The <u>return on equity component</u>, which equals the product of the return on common equity established under NEP's Open Access Transmission Tariff and the ratio that common equity is to NEP's total capital.
  - (b) The Yankee Adjustment shall be calculated in accordance with FERC Opinion Nos. 49 and 49a issued in NEP's R-10 rate case and FERC Opinion No. 158 issued in NEP's W-3 rate case.
  - (c) Federal Income Tax shall equal

$$A \times FT 1 - FT$$

where FT is the Federal Income Tax Rate and A is the sum of the preferred stock component and the return on equity component, as determine in Section (I)(A)(2)(a)(ii), and Section (I)(A)(2)(a)(iii) above.

(d) State Income Tax shall equal

(A + Federal Income Tax) x ST 1 - S T where ST is the State Income Tax Rate, A is the sum of the preferred stock component and the return on equity component determined in Section (I)(A)(2)(a)(ii) and Section (I)(A)(2)(a)(iii) above, and Federal Income Tax is the rate determined in Section (I)(A)(2)(b) above.

- B. Depreciation Expense shall equal NEP's depreciation expense associated with the Production Facilities calculated using the depreciation rates set forth in Appendix A to this agreement.
- C. Allocated General Depreciation Expense shall equal the NEP's General Plant Depreciation Expense multiplied by the Production Wages and Salaries allocator defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.
- <u>Municipal Tax Expense</u> shall equal NEP's total municipal tax expenses multiplied by the Plant Allocator as defined in Section I.A.1.(e) above further multiplied by the Gross Production Plant Allocator as defined in Section I.A.1.(c) above.
  - <u>E. Operation and Maintenance Expense</u> shall equal the operation and maintenance expense of the Production Facilities, excluding fuel-related expenses.
  - <u>F. Administrative and General Expenses</u> shall equal NEP's total administrative and general expenses multiplied by the Production Wages and Salaries Allocator as defined in Section I.A.1.(c) above, further multiplied by the Gross Production Plant Allocator as also defined in Section I.A.1.(c) above
  - G. Disposition of Property shall be the difference, if any, between (1) the net book value and (2) the consideration received for the sale of any Production Facilities, whether in-service or retired, less commissions and other expenses of making the sale, as specified in Account 421.1, Gain on Disposition of Property which shall be credited to total expenses, or Account 421.2 Loss on Disposition of Property which shall be treated as an expense.
  - <u>H. Environmental Remediation Expense</u> shall equal all costs associated with the Production Facilities not otherwise recoverable through the Environmental Response Fund for (a) the investigation, testing, remediation, liabilities, damages, claims, settlements, or judgments attributable to or incurred by NEP relating to deposits or waste from the Production Facilities and the site upon which the Production Facilities were located; and (b) the purchase of property that is acquired as part of an overall mitigation and response plan associated with the remediation of deposits or waste from the Production Facilities and the site upon which the Production Facilities were located

<u>Revenue Credit</u> shall equal any revenue received by NEP for the sale to third parties of energy or capacity from the Production Facilities.

The Variable Expense Charge shall equal the fuel expense (Account 501) of the Production Facilities.

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Appendix A

#### New England Power Company

#### Local Service Agreement between New England Power Company and Massachussets Electric Company/ Nantucket Electric Company

### Generation in Support of Transmission Depreciation Rates

			Annual Rate
Line	FERC Account	FERC Account Description	Percentage
	Production Plant	<u> </u>	
1	340.00	Land and Land Rights	0.00%
2	341.00	Structures and Improvements	3.46%
3	342.00	Fuel Holders, Products, and Accessories	3.33%
4	343.00	Prime Movers	3.33%
5	344.00	Generators	3.76%
6	345.00	Accessory Electric Equipment	3.64%
7	348.00	Energy Storage Equipment	4.38%
	General Plant		
8	389	Land and Land Rights	0.00%
9	390	Structures and Improvements	2.06%
10	391	Office Furniture & Fixtures	3.15%
11	392	Transportation Equipment	0.00%
12	393	Stores Equipment	0.00%
13	394	Tools & Work Equipment	5.17%
14	395	Laboratory Equipment	3.01%
15	396	Power Operated Equipment	0.00%
16	397	Communication Equipment	-0.04%
17	398	Miscellaneous Equipment	3.01%
18	399	Other Tangible Property	0.00%
19	399.1	Asset Retirement Costs for General Plant	0.00%

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NEP Depreciation Study Filing Letter.pdf1
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