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May 31, 2017

VIA ELECTRONIC FILING

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101

**Re: In the Matter of the Petition of Minnesota Energy Resources Corporation
for Approval of its 2017 Five-Year Review of Depreciation Certification**

Docket No. G011/D-17-_____

Dear Mr. Wolf:

Enclosed for filing with the Minnesota Public Utilities Commission ("Commission"), please find the Petition of Minnesota Energy Resources Corporation ("MERC" or the "Company") for Approval of its 2017 Five-Year Review of Depreciation Certification. This filing is submitted to satisfy the requirement for MERC's five-year review of depreciation rates and methods in accordance with Minn. Stat. § 216B.11 and Minn. R. 7825.0500 through 7825.0900, and in compliance with the Commission's October 17, 2016, Order in Docket No. G011/D-16-490, which required that MERC file a five-year depreciation study by June 1, 2017.

MERC currently anticipates making a 2018 test-year general rate case filing and, assuming such filing is made, will incorporate the depreciation parameters as reflected in this five year review.

Copies of this filing have been served on the Department of Commerce, Division of Energy Resources and the Office of the Attorney General – Residential Utilities and Antitrust Division. A summary of the filing has been served on all parties on the attached service list.

Please contact me at (651)322-8965 if you have any questions regarding this filing.

Sincerely,

/s/ Amber S. Lee
Amber S. Lee
Regulatory and Legislative Affairs Manager
Minnesota Energy Resources Corporation

Enclosure

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

Nancy Lange
Dan Lipschultz
Matt Schuerger
Katie Sieben
John Tuma

Chair
Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of the Petition of Minnesota
Energy Resources Corporation for Approval of
its 2017 Five-Year Review of Depreciation
Certification

Docket No. G011/D-17-____

SUMMARY OF FILING

Please take notice that on May 31, 2017, Minnesota Energy Resources Corporation (“MERC”) filed with the Minnesota Public Utilities Commission (“Commission”) its Petition for Approval of its 2017 Five-Year Review of Depreciation Certification, seeking a finding under Minn. Stat. § 216B.11 approving and certifying its proposed changes to depreciation rates and methods. MERC’s five-year review of depreciation analysis resulted in a need to revise depreciation rates for asset classes. If the changes are approved, the annual depreciation expense is estimated to decrease by approximately \$1,241,337 as compared to the current rates approved by Commission Order dated October 17, 2016, in the 2016 annual remaining life update in Docket No. G011/D-16-490. MERC requests implementation of the depreciation rates set forth in Exhibit 1 to the Petition and requests that this change be effective January 1, 2017.

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

Nancy Lange
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In the Matter of the Petition of Minnesota
Energy Resources Corporation for Approval of
its 2017 Five-Year Review of Depreciation
Certification

Docket No. G011/D-17-____

PETITION

Pursuant to Minn. Stat. § 216B.11 and Minn. R. 7825.0500 through 7825.0900, Minnesota Energy Resources Corporation (“MERC”) files its 2017 Five-Year Petition for Depreciation Certification with the Minnesota Public Utilities Commission (“Commission”), seeking approval and certification of its proposed changes to depreciation rates and methods. MERC requests that the new depreciation lives and rates be effective on January 1, 2017, upon Commission approval of this Petition.

The current lives and curves for MERC’s utility assets were approved by the Commission in MERC’s most recent depreciation study filed in Docket No. G007,011/D-12-533, with subsequent updates and modifications approved in MERC’s annual depreciation updates in Docket Nos. G011/D-14-455, G011/D-15-534, and G011/D-16-490. In particular, current lives and curves were approved for Automated Meter Reading (“AMR”) Devices (Account 381.2) in Docket No. G011/D-14-455 by Order dated October 13, 2014, and Transportation Equipment (Account 392.1) in Docket No. G011/D-15-534 by Order dated October 9, 2015. The current depreciation rates, effective January 1, 2016, were approved by the Commission on October 17, 2016, in the most recent annual remaining life update in Docket No. G011/D-16-490 (“2016

Annual Remaining Life Update”). This filing is MERC’s five-year review of depreciation statistics for transmission, distribution, and general plant for MERC.

MERC’s five-year review of depreciation analysis resulted in a need to revise depreciation rates for asset classes. If the changes are approved, the annual depreciation expense is estimated to decrease by approximately \$1,241,337 as compared to the current rates approved in the 2016 Annual Remaining Life Update. MERC requests implementation of the depreciation rates set forth in Exhibit 1 to this Petition, and requests that this change be effective January 1, 2017.

I. Summary of Filing

Pursuant to Minn. R. 7829.1300, subp. 1, a one-paragraph summary of the filing accompanies this Petition.

II. Service

Pursuant to Minn. R. 7829.1300, subp. 2, MERC has served a copy of this filing on the Department of Commerce, Division of Energy Resources and the Office of the Attorney General – Residential Utilities and Antitrust Division. In addition, MERC has served the summary of the filing on all parties on the attached general service list.

III. General Filing Information

Pursuant to Minn. R. 7825.3200, 7825.3500 and 7829.1300, subp. 3, MERC provides the following required information:

A. Name, Address, and Telephone Number of the Utility

Minnesota Energy Resources Corporation
1995 Rahncliff Court, Suite 200
Eagan, MN 55122-3401
(651) 322-8901

B. Name, Address, Electronic Address, and Telephone Number of Attorney for the Utility

Kristin M. Stastny
Briggs and Morgan, P.A.
2200 IDS Center

80 South 8th Street
Minneapolis, MN 55402
KStastny@briggs.com
(612) 977-8656

C. Date of Filing and Date Proposed Rates Will Take Effect

This Petition is being filed May 31, 2017, pursuant to the Commission's October 17, 2016, Order in Docket No. G011/D-16-490, which required that MERC file a five-year depreciation study to be filed by June 1, 2017. MERC requests that the depreciation lives and rates proposed herein be effective January 1, 2017.

D. Statute Controlling Schedule for Processing the Filing

Under Minn. R. 7829.0100, subp. 11, this request for approval of depreciation lives and rates is a "miscellaneous" filing because no determination of MERC's general revenue requirements is necessary. Comments on a miscellaneous filing are due within 30 days of filing, with replies due 10 days thereafter. Minn. Stat. § 216B.11 and Minn. R. 7825.0500 through 7825.0900 govern the substantive criteria for the filing. These provisions do not establish an explicit deadline for Commission action.

E. Signature, Electronic Address, and Title of Utility Employee Responsible for the Filing



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Senior Analyst
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IV. Description and Purpose of Filing

A. Background

This filing constitutes MERC's 2017 Five-Year Petition for Depreciation Certification. MERC's last five-year comprehensive depreciation study was filed in 2012 and approved by the Commission on July 29, 2013, in Docket No. G007,011/D-12-533. The depreciation study for MERC is attached as Exhibit 1. The study was conducted by and under the supervision of John J. Spanos, Senior Vice President of Gannett Fleming, Valuation and Rate Consultants, LLC. Mr. Spanos' educational and professional experience is shown in Exhibit 2.

Subsequent to MERC's last depreciation study, MERC received Commission approval to purchase Interstate Power and Light's ("IPL") natural gas distribution property in Docket No. G001,011/PA-14-107. The plant assets were acquired by MERC in 2015 and have been incorporated into the results of this depreciation study. Based on the age of the assets acquired from IPL and the level of accumulated depreciation as a percentage of plant in service, the acquisition had little impact to the life and salvage characteristics on an account basis.

Exhibit 1 evaluates MERC's depreciable natural gas properties as of December 31, 2016. The depreciation study is presented in nine parts:

- Part I, Introduction, presents the scope and basis for the depreciation study.
- Part II, Estimation of Survivor Curves, includes descriptions of the methodology of estimating survivor curves.
- Parts III and IV set forth the analysis for determining life and net salvage estimates.
- Part V, Calculation of Annual and Accrued Depreciation, includes the concepts of depreciation and amortization using the remaining life.
- Part VI, Results of Study, presents a description of the results of my analysis and a summary of the depreciation calculations.
- Parts VII, VIII and IX include graphs and tables that relate to the service life and net salvage analyses and the detailed depreciation calculations by account.

MERC believes that the studies produce fair and reasonable levels of depreciation expense utilizing sound accounting practices and principles.

Appropriate depreciation rates are formulated through a study of the mortality characteristics of an asset or group of assets including average service life, retirement dispersion defined by lowa-type curves, and net salvage factors. The average service life of a depreciable asset is the number of years the asset is expected to provide service. For a group of depreciable assets, it is the estimated service life of the group. Retirement dispersion is the scattering of retirements by age for the individual depreciable assets within a group around the average service life for the entire group of depreciable assets. Standard dispersion patterns are useful and necessary because they make calculations of the remaining life of existing property possible and allow life characteristics to be compared. Iowa-type curves provide a set of standard definitions for retirement dispersion. Net salvage is the difference between gross salvage and cost of removal. If cost of removal exceeds gross salvage, negative net salvage occurs.

Pursuant to Minn. R. 7825.0700, subp. 1, this Petition includes certain information for each year since MERC's last five-year certification in Docket No. G007,011/D-12-533. Schedules depicting 2012 through 2016 plant in-service, analysis of depreciation reserve, and a summary of annual depreciation accruals are shown in Exhibits 3 through 5, respectively.

B. Discussion of Results of Studies

1. Summary

MERC's depreciation studies demonstrate that changes are needed to the mortality characteristics for the asset classes, resulting in revised depreciation rates. Using December 31, 2016, depreciable balances, the effect of the recommended depreciation rates on annual depreciation expense is a decrease of approximately \$1,241,337, as compared to current rates approved in the 2016 Annual Remaining Life Update in Docket No. G011/D-16-490. The composite depreciation rates shown below were prepared from information presented in Table 3 of Exhibit 1 of this Petition.

As approved in Docket No. G007, G011/D-12-533, MERC will use the functional composite depreciation rate for asset classes that arise in the future for which no depreciation rate is currently approved, or for asset classes that are fully depreciated but may have future investment. MERC proposes the functional composite depreciation rates reflected below be used until the next five-year depreciation study or upon separate filing by MERC requesting certification of a new depreciation rate.

A comparison of the existing composite depreciation rates and those found in the depreciation studies by asset functional class is as follows:

MERC Composite Depreciation Rates

Function	Existing (%)	Recommended (%)
Transmission	2.91	2.35
Distribution	2.43	2.13
General	4.78	5.36

The proposed changes in the functional composite rates are further explained in the following sections.

2. Transmission Assets

For Transmission Plant, the depreciation rate decreased from 2.91 percent to 2.35 percent. This decrease is primarily attributed to the longer average service life for Account 367.1, Transmission Mains. Transmission mains were analyzed with distribution mains as these assets are comparable and the life characteristics into the future are expected to be similar. Therefore, the survivor curve for transmission mains changed from a 50-S1 to a 65-R2.

In Docket No. G007, G011/D-12-533, MERC proposed a negative 25 percent net salvage for Account 367.1, Transmission Mains. The Commission cited MERC's fluctuations in historical cost of removal when it instead approved a negative 45 percent net salvage in lieu of

MERC's initial proposal of negative 25 percent.¹ This study incorporates an additional five years of cost of removal data. MERC analyzed the results excluding outliers, which Staff determined in MERC's last depreciation study to be less than 10 percent or greater than 100 percent. Results continue to support a lower net salvage percent from the current parameters when disregarding outliers and are also reflected in the study's last ten years of net salvage activity, a period of time that provides a more indicative trend. As a result, this study reflects a negative 30 percent net salvage for Account 367.1, Transmission Mains.

The net dollar impact of the change in the depreciation rates for Transmission Plant is a decrease in annual depreciation expense of \$58,887.

3. Distribution Assets

For Distribution Plant, the depreciation rate decreased from 2.43 percent to 2.13 percent. The decrease is primarily attributed to the longer average service life for Account 380.0, Distribution Services. The current life estimate is 50-R2.5, however, due to a lower percentage of assets retired to those exposed to retirement, the 56-R2 survivor curve is most appropriate. This change is due to the fact that most recent retirements have occurred to the older services which have been a focus for replacement in recent years.

In Docket No. G007, G011/D-12-533, MERC proposed a negative 25 percent net salvage for Account 376.0, Distribution Mains and negative 50 percent net salvage for Account 380.0, Distribution Services. The Commission cited MERC's fluctuations in historical cost of removal when it instead approved a negative 45 percent net salvage for Distribution Mains and negative 60 percent net salvage for Distribution Services in lieu of MERC's initial proposal of negative 25 percent net salvage for Distribution Mains and negative 50 percent net salvage for

¹ In its Order Certifying Depreciation Rates and Methods with Modifications, Requiring Filing in Docket No. G007,011/D-12-533, the Commission noted agreement with the Company and the Department that salvage values in Distribution Mains, Transmission Mains, and Services accounts may fall within a wide range of possible values but concluded in that proceeding that disregarding outliers, "the cost-of-removal data supports a -45% salvage value for Distribution Mains and Transmission Mains accounts."

Distribution Services. As noted in the previous section, this study incorporates an additional five years of cost of removal data. MERC analyzed the results excluding outliers, which Staff determined in MERC's last depreciation study to be less than 10 percent or greater than 100 percent. Results continue to support a lower net salvage percent from the current parameters when disregarding outliers and are also reflected in the study's last ten years of net salvage activity, a period of time that provides a more indicative trend. As a result, this study reflects a negative 30 percent net salvage for Account 376.0, Distribution Mains and negative 55 percent net salvage for Account 380.0 Distribution Services. The net dollar impact of the change in the depreciation rates for Distribution Plant is a decrease in annual depreciation expense of \$1,292,318.

4. General Plant

The composite depreciation rate for General Plant (exclusive of general plant accounts approved for vintage amortized accounting) has increased from 4.78 percent to 5.36 percent as a result of less sale value for transportation equipment. The current net salvage estimates for Account 392.1 and 392.2 are positive 25 and 30 percent, respectively. However, in recent years the value has reduced to positive 20 and 15 percent.

In Docket No. G007, G011/D-12-533, MERC segregated Account 390.0, Buildings and Improvements, into two groups for life analysis purposes as newer buildings have different life characteristics than older buildings. As approved in the prior depreciation study, MERC will use the composite accrual rate for this account and will not propose any changes in annual remaining life updates.

The impact of the change in the depreciation rate for General Plant is an increase in annual depreciation expense by approximately \$109,868.

5. Vintage Amortization Accounting Methodology

Vintage amortization accounting for certain general plant accounts was proposed and approved in Docket No. G007,011/D-08-614. MERC continues to apply the lives and

associated depreciation rates to the general plant accounts listed in the table below. As a result, these general plant accounts are excluded from this depreciation study.

Account Number	Description	Amortizable Life (Years)
391	Office Furniture & Equipment	20
391	Computer Equipment	5
393	Stores Equipment	20
394	Tools, Shop & Garage Equipment	20
395	Laboratory Equipment	20
397	Communication Equipment	12
398	Miscellaneous Equipment	20

6. Intangible Software

MERC capitalizes software in accordance with ASC 350-40 Internal – Use Software. Capitalized software costs are amortized on a straight-line basis following the Company’s Software Capitalization Policy. Once software reaches the end of its amortizable life, the software is retired from the asset system and a corresponding entry is made to reduce Plant in Service and Accumulated Amortization.

C. Major Future Additions and Retirements

Minn. R. 7825.0700, subp. 2B requires a list of any major future additions or retirements to the plant accounts that the utility believes may have a material effect on the current certification results. MERC continues to experience an increased level of investment particularly in distribution mains, services, and station accounts resulting in increased plant additions as a result of regular system improvements. Additionally, MERC will experience increased investment as a result of the approval of the Rochester Natural Gas Extension Project under Dockets G-011/M-15-895 and G-011/M-16-315. Depreciation studies rely on historical activity to

develop depreciation parameters. Future activity does not modify historical results but rather assists in the application of judgement when selecting final depreciation parameters.

V. Attached Exhibits and Tables

The following Exhibits are attached, with their tables listed:

Exhibit 1: Book Depreciation Study of MERC including Service Life Statistics, Net Salvage Statistics, and Depreciation Calculations. Tables presented within the study include:

- Table 1: Summary of Depreciation Rates and Annual Accruals by Component
- Table 2: Summary of Depreciation Rates, Annual Accruals, and Remaining Life
- Table 3: Comparison of Depreciation Rates and Annual Amounts
- Table 4: Summary of Currently Approved and Proposed Estimated Survivor Curves and Net Salvage Values

Exhibit 2: Qualifications of John Spanos

Exhibit 3: Plant in Service (2012-2016)

Exhibit 4: Analysis of Depreciation Reserve (2012-2016)

Exhibit 5: Summary of Annual Depreciation Accruals (2012-2016)

VI. Miscellaneous Information

Pursuant to Minn. R. 7829.0700, MERC requests that the following persons be placed on the Commission's official service list for this matter:

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CONCLUSION

MERC has conducted a comprehensive depreciation study that results in a reasonable level of depreciation expense which will provide MERC with adequate capital recovery. MERC respectfully requests the Commission certify the depreciation rates and cost of removal rates shown in Exhibit 1. If the changes are approved, the annual depreciation expense is estimated to decrease by approximately \$1,241,337 as compared to current rates. MERC requests that this change be effective January 1, 2017.

If additional information is required, please contact Kristin Stastny at (612) 977-8656 or Amber Lee at (651) 322-8965.

DATED: May 31, 2017

Respectfully submitted,

BRIGGS AND MORGAN, P.A.

By: /s/ Kristin M. Stastny

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Attorney for Minnesota Energy
Resources Corporation

Exhibit 1

Book Depreciation Study of MERC including Service
Life Statistics, Net Salvage Statistics, and
Depreciation Calculations



2016 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO GAS PLANT
AS OF DECEMBER 31, 2016

Prepared by:



*Excellence Delivered **As Promised***

MINNESOTA ENERGY RESOURCES CORPORATION
Rosemount, Minnesota

2016 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO GAS PLANT
AS OF DECEMBER 31, 2016

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC
Camp Hill, Pennsylvania



*Excellence Delivered **As Promised***

May 30, 2017

Minnesota Energy Resources Corporation
1995 Rahncliff Court, Suite 200
Eagan, MN 55122

Attention Mr. Greg J. Cieslewicz
Lead Analyst

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the gas plant of Minnesota Energy Resources Corporation as of December 31, 2016. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual depreciation accrual rates, the statistical support for the life and net salvage estimates and the detailed tabulations of annual depreciation.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC.

A handwritten signature in blue ink that reads "John J. Spanos".

JOHN J. SPANOS
Sr. Vice President

JJS:mlw

062639.000



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MINNESOTA ENERGY RESOURCES CORPORATION

DEPRECIATION STUDY

EXECUTIVE SUMMARY

Pursuant to Minnesota Energy Resources Corporation's ("MERC" or "Company") request, Gannett Fleming Valuation and Rate Consultants, LLC ("Gannett Fleming") conducted a depreciation study related to the gas plant of MERC as of December 31, 2016. The purpose of this study was to determine the annual depreciation accrual rates and amounts for book and ratemaking purposes.

The depreciation rates are based on the straight line method using the average service life ("ASL") procedure and were applied on a remaining life basis. The calculations were based on attained ages and estimated average service life, and forecasted net salvage characteristics for each depreciable group of assets.

MERC's accounting policy has not changed since the last depreciation study was prepared, however, in January 2018 depreciation will be booked on a beginning of the month balance instead of average month balance. Also, there have been changes to the plant in service due to infrastructure improvements. These improvements have produced some changes in the life and salvage estimates since the last depreciation study was performed which creates new depreciation rates as compared to what currently are utilized.

Gannett Fleming recommends the calculated annual depreciation accrual rates set forth herein apply specifically to gas plant in service as of December 31, 2016 as summarized by Table 1 of the study. Supporting analysis and calculations are provided within the study.

The study results set forth an annual depreciation expense of \$10.9 million when applied to depreciable plant balances as of December 31, 2016. The results are summarized at the functional level as follows:

SUMMARY OF ORIGINAL COST, ACCRUAL RATES AND AMOUNTS

FUNCTION	ORIGINAL COST	PROPOSED RATE	ANNUAL ACCRUAL
TRANSMISSION PLANT	\$ 10,403,354.04	2.35	\$ 244,046
DISTRIBUTION PLANT	430,824,098.43	2.13	9,197,455
GENERAL PLANT	18,696,534.48	5.36	1,002,970
AMORTIZED PLANT	6,371,828.00	6.76	430,598
INTANGIBLE PLANT	15,410,626.00	-	-
LEASEHOLD IMPROVEMENTS	162,279.00	-	-
TOTAL DEPRECIABLE PLANT	<u>\$481,868,719.95</u>		<u>\$10,875,069</u>

PART I. INTRODUCTION

MINNESOTA ENERGY RRESOURCES CORPORATION

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Minnesota Energy Resources Corporation (“Company”), to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of gas plant as of December 31, 2016. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to gas plant in service as of December 31, 2016.

The service life and net salvage estimates resulting from the study were based on informed judgment which incorporated analyses of historical plant retirement data as recorded through 2016, a review of Company practice and outlook as they relate to plant operation and retirement, and consideration of current practice in the gas industry, including knowledge of service lives and net salvage estimates used for other gas companies.

PLAN OF REPORT

Part I, Introduction, contains statements with respect to the plan of the report, and the basis of the study. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and methods used in the service life study. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Net Salvage Considerations, presents the results of the net salvage study. Part V, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part VI, Results of Study, presents summaries by depreciable group

of annual depreciation accrual rates and amounts, as well as composite remaining lives. Part VII, Service Life Statistics presents the statistical analysis of service life estimates, Part VIII, Net Salvage Statistics sets forth the statistical indications of net salvage percents, and Part IX, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation.

BASIS OF THE STUDY

Depreciation

Depreciation, in public utility regulation, is 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 causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing gas utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the straight-line method of depreciation.

For most accounts, the annual depreciation was calculated by the straight line method using the average service life procedure and the remaining life basis. For certain General Plant accounts, the annual depreciation is based on amortization accounting.

Both types of calculations were based on original cost, attained ages, and estimates of service lives and net salvage.

The straight line method, average service life procedure is a commonly used depreciation calculation procedure that has been widely accepted in jurisdictions throughout North America. Gannett Fleming recommends its continued use. Amortization accounting is used for certain General Plant accounts because of the disproportionate plant accounting effort required when compared to the minimal original cost of the large number of items in these accounts. An explanation of the calculation of annual and accrued amortization is presented beginning on page V-4 of the report.

Service Life and Net Salvage Estimates

The service life and net salvage estimates used in the depreciation and amortization calculations were based on informed judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the gas utility industry, and comparisons of the service life and net salvage estimates from our studies of other gas utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for gas plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data analyses and the probable future. The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived.

The estimates of net salvage by account incorporated a review of experienced costs of removal and salvage related to plant retirements, and consideration of trends exhibited by the historical data. Each component of net salvage, i.e., cost of removal and salvage, was stated in dollars and as a percent of retirement.

An understanding of the function of the plant and information with respect to the reasons for past retirements and the expected causes of future retirements was obtained through discussions with operating and management personnel. The supplemental information obtained in this manner was considered in the interpretation and extrapolation of the statistical analyses.

**PART II. ESTIMATION OF
SURVIVOR CURVES**

PART II. ESTIMATION OF SURVIVOR CURVES

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. The estimation of survivor curves is discussed below and the development of net salvage is discussed in later sections of this report.

SURVIVOR CURVES

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages.

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

This study has incorporated the use of Iowa curves developed from a retirement rate analysis of historical retirement history. A discussion of the concepts of survivor curves and of the development of survivor curves using the retirement rate method is presented below.

Iowa Type Curves

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.

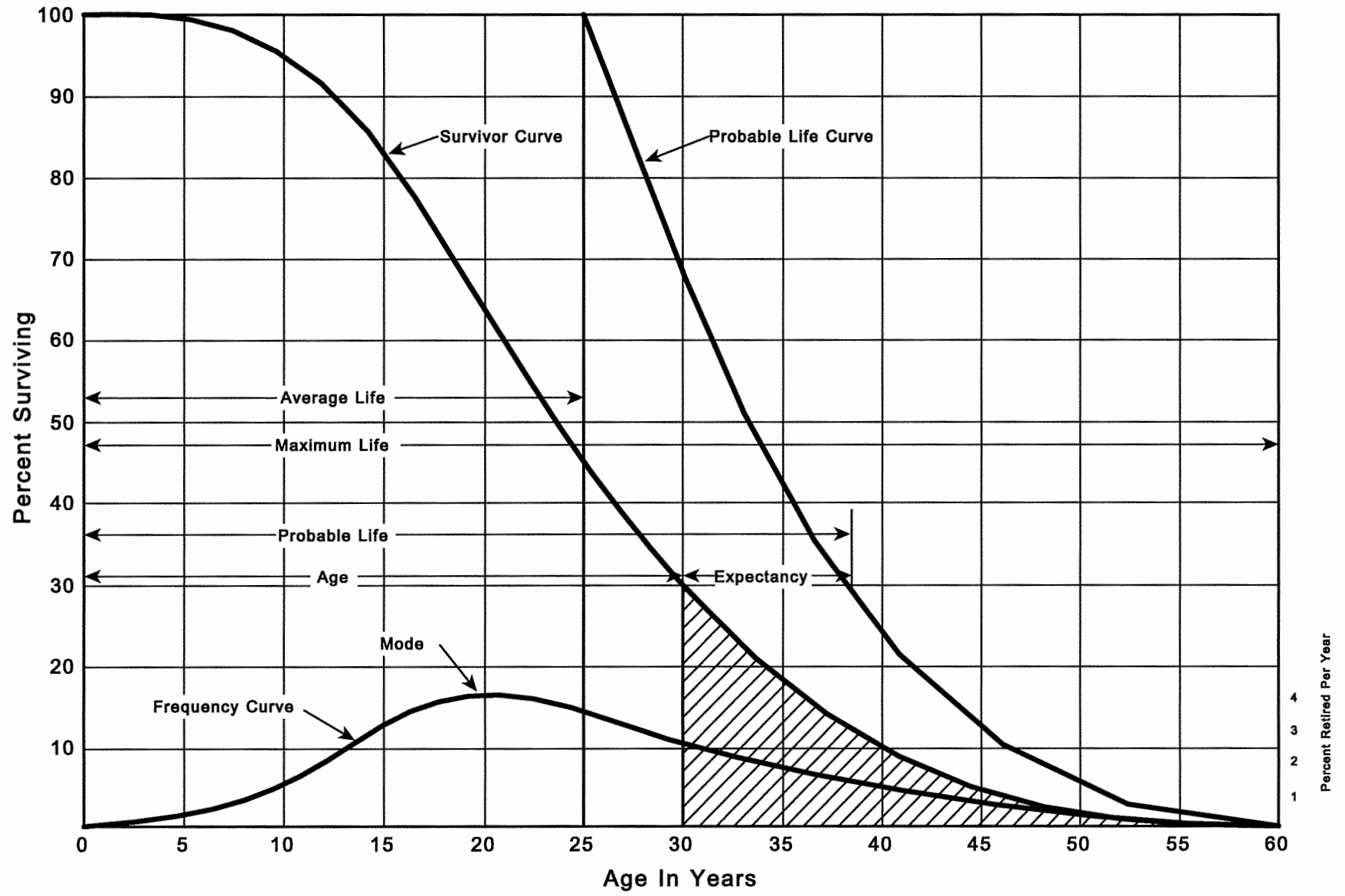


Figure 1. A Typical Survivor Curve and Derived Curves

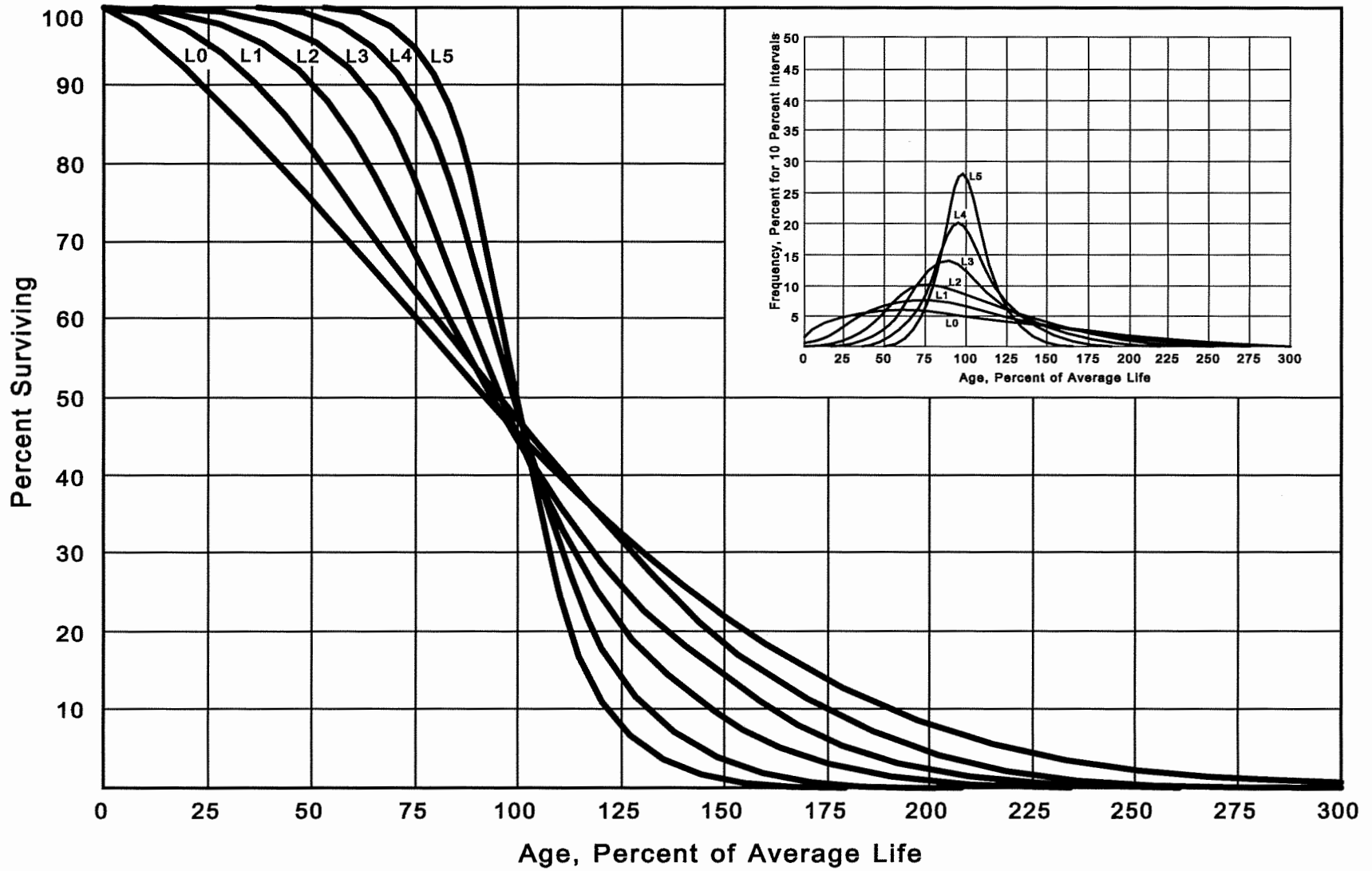


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

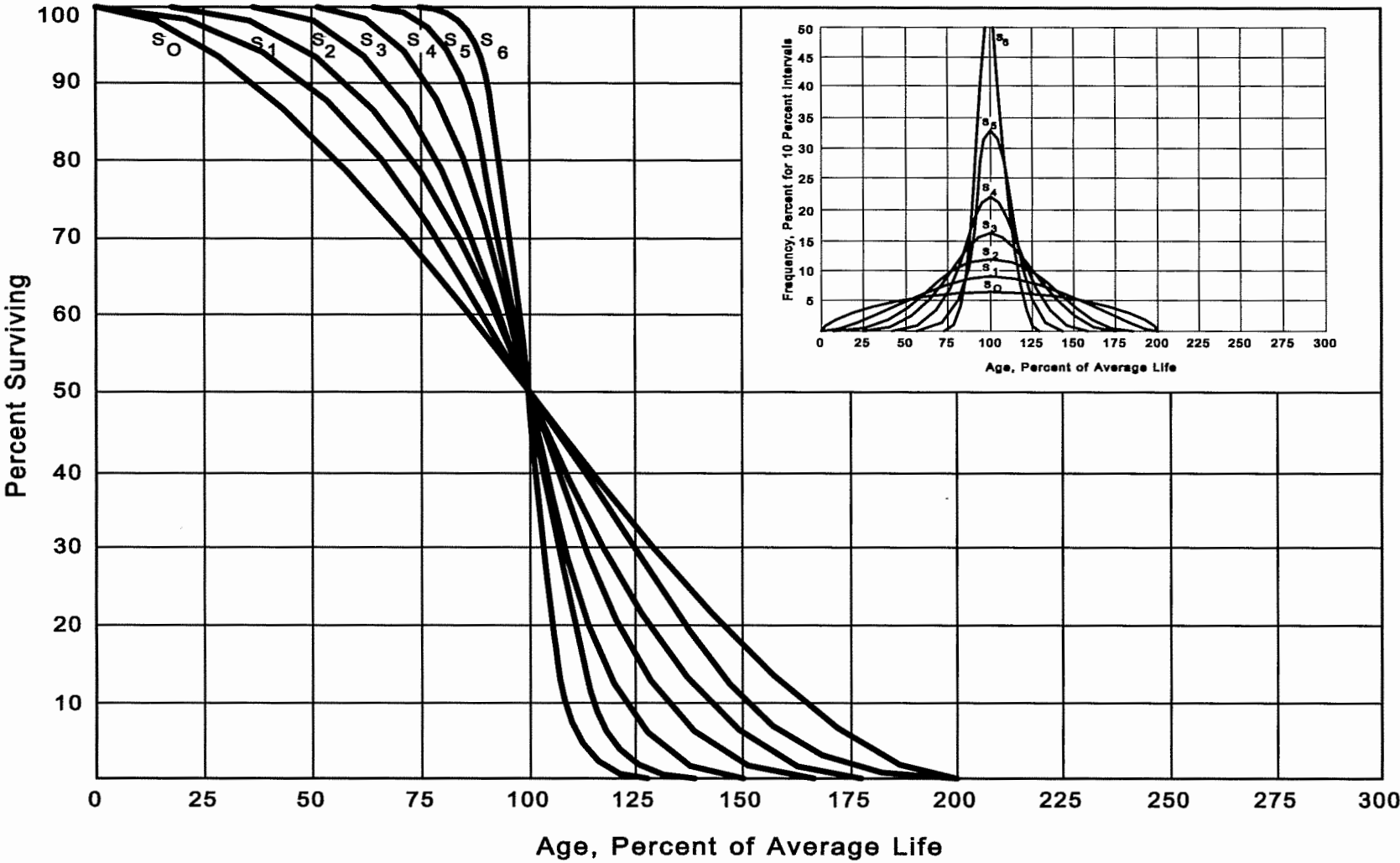


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

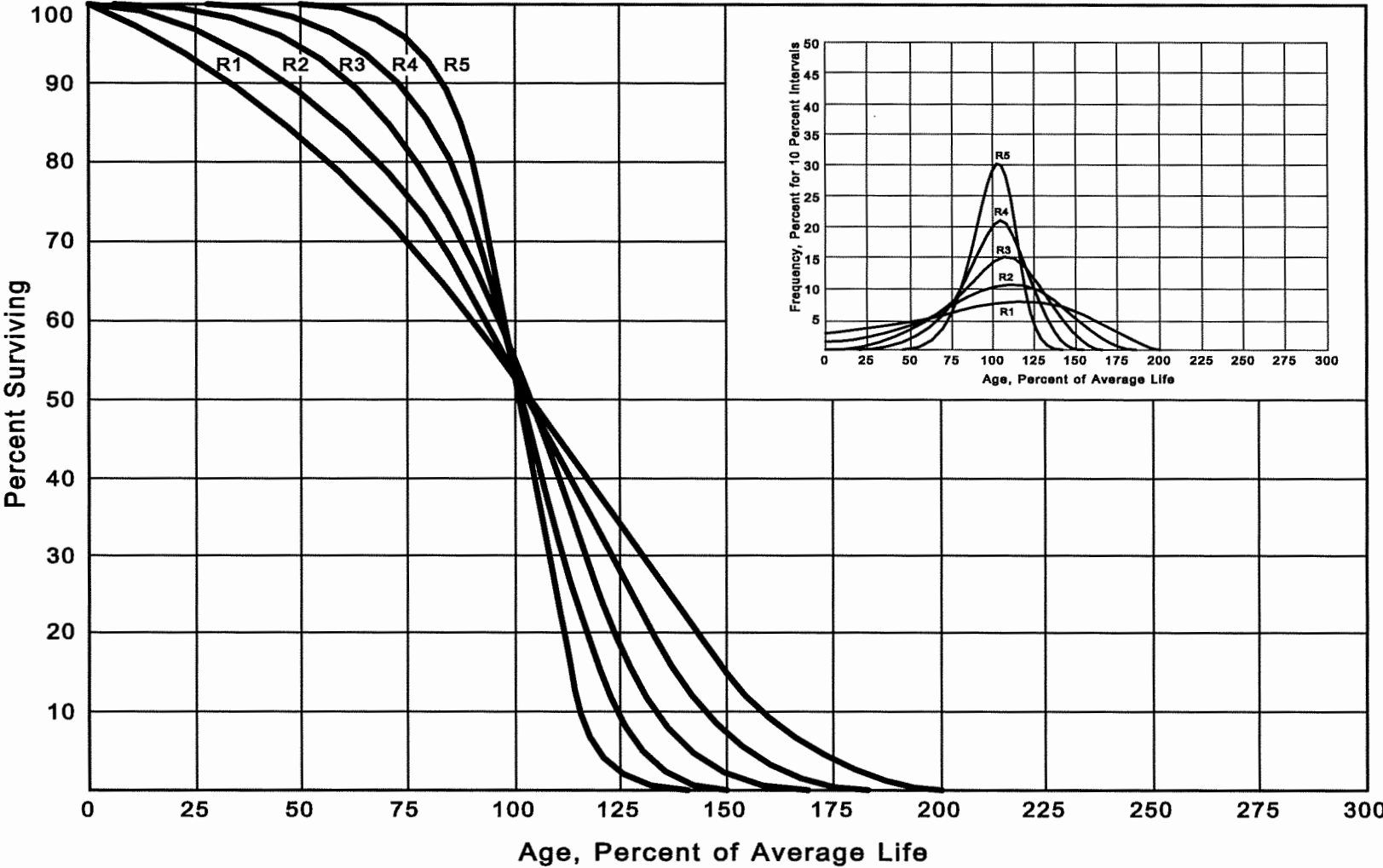


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

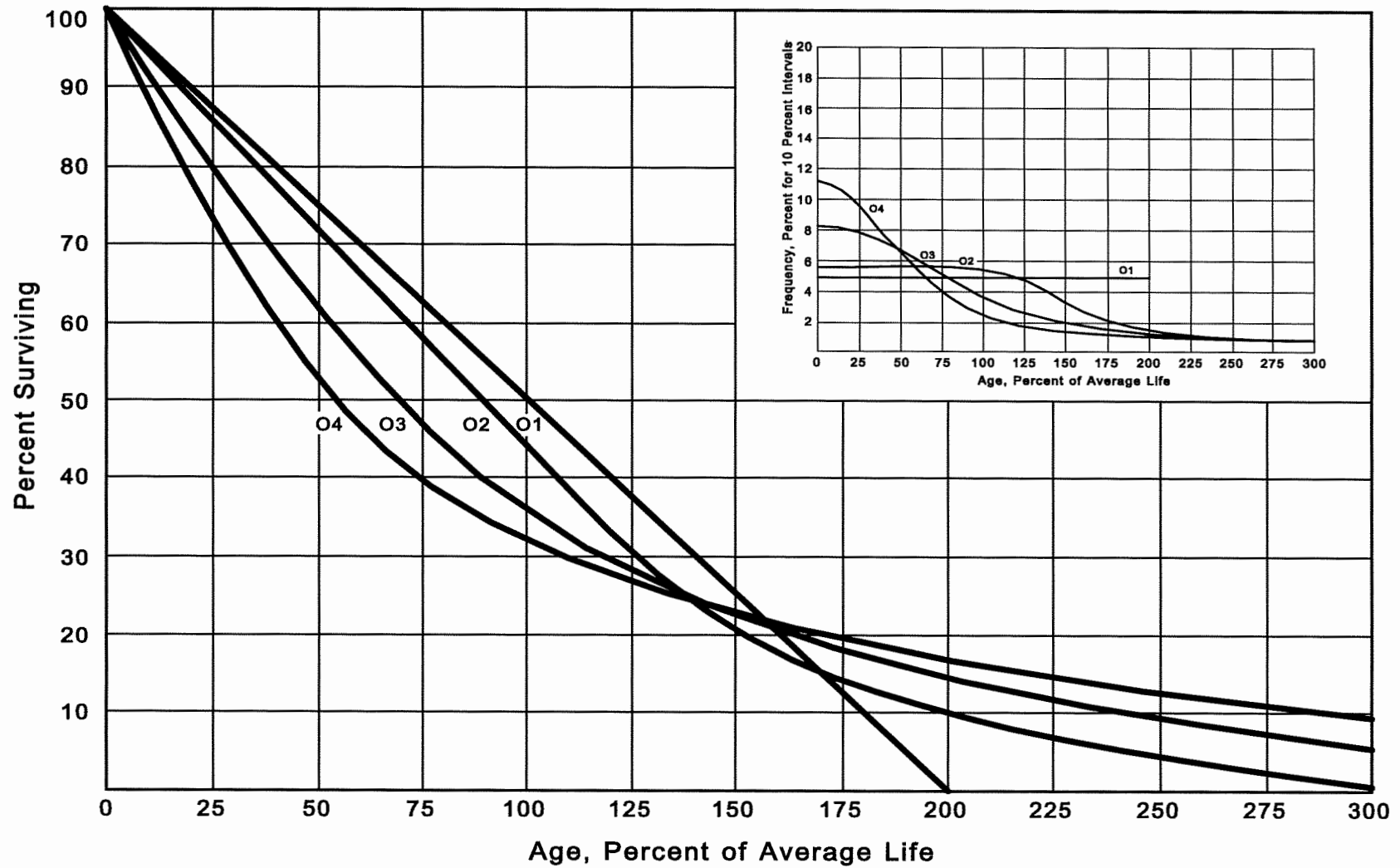


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."¹ In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"² "Engineering Valuation and Depreciation,"³ and "Depreciation Systems."⁴

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

¹Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

²Winfrey, Robley, Statistical Analyses of Industrial Property Retirements. Iowa State College. Engineering Experiment Station, Bulletin 125. 1935.

³Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

⁴Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2007-2016 during which there were placements during the years 2002-2016. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2002 were retired in 2007. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2007 retirements of 2002 installations and ending with the 2016 retirements of the 2011 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Retirements, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
(1)	2007 (2)	2008 (3)	2009 (4)	2010 (5)	2011 (6)	2012 (7)	2013 (8)	2014 (9)	2015 (10)	2016 (11)	(12)	(13)
2002	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2003	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2004	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2005	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2006	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2007	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2008		5	11	12	13	14	15	16	18	20	113	7½-8½
2009			6	12	13	15	16	17	19	19	124	6½-7½
2010				6	13	15	16	17	19	19	131	5½-6½
2011					7	14	16	17	19	20	143	4½-5½
2012						8	18	20	22	23	146	3½-4½
2013							9	20	22	25	150	2½-3½
2014								11	23	25	151	1½-2½
2015									11	24	153	½-1½
2016										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2002	-	-	-	-	-	-	60 ^a	-	-	-	-	13½-14½
2003	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2004	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2005	-	-	-	-	-	-	-	(5) ^b	-	-	60	10½-11½
2006	-	-	-	-	-	-	-	6 ^a	-	-	-	9½-10½
2007	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2008	-	-	-	-	-	-	-	-	-	-	6	7½-8½
2009	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2010	-	-	-	-	-	-	-	-	(12) ^b	-	-	5½-6½
2011	-	-	-	-	-	-	-	-	-	22 ^a	-	4½-5½
2012	-	-	-	-	-	-	-	(19) ^b	-	-	10	3½-4½
2013	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2014	-	-	-	-	-	-	-	-	-	(102) ^c	(121)	1½-2½
2015	-	-	-	-	-	-	-	-	-	-	-	½-1½
2016	-	-	-	-	-	-	-	-	-	-	-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

^a Transfer Affecting Exposures at Beginning of Year

^b Transfer Affecting Exposures at End of Year

^c Sale with Continued Use

Parentheses Denote Credit Amount.

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2007 through 2016 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2012 are calculated in the following manner:

Exposures at age 0	= amount of addition	= \$750,000
Exposures at age ½	= \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½	= \$742,000 - \$18,000	= \$724,000
Exposures at age 2½	= \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½	= \$685,000 - \$22,000	= \$663,000

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2007-2016
SUMMARIZED BY AGE INTERVAL

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year											
(1)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	(12)	(13)
2002	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2003	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2004	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2005	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2006	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2007	420 ^a	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2008		460 ^a	455	444	432	419	405	390	374	356	1,952	7½-8½
2009			510 ^a	504	492	479	464	448	431	412	2,463	6½-7½
2010				580 ^a	574	561	546	530	501	482	3,057	5½-6½
2011					660 ^a	653	639	623	628	609	3,789	4½-5½
2012						750 ^a	742	724	685	663	4,332	3½-4½
2013							850 ^a	841	821	799	4,955	2½-3½
2014								960 ^a	949	926	5,719	1½-2½
2015									1,080 ^a	1,069	6,579	½-1½
2016										1,220 ^a	7,490	0-½
Total	<u>1,975</u>	<u>2,382</u>	<u>2,824</u>	<u>3,318</u>	<u>3,872</u>	<u>4,494</u>	<u>5,247</u>	<u>6,017</u>	<u>6,852</u>	<u>7,799</u>	<u>44,780</u>	

^aAdditions during the year

For the entire experience band 2007-2016, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

Original Life Table

The original life table, illustrated in Schedule 4 on page II-16, is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15	
Exposures at age 4½	=	3,789,000	
Retirements from age 4½ to 5½	=	143,000	
Retirement Ratio	=	143,000 ÷ 3,789,000	= 0.0377
Survivor Ratio	=	1.000 - 0.0377	= 0.9623
Percent surviving at age 5½	=	(88.15) x (0.9623)	= 84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

SCHEDULE 4. ORIGINAL LIFE TABLE
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2007-2016

Placement Band 2002-2016

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Beginning of Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
14.5					35.66
Total	<u>44,780</u>	<u>1,606</u>			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.

Column 3 from Schedule 1, Column 12, Retirements for Each Year.

Column 4 = Column 3 Divided by Column 2.

Column 5 = 1.0000 Minus Column 4.

Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

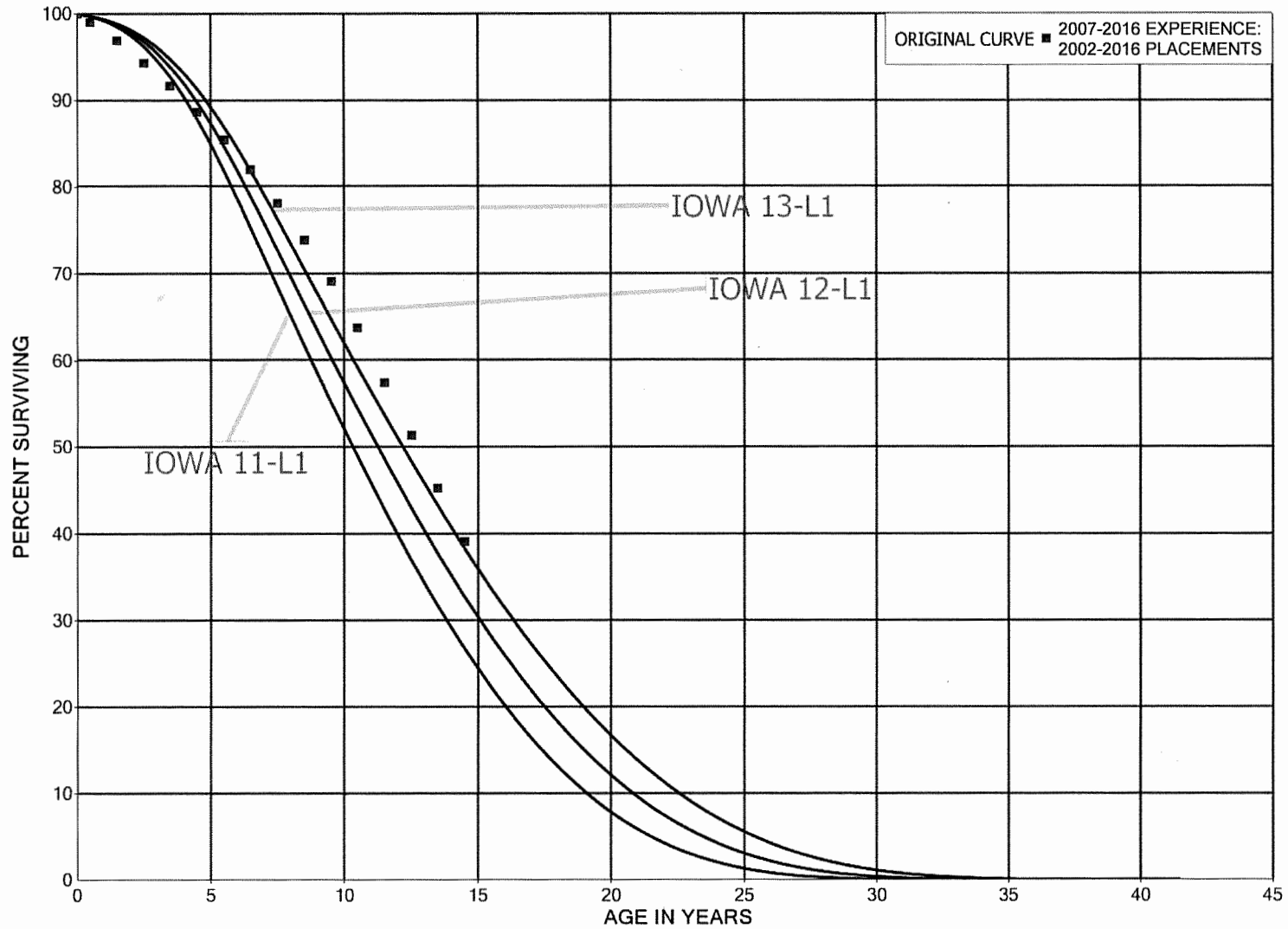


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

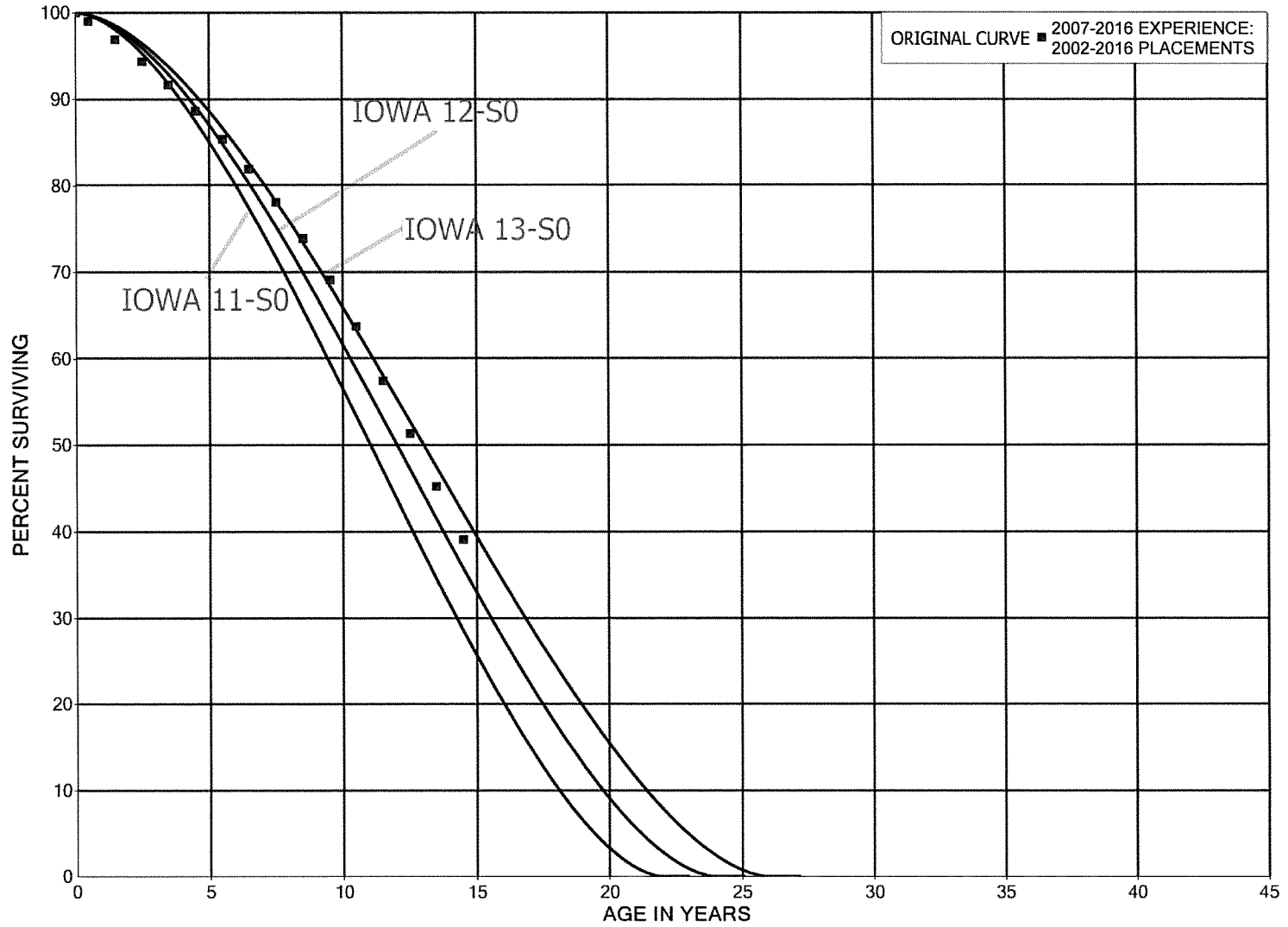


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

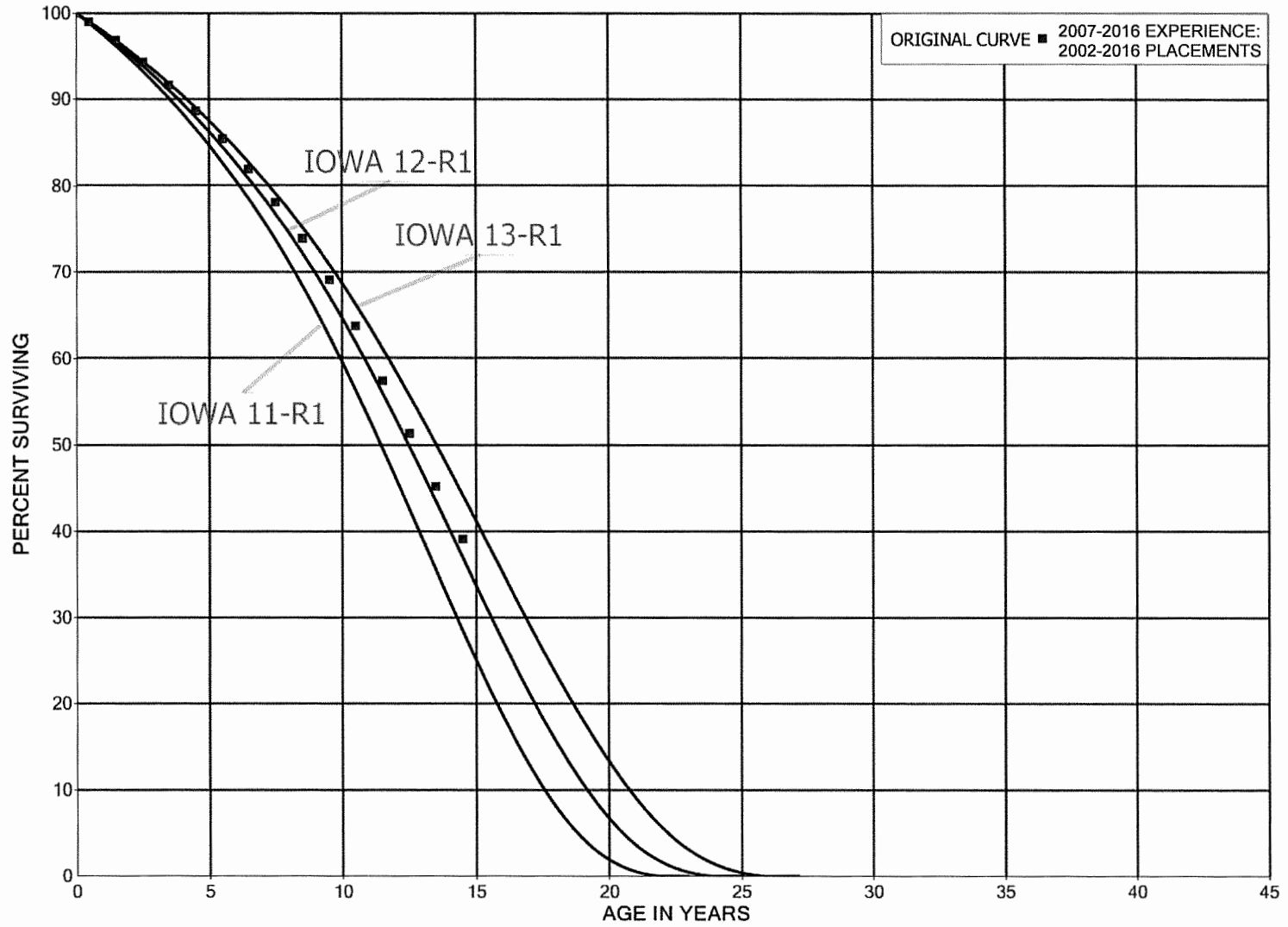
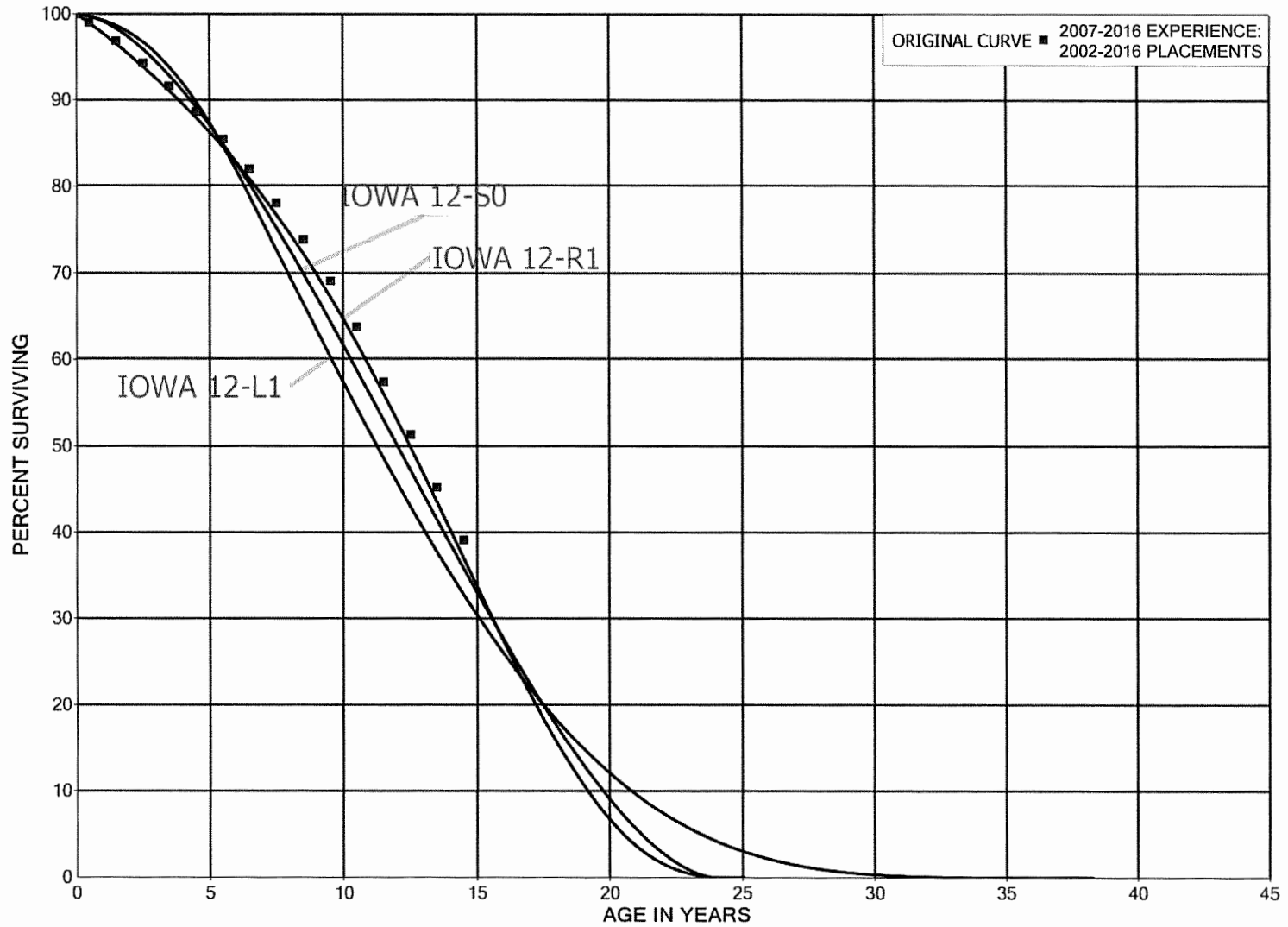


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

FIELD TRIPS

In order to be familiar with the operation of the Company and observe representative portions of the plant, a field trip was conducted for the study. A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements are obtained during field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

The following is a list of the locations visited during field trips.

May 2, 2017

- Rosemount Office
- Rosemount District Regulator Station #1
- McNamara Meter Set
- Rosemount District Regulator Station #11
- Cannon Falls Town Border Station
- Sustane Meter Set
- Rosemount Town Border Station 1C

February 28, 2012

- Rosemount Office
- Rosemount Town Border Station #1
- Rosemount Regulator Station #1
- City Hall Meter Set
- Rosemount Town Border Station #4
- Farmington Regulator Station
- Rosemount District Regulator Station
- Rosemount Town Border Station #7
- Dakota County Transportation Department Meter Set
- Pine Bend Regulator Station #1
- Pine Bend Refinery Meter Set
- Pine Bend Refinery Training Center Meter Set
- Rosemount Town Border Station #8
- Rosemount Office/Service Center
- District Regulator Station #75
- Rochester Power Utility Meter Set
- Rochester Town Border Station ID
- Rochester South Town Border Station 1B
- District Regulator Station #43

District Regulator Station #60
District Regulator Station
Rochester Service Center

SERVICE LIFE ANALYSIS

The service life estimates were based on informed judgment which considered a number of factors. The primary factors were the statistical analyses of data; current Company policies and outlook as determined during conversations with management; and the survivor curve estimates from previous studies of this company and other gas companies.

For many of the plant accounts and subaccounts for which survivor curves were estimated, the statistical analyses using the retirement rate method resulted in good to excellent indications of the survivor patterns experienced. These accounts represent 65 percent of depreciable plant. Generally, the information external to the statistics led to no significant departure from the indicated survivor curves for the accounts listed below. The statistical support for the service life estimates is presented in the section beginning on page VII-2.

TRANSMISSION PLANT

367.1	Mains
369.3	Measuring and Regulating Station Equipment

DISTRIBUTION PLANT

375	Structures and Improvements
376	Mains
378	Measuring and Regulating Station Equipment
379	Measuring and Regulating Station Equipment - City Gate
380	Services
381	Meters
383	House Regulators
385	Measuring and Regulating Station Equipment - Industrial

GENERAL PLANT

390	Structures and Improvements - Minor
392.1	Transportation Equipment
392.2	Transportation Equipment - Trailers
396	Power Operated Equipment

The combined analysis of Account 367.1 – Mains and Account 376 – Mains are used to illustrate the manner in which the study was conducted for the groups in the preceding list. These accounts represent 43 percent of the total depreciable plant. Aged plant accounting data have been compiled for the years 1990 through 2016. These data have been coded in the course of the Company's normal record keeping according to account or property group, type of transaction, year in which the transaction took place, and year in which the gas plant was placed in service. The retirements, other plant transactions, and plant additions were analyzed by the retirement rate method.

The survivor curve estimate is based on the statistical indications for the periods 1990-2016 and 2007-2016. The Iowa 65-R2 is an excellent fit of the original survivor curve. The 65-year service life is within the typical service life range of 55 to 70 years for mains. The 65-year life reflects the Company's plans and practices of the past and the expectation that transmission and distribution mains have similar life characteristics.

The survivor curve estimate for Account 380, Services is based on statistical analyses of historical retirement experience for the periods 1990-2016 and 2007-2016. The 56-R2 estimate for Account 380, Services, is an excellent fit of the original survivor curve developed from historical plant retirements. The 56-R2 survivor curve sets forth the constant rates of retirement through approximately age 60. The 56-year average service life is at the upper end of the typical range of 40 to 55 years for services. The previous estimate was the Iowa 50-R2.5.

Similar studies were performed for the remaining plant accounts. Each of the judgments represented a consideration of statistical analyses of aged plant activity, management's outlook for the future, and the typical range of lives used by other gas companies.

The selected amortization periods for other General Plant accounts are described in the section "Calculated Annual and Accrued Amortization."

PART IV. NET SALVAGE CONSIDERATIONS

PART IV. NET SALVAGE CONSIDERATIONS

SALVAGE ANALYSIS

The estimates of net salvage by account were based in part on historical data compiled for the years 1993 through 2016. Cost of removal and salvage were expressed as percents of the original cost of plant retired, both on annual and three-year moving average bases. The most recent five-year average also was calculated for consideration. The net salvage estimates by account are expressed as a percent of the original cost of plant retired.

Net Salvage Considerations

The estimates of future net salvage are expressed as percentages of surviving plant in service, i.e., all future retirements. In cases in which removal costs are expected to exceed salvage receipts, a negative net salvage percentage is estimated. The net salvage estimates were based on judgment which incorporated analyses of historical cost of removal and salvage data, expectations with respect to future removal requirements and markets for retired equipment and materials.

The analyses of historical cost of removal and salvage data are presented in the section titled "Net Salvage Statistics" for the plant accounts for which the net salvage estimate relied partially on those analyses.

Statistical analyses of historical data for the period 1993 through 2016 contributed significantly toward the net salvage estimates for 10 plant accounts, representing 89 percent of the depreciable plant, as follows:

TRANSMISSION PLANT

369.3 Measuring and Regulating Station Equipment

DISTRIBUTION PLANT

376 Mains

378 Measuring and Regulating Station Equipment

380	Services
381	Meters
383	House Regulators
385	Measuring and Regulating Station Equipment - Industrial

GENERAL PLANT

392.1	Transportation Equipment
392.2	Transportation Equipment - Trailers
396	Power Operated Equipment

The analysis for Account 380, Services, is used to illustrate the manner in which the study was conducted for most plant accounts. Net salvage data for the period 1990 through 2016 were analyzed for this account. The data include cost of removal, gross salvage and net salvage amounts and each of these amounts is expressed as a percent of the original cost of regular retirements. Three-year moving averages for the 1990-1992 through 2014-2016 periods were computed to smooth the annual amounts.

Cost of removal has fluctuated throughout the twenty-seven year period with a trend in recent years to slightly lower levels. The slight trend to less cost of removal is primarily due to the economies of larger scale projects related to main replacements. Cost of removal for the most recent five years averaged 47 percent.

Gross salvage has been low throughout the twenty-seven year period. The most recent five-year average of 0 percent gross salvage which reflects the expectations for the future to be minimal gross salvage.

The net salvage percent based on the overall period 1990 through 2016 is 52 percent negative net salvage and based on the most recent five-year period is 47 percent. The range of estimates made by other gas companies for services is negative 30 to negative 150 percent and the currently approved net salvage is 60 percent. The net salvage estimate for these assets is negative 55 percent, is within the range of other gas

company estimates is slightly less than the current estimate and reflects the negative net salvage expectations in the future.

The net salvage percents for the remaining accounts were based on judgment incorporating estimates of other gas utilities.

Generally, the net salvage estimates for remaining general plant accounts were zero percent, consistent with amortization accounting.

**PART V. CALCULATION OF ANNUAL AND
ACCRUED DEPRECIATION**

PART V. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

GROUP DEPRECIATION PROCEDURES

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. There are two primary group procedures, namely, average service life and equal life group. In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

Single Unit of Property

The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a \$1,000 unit of property attains an age of four years and has a life expectancy of six years, the annual accrual over the total life is:

$$\frac{\$1,000}{(4 + 6)} = \$100 \text{ per year.}$$

The accrued depreciation is:

$$\$1,000 \left(1 - \frac{6}{10} \right) = \$400.$$

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 2016, the depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation follow. The detailed calculations as of December 31, 2016, are set forth in the Results of Study section of the report.

Average Service Life Procedure

In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$\text{Ratio} = 1 - \frac{\text{Average Remaining Life}}{\text{Average Service Life}}$$

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

Amortization is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is proposed for a number of accounts that represent numerous units of property, but a very small portion of depreciable gas plant in service. The accounts and their amortization periods are as follows:

<u>Account</u>	<u>Amortization Period, Years</u>
391.1 Office Furniture and Equipment	20
391.2 Office Furniture and Equipment - Computer Equipment	5
393 Stores Equipment	20
394 Tools, Shop and Garage Equipment	20
395 Laboratory Equipment	20
397 Communication Equipment	12
398 Miscellaneous Equipment	20

For the purpose of calculating annual amortization amounts as of December 31, 2016, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than

the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

PART VI. RESULTS OF STUDY

PART VI. RESULTS OF STUDY

QUALIFICATION OF RESULTS

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage and for the change of the composition of property in service. The annual accrual rates were calculated in accordance with the straight line remaining life method of depreciation, using the average service life procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

The annual depreciation accrual rates are applicable specifically to the gas plant in service as of December 31, 2016. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2016, is reasonable for a period of three to five years.

DESCRIPTION OF STATISTICAL SUPPORT

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other gas utilities. The results of the statistical analysis of service life are presented in the section beginning on page VII-2, within the supporting documents of this report.

For each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of

the original life table(s) plotted on the chart. The survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the curve type designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. The titles of the chart indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The analyses of salvage data are presented in the section titled, "Net Salvage Statistics". The tabulations present annual cost of removal and salvage data, three-year moving averages and the most recent five-year average. Data are shown in dollars and as percentages of original costs retired.

DESCRIPTION OF DETAILED TABULATIONS

A summary of the results of the study, as applied to the original cost of gas plant as of December 31, 2016, is presented on pages VI-5 through VI-11 of this report. Table 1 sets forth the original cost, the survivor curve, net salvage percent, book depreciation reserve and the calculated annual depreciation rate and amount by component related to gas plant. Table 2 sets forth the survivor curve, net salvage percent, original cost, book depreciation reserve, future accruals, calculated annual depreciation rate and amount, and composite remaining life as of December 31, 2016. Table 3 sets forth a comparison of current depreciation rates and expense to the proposed depreciation rates and

expense by account as of December 31, 2016. Table 4 sets forth the comparison of the currently utilized survivor curve and net salvage percent by account to those proposed as of December 31, 2016.

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2016 are presented in account sequence starting on page IX-2 of the supporting documents. The tables indicate the estimated survivor curve and net salvage percent for the account and set forth, for each installation year, the original cost, the calculated accrued depreciation, the allocated book reserve, future accruals, the remaining life, and the calculated annual accrual amount.

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 1: SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES BY COMPONENT AS OF DECEMBER 31, 2016

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	ANNUAL ACCRUAL RATE (7)=(6)/(4)	CAPITAL RECOVERY RATE (8)	COST OF REMOVAL RATE (9)	GROSS SALVAGE RATE (10)	
TRANSMISSION PLANT										
367.10 MAINS	65-R2	(30)	9,574,350.90	3,867,750	171,007	1.79	1.38	0.45	(0.04)	
369.30 MEASURING AND REGULATING STATION EQUIPMENT	30-S2	(30)	829,003.14	(44,884)	73,039	8.81	6.78	2.24	(0.20)	
TOTAL TRANSMISSION PLANT			10,403,354.04	3,822,866	244,046					
DISTRIBUTION PLANT										
LAND AND LAND RIGHTS										
374.10 STRUCTURES AND IMPROVEMENTS	25-SQ	0	596,817.87	243,368	24,376	4.08	4.08	0.00	0.00	
375.00 MAINS	35-S2	(10)	145,075.92	103,693	9,087	6.26	5.69	0.57	0.00	
378.00 MEASURING AND REGULATING STATION EQUIPMENT	65-R2	(30)	196,545,659.51	75,236,912	3,567,889	1.71	1.32	0.43	(0.04)	
379.00 SERVICES	35-S0.5	(15)	11,925,878.63	1,578,732	480,673	4.03	3.50	0.63	(0.11)	
380.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	35-S2	(40)	9,720,082.38	1,184,887	433,920	4.46	3.19	1.43	(0.16)	
381.00 METERS	56-R2	(55)	143,624,197.45	71,723,059	3,338,282	2.32	1.50	0.82	0.00	
381.20 METERS - AMR	35-S1	(1)	46,436,065.86	14,551,937	1,175,411	2.53	2.50	0.03	0.00	
383.00 HOUSE REGULATORS	15-S2.5	0	339,538.31	106,170	22,113	6.51	6.51	0.00	0.00	
385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL	48-R3	(5)	19,506,251.54	10,404,263	293,357	1.50	1.43	0.09	(0.01)	
	40-S1	(10)	1,984,530.95	764,456	52,347	2.64	2.40	0.31	(0.07)	
TOTAL DISTRIBUTION PLANT			430,824,098.43	175,897,477	9,197,455					
GENERAL PLANT										
STRUCTURES AND IMPROVEMENTS										
390.00 BUILDINGS - MAJOR	55-R3	(10)	3,224,389.42	463,237	66,002	2.05	1.86	0.19	0.00	
	45-R2	(10)	9,324,614.82	3,075,159	231,815	2.49	2.26	0.23	0.00	
TOTAL STRUCTURES AND IMPROVEMENTS			12,549,004.24	3,538,396	297,817	2.37	2.16	0.22	0.00	
TRANSPORTATION EQUIPMENT - TRAILERS										
392.10 TRANSPORTATION EQUIPMENT	8-S3	20	5,747,628.92	1,434,023	693,488	12.07	15.09	0.00	(3.02)	
392.20 TRANSPORTATION EQUIPMENT - TRAILERS	18-R1.5	15	92,528.20	53,611	1,822	1.97	2.32	0.00	(0.35)	
396.00 POWER OPERATED EQUIPMENT	18-S1.5	10	307,375.12	151,133	9,843	3.20	3.56	0.00	(0.38)	
TOTAL GENERAL PLANT			18,696,534.48	5,177,163	1,002,970					
AMORTIZED PLANT										
OFFICE FURNITURE AND EQUIPMENT										
391.10 OFFICE FURNITURE AND EQUIPMENT	20-SQ	0	852,461.00	238,181	42,623	5.00	5.00	0.00	0.00	
391.20 OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	3-SQ	0	412,350.00	222,058	82,470	20.00	20.00	0.00	0.00	
393.00 STORES EQUIPMENT	20-SQ	0	99,103.00	32,486	4,955	5.00	5.00	0.00	0.00	
394.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	0	2,520,304.00	896,233	126,015	5.00	5.00	0.00	0.00	
395.00 LABORATORY EQUIPMENT	20-SQ	0	955,079.00	411,775	47,754	5.00	5.00	0.00	0.00	
397.00 COMMUNICATION EQUIPMENT	12-SQ	0	1,506,143.00	442,633	125,462	8.33	8.33	0.00	0.00	
398.00 MISCELLANEOUS EQUIPMENT	20-SQ	0	26,398.00	4,832	1,319	5.00	5.00	0.00	0.00	
TOTAL AMORTIZED PLANT			6,371,823.00	2,250,198	430,598					

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 1: SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES BY COMPONENT AS OF DECEMBER 31, 2016

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	CALCULATED ANNUAL		CAPITAL RECOVERY RATE (8)	COST OF REMOVAL RATE (9)	GROSS SALVAGE RATE (10)
					ACCRUAL AMOUNT (6)	ACCRUAL RATE (7)=(6)/(4)			
INTANGIBLE PLANT									
302.00	FRANCHISES AND CONSENTS		134,913.00	133,824	**				
302.10	FARM TAPS		3,811,838.00	3,773,910	**				
303.00	MISCELLANEOUS INTANGIBLE PLANT		<u>11,463,875.00</u>	<u>1,204,674</u>	**				
	TOTAL INTANGIBLE PLANT		15,410,626.00	5,112,408	**				
LEASEHOLD IMPROVEMENTS									
390.10	STRUCTURES AND IMPROVEMENTS - LEASED		<u>162,279.00</u>	<u>145,756</u>	**				
	TOTAL LEASEHOLD IMPROVEMENTS		162,279.00	145,756	**				
	TOTAL DEPRECIABLE PLANT		481,868,719.95	192,405,868	10,875,069				
NONDEPRECIABLE PLANT									
365.30	LAND	NONDEPRECIABLE	8,600.00						
374.00	LAND	NONDEPRECIABLE	85,715.00						
374.20	LAND AND LAND RIGHTS	NONDEPRECIABLE	86,567.00						
389.00	LAND AND LAND RIGHTS	NONDEPRECIABLE	<u>1,252,260.00</u>						
	TOTAL NONDEPRECIABLE PLANT		1,433,142.00						
	TOTAL GAS PLANT		483,301,861.95	192,405,868	10,875,069				

* Rates are established based on amortization period.
** Assets are individually depreciated.

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 2: SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2016

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
TRANSMISSION PLANT								
367.10	MAINS	65-R2	9,574,350.90	3,867,750	8,578,906	171,007	1.79	50.2
369.30	MEASURING AND REGULATING STATION EQUIPMENT	30-S2	829,003.14	(44,884)	1,122,588	73,039	8.81	15.4
TOTAL TRANSMISSION PLANT			10,403,354.04	3,822,866	9,701,494	244,046	2.35	
DISTRIBUTION PLANT								
374.10	LAND AND LAND RIGHTS	25-SQ	596,817.87	243,368	353,450	24,376	4.08	14.5
375.00	STRUCTURES AND IMPROVEMENTS	35-S2	145,075.92	103,693	55,891	9,087	6.26	6.2
376.00	MAINS	65-R2	196,545,659.51	75,236,912	180,272,445	3,367,889	1.71	53.5
378.00	MEASURING AND REGULATING STATION EQUIPMENT	35-S0.5	11,925,878.63	1,578,732	12,136,028	480,673	4.03	25.2
379.00	MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	35-S2	9,720,082.38	1,184,887	12,423,228	433,920	4.46	28.6
380.00	SERVICES	56-R2	143,624,197.45	71,723,059	150,894,447	3,338,282	2.32	45.2
381.00	METERS	39-S1	46,436,065.86	14,551,937	32,348,490	1,175,411	2.53	27.5
381.20	METERS - AMR	15-S2.5	339,538.31	106,170	233,368	22,113	6.51	10.6
383.00	HOUSE REGULATORS	48-R3	19,506,251.54	10,404,263	10,077,301	293,357	1.50	34.4
385.00	MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL	40-S1	1,984,530.96	764,456	1,418,528	52,347	2.64	27.1
TOTAL DISTRIBUTION PLANT			430,824,098.43	175,897,477	400,213,176	9,197,455	2.13	
GENERAL PLANT								
390.00	STRUCTURES AND IMPROVEMENTS							
	BUILDINGS - MAJOR	55-R3	3,224,389.42	463,237	3,083,591	66,002	2.05	46.7
	BUILDINGS - MINOR	45-R2	9,324,614.82	3,075,159	7,181,917	231,815	2.49	31.0
TOTAL STRUCTURES AND IMPROVEMENTS			12,549,004.24	3,538,396	10,265,508	297,817	2.37	34.5
392.10	TRANSPORTATION EQUIPMENT	8-S3	5,747,626.92	1,434,023	3,164,079	693,488	12.07	4.6
392.20	TRANSPORTATION EQUIPMENT - TRAILERS	16-R1.5	92,528.20	53,611	25,038	1,822	1.97	13.7
396.00	POWER OPERATED EQUIPMENT	18-S1.5	307,375.12	151,133	125,505	9,843	3.20	12.8
TOTAL GENERAL PLANT			18,696,534.48	5,177,163	13,580,130	1,002,970	5.36	
AMORTIZED PLANT								
391.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	852,461.00	238,181	614,280	42,623	5.00	*
391.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	5-SQ	412,350.00	222,058	190,292	82,470	20.00	*
393.00	STORES EQUIPMENT	20-SQ	99,103.00	32,486	66,617	4,955	5.00	*
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	2,520,304.00	898,233	1,622,071	126,015	5.00	*
395.00	LABORATORY EQUIPMENT	20-SQ	955,079.00	411,775	543,304	47,754	5.00	*
397.00	COMMUNICATION EQUIPMENT	12-SQ	1,506,143.00	442,633	1,063,510	125,462	8.33	*
398.00	MISCELLANEOUS EQUIPMENT	20-SQ	26,388.00	4,832	21,556	1,319	5.00	*
TOTAL AMORTIZED PLANT			6,371,828.00	2,250,198	4,121,630	430,598		

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 2: SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2016

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
						ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
INTANGIBLE PLANT								
302.00	FRANCHISES AND CONSENTS		134,913.00	133,824	1,089	**		
302.10	FARM TAPS		3,811,838.00	3,773,910	37,928	**		
303.00	MISCELLANEOUS INTANGIBLE PLANT		11,463,875.00	1,204,674	10,259,201	**		
	TOTAL INTANGIBLE PLANT		15,410,626.00	5,112,408	10,298,218	**		
LEASEHOLD IMPROVEMENTS								
390.10	STRUCTURES AND IMPROVEMENTS - LEASED		162,279.00	145,756	16,523	**		
	TOTAL LEASEHOLD IMPROVEMENTS		162,279.00	145,756	16,523	**		
	TOTAL DEPRECIABLE PLANT		481,868,719.95	192,405,868	437,931,171	10,875,069	2.26	
NONDEPRECIABLE PLANT								
365.30	LAND	NONDEPRECIABLE	8,600.00					
374.00	LAND	NONDEPRECIABLE	85,715.00					
374.20	LAND AND LAND RIGHTS	NONDEPRECIABLE	86,567.00					
389.00	LAND AND LAND RIGHTS	NONDEPRECIABLE	1,252,260.00					
	TOTAL NONDEPRECIABLE PLANT		1,433,142.00					
	TOTAL GAS PLANT		483,301,861.95	192,405,868	437,931,171	10,875,069		

* Rates are established based on amortization period.

** Assets are individually depreciated.

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 3: COMPARISON OF ACCRUALS APPLYING CURRENTLY APPROVED AND PROPOSED DEPRECIATION RATES
AS OF DECEMBER 31, 2016

ACCOUNT (1)	TOTAL PLANT BALANCE 12/31/16 (2)	CURRENTLY APPROVED DEPRECIATION (a,b)		PROPOSED DEPRECIATION (b)		ACCRUAL INCREASE (DECREASE) (7)=(6)-(4)
		RATE (3)	AMOUNT (4)=(3)*(2)	RATE (5)	AMOUNT (6)=(5)*(2)	
TRANSMISSION PLANT						
367.10 MAINS	9,574,350.90	2.88	275,741	1.79	171,007	(104,734)
369.30 MEASURING AND REGULATING STATION EQUIPMENT	829,003.14	3.28	27,191	8.81	73,039	45,848
TOTAL TRANSMISSION PLANT	10,403,354.04	2.91	302,933	2.35	244,046	(58,887)
DISTRIBUTION PLANT						
374.10 LAND AND LAND RIGHTS	596,817.87	4.08	24,350	4.08	24,376	26
375.00 STRUCTURES AND IMPROVEMENTS	145,075.92	2.62	3,801	6.26	9,087	5,286
376.00 MAINS	196,545,659.51	2.04	4,009,531	1.71	3,367,889	(641,642)
378.00 MEASURING AND REGULATING STATION EQUIPMENT	11,925,878.63	2.75	327,962	4.03	480,673	152,711
379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	9,720,082.38	3.04	295,491	4.46	433,920	138,429
380.00 SERVICES	143,624,197.45	2.87	4,122,014	2.32	3,338,282	(783,732)
381.00 METERS	46,436,065.86	2.78	1,290,923	2.53	1,175,411	(115,512)
381.20 METERS - AMR	339,538.31	7.34	24,922	6.51	22,113	(2,809)
383.00 HOUSE REGULATORS	19,506,251.54	1.69	329,656	1.50	293,357	(36,299)
385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL	1,984,530.96	3.08	61,124	2.64	52,347	(8,777)
TOTAL DISTRIBUTION PLANT	430,824,098.43	2.43	10,489,773	2.13	9,197,455	(1,292,318)
GENERAL PLANT						
390.00 STRUCTURES AND IMPROVEMENTS						
BUILDINGS - MAJOR	3,224,389.42	1.91	61,586	2.05	66,002	4,416
BUILDINGS - MINOR	9,324,614.82	2.57	239,643	2.49	231,815	(7,828)
TOTAL STRUCTURES AND IMPROVEMENTS	12,549,004.24		301,228		297,817	(3,411)
392.10 TRANSPORTATION EQUIPMENT	5,747,626.92	10.03	576,487	12.07	693,488	117,001
392.20 TRANSPORTATION EQUIPMENT - TRAILERS	92,528.20	0.85	786	1.97	1,822	1,036
396.00 POWER OPERATED EQUIPMENT	307,375.12	4.75	14,600	3.20	9,843	(4,757)
TOTAL GENERAL PLANT	18,696,534.48	4.78	893,102	5.36	1,002,970	109,868

MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 3: COMPARISON OF ACCRUALS APPLYING CURRENTLY APPROVED AND PROPOSED DEPRECIATION RATES
AS OF DECEMBER 31, 2016

ACCOUNT (1)	TOTAL PLANT BALANCE 12/31/16 (2)	CURRENTLY APPROVED DEPRECIATION (a,b)		PROPOSED DEPRECIATION (b)		ACCRUAL INCREASE (DECREASE) (7)=(6)-(4)	
		RATE (3)	AMOUNT (4)=(3)*(2)	RATE (5)	AMOUNT (6)=(5)*(2)		
AMORTIZED PLANT							
391.10	OFFICE FURNITURE AND EQUIPMENT	852,461.00	5.00	42,623	5.00	42,623	0
391.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	412,350.00	20.00	82,470	20.00	82,470	0
393.00	STORES EQUIPMENT	99,103.00	5.00	4,955	5.00	4,955	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	2,520,304.00	5.00	126,015	5.00	126,015	0
395.00	LABORATORY EQUIPMENT	955,079.00	5.00	47,754	5.00	47,754	0
397.00	COMMUNICATION EQUIPMENT	1,506,143.00	8.33	125,462	8.33	125,462	0
398.00	MISCELLANEOUS EQUIPMENT	26,388.00	5.00	1,319	5.00	1,319	0
	TOTAL AMORTIZED PLANT	6,371,828.00		430,598		430,598	0
INTANGIBLE PLANT							
302.00	FRANCHISES AND CONSENTS	134,913.00	(c)				
302.10	FARM TAPS	3,811,838.00	(c)				
303.00	MISCELLANEOUS INTANGIBLE PLANT	11,463,875.00	(c)				
	TOTAL INTANGIBLE PLANT	15,410,626.00					
LEASEHOLD IMPROVEMENTS							
390.10	STRUCTURES AND IMPROVEMENTS - LEASED	162,279.00	(c)				
	TOTAL LEASEHOLD IMPROVEMENTS	162,279.00					
	TOTAL DEPRECIABLE PLANT	481,868,719.95		12,116,406		10,875,069	(1,241,337)
NONDEPRECIABLE PLANT							
365.30	LAND	8,600.00					
374.00	LAND	85,715.00					
374.20	LAND AND LAND RIGHTS	86,567.00					
389.00	LAND AND LAND RIGHTS	1,252,260.00					
	TOTAL NONDEPRECIABLE PLANT	1,433,142.00					
	TOTAL GAS PLANT	483,301,861.95		12,116,406		10,875,069	(1,241,337)

(a) Depreciation rates approved in the annual remaining life update in Docket No. G-011/D-15-534.

(b) Amounts may be off due to rounding of depreciation rates.

(c) Assets are individually depreciated.

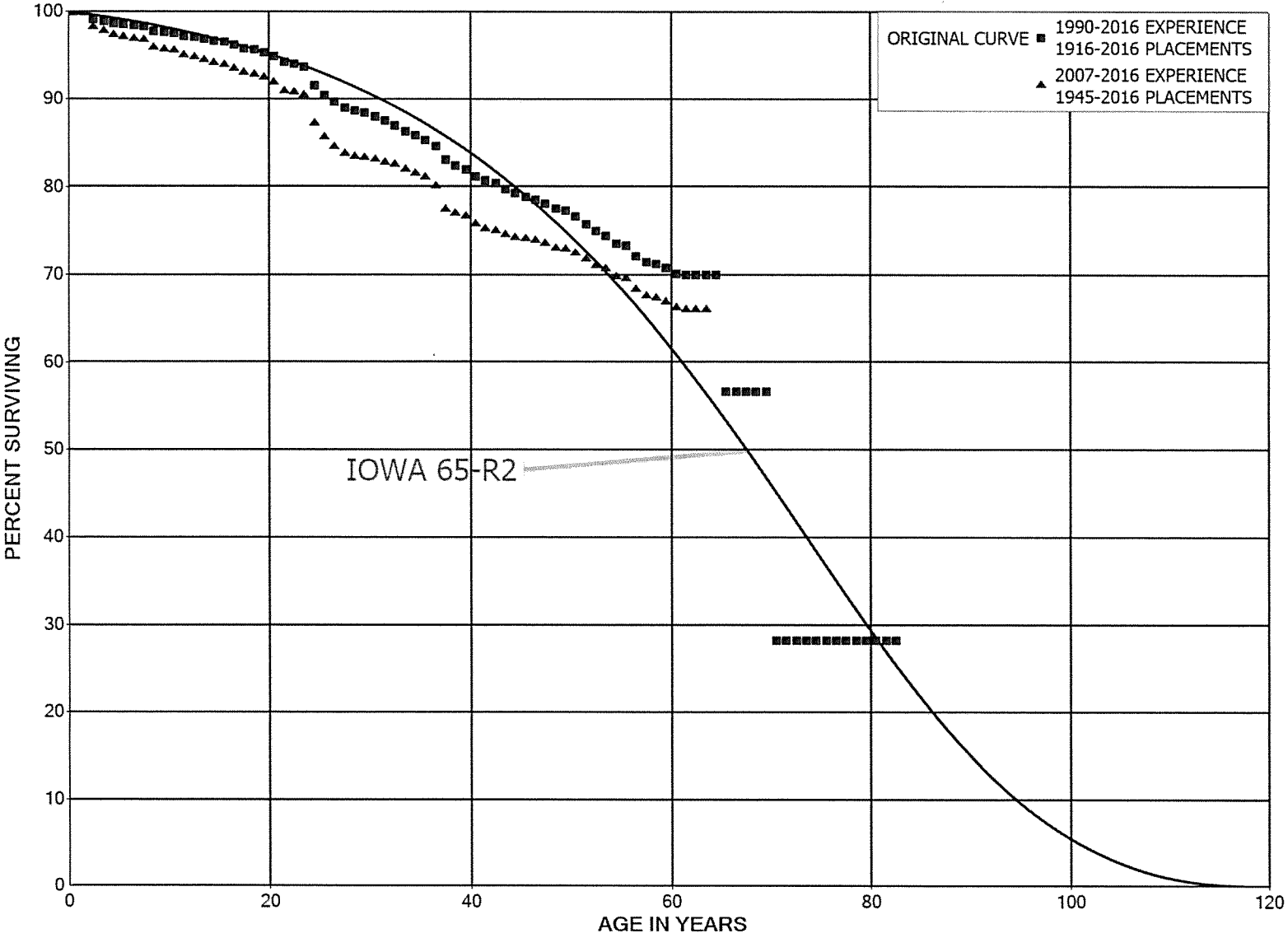
MINNESOTA ENERGY RESOURCES CORPORATION

TABLE 4: COMPARISON OF CURRENTLY APPROVED AND PROPOSED SURVIVOR CURVES AND NET SALVAGE PERCENT
AS OF DECEMBER 31, 2016

ACCOUNT (1)		SURVIVOR CURVE		NET SALVAGE PERCENT	
		CURRENT (2)	PROPOSED (3)	CURRENT (4)	PROPOSED (5)
TRANSMISSION PLANT					
367.10	MAINS	50-S1	65-R2	(45)	(30)
369.30	MEASURING AND REGULATING STATION EQUIPMENT	45-S2	30-S2	(5)	(30)
DISTRIBUTION PLANT					
374.10	LAND AND LAND RIGHTS	25-SQ	25-SQ	0	0
375.00	STRUCTURES AND IMPROVEMENTS	38-S2.5	35-S2	(5)	(10)
376.00	MAINS	65-R2.5	65-R2	(45)	(30)
378.00	MEASURING AND REGULATING STATION EQUIPMENT	44-R1.5	35-S0.5	(10)	(15)
379.00	MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	40-R3	35-S2	(15)	(40)
380.00	SERVICES	50-R2.5	56-R2	(60)	(55)
381.00	METERS	38-S2	39-S1	(1)	(1)
381.20	METERS - AMR	15-SQ	15-S2.5	(1)	0
383.00	HOUSE REGULATORS	44-R3	48-R3	(5)	(5)
385.00	MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL	36-S1.5	40-S1	(5)	(10)
GENERAL PLANT					
390.00	STRUCTURES AND IMPROVEMENTS				
	BUILDINGS - MAJOR	55-R3	55-R3	(5)	(10)
	BUILDINGS - MINOR	42-R2.5	45-R2	(5)	(10)
392.10	TRANSPORTATION EQUIPMENT	8-L3	8-S3	25	20
392.20	TRANSPORTATION EQUIPMENT - TRAILERS	15-SC	16-R1.5	30	15
396.00	POWER OPERATED EQUIPMENT	14-L2	18-S1.5	10	10
AMORTIZED PLANT					
391.10	OFFICE FURNITURE AND EQUIPMENT	20-SQ	20-SQ	0	0
391.20	OFFICE FURNITURE AND EQUIPMENT - COMPUTER EQUIPMENT	5-SQ	5-SQ	0	0
393.00	STORES EQUIPMENT	20-SQ	20-SQ	0	0
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	20-SQ	0	0
395.00	LABORATORY EQUIPMENT	20-SQ	20-SQ	0	0
397.00	COMMUNICATION EQUIPMENT	12-SQ	12-SQ	0	0
398.00	MISCELLANEOUS EQUIPMENT	20-SQ	20-SQ	0	0

PART VII. SERVICE LIFE STATISTICS

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNTS 367.10 AND 376.00 MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNTS 367.10 AND 376.00 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1916-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	167,377,059	33,615	0.0002	0.9998	100.00
0.5	155,202,932	108,038	0.0007	0.9993	99.98
1.5	141,374,011	1,187,583	0.0084	0.9916	99.91
2.5	132,948,101	286,922	0.0022	0.9978	99.07
3.5	127,016,671	306,441	0.0024	0.9976	98.86
4.5	121,701,134	134,725	0.0011	0.9989	98.62
5.5	121,158,949	160,306	0.0013	0.9987	98.51
6.5	117,177,071	106,165	0.0009	0.9991	98.38
7.5	111,783,449	582,813	0.0052	0.9948	98.29
8.5	105,412,488	136,915	0.0013	0.9987	97.78
9.5	101,336,783	106,126	0.0010	0.9990	97.65
10.5	94,703,118	342,625	0.0036	0.9964	97.55
11.5	88,526,240	146,917	0.0017	0.9983	97.20
12.5	84,111,181	134,277	0.0016	0.9984	97.03
13.5	76,871,910	168,451	0.0022	0.9978	96.88
14.5	71,347,127	133,606	0.0019	0.9981	96.67
15.5	68,178,830	236,310	0.0035	0.9965	96.49
16.5	63,362,724	247,051	0.0039	0.9961	96.15
17.5	60,064,419	121,863	0.0020	0.9980	95.78
18.5	58,822,613	149,560	0.0025	0.9975	95.58
19.5	58,376,228	281,563	0.0048	0.9952	95.34
20.5	56,571,534	446,256	0.0079	0.9921	94.88
21.5	53,123,598	111,275	0.0021	0.9979	94.13
22.5	51,699,190	175,008	0.0034	0.9966	93.93
23.5	51,702,554	1,190,025	0.0230	0.9770	93.62
24.5	46,827,990	539,938	0.0115	0.9885	91.46
25.5	39,110,885	338,272	0.0086	0.9914	90.41
26.5	34,906,750	248,190	0.0071	0.9929	89.62
27.5	32,554,325	139,040	0.0043	0.9957	88.99
28.5	32,184,474	96,766	0.0030	0.9970	88.61
29.5	31,553,080	142,194	0.0045	0.9955	88.34
30.5	30,620,912	168,089	0.0055	0.9945	87.94
31.5	28,793,907	152,765	0.0053	0.9947	87.46
32.5	27,156,536	211,948	0.0078	0.9922	87.00
33.5	25,857,897	148,750	0.0058	0.9942	86.32
34.5	24,634,516	139,663	0.0057	0.9943	85.82
35.5	23,205,130	207,279	0.0089	0.9911	85.33
36.5	20,977,631	366,218	0.0175	0.9825	84.57
37.5	19,876,108	154,499	0.0078	0.9922	83.10
38.5	19,074,171	120,535	0.0063	0.9937	82.45

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNTS 367.10 AND 376.00 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1916-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	18,823,672	162,747	0.0086	0.9914	81.93
40.5	18,392,918	105,496	0.0057	0.9943	81.22
41.5	17,706,539	83,824	0.0047	0.9953	80.75
42.5	16,986,496	137,521	0.0081	0.9919	80.37
43.5	16,199,142	93,869	0.0058	0.9942	79.72
44.5	15,955,906	88,333	0.0055	0.9945	79.26
45.5	14,187,848	64,160	0.0045	0.9955	78.82
46.5	12,497,122	68,028	0.0054	0.9946	78.46
47.5	11,397,623	79,396	0.0070	0.9930	78.04
48.5	10,552,209	33,366	0.0032	0.9968	77.49
49.5	9,602,785	79,509	0.0083	0.9917	77.25
50.5	7,286,376	85,556	0.0117	0.9883	76.61
51.5	5,100,993	53,813	0.0105	0.9895	75.71
52.5	4,770,882	35,229	0.0074	0.9926	74.91
53.5	4,906,255	56,084	0.0114	0.9886	74.36
54.5	4,615,318	13,727	0.0030	0.9970	73.51
55.5	3,123,934	52,163	0.0167	0.9833	73.29
56.5	2,218,001	21,943	0.0099	0.9901	72.06
57.5	1,507,819	3,584	0.0024	0.9976	71.35
58.5	1,295,113	7,595	0.0059	0.9941	71.18
59.5	1,099,796	10,084	0.0092	0.9908	70.76
60.5	966,077	2,703	0.0028	0.9972	70.12
61.5	818,018	219	0.0003	0.9997	69.92
62.5	493,477	2	0.0000	1.0000	69.90
63.5	112,826		0.0000	1.0000	69.90
64.5	164,604	31,306	0.1902	0.8098	69.90
65.5	132,470		0.0000	1.0000	56.61
66.5	146,613		0.0000	1.0000	56.61
67.5	67,862		0.0000	1.0000	56.61
68.5	62,643		0.0000	1.0000	56.61
69.5	125,836	63,193	0.5022	0.4978	56.61
70.5	62,309		0.0000	1.0000	28.18
71.5	62,068		0.0000	1.0000	28.18
72.5	60,793		0.0000	1.0000	28.18
73.5	63,222		0.0000	1.0000	28.18
74.5	54,878		0.0000	1.0000	28.18
75.5	47,017		0.0000	1.0000	28.18
76.5	47,017		0.0000	1.0000	28.18
77.5	46,771		0.0000	1.0000	28.18
78.5	46,326		0.0000	1.0000	28.18

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNTS 367.10 AND 376.00 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1916-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	46,319		0.0000	1.0000	28.18
80.5	45,751		0.0000	1.0000	28.18
81.5	24,906		0.0000	1.0000	28.18
82.5	24,906		0.0000	1.0000	28.18
83.5	4,843		0.0000	1.0000	28.18
84.5	4,843		0.0000	1.0000	28.18
85.5	4,843		0.0000	1.0000	28.18
86.5	4,843		0.0000	1.0000	28.18
87.5	4,843		0.0000	1.0000	28.18
88.5	4,843		0.0000	1.0000	28.18
89.5	4,843		0.0000	1.0000	28.18
90.5					28.18

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNTS 367.10 AND 376.00 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1945-2016

EXPERIENCE BAND 2007-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	83,809,287	33,615	0.0004	0.9996	100.00
0.5	77,809,452	103,553	0.0013	0.9987	99.96
1.5	69,473,204	1,177,314	0.0169	0.9831	99.83
2.5	62,747,084	273,260	0.0044	0.9956	98.14
3.5	62,640,183	289,777	0.0046	0.9954	97.71
4.5	61,680,843	115,275	0.0019	0.9981	97.26
5.5	63,280,672	137,356	0.0022	0.9978	97.07
6.5	62,599,710	80,356	0.0013	0.9987	96.86
7.5	60,342,774	556,916	0.0092	0.9908	96.74
8.5	55,237,053	108,784	0.0020	0.9980	95.85
9.5	52,558,019	75,237	0.0014	0.9986	95.66
10.5	47,662,199	307,689	0.0065	0.9935	95.52
11.5	42,923,450	104,606	0.0024	0.9976	94.90
12.5	40,896,223	99,027	0.0024	0.9976	94.67
13.5	35,875,629	130,020	0.0036	0.9964	94.44
14.5	37,769,353	101,898	0.0027	0.9973	94.10
15.5	42,120,665	203,823	0.0048	0.9952	93.85
16.5	39,880,520	211,861	0.0053	0.9947	93.39
17.5	38,510,045	85,340	0.0022	0.9978	92.90
18.5	37,787,188	111,389	0.0029	0.9971	92.69
19.5	37,979,689	240,783	0.0063	0.9937	92.42
20.5	36,929,599	403,631	0.0109	0.9891	91.83
21.5	34,212,300	58,698	0.0017	0.9983	90.83
22.5	33,258,960	120,720	0.0036	0.9964	90.67
23.5	32,011,816	1,127,602	0.0352	0.9648	90.34
24.5	26,711,096	479,041	0.0179	0.9821	87.16
25.5	20,536,095	274,660	0.0134	0.9866	85.60
26.5	18,009,302	165,351	0.0092	0.9908	84.45
27.5	16,469,728	49,675	0.0030	0.9970	83.68
28.5	14,907,037	22,993	0.0015	0.9985	83.43
29.5	13,737,376	36,707	0.0027	0.9973	83.30
30.5	12,412,150	57,153	0.0046	0.9954	83.07
31.5	11,036,195	19,469	0.0018	0.9982	82.69
32.5	10,160,978	73,322	0.0072	0.9928	82.55
33.5	9,588,326	49,992	0.0052	0.9948	81.95
34.5	9,040,208	54,559	0.0060	0.9940	81.52
35.5	9,003,445	104,209	0.0116	0.9884	81.03
36.5	7,822,140	265,301	0.0339	0.9661	80.09
37.5	7,854,836	46,799	0.0060	0.9940	77.38
38.5	7,980,752	35,282	0.0044	0.9956	76.92

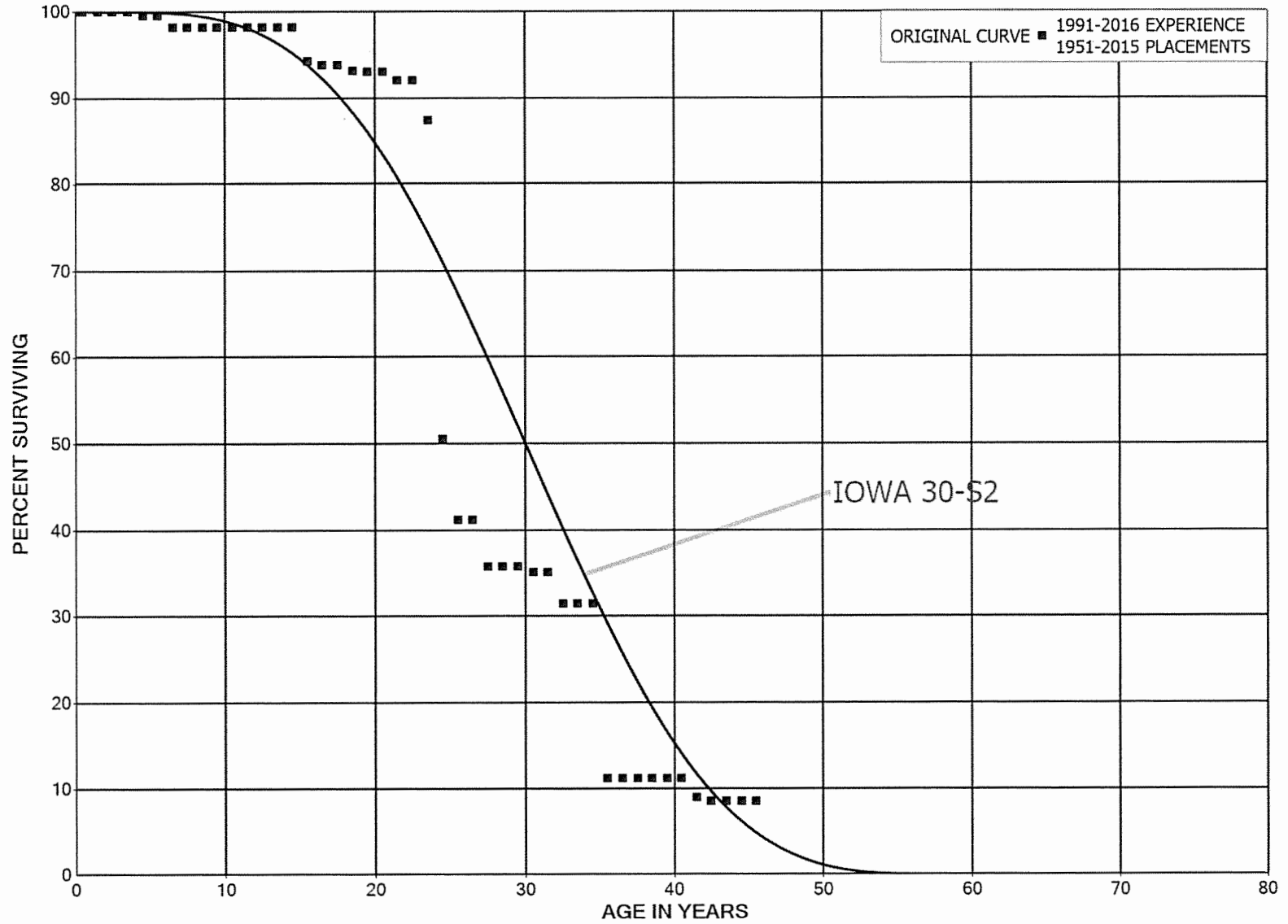
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNTS 367.10 AND 376.00 MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1945-2016			EXPERIENCE BAND 2007-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	8,982,338	104,315	0.0116	0.9884	76.58
40.5	10,934,584	66,522	0.0061	0.9939	75.69
41.5	12,183,948	50,958	0.0042	0.9958	75.23
42.5	11,735,566	62,700	0.0053	0.9947	74.91
43.5	11,256,052	47,157	0.0042	0.9958	74.51
44.5	11,344,431	24,901	0.0022	0.9978	74.20
45.5	11,343,512	38,984	0.0034	0.9966	74.04
46.5	10,454,060	44,369	0.0042	0.9958	73.78
47.5	10,074,788	67,430	0.0067	0.9933	73.47
48.5	9,407,501	19,256	0.0020	0.9980	72.98
49.5	8,602,923	54,745	0.0064	0.9936	72.83
50.5	6,358,276	54,476	0.0086	0.9914	72.36
51.5	4,361,869	46,827	0.0107	0.9893	71.74
52.5	4,371,560	23,386	0.0053	0.9947	70.97
53.5	4,574,310	56,084	0.0123	0.9877	70.59
54.5	4,321,702	13,727	0.0032	0.9968	69.73
55.5	2,861,675	52,163	0.0182	0.9818	69.51
56.5	1,975,036	21,943	0.0111	0.9889	68.24
57.5	1,275,249	3,584	0.0028	0.9972	67.48
58.5	1,108,103	7,595	0.0069	0.9931	67.29
59.5	968,593	10,084	0.0104	0.9896	66.83
60.5	853,364	2,703	0.0032	0.9968	66.13
61.5	705,515	219	0.0003	0.9997	65.93
62.5	381,220	2	0.0000	1.0000	65.90
63.5					65.90
64.5	31,306	31,306	1.0000		
65.5					
66.5					
67.5					
68.5					
69.5	63,193	63,193	1.0000		
70.5					

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1951-2015			EXPERIENCE BAND 1991-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,155,121		0.0000	1.0000	100.00
0.5	1,221,868	1	0.0000	1.0000	100.00
1.5	1,043,372	11	0.0000	1.0000	100.00
2.5	941,584	21	0.0000	1.0000	100.00
3.5	852,662	4,631	0.0054	0.9946	100.00
4.5	633,188	17	0.0000	1.0000	99.45
5.5	512,892	6,307	0.0123	0.9877	99.45
6.5	503,779		0.0000	1.0000	98.23
7.5	503,779		0.0000	1.0000	98.23
8.5	669,102		0.0000	1.0000	98.23
9.5	664,016		0.0000	1.0000	98.23
10.5	634,207		0.0000	1.0000	98.23
11.5	704,744		0.0000	1.0000	98.23
12.5	702,673		0.0000	1.0000	98.23
13.5	683,617		0.0000	1.0000	98.23
14.5	269,800	10,766	0.0399	0.9601	98.23
15.5	306,909	1,596	0.0052	0.9948	94.31
16.5	290,077		0.0000	1.0000	93.82
17.5	290,077	2,117	0.0073	0.9927	93.82
18.5	385,248	225	0.0006	0.9994	93.13
19.5	281,222		0.0000	1.0000	93.08
20.5	269,306	3,000	0.0111	0.9889	93.08
21.5	283,353		0.0000	1.0000	92.04
22.5	292,022	14,799	0.0507	0.9493	92.04
23.5	265,312	112,080	0.4224	0.5776	87.38
24.5	122,057	22,346	0.1831	0.8169	50.47
25.5	108,321		0.0000	1.0000	41.23
26.5	112,831	15,000	0.1329	0.8671	41.23
27.5	97,832		0.0000	1.0000	35.75
28.5	97,089		0.0000	1.0000	35.75
29.5	97,193	1,971	0.0203	0.9797	35.75
30.5	95,406		0.0000	1.0000	35.02
31.5	96,120	10,000	0.1040	0.8960	35.02
32.5	221,054		0.0000	1.0000	31.38
33.5	200,727		0.0000	1.0000	31.38
34.5	185,727	119,499	0.6434	0.3566	31.38
35.5	78,274		0.0000	1.0000	11.19
36.5	78,274		0.0000	1.0000	11.19
37.5	19,426		0.0000	1.0000	11.19
38.5	20,351		0.0000	1.0000	11.19

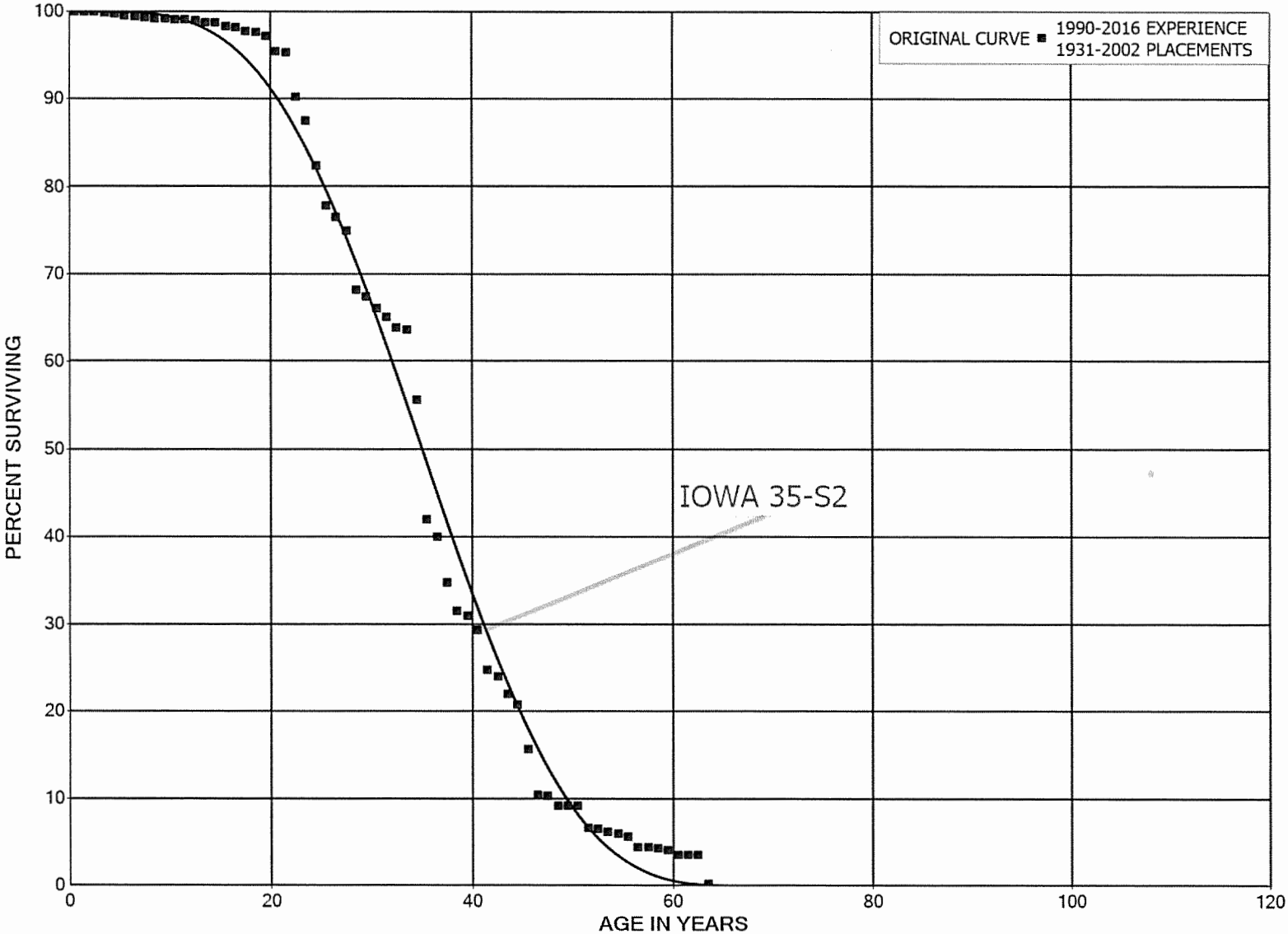
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1951-2015			EXPERIENCE BAND 1991-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	19,987		0.0000	1.0000	11.19
40.5	19,803	4,008	0.2024	0.7976	11.19
41.5	15,081	767	0.0509	0.9491	8.92
42.5	14,314		0.0000	1.0000	8.47
43.5	14,314		0.0000	1.0000	8.47
44.5	14,314		0.0000	1.0000	8.47
45.5	2,268		0.0000	1.0000	8.47
46.5	2,268		0.0000	1.0000	8.47
47.5	2,268		0.0000	1.0000	8.47
48.5	2,268		0.0000	1.0000	8.47
49.5	2,268		0.0000	1.0000	8.47
50.5	2,268		0.0000	1.0000	8.47
51.5	2,268		0.0000	1.0000	8.47
52.5	2,268		0.0000	1.0000	8.47
53.5	2,268		0.0000	1.0000	8.47
54.5	2,268		0.0000	1.0000	8.47
55.5	269		0.0000	1.0000	8.47
56.5	1,673		0.0000	1.0000	8.47
57.5	1,673		0.0000	1.0000	8.47
58.5	1,673		0.0000	1.0000	8.47
59.5	1,673		0.0000	1.0000	8.47
60.5	2,127		0.0000	1.0000	8.47
61.5	2,127		0.0000	1.0000	8.47
62.5	2,127		0.0000	1.0000	8.47
63.5	2,127		0.0000	1.0000	8.47
64.5	453		0.0000	1.0000	8.47
65.5					8.47

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2002			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,990,454		0.0000	1.0000	100.00
0.5	2,316,323		0.0000	1.0000	100.00
1.5	2,590,604	2,098	0.0008	0.9992	100.00
2.5	2,840,145	3,546	0.0012	0.9988	99.92
3.5	2,846,364	2,195	0.0008	0.9992	99.79
4.5	2,681,476	5,707	0.0021	0.9979	99.72
5.5	2,525,887	2,036	0.0008	0.9992	99.51
6.5	1,146,262	1,354	0.0012	0.9988	99.42
7.5	954,270	789	0.0008	0.9992	99.31
8.5	716,743	297	0.0004	0.9996	99.23
9.5	463,103	305	0.0007	0.9993	99.18
10.5	424,380	238	0.0006	0.9994	99.12
11.5	385,972	502	0.0013	0.9987	99.06
12.5	390,099	609	0.0016	0.9984	98.93
13.5	330,370	22	0.0001	0.9999	98.78
14.5	338,835	1,791	0.0053	0.9947	98.77
15.5	342,782	142	0.0004	0.9996	98.25
16.5	226,245	1,058	0.0047	0.9953	98.21
17.5	205,521	282	0.0014	0.9986	97.75
18.5	135,295	548	0.0041	0.9959	97.62
19.5	151,183	2,784	0.0184	0.9816	97.22
20.5	148,696	236	0.0016	0.9984	95.43
21.5	141,080	7,577	0.0537	0.9463	95.28
22.5	119,396	3,471	0.0291	0.9709	90.16
23.5	156,783	9,140	0.0583	0.9417	87.54
24.5	155,375	8,746	0.0563	0.9437	82.44
25.5	148,299	2,441	0.0165	0.9835	77.80
26.5	145,996	3,022	0.0207	0.9793	76.52
27.5	142,272	12,820	0.0901	0.9099	74.93
28.5	162,361	1,759	0.0108	0.9892	68.18
29.5	231,563	4,628	0.0200	0.9800	67.44
30.5	220,626	3,421	0.0155	0.9845	66.09
31.5	231,334	4,386	0.0190	0.9810	65.07
32.5	224,145	633	0.0028	0.9972	63.84
33.5	224,276	28,450	0.1269	0.8731	63.66
34.5	205,632	50,286	0.2445	0.7555	55.58
35.5	196,833	9,412	0.0478	0.9522	41.99
36.5	189,093	25,015	0.1323	0.8677	39.98
37.5	177,234	16,287	0.0919	0.9081	34.69
38.5	171,865	3,137	0.0183	0.9817	31.50

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

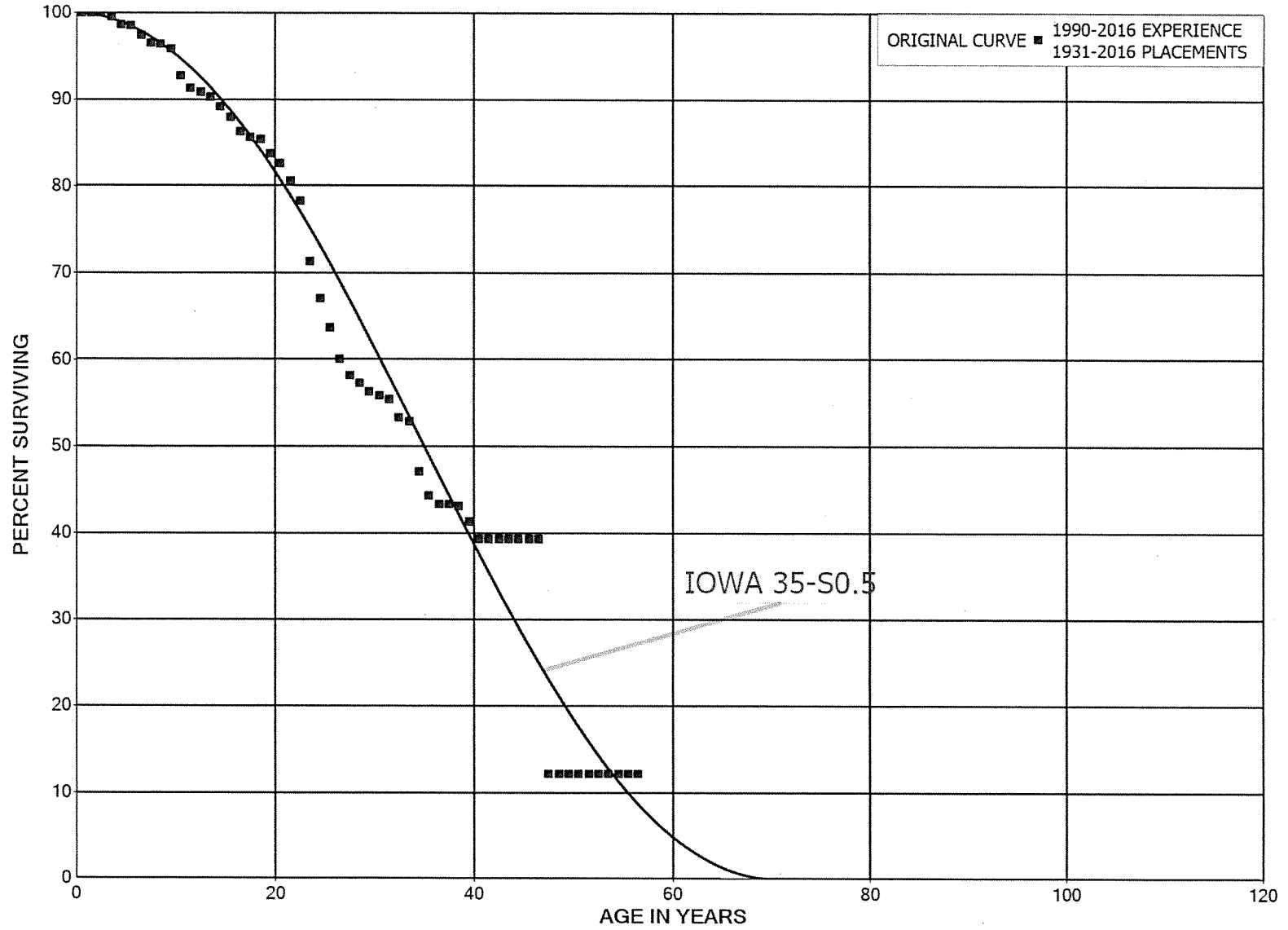
PLACEMENT BAND 1931-2002			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	214,124	11,574	0.0541	0.9459	30.93
40.5	254,673	39,028	0.1532	0.8468	29.26
41.5	209,048	7,199	0.0344	0.9656	24.77
42.5	199,824	16,317	0.0817	0.9183	23.92
43.5	183,316	10,793	0.0589	0.9411	21.97
44.5	172,131	41,954	0.2437	0.7563	20.67
45.5	140,959	47,306	0.3356	0.6644	15.63
46.5	89,364	855	0.0096	0.9904	10.39
47.5	87,091	9,077	0.1042	0.8958	10.29
48.5	77,297	8	0.0001	0.9999	9.22
49.5	70,839	88	0.0012	0.9988	9.22
50.5	52,039	14,936	0.2870	0.7130	9.20
51.5	33,043	32	0.0010	0.9990	6.56
52.5	32,063	2,120	0.0661	0.9339	6.56
53.5	51,637	1,715	0.0332	0.9668	6.12
54.5	49,922	2,507	0.0502	0.9498	5.92
55.5	46,670	10,600	0.2271	0.7729	5.62
56.5	43,424	47	0.0011	0.9989	4.34
57.5	415,600	1,572	0.0038	0.9962	4.34
58.5	413,323	19,794	0.0479	0.9521	4.32
59.5	392,283	53,372	0.1361	0.8639	4.12
60.5	338,410	324	0.0010	0.9990	3.56
61.5	337,553	9,692	0.0287	0.9713	3.55
62.5	325,982	310,346	0.9520	0.0480	3.45
63.5	15,452		0.0000	1.0000	0.17
64.5	14,901		0.0000	1.0000	0.17
65.5	14,901	110	0.0074	0.9926	0.17
66.5	12,933		0.0000	1.0000	0.16
67.5	10,786		0.0000	1.0000	0.16
68.5	10,786	299	0.0277	0.9723	0.16
69.5	10,486		0.0000	1.0000	0.16
70.5	10,486		0.0000	1.0000	0.16
71.5	10,486	182	0.0173	0.9827	0.16
72.5	9,627	6,089	0.6325	0.3675	0.16
73.5	3,172		0.0000	1.0000	0.06
74.5	17,645		0.0000	1.0000	0.06
75.5	17,253		0.0000	1.0000	0.06
76.5	17,253		0.0000	1.0000	0.06
77.5	16,888		0.0000	1.0000	0.06
78.5	16,888		0.0000	1.0000	0.06

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2002			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	16,888		0.0000	1.0000	0.06
80.5	16,001		0.0000	1.0000	0.06
81.5	16,001		0.0000	1.0000	0.06
82.5	16,001		0.0000	1.0000	0.06
83.5	15,520		0.0000	1.0000	0.06
84.5					0.06

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2016

EXPERIENCE BAND 1990-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	11,723,880		0.0000	1.0000	100.00
0.5	11,100,540	2,983	0.0003	0.9997	100.00
1.5	9,455,141	7,695	0.0008	0.9992	99.97
2.5	8,716,845	32,612	0.0037	0.9963	99.89
3.5	8,397,928	73,292	0.0087	0.9913	99.52
4.5	6,552,939	9,485	0.0014	0.9986	98.65
5.5	5,515,972	62,989	0.0114	0.9886	98.51
6.5	5,278,564	49,727	0.0094	0.9906	97.38
7.5	5,285,421	6,664	0.0013	0.9987	96.46
8.5	5,319,177	25,147	0.0047	0.9953	96.34
9.5	5,363,134	177,251	0.0330	0.9670	95.89
10.5	4,465,112	68,001	0.0152	0.9848	92.72
11.5	4,319,542	23,404	0.0054	0.9946	91.31
12.5	4,403,126	24,297	0.0055	0.9945	90.81
13.5	4,608,471	57,194	0.0124	0.9876	90.31
14.5	4,762,787	66,680	0.0140	0.9860	89.19
15.5	4,577,229	88,482	0.0193	0.9807	87.94
16.5	4,731,497	36,754	0.0078	0.9922	86.24
17.5	4,787,435	10,645	0.0022	0.9978	85.57
18.5	4,529,447	88,128	0.0195	0.9805	85.38
19.5	4,387,740	55,336	0.0126	0.9874	83.72
20.5	4,088,214	100,215	0.0245	0.9755	82.66
21.5	4,016,575	118,016	0.0294	0.9706	80.64
22.5	3,741,659	332,303	0.0888	0.9112	78.27
23.5	3,127,338	187,368	0.0599	0.9401	71.32
24.5	2,381,218	118,900	0.0499	0.9501	67.04
25.5	1,979,851	111,967	0.0566	0.9434	63.70
26.5	1,661,087	52,923	0.0319	0.9681	60.09
27.5	1,335,649	21,178	0.0159	0.9841	58.18
28.5	1,182,709	19,929	0.0169	0.9831	57.26
29.5	1,091,669	8,363	0.0077	0.9923	56.29
30.5	1,076,741	9,084	0.0084	0.9916	55.86
31.5	941,040	35,982	0.0382	0.9618	55.39
32.5	924,523	8,319	0.0090	0.9910	53.27
33.5	862,909	92,876	0.1076	0.8924	52.79
34.5	651,980	38,711	0.0594	0.9406	47.11
35.5	535,524	12,582	0.0235	0.9765	44.31
36.5	403,587	215	0.0005	0.9995	43.27
37.5	336,518	1,578	0.0047	0.9953	43.25
38.5	202,848	8,253	0.0407	0.9593	43.05

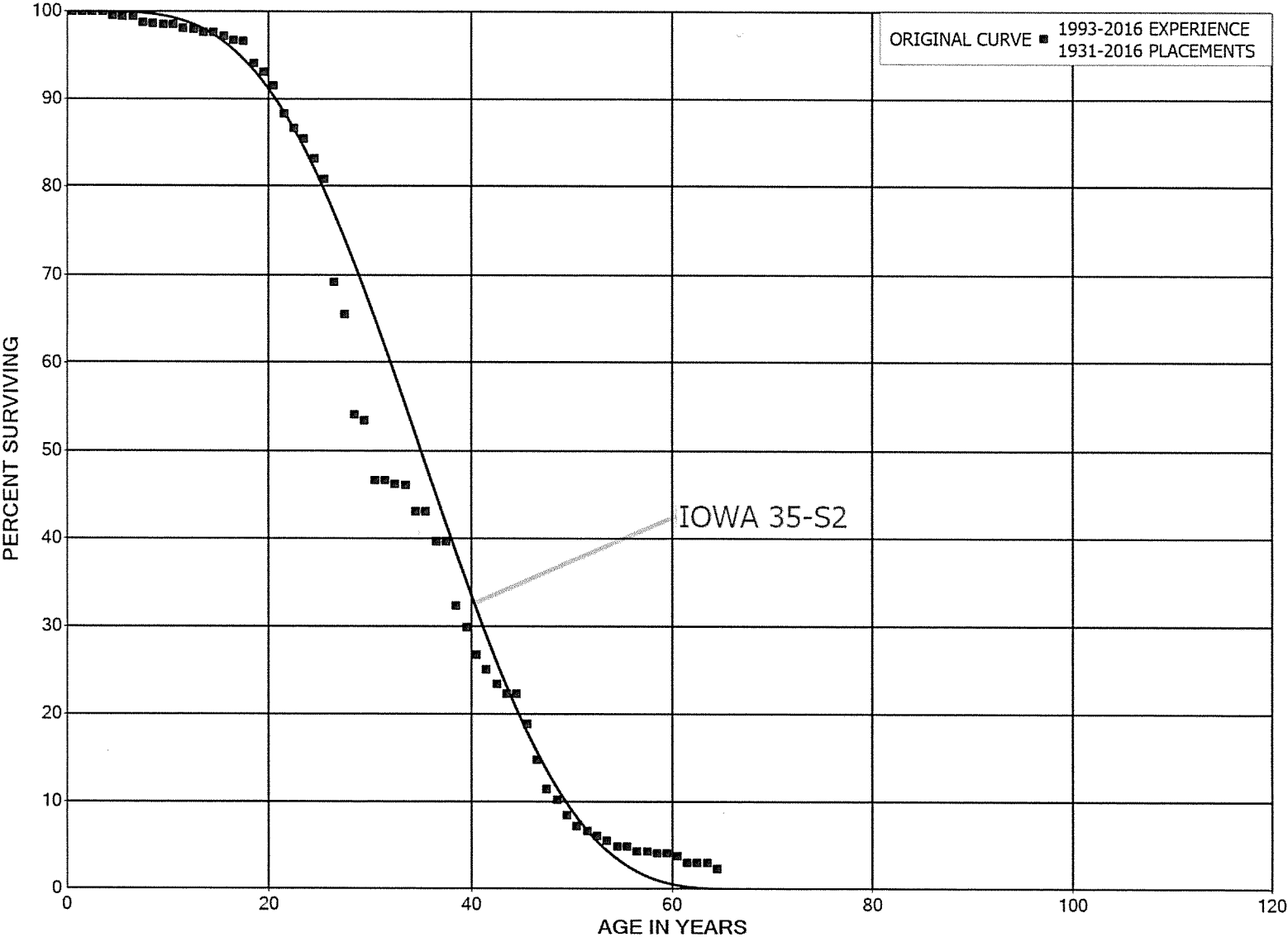
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	165,271	8,234	0.0498	0.9502	41.29
40.5	112,722		0.0000	1.0000	39.24
41.5	126,326		0.0000	1.0000	39.24
42.5	102,797		0.0000	1.0000	39.24
43.5	72,992		0.0000	1.0000	39.24
44.5	69,163		0.0000	1.0000	39.24
45.5	66,817		0.0000	1.0000	39.24
46.5	65,750	45,343	0.6896	0.3104	39.24
47.5	19,106		0.0000	1.0000	12.18
48.5	18,836		0.0000	1.0000	12.18
49.5	2,184		0.0000	1.0000	12.18
50.5	2,151		0.0000	1.0000	12.18
51.5	1,940		0.0000	1.0000	12.18
52.5	1,651		0.0000	1.0000	12.18
53.5	1,378		0.0000	1.0000	12.18
54.5	1,174		0.0000	1.0000	12.18
55.5	1,174		0.0000	1.0000	12.18
56.5	1,175		0.0000	1.0000	12.18
57.5	280		0.0000	1.0000	12.18
58.5	287		0.0000	1.0000	12.18
59.5	242		0.0000	1.0000	12.18
60.5	236		0.0000	1.0000	12.18
61.5	236		0.0000	1.0000	12.18
62.5	236		0.0000	1.0000	12.18
63.5	236		0.0000	1.0000	12.18
64.5	223		0.0000	1.0000	12.18
65.5	220		0.0000	1.0000	12.18
66.5	220		0.0000	1.0000	12.18
67.5	200		0.0000	1.0000	12.18
68.5	152		0.0000	1.0000	12.18
69.5	151		0.0000	1.0000	12.18
70.5	147		0.0000	1.0000	12.18
71.5	141		0.0000	1.0000	12.18
72.5	128		0.0000	1.0000	12.18
73.5	61		0.0000	1.0000	12.18
74.5	16		0.0000	1.0000	12.18
75.5					12.18

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2016

EXPERIENCE BAND 1993-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,650,871		0.0000	1.0000	100.00
0.5	6,785,257	784	0.0001	0.9999	100.00
1.5	5,393,310	926	0.0002	0.9998	99.99
2.5	3,861,822		0.0000	1.0000	99.97
3.5	3,904,902	19,935	0.0051	0.9949	99.97
4.5	3,413,551	545	0.0002	0.9998	99.46
5.5	2,236,664	1,333	0.0006	0.9994	99.45
6.5	2,010,062	13,042	0.0065	0.9935	99.39
7.5	1,975,460	3,368	0.0017	0.9983	98.74
8.5	1,971,180	256	0.0001	0.9999	98.57
9.5	2,051,797		0.0000	1.0000	98.56
10.5	1,977,950	10,153	0.0051	0.9949	98.56
11.5	1,976,710	1,568	0.0008	0.9992	98.05
12.5	1,918,968	7,649	0.0040	0.9960	97.98
13.5	1,823,284	256	0.0001	0.9999	97.59
14.5	1,703,752	6,853	0.0040	0.9960	97.57
15.5	1,486,428	6,744	0.0045	0.9955	97.18
16.5	1,210,392	1,270	0.0010	0.9990	96.74
17.5	975,616	25,481	0.0261	0.9739	96.64
18.5	868,434	9,719	0.0112	0.9888	94.11
19.5	668,510	10,998	0.0165	0.9835	93.06
20.5	654,861	23,512	0.0359	0.9641	91.53
21.5	592,033	11,201	0.0189	0.9811	88.24
22.5	569,901	7,661	0.0134	0.9866	86.57
23.5	618,746	16,002	0.0259	0.9741	85.41
24.5	511,470	14,239	0.0278	0.9722	83.20
25.5	341,135	49,343	0.1446	0.8554	80.88
26.5	252,091	13,492	0.0535	0.9465	69.18
27.5	251,830	43,889	0.1743	0.8257	65.48
28.5	202,475	2,711	0.0134	0.9866	54.07
29.5	193,466	24,506	0.1267	0.8733	53.35
30.5	166,434		0.0000	1.0000	46.59
31.5	165,349	1,275	0.0077	0.9923	46.59
32.5	167,737	500	0.0030	0.9970	46.23
33.5	171,436	11,143	0.0650	0.9350	46.09
34.5	156,131		0.0000	1.0000	43.10
35.5	151,488	12,154	0.0802	0.9198	43.10
36.5	138,431	227	0.0016	0.9984	39.64
37.5	136,202	25,069	0.1841	0.8159	39.57
38.5	113,501	8,555	0.0754	0.9246	32.29

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2016			EXPERIENCE BAND 1993-2016			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	129,526	13,622	0.1052	0.8948	29.86	
40.5	149,871	9,413	0.0628	0.9372	26.72	
41.5	145,502	9,688	0.0666	0.9334	25.04	
42.5	138,693	6,728	0.0485	0.9515	23.37	
43.5	134,199		0.0000	1.0000	22.24	
44.5	125,808	19,139	0.1521	0.8479	22.24	
45.5	126,109	27,612	0.2190	0.7810	18.85	
46.5	104,458	23,430	0.2243	0.7757	14.73	
47.5	95,737	10,883	0.1137	0.8863	11.42	
48.5	82,078	13,668	0.1665	0.8335	10.12	
49.5	61,574	9,393	0.1526	0.8474	8.44	
50.5	46,382	3,765	0.0812	0.9188	7.15	
51.5	36,088	2,922	0.0810	0.9190	6.57	
52.5	32,599	2,922	0.0896	0.9104	6.04	
53.5	29,659	3,765	0.1269	0.8731	5.50	
54.5	26,909		0.0000	1.0000	4.80	
55.5	24,667	2,530	0.1026	0.8974	4.80	
56.5	21,473		0.0000	1.0000	4.31	
57.5	18,675	1,059	0.0567	0.9433	4.31	
58.5	13,543		0.0000	1.0000	4.06	
59.5	13,840	1,255	0.0907	0.9093	4.06	
60.5	12,965	2,530	0.1951	0.8049	3.69	
61.5	10,128		0.0000	1.0000	2.97	
62.5	7,531		0.0000	1.0000	2.97	
63.5	5,021	1,255	0.2499	0.7501	2.97	
64.5	3,766		0.0000	1.0000	2.23	
65.5	3,766		0.0000	1.0000	2.23	
66.5	4,182		0.0000	1.0000	2.23	
67.5	3,596		0.0000	1.0000	2.23	
68.5	3,596		0.0000	1.0000	2.23	
69.5	3,383		0.0000	1.0000	2.23	
70.5	2,874		0.0000	1.0000	2.23	
71.5	2,865		0.0000	1.0000	2.23	
72.5	2,817		0.0000	1.0000	2.23	
73.5	2,762		0.0000	1.0000	2.23	
74.5	1,364		0.0000	1.0000	2.23	
75.5	646		0.0000	1.0000	2.23	
76.5	172		0.0000	1.0000	2.23	
77.5	2,510		0.0000	1.0000	2.23	
78.5	2,510		0.0000	1.0000	2.23	

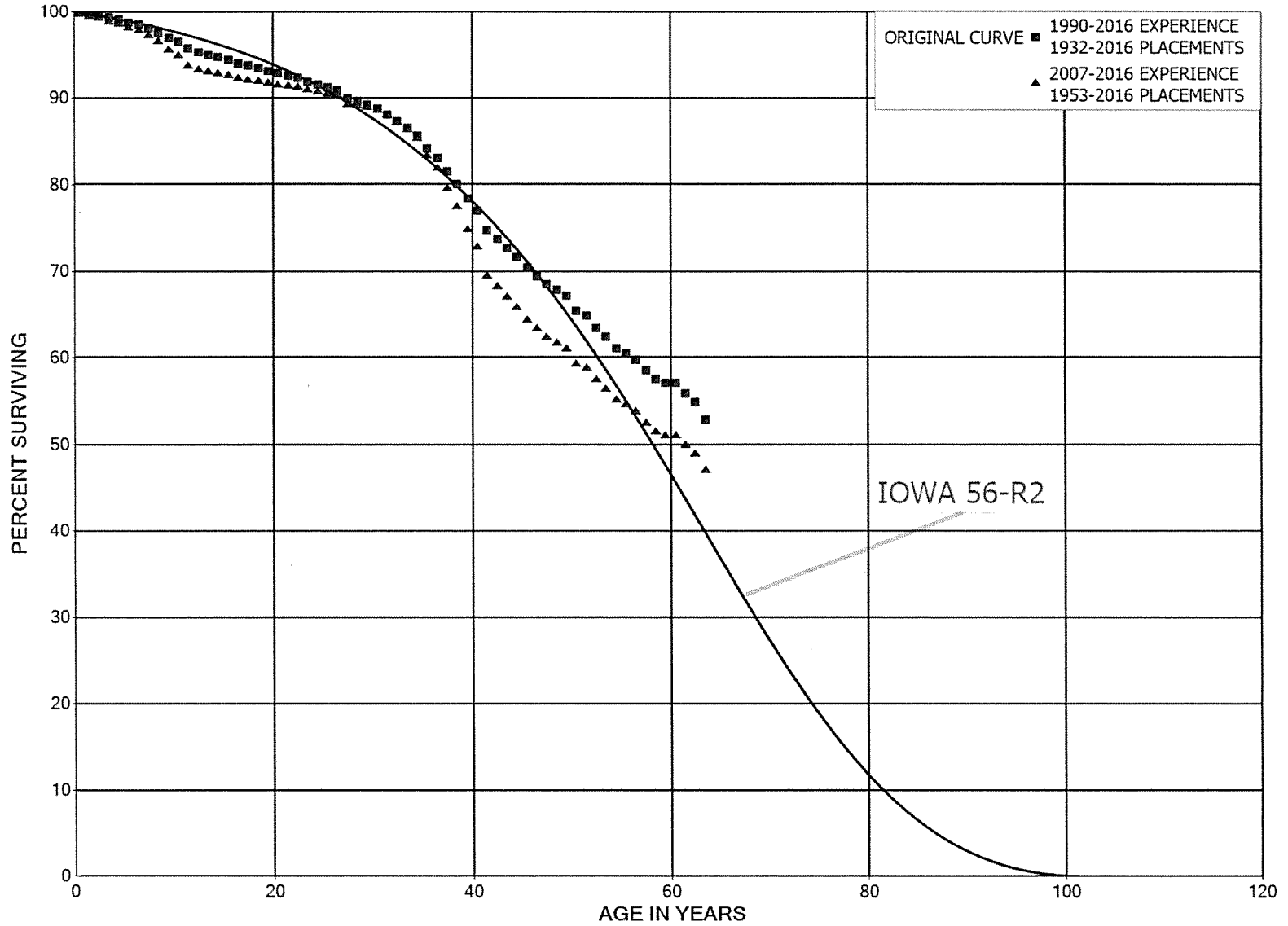
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2016			EXPERIENCE BAND 1993-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,510		0.0000	1.0000	2.23
80.5	2,510		0.0000	1.0000	2.23
81.5	2,510		0.0000	1.0000	2.23
82.5	2,510		0.0000	1.0000	2.23
83.5	2,510		0.0000	1.0000	2.23
84.5	2,510		0.0000	1.0000	2.23
85.5					2.23

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 380.00 SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	119,113,959	174,771	0.0015	0.9985	100.00
0.5	112,499,620	182,245	0.0016	0.9984	99.85
1.5	108,474,021	174,012	0.0016	0.9984	99.69
2.5	103,260,238	256,035	0.0025	0.9975	99.53
3.5	98,264,331	223,194	0.0023	0.9977	99.28
4.5	92,443,445	268,489	0.0029	0.9971	99.06
5.5	87,956,214	272,975	0.0031	0.9969	98.77
6.5	84,906,316	356,362	0.0042	0.9958	98.47
7.5	82,337,111	424,680	0.0052	0.9948	98.05
8.5	78,688,624	483,552	0.0061	0.9939	97.55
9.5	74,933,792	373,896	0.0050	0.9950	96.95
10.5	71,120,105	564,959	0.0079	0.9921	96.46
11.5	68,136,282	278,115	0.0041	0.9959	95.70
12.5	64,465,716	209,182	0.0032	0.9968	95.31
13.5	60,885,919	199,087	0.0033	0.9967	95.00
14.5	57,506,048	201,413	0.0035	0.9965	94.69
15.5	53,467,731	206,908	0.0039	0.9961	94.35
16.5	50,460,978	171,338	0.0034	0.9966	93.99
17.5	48,363,309	143,138	0.0030	0.9970	93.67
18.5	48,252,693	160,611	0.0033	0.9967	93.39
19.5	45,414,054	125,325	0.0028	0.9972	93.08
20.5	42,818,978	123,493	0.0029	0.9971	92.83
21.5	39,602,458	118,919	0.0030	0.9970	92.56
22.5	37,017,317	161,881	0.0044	0.9956	92.28
23.5	34,816,742	138,168	0.0040	0.9960	91.88
24.5	32,017,412	119,566	0.0037	0.9963	91.51
25.5	28,270,480	93,163	0.0033	0.9967	91.17
26.5	24,770,105	254,187	0.0103	0.9897	90.87
27.5	22,525,069	82,812	0.0037	0.9963	89.94
28.5	20,777,593	92,486	0.0045	0.9955	89.61
29.5	18,872,796	99,592	0.0053	0.9947	89.21
30.5	17,349,037	128,763	0.0074	0.9926	88.74
31.5	15,563,841	130,557	0.0084	0.9916	88.08
32.5	14,098,398	141,630	0.0100	0.9900	87.34
33.5	12,713,546	129,850	0.0102	0.9898	86.46
34.5	11,362,578	189,952	0.0167	0.9833	85.58
35.5	10,058,867	129,783	0.0129	0.9871	84.15
36.5	8,285,059	155,556	0.0188	0.9812	83.06
37.5	7,244,600	131,726	0.0182	0.9818	81.50
38.5	6,482,099	134,755	0.0208	0.9792	80.02

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	6,128,753	109,501	0.0179	0.9821	78.36
40.5	5,800,342	168,879	0.0291	0.9709	76.96
41.5	5,349,233	71,819	0.0134	0.9866	74.72
42.5	4,980,474	71,863	0.0144	0.9856	73.71
43.5	4,641,333	68,561	0.0148	0.9852	72.65
44.5	4,239,566	67,951	0.0160	0.9840	71.58
45.5	3,791,126	53,960	0.0142	0.9858	70.43
46.5	3,495,002	44,748	0.0128	0.9872	69.43
47.5	3,137,900	32,707	0.0104	0.9896	68.54
48.5	2,882,219	27,440	0.0095	0.9905	67.82
49.5	2,540,989	66,873	0.0263	0.9737	67.18
50.5	2,170,450	20,323	0.0094	0.9906	65.41
51.5	1,778,526	37,798	0.0213	0.9787	64.80
52.5	1,556,889	25,610	0.0164	0.9836	63.42
53.5	1,499,945	30,582	0.0204	0.9796	62.38
54.5	1,300,869	13,799	0.0106	0.9894	61.11
55.5	966,709	11,987	0.0124	0.9876	60.46
56.5	786,760	16,280	0.0207	0.9793	59.71
57.5	557,273	8,726	0.0157	0.9843	58.47
58.5	387,516	2,946	0.0076	0.9924	57.56
59.5	280,737	172	0.0006	0.9994	57.12
60.5	251,890	5,348	0.0212	0.9788	57.08
61.5	228,946	4,201	0.0183	0.9817	55.87
62.5	127,421	4,591	0.0360	0.9640	54.85
63.5	8,635		0.0000	1.0000	52.87
64.5	7,917		0.0000	1.0000	52.87
65.5	6,631		0.0000	1.0000	52.87
66.5	5,567		0.0000	1.0000	52.87
67.5	5,567		0.0000	1.0000	52.87
68.5	5,561		0.0000	1.0000	52.87
69.5	5,553		0.0000	1.0000	52.87
70.5	5,553		0.0000	1.0000	52.87
71.5	5,528		0.0000	1.0000	52.87
72.5	5,522		0.0000	1.0000	52.87
73.5	2,805		0.0000	1.0000	52.87
74.5					52.87

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1953-2016

EXPERIENCE BAND 2007-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	61,912,684	174,647	0.0028	0.9972	100.00
0.5	57,839,892	172,044	0.0030	0.9970	99.72
1.5	54,264,596	139,940	0.0026	0.9974	99.42
2.5	50,764,407	199,204	0.0039	0.9961	99.16
3.5	47,742,241	148,231	0.0031	0.9969	98.78
4.5	43,983,598	168,355	0.0038	0.9962	98.47
5.5	42,584,355	159,257	0.0037	0.9963	98.09
6.5	41,750,081	234,051	0.0056	0.9944	97.73
7.5	40,606,286	303,020	0.0075	0.9925	97.18
8.5	36,093,076	361,394	0.0100	0.9900	96.45
9.5	34,322,005	247,083	0.0072	0.9928	95.49
10.5	32,381,959	416,501	0.0129	0.9871	94.80
11.5	31,336,832	128,823	0.0041	0.9959	93.58
12.5	30,444,111	64,764	0.0021	0.9979	93.20
13.5	29,303,074	71,204	0.0024	0.9976	93.00
14.5	29,484,872	92,672	0.0031	0.9969	92.77
15.5	29,022,333	102,393	0.0035	0.9965	92.48
16.5	28,715,262	69,521	0.0024	0.9976	92.15
17.5	28,673,059	46,488	0.0016	0.9984	91.93
18.5	30,389,088	69,418	0.0023	0.9977	91.78
19.5	29,387,139	46,047	0.0016	0.9984	91.57
20.5	28,190,040	45,198	0.0016	0.9984	91.43
21.5	26,445,444	43,028	0.0016	0.9984	91.28
22.5	24,938,404	81,590	0.0033	0.9967	91.13
23.5	23,630,374	65,019	0.0028	0.9972	90.83
24.5	21,880,466	48,218	0.0022	0.9978	90.58
25.5	19,222,079	31,378	0.0016	0.9984	90.38
26.5	17,233,552	196,471	0.0114	0.9886	90.24
27.5	15,904,044	27,353	0.0017	0.9983	89.21
28.5	14,395,361	36,548	0.0025	0.9975	89.06
29.5	12,656,612	49,014	0.0039	0.9961	88.83
30.5	11,161,093	72,371	0.0065	0.9935	88.49
31.5	9,690,986	76,293	0.0079	0.9921	87.91
32.5	8,698,342	93,265	0.0107	0.9893	87.22
33.5	7,715,583	93,681	0.0121	0.9879	86.28
34.5	6,744,460	157,430	0.0233	0.9767	85.24
35.5	5,780,093	95,869	0.0166	0.9834	83.25
36.5	4,353,797	123,831	0.0284	0.9716	81.87
37.5	3,737,947	99,604	0.0266	0.9734	79.54
38.5	3,264,636	112,588	0.0345	0.9655	77.42

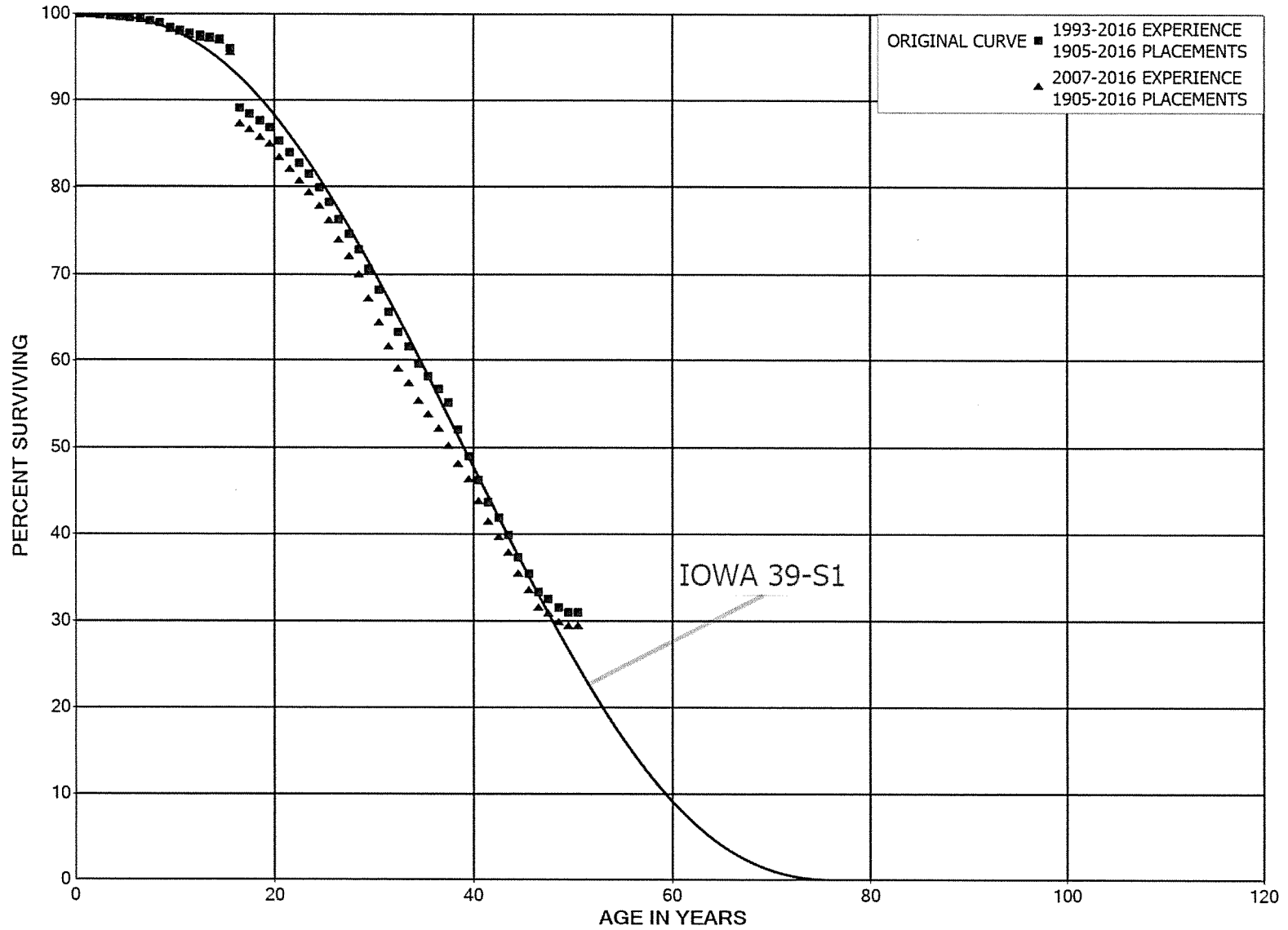
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1953-2016			EXPERIENCE BAND 2007-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,327,730	91,677	0.0275	0.9725	74.75
40.5	3,478,093	155,050	0.0446	0.9554	72.69
41.5	3,396,159	60,168	0.0177	0.9823	69.45
42.5	3,200,225	60,796	0.0190	0.9810	68.22
43.5	3,045,042	55,872	0.0183	0.9817	66.92
44.5	2,859,686	60,708	0.0212	0.9788	65.69
45.5	2,884,857	47,234	0.0164	0.9836	64.30
46.5	2,757,443	40,573	0.0147	0.9853	63.25
47.5	2,652,597	29,755	0.0112	0.9888	62.32
48.5	2,509,176	25,486	0.0102	0.9898	61.62
49.5	2,241,211	64,879	0.0289	0.9711	60.99
50.5	1,902,476	17,764	0.0093	0.9907	59.23
51.5	1,546,844	35,087	0.0227	0.9773	58.67
52.5	1,428,951	25,092	0.0176	0.9824	57.34
53.5	1,383,445	30,582	0.0221	0.9779	56.34
54.5	1,192,715	13,799	0.0116	0.9884	55.09
55.5	864,592	11,987	0.0139	0.9861	54.45
56.5	690,115	16,280	0.0236	0.9764	53.70
57.5	461,716	8,726	0.0189	0.9811	52.43
58.5	342,396	2,946	0.0086	0.9914	51.44
59.5	267,075	172	0.0006	0.9994	51.00
60.5	240,496	5,348	0.0222	0.9778	50.96
61.5	218,966	4,201	0.0192	0.9808	49.83
62.5	118,281	4,591	0.0388	0.9612	48.87
63.5					46.98

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 381.00 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1905-2016			EXPERIENCE BAND 1993-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	25,976,883	5,581	0.0002	0.9998	100.00
0.5	23,087,281	19,605	0.0008	0.9992	99.98
1.5	21,664,723	17,881	0.0008	0.9992	99.89
2.5	19,602,038	18,768	0.0010	0.9990	99.81
3.5	19,241,763	21,610	0.0011	0.9989	99.72
4.5	18,793,109	19,618	0.0010	0.9990	99.60
5.5	17,405,306	27,919	0.0016	0.9984	99.50
6.5	16,004,014	25,238	0.0016	0.9984	99.34
7.5	14,641,411	25,659	0.0018	0.9982	99.18
8.5	13,907,839	92,059	0.0066	0.9934	99.01
9.5	12,896,335	42,215	0.0033	0.9967	98.35
10.5	11,649,899	36,006	0.0031	0.9969	98.03
11.5	11,925,094	30,366	0.0025	0.9975	97.73
12.5	11,703,443	25,518	0.0022	0.9978	97.48
13.5	11,241,617	27,522	0.0024	0.9976	97.27
14.5	10,840,968	123,660	0.0114	0.9886	97.03
15.5	10,338,777	741,637	0.0717	0.9283	95.92
16.5	9,962,847	67,151	0.0067	0.9933	89.04
17.5	9,411,862	92,197	0.0098	0.9902	88.44
18.5	9,362,354	82,986	0.0089	0.9911	87.58
19.5	8,701,339	150,795	0.0173	0.9827	86.80
20.5	8,150,008	125,419	0.0154	0.9846	85.30
21.5	8,181,531	120,559	0.0147	0.9853	83.98
22.5	8,044,856	124,491	0.0155	0.9845	82.74
23.5	7,999,765	154,330	0.0193	0.9807	81.46
24.5	7,630,964	154,612	0.0203	0.9797	79.89
25.5	6,378,090	161,399	0.0253	0.9747	78.27
26.5	6,061,822	130,453	0.0215	0.9785	76.29
27.5	5,743,120	135,904	0.0237	0.9763	74.65
28.5	5,366,118	169,543	0.0316	0.9684	72.89
29.5	5,186,211	177,804	0.0343	0.9657	70.58
30.5	4,854,018	181,177	0.0373	0.9627	68.16
31.5	4,496,872	156,477	0.0348	0.9652	65.62
32.5	4,138,134	114,789	0.0277	0.9723	63.33
33.5	3,964,199	125,611	0.0317	0.9683	61.58
34.5	3,924,758	94,393	0.0241	0.9759	59.63
35.5	3,774,197	95,518	0.0253	0.9747	58.19
36.5	3,438,851	92,268	0.0268	0.9732	56.72
37.5	3,013,186	168,871	0.0560	0.9440	55.20
38.5	2,701,026	162,445	0.0601	0.9399	52.10

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2016			EXPERIENCE BAND 1993-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,425,473	139,642	0.0576	0.9424	48.97
40.5	2,164,439	117,420	0.0542	0.9458	46.15
41.5	1,910,677	77,880	0.0408	0.9592	43.65
42.5	1,553,529	73,894	0.0476	0.9524	41.87
43.5	1,285,626	82,375	0.0641	0.9359	39.88
44.5	1,077,482	56,272	0.0522	0.9478	37.32
45.5	890,136	52,517	0.0590	0.9410	35.37
46.5	728,245	17,792	0.0244	0.9756	33.29
47.5	634,073	19,776	0.0312	0.9688	32.47
48.5	355,744	5,692	0.0160	0.9840	31.46
49.5	150,407	66	0.0004	0.9996	30.96
50.5					30.94
51.5					
52.5					
53.5					
54.5					
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75.5					
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77.5					
78.5					

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2016			EXPERIENCE BAND 1993-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
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94.5					
95.5					
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98.5					
99.5					
100.5					
101.5					
102.5					
103.5					
104.5					
105.5					
106.5					
107.5					
108.5					
109.5	3,796,352			0.0000	
110.5	3,796,352	3,816		0.0010	
111.5					

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1905-2016

EXPERIENCE BAND 2007-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	21,379,474	5,581	0.0003	0.9997	100.00
0.5	19,211,706	19,603	0.0010	0.9990	99.97
1.5	17,541,165	17,863	0.0010	0.9990	99.87
2.5	15,519,305	18,703	0.0012	0.9988	99.77
3.5	15,000,022	21,455	0.0014	0.9986	99.65
4.5	15,004,234	19,328	0.0013	0.9987	99.51
5.5	14,294,319	27,469	0.0019	0.9981	99.38
6.5	13,237,623	24,501	0.0019	0.9981	99.19
7.5	12,264,289	24,570	0.0020	0.9980	99.00
8.5	11,743,805	90,721	0.0077	0.9923	98.81
9.5	10,958,363	40,129	0.0037	0.9963	98.04
10.5	9,784,960	32,985	0.0034	0.9966	97.68
11.5	9,347,779	25,669	0.0027	0.9973	97.35
12.5	9,069,167	16,123	0.0018	0.9982	97.09
13.5	8,399,699	15,555	0.0019	0.9981	96.91
14.5	8,157,405	112,593	0.0138	0.9862	96.74
15.5	8,460,022	731,417	0.0865	0.9135	95.40
16.5	8,288,279	57,521	0.0069	0.9931	87.15
17.5	8,057,553	82,759	0.0103	0.9897	86.55
18.5	7,823,249	72,566	0.0093	0.9907	85.66
19.5	7,292,331	137,048	0.0188	0.9812	84.86
20.5	6,896,875	111,421	0.0162	0.9838	83.27
21.5	6,525,150	106,737	0.0164	0.9836	81.92
22.5	6,162,106	100,178	0.0163	0.9837	80.58
23.5	5,884,735	116,124	0.0197	0.9803	79.27
24.5	5,241,725	113,360	0.0216	0.9784	77.71
25.5	4,369,809	127,642	0.0292	0.9708	76.03
26.5	4,230,435	108,867	0.0257	0.9743	73.81
27.5	4,057,948	116,892	0.0288	0.9712	71.91
28.5	3,761,065	150,068	0.0399	0.9601	69.84
29.5	3,504,104	146,066	0.0417	0.9583	67.05
30.5	3,291,754	142,313	0.0432	0.9568	64.26
31.5	3,088,460	124,783	0.0404	0.9596	61.48
32.5	3,056,319	87,426	0.0286	0.9714	58.99
33.5	3,085,272	106,195	0.0344	0.9656	57.31
34.5	2,948,530	83,063	0.0282	0.9718	55.33
35.5	2,620,813	82,565	0.0315	0.9685	53.78
36.5	2,140,377	83,375	0.0390	0.9610	52.08
37.5	1,811,361	74,134	0.0409	0.9591	50.05
38.5	1,957,807	73,360	0.0375	0.9625	48.00

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2016			EXPERIENCE BAND 2007-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,119,714	119,580	0.0564	0.9436	46.21
40.5	2,164,439	117,420	0.0542	0.9458	43.60
41.5	1,910,677	77,880	0.0408	0.9592	41.23
42.5	1,553,529	73,894	0.0476	0.9524	39.55
43.5	1,285,626	82,375	0.0641	0.9359	37.67
44.5	1,077,482	56,272	0.0522	0.9478	35.26
45.5	890,136	52,517	0.0590	0.9410	33.42
46.5	728,245	17,792	0.0244	0.9756	31.44
47.5	634,073	19,776	0.0312	0.9688	30.68
48.5	355,744	5,692	0.0160	0.9840	29.72
49.5	150,407	66	0.0004	0.9996	29.24
50.5					29.23
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5					
76.5					
77.5					
78.5					

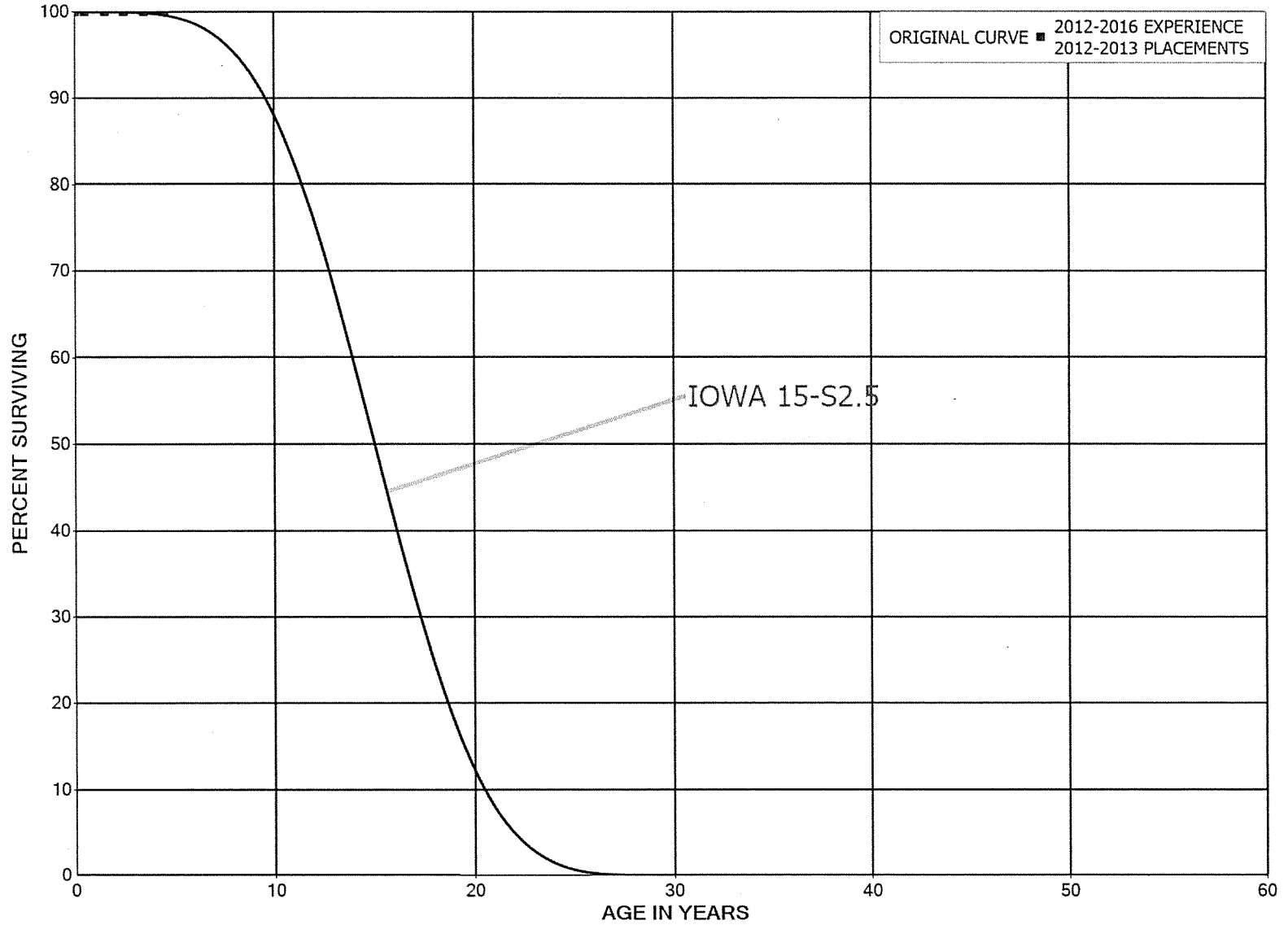
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2016			EXPERIENCE BAND 2007-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5					
95.5					
96.5					
97.5					
98.5					
99.5					
100.5					
101.5					
102.5					
103.5					
104.5					
105.5					
106.5					
107.5					
108.5					
109.5	3,796,352		0.0000		
110.5	3,796,352	3,816	0.0010		
111.5					

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 381.20 METERS - AMR
ORIGINAL AND SMOOTH SURVIVOR CURVES



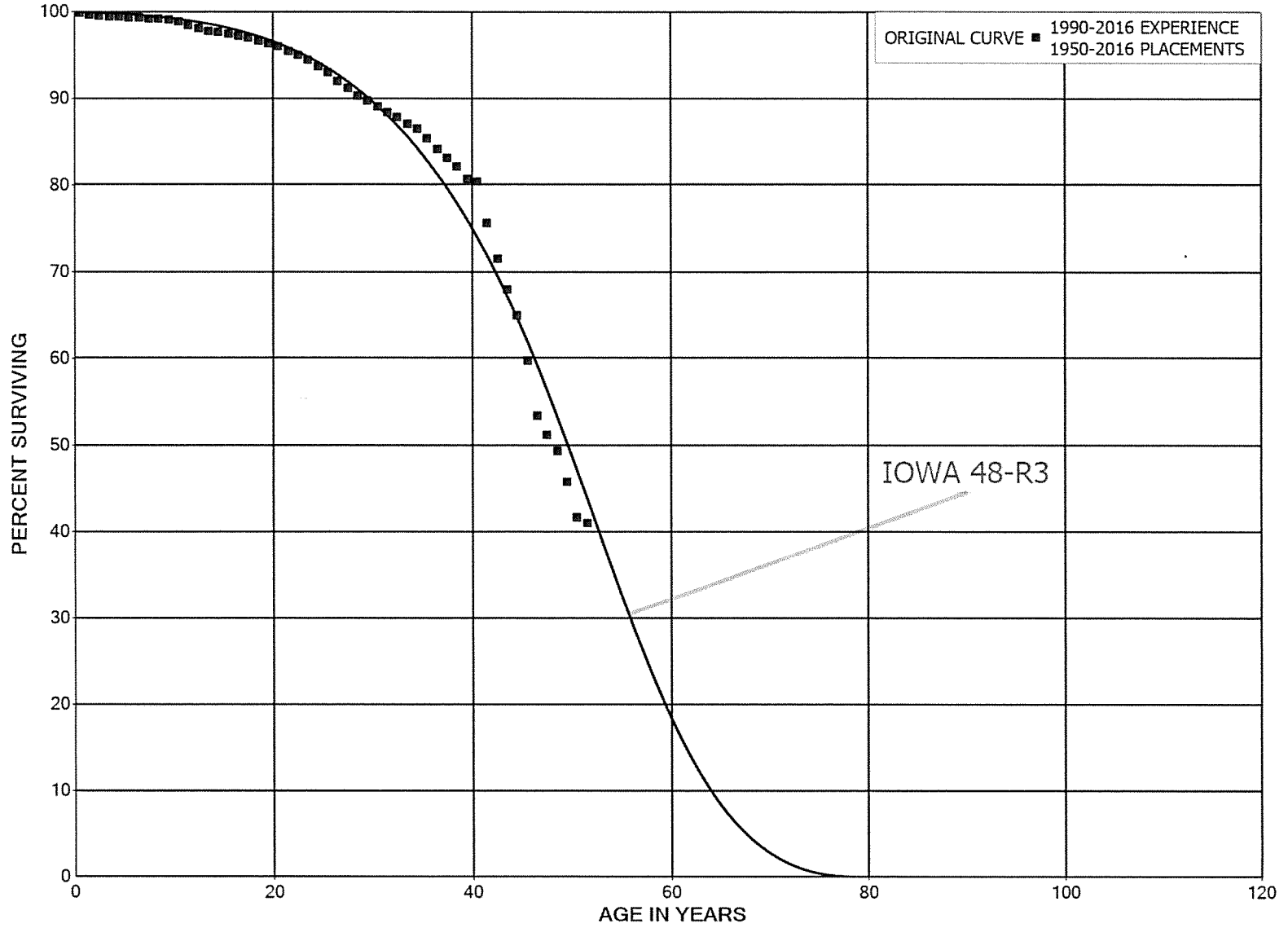
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.20 METERS - AMR

ORIGINAL LIFE TABLE

PLACEMENT BAND 2012-2013			EXPERIENCE BAND 2012-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	339,538		0.0000	1.0000	100.00
0.5	339,538		0.0000	1.0000	100.00
1.5	339,538		0.0000	1.0000	100.00
2.5	339,538		0.0000	1.0000	100.00
3.5	334,935		0.0000	1.0000	100.00
4.5					100.00

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 383.00 HOUSE REGULATORS
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2016

EXPERIENCE BAND 1990-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	16,024,386	18,788	0.0012	0.9988	100.00
0.5	15,918,638	37,673	0.0024	0.9976	99.88
1.5	16,000,595	26,593	0.0017	0.9983	99.65
2.5	16,054,109	15,894	0.0010	0.9990	99.48
3.5	16,066,524	6,430	0.0004	0.9996	99.38
4.5	15,983,100	3,521	0.0002	0.9998	99.34
5.5	15,995,465	6,905	0.0004	0.9996	99.32
6.5	15,941,729	7,853	0.0005	0.9995	99.28
7.5	15,912,054	7,961	0.0005	0.9995	99.23
8.5	15,840,509	15,338	0.0010	0.9990	99.18
9.5	15,864,363	41,412	0.0026	0.9974	99.08
10.5	15,445,849	60,871	0.0039	0.9961	98.82
11.5	14,033,338	52,204	0.0037	0.9963	98.44
12.5	12,171,592	37,718	0.0031	0.9969	98.07
13.5	10,954,290	19,182	0.0018	0.9982	97.76
14.5	9,755,594	18,558	0.0019	0.9981	97.59
15.5	8,332,964	17,923	0.0022	0.9978	97.41
16.5	7,507,606	19,762	0.0026	0.9974	97.20
17.5	6,699,930	20,002	0.0030	0.9970	96.94
18.5	5,997,282	23,013	0.0038	0.9962	96.65
19.5	5,517,968	21,370	0.0039	0.9961	96.28
20.5	5,300,306	25,479	0.0048	0.9952	95.91
21.5	5,096,811	24,154	0.0047	0.9953	95.45
22.5	4,681,342	29,587	0.0063	0.9937	95.00
23.5	4,610,777	35,799	0.0078	0.9922	94.40
24.5	4,150,677	33,966	0.0082	0.9918	93.66
25.5	3,630,918	35,621	0.0098	0.9902	92.90
26.5	3,248,472	30,121	0.0093	0.9907	91.99
27.5	2,878,932	25,173	0.0087	0.9913	91.13
28.5	2,525,087	18,104	0.0072	0.9928	90.34
29.5	2,162,924	14,057	0.0065	0.9935	89.69
30.5	1,870,197	14,955	0.0080	0.9920	89.10
31.5	1,665,415	11,008	0.0066	0.9934	88.39
32.5	1,480,431	11,678	0.0079	0.9921	87.81
33.5	1,315,093	8,610	0.0065	0.9935	87.12
34.5	1,104,127	14,418	0.0131	0.9869	86.54
35.5	946,544	13,518	0.0143	0.9857	85.41
36.5	732,871	9,068	0.0124	0.9876	84.19
37.5	622,114	7,314	0.0118	0.9882	83.15
38.5	529,669	9,351	0.0177	0.9823	82.18

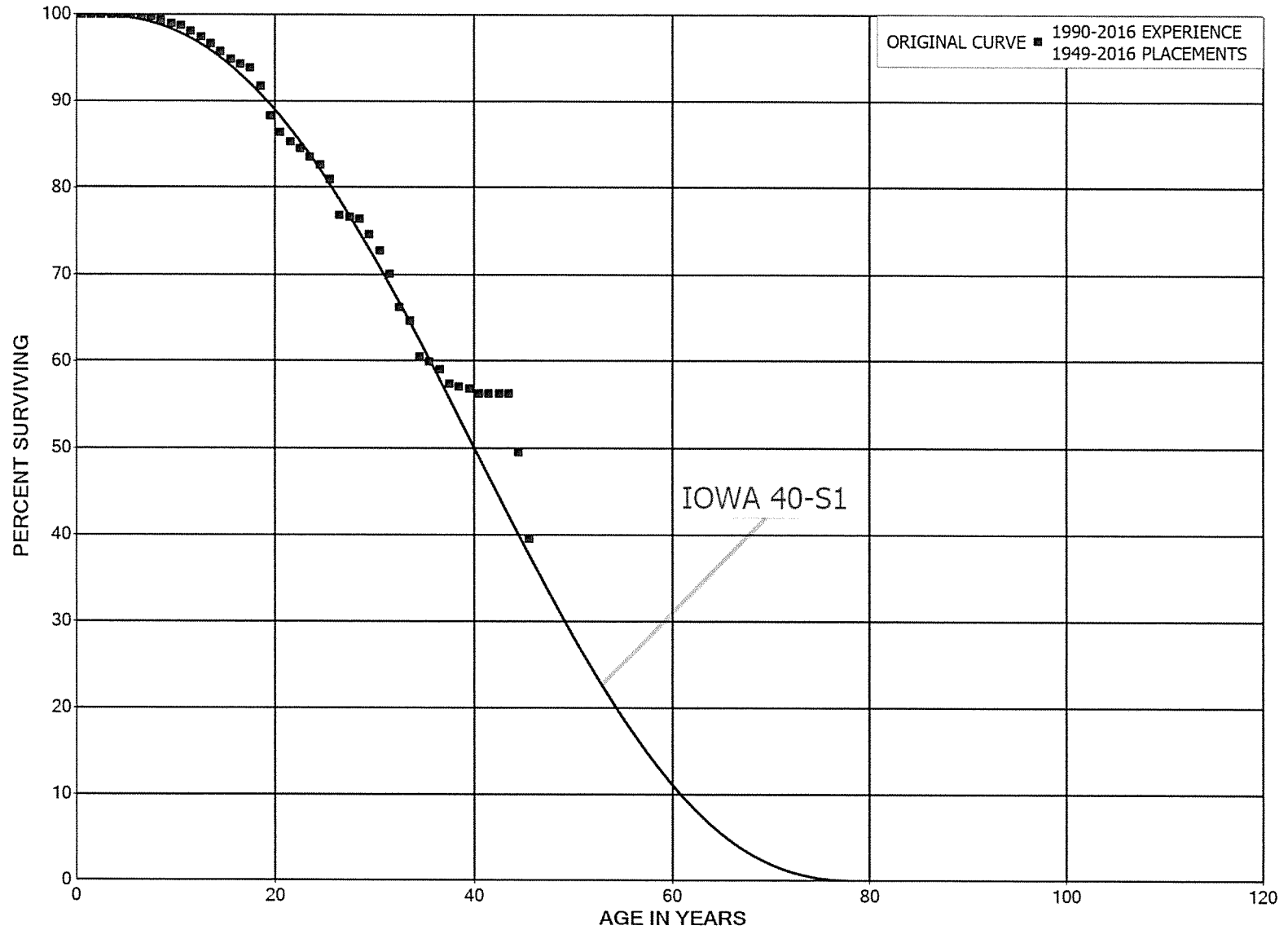
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1950-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	493,484	2,307	0.0047	0.9953	80.72
40.5	476,602	27,975	0.0587	0.9413	80.35
41.5	424,687	23,296	0.0549	0.9451	75.63
42.5	351,839	17,147	0.0487	0.9513	71.48
43.5	294,369	13,427	0.0456	0.9544	68.00
44.5	248,494	19,849	0.0799	0.9201	64.90
45.5	201,657	21,448	0.1064	0.8936	59.71
46.5	160,983	6,540	0.0406	0.9594	53.36
47.5	126,538	4,766	0.0377	0.9623	51.19
48.5	101,046	7,171	0.0710	0.9290	49.27
49.5	69,177	6,324	0.0914	0.9086	45.77
50.5	1,263	20	0.0159	0.9841	41.59
51.5					40.92
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5	364,872	1,101	0.0030		
62.5	363,770	1,067	0.0029		
63.5					

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1949-2016

EXPERIENCE BAND 1990-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	6,251,894		0.0000	1.0000	100.00
0.5	6,224,792	2	0.0000	1.0000	100.00
1.5	5,594,770	55	0.0000	1.0000	100.00
2.5	5,141,940	333	0.0001	0.9999	100.00
3.5	4,726,633	654	0.0001	0.9999	99.99
4.5	4,434,563	1,850	0.0004	0.9996	99.98
5.5	3,957,814	4,094	0.0010	0.9990	99.94
6.5	3,341,795	3,315	0.0010	0.9990	99.83
7.5	2,990,804	12,462	0.0042	0.9958	99.73
8.5	2,719,699	10,802	0.0040	0.9960	99.32
9.5	2,282,025	3,962	0.0017	0.9983	98.92
10.5	2,090,182	13,851	0.0066	0.9934	98.75
11.5	1,831,440	13,674	0.0075	0.9925	98.10
12.5	1,783,884	14,655	0.0082	0.9918	97.37
13.5	1,764,162	16,280	0.0092	0.9908	96.57
14.5	1,610,981	13,854	0.0086	0.9914	95.67
15.5	1,285,831	7,755	0.0060	0.9940	94.85
16.5	1,243,215	6,593	0.0053	0.9947	94.28
17.5	1,186,381	25,344	0.0214	0.9786	93.78
18.5	1,023,838	38,771	0.0379	0.9621	91.78
19.5	1,041,826	22,836	0.0219	0.9781	88.30
20.5	1,239,783	14,961	0.0121	0.9879	86.37
21.5	1,550,518	15,462	0.0100	0.9900	85.32
22.5	1,655,694	18,424	0.0111	0.9889	84.47
23.5	1,726,989	18,443	0.0107	0.9893	83.53
24.5	1,581,388	33,128	0.0209	0.9791	82.64
25.5	1,302,932	65,571	0.0503	0.9497	80.91
26.5	1,035,942	3,733	0.0036	0.9964	76.84
27.5	811,868	1,560	0.0019	0.9981	76.56
28.5	818,057	19,086	0.0233	0.9767	76.41
29.5	854,402	21,788	0.0255	0.9745	74.63
30.5	583,507	21,736	0.0373	0.9627	72.73
31.5	382,475	21,063	0.0551	0.9449	70.02
32.5	361,557	8,345	0.0231	0.9769	66.16
33.5	323,112	20,630	0.0638	0.9362	64.64
34.5	357,497	3,523	0.0099	0.9901	60.51
35.5	361,980	4,959	0.0137	0.9863	59.91
36.5	226,549	6,547	0.0289	0.9711	59.09
37.5	181,256	862	0.0048	0.9952	57.38
38.5	107,889	440	0.0041	0.9959	57.11

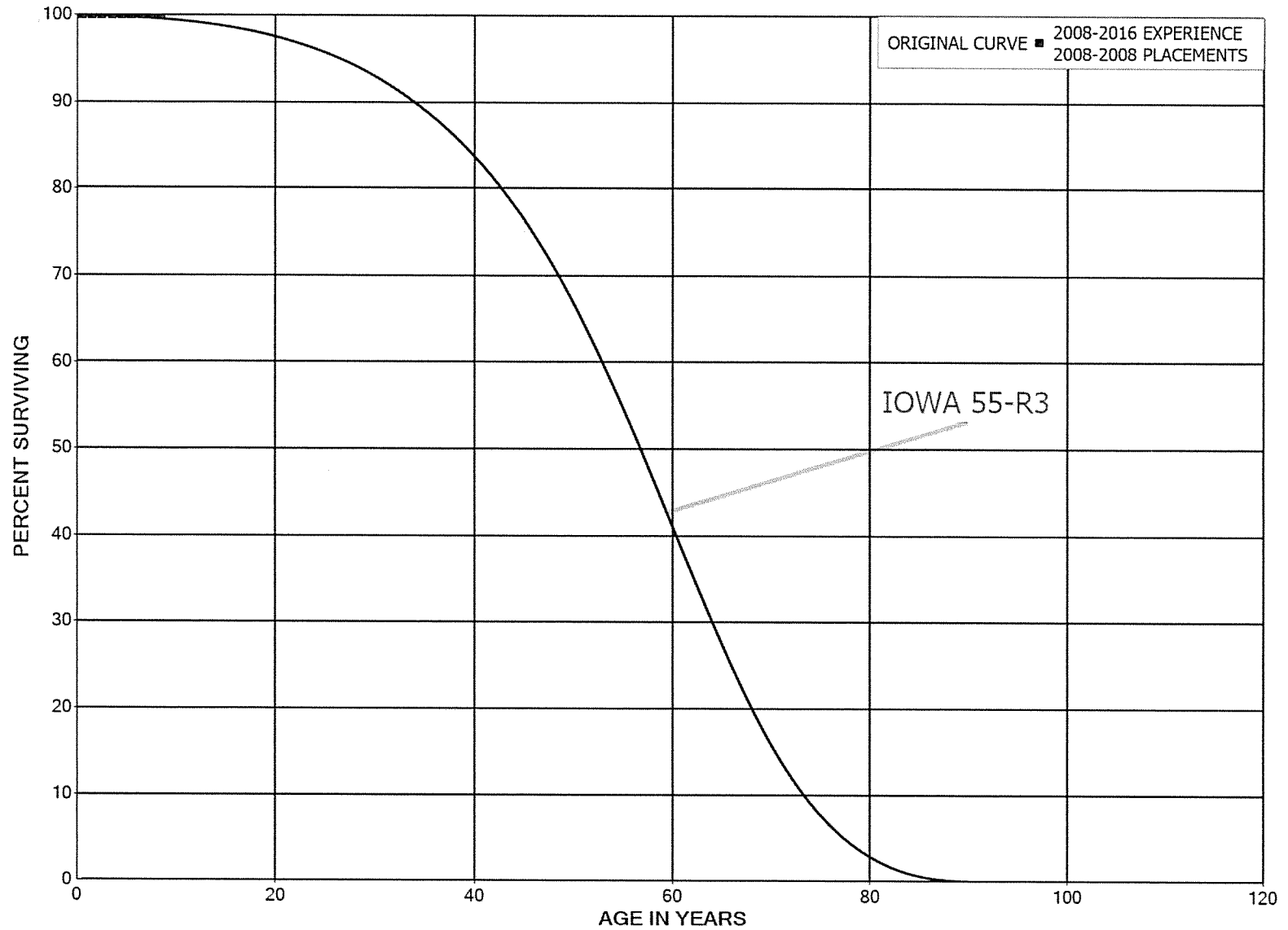
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1949-2016			EXPERIENCE BAND 1990-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	85,061	822	0.0097	0.9903	56.88
40.5	83,073	20	0.0002	0.9998	56.33
41.5	78,208		0.0000	1.0000	56.32
42.5	111,208		0.0000	1.0000	56.32
43.5	110,512	13,350	0.1208	0.8792	56.32
44.5	92,908	18,853	0.2029	0.7971	49.51
45.5	43,920		0.0000	1.0000	39.47
46.5	56,205		0.0000	1.0000	39.47
47.5	47,773		0.0000	1.0000	39.47
48.5	35,881		0.0000	1.0000	39.47
49.5	33,930		0.0000	1.0000	39.47
50.5	32,588		0.0000	1.0000	39.47
51.5	31,357		0.0000	1.0000	39.47
52.5	29,372		0.0000	1.0000	39.47
53.5	27,983		0.0000	1.0000	39.47
54.5	27,659		0.0000	1.0000	39.47
55.5	27,659		0.0000	1.0000	39.47
56.5	124		0.0000	1.0000	39.47
57.5					39.47

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MAJOR
ORIGINAL AND SMOOTH SURVIVOR CURVES



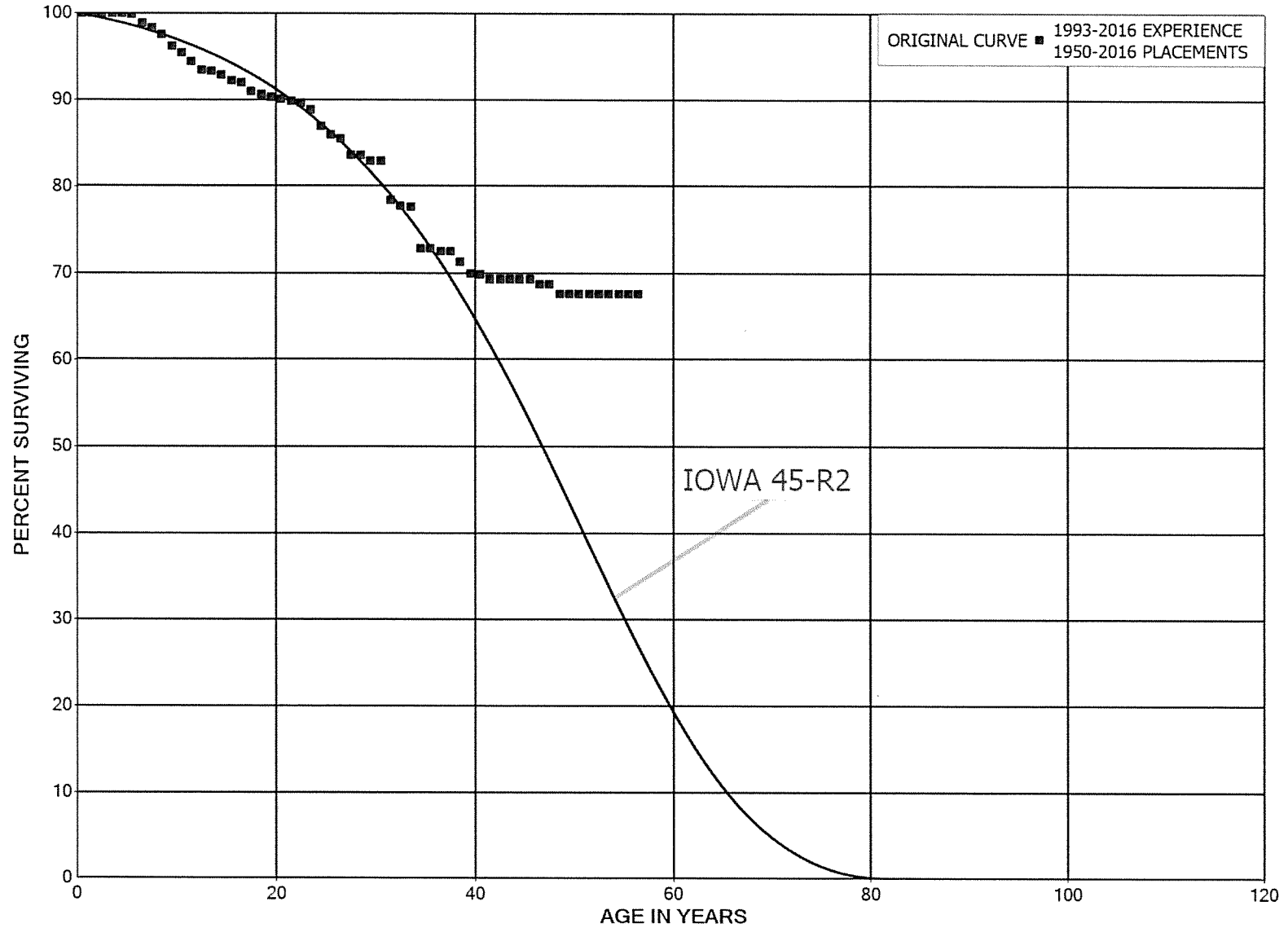
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MAJOR

ORIGINAL LIFE TABLE

PLACEMENT BAND 2008-2008			EXPERIENCE BAND 2008-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,224,389		0.0000	1.0000	100.00
0.5	3,224,389		0.0000	1.0000	100.00
1.5	3,224,389		0.0000	1.0000	100.00
2.5	3,224,389		0.0000	1.0000	100.00
3.5	3,224,389		0.0000	1.0000	100.00
4.5	3,224,389		0.0000	1.0000	100.00
5.5	3,224,389		0.0000	1.0000	100.00
6.5	3,224,389		0.0000	1.0000	100.00
7.5	3,224,389		0.0000	1.0000	100.00
8.5					100.00

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MINOR
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MINOR

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2016			EXPERIENCE BAND 1993-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,764,216		0.0000	1.0000	100.00
0.5	5,583,809	2,405	0.0004	0.9996	100.00
1.5	5,325,889	38	0.0000	1.0000	99.96
2.5	5,182,165	118	0.0000	1.0000	99.96
3.5	4,374,757	180	0.0000	1.0000	99.95
4.5	4,272,684	3,882	0.0009	0.9991	99.95
5.5	4,731,006	49,474	0.0105	0.9895	99.86
6.5	4,862,223	24,903	0.0051	0.9949	98.81
7.5	4,948,739	42,595	0.0086	0.9914	98.31
8.5	5,145,096	68,342	0.0133	0.9867	97.46
9.5	5,026,669	42,518	0.0085	0.9915	96.17
10.5	5,495,420	57,819	0.0105	0.9895	95.35
11.5	5,200,152	54,004	0.0104	0.9896	94.35
12.5	5,291,698	6,581	0.0012	0.9988	93.37
13.5	5,342,357	25,491	0.0048	0.9952	93.26
14.5	5,300,440	38,330	0.0072	0.9928	92.81
15.5	5,275,437	11,335	0.0021	0.9979	92.14
16.5	5,481,768	61,929	0.0113	0.9887	91.94
17.5	5,611,723	18,477	0.0033	0.9967	90.90
18.5	5,562,653	19,827	0.0036	0.9964	90.60
19.5	5,451,022	11,820	0.0022	0.9978	90.28
20.5	5,298,125	17,397	0.0033	0.9967	90.08
21.5	5,279,378	11,239	0.0021	0.9979	89.79
22.5	5,193,039	41,050	0.0079	0.9921	89.60
23.5	5,041,817	110,499	0.0219	0.9781	88.89
24.5	3,360,853	38,889	0.0116	0.9884	86.94
25.5	3,155,126	15,374	0.0049	0.9951	85.94
26.5	2,738,467	59,464	0.0217	0.9783	85.52
27.5	2,586,943	2,895	0.0011	0.9989	83.66
28.5	2,228,496	15,466	0.0069	0.9931	83.57
29.5	1,792,108	1,407	0.0008	0.9992	82.99
30.5	1,788,859	97,361	0.0544	0.9456	82.92
31.5	1,391,096	12,476	0.0090	0.9910	78.41
32.5	1,399,845	2,460	0.0018	0.9982	77.70
33.5	1,242,974	75,885	0.0611	0.9389	77.57
34.5	574,457	170	0.0003	0.9997	72.83
35.5	472,362	2,029	0.0043	0.9957	72.81
36.5	115,981		0.0000	1.0000	72.50
37.5	101,571	1,698	0.0167	0.9833	72.50
38.5	99,872	1,890	0.0189	0.9811	71.29

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MINOR

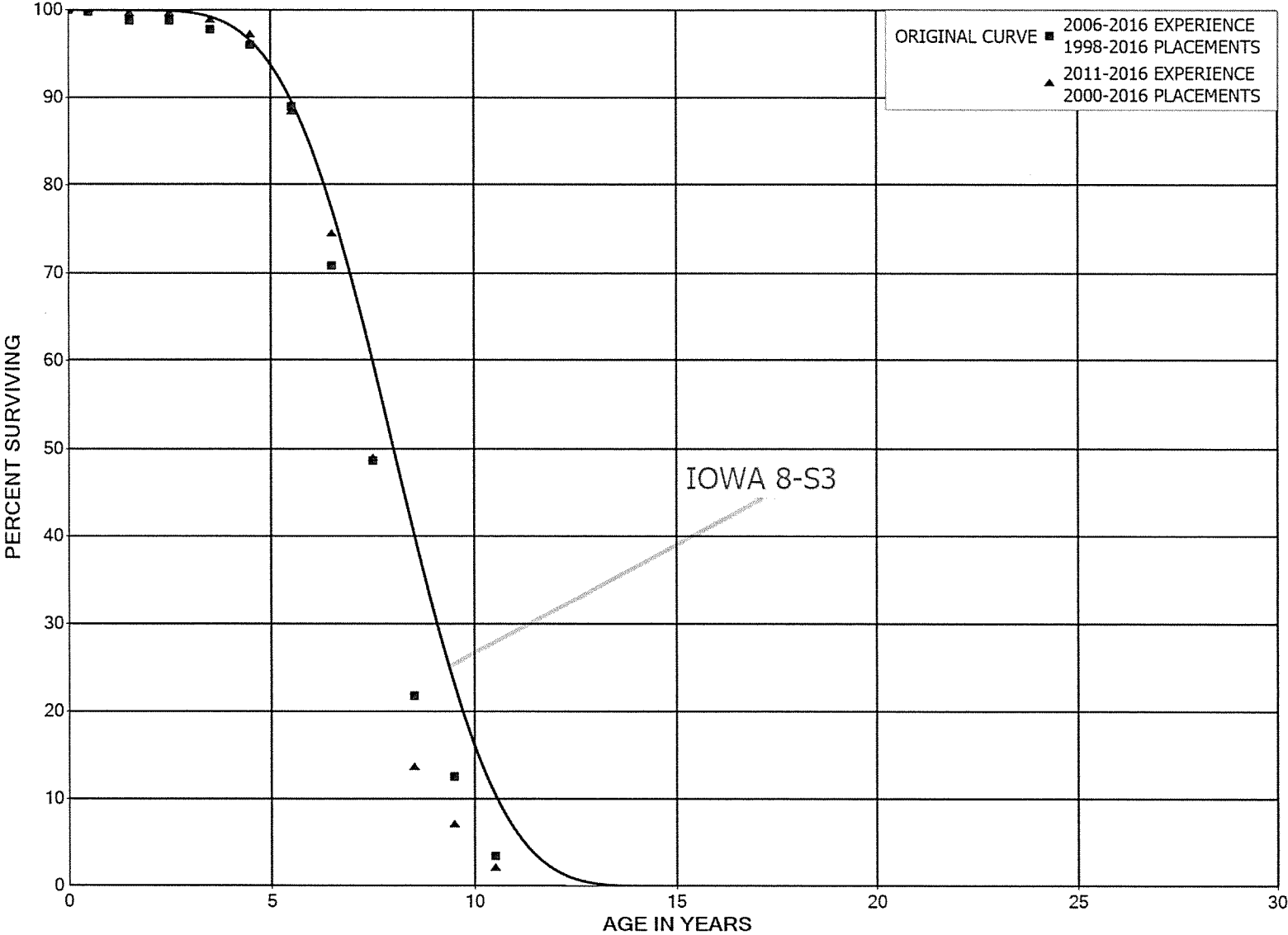
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1950-2016

EXPERIENCE BAND 1993-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	96,657	104	0.0011	0.9989	69.94
40.5	97,163	784	0.0081	0.9919	69.86
41.5	96,379		0.0000	1.0000	69.30
42.5	160,992		0.0000	1.0000	69.30
43.5	160,279		0.0000	1.0000	69.30
44.5	160,279		0.0000	1.0000	69.30
45.5	156,502	1,351	0.0086	0.9914	69.30
46.5	155,152		0.0000	1.0000	68.70
47.5	155,152	2,572	0.0166	0.9834	68.70
48.5	117,286		0.0000	1.0000	67.56
49.5	117,286		0.0000	1.0000	67.56
50.5	114,768		0.0000	1.0000	67.56
51.5	85,980		0.0000	1.0000	67.56
52.5	85,980		0.0000	1.0000	67.56
53.5	85,980		0.0000	1.0000	67.56
54.5	85,370		0.0000	1.0000	67.56
55.5	85,370		0.0000	1.0000	67.56
56.5					67.56

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 392.10 TRANSPORTATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.10 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1998-2016

EXPERIENCE BAND 2006-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,838,772	24,402	0.0031	0.9969	100.00
0.5	6,968,313	70,330	0.0101	0.9899	99.69
1.5	6,394,362		0.0000	1.0000	98.68
2.5	5,627,456	53,266	0.0095	0.9905	98.68
3.5	5,224,350	94,072	0.0180	0.9820	97.75
4.5	4,851,649	355,168	0.0732	0.9268	95.99
5.5	4,010,862	815,732	0.2034	0.7966	88.96
6.5	2,711,059	853,028	0.3146	0.6854	70.87
7.5	1,629,365	899,440	0.5520	0.4480	48.57
8.5	729,925	312,092	0.4276	0.5724	21.76
9.5	349,787	255,895	0.7316	0.2684	12.46
10.5	93,893	78,552	0.8366	0.1634	3.34
11.5	15,341	5,682	0.3704	0.6296	0.55
12.5	9,659		0.0000	1.0000	0.34
13.5	9,659	9,659	1.0000		0.34
14.5					

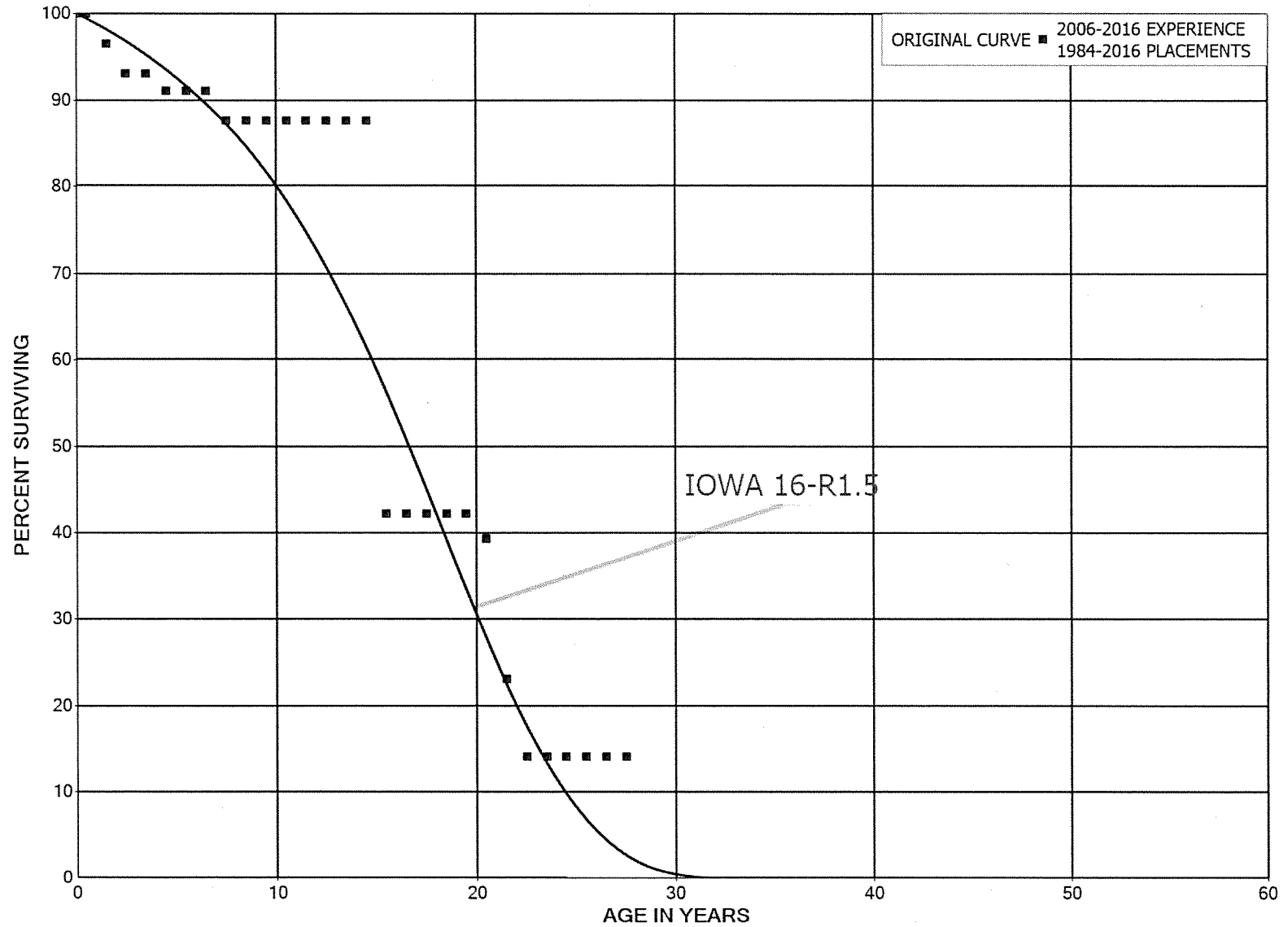
MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.10 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2016			EXPERIENCE BAND 2011-2016		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,132,621		0.0000	1.0000	100.00
0.5	4,590,861	24,638	0.0054	0.9946	100.00
1.5	4,432,128		0.0000	1.0000	99.46
2.5	3,685,865	26,249	0.0071	0.9929	99.46
3.5	4,089,633	70,628	0.0173	0.9827	98.75
4.5	3,361,414	304,811	0.0907	0.9093	97.05
5.5	2,727,753	428,327	0.1570	0.8430	88.25
6.5	1,814,480	622,074	0.3428	0.6572	74.39
7.5	1,033,044	747,140	0.7232	0.2768	48.89
8.5	561,224	271,502	0.4838	0.5162	13.53
9.5	315,271	227,060	0.7202	0.2798	6.98
10.5	93,893	78,552	0.8366	0.1634	1.95
11.5	15,341	5,682	0.3704	0.6296	0.32
12.5	9,659		0.0000	1.0000	0.20
13.5	9,659	9,659	1.0000		0.20
14.5					

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 392.20 TRANSPORTATION EQUIPMENT - TRAILERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.20 TRANSPORTATION EQUIPMENT - TRAILERS

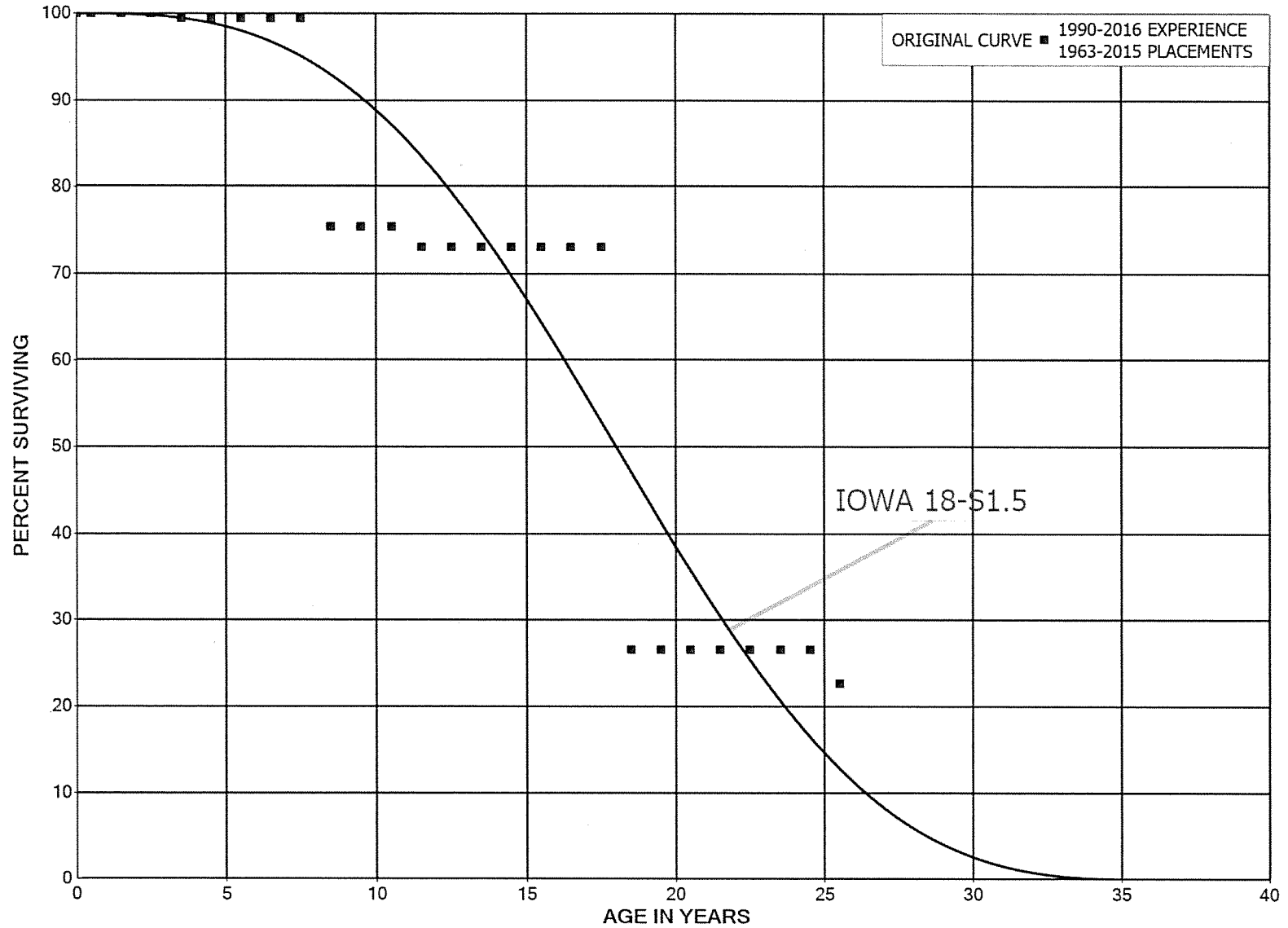
ORIGINAL LIFE TABLE

PLACEMENT BAND 1984-2016

EXPERIENCE BAND 2006-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	87,516		0.0000	1.0000	100.00
0.5	85,588	2,984	0.0349	0.9651	100.00
1.5	65,039	2,358	0.0362	0.9638	96.51
2.5	57,652		0.0000	1.0000	93.01
3.5	57,652	1,212	0.0210	0.9790	93.01
4.5	54,856		0.0000	1.0000	91.06
5.5	40,992		0.0000	1.0000	91.06
6.5	38,082	1,460	0.0383	0.9617	91.06
7.5	36,622		0.0000	1.0000	87.57
8.5	36,622		0.0000	1.0000	87.57
9.5	41,271		0.0000	1.0000	87.57
10.5	16,465		0.0000	1.0000	87.57
11.5	16,465		0.0000	1.0000	87.57
12.5	13,017		0.0000	1.0000	87.57
13.5	13,017		0.0000	1.0000	87.57
14.5	19,818	10,267	0.5181	0.4819	87.57
15.5	16,218		0.0000	1.0000	42.20
16.5	18,117		0.0000	1.0000	42.20
17.5	19,116		0.0000	1.0000	42.20
18.5	19,116		0.0000	1.0000	42.20
19.5	19,116	1,325	0.0693	0.9307	42.20
20.5	17,791	7,352	0.4132	0.5868	39.28
21.5	10,439	4,079	0.3908	0.6092	23.05
22.5	6,828		0.0000	1.0000	14.04
23.5	6,828		0.0000	1.0000	14.04
24.5	4,107		0.0000	1.0000	14.04
25.5	1,467		0.0000	1.0000	14.04
26.5	1,467		0.0000	1.0000	14.04
27.5	468		0.0000	1.0000	14.04
28.5	468		0.0000	1.0000	14.04
29.5	468		0.0000	1.0000	14.04
30.5	468		0.0000	1.0000	14.04
31.5	468		0.0000	1.0000	14.04
32.5					14.04

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 396.00 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 396.00 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1963-2015

EXPERIENCE BAND 1990-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	522,170		0.0000	1.0000	100.00
0.5	522,170		0.0000	1.0000	100.00
1.5	515,831		0.0000	1.0000	100.00
2.5	482,780	3,011	0.0062	0.9938	100.00
3.5	421,537		0.0000	1.0000	99.38
4.5	364,391		0.0000	1.0000	99.38
5.5	302,131		0.0000	1.0000	99.38
6.5	215,064		0.0000	1.0000	99.38
7.5	165,672	40,008	0.2415	0.7585	99.38
8.5	125,664		0.0000	1.0000	75.38
9.5	121,140		0.0000	1.0000	75.38
10.5	135,835	4,243	0.0312	0.9688	75.38
11.5	124,375		0.0000	1.0000	73.02
12.5	49,833		0.0000	1.0000	73.02
13.5	55,934		0.0000	1.0000	73.02
14.5	53,058		0.0000	1.0000	73.02
15.5	53,058		0.0000	1.0000	73.02
16.5	61,026		0.0000	1.0000	73.02
17.5	78,521	50,019	0.6370	0.3630	73.02
18.5	28,502		0.0000	1.0000	26.51
19.5	28,502		0.0000	1.0000	26.51
20.5	24,058		0.0000	1.0000	26.51
21.5	24,058		0.0000	1.0000	26.51
22.5	24,058		0.0000	1.0000	26.51
23.5	24,058		0.0000	1.0000	26.51
24.5	24,058	3,580	0.1488	0.8512	26.51
25.5					22.56
26.5	116,279		0.0000		
27.5	116,279		0.0000		
28.5	116,279		0.0000		
29.5	116,279		0.0000		
30.5	116,279		0.0000		
31.5	116,279		0.0000		
32.5	116,279		0.0000		
33.5	116,279		0.0000		
34.5	116,279		0.0000		
35.5	116,279		0.0000		
36.5	116,279	28,295	0.2433		
37.5	87,984		0.0000		
38.5	93,522		0.0000		

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 396.00 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1963-2015

EXPERIENCE BAND 1990-2016

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	93,522	85,459	0.9138		
40.5	6,956		0.0000		
41.5	6,956	1,418	0.2038		
42.5	5,538		0.0000		
43.5	5,538		0.0000		
44.5	5,538		0.0000		
45.5	5,538		0.0000		
46.5	5,538		0.0000		
47.5	5,538		0.0000		
48.5	5,538		0.0000		
49.5	5,538		0.0000		
50.5	5,538		0.0000		
51.5	5,538		0.0000		
52.5	5,538		0.0000		
53.5					

PART VIII. NET SALVAGE STATISTICS

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 367.10 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1993	1,595	21	1		0	21-	1-
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005		59				59-	
2006		173				173-	
2007							
2008							
2009							
2010							
2011	192,588		0		0		0
2012	165,014	1,774	1		0	1,774-	1-
2013							
2014	1,765	1,579	89		0	1,579-	89-
2015	137	14,662			0	14,662-	
2016	1,345,925	34,308	3		0	34,308-	3-
TOTAL	1,707,024	52,576	3		0	52,576-	3-

THREE-YEAR MOVING AVERAGES

93-95	532	7	1		0	7-	1-
94-96							
95-97							
96-98							
97-99							
98-00							
99-01							
00-02							
01-03							
02-04							
03-05		20				20-	
04-06		77				77-	
05-07		77				77-	
06-08		58				58-	

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 367.10 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
07-09							
08-10							
09-11	64,196		0		0		0
10-12	119,201	591	0		0	591-	0
11-13	119,201	591	0		0	591-	0
12-14	55,593	1,118	2		0	1,118-	2-
13-15	634	5,414	854		0	5,414-	854-
14-16	449,276	16,850	4		0	16,850-	4-
FIVE-YEAR AVERAGE							
12-16	302,568	10,465	3		0	10,465-	3-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1994	17,170	410	2		0	410-	2-
1995							
1996							
1997	2,431	1,105	45		0	1,105-	45-
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011	10,000		0		0		0
2012	3,000		0		0		0
2013							
2014	128,748	51,425	40		0	51,425-	40-
2015	116,599	16,256	14		0	16,256-	14-
2016	51,214	32,522	64		0	32,522-	64-
TOTAL	329,162	101,718	31		0	101,718-	31-

THREE-YEAR MOVING AVERAGES

94-96	5,723	137	2		0	137-	2-
95-97	810	368	45		0	368-	45-
96-98	810	368	45		0	368-	45-
97-99	810	368	45		0	368-	45-
98-00							
99-01							
00-02							
01-03							
02-04							
03-05							
04-06							
05-07							
06-08							
07-09							
08-10							

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
09-11	3,333		0		0		0
10-12	4,333		0		0		0
11-13	4,333		0		0		0
12-14	43,916	17,142	39		0	17,142-	39-
13-15	81,782	22,560	28		0	22,560-	28-
14-16	98,854	33,401	34		0	33,401-	34-
FIVE-YEAR AVERAGE							
12-16	59,912	20,041	33		0	20,041-	33-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	2,985	5,453	183		0	5,453-	183-
1991							
1992	75,586		0	55,151	73	55,151	73
1993	156	49	31		0	49-	31-
1994							
1995	649,017		0	615,620	95	615,620	95
1996							
1997	43,396	6,000	14		0	6,000-	14-
1998	10,191	52	1		0	52-	1-
1999							
2000							
2001							
2002							
2003							
2004							
2005	11,800	9,943	84	735	6	9,208-	78-
2006							
2007	3,730		0	1,500	40	1,500	40
2008							
2009							
2010							
2011							
2012	691	100	14		0	100-	14-
2013							
2014	12,774		0		0		0
2015	5,668	260	5		0	260-	5-
2016	23,113	5,302	23		0	5,302-	23-
TOTAL	839,107	27,159	3	673,006	80	645,847	77

THREE-YEAR MOVING AVERAGES

90-92	26,190	1,818	7	18,384	70	16,566	63
91-93	25,247	16	0	18,384	73	18,367	73
92-94	25,247	16	0	18,384	73	18,367	73
93-95	216,391	16	0	205,207	95	205,190	95
94-96	216,339		0	205,207	95	205,207	95
95-97	230,804	2,000	1	205,207	89	203,207	88
96-98	17,862	2,017	11		0	2,017-	11-
97-99	17,862	2,017	11		0	2,017-	11-
98-00	3,397	17	1		0	17-	1-
99-01							
00-02							

MINNESOTA ENERGY RESOURCES CORPORATION
ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03							
02-04							
03-05	3,933	3,314	84	245	6	3,069-	78-
04-06	3,933	3,314	84	245	6	3,069-	78-
05-07	5,177	3,314	64	745	14	2,569-	50-
06-08	1,243		0	500	40	500	40
07-09	1,243		0	500	40	500	40
08-10							
09-11							
10-12	230	33	14		0	33-	14-
11-13	230	33	14		0	33-	14-
12-14	4,488	33	1		0	33-	1-
13-15	6,147	87	1		0	87-	1-
14-16	13,852	1,854	13		0	1,854-	13-
FIVE-YEAR AVERAGE							
12-16	8,449	1,132	13		0	1,132-	13-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 376.00 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	77,001	20,210	26		0	20,210-	26-
1991	259,025	8,755	3		0	8,755-	3-
1992	136,487	66,313	49		0	66,313-	49-
1993	174,163	86,262	50		0	86,262-	50-
1994	187,554	66,992	36		0	66,992-	36-
1995	46,181	29,500	64		0	29,500-	64-
1996	45,740	40,117	88		0	40,117-	88-
1997	172,841	104,737	61		0	104,737-	61-
1998	235,157	44,426	19		0	44,426-	19-
1999	74,549	98,605	132		0	98,605-	132-
2000	96,889	65,006	67	537	1	64,469-	67-
2001	145,011	33,231	23		0	33,231-	23-
2002	65,570	39,614	60		0	39,614-	60-
2003	104,729	50,252	48		0	50,252-	48-
2004	490,665	208,615	43		0	208,615-	43-
2005	57,420	34,448	60		0	34,448-	60-
2006	228,858	74,069	32		0	74,069-	32-
2007	707,896	91,528	13		0	91,528-	13-
2008	1,358,819	35,202	3		0	35,202-	3-
2009	684,673	50,133	7	223	0	49,910-	7-
2010	313,067	72,905	23		0	72,905-	23-
2011	231,397	90,215	39		0	90,215-	39-
2012	599,898	79,169	13	4,980-	1-	84,149-	14-
2013	583,221	186,278	32	602-	0	186,880-	32-
2014	642,432	95,943	15		0	95,943-	15-
2015	1,149,650	118,376	10		0	118,376-	10-
2016	985,189	70,989	7	1,341	0	69,648-	7-
TOTAL	9,854,082	1,961,890	20	3,480-	0	1,965,371-	20-

THREE-YEAR MOVING AVERAGES

90-92	157,504	31,759	20		0	31,759-	20-
91-93	189,892	53,777	28		0	53,777-	28-
92-94	166,068	73,189	44		0	73,189-	44-
93-95	135,966	60,918	45		0	60,918-	45-
94-96	93,158	45,536	49		0	45,536-	49-
95-97	88,254	58,118	66		0	58,118-	66-
96-98	151,246	63,093	42		0	63,093-	42-
97-99	160,849	82,589	51		0	82,589-	51-
98-00	135,532	69,346	51	179	0	69,167-	51-
99-01	105,483	65,614	62	179	0	65,435-	62-
00-02	102,490	45,950	45	179	0	45,771-	45-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 376.00 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	105,103	41,032	39		0	41,032-	39-
02-04	220,321	99,494	45		0	99,494-	45-
03-05	217,605	97,772	45		0	97,772-	45-
04-06	258,981	105,711	41		0	105,711-	41-
05-07	331,391	66,682	20		0	66,682-	20-
06-08	765,191	66,933	9		0	66,933-	9-
07-09	917,129	58,954	6	74	0	58,880-	6-
08-10	785,520	52,747	7	74	0	52,672-	7-
09-11	409,712	71,084	17	74	0	71,010-	17-
10-12	381,454	80,763	21	1,660-	0	82,423-	22-
11-13	471,505	118,554	25	1,861-	0	120,415-	26-
12-14	608,517	120,463	20	1,861-	0	122,324-	20-
13-15	791,768	133,532	17	201-	0	133,733-	17-
14-16	925,757	95,103	10	447	0	94,656-	10-
FIVE-YEAR AVERAGE							
12-16	792,078	110,151	14	848-	0	110,999-	14-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	8,028	6,401	80		0	6,401-	80-
1991	16,928		0	5,279	31	5,279	31
1992	22,706	4,452	20		0	4,452-	20-
1993	11,018		0	1,671	15	1,671	15
1994	54,831		0	2,590	5	2,590	5
1995	6,906	2,545	37		0	2,545-	37-
1996	14,252	4,712	33		0	4,712-	33-
1997	37,764		0	2,204	6	2,204	6
1998	309	2,104	681		0	2,104-	681-
1999	49,230	10,621	22		0	10,621-	22-
2000	1,605	1,472	92	1,235	77	237-	15-
2001	5,545	39,923	720		0	39,923-	720-
2002	429		0		0		0
2003							
2004	204	98	48		0	98-	48-
2005	1,570	1,323	84	98	6	1,225-	78-
2006	4,147	1,307	32		0	1,307-	32-
2007							
2008	98,884	23,203	23		0	23,203-	23-
2009	20,142		0		0		0
2010	40,084		0		0		0
2011	392,602	15,958	4		0	15,958-	4-
2012	200,841	23,316	12		0	23,316-	12-
2013	346,281	16,916	5		0	16,916-	5-
2014	249,641	37,881	15		0	37,881-	15-
2015	396,392	31,486	8		0	31,486-	8-
2016	318,764	124,337	39		0	124,337-	39-
TOTAL	2,299,103	348,055	15	13,077	1	334,978-	15-

THREE-YEAR MOVING AVERAGES

90-92	15,887	3,618	23	1,760	11	1,858-	12-
91-93	16,884	1,484	9	2,317	14	833	5
92-94	29,518	1,484	5	1,420	5	64-	0
93-95	24,252	848	3	1,420	6	572	2
94-96	25,330	2,419	10	863	3	1,556-	6-
95-97	19,641	2,419	12	735	4	1,684-	9-
96-98	17,442	2,272	13	735	4	1,537-	9-
97-99	29,101	4,242	15	735	3	3,507-	12-
98-00	17,048	4,732	28	412	2	4,321-	25-
99-01	18,793	17,339	92	412	2	16,927-	90-
00-02	2,526	13,798	546	412	16	13,387-	530-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	1,991	13,308	668		0	13,308-	668-
02-04	211	33	16		0	33-	16-
03-05	591	474	80	33	6	441-	75-
04-06	1,974	909	46	33	2	877-	44-
05-07	1,906	876	46	33	2	844-	44-
06-08	34,344	8,170	24		0	8,170-	24-
07-09	39,675	7,734	19		0	7,734-	19-
08-10	53,037	7,734	15		0	7,734-	15-
09-11	150,943	5,319	4		0	5,319-	4-
10-12	211,176	13,091	6		0	13,091-	6-
11-13	313,241	18,730	6		0	18,730-	6-
12-14	265,588	26,038	10		0	26,038-	10-
13-15	330,771	28,761	9		0	28,761-	9-
14-16	321,599	64,568	20		0	64,568-	20-
FIVE-YEAR AVERAGE							
12-16	302,384	46,787	15		0	46,787-	15-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1993	18,270	2,760	15		0	2,760-	15-
1994	24,631	6,577	27		0	6,577-	27-
1995							
1996							
1997							
1998							
1999							
2000							
2001	46	30,198			0	30,198-	
2002	227	5,131			0	5,131-	
2003							
2004							
2005							
2006	13,622		0		0		0
2007							
2008	25,271	4,222	17		0	4,222-	17-
2009	2,922		0		0		0
2010	28,317		0		0		0
2011	48,753	27,632	57		0	27,632-	57-
2012	239,612	209,429	87		0	209,429-	87-
2013	85,061	53,262	63		0	53,262-	63-
2014	41,060	22,427	55		0	22,427-	55-
2015	2,531	505	20		0	505-	20-
2016	21,667	30,145	139		0	30,145-	139-
TOTAL	551,990	392,289	71		0	392,289-	71-

THREE-YEAR MOVING AVERAGES

93-95	14,300	3,112	22		0	3,112-	22-
94-96	8,210	2,192	27		0	2,192-	27-
95-97							
96-98							
97-99							
98-00							
99-01	15	10,066			0	10,066-	
00-02	91	11,776			0	11,776-	
01-03	91	11,776			0	11,776-	
02-04	76	1,710			0	1,710-	
03-05							
04-06	4,541		0		0		0
05-07	4,541		0		0		0
06-08	12,964	1,407	11		0	1,407-	11-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
07-09	9,398	1,407	15		0	1,407-	15-
08-10	18,837	1,407	7		0	1,407-	7-
09-11	26,664	9,211	35		0	9,211-	35-
10-12	105,561	79,020	75		0	79,020-	75-
11-13	124,475	96,774	78		0	96,774-	78-
12-14	121,911	95,039	78		0	95,039-	78-
13-15	42,884	25,398	59		0	25,398-	59-
14-16	21,753	17,693	81		0	17,693-	81-
FIVE-YEAR AVERAGE							
12-16	77,986	63,154	81		0	63,154-	81-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	202,350	77,330	38		0	77,330-	38-
1991	151,859	58,815	39		0	58,815-	39-
1992	193,180	63,831	33		0	63,831-	33-
1993	199,279	193,046	97		0	193,046-	97-
1994	241,845	180,455	75		0	180,455-	75-
1995	107,066	72,668	68	34	0	72,634-	68-
1996	115,173	79,455	69	5	0	79,450-	69-
1997	300,694	312,005	104	7	0	311,998-	104-
1998	169,205	86,680	51	929	1	85,751-	51-
1999	201,513	354,724	176		0	354,724-	176-
2000	45,442	184,632	406		0	184,632-	406-
2001	138,217	111,934	81		0	111,934-	81-
2002	87,965	105,491	120		0	105,491-	120-
2003	267,013	148,048	55		0	148,048-	55-
2004	195,865	121,457	62		0	121,457-	62-
2005	404,178	321,748	80	20,336	5	301,412-	75-
2006	149,211	241,314	162	167	0	241,147-	162-
2007	939,622	105,680	11	78	0	105,602-	11-
2008	487,313	125,938	26		0	125,938-	26-
2009	426,480	135,105	32		0	135,105-	32-
2010	594,371	154,004	26		0	154,004-	26-
2011	654,588	187,728	29		0	187,728-	29-
2012	703,452	219,103	31	4,464	1	214,638-	31-
2013	604,513	150,049	25	2	0	150,047-	25-
2014	659,505	183,254	28	719	0	182,535-	28-
2015	323,340-	359,334	111-	511-	0	359,845-	111
2016	1,083,134	382,945	35		0	382,945-	35-
TOTAL	8,999,693	4,716,774	52	26,230	0	4,690,545-	52-

THREE-YEAR MOVING AVERAGES

90-92	182,463	66,659	37		0	66,659-	37-
91-93	181,439	105,231	58		0	105,231-	58-
92-94	211,435	145,777	69		0	145,777-	69-
93-95	182,730	148,723	81	11	0	148,712-	81-
94-96	154,695	110,859	72	13	0	110,846-	72-
95-97	174,311	154,709	89	15	0	154,694-	89-
96-98	195,024	159,380	82	314	0	159,066-	82-
97-99	223,804	251,136	112	312	0	250,824-	112-
98-00	138,720	208,679	150	310	0	208,369-	150-
99-01	128,391	217,097	169		0	217,097-	169-
00-02	90,541	134,019	148		0	134,019-	148-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	164,398	121,824	74		0	121,824-	74-
02-04	183,614	124,999	68		0	124,999-	68-
03-05	289,019	197,084	68	6,779	2	190,306-	66-
04-06	249,751	228,173	91	6,834	3	221,339-	89-
05-07	497,670	222,914	45	6,860	1	216,054-	43-
06-08	525,382	157,644	30	82	0	157,562-	30-
07-09	617,805	122,241	20	26	0	122,215-	20-
08-10	502,721	138,349	28		0	138,349-	28-
09-11	558,480	158,946	28		0	158,946-	28-
10-12	650,804	186,945	29	1,488	0	185,457-	28-
11-13	654,184	185,626	28	1,489	0	184,138-	28-
12-14	655,823	184,135	28	1,728	0	182,407-	28-
13-15	313,559	230,879	74	70	0	230,809-	74-
14-16	473,100	308,511	65	69	0	308,442-	65-
FIVE-YEAR AVERAGE							
12-16	545,453	258,937	47	935	0	258,002-	47-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1993	1,450		0		0		0
1994	6,613		0		0		0
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							
2003							
2004	307,463		0		0		0
2005	329,096		0		0		0
2006	66,767		0		0		0
2007	65,590		0	512	1	512	1
2008	517,282	1,860	0	43	0	1,817-	0
2009	300,799	652	0	25	0	627-	0
2010	408,257	810	0		0	810-	0
2011	593,690	13,765	2		0	13,765-	2-
2012	403,488	3,926	1		0	3,926-	1-
2013	534,401	3,387	1		0	3,387-	1-
2014	328,649	1,476	0	565	0	912-	0
2015	245,394	8,911	4	764	0	8,147-	3-
2016	878,254	5,221	1	28,910	3	23,688	3
TOTAL	4,987,193	40,008	1	30,818	1	9,191-	0

THREE-YEAR MOVING AVERAGES

93-95	2,688		0		0		0
94-96	2,204		0		0		0
95-97							
96-98							
97-99							
98-00							
99-01							
00-02							
01-03							
02-04	102,488		0		0		0
03-05	212,186		0		0		0
04-06	234,442		0		0		0
05-07	153,818		0	171	0	171	0
06-08	216,546	620	0	185	0	435-	0

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE		
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT	
THREE-YEAR MOVING AVERAGES								
07-09	294,557	837	0	193	0	644-	0	
08-10	408,779	1,107	0	23	0	1,085-	0	
09-11	434,249	5,076	1	8	0	5,067-	1-	
10-12	468,478	6,167	1		0	6,167-	1-	
11-13	510,526	7,026	1		0	7,026-	1-	
12-14	422,179	2,930	1	188	0	2,742-	1-	
13-15	369,481	4,591	1	443	0	4,149-	1-	
14-16	484,099	5,203	1	10,079	2	4,876	1	
FIVE-YEAR AVERAGE								
12-16	478,037	4,584	1	6,048	1	1,463	0	

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	16,968		0	1,156	7	1,156	7
1991	28,420		0	1,372	5	1,372	5
1992	41,065	1,822	4		0	1,822-	4-
1993	47,583	6,452	14		0	6,452-	14-
1994	44,343	7,594	17		0	7,594-	17-
1995	27,558	4,393	16	3,283	12	1,110-	4-
1996	20,401	4,469	22	456	2	4,013-	20-
1997	29,150	8,765	30	594	2	8,171-	28-
1998	4,004	513	13		0	513-	13-
1999	5,635	10,148	180		0	10,148-	180-
2000	2,715	466	17		0	466-	17-
2001	44,112	56,393	128		0	56,393-	128-
2002	36,533	53,336	146		0	53,336-	146-
2003	46,590	125,538	269		0	125,538-	269-
2004	31,524	18,897	60		0	18,897-	60-
2005	63,769	50,098	79	3,038	5	47,060-	74-
2006	32,059	9,025	28		0	9,025-	28-
2007	49,974		0	312	1	312	1
2008	32,503	166	1	88	0	78-	0
2009	38,761	1,057	3	170	0	887-	2-
2010	68,896	637	1		0	637-	1-
2011	57,941	3,672	6		0	3,672-	6-
2012	70,360	3,095	4		0	3,095-	4-
2013	23,065	890	4		0	890-	4-
2014	46,939	1,449	3	25	0	1,424-	3-
2015	33,572	9,251	28	436	1	8,815-	26-
2016	50,863	3,426	7	4,738	9	1,312	3
TOTAL	995,303	381,552	38	15,668	2	365,884-	37-

THREE-YEAR MOVING AVERAGES

90-92	28,818	607	2	843	3	235	1
91-93	39,023	2,758	7	457	1	2,301-	6-
92-94	44,330	5,289	12		0	5,289-	12-
93-95	39,828	6,146	15	1,094	3	5,052-	13-
94-96	30,767	5,485	18	1,246	4	4,239-	14-
95-97	25,703	5,876	23	1,444	6	4,431-	17-
96-98	17,852	4,582	26	350	2	4,232-	24-
97-99	12,930	6,475	50	198	2	6,277-	49-
98-00	4,118	3,709	90		0	3,709-	90-
99-01	17,487	22,336	128		0	22,336-	128-
00-02	27,787	36,732	132		0	36,732-	132-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	42,412	78,422	185		0	78,422-	185-
02-04	38,216	65,924	173		0	65,924-	173-
03-05	47,294	64,844	137	1,013	2	63,832-	135-
04-06	42,451	26,006	61	1,013	2	24,994-	59-
05-07	48,601	19,707	41	1,117	2	18,591-	38-
06-08	38,179	3,064	8	133	0	2,930-	8-
07-09	40,413	408	1	190	0	218-	1-
08-10	46,720	620	1	86	0	534-	1-
09-11	55,199	1,789	3	57	0	1,732-	3-
10-12	65,732	2,468	4		0	2,468-	4-
11-13	50,455	2,552	5		0	2,552-	5-
12-14	46,788	1,811	4	8	0	1,803-	4-
13-15	34,525	3,864	11	154	0	3,710-	11-
14-16	43,791	4,709	11	1,733	4	2,976-	7-
FIVE-YEAR AVERAGE							
12-16	44,960	3,622	8	1,040	2	2,582-	6-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	28,054		0	2,004	7	2,004	7
1991	36,306		0	3,783	10	3,783	10
1992	50,359		0	12,911	26	12,911	26
1993	18,929	576	3		0	576-	3-
1994	56,078	535	1	11,677	21	11,142	20
1995	21,898		0	4,007	18	4,007	18
1996	2,913	1,794	62		0	1,794-	62-
1997	23,117	2,502	11		0	2,502-	11-
1998	13,742		0	1,931	14	1,931	14
1999	1,517		0		0		0
2000	13,838	3,812	28	14,093	102	10,281	74
2001	481	146	30		0	146-	30-
2002							
2003							
2004	64,380	34,746	54		0	34,746-	54-
2005	109,042	87,110	80	5,565	5	81,545-	75-
2006							
2007							
2008	6,162		0		0		0
2009							
2010							
2011	52,296		0		0		0
2012							
2013							
2014							
2015	29,360	5,416	18		0	5,416-	18-
2016							
TOTAL	528,472	136,636	26	55,971	11	80,665-	15-

THREE-YEAR MOVING AVERAGES

90-92	38,240		0	6,233	16	6,233	16
91-93	35,198	192	1	5,565	16	5,373	15
92-94	41,789	370	1	8,196	20	7,826	19
93-95	32,302	370	1	5,228	16	4,858	15
94-96	26,963	776	3	5,228	19	4,452	17
95-97	15,976	1,432	9	1,336	8	96-	1-
96-98	13,257	1,432	11	644	5	788-	6-
97-99	12,792	834	7	644	5	190-	1-
98-00	9,699	1,271	13	5,341	55	4,071	42
99-01	5,279	1,319	25	4,698	89	3,378	64
00-02	4,773	1,319	28	4,698	98	3,378	71

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	160	49	30		0	49-	30-
02-04	21,460	11,582	54		0	11,582-	54-
03-05	57,807	40,618	70	1,855	3	38,763-	67-
04-06	57,807	40,618	70	1,855	3	38,763-	67-
05-07	36,347	29,037	80	1,855	5	27,182-	75-
06-08	2,054		0		0		0
07-09	2,054		0		0		0
08-10	2,054		0		0		0
09-11	17,432		0		0		0
10-12	17,432		0		0		0
11-13	17,432		0		0		0
12-14							
13-15	9,787	1,805	18		0	1,805-	18-
14-16	9,787	1,805	18		0	1,805-	18-
FIVE-YEAR AVERAGE							
12-16	5,872	1,083	18		0	1,083-	18-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1993	3,750		0		0		0
1994							
1995							
1996							
1997							
1998	7,254	170	2		0	170-	2-
1999	395,849		0	175-	0	175-	0
2000	3,935	4,336	110	410,990		406,654	
2001							
2002	8,028		0		0		0
2003	626		0		0		0
2004	54,807		0		0		0
2005	352		0		0		0
2006	85,692	6,309	7		0	6,309-	7-
2007							
2008							
2009	10,191		0		0		0
2010							
2011	78,059		0		0		0
2012	41,668	32,459	78		0	32,459-	78-
2013	53,683	26,292	49	38	0	26,254-	49-
2014	166,559	95,216	57	9,178	6	86,038-	52-
2015	90,705	11,786	13		0	11,786-	13-
2016	51,366	42,473	83		0	42,473-	83-
TOTAL	1,052,524	219,041	21	420,031	40	200,990	19

THREE-YEAR MOVING AVERAGES

93-95	1,250		0		0		0
94-96							
95-97							
96-98	2,418	57	2		0	57-	2-
97-99	134,368	57	0	58-	0	115-	0
98-00	135,679	1,502	1	136,938	101	135,436	100
99-01	133,261	1,445	1	136,938	103	135,493	102
00-02	3,988	1,445	36	136,997		135,551	
01-03	2,885		0		0		0
02-04	21,154		0		0		0
03-05	18,595		0		0		0
04-06	46,950	2,103	4		0	2,103-	4-
05-07	28,681	2,103	7		0	2,103-	7-
06-08	28,564	2,103	7		0	2,103-	7-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
07-09	3,397		0		0		0
08-10	3,397		0		0		0
09-11	29,417		0		0		0
10-12	39,909	10,820	27		0	10,820-	27-
11-13	57,803	19,584	34	13	0	19,571-	34-
12-14	87,303	51,322	59	3,072	4	48,250-	55-
13-15	103,649	44,431	43	3,072	3	41,359-	40-
14-16	102,877	49,825	48	3,059	3	46,766-	45-
FIVE-YEAR AVERAGE							
12-16	80,796	41,645	52	1,843	2	39,802-	49-

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.10 TRANSPORTATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2006	6,627		0	7,867	119	7,867	119
2007	387,302		0	192,754	50	192,754	50
2008	112,112		0	23,934	21	23,934	21
2009	213,391		0	47,059	22	47,059	22
2010	291,561		0	67,197	23	67,197	23
2011	227,492	80	0	35,156	15	35,076	15
2012	494,411		0	129,072	26	129,072	26
2013	514,157		0	90,970	18	90,970	18
2014	319,717	287	0	65,035	20	64,748	20
2015	634,015	756	0	84,070	13	83,314	13
2016	626,532	289	0	92,404	15	92,115	15
TOTAL	3,827,317	1,413	0	835,519	22	834,106	22

THREE-YEAR MOVING AVERAGES

06-08	168,680		0	74,852	44	74,852	44
07-09	237,602		0	87,916	37	87,916	37
08-10	205,688		0	46,063	22	46,063	22
09-11	244,148	27	0	49,804	20	49,777	20
10-12	337,821	27	0	77,142	23	77,115	23
11-13	412,020	27	0	85,066	21	85,039	21
12-14	442,762	96	0	95,026	21	94,930	21
13-15	489,296	348	0	80,025	16	79,677	16
14-16	526,755	444	0	80,503	15	80,059	15

FIVE-YEAR AVERAGE

12-16	517,766	267	0	92,310	18	92,044	18
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MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.20 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
2007	2,984		0	1,482	50	1,482	50
2008	2,358		0		0		0
2009				459		459	
2010	1,212		0	178	15	178	15
2011	3,324		0	1,230	37	1,230	37
2012	8,676		0	313	4	313	4
2013	1,460		0		0		0
2014	5,404		0	1,162	21	1,162	21
2015	5,618	11	0	1,201	21	1,190	21
2016							
TOTAL	31,036	11	0	6,025	19	6,014	19

THREE-YEAR MOVING AVERAGES

07-09	1,781		0	647	36	647	36
08-10	1,190		0	212	18	212	18
09-11	1,512		0	622	41	622	41
10-12	4,404		0	574	13	574	13
11-13	4,487		0	514	11	514	11
12-14	5,180		0	492	9	492	9
13-15	4,161	4	0	788	19	784	19
14-16	3,674	4	0	788	21	784	21

FIVE-YEAR AVERAGE

12-16	4,232	2	0	535	13	533	13
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MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 396.00 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
1990	17,495		0	7,250	41	7,250	41
1991	7,968		0	3,100	39	3,100	39
1992							
1993	1,772		0		0		0
1994	6,101		0	3,200	52	3,200	52
1995	591		0		0		0
1996							
1997							
1998							
1999							
2000	62,327		0		0		0
2001	782		0	279	36	279	36
2002							
2003	85,459		0		0		0
2004	5,194		0	500	10	500	10
2005	1,418		0		0		0
2006							
2007	7,254		0		0		0
2008							
2009	12,152	135	1	2,132	18	1,997	16
2010	3,939		0	750	19	750	19
2011							
2012		330		883		553	
2013							
2014							
2015							
2016	3,580	2	0	1,165	33	1,163	32
TOTAL	216,032	467	0	19,259	9	18,792	9

THREE-YEAR MOVING AVERAGES

90-92	8,488		0	3,450	41	3,450	41
91-93	3,247		0	1,033	32	1,033	32
92-94	2,624		0	1,067	41	1,067	41
93-95	2,821		0	1,067	38	1,067	38
94-96	2,231		0	1,067	48	1,067	48
95-97	197		0		0		0
96-98							
97-99							
98-00	20,776		0		0		0
99-01	21,036		0	93	0	93	0
00-02	21,036		0	93	0	93	0

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 396.00 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL		GROSS SALVAGE		NET SALVAGE	
		AMOUNT	PCT	AMOUNT	PCT	AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
01-03	28,747		0	93	0	93	0
02-04	30,218		0	167	1	167	1
03-05	30,690		0	167	1	167	1
04-06	2,204		0	167	8	167	8
05-07	2,891		0		0		0
06-08	2,418		0		0		0
07-09	6,469	45	1	711	11	666	10
08-10	5,364	45	1	961	18	916	17
09-11	5,364	45	1	961	18	916	17
10-12	1,313	110	8	544	41	434	33
11-13		110		294		184	
12-14		110		294		184	
13-15							
14-16	1,193	1	0	388	33	388	32
FIVE-YEAR AVERAGE							
12-16	716	66	9	410	57	343	48

**PART IX. DETAILED DEPRECIATION
CALCULATIONS**

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 367.10 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2						
NET SALVAGE PERCENT.. -30						
1965	40,049.62	31,856	42,580	9,485	25.23	376
1966	8,413.56	6,591	8,810	2,128	25.83	82
1991	939,047.48	406,978	543,979	676,783	43.33	15,619
1992	1,223,721.75	511,025	683,051	907,787	44.12	20,575
1994	1,135.00	438	585	890	45.71	19
1998	1,036,168.34	332,404	444,301	902,718	48.96	18,438
1999	3,469,094.89	1,055,975	1,411,446	3,098,377	49.78	62,241
2000	844,537.67	243,053	324,872	773,027	50.61	15,274
2002	16.92	4	5	17	52.29	
2003	569,223.54	135,137	180,628	559,363	53.13	10,528
2005	495,464.19	100,680	134,572	509,531	54.84	9,291
2010	308,032.34	35,792	47,841	352,601	59.19	5,957
2012	119,761.95	9,676	12,933	142,758	60.96	2,342
2013	43,727.23	2,755	3,682	53,163	61.85	860
2014	468,906.36	21,104	28,208	581,370	62.75	9,265
2015	7,050.06	192	257	8,908	63.64	140
	9,574,350.90	2,893,660	3,867,750	8,578,906		171,007
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						50.2 1.79

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 369.30 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-S2						
NET SALVAGE PERCENT.. -30						
1951	453.29	589	589			
1952	1,673.37	2,175	2,175			
1971	12,046.02	14,136	2,629-	18,289	2.92	6,263
1975	713.92	807	150-	1,078	3.91	276
1976	183.46	205	38-	276	4.18	66
1977	958.96	1,062	198-	1,445	4.45	325
1978	111.64	122	23-	168	4.73	36
1979	64,259.98	69,531	12,931-	96,469	5.03	19,179
1982	15,000.00	15,620	2,905-	22,405	5.97	3,753
1983	15,000.00	15,399	2,864-	22,364	6.31	3,544
1993	28,280.78	23,799	4,426-	41,191	10.58	3,893
1997	11,384.90	8,441	1,570-	16,370	12.89	1,270
2006	15,740.26	6,964	1,295-	21,757	19.79	1,099
2007	5,086.30	2,050	381-	6,993	20.70	338
2011	66,499.17	15,792	2,937-	89,386	24.52	3,645
2012	240,933.15	46,879	8,719-	321,932	25.51	12,620
2013	107,575.32	16,316	3,034-	142,882	26.50	5,392
2014	75,561.62	8,186	1,523-	99,753	27.50	3,627
2015	167,541.00	10,890	2,025-	219,828	28.50	7,713
	829,003.14	258,963	44,884-	1,122,588		73,039

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.4 8.81

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 374.10 LAND AND LAND RIGHTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	596,817.87	250,664	243,368	353,450	14.50	24,376
	596,817.87	250,664	243,368	353,450		24,376
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5						4.08

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 375.00 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S2						
NET SALVAGE PERCENT.. -10						
1932	15,520.12	17,072	17,072			
1933	480.97	529	529			
1936	886.59	975	975			
1939	365.65	402	402			
1944	677.83	746	746			
1949	2,147.43	2,332	1,853	509	0.45	509
1950	1,858.29	2,007	1,595	449	0.64	449
1952	551.26	589	468	138	1.00	138
1953	183.59	195	155	47	1.19	39
1954	1,878.52	1,984	1,576	490	1.39	353
1955	532.99	560	445	141	1.59	89
1956	47.40	49	39	13	1.79	7
1957	1,246.87	1,293	1,027	345	2.00	172
1958	1,095.68	1,129	897	308	2.20	140
1960	4,988.03	5,075	4,032	1,455	2.63	553
1961	745.47	753	598	222	2.85	78
1964	214.36	212	168	68	3.54	19
1965	2,756.54	2,705	2,149	883	3.78	234
1966	27,748.11	27,009	21,460	9,063	4.03	2,249
1967	5,962.67	5,757	4,574	1,985	4.28	464
1968	716.59	686	545	243	4.54	54
1969	1,418.65	1,347	1,070	491	4.80	102
1970	4,288.73	4,033	3,204	1,514	5.08	298
1971	5,409.32	5,039	4,004	1,946	5.36	363
1972	391.26	361	287	143	5.65	25
1973	53.61	49	39	20	5.94	3
1974	2,025.24	1,830	1,454	774	6.25	124
1975	5,099.39	4,558	3,622	1,987	6.56	303
1976	413.45	365	290	165	6.88	24
1979	159.62	136	108	68	7.92	9
1980	2,280.45	1,914	1,521	987	8.29	119
1982	835.66	681	541	378	9.07	42
1985	376.17	291	231	183	10.35	18
1986	6,308.92	4,796	3,811	3,129	10.81	289
1988	11,113.18	8,110	6,444	5,780	11.78	491
1994	17,793.00	11,072	8,797	10,775	15.20	709
1995	7,450.00	4,484	3,562	4,633	15.85	292
1997	1,035.22	578	459	680	17.23	39
2001	8,019.09	3,705	2,944	5,877	20.30	290
	145,075.92	125,408	103,693	55,891		9,087

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.2 6.26

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 376.00 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2						
NET SALVAGE PERCENT.. -30						
1953	381,217.99	352,930	492,497	3,086	18.71	165
1954	324,076.18	296,856	414,248	7,051	19.20	367
1955	145,145.90	131,502	183,505	5,185	19.70	263
1956	105,145.84	94,190	131,438	5,252	20.21	260
1957	136,016.01	120,401	168,014	8,807	20.74	425
1958	163,562.45	143,052	199,622	13,009	21.27	612
1959	677,844.81	585,521	817,066	64,132	21.81	2,940
1960	834,475.85	711,804	993,288	91,531	22.35	4,095
1961	1,446,299.93	1,217,498	1,698,960	181,230	22.91	7,911
1962	266,441.72	221,253	308,748	37,626	23.48	1,602
1963	228,827.72	187,410	261,522	35,954	24.05	1,495
1964	276,298.27	223,027	311,223	47,965	24.64	1,947
1965	2,064,996.75	1,642,509	2,292,042	392,454	25.23	15,555
1966	2,307,237.39	1,807,504	2,522,285	477,124	25.83	18,472
1967	1,111,905.18	857,500	1,196,600	248,877	26.44	9,413
1968	766,846.02	581,880	811,986	184,914	27.06	6,833
1969	1,032,370.44	770,355	1,074,993	267,089	27.69	9,646
1970	1,626,565.93	1,193,254	1,665,128	449,408	28.32	15,869
1971	1,679,977.69	1,210,925	1,689,788	494,183	28.96	17,064
1972	700,448.95	495,776	691,832	218,752	29.61	7,388
1973	668,568.28	464,390	648,034	221,105	30.27	7,304
1974	692,109.11	471,465	657,907	241,835	30.94	7,816
1975	634,303.20	423,586	591,094	233,500	31.61	7,387
1976	286,745.16	187,588	261,770	110,999	32.29	3,438
1977	290,620.33	186,115	259,715	118,091	32.98	3,581
1978	680,070.10	426,132	594,647	289,444	33.67	8,596
1979	775,444.98	474,886	662,681	345,397	34.38	10,046
1980	2,203,795.54	1,318,299	1,839,623	1,025,311	35.09	29,219
1981	1,708,243.99	997,613	1,392,121	828,596	35.80	23,145
1982	1,585,368.50	902,709	1,259,687	801,292	36.53	21,935
1983	1,240,794.77	688,394	960,621	652,412	37.26	17,510
1984	1,649,635.91	891,137	1,243,539	900,988	37.99	23,716
1985	1,859,013.63	976,354	1,362,455	1,054,263	38.74	27,214
1986	1,611,016.44	821,937	1,146,973	947,348	39.49	23,990
1987	1,710,212.19	846,890	1,181,794	1,041,482	40.24	25,882
1988	2,193,772.85	1,052,581	1,468,826	1,383,079	41.01	33,725
1989	2,430,398.65	1,129,149	1,575,673	1,583,845	41.77	37,918
1990	4,150,648.58	1,863,616	2,600,586	2,795,257	42.55	65,693
1991	6,568,053.47	2,846,555	3,972,230	4,566,240	43.33	105,383
1992	5,551,391.66	2,318,256	3,235,014	3,981,795	44.12	90,249
1993	2,401,266.51	964,838	1,346,385	1,775,261	44.91	39,529
1994	2,611,050.36	1,007,346	1,405,703	1,988,662	45.71	43,506
1995	3,928,558.26	1,452,773	2,027,275	3,079,851	46.51	66,219

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 376.00 MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2						
NET SALVAGE PERCENT.. -30						
1996	2,682,862.43	948,660	1,323,809	2,163,912	47.32	45,729
1997	3,405,182.47	1,148,207	1,602,267	2,824,470	48.14	58,672
1998	1,926,454.82	618,009	862,402	1,641,989	48.96	33,537
1999	623,362.37	189,748	264,784	545,587	49.78	10,960
2000	4,571,570.68	1,315,671	1,835,955	4,107,087	50.61	81,152
2001	4,065,377.37	1,101,709	1,537,382	3,747,609	51.45	72,840
2002	6,084,899.98	1,546,794	2,158,476	5,751,894	52.29	110,000
2003	7,056,470.18	1,675,248	2,337,728	6,835,683	53.13	128,660
2004	4,642,704.69	1,022,296	1,426,565	4,608,951	53.99	85,367
2005	6,217,386.68	1,263,392	1,763,003	6,319,600	54.84	115,237
2006	7,767,761.17	1,444,835	2,016,198	8,081,892	55.70	145,097
2007	6,078,148.05	1,024,758	1,430,000	6,471,592	56.57	114,400
2008	8,239,044.71	1,245,768	1,738,409	8,972,349	57.44	156,204
2009	6,253,318.98	836,669	1,167,531	6,961,784	58.31	119,393
2010	5,687,050.36	660,801	922,116	6,471,049	59.19	109,327
2011	2,746,420.45	270,811	377,904	3,192,443	60.07	53,145
2012	6,825,860.57	551,495	769,585	8,104,034	60.96	132,940
2013	7,856,981.73	494,974	690,712	9,523,364	61.85	153,975
2014	9,936,546.30	447,204	624,051	12,293,459	62.75	195,912
2015	15,361,520.89	417,772	582,981	19,386,996	63.64	304,635
2016	14,809,951.14	133,230	185,916	19,067,020	64.55	295,384
	196,545,659.51	53,915,807	75,236,912	180,272,445		3,367,889
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						53.5 1.71

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S0.5						
NET SALVAGE PERCENT.. -15						
1959	848.63	857	424	552	4.28	129
1967	17,285.97	15,892	7,859	12,020	7.02	1,712
1972	3,438.06	2,957	1,462	2,492	8.82	283
1973	29,709.49	25,195	12,460	21,706	9.19	2,362
1974	26,495.21	22,138	10,948	19,521	9.57	2,040
1975	30,482.24	25,089	12,408	22,647	9.95	2,276
1976	36,006.00	29,174	14,428	26,979	10.34	2,609
1977	18,067.79	14,408	7,126	13,652	10.73	1,272
1978	117,587.45	92,224	45,610	89,616	11.13	8,052
1979	50,952.72	39,276	19,424	39,172	11.54	3,394
1980	116,240.23	88,035	43,538	90,138	11.95	7,543
1981	81,345.97	60,485	29,913	63,635	12.37	5,144
1982	122,503.00	89,397	44,212	96,666	12.79	7,558
1983	55,015.44	39,371	19,471	43,797	13.22	3,313
1984	29,327.76	20,564	10,170	23,557	13.66	1,725
1985	77,923.71	53,486	26,452	63,160	14.11	4,476
1986	33,505.16	22,502	11,128	27,403	14.56	1,882
1987	72,344.26	47,493	23,488	59,708	15.02	3,975
1988	135,129.12	86,624	42,840	112,558	15.49	7,266
1989	232,597.68	145,361	71,889	195,598	15.98	12,240
1990	179,788.37	109,463	54,136	152,621	16.47	9,267
1991	275,816.44	163,397	80,809	236,380	16.97	13,929
1992	593,476.98	341,638	168,959	513,540	17.48	29,379
1993	271,382.51	151,585	74,967	237,123	18.00	13,174
1994	132,742.08	71,791	35,505	117,148	18.54	6,319
1995	42,113.86	22,015	10,888	37,543	19.09	1,967
1996	120,176.23	60,612	29,976	108,227	19.65	5,508
1997	112,898.06	54,827	27,115	102,718	20.22	5,080
1998	233,663.45	108,944	53,879	214,834	20.81	10,324
1999	89,009.82	39,746	19,657	82,704	21.41	3,863
2000	69,525.33	29,652	14,665	65,289	22.02	2,965
2001	96,643.33	39,217	19,395	91,745	22.65	4,051
2002	204,066.52	78,450	38,798	195,878	23.30	8,407
2003	13,003.94	4,713	2,331	12,624	23.97	527
2004	3,308.54	1,125	556	3,249	24.65	132
2005	198,930.40	63,074	31,194	197,576	25.35	7,794
2006	553,872.92	162,512	80,371	556,583	26.07	21,350
2007	96,732.76	26,031	12,874	98,369	26.81	3,669
2008	103,803.36	25,307	12,516	106,858	27.58	3,874
2009	52,367.11	11,425	5,650	54,572	28.36	1,924
2010	315,164.69	60,477	29,909	332,530	29.16	11,404
2011	1,148,054.12	188,982	93,462	1,226,800	29.99	40,907
2012	1,717,693.03	234,790	116,117	1,859,230	30.84	60,286

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S0.5						
NET SALVAGE PERCENT.. -15						
2013	345,570.50	37,241	18,418	378,988	31.72	11,948
2014	1,024,913.93	80,148	39,637	1,139,014	32.62	34,918
2015	1,964,204.82	93,584	46,283	2,212,553	33.55	65,948
2016	680,149.64	10,950	5,415	776,757	34.51	22,508
	11,925,878.63	3,192,224	1,578,732	12,136,028		480,673
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.2						4.03

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S2						
NET SALVAGE PERCENT.. -40						
1931	2,510.06	3,514	3,514			
1942	1,255.03	1,757	1,757			
1949	552.55	764	463	311	0.45	311
1950	702.48	965	585	398	0.64	398
1953	2,510.06	3,395	2,058	1,456	1.19	1,224
1954	2,529.67	3,401	2,062	1,480	1.39	1,065
1958	4,216.11	5,532	3,354	2,549	2.20	1,159
1959	3,372.89	4,397	2,666	2,056	2.41	853
1961	3,216.01	4,136	2,508	1,994	2.85	700
1965	6,808.04	8,502	5,155	4,376	3.78	1,158
1966	7,242.36	8,972	5,439	4,700	4.03	1,166
1967	6,847.83	8,415	5,102	4,485	4.28	1,048
1968	799.69	974	591	529	4.54	117
1969	3,524.17	4,257	2,581	2,353	4.80	490
1970	5,074.73	6,073	3,682	3,423	5.08	674
1971	4,930.69	5,846	3,544	3,359	5.36	627
1972	10,905.59	12,803	7,762	7,506	5.65	1,328
1973	4,480.98	5,209	3,158	3,115	5.94	524
1974	2,225.69	2,560	1,552	1,564	6.25	250
1975	4,431.75	5,042	3,057	3,147	6.56	480
1976	6,342.12	7,134	4,325	4,554	6.88	662
1977	3,305.57	3,673	2,227	2,401	7.22	333
1978	634.93	697	423	466	7.56	62
1979	3,740.99	4,052	2,457	2,780	7.92	351
1981	1,927.90	2,030	1,231	1,468	8.67	169
1982	6,360.45	6,597	4,000	4,905	9.07	541
1985	1,949.35	1,922	1,165	1,564	10.35	151
1987	21,255.70	20,159	12,222	17,536	11.29	1,553
1988	1,554.41	1,444	875	1,301	11.78	110
1989	5,490.75	4,986	3,023	4,664	12.30	379
1990	41,080.00	36,430	22,086	35,426	12.83	2,761
1991	161,241.31	139,377	84,500	141,238	13.39	10,548
1992	61,696.52	51,899	31,465	54,910	13.97	3,931
1993	93,438.01	76,357	46,293	84,520	14.57	5,801
1994	23,368.37	18,508	11,221	21,495	15.20	1,414
1995	41,323.00	31,653	19,190	38,662	15.85	2,439
1996	22,852.70	16,883	10,236	21,758	16.53	1,316
1997	212,834.52	151,281	91,717	206,251	17.23	11,970
1998	46,938.18	31,993	19,396	46,317	17.96	2,579
1999	52,662.29	34,315	20,804	52,923	18.71	2,829
2000	48,637.67	30,175	18,294	49,799	19.49	2,555
2001	246,076.71	144,693	87,723	256,784	20.30	12,649
2005	34,055.71	15,298	9,275	38,403	23.77	1,616

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S2						
NET SALVAGE PERCENT.. -40						
2006	120,324.53	49,622	30,084	138,370	24.69	5,604
2007	153,932.88	57,693	34,978	180,528	25.63	7,044
2008	90,257.48	30,399	18,430	107,930	26.58	4,061
2009	172,047.37	51,271	31,084	209,782	27.55	7,615
2010	407,350.32	105,424	63,916	506,374	28.53	17,749
2011	1,208,274.02	265,342	160,870	1,530,714	29.51	51,871
2012	621,528.49	111,630	67,678	802,462	30.51	26,302
2013	206,641.77	28,930	17,540	271,758	31.50	8,627
2014	1,821,935.46	182,197	110,461	2,440,249	32.50	75,085
2015	1,658,576.83	99,521	60,337	2,261,671	33.50	67,513
2016	2,042,309.69	40,858	24,771	2,834,463	34.50	82,158
	9,720,082.38	1,950,957	1,184,887	12,423,228		433,920
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						28.6 4.46

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 56-R2						
NET SALVAGE PERCENT.. -55						
1953	113,689.67	137,766	176,219			
1954	96,484.09	115,848	149,550			
1955	16,182.40	19,246	25,083			
1956	26,406.32	31,092	40,930			
1957	72,375.69	84,357	112,182			
1958	110,593.99	127,525	171,421			
1959	212,118.56	241,949	328,784			
1960	162,489.64	183,273	251,859			
1961	314,324.91	350,353	487,204			
1962	160,147.58	176,332	248,229			
1963	153,386.86	166,808	236,877	873	16.71	52
1964	183,847.01	197,337	280,230	4,733	17.22	275
1965	371,607.36	393,523	558,825	17,166	17.74	968
1966	303,666.24	317,122	450,332	20,351	18.27	1,114
1967	314,854.31	324,102	460,244	27,780	18.81	1,477
1968	224,259.56	227,433	322,968	24,634	19.36	1,272
1969	313,071.18	312,648	443,978	41,282	19.92	2,072
1970	242,669.25	238,512	338,701	37,436	20.49	1,827
1971	381,329.39	368,674	523,538	67,523	21.07	3,205
1972	334,883.37	318,298	452,002	67,067	21.66	3,096
1973	269,545.67	251,722	357,460	60,336	22.26	2,711
1974	328,397.41	301,139	427,635	81,381	22.87	3,558
1975	332,667.04	299,346	425,089	90,545	23.49	3,855
1976	222,803.93	196,602	279,186	66,160	24.12	2,743
1977	285,679.46	247,022	350,786	92,017	24.76	3,716
1978	636,816.78	539,185	765,674	221,392	25.41	8,713
1979	893,575.37	740,499	1,051,552	333,490	26.06	12,797
1980	1,680,384.87	1,361,371	1,933,226	671,371	26.73	25,117
1981	1,233,454.84	976,078	1,386,087	525,768	27.41	19,182
1982	1,445,074.93	1,116,327	1,585,249	654,617	28.09	23,304
1983	1,278,308.40	963,088	1,367,641	613,737	28.78	21,325
1984	1,419,758.32	1,042,150	1,479,913	720,712	29.48	24,447
1985	1,785,641.84	1,275,626	1,811,463	956,282	30.19	31,675
1986	1,713,788.15	1,190,161	1,690,098	966,274	30.91	31,261
1987	2,143,206.85	1,445,655	2,052,914	1,269,057	31.63	40,122
1988	2,204,971.72	1,442,750	2,048,789	1,368,917	32.36	42,303
1989	2,227,349.46	1,411,787	2,004,819	1,447,573	33.10	43,733
1990	3,608,465.77	2,212,303	3,141,598	2,451,524	33.85	72,423
1991	3,847,912.88	2,278,111	3,235,050	2,729,215	34.61	78,856
1992	3,786,098.69	2,161,879	3,069,993	2,798,460	35.37	79,120
1993	2,581,066.01	1,418,791	2,014,765	1,985,887	36.14	54,950
1994	2,930,476.84	1,547,586	2,197,662	2,344,577	36.92	63,504
1995	3,395,502.64	1,719,905	2,442,365	2,820,664	37.70	74,819

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 380.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 56-R2						
NET SALVAGE PERCENT.. -55						
1996	2,925,182.46	1,417,701	2,013,218	2,520,815	38.49	65,493
1997	3,889,843.36	1,799,070	2,554,784	3,474,473	39.29	88,431
1998	450,733.54	198,490	281,867	416,770	40.09	10,396
1999	2,621,815.44	1,095,767	1,556,053	2,507,761	40.90	61,314
2000	3,327,037.21	1,315,011	1,867,392	3,289,516	41.72	78,847
2001	4,441,480.83	1,654,709	2,349,783	4,534,512	42.54	106,594
2002	3,790,592.81	1,325,142	1,881,778	3,993,641	43.37	92,083
2003	3,808,351.82	1,243,810	1,766,282	4,136,663	44.20	93,590
2004	3,858,132.75	1,170,366	1,661,988	4,318,118	45.04	95,873
2005	3,305,991.28	925,139	1,313,751	3,810,535	45.89	83,036
2006	4,722,719.38	1,210,471	1,718,939	5,601,276	46.74	119,839
2007	5,397,985.62	1,255,032	1,782,218	6,584,660	47.60	138,333
2008	4,678,916.88	976,453	1,386,620	5,865,701	48.46	121,042
2009	3,823,505.64	705,898	1,002,416	4,924,018	49.33	99,818
2010	4,261,188.40	684,063	971,409	5,633,433	50.20	112,220
2011	6,159,589.27	838,831	1,191,188	8,356,175	51.08	163,590
2012	7,624,173.95	850,385	1,207,596	10,609,874	51.97	204,154
2013	6,894,269.25	601,094	853,588	9,832,529	52.85	186,046
2014	7,561,887.63	470,947	668,772	11,052,154	53.75	205,621
2015	6,626,862.35	249,498	354,302	9,917,335	54.64	181,503
2016	9,094,602.33	113,337	160,945	13,935,689	55.55	250,867
	143,624,197.45	50,572,495	71,723,059	150,894,447		3,338,282

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.2 2.32

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 39-S1						
NET SALVAGE PERCENT.. -1						
1905	3,792,536.04	3,830,461	3,830,461			
1966	150,341.33	120,035	106,680	45,165	8.17	5,528
1967	199,644.98	157,641	140,102	61,539	8.51	7,231
1968	258,553.39	201,745	179,299	81,840	8.87	9,227
1969	76,380.30	58,886	52,334	24,810	9.23	2,688
1970	109,373.41	83,303	74,035	36,432	9.59	3,799
1971	131,074.63	98,577	87,609	44,776	9.96	4,496
1972	125,768.09	93,347	82,961	44,065	10.34	4,262
1973	194,009.26	142,089	126,280	69,669	10.72	6,499
1974	279,267.96	201,710	179,267	102,794	11.11	9,252
1975	136,342.24	97,100	86,297	51,409	11.50	4,470
1976	101,425.54	71,182	63,262	39,178	11.90	3,292
1977	128,195.10	88,609	78,750	50,727	12.31	4,121
1978	226,686.77	154,221	137,062	91,892	12.73	7,219
1979	361,095.50	241,640	214,755	149,951	13.16	11,394
1980	550,639.92	362,352	322,036	234,110	13.59	17,227
1981	428,464.95	277,072	246,245	186,505	14.03	13,293
1982	222,604.07	141,355	125,628	99,202	14.48	6,851
1983	177,453.41	110,569	98,267	80,961	14.94	5,419
1984	313,036.55	191,240	169,962	146,205	15.41	9,488
1985	258,704.56	154,831	137,604	123,688	15.89	7,784
1986	270,356.60	158,375	140,754	132,306	16.38	8,077
1987	298,182.98	170,815	151,810	149,355	16.88	8,848
1988	489,084.75	273,588	243,148	250,828	17.40	14,415
1989	590,403.37	322,310	286,449	309,858	17.92	17,291
1990	738,799.50	392,995	349,270	396,917	18.46	21,501
1991	1,393,755.24	721,527	641,249	766,444	19.01	40,318
1992	832,261.74	418,788	372,193	468,391	19.57	23,934
1993	428,836.23	209,342	186,050	247,075	20.15	12,262
1994	710,558.13	335,831	298,466	419,198	20.75	20,202
1995	592,785.66	270,954	240,807	357,907	21.35	16,764
1996	632,017.98	278,577	247,582	390,756	21.98	17,778
1997	840,141.51	356,388	316,736	531,807	22.62	23,510
1998	693,240.64	282,226	250,825	449,348	23.28	19,302
1999	842,831.62	328,280	291,755	559,505	23.96	23,352
2000	288,551.12	107,234	95,303	196,134	24.65	7,957
2001	1,078,458.99	380,680	338,325	750,919	25.37	29,599
2002	1,184,295.58	395,647	351,627	844,512	26.10	32,357
2003	1,206,112.43	379,510	337,285	880,889	26.85	32,808
2004	1,041,336.07	306,627	272,511	779,238	27.63	28,203
2005	1,030,211.56	282,271	250,865	789,649	28.42	27,785
2006	1,798,509.03	454,596	404,017	1,412,477	29.24	48,306
2007	1,570,514.02	362,800	322,435	1,263,784	30.08	42,014

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.00 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 39-S1						
NET SALVAGE PERCENT.. -1						
2008	1,214,071.91	253,421	225,225	1,000,988	30.94	32,353
2009	1,804,750.79	335,577	298,241	1,524,557	31.82	47,912
2010	2,025,102.32	329,363	292,718	1,752,635	32.72	53,565
2011	1,867,026.23	259,170	230,335	1,655,361	33.64	49,208
2012	1,184,551.24	135,588	120,502	1,075,895	34.58	31,113
2013	1,768,917.01	158,508	140,872	1,645,734	35.54	46,307
2014	3,075,671.18	197,538	175,560	2,930,868	36.52	80,254
2015	2,726,827.98	105,923	94,138	2,659,958	37.50	70,932
2016	3,996,304.45	51,745	45,988	3,990,279	38.50	103,644
	46,436,065.86	15,894,159	14,551,937	32,348,490		1,175,411
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						27.5 2.53

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 381.20 METERS - AMR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S2.5						
NET SALVAGE PERCENT.. 0						
2012	334,935.06	99,586	105,043	229,892	10.54	21,811
2013	4,603.25	1,068	1,127	3,476	11.52	302
	339,538.31	100,654	106,170	233,368		22,113
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						10.6 6.51

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-R3						
NET SALVAGE PERCENT.. -5						
1953	362,703.25	346,007	380,838			
1965	1,263.36	1,101	1,327			
1966	61,646.68	53,172	64,729			
1967	24,744.87	21,110	25,982			
1968	20,793.28	17,534	21,833			
1969	27,971.02	23,300	29,370			
1970	19,492.62	16,028	20,467			
1971	28,838.18	23,391	30,280			
1972	33,335.24	26,653	35,002			
1973	41,122.40	32,384	43,179			
1974	50,236.10	38,934	52,748			
1975	27,656.27	21,084	29,039			
1976	18,996.94	14,229	19,947			
1977	29,356.35	21,590	30,824			
1978	86,829.56	62,642	91,171			
1979	103,551.02	73,233	108,729			
1980	201,321.38	139,427	208,050	3,337	16.34	204
1981	144,758.02	98,101	146,384	5,612	17.02	330
1982	206,292.89	136,643	203,896	12,712	17.72	717
1983	157,544.23	101,871	152,010	13,411	18.44	727
1984	180,998.14	114,187	170,388	19,660	19.16	1,026
1985	194,717.86	119,691	178,601	25,853	19.90	1,299
1986	280,930.72	168,075	250,798	44,179	20.65	2,139
1987	345,134.86	200,674	299,442	62,950	21.42	2,939
1988	334,659.12	188,947	281,943	69,449	22.19	3,130
1989	347,717.81	190,310	283,977	81,127	22.98	3,530
1990	413,423.55	219,036	326,841	107,254	23.78	4,510
1991	535,738.67	274,349	409,378	153,148	24.59	6,228
1992	495,011.31	244,610	365,002	154,760	25.41	6,091
1993	367,466.34	174,913	261,002	124,838	26.24	4,758
1994	478,086.42	218,783	326,464	175,527	27.08	6,482
1995	269,444.35	118,293	176,515	106,402	27.93	3,810
1996	288,278.44	121,141	180,764	121,928	28.79	4,235
1997	497,486.72	199,693	297,978	224,383	29.65	7,568
1998	736,949.27	281,631	420,244	353,553	30.53	11,581
1999	865,456.53	313,893	468,385	440,344	31.42	14,015
2000	878,966.10	301,682	450,164	472,750	32.31	14,632
2001	1,485,668.47	480,340	716,754	843,198	33.22	25,382
2002	1,226,911.21	372,255	555,472	732,785	34.13	21,470
2003	1,214,051.28	343,916	513,185	761,569	35.05	21,728
2004	1,859,623.73	489,362	730,217	1,222,388	35.97	33,984
2005	1,466,379.12	355,732	530,817	1,008,881	36.91	27,334
2006	509,635.73	113,156	168,849	366,269	37.85	9,677

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 383.00 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-R3						
NET SALVAGE PERCENT.. -5						
2007	157,647.81	31,762	47,395	118,135	38.79	3,046
2008	167,774.82	30,314	45,234	130,930	39.74	3,295
2009	242,750.74	38,763	57,841	197,047	40.70	4,841
2010	219,311.05	30,415	45,385	184,892	41.66	4,438
2011	191,867.47	22,539	33,632	167,829	42.63	3,937
2012	271,379.08	26,121	38,978	245,970	43.60	5,642
2013	263,274.41	19,754	29,477	246,961	44.57	5,541
2014	329,634.30	17,666	26,361	319,755	45.55	7,020
2015	285,040.36	9,164	13,674	285,618	46.53	6,138
2016	456,382.09	4,893	7,301	471,900	47.51	9,933
	19,506,251.54	7,104,494	10,404,263	10,077,301		293,357
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						34.4 1.50

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 385.00 MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-S1						
NET SALVAGE PERCENT.. -10						
1960	26,744.18	24,417	25,660	3,759	6.80	553
1965	1,221.00	1,058	1,112	231	8.48	27
1966	1,251.91	1,073	1,128	249	8.83	28
1967	3,313.93	2,809	2,952	693	9.18	75
1968	13,408.70	11,232	11,804	2,946	9.54	309
1969	5,097.26	4,218	4,433	1,174	9.91	118
1970	8,622.98	7,048	7,407	2,078	10.28	202
1971	21,680.29	17,499	18,390	5,458	10.65	512
1972	668.26	532	559	176	11.04	16
1973	217.43	171	180	59	11.43	5
1974	3,081.40	2,388	2,510	880	11.82	74
1975	7,267.44	5,550	5,832	2,162	12.23	177
1978	5.03	4	4	2	13.48	
1979	22,769.00	16,336	17,167	7,879	13.91	566
1980	105,174.41	74,187	77,963	37,729	14.35	2,629
1982	12,616.28	8,583	9,020	4,858	15.26	318
1983	25,697.68	17,151	18,024	10,243	15.73	651
1985	199,796.54	128,075	134,593	85,183	16.69	5,104
1986	257,267.46	161,377	169,590	113,404	17.19	6,597
1989	51,482.56	30,071	31,601	25,030	18.76	1,334
1990	58,648.26	33,386	35,085	29,428	19.30	1,525
1991	32,906.98	18,226	19,154	17,044	19.86	858
1995	17,558.14	8,575	9,011	10,303	22.24	463
1996	22,020.35	10,367	10,895	13,327	22.88	582
1998	61,846.22	26,872	28,239	39,792	24.20	1,644
1999	17,674.42	7,349	7,723	11,719	24.88	471
2000	17,848.84	7,078	7,438	12,196	25.58	477
2004	111,686.02	35,044	36,828	86,027	28.59	3,009
2006	21,860.95	5,886	6,186	17,861	30.21	591
2007	11,906.80	2,927	3,076	10,021	31.06	323
2009	5,671.00	1,121	1,178	5,060	32.81	154
2011	48,462.60	7,143	7,506	45,803	34.64	1,322
2012	25,903.55	3,149	3,309	25,185	35.58	708
2013	85,310.49	8,117	8,530	85,312	36.54	2,335
2014	390,532.58	26,634	27,989	401,597	37.52	10,704
2015	284,700.60	11,744	12,342	300,829	38.50	7,814
2016	2,609.42	36	38	2,832	39.50	72
	1,984,530.96	727,433	764,456	1,418,528		52,347

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.1 2.64

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MINOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2						
NET SALVAGE PERCENT.. -10						
1965	25,877.53	22,374	21,749	6,716	9.63	697
1966	2,517.60	2,152	2,092	677	10.03	67
1968	35,294.41	29,454	28,631	10,193	10.86	939
1971	3,776.19	3,027	2,942	1,212	12.21	99
1974	20,757.30	15,892	15,448	7,385	13.68	540
1977	1,325.06	963	936	522	15.26	34
1979	11,807.00	8,257	8,026	4,962	16.39	303
1980	354,371.22	242,808	236,025	153,783	16.97	9,062
1981	94,825.39	63,605	61,828	42,480	17.56	2,419
1982	592,631.10	388,816	377,954	273,940	18.16	15,085
1983	26,610.71	17,056	16,580	12,692	18.78	676
1985	1,224.30	747	726	621	20.05	31
1986	1,050.71	624	607	549	20.70	27
1987	421,634.79	243,545	236,741	227,057	21.37	10,625
1988	355,087.17	199,290	193,723	196,873	22.04	8,933
1989	194,912.39	106,106	103,142	111,262	22.73	4,895
1990	402,268.77	212,203	206,275	236,221	23.42	10,086
1991	165,776.86	84,572	82,209	100,146	24.13	4,150
1992	1,671,165.00	823,550	800,543	1,037,738	24.84	41,777
1993	111,673.50	53,040	51,558	71,283	25.57	2,788
1994	76,667.92	35,046	34,067	50,268	26.30	1,911
1995	1,350.36	593	576	909	27.05	34
1996	139,736.38	58,751	57,110	96,600	27.80	3,475
1997	59,734.00	23,990	23,320	42,387	28.57	1,484
1998	85,325.68	32,663	31,751	62,107	29.34	2,117
1999	38,063.84	13,845	13,458	28,412	30.12	943
2002	8,294.34	2,532	2,461	6,663	32.51	205
2003	11,076.54	3,163	3,075	9,109	33.32	273
2004	2,917.60	774	752	2,457	34.15	72
2005	273,660.16	67,029	65,157	235,869	34.98	6,743
2006	199,414.83	44,797	43,546	175,810	35.81	4,910
2007	296,294.84	60,404	58,716	267,208	36.66	7,289
2008	48,208.71	8,826	8,579	44,451	37.51	1,185
2009	358,437.05	58,180	56,555	337,726	38.36	8,804
2010	347,358.52	48,992	47,623	334,471	39.23	8,526
2011	335,234.12	40,154	39,032	329,726	40.10	8,223
2012	487,157.13	47,870	46,533	489,340	40.98	11,941
2013	802,129.09	61,570	59,850	822,492	41.86	19,649

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MINOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2						
NET SALVAGE PERCENT.. -10						
2014	284,242.97	15,633	15,196	297,471	42.75	6,958
2015	450,943.38	14,881	14,466	481,572	43.65	11,033
2016	523,780.36	5,762	5,601	570,557	44.55	12,807
	9,324,614.82	3,163,536	3,075,159	7,181,917		231,815
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						31.0 2.49

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. -10						
2008	3,224,389.42	533,975	463,237	3,083,591	46.72	66,002
	3,224,389.42	533,975	463,237	3,083,591		66,002
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					46.7	2.05

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.10 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 8-S3						
NET SALVAGE PERCENT.. +20						
2007	68,045.70	47,020	37,373	17,064	1.09	15,655
2009	232,910.85	144,871	115,148	71,181	1.78	39,989
2010	500,401.41	286,730	227,902	172,419	2.27	75,956
2011	605,532.59	309,427	245,942	238,484	2.89	82,520
2012	732,969.08	318,842	253,426	332,949	3.65	91,219
2013	910,262.48	314,951	250,333	477,877	4.54	105,259
2014	928,978.71	231,316	183,857	559,326	5.51	101,511
2015	626,014.10	93,902	74,636	426,175	6.50	65,565
2016	1,142,512.00	57,126	45,406	868,604	7.50	115,814
	5,747,626.92	1,804,185	1,434,023	3,164,079		693,488
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.6 12.07

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 392.20 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 16-R1.5						
NET SALVAGE PERCENT.. +15						
1984	468.00	398	398			
1989	999.00	775	849			
1991	2,640.00	1,983	2,244			
1992	2,721.15	2,005	2,313			
2000	1,425.44	840	1,212			
2004	4,772.72	2,284	4,057			
2006	24,805.71	10,266	21,085			
2010	9,953.44	2,670	6,832	1,628	10.95	149
2011	13,864.20	3,182	8,142	3,643	11.68	312
2012	1,584.06	300	768	578	12.43	47
2014	9,802.26	1,052	2,692	5,640	13.98	403
2015	17,563.98	1,138	2,912	12,017	14.78	813
2016	1,928.24	42	107	1,532	15.59	98
	92,528.20	26,935	53,611	25,038		1,822
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						13.7 1.97

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 396.00 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2016

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 18-S1.5						
NET SALVAGE PERCENT.. +10						
1963	5,537.90	4,984	4,984			
1991	20,477.61	15,645	18,430			
1996	4,444.30	3,055	4,000			
2002	8,588.04	4,844	7,052	677	6.72	101
2004	64,882.53	33,122	48,222	10,172	7.79	1,306
2005	6,101.58	2,938	4,277	1,214	8.37	145
2009	51,099.89	17,527	25,517	20,473	11.14	1,838
2010	5,639.00	1,709	2,488	2,587	11.94	217
2012	57,228.89	12,419	18,081	33,425	13.66	2,447
2013	51,233.74	8,761	12,755	33,355	14.58	2,288
2014	25,802.83	3,187	4,640	18,583	15.53	1,197
2015	6,338.81	472	687	5,018	16.51	304
	307,375.12	108,663	151,133	125,505		9,843
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.8 3.20

Exhibit 2
Qualifications of John Spanos

QUALIFICATIONS AND EXPERIENCE

JOHN J. SPANOS

The depreciation study was conducted under the supervision of John J. Spanos. Mr. Spanos is a Certified Depreciation Professional as designated by the Society of Depreciation Professionals, a national organization of individuals involved in public utility and railroad depreciation issues. Mr. Spanos has completed the multi-year course work offered by Depreciation Programs, Inc. (DPI).

Mr. Spanos is employed by Gannett Fleming Valuation and Rate Consultants, LLC (Gannett Fleming) as Sr. Vice President and is located in the firm's Harrisburg, Pennsylvania, headquarters with technical and administrative support staffs available to assist on the project. Mr. Spanos's resume is set forth as follows.

TECHNICAL SPECIALTIES

- Public Utility Plant Depreciation
- Public Utility Plant Original Cost

PERSONAL INFORMATION

- M.B.A., York College of Pennsylvania, 1997
- B.S., Industrial Management and Mathematics, Carnegie-Mellon University, 1986
- Member, Society of Depreciation Professionals
- Member, American Gas Association Industry Accounting Committee
- Certified Depreciation Professional

EXPERIENCE

In June, 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June, 1986 through December, 1995, I

assisted in the preparation of numerous depreciation and original cost studies for utility companies in various industries. I helped perform depreciation studies for the following telephone companies: United Telephone of Pennsylvania, United Telephone of New Jersey and Anchorage Telephone Utility. I helped perform depreciation studies for the following companies in the railroad industry: Union Pacific Railroad, Burlington Northern Railroad and Wisconsin Central Transportation Corporation.

I assisted in the preparation of depreciation studies for the following organizations in the electric industry: Chugach Electric Association, the Cincinnati Gas & Electric Company (CG&E), The Union Light, Heat and Power Company (ULH&P), Northwest Territories Power Corporation and the City of Calgary - Electric System.

I assisted in the preparation of depreciation studies for the following pipeline companies: TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

I assisted in the preparation of depreciation studies for the following gas companies: Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

I assisted in the preparation of depreciation studies for the following water companies: Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia Suburban Water Company and Pennsylvania-American Water Company.

In each of the above studies, I assembled and analyzed historical and simulated data, performed field reviews, developed preliminary estimates of service life and net salvage,

calculated annual depreciation, and prepared reports for submission to state Public Utility Commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E.

In January, 1996, I was assigned to the position of Supervisor of Depreciation Studies. In July, 1999, I was promoted to the position of Manager, Depreciation and Valuation Studies.

In December, 2000, I was promoted to the position of Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc. and in April 2012, I was promoted to my present position as Senior Vice President of the Valuation and Rate Division of Gannett Fleming, Inc.

I am responsible for assembling and overseeing the basic data required for depreciation studies, conduct statistical analyses of accounting data, estimates service life and net salvage, and calculate annual and accrued depreciation. I also perform field inspections for purposes of estimating service lives and verifying property records for original cost, bond indenture and depreciation studies. I have also supervised the updating of continuing property records. My additional duties include presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for:

Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company, Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado;

Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company; Idaho Power Company; El Paso Electric Company; Aqua North Carolina; Aqua Ohio; Aqua Texas, Inc.; Ameren Missouri; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Monongahela Power Company; Potomac Edison Company; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Northern Indiana Public Service Company; Tennessee-American Water Company; Columbia Gas of Maryland; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas;

Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company; Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; and Alabama Gas Corporation.

I have also submitted testimony to regulated commissions on the subject of utility plant depreciation including:

Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission; the Indiana Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission (“FERC”); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service

Commission; Wyoming Public Service Commission; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission and the North Carolina Utilities Commission.

Mr. Spanos' technical education has included formal instructional programs offered by Depreciation Programs, Inc. Courses successfully completed include "Techniques of Life Analysis", "Techniques of Salvage and Depreciation Analysis", "Forecasting Life and Salvage", "Modeling and Life Analysis Using Simulation", and "Managing a Depreciation Study". Mr. Spanos also completed the week long course "Introduction to Public Utility Accounting" conducted by the American Gas Association.

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
01.	1998	PA PUC	R-00984375	City of Bethlehem – Bureau of Water	Original Cost and Depreciation
02.	1998	PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
03.	1999	PA PUC	R-00994605	The York Water Company	Depreciation
04.	2000	D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
05.	2001	PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
06.	2001	PA PUC	R-00017236	The York Water Company	Depreciation
07.	2001	PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
08.	2001	OH PUC	01-1228-GA-AIR	Cinergy Corp – Cincinnati Gas & Elect Co.	Depreciation
09.	2001	KY PSC	2001-092	Cinergy Corp – Union Light, Heat & Power Co.	Depreciation
10.	2002	PA PUC	R-00016750	Philadelphia Suburban Water Company	Depreciation
11.	2002	KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002	NJ BPU	GF02040245	NUI Corporation/Elizabethtown Gas Co.	Depreciation
13.	2002	ID PUC	IPC-E-03-7	Idaho Power Company	Depreciation
14.	2003	PA PUC	R-0027975	The York Water Company	Depreciation
15.	2003	IN URC	R-0027975	Cinergy Corp – PSI Energy, Inc.	Depreciation
16.	2003	PA PUC	R-00038304	Pennsylvania-American Water Co.	Depreciation
17.	2003	MO PSC	WR-2003-0500	Missouri-American Water Co.	Depreciation
18.	2003	FERC	ER-03-1274-000	NSTAR-Boston Edison Company	Depreciation
19.	2003	NJ BPU	BPU 03080683	South Jersey Gas Company	Depreciation
20.	2003	NV PUC	03-10001	Nevada Power Company	Depreciation
21.	2003	LA PSC	U-27676	CenterPoint Energy – Arkla	Depreciation
22.	2003	PA PUC	R-00038805	Pennsylvania Suburban Water Company	Depreciation
23.	2004	AB En/Util Bd	1306821	EPCOR Distribution, Inc.	Depreciation
24.	2004	PA PUC	R-00038168	National Fuel Gas Distribution Corp (PA)	Depreciation
25.	2004	PA PUC	R-00049255	PPL Electric Utilities	Depreciation
26.	2004	PA PUC	R-00049165	The York Water Company	Depreciation
27.	2004	OK Corp Cm	PUC 200400187	CenterPoint Energy – Arkla	Depreciation
28.	2004	OH PUC	04-680-EI-AIR	Cinergy Corp. – Cincinnati Gas and Electric Company	Depreciation
29.	2004	RR Com of TX	GUD#	CenterPoint Energy – Entex Gas Services Div.	Depreciation
30.	2004	NY PUC	04-G-1047	National Fuel Gas Distribution Gas (NY)	Depreciation
31.	2004	AR PSC	04-121-U	CenterPoint Energy – Arkla	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
32.	2005	IL CC	05-	North Shore Gas Company	Depreciation
33.	2005	IL CC	05-	Peoples Gas Light and Coke Company	Depreciation
34.	2005	KY PSC	2005-00042	Union Light Heat & Power	Depreciation
35.	2005	IL CC	05-0308	MidAmerican Energy Company	Depreciation
36.	2005	MO PSC	GF-2005	Laclede Gas Company	Depreciation
37.	2005	KS CC	05-WSEE-981-RTS	Westar Energy	Depreciation
38.	2005	RR Com of TX	GUD #	CenterPoint Energy – Entex Gas Services Div.	Depreciation
39.	2005	FERC		Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Co.	Depreciation
41.	2005	MA Dept Tele- com & Ergy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Co.	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Co.	Depreciation
47.	2006	NC Util Cm.		Pub. Service Co. of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	ISO82, ETC. AL	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation
66.	2007	PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007	KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008	TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008	IN URC	43526	Northern Indiana Public Service Co.	Depreciation
75.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008	MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008	PA PUC	2008-20322689	Pennsylvania American Water Co.-Wastewater	Depreciation
80.	2008	NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008	IL CC	ICC-09-166	Peoples Gas, Light and Coke Co.	Depreciation
83.	2009	IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Co.	Depreciation
88.	2009	NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
90.	2009	VA St. CC	PUE-2009-00059	Aqua Virginia, Inc.	Depreciation
91.	2009	PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation
92.	2009	MS PSC	09-	Entergy Mississippi	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
93.	2009	AK PSC	09-08-U	Entergy Arkansas	Depreciation
94.	2009	TX PUC	37744	Entergy Texas	Depreciation
95.	2009	TX PUC	37690	El Paso Electric Company	Depreciation
96.	2009	PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
97.	2009	KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
98.	2009	PA PUC	R-2009-	United Water Pennsylvania	Depreciation
99.	2009	OH PUC		Aqua Ohio Water Company	Depreciation
100.	2009	WI PSC	3270-DU-103	Madison Gas & Electric Co.	Depreciation
101.	2009	MO PSC	WR-2010	Missouri American Water Co.	Depreciation
102.	2009	AK Reg Cm	U-09-097	Chugach Electric Association	Depreciation
103.	2010	IN URC	43969	Northern Indiana Public Service Co.	Depreciation
104.	2010	WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
105.	2010	PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
106.	2010	KY PSC	2010-00036	Kentucky American Water Company	Depreciation
107.	2010	PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
108.	2010	MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
109.	2010	SC PSC	2009-489-E	South Carolina Electric & Gas Co.	Depreciation
110.	2010	NJ BD OF PU	ER09080664	Atlantic City Electric	Depreciation
111.	2010	VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
112.	2010	PA PUC	R-2010-2157140	The York Water Company	Depreciation
113.	2010	MO PSC	ER-2010-0356	Greater Missouri Operations Co.	Depreciation
114.	2010	MO PSC	ER-2010-0355	Kansas City Power and Light	Depreciation
115.	2010	PA PUC	R-2010-2167797	T.W. Phillips Gas and Oil Co.	Depreciation
116.	2010	PSC SC	2009-489-E	SCANA – Electric	Depreciation
117.	2010	PA PUC	R-2010-22010702	Peoples Natural Gas, LLC	Depreciation
118.	2010	AK PSC	10-067-U	Oklahoma Gas and Electric Co.	Depreciation
119.	2010	IN URC		Northern Indiana Public Serv. Co. - NIFL	Depreciation
120.	2010	IN URC		Northern Indiana Public Serv. Co. - Kokomo	Depreciation
121.	2010	PA PUC	R-2010-2166212	Pennsylvania American Water Co - WW	Depreciation
122.	2010	NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
125.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011	PA PUC	R-2010-2179103	Lancaster, City of – Bureau of Water	Depreciation
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	IL CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011	OK CC	201100087	Oklahoma Gas & Electric Co.	Depreciation
132.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation
133.	2011	FERC	2011-2232243	Carolina Gas Transmission	Depreciation
134.	2012	WA UTC	UE-120436/JG-120437	Avista Corporation	Depreciation
135.	2012	AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
136.	2012	MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
137.	2012	TX PUC	40094	El Paso Electric Company	Depreciation
138.	2012	ID PUC	IPC-E-12	Idaho Power Company	Depreciation
139.	2012	PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
140.	2012	PA PUC	R-2012-2311725	Hanover, Borough of – Bureau of Water	Depreciation
141.	2012	KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
142.	2012	KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
143.	2012	PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
144.	2012	DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
145.	2012	OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
146.	2012	OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
147.	2012	PA PUC	R-2012-2310366	Lancaster, City of – Sewer Fund	Depreciation
148.	2012	PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
149.	2012	FERC	ER-12-2681-000	ITC Holdings	Depreciation
150.	2012	MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
151.	2012	MO PSC	ER-2012-0175	KCPL Greater Missouri Operations Co.	Depreciation
152.	2012	MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
153.	2012	MN PUC	G007,001/D-12-533	Integrays – MN Energy Resource Group	Depreciation
153.	2012	TX PUC		Aqua Texas	Depreciation
155.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Co.– Atlantic City Electric	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
157.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013	VA St CC	2013-00020	Virginia Electric and Power Co.	Depreciation
159.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013	PA PUC	2013-2355276	Pennsylvania American Water Co.	Depreciation
161.	2013	NY PSC	13-E-0030, 13-G-0031, 13-S-0032	Consolidated Edison of New York	Depreciation
162.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013	TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013	DC PSC	Case 1103	PHI Service Co. – PEPCO	Depreciation
166.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Co.	Depreciation
167.	2013	FERC	ER13- -0000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013	FERC	ER13- -0000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Co.	Depreciation
172.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013	PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014	IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014	FERC	ER14-	Duquesne Light Company	Depreciation
181.	2014	SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014	WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014	PA PUC	2014-2428304	Hanover, Borough of – Municipal Water Works	Depreciation
184.	2014	PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation
185.	2014	IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
186.	2014	MO PSC	ER-2014-0258	Ameren Missouri	Depreciation
187.	2014	KS CC	14-BHCG-502-RTS	Black Hills Service Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
188.	2014	KS CC	14-BHCG-502-RTS	Black Hills Utility Holdings	Depreciation
189.	2014	KS CC	14-BHCG-502-RTS	Black Hills Kansas Gas	Depreciation
190.	2014	PA PUC	2014-2418872	Lancaster, City of – Bureau of Water	Depreciation
191.	2014	WV PSC	14-0701-E-D	First Energy – MonPower/PotomacEdison	Depreciation
192.	2014	VA St CC	PUC-2014-00045	Aqua Virginia	Depreciation
193.	2014	VA St CC	PUE-2013	Virginia American	Depreciation
194.	2014	OK CC	PUD201400229	Oklahoma Gas and Electric	Depreciation
195.	2014	OR PUC	UM1679	Portland General Electric	Depreciation
196.	2014	IN URC	Cause No. 44576	Indianapolis Power & Light	Depreciation
197.	2014	MA DPU	DPU. 14-150	NSTAR Gas	Depreciation
198.	2014	CT PURA	14-05-06	Connecticut Light and Power	Depreciation
199.	2014	MO PSC	ER-2014-0370	Kansas City Power & Light	Depreciation
200.	2014	KY PSC	2014-00371	Kentucky Utilities Company	Depreciation
201.	2014	KY PSC	2014-00372	Louisville Gas and Electric Company	Depreciation
202.	2015	PA PUC	R-2015-2462723	United Water Pennsylvania Inc.	Depreciation
203.	2015	PA PUC	R-2015-2468056	Columbia Gas of Pennsylvania	Depreciation
204.	2015	NY PSC	15-E-0283/15-G-0284	New York State Electric and Gas Corporation	Depreciation
205.	2015	NY PSC	15-E-0285/15-G-0286	Rochester Gas and Electric Corporation	Depreciation
206.	2015	MO PSC	WR-2015-0301/SR-2015-0302	Missouri American Water Company	Depreciation
207.	2015	OK CC	PUD 201500208	Oklahoma, Public Service Company of	Depreciation
208.	2015	WV PSC	15-0676-W-42T	West Virginia American Water Company	Depreciation
209.	2015	PA PUC	2015-2469275	PPL Electric Utilities	Depreciation
210.	2015	IN URC	Cause No. 44688	Northern Indiana Public Service Company	Depreciation
211.	2015	OH PSC	14-1929-EL-RDR	First Energy-Ohio Edison/Cleveland Electric/ Toledo Edison	Depreciation
212.	2015	NM PRC	15-00127-UT	El Paso Electric	Depreciation
213.	2015	TX PUC	PUC-44941; SOAH 473-15-5257	El Paso Electric	Depreciation
214.	2015	WI PSC	3370-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015	OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation
216.	2015	KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015	NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016	WA UTC	Docket UE-17	Puget Sound Energy	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client Utility</u>	<u>Subject</u>
219.	2016	NY PSC	Case No. 16-W-0130	Suez Water New York, Inc.	Depreciation
220.	2016	MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016	WI PSC		Wisconsin Public Service Commission	Depreciation
222.	2016	KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016	KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016	OH PUC		Aqua Ohio	Depreciation
225.	2016	MD PSC	Case 9417	Columbia Gas of Maryland	Depreciation
226.	2016	KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016	DE PSC	16-0649	Delmarva Power and Light Co. – Electric	Depreciation
228.	2016	DE PSC	16-0650	Delmarva Power and Light Co. – Gas	Depreciation
229.	2016	NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016	PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016	PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016	PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation
233.	2016	PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016	PA PUC	R-2016-2529660	Columbia Gas of PA	Depreciation
235.	2016	KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016	MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016	AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016	PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016	ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016	OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016	ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016	KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016	KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016	IN URC		Indianapolis Power & Light	Depreciation
245.	2017	MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western Massachusetts Electric Company	Depreciation
246.	2017	TX PUC		EL Paso Electric Company	Depreciation

Exhibit 3
Plant In Service (2012-2016)

**MINNESOTA ENERGY RESOURCES CORPORATION
PLANT ACTIVITY FOR 2012**

Account Number And Description	Beginning Balance	Additions	Retirements	Transfers & Adjustments	Ending Balance
INTANGIBLE PLANT					
302.00 Franchises and Consents	\$134,913	\$0	\$0	\$0	\$134,913
302.10 Farm Taps	\$3,811,838	\$0	\$0	\$0	\$3,811,838
303.00 Misc. Intangible Plant	\$0	\$0	\$0	\$0	\$0
Total Intangible Plant	\$3,946,751	\$0	\$0	\$0	\$3,946,751
TRANSMISSION PLANT					
365.30 Land - Transmission	\$8,600	\$0	\$0	\$0	\$8,600
367.10 Mains	\$6,606,271	\$119,762	(\$165,014)	\$3,801,068	\$10,362,087
369.30 Measuring and Regulating Equipment	\$527,702	\$240,935	(\$3,000)	\$0	\$765,637
Total Transmission Plant	\$7,142,573	\$360,697	(\$168,014)	\$3,801,068	\$11,136,324
DISTRIBUTION PLANT					
374.00 Land - Distribution	\$85,308	\$0	\$0	\$0	\$85,308
374.10 Land and Land Rights Depr - Distribution	\$596,818	\$0	\$0	\$0	\$596,818
374.20 Land and Land Rights NonD - Distribution	\$89,634	\$0	\$0	\$0	\$89,634
375.00 Structures and Improvements	\$187,322	\$0	(\$691)	\$0	\$186,631
376.00 Mains	\$141,706,074	\$6,635,447	(\$599,898)	(\$3,801,068)	\$143,940,555
378.00 Measuring and Regulating Equip. General	\$7,544,176	\$1,682,129	(\$200,841)	\$0	\$9,025,464
379.00 Measuring and Regulating Equip. City Gate	\$3,445,858	\$619,702	(\$239,612)	\$0	\$3,825,948
380.00 Services	\$104,244,819	\$7,424,816	(\$703,452)	\$0	\$110,966,183
381.00 Meters	\$32,259,527	\$1,184,551	(\$403,487)	\$0	\$33,040,591
381.20 Meters - AMR	\$0	\$498,620	\$0	\$0	\$498,620
383.00 House Regulators	\$17,700,193	\$270,484	(\$70,360)	\$0	\$17,900,317
385.00 Meas. And Reg. Equipment - Industrial	\$1,224,834	\$25,904	\$0	\$0	\$1,250,738
Total Distribution Plant	\$309,084,563	\$18,341,653	(\$2,218,341)	(\$3,801,068)	\$321,406,807
GENERAL PLANT - NOT AMORTIZED					
389.00 Land - General	\$957,135	\$0	\$0	\$0	\$957,135
390.00 Structures and Improvements	\$10,732,022	\$532,709	(\$41,668)	\$0	\$11,223,063
390.10 Structures and Improvements - Leased	\$0	\$0	\$0	\$0	\$0
392.10 Transportation Equipment	\$3,972,935	\$755,756	(\$494,411)	\$0	\$4,234,280
392.20 Trailers	\$82,808	\$1,584	(\$8,676)	\$0	\$75,716
396.00 Power Operated Equipment	\$170,351	\$57,228	\$0	\$0	\$227,579
Total General Plant - Not Amortized	\$15,915,251	\$1,347,277	(\$544,755)	\$0	\$16,717,773
GENERAL PLANT - AMORTIZED					
391.10 Office Furniture and Equipment	\$628,879	\$19,469	(\$73,229)	\$0	\$575,119
391.20 Office Furniture and Equipment - Computer Eq	\$1,014,486	\$75,639	(\$30,950)	\$0	\$1,059,175
393.00 Stores Equipment	\$40,522	\$5,021	\$0	\$0	\$45,543
394.00 Tools	\$1,942,888	(\$45,057)	(\$50,689)	\$0	\$1,847,142
395.00 Laboratory Equipment	\$709,638	\$159,032	(\$2,915)	\$0	\$865,755
397.00 Communication Equipment	\$440,520	\$0	\$0	\$0	\$440,520
398.00 Miscellaneous Equipment	\$9,528	\$0	\$0	\$0	\$9,528
Total General Plant - Amortized	\$4,786,461	\$214,104	(\$157,783)	\$0	\$4,842,782
TOTAL UTILITY	\$340,875,599	\$20,263,731	(\$3,088,893)	\$0	\$358,050,437

Notes:

Schedule reflects PNG & NMU Jurisdictions combined as approved in Docket No. G007, G011/D-12-533.

**MINNESOTA ENERGY RESOURCES CORPORATION
PLANT ACTIVITY FOR 2013**

Account Number And Description	Beginning Balance	Additions	Retirements	Transfers & Adjustments	Ending Balance
INTANGIBLE PLANT					
302.00 Franchises and Consents	\$134,913	\$0	\$0	\$0	\$134,913
302.10 Farm Taps	\$3,811,838	\$0	\$0	\$0	\$3,811,838
303.00 Misc. Intangible Plant	\$0	\$0	\$0	\$0	\$0
Total Intangible Plant	\$3,946,751	\$0	\$0	\$0	\$3,946,751
TRANSMISSION PLANT					
365.30 Land - Transmission	\$8,600	\$0	\$0	\$0	\$8,600
367.10 Mains	\$10,362,087	\$43,727	\$0	\$0	\$10,405,814
369.30 Measuring and Regulating Equipment	\$765,637	\$107,575	\$0	\$0	\$873,212
Total Transmission Plant	\$11,136,324	\$151,302	\$0	\$0	\$11,287,626
DISTRIBUTION PLANT					
374.00 Land - Distribution	\$85,308	\$0	\$0	(\$207)	\$85,101
374.10 Land and Land Rights Depr - Distribution	\$596,818	\$0	\$0	\$0	\$596,818
374.20 Land and Land Rights NonD - Distribution	\$89,634	\$0	\$0	(\$35)	\$89,599
375.00 Structures and Improvements	\$186,631	\$0	\$0	\$0	\$186,631
376.00 Mains	\$143,940,555	\$7,798,108	(\$583,221)	\$0	\$151,155,442
378.00 Measuring and Regulating Equip. General	\$9,025,464	\$355,379	(\$346,281)	\$0	\$9,034,562
379.00 Measuring and Regulating Equip. City Gate	\$3,825,948	\$77,933	(\$85,061)	\$0	\$3,818,820
380.00 Services	\$110,966,183	\$6,823,231	(\$604,513)	\$0	\$117,184,901
381.00 Meters	\$33,040,591	\$1,784,461	(\$534,401)	\$0	\$34,290,651
381.20 Meters - AMR	\$498,620	\$4,603	\$0	\$0	\$503,223
383.00 House Regulators	\$17,900,317	\$243,083	(\$23,065)	\$0	\$18,120,335
385.00 Meas. And Reg. Equipment - Industrial	\$1,250,738	\$85,311	\$0	\$0	\$1,336,049
Total Distribution Plant	\$321,406,807	\$17,172,109	(\$2,176,542)	(\$242)	\$336,402,132
GENERAL PLANT - NOT AMORTIZED					
389.00 Land - General	\$957,135	\$64,836	\$0	\$242	\$1,022,213
390.00 Structures and Improvements	\$11,223,063	\$806,386	(\$53,683)	\$0	\$11,975,766
390.10 Structures and Improvements - Leased	\$0	\$0	\$0	\$0	\$0
392.10 Transportation Equipment	\$4,234,280	\$910,263	(\$514,157)	\$0	\$4,630,386
392.20 Trailers	\$75,716	\$0	(\$1,460)	\$0	\$74,256
396.00 Power Operated Equipment	\$227,579	\$51,234	\$0	\$0	\$278,813
Total General Plant - Not Amortized	\$16,717,773	\$1,832,719	(\$569,300)	\$242	\$17,981,434
GENERAL PLANT - AMORTIZED					
391.10 Office Furniture and Equipment	\$575,119	\$44,717	(\$93,597)	\$0	\$526,239
391.20 Office Furniture and Equipment - Computer Eq	\$1,059,175	\$23,686	(\$6,706)	\$0	\$1,076,155
393.00 Stores Equipment	\$45,543	\$23,859	(\$1,619)	\$0	\$67,783
394.00 Tools	\$1,847,142	\$170,361	(\$79,081)	\$0	\$1,938,422
395.00 Laboratory Equipment	\$865,755	\$0	(\$13,307)	\$0	\$852,448
397.00 Communication Equipment	\$440,520	\$7,692	\$0	\$0	\$448,212
398.00 Miscellaneous Equipment	\$9,528	\$0	(\$474)	\$0	\$9,054
Total General Plant - Amortized	\$4,842,782	\$270,315	(\$194,784)	\$0	\$4,918,313
TOTAL UTILITY	\$358,050,437	\$19,426,445	(\$2,940,626)	\$0	\$374,536,256

**MINNESOTA ENERGY RESOURCES CORPORATION
PLANT ACTIVITY FOR 2014**

Account Number And Description	Beginning Balance	Additions	Retirements	Transfers & Adjustments	Ending Balance
INTANGIBLE PLANT					
302.00 Franchises and Consents	\$134,913	\$0	\$0	\$0	\$134,913
302.10 Farm Taps	\$3,811,838	\$0	\$0	\$0	\$3,811,838
303.00 Misc. Intangible Plant	\$0	\$167,783	\$0	\$0	\$167,783
Total Intangible Plant	\$3,946,751	\$167,783	\$0	\$0	\$4,114,534
TRANSMISSION PLANT					
365.30 Land - Transmission	\$8,600	\$0	\$0	\$0	\$8,600
367.10 Mains	\$10,405,814	\$468,907	(\$1,765)	\$0	\$10,872,956
369.30 Measuring and Regulating Equipment	\$873,212	\$75,562	(\$128,748)	\$9,249	\$829,275
Total Transmission Plant	\$11,287,626	\$544,469	(\$130,513)	\$9,249	\$11,710,831
DISTRIBUTION PLANT					
374.00 Land - Distribution	\$85,101	\$0	\$0	\$0	\$85,101
374.10 Land and Land Rights Depr - Distribution	\$596,818	\$0	\$0	\$0	\$596,818
374.20 Land and Land Rights NonD - Distribution	\$89,599	\$0	\$0	\$0	\$89,599
375.00 Structures and Improvements	\$186,631	\$0	(\$12,774)	\$0	\$173,857
376.00 Mains	\$151,155,442	\$9,877,623	(\$642,432)	\$0	\$160,390,633
378.00 Measuring and Regulating Equip. General	\$9,034,562	\$1,009,647	(\$249,641)	\$0	\$9,794,568
379.00 Measuring and Regulating Equip. City Gate	\$3,818,820	\$1,870,711	(\$41,060)	(\$9,249)	\$5,639,222
380.00 Services	\$117,184,901	\$7,435,665	(\$659,505)	\$0	\$123,961,061
381.00 Meters	\$34,290,651	\$3,075,672	(\$328,649)	\$0	\$37,037,674
381.20 Meters - AMR	\$503,223	(\$163,685)	\$0	\$0	\$339,538
383.00 House Regulators	\$18,120,335	\$333,540	(\$46,939)	\$0	\$18,406,936
385.00 Meas. And Reg. Equipment - Industrial	\$1,336,049	\$390,532	\$0	\$0	\$1,726,581
Total Distribution Plant	\$336,402,132	\$23,829,705	(\$1,981,000)	(\$9,249)	\$358,241,588
GENERAL PLANT - NOT AMORTIZED					
389.00 Land - General	\$1,022,213	\$96,487	\$0	\$0	\$1,118,700
390.00 Structures and Improvements	\$11,975,766	\$284,243	(\$166,559)	(\$42,550)	\$12,050,900
390.10 Structures and Improvements - Leased	\$0	\$125,903	\$0	\$0	\$125,903
392.10 Transportation Equipment	\$4,630,386	\$928,979	(\$319,717)	\$0	\$5,239,648
392.20 Trailers	\$74,256	\$9,802	(\$5,404)	\$0	\$78,654
396.00 Power Operated Equipment	\$278,813	\$25,803	\$0	\$0	\$304,616
Total General Plant - Not Amortized	\$17,981,434	\$1,471,217	(\$491,680)	(\$42,550)	\$18,918,421
GENERAL PLANT - AMORTIZED					
391.10 Office Furniture and Equipment	\$526,239	\$268,896	(\$63,914)	\$25,874	\$757,095
391.20 Office Furniture and Equipment - Computer Eq	\$1,076,155	\$70,262	(\$25,563)	\$16,676	\$1,137,530
393.00 Stores Equipment	\$67,783	\$1,475	\$0	\$0	\$69,258
394.00 Tools	\$1,938,422	\$60,112	(\$110,099)	(\$51,781)	\$1,836,654
395.00 Laboratory Equipment	\$852,448	\$110,218	(\$25,636)	\$51,781	\$988,811
397.00 Communication Equipment	\$448,212	\$64,099	(\$6,493)	\$0	\$505,818
398.00 Miscellaneous Equipment	\$9,054	\$6,647	\$0	\$0	\$15,701
Total General Plant - Amortized	\$4,918,313	\$581,709	(\$231,705)	\$42,550	\$5,310,867
TOTAL UTILITY	\$374,536,256	\$26,594,883	(\$2,834,898)	\$0	\$398,296,241

**MINNESOTA ENERGY RESOURCES CORPORATION
PLANT ACTIVITY FOR 2015**

Account Number And Description	Beginning Balance	Additions	Retirements	Transfers & Adjustments	Ending Balance
INTANGIBLE PLANT					
302.00 Franchises and Consents	\$134,913	\$0	\$0	\$0	\$134,913
302.10 Farm Taps	\$3,811,838	\$0	\$0	\$0	\$3,811,838
303.00 Misc. Intangible Plant	\$167,783	\$0	\$0	\$0	\$167,783
Total Intangible Plant	\$4,114,534	\$0	\$0	\$0	\$4,114,534
TRANSMISSION PLANT					
365.30 Land - Transmission	\$8,600	\$0	\$0	\$0	\$8,600
367.10 Mains	\$10,872,956	\$7,049	(\$137)	\$40,408	\$10,920,276
369.30 Measuring and Regulating Equipment	\$829,275	\$167,541	(\$116,599)	\$0	\$880,217
Total Transmission Plant	\$11,710,831	\$174,590	(\$116,736)	\$40,408	\$11,809,093
DISTRIBUTION PLANT					
374.00 Land - Distribution	\$85,101	\$0	(\$708)	\$1,322	\$85,715
374.10 Land and Land Rights Depr - Distribution	\$596,818	\$0	\$0	\$0	\$596,818
374.20 Land and Land Rights NonD - Distribution	\$89,599	\$0	(\$3,032)	\$0	\$86,567
375.00 Structures and Improvements	\$173,857	\$0	(\$5,668)	\$0	\$168,189
376.00 Mains	\$160,390,633	\$15,381,929	(\$1,149,650)	\$8,097,985	\$182,720,897
378.00 Measuring and Regulating Equip. General	\$9,794,568	\$1,949,605	(\$396,392)	\$80,547	\$11,428,328
379.00 Measuring and Regulating Equip. City Gate	\$5,639,222	\$1,565,911	(\$2,531)	\$525,736	\$7,728,338
380.00 Services	\$123,961,061	\$6,650,093	\$323,340	\$4,663,232	\$135,597,726
381.00 Meters	\$37,037,674	\$2,726,828	(\$245,394)	\$3,796,351	\$43,315,459
381.20 Meters - AMR	\$339,538	\$0	\$0	\$0	\$339,538
383.00 House Regulators	\$18,406,936	\$291,952	(\$33,572)	\$435,416	\$19,100,732
385.00 Meas. And Reg. Equipment - Industrial	\$1,726,581	\$284,701	(\$29,360)	\$0	\$1,981,922
Total Distribution Plant	\$358,241,588	\$28,851,019	(\$1,542,967)	\$17,600,589	\$403,150,229
GENERAL PLANT - NOT AMORTIZED					
389.00 Land - General	\$1,118,700	\$0	\$0	\$0	\$1,118,700
390.00 Structures and Improvements	\$12,050,900	\$450,943	(\$90,705)	\$0	\$12,411,138
390.10 Structures and Improvements - Leased	\$125,903	\$54,511	\$0	(\$22,390)	\$158,024
392.10 Transportation Equipment	\$5,239,648	\$626,014	(\$634,015)	\$0	\$5,231,647
392.20 Trailers	\$78,654	\$17,564	(\$5,618)	\$0	\$90,600
396.00 Power Operated Equipment	\$304,616	\$6,339	\$0	\$0	\$310,955
Total General Plant - Not Amortized	\$18,918,421	\$1,155,371	(\$730,338)	(\$22,390)	\$19,321,064
GENERAL PLANT - AMORTIZED					
391.10 Office Furniture and Equipment	\$757,095	\$45,629	(\$672)	\$0	\$802,052
391.20 Office Furniture and Equipment - Computer Ec	\$1,137,530	\$98,903	(\$15,108)	\$575	\$1,221,900
393.00 Stores Equipment	\$69,258	\$17,390	\$0	\$0	\$86,648
394.00 Tools	\$1,836,654	\$322,206	(\$64,131)	\$0	\$2,094,729
395.00 Laboratory Equipment	\$988,811	(\$2,078)	(\$30,271)	\$0	\$956,462
397.00 Communication Equipment	\$505,818	\$909,076	\$0	\$70,592	\$1,485,486
398.00 Miscellaneous Equipment	\$15,701	\$6,372	\$0	\$0	\$22,073
Total General Plant - Amortized	\$5,310,867	\$1,397,498	(\$110,182)	\$71,167	\$6,669,350
TOTAL UTILITY	\$398,296,241	\$31,578,478	(\$2,500,223)	\$17,689,774	\$445,064,270

**MINNESOTA ENERGY RESOURCES CORPORATION
PLANT ACTIVITY FOR 2016**

Account Number And Description	Beginning Balance	Additions	Retirements	Transfers & Adjustments	Ending Balance
INTANGIBLE PLANT					
302.00 Franchises and Consents	\$134,913	\$0	\$0	\$0	\$134,913
302.10 Farm Taps	\$3,811,838	\$0	\$0	\$0	\$3,811,838
303.00 Misc. Intangible Plant	\$167,783	\$0	\$0	\$11,296,092	\$11,463,875
Total Intangible Plant	\$4,114,534	\$0	\$0	\$11,296,092	\$15,410,626
TRANSMISSION PLANT					
365.30 Land - Transmission	\$8,600	\$0	\$0	\$0	\$8,600
367.10 Mains	\$10,920,276	\$0	(\$1,345,925)	\$0	\$9,574,351
369.30 Measuring and Regulating Equipment	\$880,217	\$0	(\$51,214)	\$0	\$829,003
Total Transmission Plant	\$11,809,093	\$0	(\$1,397,139)	\$0	\$10,411,954
DISTRIBUTION PLANT					
374.00 Land - Distribution	\$85,715	\$0	\$0	\$0	\$85,715
374.10 Land and Land Rights Depr - Distribution	\$596,818	\$0	\$0	\$0	\$596,818
374.20 Land and Land Rights NonD - Distribution	\$86,567	\$0	\$0	\$0	\$86,567
375.00 Structures and Improvements	\$168,189	\$0	(\$23,113)	\$0	\$145,076
376.00 Mains	\$182,720,897	\$14,809,952	(\$985,189)	\$0	\$196,545,660
378.00 Measuring and Regulating Equip. General	\$11,428,328	\$680,150	(\$318,764)	\$136,165	\$11,925,879
379.00 Measuring and Regulating Equip. City Gate	\$7,728,338	\$2,042,310	(\$21,667)	(\$28,899)	\$9,720,082
380.00 Services	\$135,597,726	\$9,109,605	(\$1,083,134)	\$0	\$143,624,197
381.00 Meters	\$43,315,459	\$3,998,862	(\$3,843,770)	\$0	\$43,470,551
381.20 Meters - AMR	\$339,538	\$0	\$0	\$0	\$339,538
383.00 House Regulators	\$19,100,732	\$456,383	(\$50,863)	\$0	\$19,506,252
385.00 Meas. And Reg. Equipment - Industrial	\$1,981,922	\$2,609	\$0	\$0	\$1,984,531
Total Distribution Plant	\$403,150,229	\$31,099,871	(\$6,326,500)	\$107,266	\$428,030,866
GENERAL PLANT - NOT AMORTIZED					
389.00 Land - General	\$1,118,700	\$133,560	\$0	\$0	\$1,252,260
390.00 Structures and Improvements	\$12,411,138	\$523,780	(\$385,914)	\$0	\$12,549,004
390.10 Structures and Improvements - Leased	\$158,024	\$4,255	\$0	\$0	\$162,279
392.10 Transportation Equipment	\$5,231,647	\$1,142,512	(\$626,532)	\$0	\$5,747,627
392.20 Trailers	\$90,600	\$1,928	\$0	\$0	\$92,528
396.00 Power Operated Equipment	\$310,955	\$0	(\$3,580)	\$0	\$307,375
Total General Plant - Not Amortized	\$19,321,064	\$1,806,035	(\$1,016,026)	\$0	\$20,111,073
GENERAL PLANT - AMORTIZED					
391.10 Office Furniture and Equipment	\$802,052	\$56,278	(\$4,247)	(\$1,622)	\$852,461
391.20 Office Furniture and Equipment - Computer Ec	\$1,221,900	\$184,087	(\$993,637)	\$0	\$412,350
393.00 Stores Equipment	\$86,648	\$12,455	\$0	\$0	\$99,103
394.00 Tools	\$2,094,729	\$431,178	(\$5,603)	\$0	\$2,520,304
395.00 Laboratory Equipment	\$956,462	\$0	(\$1,383)	\$0	\$955,079
397.00 Communication Equipment	\$1,485,486	\$127,923	\$0	(\$107,266)	\$1,506,143
398.00 Miscellaneous Equipment	\$22,073	\$2,693	\$0	\$1,622	\$26,388
Total General Plant - Amortized	\$6,669,350	\$814,614	(\$1,004,870)	(\$107,266)	\$6,371,828
TOTAL UTILITY	\$445,064,270	\$33,720,520	(\$9,744,535)	\$11,296,092	\$480,336,347

Exhibit 4
Analysis of Depreciation Reserve (2012-2016)

**MINNESOTA ENERGY RESOURCES CORPORATION
ANALYSIS OF DEPRECIATION RESERVE FOR 2012**

Account Number And Description	Beginning Balance	Credits		Debits		Transfers & Adjustments	Ending Balance
		Accruals	Gross Salvage	Retirements	Removal		
INTANGIBLE PLANT							
302.00 Franchises and Consents	\$116,495	\$3,986	\$0	\$0	\$0	\$0	\$120,481
302.10 Farm Taps	\$3,680,115	\$20,208	\$0	\$0	\$0	\$0	\$3,700,323
303.00 Misc. Intangible Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Intangible Plant	\$3,796,610	\$24,194	\$0	\$0	\$0	\$0	\$3,820,804
TRANSMISSION PLANT							
365.30 Land - Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0
367.10 Mains	\$2,610,120	\$230,884	\$0	\$165,014	\$1,393	\$1,344,792	\$4,019,389
369.30 Measuring and Regulating Equipment	\$243,931	\$16,254	\$0	\$3,000	\$6,571	\$0	\$250,614
Total Transmission Plant	\$2,854,051	\$247,138	\$0	\$168,014	\$7,964	\$1,344,792	\$4,270,003
DISTRIBUTION PLANT							
374.00 Land - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
374.10 Land and Land Rights Depr - Distribution	\$121,617	\$24,350	\$0	\$0	\$0	\$0	\$145,967
374.20 Land and Land Rights NonD - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375.00 Structures and Improvements	\$136,008	\$2,692	\$0	\$691	\$1,965	\$0	\$136,044
376.00 Mains	\$61,155,814	\$3,504,763	(\$1,335)	\$599,898	\$73,436	(\$1,344,792)	\$62,641,116
378.00 Measuring and Regulating Equip. General	\$2,149,789	\$198,890	(\$16)	\$200,841	\$58,022	\$0	\$2,089,800
379.00 Measuring and Regulating Equip. City Gate	\$1,019,522	\$84,308	(\$8)	\$239,612	\$219,609	\$0	\$644,601
380.00 Services	\$55,850,255	\$3,961,469	\$7,630	\$703,452	\$214,658	\$0	\$58,901,244
381.00 Meters	\$10,069,979	\$599,539	\$716	\$403,488	\$2,798	\$0	\$10,263,948
381.20 Meters - AMR	\$0	\$7,565	\$0	\$0	\$3	\$0	\$7,562
383.00 House Regulators	\$9,044,060	\$913,729	\$501	\$70,360	\$2,555	\$0	\$9,885,375
385.00 Meas. And Reg. Equipment - Industrial	\$549,599	\$29,609	(\$5)	\$0	\$0	\$0	\$579,203
Total Distribution Plant	\$140,096,643	\$9,326,914	\$7,483	\$2,218,342	\$573,046	(\$1,344,792)	\$145,294,860
GENERAL PLANT - NOT AMORTIZED							
389.00 Land - General	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390.00 Structures and Improvements	\$3,003,067	\$227,442	(\$25,636)	\$41,668	\$29,938	\$0	\$3,133,267
390.10 Structures and Improvements - Leased	\$0	\$0	\$0	\$0	\$0	\$0	\$0
392.10 Transportation Equipment	\$1,357,495	\$575,582	\$97,465	\$494,411	(\$9,877)	\$0	\$1,546,008
392.20 Trailers	\$56,275	\$4,739	\$12,387	\$8,676	(\$639)	\$0	\$65,364
396.00 Power Operated Equipment	\$95,753	\$10,013	(\$664)	\$0	(\$657)	\$0	\$105,759
	\$4,512,590	\$817,776	\$83,552	\$544,755	\$18,765	\$0	\$4,850,398
GENERAL PLANT - AMORTIZED							
391.10 Office Furniture and Equipment	\$252,504	\$80,591	\$0	\$73,229	\$0	\$0	\$259,866
391.20 Office Furniture and Equipment - Computer Eq	\$35,881	\$344,489	\$130	\$30,950	\$175	\$0	\$349,375
393.00 Stores Equipment	\$16,045	\$3,455	\$0	\$0	\$0	\$0	\$19,500
394.00 Tools	\$673,714	\$131,629	\$0	\$50,689	\$20	\$0	\$754,634
395.00 Laboratory Equipment	\$254,698	\$33,865	\$3,953	\$2,915	\$0	\$0	\$289,601
397.00 Communication Equipment	\$175,458	\$19,768	\$0	\$0	\$0	\$0	\$195,226
398.00 Miscellaneous Equipment	\$1,575	\$489	\$0	\$0	\$0	\$0	\$2,064
Total General Plant	\$1,409,875	\$614,286	\$4,083	\$157,783	\$195	\$0	\$1,870,266
TOTAL UTILITY	\$152,669,769	\$11,030,308	\$95,118	\$3,088,894	\$599,970	\$0	\$160,106,331

Notes:
Schedule reflects PNG & NMU Jurisdictions combined as approved in Docket No. G007, G011/D-12-533.

**MINNESOTA ENERGY RESOURCES CORPORATION
ANALYSIS OF DEPRECIATION RESERVE FOR 2013**

Account Number And Description	Beginning Balance	Credits		Debits		Transfers & Adjustments	Ending Balance
		Accruals	Gross Salvage	Retirements	Removal		
INTANGIBLE PLANT							
302.00 Franchises and Consents	\$120,481	\$3,963	\$0	\$0	\$0	\$0	\$124,444
302.10 Farm Taps	\$3,700,323	\$20,168	\$0	\$0	\$0	\$0	\$3,720,491
303.00 Misc. Intangible Plant	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Intangible Plant	\$3,820,804	\$24,131	\$0	\$0	\$0	\$0	\$3,844,935
TRANSMISSION PLANT							
365.30 Land - Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0
367.10 Mains	\$4,019,389	\$294,978	\$0	\$0	\$695	\$0	\$4,313,672
369.30 Measuring and Regulating Equipment	\$250,614	\$15,538	\$0	\$0	\$44,854	\$0	\$221,298
Total Transmission Plant	\$4,270,003	\$310,516	\$0	\$0	\$45,549	\$0	\$4,534,970
DISTRIBUTION PLANT							
374.00 Land - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
374.10 Land and Land Rights Depr - Distribution	\$145,967	\$24,350	\$0	\$0	\$0	\$0	\$170,317
374.20 Land and Land Rights NonD - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375.00 Structures and Improvements	\$136,044	\$6,458	\$0	\$0	\$89	\$0	\$142,413
376.00 Mains	\$62,641,116	\$2,227,953	\$427	\$583,221	\$190,288	\$0	\$64,095,987
378.00 Measuring and Regulating Equip. General	\$2,089,800	\$222,506	\$0	\$346,281	\$8,115	\$0	\$1,957,910
379.00 Measuring and Regulating Equip. City Gate	\$644,601	\$99,442	\$0	\$85,061	\$52,946	\$0	\$606,036
380.00 Services	\$58,901,244	\$2,109,337	\$873	\$604,513	\$153,770	\$0	\$60,253,171
381.00 Meters	\$10,263,948	\$1,222,071	\$245	\$534,401	\$4,288	\$0	\$10,947,575
381.20 Meters - AMR	\$7,562	\$11,175	\$1	\$0	\$3	\$0	\$18,735
383.00 House Regulators	\$9,885,375	(\$344,784)	\$127	\$23,065	\$1,579	\$0	\$9,516,074
385.00 Meas. And Reg. Equipment - Industrial	\$579,203	\$57,164	\$0	\$0	\$0	\$0	\$636,367
Total Distribution Plant	\$145,294,860	\$5,635,672	\$1,673	\$2,176,542	\$411,078	\$0	\$148,344,585
GENERAL PLANT - NOT AMORTIZED							
389.00 Land - General	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390.00 Structures and Improvements	\$3,133,267	\$305,309	(\$2,313)	\$53,683	\$62,518	\$0	\$3,320,062
390.10 Structures and Improvements - Leased	\$0	\$0	\$0	\$0	\$0	\$0	\$0
392.10 Transportation Equipment	\$1,546,008	\$184,817	\$86,266	\$514,157	\$14,728	\$0	\$1,288,206
392.20 Trailers	\$65,364	(\$4,534)	(\$383)	\$1,460	\$761	\$0	\$58,226
396.00 Power Operated Equipment	\$105,759	\$5,080	(\$362)	\$0	\$1,446	\$0	\$109,031
	\$4,850,398	\$490,672	\$83,208	\$569,300	\$79,453	\$0	\$4,775,525
GENERAL PLANT - AMORTIZED							
391.10 Office Furniture and Equipment	\$259,866	\$28,964	\$103	\$93,597	\$0	\$0	\$195,336
391.20 Office Furniture and Equipment - Computer Eq	\$349,375	\$198,782	\$8,690	\$6,706	\$300	\$0	\$549,841
393.00 Stores Equipment	\$19,500	\$2,329	\$0	\$1,619	\$0	\$0	\$20,210
394.00 Tools	\$754,634	\$96,042	\$618	\$79,081	\$0	\$0	\$772,213
395.00 Laboratory Equipment	\$289,601	\$43,259	\$0	\$13,307	\$0	\$0	\$319,553
397.00 Communication Equipment	\$195,226	\$36,895	\$0	\$0	\$0	\$0	\$232,121
398.00 Miscellaneous Equipment	\$2,064	\$460	\$17	\$474	\$0	\$0	\$2,067
Total General Plant	\$1,870,266	\$406,731	\$9,428	\$194,784	\$300	\$0	\$2,091,341
TOTAL UTILITY	\$160,106,331	\$6,867,722	\$94,309	\$2,940,626	\$536,380	\$0	\$163,591,356

**MINNESOTA ENERGY RESOURCES CORPORATION
ANALYSIS OF DEPRECIATION RESERVE FOR 2014**

Account Number And Description	Beginning Balance	Credits		Debits		Transfers & Adjustments	Ending Balance
		Accruals	Gross Salvage	Retirements	Removal		
INTANGIBLE PLANT							
302.00 Franchises and Consents	\$124,444	\$3,769	\$0	\$0	\$0	\$0	\$128,213
302.10 Farm Taps	\$3,720,491	\$19,108	\$0	\$0	\$0	\$0	\$3,739,599
303.00 Misc. Intangible Plant	\$0	\$36,943	\$0	\$0	\$0	\$0	\$36,943
Total Intangible Plant	\$3,844,935	\$59,820	\$0	\$0	\$0	\$0	\$3,904,755
TRANSMISSION PLANT							
365.30 Land - Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0
367.10 Mains	\$4,313,672	\$304,503	\$0	\$1,765	\$15,925	\$0	\$4,600,485
369.30 Measuring and Regulating Equipment	\$221,298	\$21,002	\$0	\$128,748	\$9,291	\$4,034	\$108,295
Total Transmission Plant	\$4,534,970	\$325,505	\$0	\$130,513	\$25,216	\$4,034	\$4,708,780
DISTRIBUTION PLANT							
374.00 Land - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
374.10 Land and Land Rights Depr - Distribution	\$170,317	\$24,350	\$0	\$0	\$0	\$0	\$194,667
374.20 Land and Land Rights NonD - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375.00 Structures and Improvements	\$142,413	\$3,628	\$0	\$12,774	(\$159)	\$0	\$133,426
376.00 Mains	\$64,095,987	\$3,071,963	(\$14)	\$642,432	\$113,502	\$0	\$66,412,002
378.00 Measuring and Regulating Equip. General	\$1,957,910	\$240,706	\$0	\$249,641	\$37,775	\$0	\$1,911,200
379.00 Measuring and Regulating Equip. City Gate	\$606,036	\$130,719	\$0	\$41,060	\$24,102	(\$4,034)	\$667,559
380.00 Services	\$60,253,171	\$3,390,803	\$710	\$659,505	\$198,737	\$0	\$62,786,442
381.00 Meters	\$10,947,575	\$982,922	\$582	\$328,649	\$5,377	\$0	\$11,597,053
381.20 Meters - AMR	\$18,735	\$37,719	\$2	\$0	\$31	\$0	\$56,425
383.00 House Regulators	\$9,516,074	\$295,511	\$29	\$46,939	\$4,016	\$0	\$9,760,659
385.00 Meas. And Reg. Equipment - Industrial	\$636,367	\$47,097	\$0	\$0	\$0	\$0	\$683,464
Total Distribution Plant	\$148,344,585	\$8,225,418	\$1,309	\$1,981,000	\$383,381	(\$4,034)	\$154,202,897
GENERAL PLANT - NOT AMORTIZED							
389.00 Land - General	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390.00 Structures and Improvements	\$3,320,062	\$282,861	\$3,408	\$166,559	\$46,472	(\$1,334)	\$3,391,966
390.10 Structures and Improvements - Leased	\$0	\$15,266	\$0	\$0	\$0	\$0	\$15,266
392.10 Transportation Equipment	\$1,288,206	\$414,678	\$62,847	\$319,717	(\$18,232)	\$0	\$1,464,246
392.20 Trailers	\$58,226	\$46	\$1,178	\$5,404	(\$863)	\$0	\$54,909
396.00 Power Operated Equipment	\$109,031	\$13,379	(\$186)	\$0	(\$1,575)	\$0	\$123,799
	\$4,775,525	\$726,230	\$67,247	\$491,680	\$25,802	(\$1,334)	\$5,050,186
GENERAL PLANT - AMORTIZED							
391.10 Office Furniture and Equipment	\$195,336	\$29,953	\$0	\$63,914	\$0	\$811	\$162,186
391.20 Office Furniture and Equipment - Computer Eq	\$549,841	\$222,443	\$0	\$25,563	\$0	\$523	\$747,244
393.00 Stores Equipment	\$20,210	\$3,458	\$0	\$0	\$0	\$0	\$23,668
394.00 Tools	\$772,213	\$96,604	\$0	\$110,099	\$0	(\$4,609)	\$754,109
395.00 Laboratory Equipment	\$319,553	\$47,711	\$0	\$25,636	\$0	\$4,609	\$346,237
397.00 Communication Equipment	\$232,121	\$38,578	\$0	\$6,493	\$0	\$0	\$264,206
398.00 Miscellaneous Equipment	\$2,067	\$509	\$0	\$0	\$0	\$0	\$2,576
Total General Plant	\$2,091,341	\$439,256	\$0	\$231,705	\$0	\$1,334	\$2,300,226
TOTAL UTILITY	\$163,591,356	\$9,776,229	\$68,556	\$2,834,898	\$434,399	\$0	\$170,166,844

**MINNESOTA ENERGY RESOURCES CORPORATION
ANALYSIS OF DEPRECIATION RESERVE FOR 2015**

Account Number And Description	Beginning Balance	Credits		Debits		Transfers & Adjustments	Ending Balance
		Accruals	Gross Salvage	Retirements	Removal		
INTANGIBLE PLANT							
302.00 Franchises and Consents	\$128,213	\$3,258	\$0	\$0	\$0	\$0	\$131,471
302.10 Farm Taps	\$3,739,599	\$17,380	\$0	\$0	\$0	\$0	\$3,756,979
303.00 Misc. Intangible Plant	\$36,943	\$52,336	\$0	\$0	\$0	\$0	\$89,279
Total Intangible Plant	\$3,904,755	\$72,974	\$0	\$0	\$0	\$0	\$3,977,729
TRANSMISSION PLANT							
365.30 Land - Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0
367.10 Mains	\$4,600,485	\$314,781	\$0	\$137	\$33,930	\$45,429	\$4,926,628
369.30 Measuring and Regulating Equipment	\$108,295	\$26,019	\$0	\$116,599	\$24,554	\$0	(\$6,839)
Total Transmission Plant	\$4,708,780	\$340,800	\$0	\$116,736	\$58,484	\$45,429	\$4,919,789
DISTRIBUTION PLANT							
374.00 Land - Distribution	\$0	\$0	(\$47)	\$708	\$0	\$755	\$0
374.10 Land and Land Rights Depr - Distribution	\$194,667	\$24,350	\$0	\$0	\$0	\$0	\$219,017
374.20 Land and Land Rights NonD - Distribution	\$0	\$0	(\$201)	\$3,032	\$0	\$3,233	\$0
375.00 Structures and Improvements	\$133,426	\$3,513	\$0	\$5,668	\$6,239	\$0	\$125,032
376.00 Mains	\$66,412,002	\$3,427,673	(\$44)	\$1,149,650	\$140,357	\$3,915,782	\$72,465,406
378.00 Measuring and Regulating Equip. General	\$1,911,200	\$265,168	\$0	\$396,392	\$108,773	(\$24,983)	\$1,646,220
379.00 Measuring and Regulating Equip. City Gate	\$667,559	\$191,759	\$0	\$2,531	\$71,734	\$228,355	\$1,013,408
380.00 Services	\$62,786,442	\$3,718,318	(\$517)	(\$323,340)	\$379,356	\$2,781,590	\$69,229,817
381.00 Meters	\$11,597,053	\$1,108,295	\$815	\$245,394	\$14,883	\$1,774,813	\$14,220,699
381.20 Meters - AMR	\$56,425	\$24,922	\$2	\$0	\$43	\$0	\$81,306
383.00 House Regulators	\$9,760,659	\$308,069	\$433	\$33,572	\$12,480	\$108,306	\$10,131,415
385.00 Meas. And Reg. Equipment - Industrial	\$683,464	\$55,717	\$0	\$29,360	\$5,416	(\$850)	\$703,555
Total Distribution Plant	\$154,202,897	\$9,127,784	\$441	\$1,542,967	\$739,281	\$8,787,001	\$169,835,875
GENERAL PLANT - NOT AMORTIZED							
389.00 Land - General	\$0	\$0	\$0	\$0	\$0	\$0	\$0
390.00 Structures and Improvements	\$3,391,966	\$288,946	(\$1,019)	\$90,705	\$27,255	\$0	\$3,561,933
390.10 Structures and Improvements - Leased	\$15,266	\$103,575	\$0	\$0	\$0	(\$11,545)	\$107,296
392.10 Transportation Equipment	\$1,464,246	\$487,577	\$83,642	\$634,015	\$6,381	\$0	\$1,395,069
392.20 Trailers	\$54,909	\$2,196	\$1,185	\$5,618	\$222	\$0	\$52,450
396.00 Power Operated Equipment	\$123,799	\$14,737	(\$36)	\$0	\$604	\$0	\$137,896
	\$5,050,186	\$897,031	\$83,772	\$730,338	\$34,462	(\$11,545)	\$5,254,644
GENERAL PLANT - AMORTIZED							
391.10 Office Furniture and Equipment	\$162,186	\$39,363	\$0	\$672	\$0	\$228	\$201,105
391.20 Office Furniture and Equipment - Computer Eq	\$747,244	\$238,177	\$130	\$15,108	\$944	\$69	\$969,568
393.00 Stores Equipment	\$23,668	\$4,274	\$0	\$0	\$0	\$0	\$27,942
394.00 Tools	\$754,109	\$99,222	\$800	\$64,131	\$0	\$0	\$790,000
395.00 Laboratory Equipment	\$346,237	\$48,323	\$1,049	\$30,271	\$0	\$0	\$365,338
397.00 Communication Equipment	\$264,206	\$48,979	\$0	\$0	\$0	\$13,311	\$326,496
398.00 Miscellaneous Equipment	\$2,576	\$958	\$0	\$0	\$0	\$0	\$3,534
Total General Plant	\$2,300,226	\$479,296	\$1,979	\$110,182	\$944	\$13,608	\$2,683,983
TOTAL UTILITY	\$170,166,844	\$10,917,885	\$86,192	\$2,500,223	\$833,171	\$8,834,493	\$186,672,020

**MINNESOTA ENERGY RESOURCES CORPORATION
ANALYSIS OF DEPRECIATION RESERVE FOR 2016**

Account Number And Description	Beginning Balance	Credits		Debits		Transfers & Adjustments	Ending Balance
		Accruals	Gross Salvage	Retirements	Removal		
INTANGIBLE PLANT							
302.00 Franchises and Consents	\$131,471	\$2,353	\$0	\$0	\$0	\$0	\$133,824
302.10 Farm Taps	\$3,756,979	\$16,931	\$0	\$0	\$0	\$0	\$3,773,910
303.00 Misc. Intangible Plant	\$89,279	\$138,200	\$0	\$0	\$0	\$977,195	\$1,204,674
Total Intangible Plant	\$3,977,729	\$157,484	\$0	\$0	\$0	\$977,195	\$5,112,408
TRANSMISSION PLANT							
365.30 Land - Transmission	\$0	\$0	\$0	\$0	\$0	\$0	\$0
367.10 Mains	\$4,926,628	\$287,047	\$0	\$1,345,925	\$0	\$0	\$3,867,750
369.30 Measuring and Regulating Equipment	(\$6,839)	\$28,101	\$0	\$51,214	\$14,932	\$0	(\$44,884)
Total Transmission Plant	\$4,919,789	\$315,148	\$0	\$1,397,139	\$14,932	\$0	\$3,822,866
DISTRIBUTION PLANT							
374.00 Land - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
374.10 Land and Land Rights Depr - Distribution	\$219,017	\$24,351	\$0	\$0	\$0	\$0	\$243,368
374.20 Land and Land Rights NonD - Distribution	\$0	\$0	\$0	\$0	\$0	\$0	\$0
375.00 Structures and Improvements	\$125,032	\$3,899	\$0	\$23,113	\$2,125	\$0	\$103,693
376.00 Mains	\$72,465,406	\$3,847,019	\$1,408	\$985,189	\$91,732	\$0	\$75,236,912
378.00 Measuring and Regulating Equip. General	\$1,646,220	\$312,437	\$0	\$318,764	\$95,561	\$34,400	\$1,578,732
379.00 Measuring and Regulating Equip. City Gate	\$1,013,408	\$237,772	\$0	\$21,667	\$14,870	(\$29,756)	\$1,184,887
380.00 Services	\$69,229,817	\$3,977,522	\$51	\$1,083,134	\$401,197	\$0	\$71,723,059
381.00 Meters	\$14,220,699	\$1,186,778	\$28,775	\$3,843,770	\$6,061	\$0	\$11,586,421
381.20 Meters - AMR	\$81,306	\$24,922	\$1	\$0	\$59	\$0	\$106,170
383.00 House Regulators	\$10,131,415	\$325,535	\$4,753	\$50,863	\$6,577	\$0	\$10,404,263
385.00 Meas. And Reg. Equipment - Industrial	\$703,555	\$60,901	\$0	\$0	\$0	\$0	\$764,456
Total Distribution Plant	\$169,835,875	\$10,001,136	\$34,988	\$6,326,500	\$618,182	\$4,644	\$172,931,961
GENERAL PLANT - NOT AMORTIZED							
389.00 Land - General	\$0	\$0	\$9,900	\$0	\$0	(\$9,900)	\$0
390.00 Structures and Improvements	\$3,561,933	\$289,180	\$92,924	\$385,914	\$19,727	\$0	\$3,538,396
390.10 Structures and Improvements - Leased	\$107,296	\$38,460	\$0	\$0	\$0	\$0	\$145,756
392.10 Transportation Equipment	\$1,395,069	\$563,187	\$93,905	\$626,532	(\$8,394)	\$0	\$1,434,023
392.20 Trailers	\$52,450	\$779	\$56	\$0	(\$326)	\$0	\$53,611
396.00 Power Operated Equipment	\$137,896	\$14,636	\$1,324	\$3,580	(\$857)	\$0	\$151,133
	\$5,254,644	\$906,242	\$198,109	\$1,016,026	\$10,150	(\$9,900)	\$5,322,919
GENERAL PLANT - AMORTIZED							
391.10 Office Furniture and Equipment	\$201,105	\$41,404	\$0	\$4,247	\$0	(\$81)	\$238,181
391.20 Office Furniture and Equipment - Computer Eq	\$969,568	\$246,127	\$0	\$993,637	\$0	\$0	\$222,058
393.00 Stores Equipment	\$27,942	\$4,544	\$0	\$0	\$0	\$0	\$32,486
394.00 Tools	\$790,000	\$113,836	\$0	\$5,603	\$0	\$0	\$898,233
395.00 Laboratory Equipment	\$365,338	\$47,820	\$0	\$1,383	\$0	\$0	\$411,775
397.00 Communication Equipment	\$326,496	\$120,781	\$0	\$0	\$0	(\$4,644)	\$442,633
398.00 Miscellaneous Equipment	\$3,534	\$1,217	\$0	\$0	\$0	\$81	\$4,832
Total General Plant	\$2,683,983	\$575,729	\$0	\$1,004,870	\$0	(\$4,644)	\$2,250,198
TOTAL UTILITY	\$186,672,020	\$11,955,739	\$233,097	\$9,744,535	\$643,264	\$967,295	\$189,440,352

Exhibit 5
Summary of Annual Depreciation Accruals (2012-
2016)

**MINNESOTA ENERGY RESOURCES CORPORATION - NMU
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2012**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$101,583	0.00%		\$89,352	\$12,231	Various	\$3,235	Various
302.10 Farm Taps	\$415,366	0.00%		\$366,745	\$48,621	Various	\$4,488	Various
303.00 Misc. Intangible Plant	\$0	0.00%		\$0	\$0		\$0	0.00%
Total Intangible Plant	\$516,949			\$456,097	\$60,852		\$7,723	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$0	0.00%		\$0	\$0		\$0	0.00%
367.10 Mains	\$4,279,617	-50.00%		\$1,934,409	\$2,345,208	50.00	\$118,517	2.93%
369.30 Measuring and Regulating Equipment	\$647,569	-10.00%		\$227,090	\$420,479	30.00	\$14,771	3.00%
Total Transmission Plant	\$4,927,186			\$2,161,499	\$2,765,687		\$133,288	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$8,741	0.00%		\$0	\$8,741		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$0	0.00%		\$0	\$0		\$0	0.00%
374.20 Land and Land Rights NonD - Distribution	\$51,866	0.00%		\$0	\$51,866		\$0	0.00%
375.00 Structures and Improvements	\$93,293	-10.00%		\$75,804	\$17,489	45.00	\$1,101	1.18%
376.00 Mains	\$33,711,829	-50.00%		\$13,798,869	\$19,912,960	60.00	\$804,254	2.40%
378.00 Measuring and Regulating Equip. General	\$3,303,477	-5.00%		\$791,147	\$2,512,330	33.00	\$67,390	2.50%
379.00 Measuring and Regulating Equip. City Gate	\$1,426,914	-5.00%		\$348,049	\$1,078,865	28.00	\$34,621	2.30%
380.00 Services	\$25,258,791	-80.00%		\$14,082,875	\$11,175,916	45.00	\$840,663	3.46%
381.00 Meters	\$5,244,632	0.00%		\$2,043,379	\$3,201,253	48.00	\$93,266	1.76%
381.20 Meters - AMR	\$0	0.00%		\$0	\$0		\$0	0.00%
383.00 House Regulators	\$3,705,950	-100.00%		\$2,660,146	\$1,045,804	35.00	\$219,858	5.95%
385.00 Meas. And Reg. Equipment - Industrial	\$455,099	-5.00%		\$228,040	\$227,059	30.00	\$13,107	2.88%
Total Distribution Plant	\$73,260,592			\$34,028,309	\$39,232,283		\$2,074,260	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$207,325	0.00%		\$0	\$207,325		\$0	0.00%
390.00 Structures and Improvements	\$4,423,348	0.00%		\$1,653,486	\$2,769,862	45.00	\$81,688	2.00%
390.10 Structures and Improvements - Leased	\$0	0.00%		\$0	\$0		\$0	0.00%
392.10 Transportation Equipment	\$903,237	30.00%		\$335,162	\$568,075	6.00	\$120,976	13.52%
392.20 Trailers	\$2,640	0.00%		\$1,963	\$677	20.00	(\$440)	-16.66%
396.00 Power Operated Equipment	\$61,675	0.00%		\$9,435	\$52,240	35.00	\$499	1.18%
Total General Plant - Not Amortized	\$5,598,225			\$2,000,046	\$3,598,179		\$202,723	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$123,313	0.00%		\$99,001	\$24,312	20.00	\$46,660	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$0	0.00%		\$0	\$0	5.00	\$720	20.00%
393.00 Stores Equipment	\$19,887	0.00%		\$8,418	\$11,469	20.00	\$1,442	5.00%
394.00 Tools	\$307,617	0.00%		\$145,142	\$162,475	20.00	\$36,572	5.00%
395.00 Laboratory Equipment	\$152,463	0.00%		\$57,626	\$94,837	20.00	\$8,513	5.00%
397.00 Communication Equipment	\$30,995	0.00%		\$5,591	\$25,404	12.00	\$3,645	8.33%
398.00 Miscellaneous Equipment	\$2,769	0.00%		\$642	\$2,127	20.00	\$151	5.00%
Total General Plant - Amortized	\$637,044			\$316,420	\$320,624		\$97,703	
TOTAL UTILITY	\$84,939,996			\$38,962,371	\$45,977,625		\$2,515,697	

Notes:

Schedule reflects PNG & NMU Jurisdictions separately as depreciation parameters in Docket No. G007, G011/D-12-533 were not changed until 2013.

**MINNESOTA ENERGY RESOURCES CORPORATION - PNG
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2012**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$33,330	0.00%		\$31,129	\$2,201	Various	\$751	Various
302.10 Farm Taps	\$3,396,472	0.00%		\$3,333,578	\$62,894	Various	\$15,720	Various
303.00 Misc. Intangible Plant	\$0	0.00%		\$0	\$0		\$0	0.00%
Total Intangible Plant	\$3,429,802			\$3,364,707	\$65,095		\$16,471	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$8,600	0.00%		\$0	\$8,600		\$0	0.00%
367.10 Mains	\$6,082,470	-60.00%		\$2,084,980	\$3,997,490	50.00	\$112,367	3.11%
369.30 Measuring and Regulating Equipment	\$118,068	-10.00%		\$23,524	\$94,544	35.00	\$1,483	2.25%
Total Transmission Plant	\$6,209,138			\$2,108,504	\$4,100,634		\$113,850	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$76,567	0.00%		\$0	\$76,567		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$596,818	0.00%		\$145,967	\$450,851	25.00	\$24,350	4.08%
374.20 Land and Land Rights NonD - Distribution	\$37,768	0.00%		\$0	\$37,768		\$0	0.00%
375.00 Structures and Improvements	\$93,338	0.00%		\$60,240	\$33,098	45.00	\$1,591	1.70%
376.00 Mains	\$110,228,726	-60.00%		\$48,842,247	\$61,386,479	60.00	\$2,700,509	2.45%
378.00 Measuring and Regulating Equip. General	\$5,721,987	-5.00%		\$1,298,653	\$4,423,334	40.00	\$131,500	2.46%
379.00 Measuring and Regulating Equip. City Gate	\$2,399,034	-5.00%		\$296,552	\$2,102,482	40.00	\$49,687	2.26%
380.00 Services	\$85,707,392	-85.00%		\$44,818,369	\$40,889,023	45.00	\$3,120,806	3.78%
381.00 Meters	\$27,795,959	0.00%		\$8,220,569	\$19,575,390	48.00	\$506,273	1.85%
381.20 Meters - AMR	\$498,620	0.00%		\$7,562	\$491,058		\$7,565	0.00%
383.00 House Regulators	\$14,194,367	-100.00%		\$7,225,229	\$6,969,138	45.00	\$693,871	4.92%
385.00 Meas. And Reg. Equipment - Industrial	\$795,639	0.00%		\$351,163	\$444,476	40.00	\$16,502	2.13%
Total Distribution Plant	\$248,146,215			\$111,266,551	\$136,879,664		\$7,252,654	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$749,810	0.00%		\$0	\$749,810		\$0	0.00%
390.00 Structures and Improvements	\$6,799,715	0.00%		\$1,479,781	\$5,319,934	45.00	\$145,754	2.15%
390.10 Structures and Improvements - Leased	\$0	0.00%		\$0	\$0		\$0	0.00%
392.10 Transportation Equipment	\$3,331,043	20.00%		\$1,210,846	\$2,120,197	6.00	\$454,606	13.64%
392.20 Trailers	\$73,076	0.00%		\$63,401	\$9,675	10.00	\$5,179	6.92%
396.00 Power Operated Equipment	\$165,904	15.00%		\$96,324	\$69,580	10.00	\$9,514	5.84%
Total General Plant - Not Amortized	\$11,119,548			\$2,850,352	\$8,269,196		\$615,053	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$451,806	0.00%		\$160,865	\$290,941	20.00	\$33,931	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$1,059,175	0.00%		\$349,375	\$709,800	5.00	\$343,769	20.00%
393.00 Stores Equipment	\$25,656	0.00%		\$11,082	\$14,574	20.00	\$2,013	5.00%
394.00 Tools	\$1,539,525	0.00%		\$609,492	\$930,033	20.00	\$95,057	5.00%
395.00 Laboratory Equipment	\$713,292	0.00%		\$231,975	\$481,317	20.00	\$25,352	5.00%
397.00 Communication Equipment	\$409,525	0.00%		\$189,635	\$219,890	12.00	\$16,123	8.33%
398.00 Miscellaneous Equipment	\$6,759	0.00%		\$1,422	\$5,337	20.00	\$338	5.00%
Total General Plant - Amortized	\$4,205,738			\$1,553,846	\$2,651,892		\$516,583	
TOTAL UTILITY	\$273,110,441			\$121,143,960	\$151,966,481		\$8,514,611	

Notes:

Schedule reflects PNG & NMU Jurisdictions separately as depreciation parameters in Docket No. G007, G011/D-12-533 were not changed until 2013.

**MINNESOTA ENERGY RESOURCES CORPORATION
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2013**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$134,913	0.00%		\$124,444	\$10,469	Various	\$3,963	Various
302.10 Farm Taps	\$3,811,838	0.00%		\$3,720,491	\$91,347	Various	\$20,168	Various
303.00 Misc. Intangible Plant	\$0	0.00%		\$0	\$0		\$0	0.00%
Total Intangible Plant	\$3,946,751			\$3,844,935	\$101,816		\$24,131	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$8,600	0.00%		\$0	\$8,600		\$0	0.00%
367.10 Mains	\$10,405,814	-45.00%		\$4,313,672	\$6,092,142	50.00	\$294,978	2.91%
369.30 Measuring and Regulating Equipment	\$873,212	-5.00%		\$221,298	\$651,914	45.00	\$15,538	2.30%
Total Transmission Plant	\$11,287,626			\$4,534,970	\$6,752,656		\$310,516	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$85,101	0.00%		\$0	\$85,101		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$596,818	0.00%		\$170,317	\$426,501	25.00	\$24,350	4.08%
374.20 Land and Land Rights NonD - Distribution	\$89,599	0.00%		\$0	\$89,599		\$0	0.00%
375.00 Structures and Improvements	\$186,631	-5.00%		\$142,413	\$44,218	38.00	\$6,458	2.45%
376.00 Mains	\$151,155,442	-45.00%		\$64,095,987	\$87,059,455	65.00	\$2,227,953	1.97%
378.00 Measuring and Regulating Equip. General	\$9,034,562	-10.00%		\$1,957,910	\$7,076,652	44.00	\$222,506	2.46%
379.00 Measuring and Regulating Equip. City Gate	\$3,818,820	-15.00%		\$606,036	\$3,212,784	40.00	\$99,442	2.45%
380.00 Services	\$117,184,901	-60.00%		\$60,253,171	\$56,931,730	50.00	\$2,109,337	2.76%
381.00 Meters	\$34,290,651	-1.00%		\$10,947,575	\$23,343,076	38.00	\$1,222,071	2.75%
381.20 Meters - AMR	\$503,223	0.00%		\$18,735	\$484,488		\$11,175	2.32%
383.00 House Regulators	\$18,120,335	-5.00%		\$9,516,074	\$8,604,261	44.00	(\$344,784)	1.59%
385.00 Meas. And Reg. Equipment - Industrial	\$1,336,049	-5.00%		\$636,367	\$699,682	36.00	\$57,164	3.48%
Total Distribution Plant	\$336,402,132			\$148,344,585	\$188,057,547		\$5,635,672	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$1,022,213	0.00%		\$0	\$1,022,213		\$0	0.00%
390.00 Structures and Improvements	\$11,975,766	-5.00%		\$3,320,062	\$8,655,704	55.00	\$305,309	2.37%
390.10 Structures and Improvements - Leased	\$0	0.00%		\$0	\$0		\$0	0.00%
392.10 Transportation Equipment	\$4,630,386	30.00%		\$1,288,206	\$3,342,180	6.00	\$184,817	8.63%
392.20 Trailers	\$74,256	30.00%		\$58,226	\$16,030	15.00	(\$4,534)	0.18%
396.00 Power Operated Equipment	\$278,813	10.00%		\$109,031	\$169,782	14.00	\$5,080	3.48%
Total General Plant - Not Amortized	\$17,981,434			\$4,775,525	\$13,205,909		\$490,672	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$526,239	0.00%		\$195,336	\$330,903	20.00	\$28,964	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$1,076,155	0.00%		\$549,841	\$526,314	5.00	\$198,782	20.00%
393.00 Stores Equipment	\$67,783	0.00%		\$20,210	\$47,573	20.00	\$2,329	5.00%
394.00 Tools	\$1,938,422	0.00%		\$772,213	\$1,166,209	20.00	\$96,042	5.00%
395.00 Laboratory Equipment	\$852,448	0.00%		\$319,553	\$532,895	20.00	\$43,259	5.00%
397.00 Communication Equipment	\$448,212	0.00%		\$232,121	\$216,091	12.00	\$36,895	8.33%
398.00 Miscellaneous Equipment	\$9,054	0.00%		\$2,067	\$6,987	20.00	\$460	5.00%
Total General Plant - Amortized	\$4,918,313			\$2,091,341	\$2,826,972		\$406,731	
TOTAL UTILITY	\$374,536,256			\$163,591,356	\$210,944,900		\$6,867,722	

**MINNESOTA ENERGY RESOURCES CORPORATION
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2014**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$134,913	0.00%		\$128,213	\$6,700	Various	\$3,769	Various
302.10 Farm Taps	\$3,811,838	0.00%		\$3,739,599	\$72,239	Various	\$19,108	Various
303.00 Misc. Intangible Plant	\$167,783	0.00%		\$36,943	\$130,840	Various	\$36,943	Various
Total Intangible Plant	\$4,114,534			\$3,904,755	\$209,779		\$59,820	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$8,600	0.00%		\$0	\$8,600		\$0	0.00%
367.10 Mains	\$10,872,956	-45.00%		\$4,600,485	\$6,272,471	50.00	\$304,503	2.91%
369.30 Measuring and Regulating Equipment	\$829,275	-5.00%		\$108,295	\$720,980	45.00	\$21,002	2.61%
Total Transmission Plant	\$11,710,831			\$4,708,780	\$7,002,051		\$325,505	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$85,101	0.00%		\$0	\$85,101		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$596,818	0.00%		\$194,667	\$402,151	25.00	\$24,350	4.08%
374.20 Land and Land Rights NonD - Distribution	\$89,599	0.00%		\$0	\$89,599		\$0	0.00%
375.00 Structures and Improvements	\$173,857	-5.00%		\$133,426	\$40,431	38.00	\$3,628	2.04%
376.00 Mains	\$160,390,633	-45.00%		\$66,412,002	\$93,978,631	65.00	\$3,071,963	1.99%
378.00 Measuring and Regulating Equip. General	\$9,794,568	-10.00%		\$1,911,200	\$7,883,368	44.00	\$240,706	2.62%
379.00 Measuring and Regulating Equip. City Gate	\$5,639,222	-15.00%		\$667,559	\$4,971,663	40.00	\$130,719	3.15%
380.00 Services	\$123,961,061	-60.00%		\$62,786,442	\$61,174,619	50.00	\$3,390,803	2.83%
381.00 Meters	\$37,037,674	-1.00%		\$11,597,053	\$25,440,621	38.00	\$982,922	2.76%
381.20 Meters - AMR	\$339,538	-1.00%		\$56,425	\$283,113	15.00	\$37,719	7.78%
383.00 House Regulators	\$18,406,936	-5.00%		\$9,760,659	\$8,646,277	44.00	\$295,511	1.62%
385.00 Meas. And Reg. Equipment - Industrial	\$1,726,581	-5.00%		\$683,464	\$1,043,117	36.00	\$47,097	3.22%
Total Distribution Plant	\$358,241,588			\$154,202,897	\$204,038,691		\$8,225,418	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$1,118,700	0.00%		\$0	\$1,118,700		\$0	0.00%
390.00 Structures and Improvements	\$12,050,900	-5.00%		\$3,391,966	\$8,658,934	55.00	\$282,861	2.37%
390.10 Structures and Improvements - Leased	\$125,903	0.00%		\$15,266	\$110,637	Various	\$15,266	Various
392.10 Transportation Equipment	\$5,239,648	30.00%		\$1,464,246	\$3,775,402	6.00	\$414,678	8.63%
392.20 Trailers	\$78,654	30.00%		\$54,909	\$23,745	15.00	\$46	0.18%
396.00 Power Operated Equipment	\$304,616	10.00%		\$123,799	\$180,817	14.00	\$13,379	4.78%
Total General Plant - Not Amortized	\$18,918,421			\$5,050,186	\$13,868,235		\$726,230	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$757,095	0.00%		\$162,186	\$594,909	20.00	\$29,953	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$1,137,530	0.00%		\$747,244	\$390,286	5.00	\$222,443	20.00%
393.00 Stores Equipment	\$69,258	0.00%		\$23,668	\$45,590	20.00	\$3,458	5.00%
394.00 Tools	\$1,836,654	0.00%		\$754,109	\$1,082,545	20.00	\$96,604	5.00%
395.00 Laboratory Equipment	\$988,811	0.00%		\$346,237	\$642,574	20.00	\$47,711	5.00%
397.00 Communication Equipment	\$505,818	0.00%		\$264,206	\$241,612	12.00	\$38,578	8.33%
398.00 Miscellaneous Equipment	\$15,701	0.00%		\$2,576	\$13,125	20.00	\$509	5.00%
Total General Plant - Amortized	\$5,310,867			\$2,300,226	\$3,010,641		\$439,256	
TOTAL UTILITY	\$398,296,241			\$170,166,844	\$228,129,397		\$9,776,229	

**MINNESOTA ENERGY RESOURCES CORPORATION
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2015**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$134,913	0.00%		\$131,471	\$3,442	Various	\$3,258	Various
302.10 Farm Taps	\$3,811,838	0.00%		\$3,756,979	\$54,859	Various	\$17,380	Various
303.00 Misc. Intangible Plant	\$167,783	0.00%		\$89,279	\$78,504	Various	\$52,336	Various
Total Intangible Plant	\$4,114,534			\$3,977,729	\$136,805		\$72,974	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$8,600	0.00%		\$0	\$8,600		\$0	0.00%
367.10 Mains	\$10,920,276	-45.00%		\$4,926,628	\$5,993,648	50.00	\$314,781	2.89%
369.30 Measuring and Regulating Equipment	\$880,217	-5.00%		(\$6,839)	\$887,056	45.00	\$26,019	2.89%
Total Transmission Plant	\$11,809,093			\$4,919,789	\$6,889,304		\$340,800	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$85,715	0.00%		\$0	\$85,715		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$596,818	0.00%		\$219,017	\$377,801	25.00	\$24,350	4.08%
374.20 Land and Land Rights NonD - Distribution	\$86,567	0.00%		\$0	\$86,567		\$0	0.00%
375.00 Structures and Improvements	\$168,189	-5.00%		\$125,032	\$43,157	38.00	\$3,513	2.08%
376.00 Mains	\$182,720,897	-45.00%		\$72,465,406	\$110,255,491	65.00	\$3,427,673	2.01%
378.00 Measuring and Regulating Equip. General	\$11,428,328	-10.00%		\$1,646,220	\$9,782,108	44.00	\$265,168	2.65%
379.00 Measuring and Regulating Equip. City Gate	\$7,728,338	-15.00%		\$1,013,408	\$6,714,930	40.00	\$191,759	3.10%
380.00 Services	\$135,597,726	-60.00%		\$69,229,817	\$66,367,909	50.00	\$3,718,318	2.86%
381.00 Meters	\$43,315,459	-1.00%		\$14,220,699	\$29,094,760	38.00	\$1,108,295	2.74%
381.20 Meters - AMR	\$339,538	-1.00%		\$81,306	\$258,232	15.00	\$24,922	7.34%
383.00 House Regulators	\$19,100,732	-5.00%		\$10,131,415	\$8,969,317	44.00	\$308,069	1.64%
385.00 Meas. And Reg. Equipment - Industrial	\$1,981,922	-5.00%		\$703,555	\$1,278,367	36.00	\$55,717	3.08%
Total Distribution Plant	\$403,150,229			\$169,835,875	\$233,314,354		\$9,127,784	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$1,118,700	0.00%		\$0	\$1,118,700		\$0	0.00%
390.00 Structures and Improvements	\$12,411,138	-5.00%		\$3,561,933	\$8,849,205	55.00	\$288,946	2.37%
390.10 Structures and Improvements - Leased	\$158,024	0.00%		\$107,296	\$50,728	Various	\$103,575	Various
392.10 Transportation Equipment	\$5,231,647	25.00%		\$1,395,069	\$3,836,578	8.00	\$487,577	9.35%
392.20 Trailers	\$90,600	30.00%		\$52,450	\$38,150	15.00	\$2,196	4.47%
396.00 Power Operated Equipment	\$310,955	10.00%		\$137,896	\$173,059	14.00	\$14,737	4.80%
Total General Plant - Not Amortized	\$19,321,064			\$5,254,644	\$14,066,420		\$897,031	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$802,052	0.00%		\$201,105	\$600,947	20.00	\$39,363	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$1,221,900	0.00%		\$969,568	\$252,332	5.00	\$238,177	20.00%
393.00 Stores Equipment	\$86,648	0.00%		\$27,942	\$58,706	20.00	\$4,274	5.00%
394.00 Tools	\$2,094,729	0.00%		\$790,000	\$1,304,729	20.00	\$99,222	5.00%
395.00 Laboratory Equipment	\$956,462	0.00%		\$365,338	\$591,124	20.00	\$48,323	5.00%
397.00 Communication Equipment	\$1,485,486	0.00%		\$326,496	\$1,158,990	12.00	\$48,979	8.33%
398.00 Miscellaneous Equipment	\$22,073	0.00%		\$3,534	\$18,539	20.00	\$958	5.00%
Total General Plant - Amortized	\$6,669,350			\$2,683,983	\$3,985,367		\$479,296	
TOTAL UTILITY	\$445,064,270			\$186,672,020	\$258,392,250		\$10,917,885	

**MINNESOTA ENERGY RESOURCES CORPORATION
SUMMARY OF ANNUAL DEPRECIATION ACCRUALS FOR 2016**

Account Number And Description	Estimated Net Salvage			Depreciation Reserve	Net Balance	Service Life	Annual Accrual	S/L %
	Gross Plant	Percent	Amount					
INTANGIBLE PLANT								
302.00 Franchises and Consents	\$134,913	0.00%		\$133,824	\$1,089	Various	\$2,353	Various
302.10 Farm Taps	\$3,811,838	0.00%		\$3,773,910	\$37,928	Various	\$16,931	Various
303.00 Misc. Intangible Plant	\$11,463,875	0.00%		\$1,204,674	\$10,259,201	Various	\$138,200	Various
Total Intangible Plant	\$15,410,626			\$5,112,408	\$10,298,218		\$157,484	
TRANSMISSION PLANT								
365.30 Land - Transmission	\$8,600	0.00%		\$0	\$8,600		\$0	0.00%
367.10 Mains	\$9,574,351	-45.00%		\$3,867,750	\$5,706,601	50.00	\$287,047	2.88%
369.30 Measuring and Regulating Equipment	\$829,003	-5.00%		(\$44,884)	\$873,887	45.00	\$28,101	3.28%
Total Transmission Plant	\$10,411,954			\$3,822,866	\$6,589,088		\$315,148	
DISTRIBUTION PLANT								
374.00 Land - Distribution	\$85,715	0.00%		\$0	\$85,715		\$0	0.00%
374.10 Land and Land Rights Depr - Distribution	\$596,818	0.00%		\$243,368	\$353,450	25.00	\$24,351	4.08%
374.20 Land and Land Rights NonD - Distribution	\$86,567	0.00%		\$0	\$86,567		\$0	0.00%
375.00 Structures and Improvements	\$145,076	-5.00%		\$103,693	\$41,383	38.00	\$3,899	2.62%
376.00 Mains	\$196,545,660	-45.00%		\$75,236,912	\$121,308,748	65.00	\$3,847,019	2.04%
378.00 Measuring and Regulating Equip. General	\$11,925,879	-10.00%		\$1,578,732	\$10,347,147	44.00	\$312,437	2.75%
379.00 Measuring and Regulating Equip. City Gate	\$9,720,082	-15.00%		\$1,184,887	\$8,535,195	40.00	\$237,772	3.04%
380.00 Services	\$143,624,197	-60.00%		\$71,723,059	\$71,901,138	50.00	\$3,977,522	2.87%
381.00 Meters	\$43,470,551	-1.00%		\$11,586,421	\$31,884,130	38.00	\$1,186,778	2.78%
381.20 Meters - AMR	\$339,538	-1.00%		\$106,170	\$233,368	15.00	\$24,922	7.34%
383.00 House Regulators	\$19,506,252	-5.00%		\$10,404,263	\$9,101,989	44.00	\$325,535	1.69%
385.00 Meas. And Reg. Equipment - Industrial	\$1,984,531	-5.00%		\$764,456	\$1,220,075	36.00	\$60,901	3.07%
Total Distribution Plant	\$428,030,866			\$172,931,961	\$255,098,905		\$10,001,136	
GENERAL PLANT - NOT AMORTIZED								
389.00 Land - General	\$1,252,260	0.00%		\$0	\$1,252,260		\$0	0.00%
390.00 Structures and Improvements	\$12,549,004	-5.00%		\$3,538,396	\$9,010,608	55.00	\$289,180	2.37%
390.10 Structures and Improvements - Leased	\$162,279	0.00%		\$145,756	\$16,523	Various	\$38,460	Various
392.10 Transportation Equipment	\$5,747,627	25.00%		\$1,434,023	\$4,313,604	8.00	\$563,187	10.03%
392.20 Trailers	\$92,528	30.00%		\$53,611	\$38,917	15.00	\$779	0.85%
396.00 Power Operated Equipment	\$307,375	10.00%		\$151,133	\$156,242	14.00	\$14,636	4.75%
Total General Plant - Not Amortized	\$20,111,073			\$5,322,919	\$14,788,154		\$906,242	
GENERAL PLANT - AMORTIZED								
391.10 Office Furniture and Equipment	\$852,461	0.00%		\$238,181	\$614,280	20.00	\$41,404	5.00%
391.20 Office Furniture and Equipment - Computer Equipment	\$412,350	0.00%		\$222,058	\$190,292	5.00	\$246,127	20.00%
393.00 Stores Equipment	\$99,103	0.00%		\$32,486	\$66,617	20.00	\$4,544	5.00%
394.00 Tools	\$2,520,304	0.00%		\$898,233	\$1,622,071	20.00	\$113,836	5.00%
395.00 Laboratory Equipment	\$955,079	0.00%		\$411,775	\$543,304	20.00	\$47,820	5.00%
397.00 Communication Equipment	\$1,506,143	0.00%		\$442,633	\$1,063,510	12.00	\$120,781	8.33%
398.00 Miscellaneous Equipment	\$26,388	0.00%		\$4,832	\$21,556	20.00	\$1,217	5.00%
Total General Plant - Amortized	\$6,371,828			\$2,250,198	\$4,121,630		\$575,729	
TOTAL UTILITY	\$480,336,347			\$189,440,352	\$290,895,995		\$11,955,739	

In the Matter of the Petition of Minnesota
Energy Resources Corporation for
Approval of its 2017 Five-Year Review of
Depreciation Certification

Docket No. G011/D-17-____

CERTIFICATE OF SERVICE

I, Kristin M. Stastny, hereby certify that on the 31st day of May, 2017, on behalf of Minnesota Energy Resources Corporation (MERC), I electronically filed a true and correct copy of the enclosed Five-Year Review of Depreciation Certification Filing on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

Dated this 31st day of May, 2017.

/s/ Kristin M. Stastny
Kristin M. Stastny

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation (HOLDING)_2017 Five Year Depreciation Study
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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