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Issue: Depreciation Study Witness: John J. Spanos
Type of Exhibit: Direct Testimony

Sponsoring Party: KCP&L Greater Missouri Operations Company

Case No.: ER-2016-0156

Date Testimony Prepared: February 23, 2016

FILED

### MISSOURI PUBLIC SERVICE COMMISSION

SEP 2 2 2016

CASE NO.: ER-2016-0156

Missouri Public Service Commission

#### **DIRECT TESTIMONY**

**OF** 

**JOHN J. SPANOS** 

ON BEHALF OF

KCP&L GREATER MISSOURI OPERATIONS COMPANY

Kansas City, Missouri February 2016

# **DIRECT TESTIMONY**

# OF

# **JOHN J. SPANOS**

# Case No. ER-2016-0156

1	Q.	Please state your name and business address.
2	A.	John J. Spanos, 207 Senate Avenue, Camp Hill, Pennsylvania, 17011.
3	Q.	On whose behalf are you testifying?
4	A.	I am testifying on behalf of KCP&L Greater Missouri Operations Company ("GMO"
5		or the "Company").
6	Q.	Please state your educational background and describe your professional
7		training and experience.
8	A.	I have Bachelor of Science degrees in Industrial Management and Mathematics from
9		Carnegie-Mellon University and a Master of Business Administration from York
10		College of Pennsylvania.
11	Q.	By whom and in what capacity have you been employed?
12	A.	I am employed by Gannett Fleming Valuation and Rate Consultants, LLC (Gannett
13		Fleming) as Senior Vice President, which provides depreciation consulting services to
14		utility companies in the United States and Canada. I am responsible for conducting
15		depreciation, valuation and original cost studies, determining service life and salvage
16		estimates, conducting field reviews, presenting recommended depreciation rates to
17		clients, and supporting such rates before state and federal regulatory agencies. I have
18		been associated with the firm since college graduation in 1986.

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Į.	v.	DO YOU	Delons	to any	professionar	societies:

- 2 A. Yes. I am a past President and member of the Society of Depreciation Professionals.
- I am also a member of the American Gas Association/Edison Electric Institute
- 4 Industry Accounting Committee.
- 5 Q. Do you hold any special certification as a depreciation expert?
- 6 A. Yes. The Society of Depreciation Professionals has established national standards for
- depreciation professionals. The Society administers an examination to become
- 8 certified in this field. I passed the certification exam in September 1997, and was
- 9 recertified in August 2003, February 2008 and January 2013.
- 10 Q. Can you outline your experience in the field of depreciation?
- 11 A. Yes. I have 29 years of depreciation experience which includes giving expert
- testimony in over 200 cases before 40 regulatory commissions, including this
- Commission. Please refer to Appendix A for my qualifications.
- 14 Q. Have you received any additional education relating to utility plant
- 15 depreciation?
- 16 A. Yes. I have completed the following courses conducted by Depreciation Programs,
- 17 Inc.: "Techniques of Life Analysis," "Techniques of Salvage and Depreciation
- Analysis," "Forecasting Life and Salvage," "Modeling and Life Analysis Using
- 19 Simulation" and "Managing a Depreciation Study." I have also completed the
- 20 "Introduction to Public Utility Accounting" program conducted by the American Gas
- 21 Association.

### 1 Q. What is the purpose of your testimony?

Α.

A. I am sponsoring Schedule JJS-1 stating the results of my depreciation study for GMO's electric plant as of December 31, 2014 (the "2014 Depreciation Study" or "Depreciation Study").

### Q. Would you please summarize your testimony?

A. My testimony will explain the methods and procedures of the Depreciation Study and set forth the annual depreciation rates as of December 31, 2014. Schedule JJS-1 contains the report which sets forth detailed methods, procedures and results of the Depreciation Study as of December 31, 2014. This report will be explained in Part II of my testimony.

### Q. What are the principal conclusions of your study and the bases for them?

A. The principal conclusions of the study are depreciation accrual rates by account for GMO. Overall, the proposed depreciation rates are determined based on the remaining life method and the utilization of the life span procedure.

#### Q. Please describe the contents of your report.

My report 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 estimation. 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 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.

The table on pages VI-4 through VI-11 of the report presents the estimated survivor curve, the net salvage percent, the original cost as of December 31, 2014, the book reserve and the calculated annual depreciation accrual and rate for each account or subaccount. The section beginning on page VII-3 of the report presents the results of the retirement rate analyses prepared as the historical bases for the service life estimates. The section beginning on page VIII-2 of Schedule JJS-1 presents the results of the salvage analysis. The section beginning on page IX-3 of Schedule JJS-1 presents the depreciation calculations related to surviving original cost as of December 31, 2014.

#### II. METHODS USED IN DEPRECIATION STUDY

- Q. Please define the concept of depreciation.
- 12 A. Depreciation refers to the loss in service value not restored by current maintenance,
  13 incurred in connection with the consumption or prospective retirement of utility plant
  14 in the course of service from causes that can be reasonably anticipated or
  15 contemplated, against which the Company is not protected by insurance. Among the
  16 causes to be given consideration are wear and tear, decay, action of the elements,
  17 inadequacy, obsolescence, changes in the art, changes in demand and the
  18 requirements of public authorities.
  - Q. In preparing the depreciation study, did you follow generally accepted practices in the field of depreciation and valuation?
- 21 A. Yes.

- Q. Please identify the depreciation method that you used.
- A. I used the straight line remaining life method of depreciation, with the average service life procedure. This method reflects a change from how rates were adopted for GMO

the last time depreciation was reviewed. This method of depreciation aims to distribute the unrecovered cost of fixed capital assets over the estimated remaining useful life of each unit or group of assets in a systematic and rational manner.

#### 4 Q. What are your recommended annual depreciation accrual rates for GMO?

- 5 A. My recommended annual depreciation accrual rates as of December 31, 2014 are set 6 forth on pages VI-4 through VI-11 of Schedule JJS-1.
- 7 Q. How did you determine the recommended annual depreciation accrual rates?
  - A. I did this in two phases. In the first phase, I estimated the service life and net salvage characteristics for each depreciable group, that is, each plant account or subaccount identified as having similar characteristics. In the second phase, I calculated the composite remaining lives and annual depreciation accrual rates based on the service life and net salvage estimates determined in the first phase.
- Q. Please describe the first phase of the depreciation study, in which you estimated the service life and net salvage characteristics for each depreciable group.
  - A. The service life and net salvage study consisted of compiling historic data from records related to GMO's plant; analyzing this data to obtain historic trends of survivor and net salvage characteristics; obtaining supplementary information from management and operating personnel concerning practices and plans as they relate to plant operations; and interpreting the above data and the estimates used by other electric utilities to form judgments of average service life and net salvage characteristics.

- Q. What historic data did you analyze for the purpose of estimating service life characteristics?
- A. I analyzed the Company's accounting entries that record plant transactions during the
  55-year period 1960 through 2014. The transactions included additions, retirements,
  transfers and the related balances. The Company records also included surviving
  dollar value by year installed for each plant account as of December 31, 2014.
- 7 O. What method did you use to analyze this service life data?

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- A. I used the retirement rate method for all accounts. This is the most appropriate method when aged retirement data are available, because this method determines the average rates of retirement actually experienced by the Company during the period covered by the study.
  - Q. Would you explain how you used the retirement rate method to analyze GMO's service life data?
- 14 A. I applied the retirement rate method to each different group of property in the study. 15 For each property group, I used the retirement rate method to form a life table which, when plotted, shows an original survivor curve for that property group. Each original 16 17 survivor curve represents the average survivor pattern experienced by the several 18 vintage groups during the experience band studied. The survivor patterns do not necessarily describe the life characteristics of the property group; therefore, 19 20 interpretation of the original survivor curves is required in order to use them as valid 21 considerations in estimating service life. The Iowa-type survivor curves were used to 22 perform these interpretations.

Q.	What is an	"Iowa-type	survivor	curve"	and	how	did	you	use	such	curves	to
	estimate the	service life (	characteri	istics for	· each	prop	perty	gro:	աթ?			

A.

Iowa-type curves are a widely used group of generalized survivor curves that contain the range of survivor characteristics usually experienced by utilities and other industrial companies. The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observing and classifying the ages at which various types of property used by utilities and other industrial companies had been retired.

Iowa-type curves are used to smooth and extrapolate original survivor curves determined by the retirement rate method. The Iowa curves and truncated Iowa curves were used in this study to describe the forecasted rates of retirement based on the observed rates of retirement and the outlook for future retirements. As I will explain, the use of truncated curves is appropriate to reflect retirements of plant components that may not be fully depreciated at the time a plant is retired.

The estimated survivor curve designations for each depreciable property group indicate the average service life, the family within the Iowa system to which the property group belongs, and the relative height of the mode. For example, the Iowa 54-R2 indicates an average service life of fifty-four years; a right-moded, or R, type curve (the mode occurs after average life for right-moded curves); and a moderate height, 2, for the mode (possible modes for R type curves range from 1 to 5).

Q. What approach did you use to estimate the lives of significant facilities' 2 structures such as production plants and service centers?

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A. I used the life span technique to estimate the lives of significant facilities for which concurrent retirement of the entire facility is anticipated. In this technique, the survivor characteristics of such facilities are described by the use of interim survivor curves and estimated probable retirement dates.

The interim survivor curves describe the rate of retirement related to the replacement of elements of the facility, such as, for a building, the retirements of plumbing, heating, doors, windows, roofs, etc., that occur during the life of the facility. The probable retirement date provides the rate of final retirement for each year of installation for the facility by truncating the interim survivor curve for each installation year at its attained age at the date of probable retirement. The use of interim survivor curves truncated at the date of probable retirement provides a consistent method for estimating the lives of the several years of installation for a particular facility inasmuch as a single concurrent retirement for all years of installation will occur when it is retired.

#### Has Gannett Fleming used this approach in other proceedings? Q.

- Yes, we have used the life span technique in performing depreciation studies Α. presented to and accepted by many public utility commissions across the United States and Canada, including Missouri.
- 21 What is the basis for the probable retirement year that you have estimated for Q. 22 each facility?
- 23 A. The basis for the probable retirement years are life spans for each facility that are 24 based on judgment and incorporate consideration of the age, use, size, nature of

construction, management outlook and typical life spans experienced and used by other electric utilities for similar facilities. Most of the life spans result in probable retirement years that are many years in the future. As a result, the retirements of these facilities are not yet subject to specific management plans. Such plans would be premature. At the appropriate time, detailed studies of the economics of rehabilitation and continued use or retirement of the structure will be performed and the results incorporated in the estimation of the facility's life span.

- Q. Did you physically observe GMO's plants and equipment as part of your depreciation study?
- 10 A. Yes. Most recently, I made field reviews of GMO's property on October 14, 2014

  11 and September 30, 2015 to observe representative portions of plant. Field reviews are

  12 conducted to become familiar with Company operations and obtain an understanding

  13 of the function of the plant and information with respect to the reasons for past

  14 retirements and the expected future causes of retirements. This knowledge, as well as

  15 information from other discussions with management, was incorporated in the

  16 interpretation and extrapolation of the statistical analyses.
  - Q. How did your experience in development of other depreciation studies affect your work in this case?
  - A. Because I customarily conduct field reviews for my depreciation studies, I have had the opportunity to visit scores of similar plants and meet with operations personnel at other companies. The knowledge accumulated from those visits and meetings provide me useful information that I can draw on to confirm or challenge my numerical analyses concerning plant condition and remaining life estimates.

### Q. Would you please explain the concept of "net salvage"?

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Net salvage is a component of the service value of capital assets that is recovered through depreciation rates. The service value of an asset is its original cost less its net salvage. Net salvage is the salvage value received for the asset upon retirement less the cost to retire the asset. When the cost to retire exceeds the salvage value, the result is negative net salvage.

Inasmuch as depreciation expense is the loss in service value of an asset during a defined period, e.g., one year, it must include a ratable portion of both the original cost and the net salvage. That is, the net salvage related to an asset should be incorporated in the cost of service during the same period as its original cost so that customers receiving service from the asset pay rates that include a portion of both elements of the asset's service value, the original cost and the net salvage value.

For example, the full recovery of the service value of a \$1000 electric line transformer will include not only the \$1000 of original cost, but also, on average, \$250 to remove the transformer at the end of its life and \$50 in salvage value. In this example, the net salvage component is negative \$200 (\$50 - \$250), and the net salvage percent is negative 20% ((\$50 - \$250)/\$1000).

#### Q. Please describe how you estimated net salvage percentages.

I estimated the net salvage percentages based on judgment that, for most accounts, incorporated analyses of the historical data for the period 1980 through 2014 and considered estimates for other electric companies. In the historical analyses, the net salvage, cost of removal and gross salvage amounts were expressed as percents of the original cost retired. These percents were calculated on annual and three-year moving average bases for the 1980 to 2014 period.

- Q. Were the net salvage percentages for generating facilities based on the same analyses?
- 3 A. Yes, for interim analyses. The net salvage percentages for generating facilities were 4 based on two components, the interim net salvage percentage and the final net salvage 5 percentage. The interim net salvage percentage is determined based on the historical 6 indications from the period 1980-2014 for steam and 1995-2014 for other production. 7 The cost of removal and gross salvage amounts are based as a percentage of the 8 associated plant retired. The final net salvage or dismantlement component was 9 determined based on the assets anticipated to be retired at the concurrent date of final 10 retirement. The dismantlement costs (referenced as retirement costs in the Sega 11 report) were determined by a Sega, Inc. study for steam, other production and wind 12 only. The amounts are set forth in Chris Roger's testimony, Schedule CRR-2.
- Q. Have you included a dismantlement component into the overall recovery of generating facilities?
- 15 A. Yes. A dismantlement component has been included to the net salvage percentage for
   steam and other production facilities.
- Q. Can you explain how the dismantlement component is included in the depreciation study?

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A. Yes. The dismantlement component is part of the overall net salvage for each location within the production assets. Based on the Sega, Inc. report, studies for other utilities and the cost estimates of GMO, it was determined that the dismantlement or decommissioning costs for steam and other production facilities is best calculated by dividing the dismantlement cost by the surviving plant at final retirement. These amounts at a location basis are added to the interim net salvage percentage of the

- assets anticipated to be retired on an interim basis to produce the weighted net salvage
  percentage for each location. The detailed calculation for each location is set forth on
  pages VIII-2 through VIII-7 of Schedule JJS-1.
- Q. Please describe the second phase of the process that you used in the depreciation study in which you calculated composite remaining lives and annual depreciation accrual rates.
- A. After I estimated the service life and net salvage characteristics for each depreciable property group, I calculated the annual depreciation accrual rates for each group based on the straight line remaining life method, using remaining lives weighted consistent with the average service life procedure. The annual depreciation accrual rates were developed as of December 31, 2014.
- 12 Q. Please describe the straight line remaining life method of depreciation.

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- 13 A. The straight line remaining life method of depreciation allocates the original cost of 14 the property, less accumulated depreciation, less future net salvage, in equal amounts 15 to each year of remaining service life.
- Q. Please describe the average service life procedure for calculating remaining life accrual rates.
  - A. The average service life procedure defines the group for which the remaining life annual accrual is determined. Under this procedure, the annual accrual rate is determined for the entire group or account based on its average remaining life and this rate is applied to the surviving balance of the group's cost. The average remaining life of the group is calculated by first dividing the future book accruals (original cost less allocated book reserve less future net salvage) by the average remaining life for each vintage is

derived from the area under the survivor curve between the attained age of the vintage and the maximum age. Then, the sum of the future book accruals is divided by the sum of the annual accruals to determine the average remaining life of the entire group for use in calculating the annual depreciation accrual rate.

Q. Please use an example to illustrate the development of the annual depreciation accrual rate for a particular group of property in your depreciation studies.

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A. I will use Account 368.00, Line Transformers, as an example because it is one of the largest depreciable groups and represents approximately seven percent of depreciable plant.

The retirement rate method was used to analyze the survivor characteristics of this property group. Aged plant accounting data were compiled from 1960 through 2014 and analyzed for periods that best represent the overall service life of this property. The life tables for the 1960-2014 and 1979-2014 experience bands are presented on pages VII-151 through VII-156 of Schedule JJS-1. The life table displays the retirement and surviving ratios of the aged plant data exposed to retirement by age interval. For example, page VII-151 shows \$1,349,396 retired during age interval 0.5-1.5 with \$236,890,134 exposed to retirement at the beginning of the interval. Consequently, the retirement ratio is 0.0057 (\$1,349,396/\$236,890,134) and the surviving ratio is 0.9943 (1-.0057). The percent surviving at age 0.5 of .9956 percent is multiplied by the survivor ratio of 99.43 to derive the percent surviving at age 1.5 of 98.99 percent. This process continues for the remaining age intervals for which plant was exposed to retirement during the period 1960-2014. The resultant life table, along with the 1979-2014 life table, or

original survivor curves, are plotted along with the estimated smooth survivor curve, the 42-R2 on page VII-150.

The net salvage percent is presented on pages VIII-49 and VIII-50 of Schedule JJS-1. The percentage is based on the result of annual gross salvage minus the cost to remove plant assets as compared to the original cost of plant retired during the period 1980 through 2014. The 35-year period experienced negative \$3,895,071 (\$3,495,400 – \$7,390,471) in net salvage for \$26,464,084 plant retired. The result is negative net salvage of 15 percent (\$3,895,071/\$26,464,084); however, the most recent five-year period and the rolling three-year averages trend toward negative 28 and negative 26 percent, respectively. Therefore, based on the statistics and industry averages, negative 20 percent was recommended.

My calculation of the annual depreciation related to original cost of Account 368.00, Line Transformers, as of December 31, 2014, is presented on pages IX-136 and IX-137 Schedule JJS-1. The calculation is based on the 42-R2 survivor curve, twenty percent negative net salvage, the attained age, and the allocated book reserve. The tabulation sets forth the installation year, the original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual. These totals are brought forward to the table on page VI-9.

#### Q. Please describe amortization accounting.

A.

Amortization accounting is used for accounts with a large number of units, but small asset values. In amortization accounting, units of property are capitalized in the same manner as they are in depreciation accounting. However, depreciation accounting is difficult for these assets because periodic inventories are required to properly reflect plant in service. Consequently, retirements are recorded when a vintage is fully

amortized rather than as the units are removed from service. That is, there is no dispersion of retirement. All units are retired when the age of the vintage reaches the amortization period. Each plant account or group of assets is assigned a fixed period which represents an anticipated life during which the asset will render service. For example, in amortization accounting, assets that have a 25-year amortization period will be fully recovered after 25 years of service and taken off the company books, but not necessarily removed from service. In contrast, assets that are taken out of service before 25 years remain on the books until the amortization period for that vintage has expired.

A.

Amortization accounting continues to be utilized for certain General Plant accounts. These accounts are 391.01, 391.02, 391.04, 393.00, 394.00, 395.00, 397.00, and 398.00, which represents slightly more than two percent of depreciable plant.

# Q. Can you discuss the recovery treatment for Accounts 370, Meters and 370.01, Meters – Load Research Meters?

Yes. The Company plans to retire a large portion of the standard and load research meters by year-end 2016, and replace them with new Advanced Metering Infrastructure (AMI) technology. The AMI meter assets will be classified in a separate subaccount than other meter related assets and depreciated based on an average service life of 20 years, S2.5 survivor curve, 0 percent net salvage and resulting 5.13 depreciation rate. As of December 31, 2014, there are \$11,959,973 of standard meters and \$2,025,171 of load research meters which will be recovered over a 10-year period. The standard meters have \$6,104,215 to be recovered and the load research meters are fully depreciated. A 10-year recovery period for the remaining

1 \$6,104,215 of standard meters produces a 5.21 percent rate. The standard meters that
2 are not subject to the replacement program will be depreciated at a 1.74 percent rate.

## Q. Were there any other rates developed for future assets?

- 4 A. Yes. The existing assets in Account 370.01, Meters - Load Research Meters; 5 Account 392.0, Transportation Equipment – Autos; and Account 392.04, 6 Transportation Equipment - Trailers, have been fully depreciated based on the life 7 and salvage parameters. Therefore, the depreciation rates for these assets are zero. In 8 the event the assets are replaced, the new assets in these accounts should be 9 depreciated at a rate of 5.13, 11.33 and 4.59 percent, respectively. These rates are 10 based on the life estimate of 20-S2.5 and net salvage percent of zero for Account 11 370.01; 8-S2.5 and 15 percent for Account 392.00; and 19-S0 and 15 percent for 12 Account 392.04. There are also plans to add new solar generation assets by year-end 13 2016. These assets will be based on interim survivor curves for each account, 5 14 percent negative net salvage and a 20-year life span for all assets at the location. 15 These rates are presented on page VI-11 of Schedule JJS-1.
- Q. Did you also conduct depreciation studies for each individual jurisdiction of GMO?
- A. Yes. An individual study for MPS Jurisdiction, SJL&P Jurisdiction and ECORP were conducted and attached to this testimony as Schedule JJS-2, Schedule JJS-3 and Schedule JJS-4, respectively.
- Q. Does this conclude your testimony?
- A. Yes, it does.

# BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of KCP&L Greater Missouri Operation Company's Request for Authority to Implement A General Rate Increase for Electric Service	ons ) Case No. ER-2016-0156
AFFIDAVIT OF JO	HN J. SPANOS
COMMONWEALTH OF PENNSYLVANIA	)
COUNTY OF CUMBERLAND	) ss )
John J. Spanos, being first duly sworn on hi	s oath, states:
1. My name is John J. Spanos. I am	employed by Gannett Fleming Valuation and
Rate Consultants, LLC as a Senior Vice President	t. I have been retained to serve as an expert
witness to provide testimony on behalf of KCP&L	Greater Missouri Operations Company.
2. Attached hereto and made a part he	reof for all purposes is my Direct Testimony
on behalf of KCP&L Greater Missouri Operations (	Company consisting of <u>sixteen</u>
( <u>16</u> ) pages, having been prepared in written for	m for introduction into evidence in the above-
captioned docket.	
3. I have knowledge of the matters set	forth therein. I hereby swear and affirm that
my answers contained in the attached testimony to	the questions therein propounded, including
any attachments thereto, are true and accurate to	the best of my knowledge, information and
belief.	~
John J.	Spanos
Subscribed and sworn before me this 1844	day of Ebruary, 2016.
	Il Lutter
My commission expires: February 20, 2019	PUMIC COMMONWEALTH OF PENNSYLVANIA  NOTARIAL SEAL Cheryl Ann Rutter, Notary Public East Pennsboro Twp., Cumberland County My Commission Expires Feb. 20, 2019 HEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

APPENDIX A

#### **JOHN SPANOS**

#### DEPRECIATION EXPERIENCE

- Q. Please outline your experience in the field of depreciation.
- A. 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 helped prepare 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 helped perform depreciation studies for the following organizations in the electric utility industry: Chugach Electric Association, The Cincinnati Gas and 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 helped perform 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 helped perform depreciation studies for the following gas utility 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 helped perform depreciation studies for the following water utility 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 as 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. (now doing business as Gannett Fleming Valuation and Rate Consultants, LLC). In my current position I am responsible for conducting all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate 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 and Greater Missouri Operations. My additional duties include determining final life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

- Q. Have you submitted testimony to any state utility commission on the subject of utility plant depreciation?
- Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Α. 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.

## Q. Have you had any additional education relating to utility plant depreciation?

A. Yes. I have completed the following courses conducted by Depreciation Programs, Inc.: "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." I have also completed the "Introduction to Public Utility Accounting" program conducted by the American Gas Association.

### Q. Does this conclude your qualification statement?

A. Yes.

# LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	<u>Year</u>	<u>Jurisdiction</u>	Docket No.	Client Utility	<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
<b>1</b> 4.	2003	PA PUC	R-0027975	The York Water Company	Depreciation
<b>15</b> .	2003	IN URC	R-0027975	Cinergy Corp — PSI Energy, Inc.	Depreciation
16.	2003	PA PUC	R-00038304	Pennsylvania-American Water Co.	Depreciation
<b>1</b> 7.	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	•
	200.	211100	O- OOO-LI-MIX	Electric Company	Depreciation

	<u>Year</u>	Jurisdiction	Docket No.	Client Utility	<u>Subject</u>
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
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-	DTE 05-85	NSTAR	Depreciation
		com & Ergy			
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

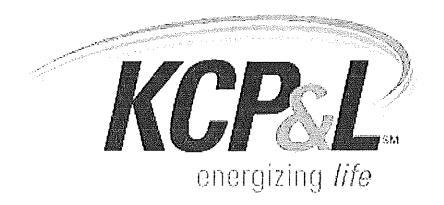
	<u>Year</u>	<u>Jurisdiction</u>	Docket No.	Client Utility	<u>Subject</u>
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	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 CoWastewater	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
93.	2009	AK PSC	09-08-U	Entergy Arkansas	Depreciation

	<u>Year</u>	<u>Jurisdiction</u>	Docket No.	Client Utility	Subject
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		Agua 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	WIPSC	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
<b>124</b> .	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
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

	<u>Year</u>	<u>Jurisdiction</u>	Docket No.	Client Utility	<u>Subject</u>
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	II 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/UG-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
<b>153</b> .	2012	MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation
153.	2012	TX PUC		Aqua Texas	Depreciation
<b>155</b> .	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Co. – Atlantic City Electric	Depreciation
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,	Consolidated Edison of New York	Depreciation
					•

	<u>Year</u>	<u>Jurisdiction</u>	Docket No.	Client Utility	<u>Subject</u>
			13-S-0032		
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	ER130000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER130000	MidAmerican Energy Company	Depreciation
169.	2013.	FERC	ER130000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
<b>171.</b>	2013	NJ BPU	ER12111052	Jersey Central Power and Light Co.	Depreciation
<b>1</b> 72.	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
<b>1</b> 74.	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
<b>177</b> .	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
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

	<u>Year</u>	Jurisdiction	Docket No.	Client Utility	<u>Subject</u>
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	ок сс	PUD 201500273	Oklahoma Gas and Electric	Depreciation



# GREATER MISSOURI OPERATIONS - ECORP, MPS AND SJLP JURISDICTIONS

# 2014 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO ELECTRIC PLANT AS OF DECEMBER 31, 2014

Prepared by:



Excellence Delivered As Promised

### KANSAS CITY POWER AND LIGHT COMPANY

Kansas City, Missouri

# GREATER MISSOURI OPERATIONS ECORP, MPS AND SJLP JURISDICTIONS

2014 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION

ACCRUALS RELATED TO ELECTRIC PLANT

AS OF DECEMBER 31, 2014



#### Excellence Delivered As Promised

February 16, 2016

**Greater Missouri Operations** One Kansas City Place 1200 Main Kansas City, MO 64105

Attention Mr. Tim M. Rush

Director, Regulatory Affairs

#### Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to all electric plant of Greater Missouri Operations as of December 31, 2014. 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.

We gratefully acknowledge the assistance of Greater Missouri Operations personnel in the conduct of this study.

Respectfully submitted,

**GANNETT FLEMING VALUATION** AND RATE CONSULTANTS, LLC

JOHN J. SPANOS

John J. Aparos

Sr. Vice President

JJS:krm

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GREATER MISSOURI OPERATIONS - ECORP. MPS AND SJLP JURISDICTIONS

**DEPRECIATION STUDY** 

**EXECUTIVE SUMMARY** 

Pursuant to Greater Missouri Operation's ("Company") request, Gannett Fleming

Valuation and Rate Consultants, LLC ("Gannett Fleming") conducted a depreciation

study related to the electric plant as of December 31, 2014 of all jurisdictions. 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.

The Company's accounting policy has not changed since the last depreciation

study was prepared. However, there have been changes to the life spans of generating

facilities and estimates of life and net salvage. The overall effect of these changes has

created a moderate impact on rates approved in the last proceeding.

Gannett Fleming recommends the calculated annual depreciation accrual rates

set forth herein apply specifically to electric plant in service as of December 31, 2014 as

summarized by Table 1 of the study. Supporting analysis and calculations are provided

within the study.

**A Gannett Fleming** 

KCP&L-GMO - ECORP, MPS & SJLP December 31, 2014 The study results set forth an annual depreciation expense of \$100.9 million when applied to depreciable plant balances as of December 31, 2014. The results are summarized at the functional level as follows:

#### SUMMARY OF ORIGINAL COST, ACCRUAL RATES AND AMOUNTS

FUNCTION	ORIGINAL COST AS OF DECEMBER 31, 2014	PROPOSED RATE	PROPOSED EXPENSE
Steam Production Plant	\$1,263,145,147.28	3.29	\$ 41,586,101
Other Production Plant	338,811,958.38	2.34	7,920,527
Transmission Plant	353,129,284.52	2.25	7,959,858
Distribution Plant	1,215,887,815.49	2.98	36,184,677
Industrial Steam	4,202,365.32	3.39	142,523
General Plant	148,942,963.68	4.80	7,150,227
Total	\$3,324,119,534.67	3.04	\$100,943,913

PART I. INTRODUCTION

GREATER MISSOURI OPERATIONS -ECORP, MPS AND SJLP JURISDICTIONS

**DEPRECIATION STUDY** 

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Greater Missouri

Operations - All Jurisdictions ("Company") to determine the annual depreciation accrual

rates and amounts for book purposes applicable to the original cost of electric plant as

of December 31, 2014. 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 electric plant in service as of December 31, 2014.

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 2014, a review of Company practice and outlook as they relate to

plant operation and retirement, and consideration of current practice in the electric

industry, including knowledge of service lives and net salvage estimates used for other

electric 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 the methods used in the service life and net salvage studies.

Part III, Service Life Considerations, presents the factors and judgment utilized in the

average service life analysis. Part IV, Net Salvage Considerations, presents the

judgment utilized for the net salvage study. Part V, Calculation of Annual and Accrued

Depreciation, describes the procedures used in the calculation of group depreciation.

**Gannett Fleming** 

KCP&L-GMO - ECORP, MPS & SJLP December 31, 2014 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 electric 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 electric utility industry, and comparisons of the service life and net salvage estimates from our studies of other electric utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for electric 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.

# 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 lowa 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 lowa type curves. There are four families in the lowa 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 lowa curves were developed at the lowa 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,

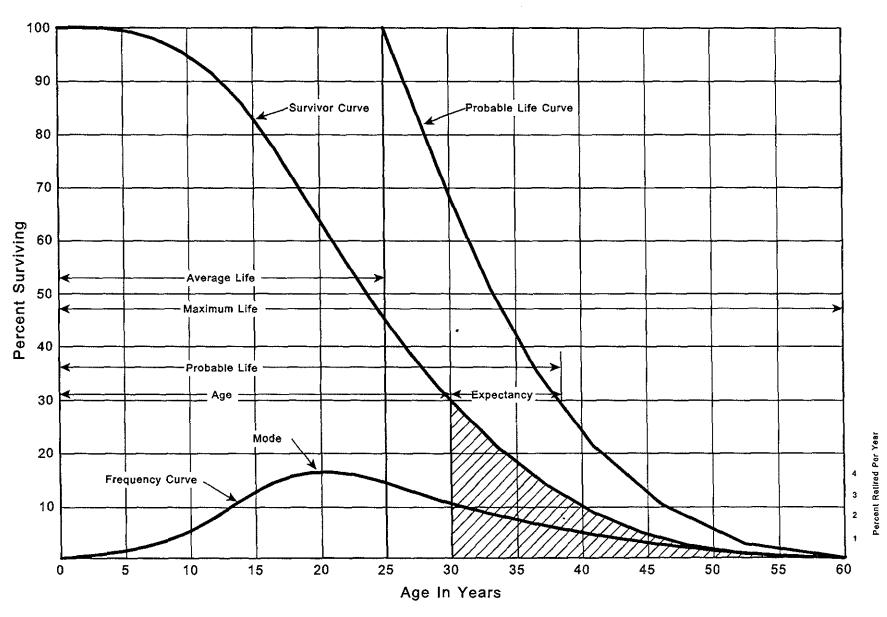


Figure 1. A Typical Survivor Curve and Derived Curves

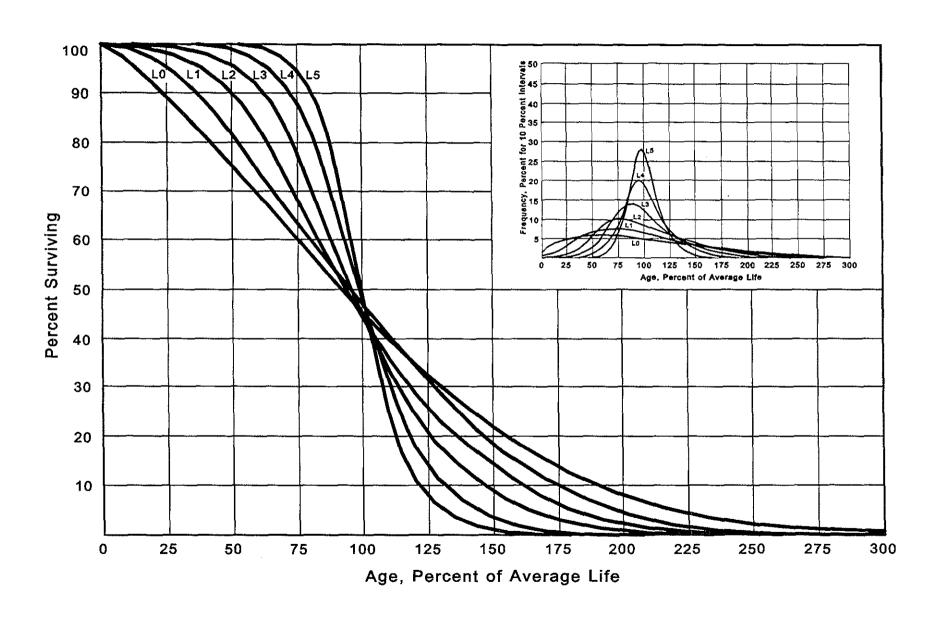


Figure 2. Left Modal or "L" lowa Type Survivor Curves

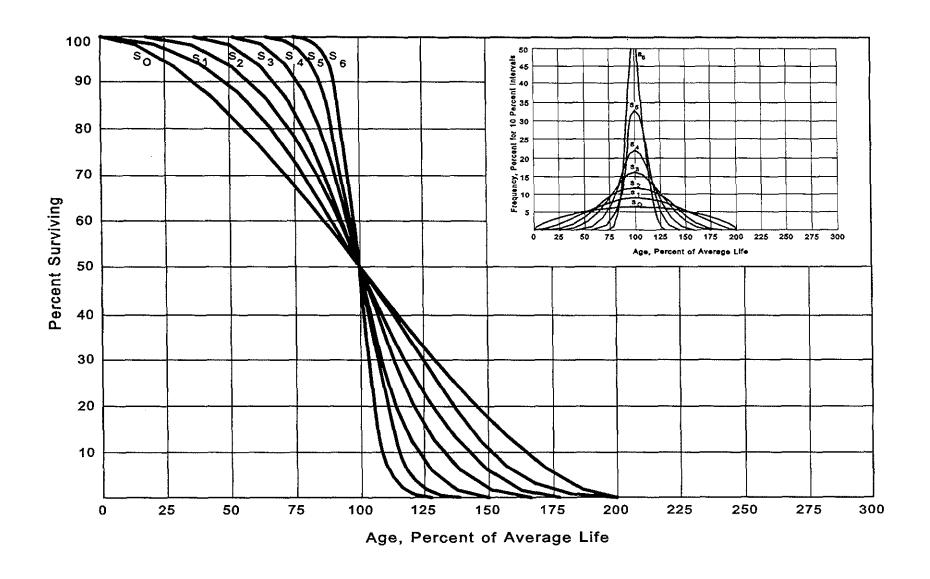


Figure 3. Symmetrical or "S" lowa Type Survivor Curves

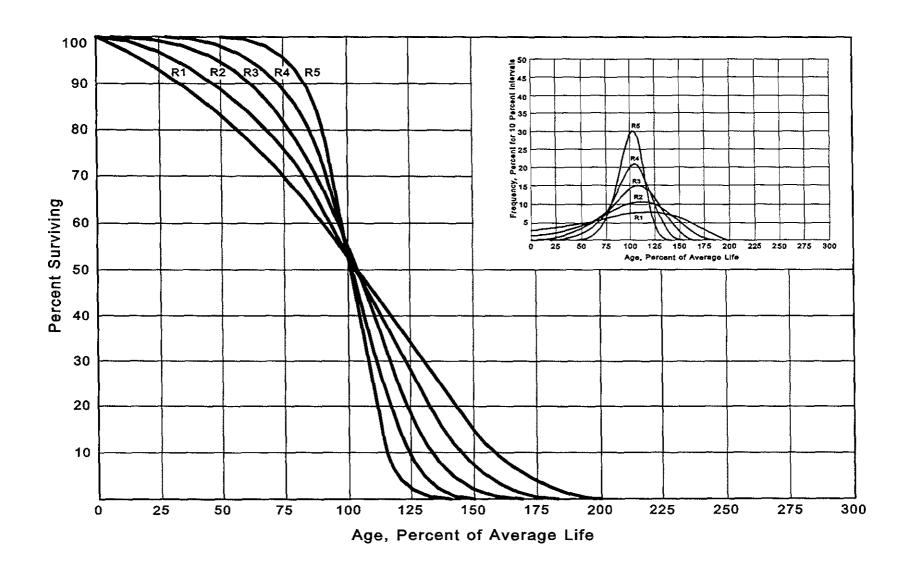


Figure 4. Right Modal or "R" lowa Type Survivor Curves

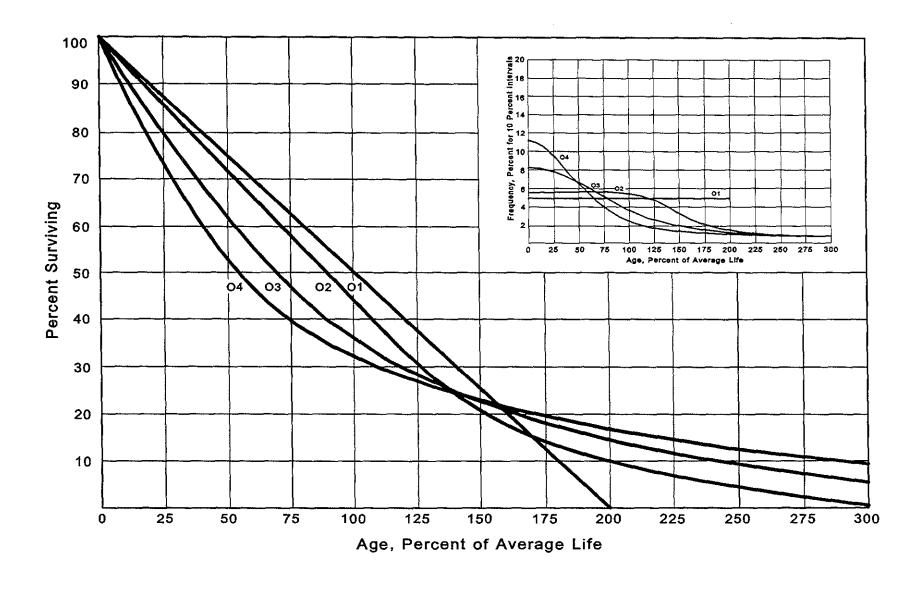


Figure 5. Origin Modal or "O" lowa Type Survivor Curves

which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125. These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." 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," "Engineering Valuation and Depreciation," and "Depreciation Systems."

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 <u>experience band</u>, 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 <u>placement band</u>. An example of the calculations used in the development of a life table follows. The example includes

<sup>&</sup>lt;sup>1</sup>Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

<sup>&</sup>lt;sup>2</sup>Winfrey, Robley, <u>Statistical Analyses of Industrial Property Retirements</u>. Iowa State College Engineering Experiment Station. Bulletin 125. 1935.

<sup>&</sup>lt;sup>3</sup>Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

<sup>&</sup>lt;sup>4</sup>Wolf, Frank K. and W. Chester Fitch. <u>Depreciation Systems</u>. Iowa State University Press. 1994.

schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

# Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2005-2014 during which there were placements during the years 2000-2014. 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 2000 were retired in 2005. 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 2005 retirements of 2000 installations and ending with the 2014 retirements of the 2009 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 2005-2014 SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014

Placement Band 2000-2014

				Retirer	ments, Tho		Dollars					
Year					During	g Year					Total During	Age
<u>Placed</u>	2005	2006	2007	2008	2009	2010	<u> 2011</u>	2012	2013	<u> 2014</u>	Age Interval	interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2000	_10	11	12	13	14	16	23	24	25	26	26	131⁄2-141⁄2
2001	11	12	13	15	16	18	20	21	22	19	44	121/2-131/2
2002	11	12	13	14	16	17	19	21	22	18	64	111/2-121/2
2003	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2004	9	10	11	12	13	14	16	17	19	20	93	91/2-101/2
2005	4	9	10	11	12	13	14	15	16	20	105	81/2-91/2
2006		5	11	12	13	14	15	16	18	20	113	71/2-81/2
2007			6	12	13	15	16	17	19	19	124	61/2-71/2
2008				6	13	15	16	17	19	19	131	51/2-61/2
2009					7	14	16	17	19	20	143	41/2-51/2
2010						8	18	20	22	23	146	31/2-41/2
2011							9	20	22	25	150	21/2-31/2
2012								11	23	25	151	11/2-21/2
2013									11	24	153	1/2-11/2
2014			<del> </del>	<del>-</del>	<del></del>					13	80	0-1/2
Total	53	68	86	106	128	_157	196	231	273	308	1,606	

# SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2005-2014 SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014

Placement Band 2000-2014

(102)

(50)

			Acquisiti	ons, Trans	sfers and	Sales, Th	ousands o	f Dollars				
					During	g Year						
Year <u>Placed</u> (1)	<u>2005</u> (2)	<u>2006</u> (3)	<u>2007</u> (4)	<u>2008</u> (5)	<u>2009</u> (6)	<u>2010</u> (7)	<u>2011</u> (8)	<u>2012</u> (9)	<u>2013</u> (10)	<u>2014</u> (11)	Total During Age Interval (12)	Age <u>Intervai</u> (13)
2000	-	-	-	-	•	-	60ª	_	-	-	-	131/2-141/2
2001	-	-	-	-	-	-	-	-	~	-	-	12½-13½
2002	-	-	~	-	-	-	-	-	-	-	-	111/2-121/2
2003	-	-	_	-	-	-	-	(5) <sup>b</sup>	-	-	60	101/2-111/2
2004	-	_	-	-	-	-	-	6ª	-	-	-	9½-10½
2005	-	••	-	-	-	-	-	-	-	-	(5)	81/2-91/2
2006		-	-	-	-	-	-	-	•	-	6	71/2-81/2
2007			-	-	-	-	-	-	-	-	-	61/2-71/2
2008				_	-	-	-	(12) <sup>b</sup>	_	-	-	51/2-61/2
2009					-	-	-	· <u>-</u>	22ª	-	-	41/2-51/2
2010						~	-	(19) <sup>b</sup>	-	-	10	31/2-41/2
2011							_	_	-	-	-	21/2-31/2
2012								-	-	(102) <sup>c</sup>	(121)	11/2-21/2
2013									-	-	-	1/2-11/2
2014											-	0-1/2

Total

Parentheses Denote Credit Amount.

<sup>&</sup>quot;Transfer Affecting Exposures at Beginning of Year

<sup>&</sup>lt;sup>b</sup> Transfer Affecting Exposures at End of Year

<sup>&</sup>lt;sup>c</sup> Sale with Continued Use

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 2005 through 2014 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 2010 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 $2\frac{1}{2}$ = \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age $3\frac{1}{2}$ = \$685,000 - \$22,000	= \$663,000

# SCHEDULE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1 OF EACH YEAR 2005-2014 SUMMARIZED BY AGE INTERVAL

Experience Band 2005-2014

Placement Band 2000-2014

	Exposures, Thousands of Dollars									Total at		
Year _	Annual Survivors at the Beginning of the Year									<u> </u>	Beginning of	Age
<u>Placed</u>	<u>2005 2006 2007 2008 2009 2010 2011 2012 2013 2014</u>									Age Interval	<u>Interval</u>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2000	255	245	234	222	209	195	239	216	192	167	167	131/2-141/2
2001	279	268	256	243	228	212	194	174	153	131	323	121/2-131/2
2002	307	296	284	271	257	241	224	205	184	162	531	111/2-121/2
2003	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2004	376	367	357	346	334	321	307	297	280	261	1,097	91/2-101/2
2005	420 <sup>a</sup>	416	407	397	386	374	361	347	332	316	1,503	81/2-91/2
2006		460 <sup>a</sup>	455	444	432	419	405	390	374	356	1,952	71/2-81/2
2007			510 <sup>a</sup>	504	492	479	464	448	431	412	2,463	61/2-71/2
2008				580°	574	561	546	530	501	482	3,057	51/2-61/2
2009					660ª	653	639	623	628	609	3,789	41/2-51/2
2010						750 <sup>a</sup>	742	724	685	663	4,332	31/2-41/2
2011							850 <sup>a</sup>	841	821	799	4,955	21/2-31/2
2012								960ª	949	926	5,719	11/2-21/2
2013									1,080 <sup>a</sup>	1,069	6,579	1/2-11/2
2014	, <u>-</u>				<u> </u>	····				1,220 <sup>a</sup>	7,490	0-1/2
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

<sup>&</sup>lt;sup>a</sup>Additions during the year

For the entire experience band 2005-2014, 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:

#### 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 41/2
                                         88.15
Exposures at age 4½
                                 = 3.789.000
Retirements from age 4\frac{1}{2} to 5\frac{1}{2}
                                      143,000
Retirement Ratio
                                 =
                                      143,000 \div 3,789,000 = 0.0377
                                         1.000 -
Survivor Ratio
                                                   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 2005-2014

Placement Band 2000-2014

(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 0.5	7,490 6,579	80 153	0.0107 0.0233	0.9893 0.9767	100.00 98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5 3.5	4,955 4,332	150 146	0.0303 0.0337	0.9697 0.9663	94.07 91.22
4.5	3,789	143	0.0337	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 9.5	1,503 1,097	105 93	0.0699 0.0848	0.9301 0.9152	72.65 67.57
10.5	823	83	0.0048	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 lowa 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 lowa 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 lowa 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 lowa 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

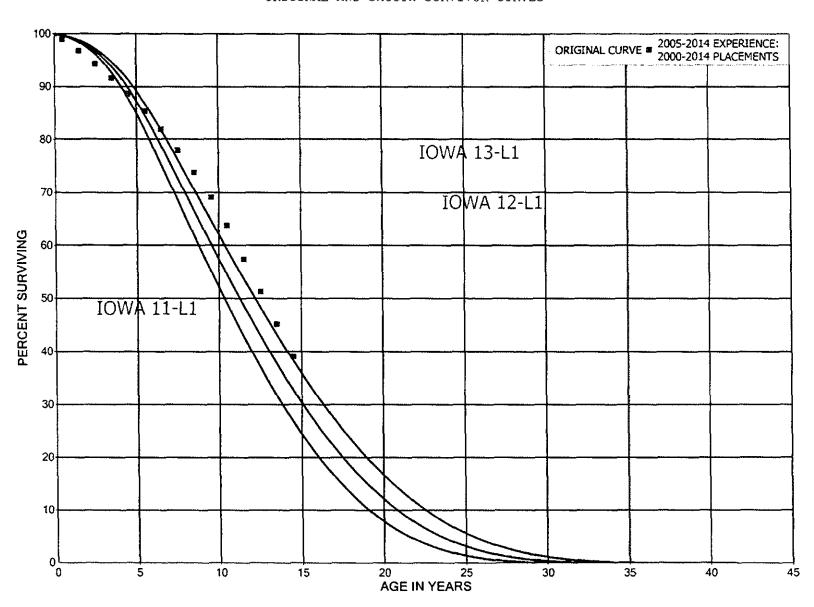


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN SO IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

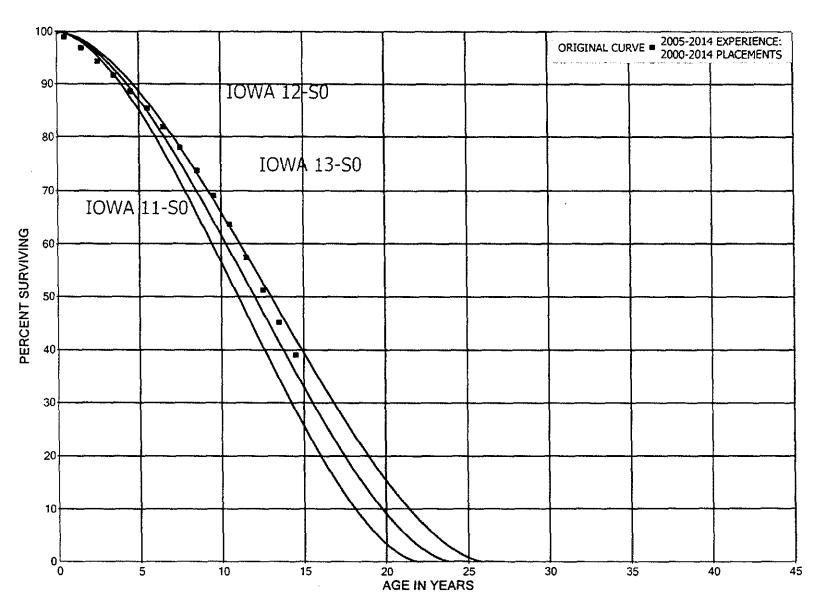


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

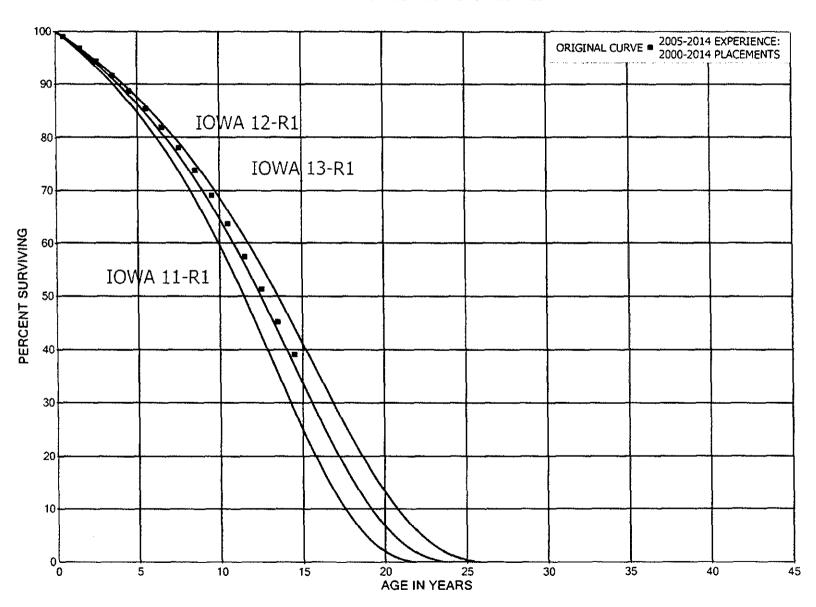
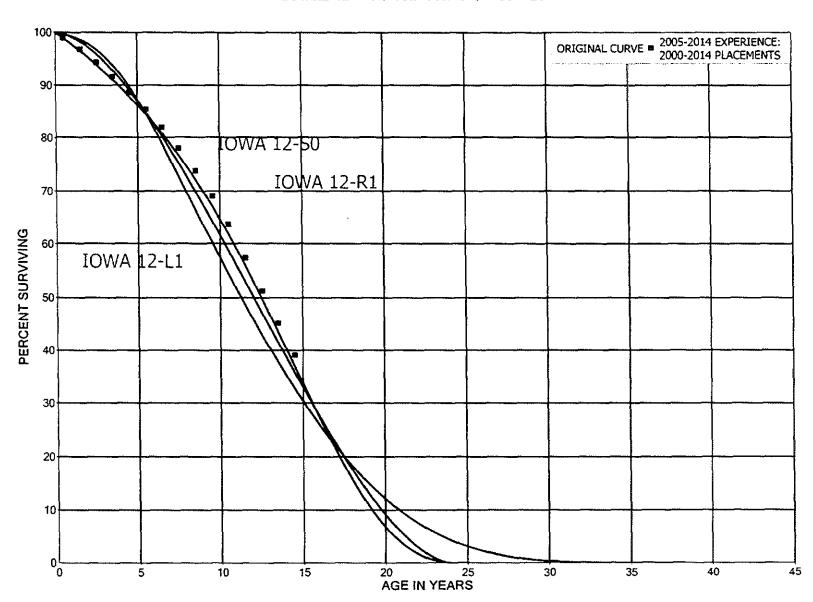


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, SO AND R1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III.	SERVICE LIF	E CONSIDE	RATIONS

### 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 the most recent field trips.

#### September 30, 2015

Iatan Generating Station
Lake Road Generating Station
Lake Road Industrial Steam Facility

#### October 14, 2014

Lake Road Generating Station
Ralph Green Generating Station
Landfill Gas Turbine
St. Joseph Service Center
Kansas City South Substation
Longview Substation
Lee Summit Service Center
Blue Springs Service Center

#### August 17-19, 2009

Iatan Generating Station
Iatan Substation
Facilities and Maintenance Facility
Lake Road Generating Station
Lake Road Combustion Turbines
Lake Road Industrial Steam Facility

#### 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 electric companies.

The 34 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 90 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

STEAM PRODUCT	I ION PLAIN I
311.00	Structures and Improvements
312.00	Boiler Plant Equipment
314.00	Turbogenerator Units
315.00	Accessory Electric Equipment
316.00	Miscellaneous Power Plant Equipment
OTHER PRODUCT	TION PLANT
341.00	Structures and Improvements
343.00	Prime Movers
344.00	Generators
346.00	Miscellaneous Power Plant Equipment
TRANSMISSION P	PLANT
353.00	Station Equipment
355.00	Poles and Fixtures
356.00	Overhead Conductors and Devices
DISTRIBUTION PL	ANT
361.00	Structures and Improvements
362.00	Station Equipment
364.00	Poles, Towers and Fixtures
365.00	Overhead Conductors and Devices
366.00	Underground Conduit
367.00	Underground Conductors and Devices
368.00	Line Transformers
369.01	Services - Overhead
369.02	Services - Underground
370.00	Meters
371.00	Installations on Customers' Premises
373.00	Street Lighting and Signal Systems

STEAM PRODUCTION PLANT



#### INDUSTRIAL STEAM

312.09	Boiler Plant Equipment
376.09	Mains
381.09	Meters

#### **GENERAL PLANT**

OFFICE OVER DULL	
390.00	Structures and Improvements
392.00	Transportation Equipment - Autos
392.01	Transportation Equipment - Light Trucks
392.02	Transportation Equipment - Heavy Trucks
392.04	Transportation Equipment - Trailers
392.05	Transportation Equipment - Medium Trucks
396.00	Power Operated Equipment

Account 364.00, Poles, Towers and Fixtures, is used to illustrate the manner in which the study was conducted for the groups in the preceding list. Aged plant accounting data have been compiled for the years 1960 through 2014. 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 electric 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 1960-2014, and 1979-2014. The Iowa 54-S2.5 is a reasonable fit of the stub original survivor curve for Distribution Poles. The 54-year service life is within the typical service life range of 40 to 60 years for poles. The 54-year life reflects the Company's plans to replace poles and fixtures due to voltage upgrades, relocation and condition.

#### Life Span Estimates

The life span technique was used for the Company's Power Production accounts in conjunction with the use of interim survivor curves which reflect interim retirements that occur prior to the ultimate retirement of the major unit. The life span procedure is appropriate for these accounts since all of the assets within the plant will be retired

concurrently. Probable retirement dates were estimated for each power plant. Life spans for each unit were estimated based on discussions with management regarding future outlook, age and condition of the plant, life spans typically experienced and estimated for similar plants. The life span and probable retirement dates used for production plants are as follows:

Depreciable Group	Major Year in <u>Service</u>	Probable Retirement <u>Year</u>	<u>Life Span</u>
Steam Production Plant Jeffrey Energy Center Unit 1 Jeffrey Energy Center Unit 2 Jeffrey Energy Center Unit 3 Sibley Unit 1 Sibley Unit 2 Sibley Unit 3 latan Unit 1 latan Unit 2 Lake Road Boiler 1 Lake Road Boiler 2 Lake Road Boiler 3 Lake Road Boiler 4 Lake Road Boiler 5 Lake Road Boiler 8 Lake Road Unit 1 Lake Road Unit 1 Lake Road Unit 2 Lake Road Unit 3 Lake Road Unit 3 Lake Road Unit 4	1978 1980 1983 1960 1962 1969 1980 2010 1958 1962 1966 1974 2006 1958 1958 1962 1966	2040 2040 2040 2019 2019 2040 2070 2035 2035 2035 2035 2035 2035 2035 203	62 60 57 59 57 71 60 60 85 77 73 69 61 29 85 77 73
Other Production Plant Greenwood Unit 1 Greenwood Unit 2 Greenwood Unit 3 Greenwood Unit 4 Nevada South Harbor Unit 1 South Harbor Unit 2 South Harbor Unit 3 Crossroads Unit 1 Crossroads Unit 2 Crossroads Unit 2 Crossroads Unit 3 Crossroads Unit 3	1975,2000 1975,2000 1977,2001 1979,2000 1974,1998 2005 2005 2005 2002 2002 2002 2002	2035 2035 2035 2035 2035 2050 2050 2050	60,35 60,35 58,34 56,35 61,37 45 45 46 46 46

	Major Year in	Probable Retirement	
Depreciable Group	<u>Service</u>	<u>Year</u>	<u>Life Span</u>
Lake Road Unit 5	1974	2035	61
Lake Road Unit 6	1989	2035	46
Lake Road Unit 7	1989	2035	46
Ralph Green	1981,1994	2035	54,41
Landfill Gas Turbine	2012	2042	30

Power plants typically are retired when there are other units that can generate electricity at a lower cost. Typical life spans for base load, coal-fired power plants are 50 to 65 years. For example, Units 1 & 2 at latan Generating facility were completed in 1980 and 2010, respectively. The estimated probable retirement date for latan Unit 1 is 2040 and latan Unit 2 is 2070. Thus, the life spans estimated for the latan power plant is 60 years for both Unit 1 and Unit 2, which is within the typical range. The estimated retirement dates should not be interpreted as commitments to retire these plants on these dates, but rather, as reasonable estimates subject to modification in the future as circumstances dictate.

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 electric companies.

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

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	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 1980 through 2014. 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 1980 through 2014 contributed significantly toward the net salvage estimates for 32 plant accounts, representing 79 percent of the depreciable plant, as follows:

#### STEAM PRODUCTION PLANT

	,,-,, -, ,,,,
311.00	Structures and Improvements
312.00	Boiler Plant Equipment
314.00	Turbogenerator Units
315.00	Accessory Electric Equipment



OTHER PRODUCT	TION PLANT
341.00	Structures and Improvements
342.00	Fuel Holders, Producers and Accessories
343.00	Prime Movers
344.00	Generators
345.00	Accessory Electric Equipment
TRANSMISSION F	PLANT
353.00	Station Equipment
356.00	Overhead Conductors and Devices
DISTRIBUTION PL	ANT
361.00	Structures and Improvements
362.00	Station Equipment
365.00	Overhead Conductors and Devices
367.00	Underground Conductors and Devices
368.00	Line Transformers
369.02	Services - Underground
370.00	Meters
370.01	Meters - Load Research Meters
371.00	Installations on Customers' Premises
373.00	Street Lighting and Signal Systems
INDUSTRIAL STEA	AM
376.09	Mains

376.09	Mains
379.09	City Gate Station
381.09	Meters

#### GENERAL PLANT

390.00	Structures and Improvements
392.00	Transportation Equipment - Combined
396.00	Power Operated Equipment

Account 362.00, Station Equipment, is used to illustrate the manner in which the study was conducted for the groups in the preceding list. Net salvage data for the period 1980 through 2014 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 1980-1982 through 2012-2014 periods were computed to smooth the annual amounts.

Cost of removal has been relatively consistent as a percentage of retirements since 1994 with the exception of 2012. The high costs in 2012 were charges to assets actually completed and booked in 2013. The practice for removal of transformers and breakers has not changed. Cost of removal for the most recent five years averaged 23 percent.

Gross salvage has varied throughout the period but has decreased as a percentage of retirements since 2008, as many retirements have been to old or obsolete assets. The most recent five-year average of 1 percent gross salvage reflects recent trends of little to no salvage value.

The net salvage percent based on the overall period 1980 through 2014 is 5 percent negative net salvage and based on the most recent five-year period is negative 23 percent. The range of estimates made by other electric companies for distribution station equipment is negative 5 to negative 25 percent. The net salvage estimate for station equipment is negative 10 percent, is within the range of other estimates and reflects the levels to more negative net salvage experienced in recent years.

The overall net salvage estimates for the Company's production facilities, for which the life span method is used, is based on estimates of both final net salvage and interim net salvage. Final net salvage is the net salvage experienced at the end of a production plant's life span. Interim net salvage is the net salvage experienced for interim retirements that occur prior to the final retirement of the plant. The final net salvage estimates in the study were based on a decommissioning study performed by Sega, Inc. The interim net salvage estimates were based in part on an analysis of historical interim retirement and net salvage data. Based on informed judgment that

incorporated these interim net salvage analyses for each plant account, an interim net salvage estimate was established for each production account and applied to the original cost.

The interim survivor curve estimates for each account and production facility were used to calculate the percentage of plant expected to be retired as interim retirements and the final retirements. These are shown on Table 2 in the Net Salvage Statistics section on pages VIII-2 through VIII-7. These percentages were used to determine the weighted net salvage estimate for each account and production facility based on the interim and final net salvage estimates. These calculations, as well as the estimated final net salvage amounts and interim net salvage percents, are shown on Table 2 of the Net Salvage Statistics section on pages VIII-2 through VIII-7.

The net salvage estimates for most of the remaining accounts were estimated using the above-described judgment process incorporating historical indications and reviewing the typical range of estimates used by other electric companies. The results of the net salvage analysis for each plant account are presented in account sequence in the section titled "Net Salvage Statistics", beginning on page VIII-8.

Generally, the net salvage estimates for the 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 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, 2014, 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, 2014, 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:

#### 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 electric plant in service. The accounts and their amortization periods are as follows:

		AMORTIZATION PERIOD,
<u>ACCT</u>	TITLE	<u>YEARS</u>
391.01,	Office Furniture and Equipment	20
391.02,	Computers	8
391.04,	Software	9
393.00,	Stores Equipment	25
394.00,	Tools, Shop and Garage Equipment	25
395.00,	Laboratory Equipment	30
397.00,	Communication Equipment	27
398.00.	Miscellaneous Equipment	25

For the purpose of calculating annual amortization amounts as of December 31, 2014, 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 electric plant in service as of December 31, 2014. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2014, is reasonable for a period of three to five years.

#### **DESCRIPTION OF DETAILED TABULATIONS**

Table 1 is a summary of the results of the study as applied to the original cost of electric plant at December 31, 2014 presented on pages VI-4 through VI-11 of this report.

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 electric 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 where 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.

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2014 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.

	ACCOUNT	PROBABLE RETIREMENT SI ACCOUNT DATE			ORIGINAL COST AS OF	воок	FUTURE	CALCULATED ANNUAL ACCRUAL		COMPOSITE REMAINING
	(1)	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
	(1)	(2)	(3)	(4)	(5)	(5)	(7)	(6)	(9)=(8)/(5)	(10)=(7)/(8)
	TEAM PRODUCTION PLANT								, , ,	. , , , , , ,
311.00	STRUCTURES AND IMPROVEMENTS									
	IATAN UNIT 2	2070	90-R2.5	(4)	29,106,931,12	2,585,791				
	IATAN COMMON (ECORP)	2070	90-R2.5		10,107,617,44		27,684,417	526,274	1.81	52.5
	JEFFREY ENERGY CENTER UNIT 1	2040	90-R2.5		6,352,619.91	1,184,379	10,944,762	208,357	2.06	52.5
	JEFFREY ENERGY CENTER UNIT 2	2040	90-R2.5			4,261,748	2,472,029	101,733	1.60	24.3
	JEFFREY ENERGY CENTER UNIT 3	2040	90-R2.5		5,131,916.08	3,225,159	2,162,353	88,479	1.72	24.4
	JEFFREY ENERGY CENTER COMMON	2040	90-R2.5		5,692,669.23	3,587,790	2,389,513	97,659	1.72	24.5
	SIBLEY UNIT 1	2019	90-R2.5	· (6)	3,854,935.70	1,380,319	2,590,265	103,703	2.69	25.0
	SIBLEY UNIT 2	2019	90-R2.5	· (5)	3,807,151.63 1,445,628.52	3,993,462	42,099	9,376	0.25	4.5
	SIBLEY UNIT 3	2040	90-R2.5	(11)		1,414,117	103,793	23,133	1,60	4.5
	SIBLEY COMMON	2040	90-R2.5		12.135,934.70	8,587,851	4,883,037	201,867	1.66	24.2
	IATAN UNIT 1	2040	90-R2.5		33,521,831.39	12,842,746	23,696,050	948,520	2.83	25.0
	IATAN COMMON (L&P)	2040	90-R2.5		4,752,309.26 7,974,272.58	2,789,303	2,485,760	100,836	2 12	24.7
	LAKE ROAD BOILER 1	2035	90-R2.5	(6)		1,675,387	7,176,056	285,605	3.58	25.1
	LAKÉ ROAD BOILER 2	2035	90-82.5		8,701 66	2,447	6,777	335	3,85	20.2
	LAKÉ ROAD BOILER 3	2035	90-R2.5	(0)	34,678.77	5,172	31,587	1,558	4.49	20 3
	LAKE ROAD BOILER 4	2035	90-R2.5	(4)	8,657.34	7,991	1,359	74	0.65	18.4
	LAKÉ ROAD BOILER 5	2035	90-R2.5	(8)	114,100.12	98,757	24,471	1.289	1.13	19.0
	LAKE ROAD BOILER 8	2035	90-R2.5	(6) (5)	1,642,407.72	138,465	1,602,487	78,933	4.81	20.3
	LAKE ROAD BOILERS COMMON	2035	90-R2.5	· (5)	443,501.71	89,133	376,544	18,565	4.19	20.3
	LAKE ROAD UNIT 1	2035	90-R2.5		2,574,788.44	302,223	2,401,305	118.277	4.59	20.3
	LAKE ROAD UNIT 2	2035	90-R2.5	(7)	856,148.96	647,041	269,038	13,770	1.61	19.5
	LAKE ROAD UNIT 3	2035	90-R2.5	(7)	1,121,097.50	795,949	403,625	20,406	1.82	19.8
	LAKE ROAD UNIT 4	2020	90-R2.5	177	361,335 57	249,585	137,044	6,918	1.91	19.8
	LAKE ROAD COMMON	2035	90-R2.5	(~4)	2,961,098.80	2,699,293	380,250	69,319	2.34	5.5
		2505	30412.3	(6)	9,764,105.13	4,729,573	5,620,378	278,814	2.86	20.2
	TOTAL STRUCTURES AND IMPROVEMENTS				143,774,439.28	57,295,701	97,884,999	3,303,900	2.30	29.5
312.00	BOILER PLANT EQUIPMENT									
	IATAN UNIT 2	2070	60-80.5	(16)	402 025 240 04					
	IATAN COMMON (ECORP)	2070	60-50.5		192,962,340.61	20,351,803	203,484,512	4,531,814	2.35	44,9
	JEFFREY ENERGY CENTER UNIT 1	2040	60-S0.5		28,764,048.81	3,841,634	32,113,427	721,136	2.51	44.5
	JEFFREY ENERGY CENTER UNIT 2	2040	60-80.5	(13)	14,202,243.09	7,946,686	8,101,849	368,384	2.59	22.0
	JEFFREY ENERGY CENTER UNIT 3	2040	60-S0.5	(10)	18,872,153.60	11,329,913	9,995,621	461.788	2.45	21.8
	JEFFREY ENERGY CENTER COMMON	2040	60-S0.5		23,093,436.80	13,707,748	12,387,836	569,445	2.47	218
	SIBLEY UNIT 1	2019	60-50.5	(7) (6)	3,680,363,89	882,484	3,055,505	127,864	3.47	23.9
	SIBLEY UNIT 2	2019	60-80.5		28,138,759.34	24,224,298	5,602,787	1,261,841	4.48	4.4
	SIBLEY UNIT 3	2040	60-50.5	(6)	19,431,773.63	16,655,149	3,942,531	887,711	4 57	4.4
	SIBLEY COMMON	2040	60-S0.5	(13)	110,191,046.17	49,503,452	77,216,251	3,374,169	3.06	22.9
	IATAN UNIT 1	2040	60-S0.5	{ 144 J	35,575,252.48	13,994,830	26,560,958	1,143,660	3.21	23.2
	IATAN COMMON (L&P)	2040		(13)	95,886,754,78	35,145,830	75,123,949	3,215,106	3.35	23.4
	LAKE ROAD BOILER 1	2035	60-50.5	(13)	22,641,720.42	4,734,021	20,851,123	866,883	3.83	24.1
	LAKE ROAD BOILER 2	2035	60-S0.5 60-S0.5	(9)	1,964,944.32	593,049	1,548,740	79,542	4.05	19.5
	LAKE ROAD BOILER 3	2035	60-S0.5	(11)	777,035.97	475,139	387,371	21,281	2.74	18.2
	LAKE ROAD BOILER 4			(10)	1,124,486.03	529,209	707,704	37,332	3.32	19.0
	LAKE ROAD BOILER 5	2035 2035	60-\$0.5	(11)	3,032,954.19	1,617,441	1,749,138	94,422	3 11	18.5
	LAKE ROAD BOILER 8	2035 2035	00-00.0	(10)	8,739,740.10	3,773,219	5,840,495	306,436	3.51	19 1
	LAKE ROAD BOILERS COMMON	2035	00-30.5	(0)	7,222,473.47	2,132,806	5,687,465	289,971	4.01	19.5
	LAKE ROAD UNIT 1	2035 2035	60-50.5	(6)	6,155,500.31	1,686,539	4,961,401	253,745	4.12	19.6
	LAKE ROAD UNIT 2		60-S0.5	(6)	222,661.36	55,101	185,373	9,434	4.24	19.6
	LAKE ROAD UNIT 4	2035	60-S0.5	(7)	55,770.60	6,843	52,832	2,660	4.77	19.9
	LAKE ROAD COMMON	2020	50-S0.5	(4)	22,544,426.84	13,660,641	9,785,563	1,793,677	7.96	5.5
		2035	50-S0.5	(10)	19,169,505 01	9,735,830	11,350,628	603,021	3.15	18.8
	TOTAL BOILER PLANT EQUIPMENT									

		PROBABLE	ares Marane	NET	ORIGINAL COST			CALCULA		COMPOSITE
		RETIREMENT	SURVIVOR	SALVAGE	AS OF	BOOK	FUTURE	ANNUAL AC		REMAINING
	ACCOUNT	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(5)/(5)	(10)=(7)/(8)
312.02	BOILER PLANT EQUIPMENT - POLLUTION CONTROL EQUIPMENT									
	JEFFREY ENERGY CENTER UNIT 1	2040	45-R3	* (4)	13,369,261.88	1,106,719	12,797,313	523,276	3.91	24.5
	JEFFREY ENERGY CENTER UNIT 2	2040	45-R3	(4)	14,805,465.42	1,004.959	14,392,725	586,369	3 96	24.5
	JEFFREY ENERGY CENTER UNIT 3	2040	45-R3	* (4)	14,880,936 44	1,307.414	14.168,760	580,142	3.90	24.4 24.4
	JEFFREY ENERGY CENTER COMMON	2040	-3-113	(4)	16,969,160,16	1,402,205	16,245,722	564,726	3.92 16.48	24.4 4.5
	SIBLEY UNIT 1 SIBLEY UNIT 2	2019 2019	45-R3 45-R3	(5)	2,489,123.39	774,465	1,839,115	410,096	16.49	4.5 4.5
	SIBLEY UNIT 3	2019	45-R3	(5)	2,462,659.64	764,875	1,820,918	406,025	4.12	24.4
	SIBLEY COMMON	2040	45-R3	* (10) * (10)	100,657,483.86 2,713,538,70	9,472,904 290,604	101,250,328 2,694,289	4,145,187 110,807	4.12	24,4
	IATAN COMMON (MPS)	2040	45-R3	* (2)	2,713,538.70 775.89	290,604	2.094,289	31	4.00	24.8
	IATAN COMMON (WPS)	2040	45-R3	* (11)	455.225.05	61.085	444,215	18.478	4.06	24.0
	LAKE ROAD BOILER 4	2035		- (10)	13,705.53	3.968	11.108	640	4.67	17.4
	LAKE ROAD BOILER 5	2035	45-R3	* (12)	2.090.301.22	686,757	1,654,380	116,637	5.58	14.2
	LAKE ROAD UNIT 4	2020	45-R3	• (4)	7,433,827.60	2,774,148	4,957,033	916,195	12.32	5.4
	LAKE ROAD COMMON	2035	45-R3	• (8)	2,009,350.15	484,277	1,685,821	92,335	4.60	18.3
	TOTAL BOILER PLANT EQUIPMENT - POLLUTION CONTROL EQUIPMENT				180,350,814.73	20,134,401	173,962,497	8,570,944	4 75	20.3
314.00	TURBOGENERATOR UNITS									
	IATAN UNIT 2	2070	60-R1.5	• (7)	70,652,184.05	5,846,452	69,751,385	1,520,630	2.15	45.9
	IATAN COMMON (ECORP)	2070	00-11110	(18)	968,983.88	104,625	1,038,776	22.782	2 35 2.67	45.6 23.0
	JEFFREY ENERGY CENTER UNIT 1	2040 2040	00-151.0	117	5,368,583.19	2,450,365	3,294,126	143,470	2.55	23.0
	JEFFREY ENERGY CENTER UNIT 2	2040 2040	00-K1.5	(7)	5,377,504.12	2,650,597	3,103,332	136,947	2.55 2.51	22.6
	JEFFREY ENERGY CENTER UNIT 3 JEFFREY ENERGY CENTER COMMON	2040	00-K1.5	411	7,453,547.35	3,744,141 318,798	4,231,155 1,306,611	187,151 54,579	3.53	23.9
	SIBLEY UNIT 1	2019	60-R1.5	• (5) • (6)	1,548,008 55 14,392,694.60	12,285,709	2,967,547	54,579 669,515	4.65	4.4
	SIBLEY UNIT 2	2019	60-R1.5	* (6)	12,247,431,20	9,869,863	3,112,414	700,564	5.72	4.4
	SIBLEY UNIT 3	2040		* (11)	39,792,328,24	17,184,046	26,985,438	1,173,426	2.95	23.0
	SIBLEY COMMON	2040		- (11)	311 980 08	149,670	196,628	€,586	2.75	22.9
	IATAN UNIT 1	2040	00 , (	- (11)	14,725,358.34	6,871,999	9,474,259	415,643	2.82	22.8
	IATAN COMMON (L&P)	2040		- (11)	764.663.58	145,063	703,714	29,302	3.83	24.0
	LAKE ROAD BOILERS COMMON	2035	60-R1.5	(5)	98,375.21	11,048	92,246	4,690	4,77	19.7
	LAKE ROAD UNIT 1	2035	60-R1.5	• (6)	3,535,123,23	1,722,776	2.024.455	109,658	3,10	18.5
	LAKE ROAD UNIT 2	2035	60-R1.5	* (6)	3,210,098,48	1,813,425	1,589,279	87,182	2.72	18.2
	LAKE ROAD UNIT 3	2035	60-R1.5	• (6)	1,371,022,38	576,355	876,929	46,493	3.39	18.9
	LAKE ROAD UNIT 4	2020	60-R1.5	• (4)	12,673,820 11	7,960,218	5,220,555	961,771	7.59	5.4
	LAKE ROAD COMMON	2035	60-R1.5	• (6)	15,759.39	7,312	9,393	489	3.10	19,2
	TOTAL TURBOGENERATOR UNITS				194,508,565,78	73,715,462	135,978,242	6,272,978	3.23	21.7
315.00	ACCESSORY ELECTRIC EQUIPMENT									
	IATAN UNIT 2	2070	60-80.5	(11)	17,598,269.99	1,960,487	17,573,593	391,394	2.22	44.9 44.5
	IATAN COMMON (ECORP)	2070	50-\$0.5	- (20)	4,226,655.11	598,209	4,473,777	100,466	2.38	
	JEFFREY ENERGY CENTER UNIT 1	2040 2040	60-80.5	* (9)	2,152,270.50	1,347,953	1,008,922 925,229	46,146 41,655	2.13 2.28	21.9 22.2
	JEFFREY ENERGY CENTER UNIT 2		60-\$0.5	(9)	1 825 456.00	1,064,518			2.20	21.7
	JEFFREY ENERGY CENTER UNIT 3	2040 2040	60-80.5 60-80.5	* (9)	2,423,567.82 562,173.09	1,564,429 202,700	1,077,369 387,582	49,698 16,491	2.05	23.5
	JEFFREY ENERGY CENTER COMMON SIBLEY UNIT 1	2040 2019	60-S0.5	(5)	2,023,263.70	2,026,358	367,582 118,302	26,564	1,31	4.5
	SIBLEY UNIT 2	2019	60-S0.5	· (5)	1,914,617.62	1,880,976	148,519	33,354	1.74	4.5
	SIBLEY UNIT 3	2040	50-S0.5	- (14)	9,353,397.64	5,783,313	4,879,560	221,046	2.36	22.1
	SIBLEY COMMON	2040	50-S0.5	- (12)	4,332,894.85	2,445,517	2,407,325	106,963	2.47	22.5
	ORGE: SOMMON	20-70	00-00-0	(12)	4,500,004.00	2,	2, (-22	. 22,200		

	•	PROBABLE RETIREMENT	SURVIVOR	NET SALVAGE	ORIGINAL COST AS OF	воок	FUTURE	CALCULANNUAL AC		COMPOSITE
	ACCOUNT	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	LIFÉ
	(1)	(2)	(3)	(4)	(5)	(5)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
	IATAN COMMON (MPS)	2040	60-\$0.5	• (2)	210.60	14	201	8	3.80	25.1
	IATAN UNIT 1	2040	60-80.5	(13)	11,494,274.20	5,661,958	7,326,572	318,965	2.77	23.0
	IATAN COMMON (L&P)	2040	60-50.5	• (11)	3.329.005.05	754,632	2,940,564	122,254	3.67	24.1
	LAKE ROAD BOILER 1	2035	60-50.5	- (10)	130,632,08	108,718	34,977	2.073	1.59	16.9
	LAKE ROAD BOILER 2	2035	60-\$0.5	• (12)	39,485.04	36,827	7,396	484	1.23	15.3
	LAKE ROAD BOILER 3	2035	60-50.5	• (7)	26,577,17	10,425	18,013	929	3.50	19.4
	LAKE ROAD BOILER 4	2035	60-80,5	• (6)	1,065,002.18	75,502	1,053,400	52,841	4.96	19.9
	LAKE ROAD BOILER 5	2035	60-80.5	• (7)	415,889.75	88,710	356,292	18,063	4.34	19.7
	LAKE ROAD BOILER 8	2035	60-50.5	- (6)	683,035,18	245,860	478,158	24,571	3 60	19.5
	LAKE ROAD BOILERS COMMON	2035	60-50.5	· (7)	232,636.45	105,141	143,780	7,477	3,21	19.2
	LAKE ROAD UNIT 1	2035	60-S0.5	• (9)	345,060.18	255,606	120,510	5 764	1.96	17.8
	LAKE ROAD UNIT 2	2035	50-50.5	- (10)	410,644.15	324,190	127,519	7,336	1.79	17.4
	LAKE ROAD UNIT 3	2035		* (10)	83,388.65	67,788	23,940	1,399	1 68	17.1
	LAKE ROAD UNIT 4	2020	60-80.5	· (4)	3,955,562 85	2,228,522	1,885,263	344,494	8.71	5.5
	LAKE ROAD UNIT 5	2035	60-S0.5	· (6)	65.847.53	1,947	67,851	3,394	5.15	20.0
	LAKE ROAD COMMON	2035	60-S0.5	• (9)	495,826 29	334,880	205,571	11,248	2.27	18.3
	TOTAL ACCESSORY ELECTRIC EQUIPMENT				69,195,744.67	29,175,180	47,790,185	1,956,077	2.83	24.4
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT									
	ATAN UNIT 2	2070	35-S1	<b>-</b> (6)	1,126,816,35	130,401	1,054,024	34,826	3 09	30 6
	fatan Common (ECORP)	2070	35-S1	* (14)	317,796,72	42,056	320,232	10,579	3.33	30.3
	JEFFREY ENERGY CENTER UNIT 1	2040	35-S1	• (4)	415,169.95	133,270	298,507	15,112	3.88	18.5
	JEFFREY ENERGY CENTER UNIT 2	2040	35-S1	* (4)	735 283 08	212,955	551,739	28,891	3.93	19.1
	JEFFREY ENERGY CENTER UNIT 3	2040	35-S1	· (4)	278.291.53	50,764	238,659	11,437	4.11	20.9
	JEFFREY ENERGY CENTER COMMON	2040	35-S1	- (4)	1,438,993 40	455,861	1,040,692	53,922	3 75	19.3
	SIBLEY UNIT 1	2019	35-S1	- (5)	160,980,25	71,035	97,994	21,964	13,64	4.5
	SIBLEY UNIT 2	2019	35-S1	- (5)	116 244 77	78.123	43.934	10.137	8.72	4.3
	SIBLEY UNIT 3	2040	35-S1	· (9)	405.078.40	213,137	228,398	17,446	4.31	13.1
	SIBLEY COMMON	2040	35-S1	- (9)	2,530,850,74	337,191	2,421,436	109,393	4.32	22.1
	IATAN COMMON (MPS)	2040	35-S1	- (1)	3,840.65	205	3,674	159	4 14	23.1
	IATAN UNIT 1	2040	35-S1	* (10)	1,848,941.85	568,659	1,465,177	74,989	4.06	19.5
	IATAN COMMON (L&P)	2040	35-S1	* (10)	220,835.89	38,715	204,204	9,301	4.21	22.0
	LAKE ROAD BOILER 5	2035	35-51	- (7)	87,115.14	15,596	77,617	4,155	4.77	18.7
	LAKE ROAD BOILERS COMMON	2035	35-51	• (7)	608,589.16	59,207	591,983	30,961	5.09	19 1
	LAKE ROAD COMMON	2035	35-S1	- (B)	571,372,92	169,064	448,019	26,608	4.66	16.8
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT				10,866,200.80	2,576,239	9,096,289	460,880	4.24	19.7
T	OTAL STEAM PRODUCTION PLANT				1,263,145,147.28	419,480,648	985,385,269	41,586,101	3.29	23.7
c	THER PRODUCTION PLANT									
341.00	STRUCTURES AND IMPROVEMENTS									
0.11.00	GREENWOOD UNIT 1	2035	55-R3	<b>-</b> (5)	838,984,96	238,814	642,120	32,204	3.84	19.9
	GREENWOOD UNIT 2	2035	55-R3	- (5)	197,443.93	36,551	170.765	8,470	4.29	20.2
	GREENWOOD UNIT 3	2035	55-R3	- (5)	907,072,70	240,073	712,353	35,627	3.93	20.0
	GREENWOOD UNIT 4	2035	55-R3	· (5)	119,335.24	20,901	104,401	5,178	4,34	20.2
	GREENWOOD COMMON	2035	55-R3	* (5)	1,437,259,38	416,522	1.092.500	55,194	3.84	19.8
	NEVAGA PLANT	2035	55-R3	• (28)	301,296.08	107,238	278,421	13,990	4.64	19.9
	SOUTH HARPER UNIT 1	2050	55-R3	- (5)	1.313.182.90	222,863	1,155,979	34,875	2.66	33.1
	SOUTH HARPER UNIT 2	2050	55-R3	• (5)	1,312,300.87	222,745	1,155,171	34,850	2.66	33.1
	SOUTH HARPER UNIT 3	2050	55-R3	• (5)	1.313.673.75	222,743	1,156,427	34,887	2.66	33.1
	SOUTH HARPER COMMON	2050	55-R3	* (5)	8,049,494.32	1,388,994	7,062,975	213,249	2.65	33.1
	ODD THE INTERFERENCE OF THE PROPERTY OF THE PR	2030	33-R3	(3)	o,∪45,454.3∠	1,360,394	1,002,375	2 13,249	2.00	53,1

	ACCOUNT	PROBABLE RETIREMENT	SURVIVOR	NET SALVAGE	ORIGINAL COST AS OF	воок	FUTURE	CALCUL ANNUAL AC		COMPOSITE REMAINING
	(1)	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	UFE
	117	(2)	(3)	(4)	(5)	(8)	(7)	(8)	(9)=(6)/(5)	(10)=(7)/(8)
	CROSSROADS UNIT 1	2048	55-R3	- (6)	180,000,00	43,266	147,534	4 774 4		
	CROSSROADS UNIT 2	2048	55-R3	* (6)	150,000,00	43,266	147,534	4,781 4,781	2.66	30 9
	CROSSROADS UNIT 3	2048	55-R3	- (6)	180,000.00	43,266	147,534	4,781	2.66 2.66	30 9
	CROSSROADS UNIT 4	2048	55-R3	<b>•</b> (6)	180,000,00	43,266	147,534	4.781	2.66	30 9 30,9
	CROSSROADS COMMON LAKE ROAD UNIT 5	2048	55-R3	- (6)	1,675,895,65	391,039	1,385,410	44,779	2.67	30.9
	LAKE ROAD UNIT 6	2035	55-R3	* (15)	1,229,945.73	711,561	702.877	42,143	3.43	16.7
	LAKE ROAD UNIT 7	2035	00-110	* (19)	218,663.24	114,024	146,185	7,726	3.53	18.9
	RALPH GREEN PLANT	2035	22-173	- (20)	28,418.03	12,495	21,607	1,110	3.91	19.5
	LANDFILL GAS TURBINE	2035	55-R3	• (5)	1,789,779 13	550,287	1,318,981	66,727	3,73	19.8
	DATE ONG TORDING	2042	55-R3	• 0	129 632 07	10,209	119,423	4,442	3.43	26.9
	TOTAL STRUCTURES AND IMPROVEMENTS				2* 582 377 99	5 090,310	17,815,831	654,575	3.03	27.2
342.00	FUEL HOLDERS, PRODUCERS AND ACCESSORIES									
	GREENWOOD UNIT 1	2035	55-73	- (5)						
	GREENWOOD UNIT 2	2035	55 R3	* (5)	1 173 496 93 304 126 43	529,756	702,416	35,224	3.00	19 9
	GREENWOOD UNIT 3	2035	55 R3	* (5)	1 312 280 67	117,645 545,035	201,688	10,065	3 31	20.0
	GREENWOOD UNIT 4	2035	55 R3	- (5)	360 338 71	111,596	831,850	41,583	3.17	20.0
	GREENWOOD COMMON	2035	55-R3	- (6)	537 371 98	400,253	266,760 169,361	13,243	3.58	20.1
	NEVADA PLANT	2035	55-R3	* (29)	743 632 17	407,248	552,037	9,115	1 70	18.6
	SOUTH HARPER UNIT 1	2050	55-P3	- (5)	400,000,35	113,976	306,024	27,559	3.72	20 0
	SOUTH HARPER UNIT 2	2050	55-R3	• (5)	400,000 35	113,976	306,024	9,276 9,276	2.32	33.0
	SOUTH HARPER UNIT 3	2050	55-R3	- (5)	400,000,35	113,976	306,024	9,276 9,276	2.32 2.32	33.0
	SOUTH HARPER COMMON	2050	55-R3	(5)	2,804,627,12	796,395	2,148,463	65,109	2.32	33.0
	CROSSROADS UNIT 1	2048	55-R3	• (6)	600,000,00	222,101	413,899	13,412	2.32	33.0 30.9
	CROSSROADS UNIT 2	2048	55-R3	* (6)	600,000,00	222,101	413,899	13,412	2.24	30.9
	CROSSROADS UNIT 3 CROSSROADS UNIT 4	2048	55-R3	* (6)	600,000.00	222,101	413.899	13,412	2.24	30.9
	CROSSROADS COMMON	2048	55-R3	* (6)	600,000.00	222,100	413,900	13,412	2.24	30 9
	LAKE ROAD UNIT 5	2048	110	(6)	1,921,888.04	708,104	1,329,097	43,050	2.24	30.9
	LAKE ROAD UNIT 7	2035	55-R3	(12)	595,520.99	566,593	100,391	6,269	1.05	16.0
	RALPH GREEN PLANT	2035	55-R3	- (16)	9,587.22	7,603	3,518	187	1 95	18.8
	LANDFILL GAS TURBINE	2035 2042	55-R3	- (5)	442,780 91	173,449	291,471	14,545	3.28	20 0
	2 1/1-1/12 0/10 10/10/12	2042	55-R3	- (1)	2,306,790.04	242,514	2,087.344	77,539	3.36	26.9
	TOTAL FUEL HOLDERS, PRODUCERS AND ACCESSORIES				16,112,442.26	5,837,522	11,258,075	425,064	2.64	26.5
343.00	PRIME MOVERS									
	GREENWOOD UNIT 1	2035	45-R2	• (7)	9,055,068.87	5,429,078	4.050.040	***		
	GREENWOOD UNIT 2	2035	45-R2	• 8	8,808,229,73	5,273,533	4,259,846	224,859	2 48	18.9
	GREENWOOD UNIT 3	2035	45-R2	· (7)	7,630,502.02	4,41 <del>6</del> ,755	4,151,273	219,097	2.49	18.9
	GREENWOOD UNIT 4	2035	45-R2	- (7)	9,141,175,74	5,500,696	3,747,882 4,280,362	197,257 225.052	2.59	19.0
	GREENWOOD COMMON	2035		- (6)	597,111.49	291,850	341,088	17,776	2.47 2.98	18.9
	NEVADA PLANT	2035	45-R2	(16)	935,801,35	755,740	329,790	17,776	2.98 1.92	19.2
	SOUTH HARPER UNIT 1	2050	45-R2	* (10)	22,580,864,67	8,563,613	16,275,338	546,924	2.42	18.4 29.8
	SOUTH HARPER UNIT 2	2050	45-R2	(10)	23,139,560.13	8,651,361	16,802,155	563,684	2.44	29.8 29.8
	SOUTH HARPER UNIT 3	2050	45-R2	* (10)	22,640,251,50	8,579,769	16,324,508	548,527	2.42	29.6 29.8
	SOUTH HARPER COMMON	2050	45-R2	* (9)	1,747,787.03	581,315	1,323,773	43,906	2.51	30.2
	CROSSROADS UNIT 1 CROSSROADS UNIT 2	2048	45-R2	* (10)	19,916,176.90	9,759,437	12,148,358	438,748	2.20	27.7
	CROSSROADS UNIT 3	2048	45-R2	* (10)	20,138,236.76	9,877,427	12,274,633	443,383	2.20	27.7
	CROSSROADS UNIT 4	2048	45-R2	* (10)	19,887,492.73	9,748,515	12,127,727	438,028	2.20	27.7
	LAKE ROAD UNIT 5	2048	45-R2	(10)	20,134,448,60	9,876,796	12,271,097	443,265	2.20	27.7
	LAKE ROAD UNIT 6	2035	45-R2	* (17)	4,691,598 42	5,472,009	17,161	875	0.02	19.6
	LAKE ROAD UNIT 7	2035	45-R2	(19)	3,943,545.78	3,924,041	768,778	43,942	1.11	17.5
	RALPH GREEN PLANT	2035	45-R2	(19)	2,405,050,19	2,300,691	561,319	31,330	1 30	17.9
	LANDFILL GAS TURBINE	2035 2042	45-R2	(6)	5,336,928.69	3,800,345	1,856,799	100,133	1.88	18.5
	<del>- · · · -</del>	2042	45-R2	• (1)	11,018.25	1,456	9,672	378	3.43	25.6
	TOTAL PRIME MOVERS				202.740.848.85	102,804,427	119,871,559	4,546,104	2.24	26.4

		PROBABLE RETIREMENT	SURVIVOR	NET SALVAGE	ORIGINAL COST AS OF	воок	FUTURE	CALCULA ANNUAL AC		COMPOSITE
	ACCOUNT	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(3)=(8)/(5)	(10)=(7)/(8)
344.00	GENERATORS									
	GREENWOOD UNIT 1	2035	50-R2.5	• (6)	2,748,805.82	1,726,852	1,186,882	61,084	2.22	19.4
	GREENWOOD UNIT 2	2035	50-R2.5	(6)	2,095,885.96	1,499,022	722,617	37,671	1.80	19.2
	GREENWOOD UNIT 3	2035	50-R2.5	(5)	1,815,223.69	958,434	947,551	48,323	2.56	19.6
	GREENWOOD UNIT 4	2035	50-R2.5	(6)	1,651,919.68	967,211	783,824	40,178	2.43	19.5
	GREENWOOD COMMON	2035	50-R2 5	(5)	70,603.95	7,795	66,339	3,314	4.69	20.0
	NEVADA PLANT	2035	50-R2.5	(22)	618,488.11	568,942	185,613	9,865	1.60	18.8
	SOUTH HARPER UNIT 1	2050	50-R2.5	. (7)	5,750,000.01	2,090,517	4,061,983	128,788	2.24	31.5
	SOUTH HARPER UNIT 2 SOUTH HARPER UNIT 3	2050	50-R2.5	• (7)	5,750,000.15	2,090,517	4,061,983	128,788	2.24	31.5
	SOUTH HARPER COMMON	2050	50-R2.5	• (7)	5,750.000.27	2,090,517	4,061,983	128,788	2.24	31.5 33.3
	CROSSROADS UNIT 1	2050 2048	50-R2.5 50-R2.5	* (6) * (8)	115,810.62 4,088,784,18	5,329 1,909,442	117,430 2,505,445	3,529 84,997	3 05 2.08	33.3 29.5
	CROSSROADS UNIT 2	2048	50-R2.5	* (8)	4,088,754,18	1,909,442	2,505,443	83,703	2.08	29.5
	CROSSROADS UNIT 3	2048	50-R2.5	• (8)	4.049,890.71	1,908,479	2,465,403	83,703	2.07	29.5
	CROSSROADS UNIT 4	2048	50-R2.5	- (8)	4,050,030,55	1,908,483	2,465,550	83,707	2.07	29.5
	CROSSROADS COMMON	2048	50-R2.5	* (6)	127.014.67	8.762	125,874	3,985	3.14	31.6
	LAKE ROAD UNIT 5	2035	50-R2.5	• (15)	2,713,780,97	2,902,240	218,608	11,048	0.41	19.8
	LAKE ROAD UNIT 5	2035	50-R2.5	- (18)	453,408.53	418,499	116,523	6,212	1.37	18.8
	LAKE ROAD UNIT 7	2035	50-R2.5	* (18)	117,499.82	119,222	19,428	1,078	0.92	18.0
	RALPH GREEN PLANT	2035	50-R2.5	(6)	6,618,989.23	5,323,186	1,692,943	90,108	1.35	18.8
	LANDFILL GAS TURBINE	2042	50-R2.5	· (1)	2,574,774.71	336,272	2,264,250	85,930	3,34	25.3
	TOTAL GENERATORS				55,210,802.34	28,748,200	30,536,632	1,124,799	2 04	27.2
345.00	ACCESSORY ELECTRIC EQUIPMENT									
	GREENWOOD UNIT 1	2035	50-R2.5	- (4)	2,018,177.24	908,971	1,189,933	61,781	3.06	19,3
	GREENWOOD UNIT 2	2035	50-R2.5	* (4)	728,845.95	319,968	438,032	22,692	3.11	19.3
	GREENWOOD UNIT 3	2035	50-R2.5	- (4)	1,638,644,52	693,577	1,010,613	52,166	3.18	19.4
	GREENWOOD UNIT 4	2035	50-R2.5	(4)	412,891.85	173,911	255,497	13,195	3.20	19 4
	GREENWOOD COMMON	2035	50-R2.5	(4)	2,062,489.17	628,002	1,516,987	77,176	3.74	19.7
	NEVADA PLANT	2035	50-R2.5	* (19)	480,422.98	309,218	262,485	14,245	2.97	18.4 31.6
	SOUTH HARPER UNIT 1 SOUTH HARPER UNIT 2	2050 2050	50-R2.5 50-R2.5	(4)	4,419,168.88 4,419,168.98	1,046,249 1,046,248	3,549,687 3,549,688	112,485 112,485	2.55 2.55	31.6 31.6
	SOUTH HARPER UNIT 3	2050	50-R2.5	* (4)	4,419,169,11	1,046,249	3,549,687	112,485	2.55	31.6 31.6
	SOUTH HARPER COMMON	2050	50-R2.5	· (4) · (4)	3,959,534,99	942,290	3,175,826	100,672	2.54	31.5
	CROSSROADS UNIT 1	2048	50-R2.5	- (5)	5,048,036.26	1,442,076	3,858,362	129,949	2.57	29.7
	CROSSROADS UNIT 2	2048	50-R2.5	• (5)	2,881,206.31	814,447	2,210,820	74,396	2.58	29.7
	CROSSROADS UNIT 3	2048	50-R2.5	* (5)	4,715,453.41	1,391,387	3,559,839	120,269	2.55	29.6
	CROSSROADS UNIT 4	2048	50-R2.5	• (5)	2.538.119.51	714,803	1,950,222	65,584	2.58	29.7
	CROSSROADS COMMON	2048	50-R2.5	(5)	181,395.74	24,026	166,440	5.348	2.95	31.1
	LAKE ROAD UNIT 5	2035	50-R2.5	- (12)	621,796.82	376,249	320,163	18,478	2.97	17.3
	LAKE ROAD UNIT 6	2035	50-R2.5	* (17)	418,623.27	282,015	207,774	11,503	2.75	18.1
	LAKE ROAD UNIT 7	2035	50-R2.5	- (17)	250,497.08	168,314	124,768	6,898	2.75	18.1
	LAKE ROAD COMMON	2035	50-R2.5	- (20)	2,377.90	941	1,912	97	4.08	19.7
	RALPH GREEN PLANT	2035	50-R2.5	- (5)	1,457,279.70	828,035	702,109	38,864	2.67	18.1
	LANDFILL GAS TURBINE	2042	50-R2.5	• 0	41,622 35	3,630	37,992	1,442	3.46	26.3
	TOTAL ACCESSORY ELECTRIC EQUIPMENT				42,714,922.02	13,160,606	31,638,636	1,152,210	2.70	27.5

		PROBABLE RETIREMENT	SURVIVOR	NET SALVAGE	ORIGINAL COST AS OF	воок	FUTURE	CALCULANNUAL AC	CRUAL	COMPOSITE REMAINING
	ACCOUNT	DATE	CURVE	PERCENT	DECEMBER 31, 2014	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)≃(7)/(8)
346.00	MISCELLANEOUS POWER PLANT EQUIPMENT									
	GREENWOOD COMMON	2035	32-\$2.5	* (3)	42,660.54	3,733	40,207	2,050	4.81	19 6
	NEVADA PLANT	2035	32-\$2.5	- (24)	10,841.98	1,234	12,210	623	5.75	19.6
	SOUTH HARPER COMMON	2050	32-S2.5	* (1)	259,422.42	33,453	228,564	9,292	3.58	24.6
	CROSSROADS COMMON	2048	32-S2.5	• (6)	98,761 23	20,387	79,362	3.836	3.68	20 7
	LAKE ROAD COMMON	2035		- (15)	7.828.63	826	8,177	417	5.33	19.6
	RALPH GREEN PLANT	2035	32-S2.5	• (2)	31,050 12	B,716	22,955	1,557	5,01	14.7
	TOTAL MISCELLANEOUS POWER PLANT EQUIPMENT				450,564 92	68,349	391,475	17,775	3.95	22.0
T	OTAL OTHER PRODUCTION PLANT				338,611,958,38	155,709,414	211,512,208	7,920,527	2.34	26.7
•	SIAC OTTEN NOODOTTON LAND				000,011,000.00	100,100,414	217,512,200	1,020,021	2.0~	E4.1
	RANSMISSION PLANT									
352.00	STRUCTURES AND IMPROVEMENTS		70-R3	(5)	8,841,917.86	2,476,916	6,807,098	121,139	1 37	56.2
353.00	STATION EQUIPMENT		58-R2	(5)	164,093,894.26	41,661,264	130,637,325	2,843,020	1.73	46.0
353,03	STATION EQUIPMENT - COMMUNICATION		25-\$2.5	0	125,546.75	2,348	123,199	5,427	4.32	22.7
354.00	TOWERS AND FIXTURES		60-R3	(20)	323,639.04	316,373	71,994	2,516	0.78	28.6
355.00	POLES AND FIXTURES		60-R2	(70)	107,562,102.88	39,076,419	143,779,156	3,115,737	2.90	46.1
356.00	OVERHEAD CONDUCTORS AND DEVICES		65-R3	(60)	72,079,473.37	31,831,597	83,495,560	1,871,222	2.60	44.6
357.00	UNDERGROUND CONDUIT		45-S2	0	16,147.87	6,404	9,744	401	2.48	24 3
358.00	UNDERGROUND CONDUCTOR AND DEVICES		50-S4	0	86,562 49	79,410	7,152	396	0.46	18.1
T	OTAL TRANSMISSION PLANT				353,129,284.52	115,450,731	364,931,228	7,959,858	2.25	45.9
C	ISTRIBUTION PLANT									
361.00	STRUCTURES AND IMPROVEMENTS		65-R3	(10)	12,244,218,39	3,187,231	10,281,409	204,633	1.67	50.2
362.00	STATION EQUIPMENT		54-R2	(10)	188.594.396.64	59,444,521	148,009,315	3,437,986	1.82	43.1
364.00	POLES, TOWERS AND FIXTURES		54-S2.5	(100)	227,755,789,76	111,861,010	343,650,570	9,145,375	4.02	37.6
365.00	OVERHEAD CONDUCTORS AND DEVICES		57-R1.5	(70)	154,979,820,02	45,053,202	218,412,492	5,075,068	3.27	43.0
366.00	UNDERGROUND CONDUIT		49-R3	(50)	70,279,911 19	12,146,750	93,273,117	2,578,831	3.67	36.2
367.00	UNDERGROUND CONDUCTORS AND DEVICES		47-R2.5	(45)	151,082,004.36	46,534,435	172,534,471	5,121,829	3.39	33.7
368.00	LINE TRANSFORMERS		42-R2	(20)	220 869 999 40	105,332,668	159,471,331	5,095,282	2.31	31.3
369.01	SERVICES - OVERHEAD		60-R4	(125)	20.374.991.68	18,403,646	27,440,085	782,549	3.84	35.1
369.02	SERVICES - UNDERGROUND		40-R5	(25)	68,388,574.32	38,997,338	46,488,380	1,916,951	2.80	24.3
370.00	METERS		40-170	(22)	00.000,014.02	00,507,000	40, 100,000	1,2 .9,001	2.55	2.1.2
	TO REMAIN		51-R2	(5)	27.025.144.02	13,101,229	15,275,172	469.090	1.74	32.6
	TO BE RETIRED	2024	51-R2	- (5)	11,959,972.70	6,453,756	6,104,215	622,539	5.21	9.8
	TOTAL METERS				38,985,116.72	19,554,985.00	21,379,387.00	1,091,629.00	2.80	19.6
370.01	METERS - LOAD RESEARCH METERS									
570.01	TO REMAIN		20-\$2.5	0	12,943,27	12,943	ο	0		<b>.</b>
	TO BE RETIRED	2024	20-52.5	. 0	2.025.171.42	3,130,826	(1,105,655)	ŏ	_	_
	10 BE KETIKED	2024	20-02.0	J		3,130,020	(1,100,033)			
	TOTAL METERS - LOAD RESEARCH METERS				2,038,114.69	3,143,769,00	(1,105,655.00)	0.00	-	-
371.00	INSTALLATIONS ON CUSTOMERS' PREMISES		33-R1	(15)	20,061,539.13	15,065,851	8,004,919	309,097	1.54	25 9
373.00	STREET LIGHTING AND SIGNAL SYSTEMS		32-L0.5	(20)	40,433,339,19	13,519,289	35,000,718	1,425,447	3.53	24.6
7	OTAL DISTRIBUTION PLANT				1,215,887,815,49	492,244,695	1,282,840,539	36,184,677	2.98	35.5

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2014	BOOK RESERVE	FUTURE ACCRUALS	CALCULA ANNUAL AC AMOUNT		COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(8)/(5)	(10)=(7)/(8)
th.	IDUSTRIAL STEAM	ν	ι-,	.,,	(C)	,-,	<b>、</b>	<b>~</b> -7	C-7 (C-7)(-7	17 1-71-1
	STEAM PRODUCTION									
311.09	STRUCTURES AND IMPROVEMENTS	2030	80-R1.5	" (5)	32,160 02	(2,300)	36,068	2,709	8.42	13 3
312.09	BOILER PLANT EQUIPMENT	2030	45-50	* (4)	1,237,507 48	237,452	1,049,556	75,283	6.16	13.8
315.09	ACCESSORY ELECTRIC EQUIPMENT	2030	50-R2	<del>"</del> (2)	48,848 56	(28,975)	<u>78,801</u>	5,756_	11.78	13.7
	TOTAL STEAM PRODUCTION				1,318,516 06	205,177	1,164,425	84,748	6.43	13 7
	GAS DISTRIBUTION PLANT									
375.09	STRUCTURES AND IMPROVEMENTS		35-84	(10)	152,666 83	69,663	98,271 .	7,112	4 66	13.8
376 09	MAINS		65-R1 5	(25)	1 665 128 30	1,217,939	863,471	19,064	1 14	45.3
379.09	CITY GATE STATION		30-515	(10)	553 074 72	327,346	281,036	24,670	4.46	11.4
380.09	SERVICES		55-52 5	(10)	100 842 16	109,379	1,547		0.06	27 1
381.09	METERS		30 S0 5	(5)	417 137 25	310,801	121,943	6,872	1.67	17.7
	TOTAL GAS DISTRIBUTION PLANT				2 583 649 26	2,035,128	1,366,268	57,775	2.00	23 7
T	OTAL INDUSTRIAL STEAM				4,202,365.32	2,241,305	2,530,693	142,523	3.39	17.8
G	ENERAL PLANT									
390 00	STRUCTURES AND IMPROVEMENTS		40-R1 5	(15)	44,220,738,32	7,507,348	43,346,501	1,637,679	3.70	26.5
-	DEFICE FURNITURE AND EQUIPMENT									
391 01	OFFICE FURNITURE AND EQUIPMENT		20-SQ	0	7,466,419.33	5,016,755	2,449,664	373,321	**	6.5
391 02	COMPUTERS		8-SQ	٥	7,138,184.84	4,034,862	3,103,323	892,273	**	3.7
391.04	SOFTWARE		9-SQ	0	7,672,401 47	6,689,004	983,397	852,404	••	1.4
	TOTAL OFFICE FURNITURE AND EQUIPMENT				22,277,005 64	15,740,621	6,535,384	2,117,998	9.51	3.1
	TRANSPORTATION EQUIPMENT									
392.00	AUTOS		8-\$2.5	15	127,708.82	246,970	(138,418)	٥	- ***	
392.01	LIGHT TRUCKS		10-\$2.5	15	3,510,185.85	1,426,119	1,642,539	183,060	5.07	9.0
392.02	HEAVY TRUCKS		13-L3	15	18,469,673.69	6,947,352	8,751,871	805,694	4,36	10.9
392.03	TRACTORS		15-R4	15	203,786,88	72,677	100,542	14,987	7,35	6.7
392,04	TRAILERS		19-50	15	1,233,452.23	1,126,671	(78,237)	0	***	
392.05	MEDIUM TRUCKS		9-L3	15	2,248,111 65	919,804	991,091	319,457	14,21	3.1
	TOTAL TRANSPORTATION EQUIPMENT				25,892,919.13	10,739,593	11,269,388	1,323,198	5,11	8.5
393,00	STORES EQUIPMENT		25-SQ	0	72,299 56	22,065	50,235	2,892	**	16.1
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT		25-SQ	0	5,479,846.25	2,737,084	2,742,762	219,194	-	12.2
395.00	LABORATORY EQUIPMENT		30-SQ	0	3,958,031.26	1,678,858	2,279,173	131,802	••	17.1
396.00	POWER OPERATED EQUIPMENT		19-51.5	15	7,452,692.79	2,627,215	3,707,573	251,867	3,38	14 7
397.00	COMMUNICATION EQUIPMENT		27-SQ	0	39,326,597 14	9,000,101	30,326,496	1,455,084	••	20 0
398.00	MISCELLANEOUS EQUIPMENT		25-SQ	0	262,833 59	125,733	137,101	10,513	••	12.0
•	TOTAL GENERAL PLANT				148,942,963.68	50,178,619	100,395,613	7,150,227	4.80	14.0
•	TOTAL DEPRECIABLE PLANT				3,324,119,534,67	1,235,305,412	2,947,595,550	100,943,913	3.04	29.2

### TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS AS OF DECEMBER 31, 2014

	ACCOUNT	PROBABLE RETIREMENT DATE	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2014	BOOK RESERVE	FUTURE ACCRUALS	CALCULA ANNUAL AC AMOUNT	CRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(6)	(9)×(8)/(5)	(10)=(7)/(8)
٨	ONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED									
310.00	LAND				1,041,989 40					
310 09	LAND - INDUSTRIAL				11,450 35					
311.01	STRUCTURES AND IMPROVEMENTS - LEASEHOLD IMPROVEMENTS				11,411.16					
340.00	LAND				2,119,509.01					
350.00	LAND				2,326,659 75					
350.01	LAND RIGHTS				1 972,660 46					
350.04	LAND RIGHTS				12,977,912.05					
360,00	LAND				5,519,419 63					
360.01	LAND RIGHTS				382,239 55					
360.02	LAND LEASED				22,228 32					
389.00	LAND				1,892,389 95					
389.01	LAND RIGHTS				2,302,54					
7	OTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED				28.260,172.17					
} 1	TOTAL ELECTRIC PLANT				3.352,399,706.84	1,235,305,412	2,947,595,550	100,943,913		
Į.										

<sup>\*</sup> Curve shown is interim survivor curve. Each facility in the account is assigned an individual probable refirement year

<sup>&</sup>quot;\* Annual Accruel calculated using the accrual rate consistent with amortization period. The rate for the account is,

Account	Rate
391 01	5 60%
391 02	12,50%
397.04	11 17%
393.00	4 00%
394,00	4 00%
395 00	3 33%
397.00	3.70%
398 00	4 00%

<sup>\*\*\*</sup> Rate for additions as of January 1, 2015 will be 5,13% based 20-S2.5 Survivor Curve and 0% Net Salvage

NOTE: Depreciation rates for new Solar Generation Assets placed into service at year end December 31, 2016 are as follows:

Account	Rate
341.00	5.26%
344 00	5.52%
345 00	5,38%
346,00	5.19%

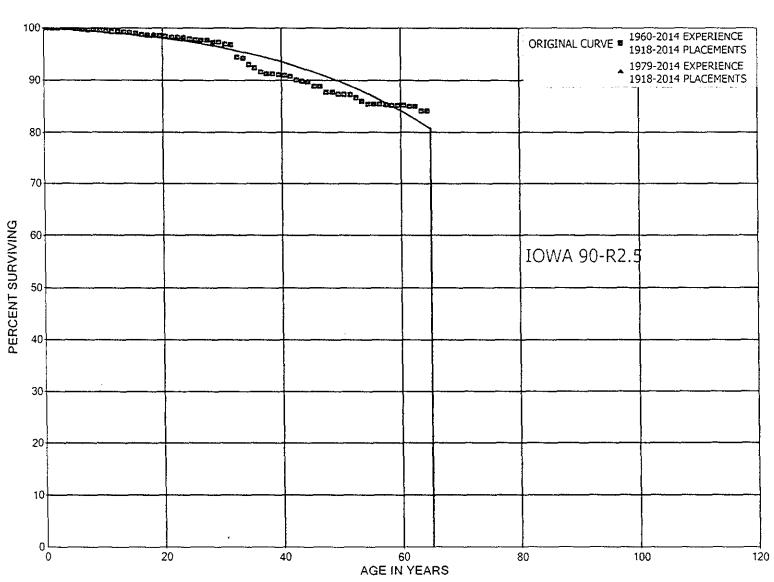
<sup>\*\*\*\*</sup> Rate for additions as of January 1, 2015 will be 11.33% based 8-S2 5 Survivor Curve and 15% Net Salvage

Rate for additions as of January 1, 2015 will be 4 59% based 19-S0 Survivor Curve and 15% Net Salvago

### PART VII. SERVICE LIFE STATISTICS

**ELECTRIC PLANT** 

#### KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 311 STRUCTURES AND IMPROVEMENTS ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 311 STRUCTURES AND IMPROVEMENTS

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1918-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	192,689,403		0.0000	1.0000	100.00
0.5	220,694,310	21,393	0.0001	0.9999	100.00
1.5	185,044,938	87,805	0.0005	0.9995	99.99
2.5	147,177,990		0.0000	1.0000	99.94
3.5	139,473,374	51,747	0.0004	0.9996	99.94
4.5	96,060,537	43,764	0.0005	0.9995	99.91
5.5	80,380,628	97,081	0.0012	0.9988	99.86
6.5	79,338,732	104,164	0.0013	0.9987	99.74
7.5	76,238,759	19,918	0.0003	0.9997	99.61
8.5	76,987,541	72,625	0.0009	0.9991	99.58
9.5	73,456,646	104,790	0.0014	0.9986	99.49
10.5	72,766,146	49,448	0.0007	0.9993	99.35
11.5	74,254,112	36,230	0.0005	0.9995	99.28
12.5	73,637,884	40,638	0.0006	0.9994	99.23
13.5	73,022,421	84,707	0.0012	0.9988	99.18
14,5	67,606,157	85,977	0.0013	0.9987	99.06
15.5	67,124,469	140,869	0.0021	0.9979	98.94
16.5	63,745,953	78,028	0.0012	0.9988	98.73
17.5	61,641,982	38,206	0.0006	0.9994	98.61
18.5	60,315,243	27,514	0.0005	0.9995	98.55
19.5	57,948,145	61,649	0.0011	0.9989	98.50
20.5	56,847,026	102,579	0.0018	0.9982	98.40
21.5	46,667,487	8,125	0.0002	0.9998	98.22
22.5	45,253,132	49,438	0.0011	0.9989	98.20
23.5	45,012,220	129,119	0.0029	0.9971	98.09
24.5	42,971,865	38,563	0.0009	0.9991	97.81
25.5	40,042,766	42,990	0.0011	0.9989	97.72
26.5	39,552,694	14,762	0.0004	0.9996	97.62
27.5	38,646,765	159,879	0.0041	0.9959	97.58
28.5	36,486,823	14,227	0.0004	0.9996	97.18
29.5	36,069,167	120,898	0.0034	0.9966	97.14
30.5	35,868,607	51,807	0.0014	0.9986	96.82
31.5	30,548,124	730,704	0.0239	0.9761	96.68
32.5	29,459,997	44,353	0.0015	0.9985	94.36
33.5	28,926,225	382,071	0.0132	0.9868	94.22
34.5	21,113,694	125,510	0.0059	0.9941	92.98
35.5	20,714,245	184,090	0.0089	0.9911	92.42
36.5	14,804,840	50,482	0.0034	0.9966	91.60
37.5	14,706,681	471	0.0000	1.0000	91.29
38.5	14,641,262	35,625	0.0024	0.9976	91.29

#### ACCOUNT 311 STRUCTURES AND IMPROVEMENTS

#### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1918-2014		EXPE	RIENCE BAN	ID 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	14,368,719	21,060	0.0015	0.9985	91.07
40.5	14,341,072	35,154	0.0025	0.9975	90.93
41.5	14,212,169	97,387	0.0069	0.9931	90.71
42.5	14,098,998	44,827	0.0032	0.9968	90.09
43.5	14,046,044	25,882	0.0018	0.9982	89.80
44.5	13,811,228	119,542	0.0087	0.9913	89.64
45.5	5,653,875	4,884	0.0009	0.9991	88.86
46.5	5,645,498	67,243	0.0119	0.9881	88.78
47.5	4,287,826	2,165	0.0005	0.9995	87.73
48.5	4,289,492	12,909	0.0030	0.9970	87.68
49.5	4,260,620	392	0.0001	0.9999	87.42
50.5	4,111,143	6,920	0.0017	0.9983	87.41
51.5	4,055,521	25,284	0.0062	0.9938	87.26
52.5	3,194,071	23,570	0.0074	0.9926	86.72
53.5	3,170,501	21,651	0.0068	0.9932	86.08
54.5	1,300,540		0.0000	1.0000	85.49
55.5	1,300,240		0.0000	1.0000	85.49
56.5	745,670	1,275	0.0017	0.9983	85.49
57.5	696,495	693	0.0010	0.9990	85.34
58.5	695,802		0.0000	1.0000	85.26
59.5	695,802		0.0000	1.0000	85.26
60.5	695,802	1,634	0.0023	0.9977	85.26
61.5	688,047		0.0000	1.0000	85.06
62.5	687,610	6,826	0.0099	0.9901	85.06
63.5	672,127		0.0000	1.0000	84.21
64.5	1,897	1,160	0.6115	0.3885	84.21
65.5	737		0.0000	1.0000	32.72
66.5	737		0.0000	1.0000	32.72
67.5	737	737	1.0000		32.72

68.5

#### ACCOUNT 311 STRUCTURES AND IMPROVEMENTS

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1918-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	172,055,004		0.0000	1.0000	100.00
0.5	206,077,696	21,393	0.0001	0.9999	100.00
1.5	169,857,101	85,657	0.0005	0.9995	99.99
2.5	132,006,078		0.0000	1.0000	99.94
3.5	124,525,138	44,484	0.0004	0.9996	99.94
4.5	81,138,827	43,594	0.0005	0.9995	99.90
5.5	65,577,341	93,870	0.0014	0.9986	99.85
6.5	64,570,101	12,044	0.0002	0.9998	99.71
7.5	61,561,676	19,637	0.0003	0.9997	99.69
8.5	62,555,862	72,625	0.0012	0.9988	99.66
9.5	67,181,589	104,790	0.0016	0.9984	99.54
10.5	66,493,545	49,448	0.0007	0.9993	99.39
11.5	69,360,058	36,230	0.0005	0.9995	99.31
12,5	68,750,336	29,022	0.0004	0.9996	99.26
13.5	68,169,715	57,436	0.0008	0.9992	99.22
14,5	62,828,509	85,977	0.0014	0.9986	99.13
15.5	62,359,941	140,869	0.0023	0.9977	99.00
16.5	60,025,341	77,857	0.0013	0.9987	98.77
17.5	58,044,195	38,206	0.0007	0.9993	98.65
18.5	58,853,522	27,514	0.0005	0.9995	98.58
19.5	56,489,340	61,649	0.0011	0.9989	98.54
20.5	55,978,134	102,579	0.0018	0.9982	98.43
21.5	45,856,185	8,125	0.0002	0.9998	98.25
22.5	44,441,830	49,438	0.0011	0.9989	98.23
23.5	44,201,229	129,119	0.0029	0.9971	98.12
24.5	42,160,840	38,563	0.0009	0.9991	97.83
25.5	39,235,932	42,990	0.0011	0.9989	97.75
26.5	38,746,432	14,762	0.0004	0.9996	97.64
27.5	37,840,348	159,879	0.0042	0.9958	97.60
28.5	36,485,672	14,227	0.0004	0.9996	97.19
29.5	36,068,016	120,898	0.0034	0.9966	97.15
30.5	35,867,456	51,807	0.0014	0.9986	96.82
31.5	30,546,973	730,704	0.0239	0.9761	96.69
32,5	29,458,846	44,353	0.0015	0.9985	94.37
33.5	28,925,074	382,071	0.0132	0.9868	94.23
34.5	21,112,543	125,510	0.0059	0.9941	92.99
35.5	20,713,094	184,090	0.0089	0.9911	92.43
36.5	14,803,689	50,482	0.0034	0.9966	91.61
37.5	14,705,530	471	0.0000	1.0000	91.30
38.5	14,638,951	35,625	0.0024	0.9976	91.30

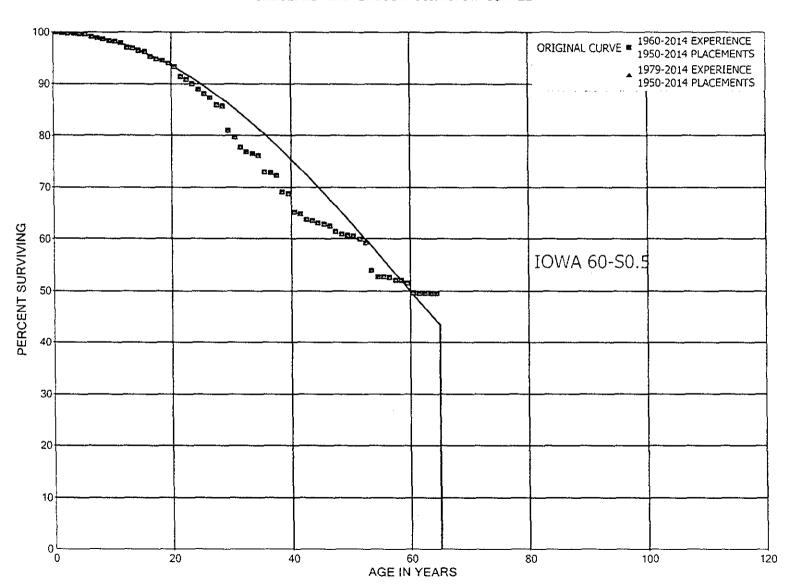
#### ACCOUNT 311 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

AGE AT EXPOSURES AT BEGINNING OF BEGINNING OF INTERVAL AGE INTERVAL INTERVAL RATIO RATIO INTERVAL  39.5	PLACEMENT	BAND 1918-2014		EXPE	RIENCE BAN	D 1979-2014
INTERVAL         AGE INTERVAL         INTERVAL         RATIO         RATIO         INTERVAL           39.5         14,366,408         21,060         0.0015         0.9985         91.07           40.5         14,339,716         35,154         0.0025         0.9975         90.94           41.5         14,210,076         97,387         0.0069         0.9931         90.72           42.5         14,096,905         44,827         0.0032         0.9968         90.10           43.5         14,043,992         25,882         0.0018         0.9982         89.81           44.5         13,809,176         119,542         0.0087         0.9913         89.64           45.5         5,651,823         4,884         0.0009         0.9991         88.87           46.5         5,643,601         67,243         0.0119         0.9881         88.79           47.5         4,285,929         2,165         0.0005         0.9995         87.73           48.5         4,287,595         12,909         0.0030         0.9970         87.69           49.5         4,58,723         392         0.0017         0.9983         87.42           50.5         4,109,246         6,920 </td <td>AGE AT</td> <td>EXPOSURES AT</td> <td>RETIREMENTS</td> <td></td> <td></td> <td>PCT SURV</td>	AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
INTERVAL         AGE INTERVAL         INTERVAL         RATIO         RATIO         INTERVAL           39.5         14,366,408         21,060         0.0015         0.9985         91.07           40.5         14,339,716         35,154         0.0025         0.9975         90.94           41.5         14,210,076         97,387         0.0069         0.9931         90.72           42.5         14,096,905         44,827         0.0032         0.9968         90.10           43.5         14,043,992         25,882         0.0018         0.9982         89.81           44.5         13,809,176         119,542         0.0087         0.9913         89.64           45.5         5,651,823         4,884         0.0009         0.9991         88.87           46.5         5,643,601         67,243         0.0119         0.9881         88.79           47.5         4,285,929         2,165         0.0005         0.9995         87.73           48.5         4,287,595         12,909         0.0030         0.9970         87.69           49.5         4,258,723         392         0.0001         0.9983         87.42           50.5         4,109,246         6,20 </td <td>BEGIN OF</td> <td>BEGINNING OF</td> <td>DURING AGE</td> <td>RETMT</td> <td>SURV</td> <td>BEGIN OF</td>	BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
40.5       14,339,716       35,154       0.0025       0.9975       90.94         41.5       14,210,076       97,387       0.0069       0.9931       90.72         42.5       14,096,905       44,827       0.0032       0.9968       90.10         43.5       14,043,992       25,882       0.0018       0.9982       89.81         44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000<		AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
40.5       14,339,716       35,154       0.0025       0.9975       90.94         41.5       14,210,076       97,387       0.0069       0.9931       90.72         42.5       14,096,905       44,827       0.0032       0.9968       90.10         43.5       14,043,992       25,882       0.0018       0.9982       89.81         44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000<						
41.5       14,210,076       97,387       0.0069       0.9931       90.72         42.5       14,096,905       44,827       0.0032       0.9968       90.10         43.5       14,043,992       25,882       0.0018       0.9982       89.81         44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
42.5       14,096,905       44,827       0.0032       0.9968       90.10         43.5       14,043,992       25,882       0.0018       0.9982       89.81         44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         57.5       695,758       695,065       0.0017       0.9983 <td></td> <td>- · · · · · · · · · · · · · · · · · · ·</td> <td></td> <td></td> <td></td> <td></td>		- · · · · · · · · · · · · · · · · · · ·				
43.5       14,043,992       25,882       0.0018       0.9982       89.81         44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,343       0.0000       1.0000       85.50         55.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         59.5       695,065       0.0000       1.0000 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
44.5       13,809,176       119,542       0.0087       0.9913       89.64         45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,343       0.0000       1.0000       85.50         55.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       695,065       0.0000       1.0000       85.35         59.5       695,065       0.0000       1.0000	42.5	14,096,905	-			
45.5       5,651,823       4,884       0.0009       0.9991       88.87         46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         55.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26      <	43.5	14,043,992	25,882	0.0018	0.9982	89.81
46.5       5,643,601       67,243       0.0119       0.9881       88.79         47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.27         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26	44.5	13,809,176	119,542	0.0087	0.9913	89.64
47.5       4,285,929       2,165       0.0005       0.9995       87.73         48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	45.5	5,651,823	4,884	0.0009	0.9991	88.87
48.5       4,287,595       12,909       0.0030       0.9970       87.69         49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         57.5       695,758       693       0.0017       0.9983       85.50         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	46.5	5,643,601	67,243	0.0119	0.9881	88.79
49.5       4,258,723       392       0.0001       0.9999       87.42         50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	47.5	4,285,929	2,165	0.0005	0.9995	87.73
50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         57.5       695,758       693       0.0017       0.9983       85.50         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	48.5	4,287,595	12,909	0.0030	0.9970	87.69
50.5       4,109,246       6,920       0.0017       0.9983       87.42         51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         57.5       695,758       693       0.0017       0.9983       85.50         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	49.5	4,258,723	392	0.0001	0.9999	87.42
51.5       4,053,624       25,284       0.0062       0.9938       87.27         52.5       3,192,174       23,570       0.0074       0.9926       86.72         53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         59.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06		4,109,246	6,920	0.0017	0.9983	87.42
52.5     3,192,174     23,570     0.0074     0.9926     86.72       53.5     3,168,604     21,651     0.0068     0.9932     86.08       54.5     1,298,643     0.0000     1.0000     85.50       55.5     1,298,343     0.0000     1.0000     85.50       56.5     743,773     1,275     0.0017     0.9983     85.50       57.5     695,758     693     0.0010     0.9990     85.35       58.5     695,065     0.0000     1.0000     85.26       59.5     695,065     0.0000     1.0000     85.26       60.5     695,802     1,634     0.0023     0.9977     85.26       61.5     688,047     0.0000     1.0000     85.06			-	0.0062	0.9938	87.27
53.5       3,168,604       21,651       0.0068       0.9932       86.08         54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	52.5		•			86.72
54.5       1,298,643       0.0000       1.0000       85.50         55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06					0.9932	86.08
55.5       1,298,343       0.0000       1.0000       85.50         56.5       743,773       1,275       0.0017       0.9983       85.50         57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06			•		1.0000	85.50
56.5     743,773     1,275     0.0017     0.9983     85.50       57.5     695,758     693     0.0010     0.9990     85.35       58.5     695,065     0.0000     1.0000     85.26       59.5     695,065     0.0000     1.0000     85.26       60.5     695,802     1,634     0.0023     0.9977     85.26       61.5     688,047     0.0000     1.0000     85.06						85.50
57.5       695,758       693       0.0010       0.9990       85.35         58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06			1,275			85.50
58.5       695,065       0.0000       1.0000       85.26         59.5       695,065       0.0000       1.0000       85.26         60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06			· · · · · · · · · · · · · · · · · · ·			85.35
60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06						
60.5       695,802       1,634       0.0023       0.9977       85.26         61.5       688,047       0.0000       1.0000       85.06	59.5	695.065		0.0000	1.0000	85.26
61.5 688,047 0.0000 1.0000 85.06			1.634			
•		•	2,001			
	62.5	687,610	6,826	0.0099	0.9901	85.06
63.5 672,127 0.0000 1.0000 84.22			0,020			
64.5 1,897 1,160 0.6115 0.3885 84.22			1 160			
65.5 737 0.0000 1.0000 32.72			1,100			
66.5 737 0.0000 1.0000 32.72						
67.5 737 737 1.0000 32.72			737			

68.5

KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 312 BOILER PLANT EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 312 BOILER PLANT EQUIPMENT

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	1,004,991,998	482,384	0.0005	0.9995	100.00
0.5	993,261,037	892,622	0.0009	0.9991	99.95
1.5	985,966,508	1,227,208	0.0012	0.9988	99.86
2.5	727,622,905	372,412	0.0005	0.9995	99.74
3.5	710,951,082	678,242	0.0010	0.9990	99.69
4.5	481,925,539	480,838	0.0010	0.9990	99.59
5.5	371,582,825	1,402,756	0.0038	0.9962	99.49
6.5	336,875,739	1,023,418	0.0030	0.9970	99.12
7.5	347,394,064	833,489	0.0024	0.9976	98.82
8.5	326,509,822	802,370	0.0025	0.9975	98.58
9.5	317,152,736	671,725	0.0021	0.9979	98.34
10.5	303,525,482	906,824	0.0030	0.9970	98.13
11,5	300,255,068	2,676,010	0.0089	0.9911	97.83
12.5	288,188,672	460,959	0.0016	0.9984	96.96
13.5	277,162,825	1,321,937	0.0048	0.9952	96.81
14.5	268,418,192	566,587	0.0021	0.9979	96.35
15.5	262,868,142	2,357,888	0.0090	0.9910	96.14
16.5	258,796,702	1,649,022	0.0064	0.9936	95.28
17.5	253,469,982	525,748	0.0021	0.9979	94.67
18.5	249,459,942	1,531,556	0.0061	0.9939	94.48
19.5	239,220,900	1,598,138	0.0067	0.9933	93.90
20.5	235,264,022	4,728,037	0.0201	0.9799	93.27
21.5	200,100,504	1,340,165	0.0067	0.9933	91.40
22.5	188,432,955	1,712,531	0.0091	0.9909	90.78
23.5	186,004,354	1,994,501	0.0107	0.9893	89.96
24.5	150,470,616	1,533,222	0.0102	0.9898	88.99
25.5	148,294,170	1,308,236	0.0088	0.9912	88.09
26.5	146,204,813	2,268,148	0.0155	0.9845	87.31
27.5	143,542,567	446,433	0.0031	0.9969	85.95
28.5	140,294,187	7,838,553	0.0559	0.9441	85.69
29.5	131,748,823	1,940,751	0.0147	0.9853	80.90
30.5	129,528,414	3,253,788	0.0251	0.9749	79.71
31.5	105,448,625	1,113,130	0.0106	0.9894	77.71
32.5	104,020,196	551,832	0.0053	0.9947	76.89
33.5	102,655,646	456,607	0.0044	0.9956	76.48
34.5	60,542,941	2,555,704	0.0422	0.9578	76.14
35.5	56,343,640	98,580	0.0017	0.9983	72.92
36.5	45,357,566	323,814	0.0071	0.9929	72.80
37.5	39,558,957	1,760,353	0.0445	0.9555	72.28
38.5	34,658,503	174,140	0.0050	0.9950	69.06

#### ACCOUNT 312 BOILER PLANT EQUIPMENT

#### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	32,277,464	1,673,811	0.0519	0.9481	68.71
40.5	30,533,564	169,196	0.0055	0.9945	65.15
41.5	30,070,688	508,856	0.0169	0.9831	64.79
42.5	29,430,254	92,829	0.0032	0.9968	63.69
43.5	29,189,824	176,309	0.0060	0.9940	63.49
44.5	28,543,718	115,323	0.0040	0.9960	63.11
45.5	10,666,247	56,220	0.0053	0.9947	62.85
46.5	10,610,027	188,183	0.0177	0.9823	62.52
47.5	10,309,369	73,106	0.0071	0.9929	61.41
48.5	7,637,620	36,191	0.0047	0.9953	60.98
49.5	7,588,095	13,810	0.0018	0.9982	60.69
50.5	7,564,164	71,934	0.0095	0.9905	60.58
51.5	7,530,897	87,675	0.0116	0.9884	60.00
52.5	5,334,492	482,600	0.0905	0.9095	59.30
53.5	4,848,842	108,176	0.0223	0.9777	53.94
54.5	2,823,481	902	0.0003	0.9997	52.74
55.5	2,822,578	5,148	0.0018	0.9982	52.72
56.5	2,792,264	27,324	0.0098	0.9902	52.62
57.5	1,269,843		0.0000	1.0000	52.11
58.5	1,269,843	15,278	0.0120	0.9880	52.11
59.5	1,253,419	46,018	0.0367	0.9633	51.48
60.5	1,206,912	1,743	0.0014	0.9986	49,59
61.5	1,199,551		0.0000	1.0000	49.52
62.5	1,199,551		0.0000	1.0000	49.52
63.5	1,130,194		0.0000	1.0000	49.52

64.5

49.52

#### ACCOUNT 312 BOILER PLANT EQUIPMENT

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	932,286,541	482,384	0.0005	0.9995	100.00
0.5	937,253,073	892,622	0.0010	0.9990	99.95
1.5	935,405,349	1,225,254	0.0013	0.9987	99.85
2.5	680,003,221	361,647	0.0005	0.9995	99.72
3.5	663,802,435	640,263	0.0010	0.9990	99.67
4.5	435,054,137	449,993	0.0010	0.9990	99.57
5.5	327,336,870	1,400,119	0.0043	0.9957	99.47
6.5	293,169,915	999,023	0.0034	0.9966	99.04
7.5	304,566,995	755,714	0.0025	0.9975	98.71
8.5	284,307,157	619,509	0.0022	0.9978	98.46
9.5	302,470,237	671,725	0.0022	0.9978	98.25
10.5	288,936,758	906,824	0.0031	0.9969	98.03
11.5	285,924,823	2,460,579	0.0086	0.9914	97.72
12.5	277,073,423	450,227	0.0016	0.9984	96.88
13.5	266,210,653	1,111,143	0.0042	0.9958	96.72
14.5	257,711,425	532,874	0.0021	0.9979	96.32
15.5	252,209,199	2,352,320	0.0093	0.9907	96.12
16.5	251,779,634	1,602,122	0.0064	0.9936	95.22
17.5	246,507,677	522,576	0.0021	0.9979	94.62
18.5	245,743,124	1,531,556	0.0062	0.9938	94,42
19.5	235,508,603	1,598,138	0.0068	0.9932	93.83
20.5	231,561,000	4,728,037	0.0204	0.9796	93.19
21.5	198,332,587	1,340,165	0.0068	0.9932	91.29
22.5	186,677,526	1,712,531	0.0092	0.9908	90.67
23.5	184,253,748	1,994,501	0.0108	0.9892	89.84
24.5	148,724,501	1,533,222	0.0103	0.9897	88.87
25.5	146,585,913	1,308,236	0.0089	0.9911	87.95
26.5	144,499,539	2,268,148	0.0157	0.9843	87.17
27.5	141,923,457	446,433	0.0031	0.9969	85.80
28.5	140,294,187	7,838,553	0.0559	0.9441	85.53
29,5	131,748,823	1,940,751	0.0147	0.9853	80.75
30.5	129,528,414	3,253,788	0.0251	0.9749	79.56
31.5	105,448,625	1,113,130	0.0106	0.9894	77.56
32.5	104,020,196	551,832	0.0053	0.9947	76.74
33.5	102,655,646	456,607	0.0044	0.9956	76.34
34.5	60,542,941	2,555,704	0.0422	0.9578	76.00
35.5	56,343,640	98,580	0.0017	0.9983	72.79
36.5	45,357,566	323,814	0.0071	0.9929	72.66
37.5	39,558,957	1,760,353	0.0445	0.9555	72.14
38.5	34,658,503	174,140	0.0050	0.9950	68.93

#### ACCOUNT 312 BOILER PLANT EQUIPMENT

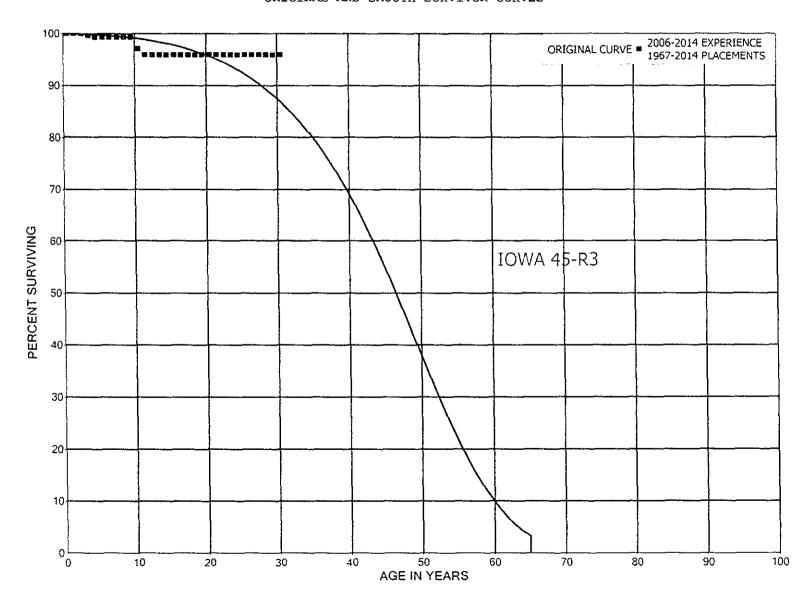
#### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39,5	32,277,464	1,673,811	0.0519	0.9481	68.59
40.5	30,533,564	169,196	0.0055	0.9945	65.03
41.5	30,070,688	508,856	0.0169	0.9831	64.67
42.5	29,430,254	92,829	0.0032	0.9968	63.57
43.5	29,189,824	176,309	0.0060	0.9940	63.37
44.5	28,543,718	115,323	0.0040	0.9960	62.99
45.5	10,666,247	56,220	0.0053	0.9947	62.74
46.5	10,610,027	188,183	0.0177	0.9823	62.41
47.5	10,309,369	73,106	0.0071	0.9929	61.30
48.5	7,637,620	36,191	0.0047	0.9953	60.86
49.5	7,588,095	13,810	0.0018	0.9982	60.58
50.5	7,564,164	71,934	0.0095	0.9905	60.47
51.5	7,530,897	87,675	0.0116	0.9884	59.89
52.5	5,334,492	482,600	0.0905	0.9095	59.19
53.5	4,848,842	108,176	0.0223	0.9777	53.84
54,5	2,823,481	902	0.0003	0.9997	52.64
55.5	2,822,578	5,148	0.0018	0.9982	52.62
56.5	2,792,264	27,324	0.0098	0.9902	52.52
57,5	1,269,843		0.0000	1.0000	52.01
58.5	1,269,843	15,278	0.0120	0.9880	52.01
59.5	1,253,419	46,018	0.0367	0.9633	51.38
60.5	1,206,912	1,743	0.0014	0.9986	49.50
61.5	1,199,551		0.0000	1.0000	49.43
62.5	1,199,551		0.0000	1.0000	49.43
63.5	1,130,194		0.0000	1.0000	49.43
					40 40

64.5

49,43

# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 312.02 BOILER PLANT EQUIPMENT - POLLUTION CONTROL EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 312.02 BOILER PLANT EQUIPMENT - POLLUTION CONTROL EQUIPMENT

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1967-2014		EXPE	RIENCE BAN	D 2006-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	166,212,878		0.0000	1.0000	100.00
0.5	160,560,420		0.0000	1.0000	100.00
1.5	160,606,380		0.0000	1.0000	100.00
2.5	154,082,590	537,047	0.0035	0.9965	100.00
3.5	150,172,211	536,102	0.0036	0.9964	99.65
4.5	148,953,285	50,157	0.0003	0.9997	99.30
5.5	29,322,983		0.0000	1.0000	99.26
6.5	4,132,732		0.0000	1.0000	99.26
7.5	4,243,521		0.0000	1.0000	99.26
8.5	4,067,475		0.0000	1.0000	99.26
9.5	3,816,098	86,549	0.0227	0.9773	99.26
10.5	5,233,752	57,302	0.0109	0.9891	97.01
11.5	5,129,153		0.0000	1,0000	95.95
12.5	5,325,250		0.0000	1.0000	95.95
13.5	9,341,916		0.0000	1.0000	95.95
14.5	8,854,931		0.0000	1.0000	95.95
15.5	8,465,827		0.0000	1.0000	95.95
16.5	6,961,624		0.0000	1.0000	95.95
17.5	6,961,624		0.0000	1.0000	95.95
18.5	4,554,399		0.0000	1.0000	95.95
19.5	14,731		0.0000	1.0000	95.95
20.5	12,716		0.0000	1.0000	95.95
21.5	12,716		0.0000	1.0000 .	95.95
22.5	12,716		0.0000	1.0000	95.95
23.5	12,716		0.0000	1.0000	95.95
24.5	5,737		0.0000	1.0000	95.95
25.5	5,737		0.0000	1.0000	95.95
26.5	5,737		0.0000	1.0000	95.95
27.5	5,737		0.0000	1.0000	95.95
28.5	5,737		0.0000	1.0000	95.95
29.5	5,737		0.0000	1.0000	95.95
30.5					95.95
31.5	1,409,338		0.0000		
32.5	1,528,368	1,051	0.0007		
33.5	1,527,317		0.0000		
34.5	1,527,317		0.0000		
35.5	1,527,317		0.0000		
36.5	1,527,317		0.0000		
37.5	119,030		0.0000		
20 5					

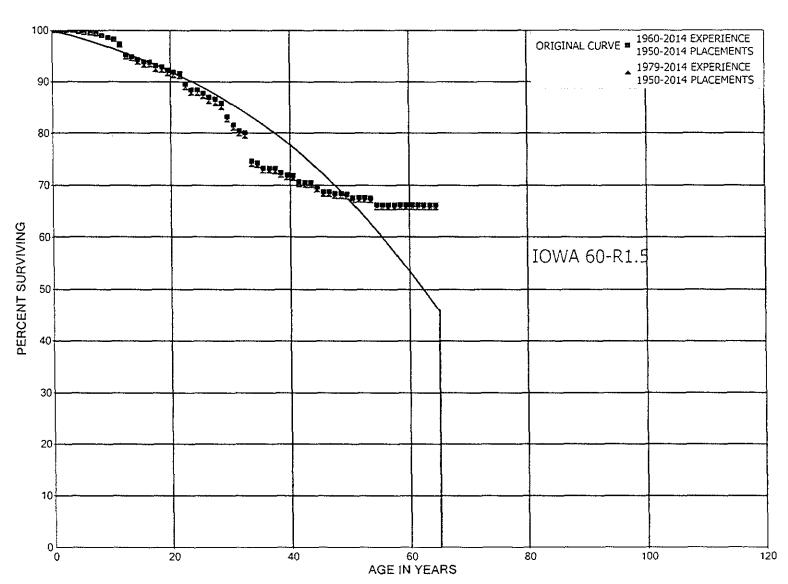
38.5

#### ACCOUNT 312.02 BOILER PLANT EQUIPMENT - POLLUTION CONTROL EQUIPMENT

#### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1967-2014		EXPER	IENCE BAND	2006-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5					
40.5					
41.5	49,901		0.0000		
42.5	49,901		0.0000		
43.5	49,901		0.0000		
44.5	49,901		0.0000		
45.5	49,901		0.0000		
46.5	49,901		0.0000		
47.5					

KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 314 TURBOGENERATOR UNITS ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 314 TURBOGENERATOR UNITS

#### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	ID 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	248,795,816	10,831	0.0000	1.0000	100.00
0.5	243,056,585	11,338	0.0000	1.0000	100.00
1.5	240,427,388	2,822	0.0000	1.0000	99.99
2.5	202,630,145	180,677	0.0009	0.9991	99.99
3.5	200,087,393	279,889	0.0014	0.9986	99.90
4.5	127,028,720	320,771	0.0025	0.9975	99.76
5.5	121,927,770	100,804	0.0008	0.9992	99.51
6.5	118,652,173	197,553	0.0017	0.9983	99.43
7.5	122,762,152	371,184	0.0030	0.9970	99.26
8.5	116,804,631	509,782	0.0044	0.9956	98.96
9.5	115,060,580	252,982	0.0022	0.9978	98.53
10.5	108,666,639	1,139,755	0.0105	0.9895	98.31
11.5	105,857,593	2,264,845	0.0214	0.9786	97.28
12.5	101,233,618	330,728	0.0033	0.9967	95.20
13.5	84,269,071	490,039	0.0058	0.9942	94.89
14.5	79,305,158	429,201	0.0054	0.9946	94.34
15.5	78,653,020	53,569	0.0007	0.9993	93.83
16.5	77,800,664	623,507	0.0080	0.9920	93.76
17.5	75,450,329	104,607	0.0014	0.9986	93.01
18.5	74,350,089	549,369	0.0074	0.9926	92.88
19.5	71,547,275	286,161	0.0040	0.9960	92.20
20.5	70,123,288	166,985	0.0024	0.9976	91.83
21.5	69,607,299	1,575,109	0.0226	0.9774	91.61
22.5	66,094,329	815,663	0.0123	0.9877	89.54
23.5	65,774,853	62,040	0.0009	0.9991	88.43
24.5	49,475,354	329,103	0.0067	0.9933	88.35
25.5	49,045,375	445,629	0.0091	0.9909	87.76
26.5	48,716,879	185,102	0.0038	0.9962	86.96
27.5	48,378,059	470,356	0.0097	0.9903	86.63
28.5	45,658,497	1,327,906	0.0291	0.9709	85.79
29,5	44,112,885	871,552	0.0198	0.9802	83.29
30.5	40,819,981	560,451	0.0137	0.9863	81.65
31.5	36,191,001	202,362	0.0056	0.9944	80.53
32.5	35,877,090	2,453,016	0.0684	0.9316	80.08
33.5	33,309,433	123,198	0.0037	0.9963	74.60
34.5	22,177,826	309,367	0.0139	0.9861	74.33
35.5	20,133,819	23,896	0.0012	0.9988	73.29
36.5	18,492,552	14,696	0.0008	0.9992	73.20
37.5	17,899,350	174,754	0.0098	0.9902	73.14
38.5	17,724,596	106,102	0.0060	0.9940	72.43

### ACCOUNT 314 TURBOGENERATOR UNITS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	17,617,280	35,949	0.0020	0.9980	72.00
40.5	17,569,324	303,164	0.0173	0.9827	71.85
41.5	17,258,189	21,632	0.0013	0.9987	70.61
42.5	17,222,581	1,483	0.0001	0.9999	70.52
43.5	17,214,613	214,906	0.0125	0,9875	70.52
44.5	16,800,586	206,959	0.0123	0.9877	69.64
45.5	9,922,357	259	0.0000	1.0000	68.78
46.5	9,922,098	60,220	0.0061	0.9939	68.78
47.5	9,861,878	123	0.0000	1,0000	68.36
48.5	6,754,970	9,366	0.0014	0.9986	68.36
49.5	6,745,604	68,513	0.0102	0.9898	68.26
50.5	6,677,090	781	0.0001	0.9999	67.57
51.5	6,679,701		0.0000	1.0000	67.56
52.5	4,296,789	5,135	0.0012	0.9988	67.56
53,5	4,272,601	82,063	0.0192	0.9808	67.48
54.5	2,009,350		0.0000	1.0000	66.18
55.5	2,006,370		0.0000	1.0000	66.18
56.5	943,070		0.0000	1.0000	66.18
57.5	943,070		0.0000	1.0000	66.18
58.5	939,010		0.0000	1.0000	66.18
59.5	939,010		0.0000	1.0000	66.18
60.5	939,010		0.0000	1.0000	66.18
61.5	939,010		0.0000	1.0000	66.18
62.5	939,010		0.0000	1.0000	66.18
63.5	939,010		0.0000	1.0000	66.18
64.5					66.18

#### ACCOUNT 314 TURBOGENERATOR UNITS

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	222,960,073		0.0000	1.0000	100.00
0.5	220,805,414	10,778	0.0000	1.0000	100.00
1.5	217,041,960	2,822	0.0000	1.0000	100.00
2.5	179,678,951	180,677	0.0010	0.9990	99.99
3.5	177,746,785	275,847	0.0016	0.9984	99.89
4.5	105,044,829	320,771	0.0031	0.9969	99.74
5.5	99,990,692	100,804	0.0010	0.9990	99.43
6.5	96,757,399	197,553	0.0020	0.9980	99.33
7.5	100,873,370	371,184	0.0037	0.9963	99.13
8.5	95,581,165	509,782	0.0053	0.9947	98.77
9.5	102,852,692	252,982	0.0025	0.9975	98.24
10.5	96,458,751	1,139,755	0.0118	0.9882	98.00
11.5	93,650,908	2,264,845	0.0242	0.9758	96.84
12.5	92,519,574	330,728	0.0036	0.9964	94.50
13.5	75,555,082	490,039	0.0065	0.9935	94.16
14.5	70,592,118	425,270	0.0060	0.9940	93.55
15.5	69,946,839	53,569	0.0008	0.9992	92.99
16.5	72,137,894	621,994	0.0086	0.9914	92.91
17.5	69,811,867	104,607	0.0015	0.9985	92.11
18.5	71,884,197	549,369	0.0076	0.9924	91.98
19.5	69,084,363	286,161	0.0041	0.9959	91.27
20.5	68,940,784	166,985	0.0024	0.9976	90.89
21.5	68,547,398	1,575,109	0.0230	0.9770	90.67
22.5	65,038,611	815,663	0.0125	0.9875	88.59
23.5	64,719,135	62,040	0.0010	0.9990	87.48
24.5	48,419,804	329,103	0.0068	0.9932	87.40
25.5	47,989,825	445,629	0.0093	0.9907	86.80
26.5	47,661,329	185,102	0.0039	0.9961	86.00
27.5	47,322,509	470,356	0.0099	0.9901	85.66
28.5	45,658,497	1,327,906	0.0291	0.9709	84.81
29.5	44,112,885	871,552	0.0198	0.9802	82.34
30.5	40,819,981	560,451	0.0137	0.9863	80.72
31.5	36,191,001	202,362	0.0056	0.9944	79.61
32.5	35,877,090	2,453,016	0.0684	0.9316	79.16
33.5	33,309,433	123,198	0.0037	0.9963	73.75
34.5	22,177,826	309,367	0.0139	0.9861	73.48
35.5	20,133,819	23,896	0.0012	0.9988	72.45
36.5	18,492,552	14,696	0.0008	0.9992	72.37
37.5	17,899,350	174,754	0.0098	0.9902	72.31
38.5	17,724,596	106,102	0.0060	0.9940	71.60

### ACCOUNT 314 TURBOGENERATOR UNITS

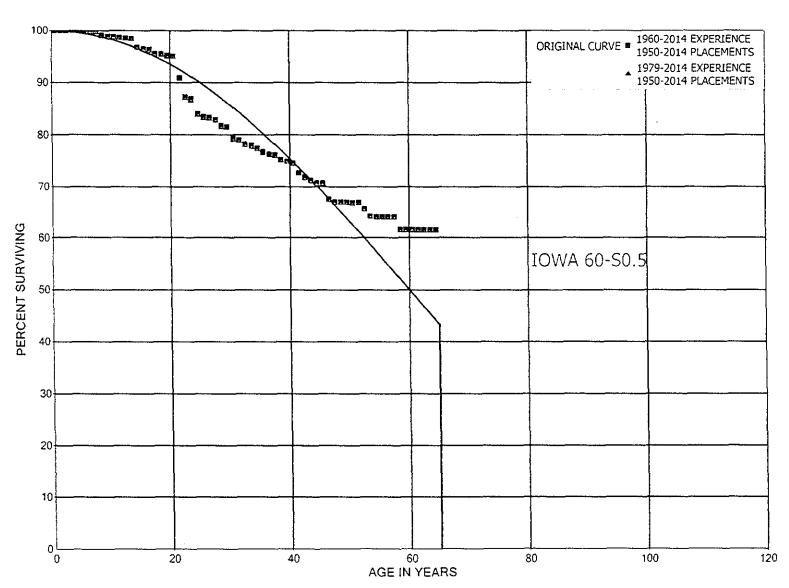
### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	17,617,280	35,949	0.0020	0.9980	71.17
40.5	17,569,324	303,164	0.0173	0.9827	71.03
41.5	17,258,189	21,632	0.0013	0.9987	69.80
42.5	17,222,581	1,483	0.0001	0.9999	69.72
43.5	17,214,613	214,906	0.0125	0.9875	69.71
44.5	16,800,586	206,959	0.0123	0.9877	68.84
45.5	9,922,357	259	0.0000	1.0000	67.99
46.5	9,922,098	60,220	0.0061	0.9939	67.99
47.5	9,861,878	123	0.0000	1.0000	67.58
48.5	6,754,970	9,366	0.0014	0.9986	67.58
49.5	6,745,604	68,513	0.0102	0.9898	67.48
50.5	6,677,090	781	0.0001	0.9999	66.80
51.5	6,679,701		0.0000	1.0000	66.79
52.5	4,296,789	5,135	0.0012	0.9988	66.79
53.5	4,272,601	82,063	0.0192	0.9808	66.71
54.5	2,009,350		0.0000	1.0000	65.43
55.5	2,006,370		0.0000	1.0000	65.43
56.5	943,070		0.0000	1.0000	65.43
57.5	943,070		0.0000	1.0000	65.43
58.5	939,010		0.0000	1.0000	65.43
59.5	939,010		0.0000	1.0000	65.43
60,5	939,010		0.0000	1.0000	65.43
61.5	939,010		0.0000	1.0000	65.43
62.5	939,010		0.0000	1.0000	65.43
63.5	939,010		0.0000	1.0000	65.43

64.5

65.43

## KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 315 ACCESSORY ELECTRIC EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 315 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	65,910,840		0.0000	1.0000	100.00
0.5	62,049,370		0.0000	1.0000	100.00
1.5	62,008,680	21,473	0.0003	0.9997	100.00
2.5	67,239,331	461	0.0000	1.0000	99.97
3,5	65,082,963	13,400	0.0002	0.9998	99.96
4.5	47,096,404		0.0000	1.0000	99.94
5.5	35,820,078	73,030	0.0020	0.9980	99.94
6.5	35,405,311	2,673	0.0001	0.9999	99.74
7.5	36,180,480	238,301	0.0066	0.9934	99.73
8.5	34,742,145	70,619	0.0020	0.9980	99.08
9.5	34,089,554	34,057	0.0010	0.9990	98.87
10.5	33,551,353	54,971	0.0016	0.9984	98.78
11.5	32,808,312	32,805	0.0010	0.9990	98.61
12.5	30,288,243	31,994	0.0011	0.9989	98.52
13.5	31,503,120	528,241	0.0168	0.9832	98.41
14.5	29,904,621	113,724	0.0038	0.9962	96.76
15.5	29,404,312	49,328	0.0017	0.9983	96.39
16.5	29,191,014	215,111	0.0074	0.9926	96.23
17.5	28,804,412	13,846	0.0005	0.9995	95.52
18.5	28,759,564	92,812	0.0032	0.9968	95.48
19.5	28,535,371	19,070	0.0007	0.9993	95.17
20.5	28,255,124	1,228,418	0.0435	0.9565	95.10
21.5	23,480,398	944,698	0.0402	0.9598	90.97
22.5	22,066,722	105,392	0.0048	0.9952	87.31
23.5	21,822,498	703,439	0.0322	0.9678	86.89
24.5	18,205,452	132,021	0.0073	0.9927	84.09
25.5	17,998,455	20,562	0.0011	0.9989	83.48
26.5	17,959,004	84,637	0.0047	0.9953	83.39
27.5	17,787,972	245,555	0.0138	0.9862	82.99
28.5	17,470,676	40,457	0.0023	0.9977	81.85
29.5	17,629,918	489,576	0.0278	0.9722	81.66
30.5	17,567,826	62,141	0.0035	0.9965	79.39
31.5	15,422,457	158,896	0.0103	0.9897	79.11
32.5	15,324,852	55,755	0.0036	0.9964	78.29
33.5	15,222,690	91,446	0.0060	0.9940	78.01
34.5	9,956,528	95,119	0.0096	0.9904	77.54
35.5	8,888,381	57,067	0.0064	0.9936	76.80
36.5	7,365,932	16,090	0.0022	0.9978	76.31
37.5	7,531,323	82,423	0.0109	0.9891	76.14
38.5	7,255,375	35,055	0.0048	0.9952	75.31

#### ACCOUNT 315 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	7,420,695	29,206	0.0039	0.9961	74.94
40.5	7,323,737	189,914	0.0259	0.9741	74.65
41.5	7,131,091	80,417	0.0113	0.9887	72.71
42.5	7,063,503	62,683	0.0089	0.9911	71.89
43.5	7,002,089	50,874	0.0073	0.9927	71.26
44.5	6,787,292	192	0.0000	1.0000	70.74
45.5	1,825,496	79,390	0,0435	0.9565	70.74
46.5	1,746,106	14,167	0.0081	0.9919	67.66
47.5	1,564,242	260	0.0002	0.9998	67.11
48.5	1,330,478	1,144	0.0009	0.9991	67.10
49.5	1,329,334	1,254	0.0009	0.9991	67.04
50.5	1,258,876		0.0000	1.0000	66.98
51.5	1,250,552	23,368	0.0187	0.9813	66.98
52.5	938,866	20,921	0.0223	0.9777	65.73
53.5	916,346	815	0.0009	0.9991	64.26
54.5	532,621		0.0000	1.0000	64.20
55.5	532,621		0.0000	1.0000	64.20
56.5	299,442		0.0000	1.0000	64.20
57.5	239,847	9,856	0.0411	0.9589	64.20
58.5	228,400		0.0000	1.0000	61.57
59.5	228,400		0.0000	1.0000	61.57
60.5	228,400		0.0000	1.0000	61.57
61.5	228,075		0.0000	1.0000	61.57
62.5	228,075		0.0000	1.0000	61.57
63.5	228,075		0.0000	1.0000	61.57
64.5					61.57

### ACCOUNT 315 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS	DEMM	GIDI.	PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	54,870,182		0.0000	1.0000	100.00
0.5	52,981,245		0.0000	1.0000	100.00
1.5	52,648,169	21,473	0.0004	0.9996	100.00
2.5	57,898,471	461	0.0000	1.0000	99.96
3.5	55,748,401	12,100	0.0002	0.9998	99.96
4.5	37,775,310		0.0000	1.0000	99.94
5.5	26,553,728	73,030	0.0028	0.9972	99.94
6.5	26,167,438	2,673	0.0001	0.9999	99.66
7.5	26,960,117	238,301	0.0088	0.9912	99.65
8.5	25,857,124	32,261	0.0012	0.9988	98.77
9.5	31,646,161	34,057	0.0011	0.9989	98.65
10.5	31,109,710	54,971	0.0018	0.9982	98.54
11.5	30,376,968	32,805	0.0011	0.9989	98.37
12.5	28,500,015	31,994	0.0011	0.9989	98.26
13.5	29,714,892	493,916	0.0166	0.9834	98.15
14.5	28,237,724	113,724	0.0040	0.9960	96.52
15.5	27,752,442	48,028	0.0017	0.9983	96.13
16.5	28,001,282	211,580	0.0076	0.9924	95.96
17.5	27,633,150	13,846	0.0005	0.9995	95.24
18.5	28,170,889	92,812	0.0033	0.9967	95.19
19.5	27,946,696	19,070	0.0007	0.9993	94.88
20.5	27,966,834	1,228,418	0.0439	0.9561	94.81
21.5	23,192,108	944,698	0.0407	0.9593	90.65
22.5	21,778,432	105,392	0.0048	0.9952	86.96
23.5	21,534,315	703,439	0.0327	0.9673	86.54
24.5	17,917,460	132,021	0.0074	0.9926	83.71
25.5	17,712,795	20,562	0.0012	0.9988	83.09
26.5	17,673,396	84,637	0.0048	0.9952	83.00
27.5	17,502,364	245,555	0.0140	0.9860	82.60
28.5	17,470,676	40,457	0.0023	0.9977	81.44
29.5	17,629,918	489,576	0.0278	0.9722	81.25
30.5	17,567,826	62,141	0.0035	0.9965	78.99
31.5	15,422,457	158,896	0.0103	0.9897	78.71
32.5	15,324,852	55,755	0.0036	0.9964	77.90
33.5	15,222,690	91,446	0.0060	0.9940	77.62
34.5	9,956,528	95,119	0.0096	0.9904	77.15
35.5	8,888,381	57,067	0.0064	0.9936	76.42
36.5	7,365,932	16,090	0.0022	0.9978	75.93
37.5	7,531,323	82,423	0.0109	0.9891	75.76
38.5	7,255,375	35,055	0.0048	0.9952	74.93

### ACCOUNT 315 ACCESSORY ELECTRIC EQUIPMENT

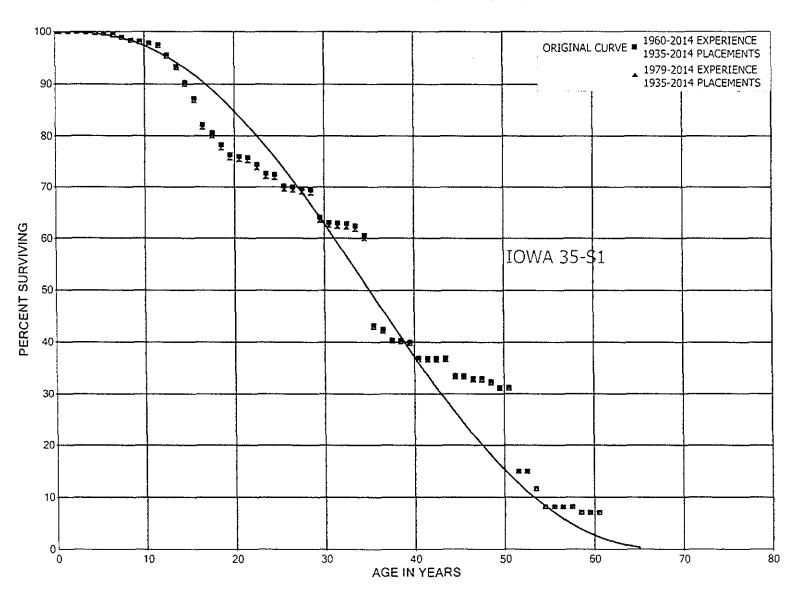
ORIGINAL LIFE TABLE, CONT.

PLACEMENT E	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	7,420,695	29,206	0.0039	0.9961	74.57
40.5	7,323,737	189,914	0.0259	0.9741	74.28
41.5	7,131,091	80,417	0.0113	0.9887	72.35
42.5	7,063,503	62,683	0.0089	0.9911	71.53
43.5	7,002,089	50,874	0.0073	0.9927	70.90
44.5	6,787,292	192	0.0000	1.0000	70.38
45.5	1,825,496	79,390	0.0435	0.9565	70.38
46.5	1,746,106	14,167	0.0081	0.9919	67.32
47.5	1,564,242	260	0.0002	0.9998	66.77
48.5	1,330,478	1,144	0.0009	0.9991	66.76
49.5	1,329,334	1,254	0.0009	0.9991	66.71
50,5	1,258,876		0.0000	1.0000	66.64
51.5	1,250,552	23,368	0,0187	0.9813	66.64
52.5	938,866	20,921	0.0223	0.9777	65.40
53.5	916,346	815	0.0009	0.9991	63.94
54.5	532,621		0.0000	1.0000	63.88
55.5	532,621		0.0000	1.0000	63.88
56.5	299,442		0.0000	1.0000	63.88
57.5	239,847	9,856	0.0411	0.9589	63.88
58.5	228,400		0.0000	1.0000	61.26
59.5	228,400		0.0000	1.0000	61.26
60.5	228,400		0.0000	1.0000	61.26
61.5	228,075		0.0000	1.0000	61.26
62.5	228,075		0.0000	1.0000	61.26
63.5	228,075		0.0000	1.0000	61.26
	,				

64.5

61.26

# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 316 MISCELLANEOUS POWER PLANT EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 316 MISCELLANEOUS POWER PLANT EQUIPMENT

PLACEMENT	BAND 1935-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	14,918,092		0.0000	1.0000	100.00
0.5	14,276,023	7,604	0.0005	0.9995	100.00
1.5	13,480,697	4,664	0.0003	0.9997	99.95
2.5	11,569,647	6,933	0.0006	0.9994	99.91
3.5	9,788,481	14,199	0.0015	0.9985	99.85
4.5	8,029,303	7,983	0.0010	0.9990	99.71
5.5	6,321,589	23,900	0.0038	0.9962	99.61
6.5	6,073,166	26,433	0.0044	0.9956	99.23
7.5	5,616,288	29,276	0.0052	0.9948	98.80
8.5	5,507,151	14,032	0.0025	0.9975	98.28
9.5	5,080,705	14,932	0.0029	0.9971	98.03
10.5	4,953,971	17,407	0.0035	0.9965	97.75
11.5	4,779,276	92,172	0.0193	0.9807	97.40
12.5	4,585,551	106,374	0.0232	0.9768	95.52
13.5	4,426,332	141,145	0.0319	0.9681	93.31
14.5	4,072,183	140,841	0.0346	0.9654	90.33
15.5	3,632,009	210,855	0.0581	0.9419	87.21
16.5	3,334,389	61,451	0.0184	0.9816	82.15
17.5	3,167,289	92,607	0.0292	0.9708	80.63
18.5	2,977,261	74,753	0.0251	0.9749	78.27
19.5	2,775,927	13,263	0.0048	0.9952	76.31
20.5	2,616,405	7,068	0.0027	0.9973	75.94
21.5	2,408,069	47,458	0.0197	0.9803	75.74
22.5	2,330,060	51,191	0.0220	0.9780	74.25
23.5	1,786,161	6,426	0.0036	0.9964	72.62
24.5	1,718,764	52,523	0.0306	0.9694	72.35
25.5	1,605,573	3,417	0.0021	0.9979	70.14
26.5	1,553,539	8,632	0.0056	0.9944	69.99
27.5	1,525,903	3,555	0.0023	0.9977	69.60
28.5	1,479,299	114,474	0.0774	0.9226	69.44
29.5	1,295,736	19,886	0.0153	0.9847	64.07
30.5	1,225,763	2,612	0.0021	0.9979	63.09
31,5	1,158,785	2,415	0.0021	0.9979	62.95
32.5	1,146,094	8,430	0.0074	0.9926	62.82
33.5	1,118,660	32,113	0.0287	0.9713	62.36
34.5	672,524	193,438	0.2876	0.7124	60.57
35.5	392,000	7,146	0.0182	0.9818	43.15
36.5	318,772	14,498	0.0455	0.9545	42.36
37.5	303,489	792	0.0026	0.9974	40.43
38.5	299,532	2,463	0.0082	0.9918	40.33

#### ACCOUNT 316 MISCELLANEOUS POWER PLANT EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

#### PLACEMENT BAND 1935-2014 EXPERIENCE BAND 1960-2014 AGE AT EXPOSURES AT RETIREMENTS PCT SURV BEGIN OF BEGINNING OF DURING AGE RETMT SURV BEGIN OF INTERVAL AGE INTERVAL INTERVAL INTERVAL RATIO RATIO 297,069 39.5 22,884 0.0770 0.9230 40.00 267,857 36.92 40.5 0.0000 1.0000 266,852 0.0000 1.0000 36.92 41.5 42.5 265,183 0.0003 0.9997 36.92 85 43.5 263,426 24,219 0.0919 0.9081 36.90 44.5 206,811 0.0000 1.0000 33.51 49,353 33.51 45.5 857 0.0174 0.9826 1.0000 46.5 48,496 0.0000 32.93 0.9827 47.5 48,496 838 0.0173 32,93 21,229 700 0.0330 0.9670 32.36 48.5 20,529 31.29 49.5 0.0000 1.0000 50.5 9,964 19,056 0.5229 0.4771 31.29 51.5 9,092 0.0000 1.0000 14.93 0.7805 9,092 1,996 14.93 52,5 0.2195 2,168 11.65 53.5 7,096 0.3055 0.6945 4,928 0.0000 1.0000 8,09 54.5 55.5 4,928 0.0000 1.0000 8.09 8.09 56.5 4,928 0.0000 1.0000 57.5 1,722 250 8.09 0.1452 0.8548 6.92 58.5 1,472 0.0000 1.0000 6.92 59.5 1,008 0.0000 1.0000

60.5

6.92

### ACCOUNT 316 MISCELLANEOUS POWER PLANT EQUIPMENT

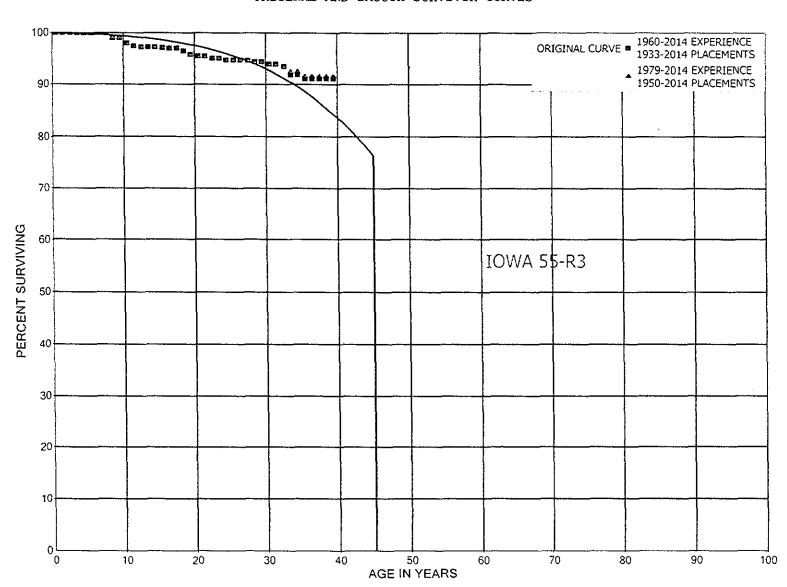
PLACEMENT	BAND 1935-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	13,708,210		0.0000	1.0000	100.00
0.5	13,206,763	7,604	0.0006	0.9994	100.00
1.5	12,448,268	4,664	0.0004	0.9996	99.94
2.5	10,523,539	6,933	0.0007	0.9993	99.90
3.5	8,748,657	14,199	0.0016	0.9984	99.84
4.5	6,993,347	7,983	0.0011	0.9989	99.68
5.5	5,306,379	21,626	0.0041	0.9959	99.56
6.5	5,066,887	26,433	0.0052	0.9948	99.16
7.5	4,595,136	, 29,276	0.0064	0.9936	98.64
8.5	4,532,509	11,532	0.0025	0.9975	98.01
9.5	4,756,920	14,932	0.0031	0.9969	97.76
10.5	4,631,451	17,407	0.0038	0.9962	97.46
11.5	4,462,025	92,172	0.0207	0.9793	97.09
12.5	4,462,163	106,374	0.0238	0.9762	95.08
13.5	4,304,555	141,145	0.0328	0.9672	92.82
14.5	3,952,278	140,841	0.0356	0.9644	89.77
15.5	3,515,117	210,855	0.0600	0.9400	86.57
16.5	3,245,222	61,451	0.0189	0.9811	81.38
17.5	3,082,423	92,607	0.0300	0.9700	79.84
18.5	2,892,916	74,753	0.0258	0.9742	77.44
19.5	2,692,990	13,263	0.0049	0.9951	75.44
20.5	2,541,654	7,068	0.0028	0.9972	75.07
21.5	2,370,213	47,458	0.0200	0.9800	74.86
22.5	2,292,575	51,191	0.0223	0.9777	73.36
23.5	1,751,596	6,426	0.0037	0.9963	71.72
24.5	1,685,745	52,523	0.0312	0.9688	71.46
25.5	1,576,044	3,417	0.0022	0.9978	69.23
26,5	1,526,518	8,632	0.0057	0.9943	69.08
27.5	1,498,882	3,555	0.0024	0.9976	68.69
28.5	1,477,051	114,474	0.0775	0.9225	68.53
29.5	1,293,488	19,886	0.0154	0.9846	63.22
30.5	1,223,515	2,612	0.0021	0.9979	62.25
31.5	1,158,705	2,415	0.0021	0.9979	62.11
32.5	1,146,014	8,430	0.0074	0.9926	61.98
33.5	1,118,580	32,113	0.0287	0.9713	61.53
34.5	672,444	193,438	0.2877	0.7123	59.76
35.5	391,920	7,146	0.0182	0.9818	42.57
36.5	318,692	14,498	0.0455	0.9545	41.79
37.5	303,409	792	0.0026	0.9974	39.89
38.5	299,452	2,463	0.0082	0.9918	39.79

#### ACCOUNT 316 MISCELLANEOUS POWER PLANT EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1935-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	297,044	22,884	0.0770	0.9230	39.46
40.5	267,832		0.0000	1.0000	36.42
41.5	266,827		0.0000	1.0000	36.42
42.5	265,158	85	0.0003	0.9997	36.42
43.5	263,426	24,219	0.0919	0.9081	36.41
44.5	206,811		0.0000	1.0000	33.06
45.5	49,353	857	0.0174	0.9826	33.06
46.5	48,496		0.0000	1.0000	32.49
47.5	48,496	838	0.0173	0.9827	32.49
48.5	21,229	700	0.0330	0.9670	31.93
49.5	20,529		0.0000	1.0000	30.87
50.5	19,056	9,964	0.5229	0.4771	30.87
51.5	9,092		0.0000	1.0000	14.73
52.5	9,092	1,996	0.2195	0.7805	14.73
53.5	7,096	2,168	0.3055	0.6945	11.50
54.5	4,928		0.0000	1.0000	7.98
55.5	4,928		0.0000	1.0000	7.98
56.5	4,928		0.0000	1.0000	7.98
57.5	1,722	250	0.1452	0.8548	7.98
58.5	1,472		0.0000	1.0000	6.82
59.5	1,008		0.0000	1.0000	6.82
60.5					6.82

### KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 341 STRUCTURES AND IMPROVEMENTS ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 341 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1933-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	19,079,960	10,000	0.0005	0.9995	100.00
0.5	19,371,439	•	0.0000	1.0000	99.95
1.5	19,050,894		0.0000	1.0000	99.95
2.5	18,513,513		0.0000	1.0000	99.95
3.5	17,962,692	3,776	0.0002	0.9998	99.95
4.5	17,442,978		0.0000	1.0000	99.93
5.5	16,627,934		0.0000	1.0000	99.93
6.5	15,827,673		0.0000	1.0000	99.93
7.5	15,284,401	154,590	0.0101	0.9899	99.93
8.5	16,875,194		0.0000	1.0000	98.92
9.5	6,620,719	63,067	0.0095	0.9905	98.92
10.5	6,313,124	40,000	0.0063	0.9937	97.97
11,5	6,294,837	9,984	0.0016	0.9984	97.35
12.5	3,865,152		0.0000	1.0000	97.20
13.5	3,361,892		0.0000	1.0000	97.20
14.5	2,875,532	4,884	0.0017	0.9983	97.20
15.5	2,971,850	3,126	0.0011	0.9989	97.03
16.5	2,883,126		0.0000	1.0000	96.93
17.5	2,842,349	15,159	0.0053	0.9947	96.93
18.5	2,733,044	20,000	0.0073	0.9927	96.41
19.5	2,696,335	9,721	0.0036	0.9964	95.71
20.5	2,037,292		0.0000	1.0000	95.36
21.5	2,025,915	8,662	0.0043	0.9957	95.36
22.5	1,808,269		0.0000	1.0000	94.96
23.5	1,800,060	5,987	0.0033	0.9967	94.96
24.5	1,596,310	120	0.0001	0.9999	94.64
25.5	1,593,066	7	0.0000	1.0000	94.63
26.5	1,736,204	1,432	0.0008	0.9992	94.63
27.5	1,665,037	5,164	0.0031	0.9969	94.55
28.5	1,520,925		0.0000	1.0000	94.26
29.5	1,427,841	6,605	0.0046	0.9954	94.26
30.5	1,381,113		0.0000	1,0000	93.83
31.5	1,244,646	5,402	0.0043	0.9957	93.83
32.5	1,141,550	18,904	0.0166	0.9834	93.42
33.5	1,061,860		0.0000	1.0000	91.87
34.5	1,050,812	9,328	0.0089	0.9911	91.87
35.5	992,760		0.0000	1.0000	91.06
36.5	992,760		0.0000	1.0000	91.06
37.5	992,760		0.0000	1.0000	91.06
38.5	992,760		0.0000	1.0000	91.06

### ACCOUNT 341 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1933-2014		EXPE	RIENCE BAN	D 1960-2014
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 40.5 41.5 42.5 43.5 44.5 45.5 46.5	992,760 12,921 12,921 12,921 879 1	878	0.0000 0.0000 0.0000 0.0000 0.9989 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 0.0011 1.0000 1.0000	91.06 91.06 91.06 91.06 91.06 0.10 0.10

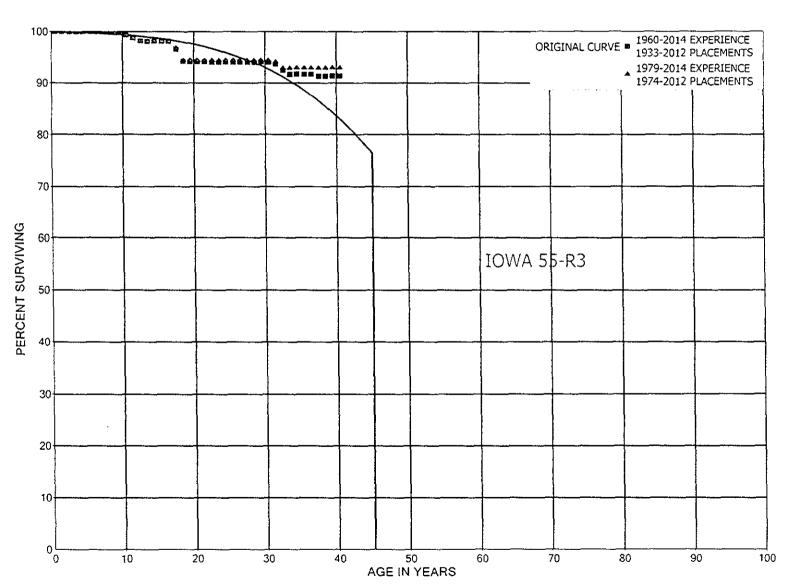
### ACCOUNT 341 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	17,945,584	10,000	0.0006	0.9994	100.00
0.5	18,373,541		0.0000	1.0000	99.94
1.5	18,050,060		0.0000	1.0000	99.94
2.5	17,512,679		0.0000	1.0000	99.94
3.5	16,962,270	3,776	0.0002	0.9998	99.94
4.5	17,429,608		0.0000	1.0000	99.92
5.5	16,614,564		0.0000	1.0000	99.92
6.5	15,813,750		0.0000	1.0000	99.92
7.5	15,267,299	154,590	0.0101	0.9899	99.92
8.5	16,841,827		0.0000	1.0000	98.91
9.5	6,585,274	63,067	0.0096	0.9904	98.91
10.5	6,277,026	40,000	0.0064	0.9936	97.96
11.5	6,258,166	9,984	0.0016	0.9984	97.34
12.5	3,828,181		0.0000	1.0000	97.18
13.5	3,315,068		0.0000	1.0000	97.18
14.5	2,828,644	4,884	0.0017	0.9983	97.18
15.5	2,913,207	3,126	0.0011	0.9989	97.02
16.5	2,829,017		0.0000	1.0000	96.91
17.5	2,797,394	15,159	0.0054	0.9946	96.91
18.5	2,684,296	20,000	0.0075	0.9925	96.39
19.5	2,664,297	9,721	0.0036	0.9964	95.67
20.5	2,018,496		0.0000	1.0000	95.32
21.5	2,008,777	8,662	0.0043	0.9957	95.32
22.5	1,802,525		0.0000	1.0000	94.91
23.5	1,794,616	5,987	0.0033	0.9967	94.91
24.5	1,590,866		0.0000	1.0000	94.59
25.5	1,587,923	7	0.0000	1.0000	94.59
26.5	1,587,916	1,432	0.0009	0.9991	94.59
27.5	1,517,220	5,164	0.0034	0.9966	94.51
28.5	1,373,226		0.0000	1.0000	94.18
29.5	1,284,066	6,605	0.0051	0.9949	94.18
30.5	1,277,462		0.0000	1.0000	93.70
31.5	1,140,995	5,402	0.0047	0.9953	93.70
32.5	1,037,899	9,387	0.0090	0.9910	93.26
33.5	1,015,993		0.0000	1.0000	92.41
34.5	1,005,129	9,328	0.0093	0.9907	92.41
35.5	992,760		0.0000	1.0000	91.56
36.5	992,760		0.0000	1.0000	91,56
37.5	992,760		0.0000	1.0000	91.56
38.5	992,760		0.0000	1.0000	91,56

### ACCOUNT 341 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1950-2014		EXPE	RIENCE BANI	1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39,5	992,760		0.0000	1.0000	91.56
40.5	12,921		0.0000	1.0000	91,56
41.5	12,921		0.0000	1.0000	91.56
42.5	12,921		0.0000	1.0000	91.56
43.5	879	878	0.9989	0.0011	91.56
44.5	1		0.0000	1.0000	0.10
45.5	1		0.0000	1.0000	0.10
46.5	1		0.0000	1.0000	0.10
47.5					0.10

## KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 342 FUEL HOLDERS, PRODUCERS AND ACCESSORIES ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 342 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

PLACEMENT	BAND 1933-2012		EXPE	RIENCE BAN	D 1960-2014
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 0.5 1.5 2.5 3.5 4.5 5.5	12,213,938 13,294,472 12,632,958 10,219,917 10,120,426 10,120,426 10,120,426		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	100.00 100.00 100.00 100.00 100.00 100.00
6.5 7.5 8.5	9,520,680 8,128,276 12,021,021	568	0.0000 0.0000 0.0000	1.0000 1.0000 1.0000	100.00 100.00 100.00
9.5 10.5 11.5 12.5 13.5	8,075,966 7,998,223 7,955,373 3,615,716 3,009,675	61,016 42,850 40,000 4,237	0.0076 0.0054 0.0050 0.0012 0.0000	0.9924 0.9946 0.9950 0.9988 1.0000	100.00 99.24 98.71 98.21 98.10
14.5 15.5 16.5 17.5 18.5	2,281,881 1,636,903 1,401,976 1,379,808 1,012,105	22,168 33,924 1,377	0.0000 0.0000 0.0158 0.0246 0.0014	1.0000 1.0000 0.9842 0.9754 0.9986	98.10 98.10 98.10 96.55 94.17
19.5 20.5 21.5 22.5 23.5 24.5	1,010,728 941,424 941,179 940,930 940,832 931,284	245 249 98	0.0000 0.0003 0.0003 0.0001 0.0000 0.0000	1.0000 0.9997 0.9997 0.9999 1.0000	94.04 94.04 94.02 93.99 93.98 93.98
25.5 26.5 27.5 28.5	931,284 940,688 940,614 940,347	74 267	0.0000 0.0001 0.0003 0.0000	1.0000 0.9999 0.9997 1.0000	93.98 93.98 93.98 93.95
29.5 30.5 31.5 32.5 33.5 34.5 35.5	940,347 940,347 886,480 821,698 801,330 801,330	3,267 11,498 7,009 39	0.0000 0.0035 0.0130 0.0085 0.0000 0.0000	1.0000 0.9965 0.9870 0.9915 1.0000 1.0000	93.95 93.95 93.62 92.41 91.62 91.62
36.5 37.5 38.5	544,692 542,564 542,564	2,128	0.0039 0.0000 0.0000	0.9961 1.0000 1.0000	91.62 91.26 91.26

### ACCOUNT 342 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

PLACEMENT	BAND 1933-2012		EXPER	TIENCE BAN	D 1960-2014
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 40.5	542,564		0.0000	1.0000	91.26 91.26

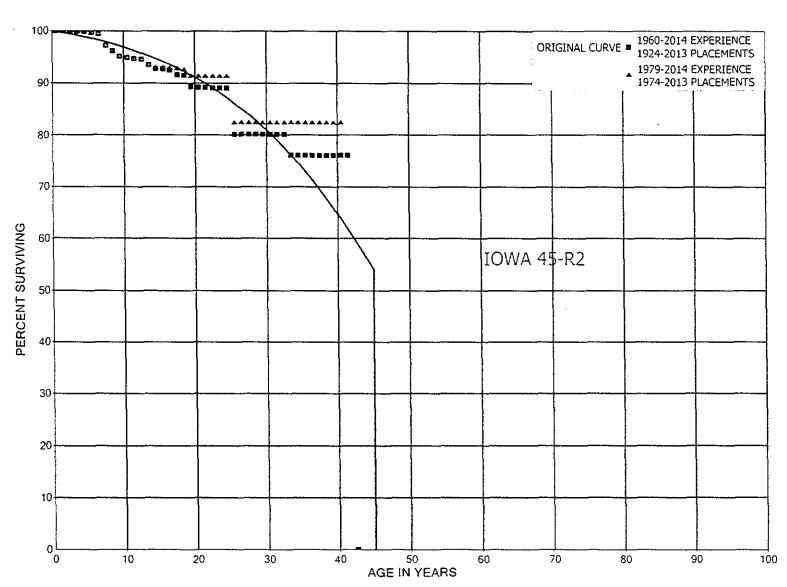
### ACCOUNT 342 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

PLACEMENT	BAND 1974-2012		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	10,692,438		0.0000	1.0000	100.00
0.5	12,031,254		0.0000	1.0000	100.00
1.5	12,076,467		0.0000	1.0000	100.00
2.5	9,676,785		0.0000	1.0000	100.00
3.5	9,577,192		0.0000	1.0000	100.00
4.5	10,119,756		0.0000	1.0000	100.00
5.5	10,119,756		0.0000	1.0000	100.00
6.5	9,517,842		0.0000	1.0000	100.00
7.5	8,125,438		0.0000	1.0000	100.00
8.5	12,016,806		0.0000	1.0000	100.00
9.5	8,068,591	60,914	0.0075	0.9925	100.00
10.5	7,990,950	42,850	0.0054	0.9946	99.25
11.5	7,948,100	40,000	0.0050	0.9950	98.71
12.5	3,608,100	4,237	0.0012	0.9988	98.22
13.5	3,003,863		0.0000	1.0000	98.10
14.5	2,276,069		0.0000	1.0000	98.10
15.5	1,630,842		0.0000	1.0000	98.10
16.5	1,395,841	20,000	0.0143	0.9857	98.10
17.5	1,375,841	32,000	0.0233	0.9767	96.70
18.5	1,010,062		0.0000	1.0000	94.45
19.5	1,010,062		0.0000	1.0000	94.45
20.5	940,758		0.0000	1.0000	94.45
21.5	940,758		0.0000	1.0000	94.45
22.5	940,758		0.0000	1.0000	94.45
23.5	940,758		0.0000	1.0000	94.45
24.5	931,171		0.0000	1.0000	94.45
25.5	931,171		0.0000	1.0000	94.45
26.5	931,171		0.0000	1.0000	94.45
27.5	931,171		0.0000	1.0000	94.45
28.5	931,171		0.0000	1.0000	94.45
29.5	931,171		0.0000	1.0000	94.45
30.5	931,171	3,267	0.0035	0.9965	94.45
31.5	877,304	11,498	0.0131	0.9869	94.11
32.5	812,522		0.0000	1.0000	92.88
33.5	799,163		0.0000	1.0000	92.88
34.5	799,163		0.0000	1.0000	92.88
35.5	799,163		0.0000	1.0000	92.88
36.5	542,564		0.0000	1.0000	92.88
37.5	542,564		0.0000	1.0000	92.88
38.5	542,564		0.0000	1.0000	92.88

### ACCOUNT 342 FUEL HOLDERS, PRODUCERS AND ACCESSORIES

PLACEMENT	BAND 1974-2012		EXPER	RIENCE BAN	D 1979-2014
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 40.5	542,564		0.0000	1.0000	92.88 92.88

## KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 343 PRIME MOVERS ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 343 PRIME MOVERS

PLACEMENT	BAND 1924-2013		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	120,016,982		0.0000	1.0000	100.00
0.5	121,343,436		0.0000	1.0000	100.00
1.5	121,454,430	2,000	0.0000	1.0000	100.00
2.5	121,375,814	196,421	0.0016	0.9984	100.00
3.5	120,516,324	67,490	0.0006	0.9994	99.84
4.5	119,893,265	220,045	0.0018	0.9982	99.78
5.5	119,521,344	196,004	0.0016	0.9984	99.60
6.5	115,328,999	2,644,514	0.0229	0.9771	99.43
7.5	107,580,918	1,126,547	0.0105	0.9895	97.15
8.5	181,129,923	1,897,145	0.0105	0.9895	96.14
9.5	111,796,850	179,638	0.0016	0.9984	95.13
10.5	110,887,865	325,464	0.0029	0.9971	94.98
11.5	112,129,314	56,988	0.0005	0.9995	94.70
12.5	33,701,334	420,425	0.0125	0.9875	94.65
13.5	25,809,970	202,831	0.0079	0.9921	93.47
14.5	12,507,590		0.0000	1.0000	92.73
15.5	11,283,167	25,036	0.0022	0.9978	92.73
16.5	9,931,122	92,657	0.0093	0.9907	92.53
17.5	9,785,067	19,578	0.0020	0.9980	91.67
18.5	7,589,548	184,689	0.0243	0.9757	91.48
19.5	7,404,859	3,179	0.0004	0.9996	89.26
20.5	6,134,326	129	0.0000	1.0000	89.22
21.5	6,134,197	12,803	0.0021	0.9979	89.22
22.5	6,028,128		0.0000	1.0000	89.03
23.5	5,763,840		0.0000	1.0000	89.03
24.5	3,351,118	332,983	0.0994	0.9006	89.03
25.5	399,333		0.0000	1.0000	80.18
26.5	615,756		0.0000	1.0000	80.18
27.5	4,084,268		0.0000	1.0000	80.18
28.5	4,084,268	31	0.0000	1.0000	80.18
29.5	4,084,364		0.0000	1.0000	80.18
30.5	4,084,364	778	0.0002	0.9998	80.18
31.5	4,083,586	96	0.0000	1.0000	80.17
32.5	4,031,807	207,003	0.0513	0.9487	80.17
33.5	3,489,158		0.0000	1.0000	76.05
34.5	3,489,158		0.0000	1.0000	76.05
35.5	3,484,005	127	0.0000	1.0000	76.05
36.5	3,483,878		0.0000	1.0000	76.05
37.5	3,483,878		0.0000	1.0000	76.05
38.5	3,475,236		0.0000	1.0000	76.05

#### ACCOUNT 343 PRIME MOVERS

PLACEMENT :	BAND 1924-2013		EXPE	RIENCE BAN	D 1960-2014
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 40.5	3,475,236 189		0.0000	1.0000 1.0000	76.05 76.05
41.5 42.5	189	189	1.0000		76.05

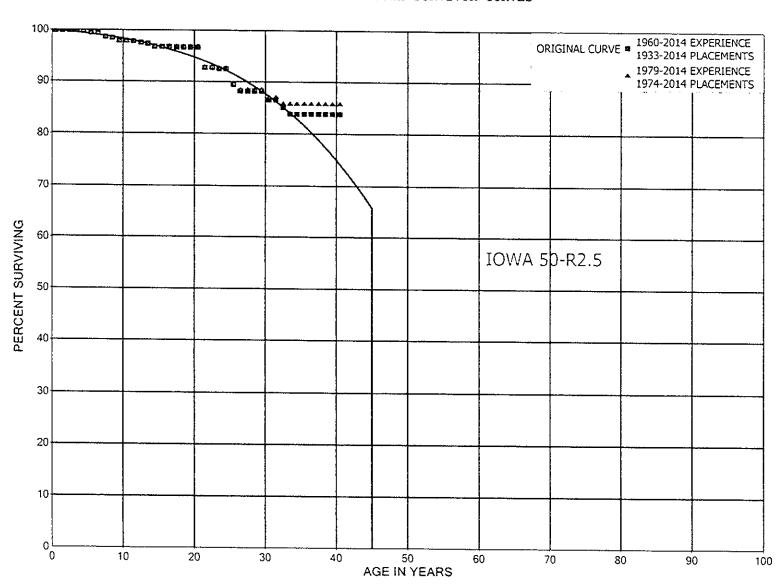
### ACCOUNT 343 PRIME MOVERS

PLACEMENT	BAND 1974-2013		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	119,311,451		0.0000	1,0000	100.00
0.5	120,637,357		0.0000	1.0000	100.00
1.5	121,447,253	2,000	0.0000	1.0000	100.00
2.5	121,366,439	192,847	0.0016	0.9984	100.00
3.5	120,446,006	67,490	0.0006	0.9994	99.84
4.5	119,822,947	220,045	0.0018	0.9982	99.78
5.5	119,449,955	193,510	0.0016	0.9984	99.60
6.5	115,174,820	2,644,514	0.0230	0.9770	99.44
7.5	107,426,739	1,126,547	0.0105	0.9895	97.16
8.5	180,889,681	1,897,145	0.0105	0.9895	96.14
9.5	111,556,294	179,373	0.0016	0.9984	95.13
10.5	110,647,320	324,916	0.0029	0.9971	94.98
11.5	111,885,821	55,936	0.0005	0.9995	94.70
12.5	33,458,893	415,852	0.0124	0.9876	94.65
13.5	25,568,923	138,314	0.0054	0.9946	93.47
14.5	12,331,060		0.0000	1.0000	92.97
15.5	11,094,544	21,653	0.0020	0.9980	92.97
16.5	9,745,882	7,248	0.0007	0.9993	92.79
17.5	9,685,236	19,546	0.0020	0.9980	92,72
18.5	7,484,443	101,001	0.0135	0.9865	92.53
19.5	7,383,442		0.0000	1.0000	91.28
20.5	6,116,088		0.0000	1.0000	91.28
21.5	6,116,088		0.0000	1.0000	91.28
22.5	6,022,822		0.0000	1.0000	91.28
23.5	5,758,534		0.0000	1.0000	91.28
24.5	3,345,812	327,708	0.0979	0.9021	91.28
25.5	399,206		0.0000	1.0000	82,34
26.5	407,848		0.0000	1.0000	82.34
27.5	3,876,360		0.0000	1.0000	82.34
28.5	3,876,360		0.0000	1.0000	82.34
29.5	3,876,360		0.0000	1.0000	82.34
30.5	3,876,360		0.0000	1.0000	82.34
31.5	3,876,360		0.0000	1.0000	82.34
32.5	3,824,677		0.0000	1.0000	82.34
33.5	3,489,031		0.0000	1.0000	82.34
34.5	3,489,031		0.0000	1.0000	82.34
35.5	3,483,689		0.0000	1.0000	82.34
36.5	3,483,689		0.0000	1.0000	82.34
37.5	3,483,689		0.0000	1.0000	82.34
38.5	3,475,047		0.0000	1.0000	82,34

### ACCOUNT 343 PRIME MOVERS

PLACEMENT	BAND 1974-2013		EXPER	RIENCE BAN	D 1979-2014
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 40.5	3,475,047		0.0000	1.0000	82.34 82.34

### KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 344 GENERATORS ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 344 GENERATORS

PLACEMENT	BAND 1933-2014		EXPE	RIENCE BAN	ID 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	52,850,200	98,844	0.0019	0.9981	100.00
0.5	52,363,799		0.0000	1.0000	99.81
1.5	51,632,019		0.0000	1.0000	99.81
2.5	48,647,087		0.0000	1.0000	99.81
3.5	48,268,241	4,726	0.0001	0.9999	99.81
4.5	48,150,002	217,601	0.0045	0.9955	99.80
5.5	47,847,592		0.0000	1.0000	99.35
6.5	47,177,370	339,210	0.0072	0.9928	99.35
7.5	46,194,388	97,312	0.0021	0.9979	98.64
8.5	61,479,254	391,170	0.0064	0.9936	98.43
9.5	43,441,222	1,488	0.0000	1.0000	97.80
10.5	42,716,742	22,194	0.0005	0.9995	97.80
11.5	40,361,922	117,049	0.0029	0.9971	97.75
12.5	21,182,900	41,832	0.0020	0.9980	97.47
13.5	19,681,148	110,169	0.0056	0.9944	97.27
14.5	16,080,769		0.0000	1.0000	96.73
15.5	16,358,787	3,612	0.0002	0.9998	96.73
16.5	16,090,975	8,659	0.0005	0.9995	96.71
17.5	16,061,119		0.0000	1.0000	96.66
18.5	16,018,897	197	0.0000	1.0000	96.66
19.5	15,998,211		0.0000	1.0000	96.65
20.5	9,889,722	408,956	0.0414	0.9586	96.65
21,5	9,475,716	5,100	0.0005	0.9995	92.66
22.5	7,878,467	16,082	0.0020	0.9980	92.61
23.5	7,274,192	1,499	0.0002	0.9998	92.42
24.5	7,049,855	228,207	0.0324	0.9676	92.40
25.5	6,587,825	87,585	0.0133	0.9867	89.41
26.5	6,538,789	1,227	0.0002	0.9998	88.22
27.5	3,162,846		0.0000	1.0000	88.20
28.5	3,162,846		0.0000	1.0000	88.20
29.5	3,153,880	60,588	0.0192	0.9808	88.20
30.5	3,093,292		0.0000	1.0000	86.51
31.5	3,093,292	53,234	0.0172	0.9828	86.51
32.5	2,083,874	29,182	0.0140	0.9860	85.02
33.5	2,054,692		0.0000	1.0000	83.83
34.5	2,054,692		0.0000	1.0000	83.83
35.5	2,054,692		0.0000	1.0000	83.83
36.5	2,054,692		0.0000	1.0000	83.83
37.5	2,054,692		0.0000	1.0000	83.83
38.5	2,054,692		0.0000	1.0000	83.83

### ACCOUNT 344 GENERATORS

PLACEMENT BAND 1933-2014				EXPERIENCE BAND 1960-201			
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV		
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF		
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL		
39.5	1,649,909		0.0000	1.0000	83.83		
40.5					83.83		

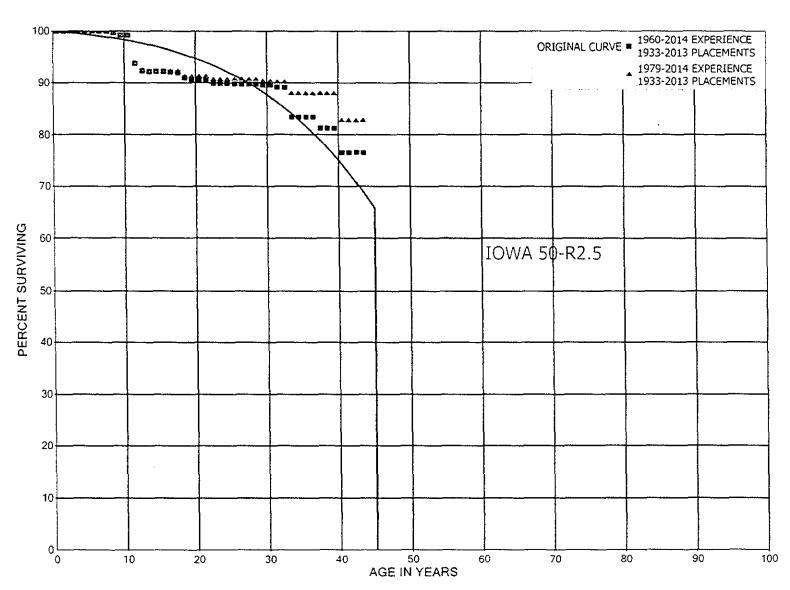
#### ACCOUNT 344 GENERATORS

PLACEMENT	BAND 1974-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT BEGIN OF	EXPOSURES AT BEGINNING OF	RETIREMENTS DURING AGE	RETMT	SURV	PCT SURV BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	46,396,017	98,844	0.0021	0.9979	100.00
0.5	45,909,616	·	0.0000	1.0000	99.79
1.5	45,873,064		0.0000	1.0000	99.79
2.5	42,888,132		0.0000	1.0000	99.79
3.5	42,906,202	4,726	0.0001	0.9999	99.79
4.5	48,139,661	217,601	0.0045	0.9955	99.78
5.5	47,837,251		0.0000	1.0000	99.32
6.5	47,158,370	339,210	0.0072	0.9928	99.32
7.5	46,174,999	97,312	0.0021	0.9979	98.61
8.5	61,459,668	391,170	0.0064	0.9936	98.40
9.5	43,419,710		0.0000	1.0000	97.78
10.5	42,696,718	22,194	0.0005	0.9995	97.78
11.5	40,340,212	117,049	0.0029	0.9971	97.73
12.5	21,161,190	41,832	0.0020	0.9980	97.44
13.5	19,659,438	100,927	0.0051	0.9949	97.25
14.5	16,068,301		0.0000	1.0000	96.75
15.5	16,341,219		0.0000	1.0000	96.75
16.5	16,077,019		0.0000	1.0000	96.75
17.5	16,055,822		0.0000	1.0000	96.75
18.5	16,013,600		0.0000	1.0000	96.75
19.5	15,993,111		0.0000	1.0000	96.75
20.5	9,883,395	408,956	0.0414	0.9586	96.75
21.5	9,469,389		0.0000	1.0000	92.75
22.5	7,877,240	16,082	0.0020	0.9980	92.75
23.5	7,272,965	1,499	0.0002	0.9998	92.56
24.5	7,048,628	228,207	0.0324	0.9676	92.54
25.5	6,575,076	87,585	0.0133	0.9867	89.54
26.5	6,487,491		0.0000	1.0000	88.35
27.5	3,112,775		0.0000	1.0000	88.35
28.5	3,112,775		0.0000	1.0000	88.35
29.5	3,103,809	51,221	0.0165	0.9835	88.35
30.5	3,052,588		0.0000	1.0000	86.89
31.5	3,052,588	41,712	0.0137	0.9863	86.89
32.5	2,054,692		0.0000	1.0000	85.70
33.5	2,054,692		0.0000	1.0000	85.70
34.5	2,054,692		0.0000	1.0000	85.70
35.5	2,054,692		0.0000	1.0000	85.70
36.5	2,054,692		0.0000	1.0000	85.70
37.5	2,054,692		0.0000	1.0000	85.70
38.5	2,054,692		0.0000	1.0000	85.70

### ACCOUNT 344 GENERATORS

PLACEMENT	BAND 1974-2014		EXPE	RIENCE BAN	D 1979-2014
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 40.5	1,649,909		0.0000	1.0000	85.70 85.70

# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 345 ACCESSORY ELECTRIC EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 345 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1933-2013		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	28,658,609		0.0000	1.0000	100.00
0.5	28,660,188	7,000	0.0002	0.9998	100.00
1.5	28,102,543		0.0000	1.0000	99.98
2.5	27,156,207		0.0000	1.0000	99.98
3.5	26,946,188		0.0000	1.0000	99.98
4.5	26,102,750		0.0000	1.0000	99.98
5.5	26,020,577	20,105	0.0008	0.9992	99.98
6.5	24,412,057		0.0000	1.0000	99.90
7.5	24,372,819	72,195	0.0030	0.9970	99.90
8.5	39,211,975	177,478	0.0045	0.9955	99.60
9.5	22,393,187		0.0000	1.0000	99.15
10.5	22,308,315	1,221,040	0.0547	0.9453	99.15
11.5	21,581,406	320,052	0.0148	0.9852	93.72
12.5	7,605,365	14,080	0.0019	0.9981	92.33
13.5	6,136,306		0.0000	1.0000	92.16
14.5	3,803,863	141	0.0000	1.0000	92.16
15.5	3,339,682	3,888	0.0012	0.9988	92.16
16.5	3,134,671	3,285	0.0010	0.9990	92.05
17.5	3,067,805	34,762	0.0113	0.9887	91.96
18.5	2,984,971	14,574	0.0049	0.9951	90.91
19.5	3,286,147		0.0000	1.0000	90.47
20.5	2,240,596	1,735	0.0008	0.9992	90.47
21.5	2,238,861	13,588	0.0061	0.9939	90.40
22.5	2,223,725	201	0.0001	0.9999	89.85
23.5	2,223,524		0.,0000	1.0000	89.84
24.5	1,383,624	1,583	0.0011	0.9989	89.84
25.5	1,265,374	546	0.0004	0.9996	89.74
26.5	1,288,976		0.0000	1.0000	89.70
27.5	1,144,792	159	0.0001	0.9999	89.70
28.5	1,146,136	2,744	0.0024	0.9976	89.69
29.5	1,175,510		0.0000	1.0000	89.48
30.5	1,175,510	6,056	0.0052	0.9948	89.48
31.5	1,169,454		0.0000	1.0000	89.01
32.5	496,817	31,058	0.0625	0.9375	89.01
33.5	472,803		0.0000	1.0000	83.45
34.5	440,685		0.0000	1.0000	83.45
35.5	440,685		0.0000	1.0000	83.45
36.5	440,685	11,540	0.0262	0.9738	83.45
37.5	428,740		0.0000	1.0000	81.26
38.5	379,019		0.0000	1.0000	81.26

#### ACCOUNT 345 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1933-2013		EXPE	RIENCE BAN	D 1960-2014
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 40.5 41.5 42.5 43.5 44.5 45.5 46.5 47.5 48.5	379,019 1,503 1,503 1,503	22,169	0.0585 0.0000 0.0000 0.0000	0.9415 1.0000 1.0000 1.0000	81.26 76.51 76.51 76.51 76.51
49.5 50.5					
51.5	90,562		0.0000		
52.5	90,562		0.0000		
53.5	90,562		0.0000		
54.5	164,300		0.0000		
55.5	164,300		0.0000		
56.5	73,738		0.0000		
57.5	73,738		0.0000		
58.5	73,738		0.0000		
59.5					

#### ACCOUNT 345 ACCESSORY ELECTRIC EQUIPMENT

PLACEMENT	BAND 1933-2013		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	27,935,422		0.0000	1.0000	100.00
0.5	27,937,001	7,000	0.0003	0.9997	100.00
1.5	27,552,262		0.0000	1.0000	99.97
2.5	26,614,568		0.0000	1.0000	99.97
3.5	26,404,549		0.0000	1.0000	99.97
4.5	26,088,672		0.0000	1.0000	99.97
5.5	26,002,427	20,000	0.0008	0.9992	99.97
6.5	24,390,728		0.0000	1.0000	99.90
7.5	24,350,842	71,791	0.0029	0.9971	99.90
8.5	39,175,828	177,478	0.0045	0.9955	99.60
9.5	22,357,040		0.0000	1.0000	99.15
10.5	22,270,433	1,220,630	0.0548	0.9452	99.15
11.5	21,543,666	305,991	0.0142	0.9858	93.72
12.5	7,581,485	14,080	0.0019	0.9981	92.39
13.5	6,112,426		0.0000	1.0000	92.22
14.5	3,779,983		0.0000	1.0000	92.22
15.5	3,315,943		0.0000	1.0000	92.22
16.5	3,114,820	1	0.0000	1.0000	92.22
17.5	3,051,238	34,762	0.0114	0.9886	92.22
18.5	2,966,821		0.0000	1.0000	91.16
19.5	3,282,571		0.0000	1.0000	91.16
20.5	2,236,469		0.0000	1.0000	91.16
21.5	2,236,469	13,531	0.0061	0.9939	91.16
22.5	2,221,390		0.0000	1.0000	90.61
23.5	2,221,390		0.0000	1.0000	90.61
24.5	1,381,490		0.0000	1.0000	90.61
25.5	1,264,823	546	0.0004	0.9996	90.61
26.5	1,255,635		0.0000	1.0000	90.57
27.5	1,111,451	159	0.0001	0.9999	90.57
28.5	1,112,795	2,744	0.0025	0.9975	90.56
29.5	1,142,169		0.0000	1.0000	90.34
30.5	1,142,169	4,000	0.0035	0.9965	90.34
31.5	1,138,169		0.0000	1.0000	90.02
32.5	465,532	11,313	0.0243	0.9757	90.02
33.5	461,263		0.0000	1.0000	87.83
34.5	429,145		0.0000	1.0000	87.83
35.5	429,145		0.0000	1.0000	87.83
36.5	429,145		0.0000	1.0000	87.83
37.5	428,740		0.0000	1.0000	87.83
38.5	379,019		0.0000	1.0000	87.83

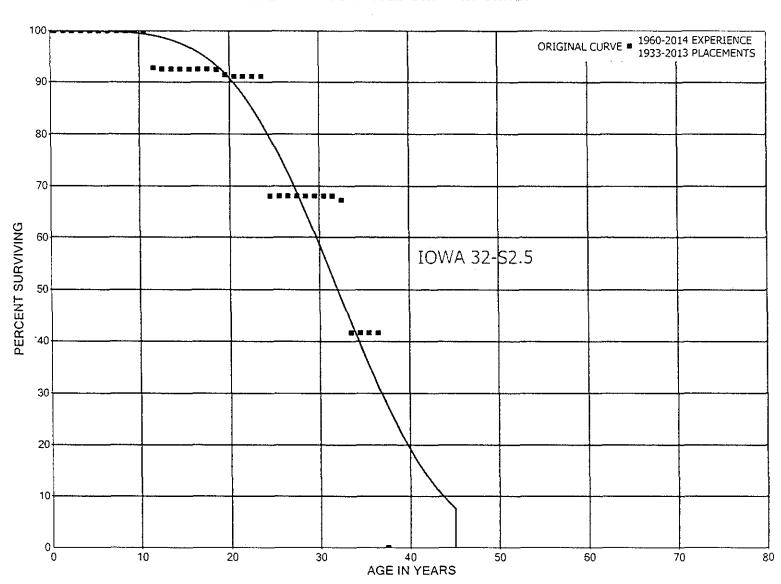
### ACCOUNT 345 ACCESSORY ELECTRIC EQUIPMENT

#### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1933-2013		EXPER	RIENCE BAN	D 1979-2014
AGE AT BEGIN OF INTERVAL		RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5 44.5 45.5 45.5 46.5 47.5	379,019 1,503 1,503 1,503	22,169	0.0585 0.0000 0.0000 0.0000	0.9415 1.0000 1.0000 1.0000	87.83 82.70 82.70 82.70 82.70
49.5					
50.5					
51.5	90,562		0.0000		
52.5	90,562		0.0000		
53.5	90,562		0.0000		
54.5	164,300		0.0000		
55.5	164,300		0.0000		
56.5	73,738		0.0000		
57.5	73,738		0.0000		
58.5	73,738		0.0000		

59.5

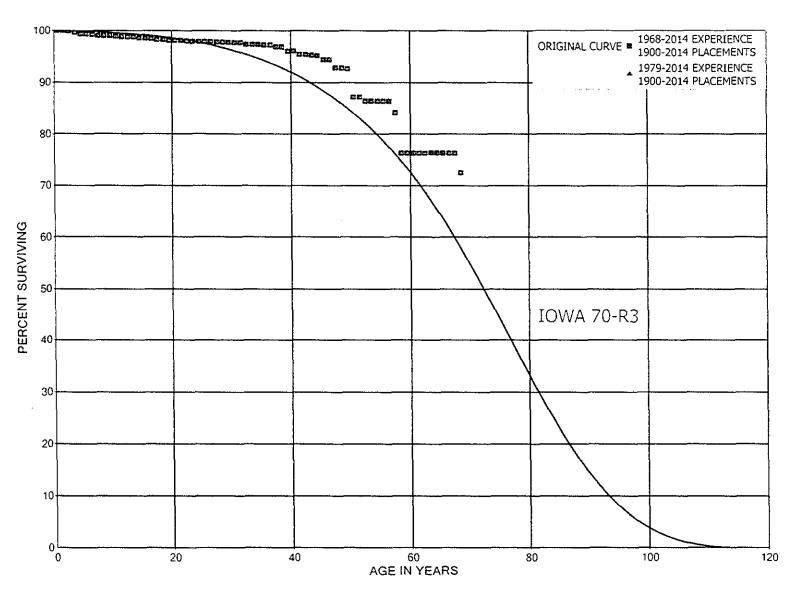
# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 346 MISCELLANEOUS POWER PLANT EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 346 MISCELLANEOUS POWER PLANT EQUIPMENT

PLACEMENT	BAND 1933-2013		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	914,037		0.0000	1.0000	100.00
0.5	917,756		0.0000	1.0000	100.00
1.5	893,035		0.0000	1.0000	100.00
2.5	834,693		0.0000	1.0000	100.00
3.5	816,022		0.0000	1.0000	100.00
4.5	752,765		0.0000	1.0000	100.00
5.5	705,543		0.0000	1.0000	100.00
6.5	705,543		0.0000	1.0000	100.00
7.5	652,369		0.0000	1.0000	100.00
8.5	783,454		0.0000	1.0000	100.00
9.5	653,733		0.0000	1.0000	100.00
10.5	650,449	47,500	0.0730	0.9270	100.00
11.5	173,871	320	0.0018	0.9982	92.70
12.5	46,761		0.0000	1.0000	92.53
13.5	47,013		0.0000	1.0000	92.53
14.5	36,209		0.0000	1.0000	92.53
15.5	20,908		0.0000	1.0000	92.53
16.5	20,908		0.0000	1.0000	92.53
17.5	20,907	19	0.0009	0.9991	92.53
18.5	20,888	226	0.0108	0.9892	92.44
19.5	20,662	90	0.0044	0.9956	91.44
20.5	572		0.0000	1.0000	91.04
21.5	643		0.0000	1.0000	91.04
22.5	643		0.0000	1.0000	91.04
23.5	643	162	0.2519	0.7481	91.04
24.5	481		0.0000	1.0000	68.11
25.5	71		0.0000	1.0000	68.11
26.5	6,127		0.0000	1.0000	68.11
27.5	6,127		0.0000	1.0000	68.11
28.5	6,127		0.0000	1.0000	68.11
29.5	6,127		0.0000	1.0000	68.11
30.5	6,127		0.0000	1.0000	68,11
31.5	6,127	71	0.0116	0.9884	68.11
32.5	6,056	2,309	0.3813	0.6187	67.32
33.5	3,747		0.0000	1.0000	41.65
34.5	3,747		0.0000	1.0000	41.65
35.5	3,747		0.0000	1.0000	41.65
36.5	3,747	3,747	1.0000		41.65
37.5					

# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 352 STRUCTURES AND IMPROVEMENTS ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1968-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	6,590,781		0.0000	1.0000	100.00
0.5	6,719,593	3,193	0.0005	0.9995	100.00
1.5	6,724,295	8,703	0.0013	0.9987	99.95
2,5	6,824,472	17,173	0.0025	0.9975	99.82
3.5	6,602,622	15,900	0.0024	0.9976	99.57
4.5	6,655,588	6,196	0.0009	0.9991	99.33
5.5	5,708,251	4,231	0.0007	0.9993	99.24
6.5	5,225,442	9,566	0.0018	0.9982	99.17
7,5	5,444,408	3,285	0.0006	0.9994	98.98
8.5	4,994,575	242	0.0000	1.0000	98.92
9.5	2,538,183	1,589	0.0006	0.9994	98.92
10.5	2,499,850	2,495	0.0010	0.9990	98.86
11.5	2,573,631		0.0000	1.0000	98.76
12.5	2,665,798	799	0.0003	0.9997	98.76
13.5	2,746,103	7,315	0.0027	0.9973	98.73
14.5	2,158,737	958	0.0004	0.9996	98.47
15.5	2,313,840	927	0.0004	0.9996	98.42
16.5	2,423,748	3,998	0.0016	0.9984	98.38
17.5	2,448,583	918	0.0004	0.9996	98.22
18.5	2,519,742	2,325	0.0009	0.9991	98.18
19.5	2,503,119	1,389	0.0006	0.9994	98.09
20.5	2,421,671		0.0000	1.0000	98.04
21.5	2,269,521	1,402	0.0006	0.9994	98.04
22.5	2,063,238	3,301	0.0016	0.9984	97.98
23.5	2,141,921		0.0000	1.0000	97.82
24.5	2,059,319	129	0.0001	0.9999	97.82
25.5	1,878,199	488	0.0003	0.9997	97.82
26.5	1,837,648	534	0.0003	0.9997	97.79
27.5	1,801,732	1,348	0.0007	0.9993	97.76
28.5	1,701,020	263	0.0002	0.9998	97.69
29.5	1,372,389	1,035	0.0008	0.9992	97.67
30.5	1,204,477	71	0.0001	0.9999	97.60
31.5	1,164,298	3,312	0.0028	0.9972	97.59
32.5	1,028,675		0.0000	1.0000	97.32
33.5	958,755	535	0.0006	0.9994	97.32
34.5	815,022	315	0.0004	0.9996	97.26
35.5	728,503	570	0.0008	0.9992	97.23
36.5	687,738	1,881	0.0027	0.9973	97.15
37.5	565,710		0.0000	1.0000	96.88
38.5	539,745	4,391	0.0081	0.9919	96.88

#### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1968-2014
AGE AT BEGIN OF	EXPOSURES AT BEGINNING OF	RETIREMENTS DURING AGE	RETMT	SURV	PCT SURV BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	463,924	353	0.0008	0.9992	96.10
40.5	459,236	3,193	0.0070	0.9930	96.02
41.5	451,125		0.0000	1.0000	95.35
42.5	433,752	293	0.0007	0.9993	95.35
43.5	348,232	353	0.0010	0.9990	95.29
44.5	281,452	2,214	0.0079	0.9921	95.19
45.5	241,223	186	0.0008	0,9992	94.44
46.5	202,737	3,638	0.0179	0.9821	94.37
47.5	166,202	1	0.0000	1.0000	92.68
48.5	151,530	108	0.0007	0.9993	92.68
49,5	150,673	8,824	0.0586	0.9414	92.61
50.5	125,576		0.0000	1.0000	87.19
51.5	119,296	1,070	0.0090	0.9910	87.19
52.5	109,940		0.0000	1.0000	86.41
53.5	78,426		0.0000	1.0000	86.41
54.5	33,741		0.0000	1.0000	86.41
55.5	28,695		0.0000	1.0000	86.41
56.5	14,397	378	0.0262	0.9738	86.41
57.5	10,460	971	0.0929	0.9071	84.14
58.5	9,398		0.0000	1.0000	76.33
59.5	24,878		0.0000	1.0000	76.33
60.5	24,013		0.0000	1.0000	76.33
61.5	23,531		0.0000	1.0000	76.33
62.5	22,177		0.0000	1.0000	76.33
63.5	22,177		0.0000	1.0000	76.33
64.5	22,029		0.0000	1.0000	76.33
65.5	22,854		0.0000	1.0000	76.33
66.5	22,854		0.0000	1.0000	76.33
67.5	22,854	1,139	0.0498	0.9502	76.33
68.5	18,814		0.0000	1.0000	72.52
69.5	18,814		0.0000	1.0000	72,52
70.5	18,546		0.0000	1.0000	72.52
71.5	18,546	847	0.0457	0.9543	72.52
72.5	17,699		0.0000	1.0000	69.21
73.5	17,699		0.0000	1.0000	69,21
74.5	17,699		0.0000	1.0000	69.21
75.5	17,699		0.0000	1.0000	69.21
76.5	16,714		0.0000	1.0000	69.21
77.5	16,714		0.0000	1.0000	69.21
78.5	16,674		0.0000	1.0000	69.21

### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

### ORIGINAL LIFE TABLE, CONT.

PLACEMENT I	BAND 1900-2014		EXPER	RIENCE BAN	D 1968-2014
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	16,674		0.0000	1.0000	69.21
80.5	16,652		0.0000	1.0000	69.21
81.5					69.21
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	12,971		0.0000		
100.5	12,971		0.0000		
101.5	12,971		0.0000		

102.5

### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	6,514,078		0.0000	1.0000	100.00
0.5	6,686,819	3,193	0.0005	0.9995	100.00
1.5	6,691,521	8,703	0.0013	0.9987	99.95
2.5	6,792,541	17,173	0.0025	0.9975	99.82
3,5	6,579,664	15,900	0.0024	0.9976	99.57
4.5	6,634,219	6,196	0.0009	0.9991	99.33
5.5	5,686,882	4,231	0.0007	0.9993	99.24
6.5	5,204,073	9,566	0.0018	0.9982	99.16
7.5	5,423,039	3,285	0.0006	0.9994	98.98
8.5	4,973,206	242	0.0000	1.0000	98.92
9.5	2,516,814	1,589	0.0006	0.9994	98.92
10.5	2,499,850	2,495	0.0010	0.9990	98.85
11.5	2,573,631		0.0000	1.0000	98.75
12.5	2,665,798	799	0.0003	0.9997	98.75
13.5	2,746,103	7,315	0.0027	0.9973	98.72
14.5	2,158,737	958	0.0004	0.9996	98.46
15.5	2,313,840	927	0.0004	0.9996	98.42
16.5	2,423,748	3,998	0.0016	0.9984	98.38
17.5	2,448,583	918	0.0004	0.9996	98.22
18.5	2,519,742	2,325	0.0009	0.9991	98.18
19.5	2,502,693	1,389	0.0006	0.9994	98.09
20.5	2,421,245		0.0000	1.0000	98.03
21.5	2,269,095	1,402	0.0006	0.9994	98.03
22.5	2,062,812	3,301	0.0016	0.9984	97.97
23.5	2,141,495		0.0000	1.0000	97.82
24.5	2,058,893	129	0.0001	0.9999	97.82
25.5	1,877,773	488	0.0003	0.9997	97.81
26.5	1,837,222	534	0.0003	0.9997	97.79
27.5	1,801,306	1,348	0.0007	0.9993	97.76
28.5	1,700,594	263	0.0002	0.9998	97.68
29.5	1,371,963	1,035	0.0008	0.9992	97.67
30.5	1,204,477	71	0.0001	0.9999	97.60
31.5	1,164,298	3,312	0.0028	0.9972	97.59
32.5	1,028,675		0.0000	1.0000	97.31
33.5	958,755	535	0.0006	0.9994	97.31
34.5	815,022	315	0.0004	0.9996	97,26
35.5	728,503	570	0.0008	0.9992	97.22
36.5	687,738	1,881	0.0027	0.9973	97.14
37.5	565,710		0.0000	1.0000	96.88
38.5	539,745	4,391	0.0081	0.9919	96.88

### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	463,924	353	0.0008	0.9992	96.09
40.5	459,236	3,193	0.0070	0.9930	96.02
41.5	451,125		0.0000	1.0000	95.35
42.5	433,752	293	0.0007	0.9993	95.35
43.5	348,232	353	0.0010	0.9990	95.29
44.5	281,452	2,214	0.0079	0.9921	95.19
45.5	241,223	186	0.0008	0.9992	94.44
46.5	202,737	3,638	0.0179	0.9821	94.37
47.5	166,202	1	0.0000	1.0000	92.67
48.5	151,530	108	0.0007	0.9993	92.67
49.5	150,673	8,824	0.0586	0.9414	92.61
50.5	125,576		0.0000	1.0000	87.18
51.5	119,296	1,070	0.0090	0.9910	87.18
52.5	109,940		0.0000	1.0000	86.40
53.5	78,426		0.0000	1.0000	86.40
54.5	33,741		0.0000	1.0000	86.40
55.5	28,695		0.0000	1.0000	86.40
56.5	14,397	378	0.0262	0.9738	86.40
57.5	10,460	971	0.0929	0.9071	84.13
58.5	9,398		0.0000	1.0000	76.32
59.5	24,878		0.0000	1.0000	76.32
60.5	24,013	•	0.0000	1.0000	76.32
61.5	23,531		0.0000	1.0000	76.32
62.5	22,177		0.0000	1.0000	76.32
63.5	22,177		0.0000	1.0000	76.32
64.5	22,029		0.0000	1.0000	76.32
65.5	22,854		0.0000	1.0000	76.32
66.5	22,854		0.0000	1.0000	76.32
67.5	22,854	1,139	0.0498	0.9502	76.32
68.5	18,814		0.0000	1.0000	72.52
69.5	18,814		0.0000	1.0000	72.52
70.5	18,546		0.0000	1.0000	72.52
71.5	18,546	847	0.0457	0.9543	72.52
72.5	17,699		0.0000	1.0000	69.21
73.5	17,699		0.0000	1.0000	69.21
74.5	17,699		0.0000	1.0000	69.21
75.5	17,699		0.0000	1.0000	69.21
76.5	16,714		0.0000	1.0000	69.21
77.5	16,714		0.0000	1.0000	69.21
78.5	16,674		0.0000	1.0000	69.21

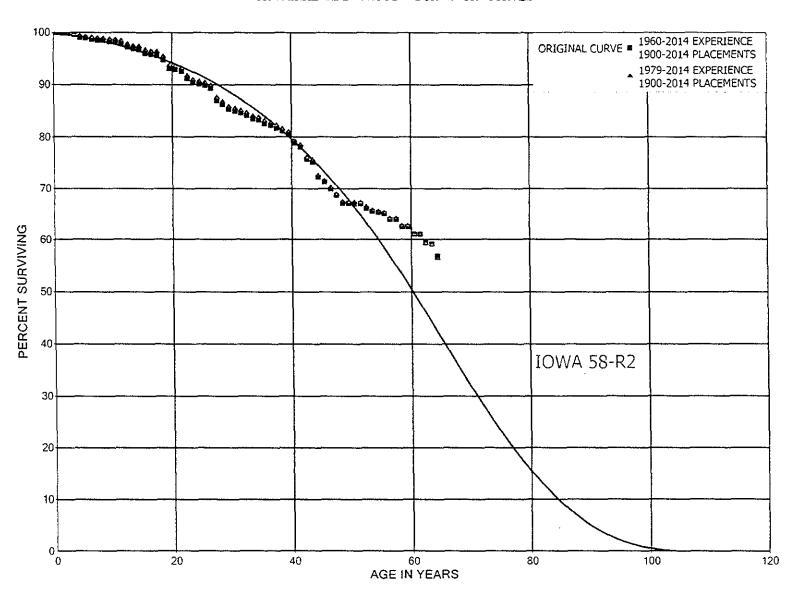
### ACCOUNT 352 STRUCTURES AND IMPROVEMENTS

### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1900-2014		EXPER	RIENCE BAN	D 1979-2014
	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	16,674 16,652		0.0000	1.0000	69.21 69.21 69.21
90.5					
91.5 92.5					
93.5					
94.5					
95.5					
96.5					
97.5					
98.5					
99.5	12,971		0.0000		
100.5	12,971		0.0000		
101.5	12,971		0.0000		

102.5

## KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 353 STATION EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	154,553,739	40,259	0.0003	0.9997	100.00
0.5	151,469,445	144,588	0.0010	0.9990	99.97
1.5	136,043,110	126,786	0.0009	0.9991	99.88
2.5	126,797,932	333,539	0.0026	0.9974	99.79
3.5	121,344,072	648,874	0.0053	0.9947	99.52
4.5	108,188,040	217,339	0.0020	0.9980	98.99
5.5	109,418,515	244,888	0.0022	0.9978	98.79
6.5	101,729,904	126,426	0.0012	0.9988	98.57
7.5	101,046,802	102,726	0.0010	0.9990	98.45
8.5	98,686,853	161,146	0.0016	0.9984	98.35
9.5	79,927,141	134,897	0.0017	0.9983	98.19
10.5	75,870,066	198,603	0.0026	0.9974	98.02
11.5	76,940,191	469,661	0.0061	0.9939	97.77
12.5	72,337,497	254,298	0.0035	0.9965	97.17
13.5	69,164,026	146,666	0.0021	0.9979	96.83
14.5	58,476,994	374,342	0.0064	0.9936	96.62
15.5	62,252,962	175,903	0.0028	0.9972	96.00
16.5	59,503,955	113,135	0.0019	0.9981	95.73
17.5	57,032,540	469,776	0.0082	0.9918	95.55
18.5	56,523,567	980,215	0.0173	0.9827	94.76
19.5	53,901,890	147,285	0.0027	0.9973	93.12
20.5	53,612,299	187,183	0.0035	0.9965	92.86
21.5	51,100,551	768,833	0.0150	0.9850	92.54
22.5	46,838,991	415,296	0.0089	0.9911	91.15
23.5	47,648,645	144,502	0.0030	0.9970	90.34
24.5	43,339,916	134,892	0.0031	0.9969	90.07
25.5	40,081,391	241,792	0.0060	0.9940	89.79
26.5	38,184,924	914,556	0.0240	0.9760	89.24
27.5	36,607,832	360,582	0.0098	0.9902	87.11
28.5	33,355,287	324,240	0.0097	0.9903	86.25
29.5	31,065,451	188,195	0.0061	0.9939	85.41
30.5	28,117,434	96,840	0.0034	0.9966	84.89
31.5	27,932,112	153,696	0.0055	0.9945	84.60
32.5	26,120,006	194,801	0.0075	0.9925	84.14
33.5	25,154,415	76,498	0.0030	0.9970	83.51
34.5	22,593,586	165,296	0.0073	0.9927	83.25
35.5	21,640,844	100,108	0.0046	0.9954	82.64
36.5	19,614,845	133,497	0.0068	0.9932	82.26
37.5	15,784,940	110,789	0.0070	0.9930	81.70
38.5	14,370,062	100,112	0.0070	0.9930	81.13

### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT 1	BAND 1900-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	11,976,817	252,388	0.0211	0.9789	80.56
40.5	10,661,158	108,973	0.0102	0.9898	78.87
41.5	10,464,243	313,593	0.0300	0.9700	78.06
42.5	9,377,553	62,547	0.0067	0.9933	75.72
43.5	8,139,613	326,467	0.0401	0.9599	75.22
44.5	7,185,385	94,559	0.0132	0.9868	72.20
45.5	5,070,986	98,428	0.0194	0.9806	71.25
46.5	3,920,826	69,978	0.0178	0.9822	69.87
47.5	3,032,687	66,393	0.0219	0.9781	68.62
48.5	2,634,507	3,906	0.0015	0.9985	67.12
49.5	2,442,836	620	0.0003	0.9997	67.02
50.5	2,246,310	3,606	0.0016	0.9984	67.00
51.5	2,005,460	23,341	0.0116	0.9884	66.89
52.5	1,760,310	16,078	0.0091	0.9909	66.11
53.5	1,287,140	3,636	0.0028	0.9972	65.51
54.5	975,445	4,682	0.0048	0.9952	65.33
55.5	910,920	14,410	0.0158	0.9842	65.01
56.5	592,066	10	0.0000	1.0000	63.98
57.5	466,008	10,908	0.0234	0,9766	63.98
58.5	371,530	39	0.0001	0.9999	62.48
59.5	343,617	8,019	0.0233	0.9767	62.48
60.5	292,686	1	0.0000	1.0000	61.02
61.5	338,650	9,083	0.0268	0.9732	61.02
62.5	321,048	1,076	0.0034	0.9966	59.38
63.5	308,306	12,208	0.0396	0.9604	59.18
64,5	291,657		0.0000	1.0000	56.84
65.5	288,136		0.0000	1.0000	56.84
66.5	200,974		0.0000	1.0000	56.84
67.5	190,650	16,124	0.0846	0.9154	56.84
68.5	166,792		0.0000	1.0000	52.03
69.5	166,329	571	0.0034	0.9966	52.03
70.5	165,758		0.0000	1.0000	51.85
71.5	164,330	201	0.0012	0.9988	51.85
72.5	163,035	456	0.0028	0.9972	51.79
73.5	158,438	400	0.0025	0.9975	51.65
74.5	158,038	451	0.0029	0.9971	51.52
75.5	156,605		0.0000	1.0000	51.37
76.5	120,270		0.0000	1.0000	51.37
77.5	120,270		0.0000	1.0000	51.37
78.5	120,230		0.0000	1.0000	51.37

### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	119,968		0.0000	1.0000	51.37
80.5	119,968		0.0000	1.0000	51.37
81.5	34,465		0.0000	1.0000	51.37
82,5	34,324		0.0000	1.0000	51.37
83.5	34,324	2,904	0.0846	0.9154	51.37
84.5	31,420		0.0000	1.0000	47.02
85.5	31,420		0.0000	1.0000	47.02
86.5	31,420		0.0000	1.0000	47.02
87.5	31,420		0.0000	1.0000	47.02
88.5	31,420		0.0000	1.0000	47.02
89.5	31,420		0.0000	1.0000	47.02
90.5	31,420		0.0000	1.0000	47.02
91.5	31,420		0.0000	1.0000	47.02
92.5	31,420	31,420	1.0000		47.02
93.5					

#### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	134,030,762	24,602	0.0002	0.9998	100.00
0.5	130,992,902	135,129	0.0010	0.9990	99.98
1.5	116,561,422	104,261	0.0009	0.9991	99.88
2.5	108,876,238	266,437	0.0024	0.9976	99.79
3.5	104,002,499	204,927	0.0020	0.9980	99.54
4.5	92,164,171	128,126	0.0014	0.9986	99.35
5.5	93,640,076	109,887	0.0012	0.9988	99.21
6.5	86,437,606	116,453	0.0013	0.9987	99.09
7.5	88,087,192	77,280	0.0009	0.9991	98.96
8.5	87,549,648	144,956	0.0017	0.9983	98.87
9.5	72,327,252	92,554	0.0013	0.9987	98.71
10.5	69,375,354	171,008	0.0025	0.9975	98.58
11.5	70,851,204	449,002	0.0063	0.9937	98.34
12.5	66,738,536	183,067	0.0027	0.9973	97.72
13.5	63,784,692	125,973	0.0020	0.9980	97.45
14.5	53,521,969	341,107	0.0064	0.9936	97.26
15.5	57,900,371	119,502	0.0021	0.9979	96.64
16.5	55,819,031	107,973	0.0019	0.9981	96.44
17.5	53,967,980	469,064	0.0087	0.9913	96.25
18.5	53,588,792	958,823	0.0179	0.9821	95.41
19.5	51,091,736	105,732	0.0021	0.9979	93.71
20.5	51,534,313	186,235	0.0036	0.9964	93.51
21.5	49,244,922	763,342	0.0155	0.9845	93.18
22.5	45,384,155	405,090	0.0089	0.9911	91.73
23.5	46,380,038	143,453	0.0031	0.9969	90.91
24.5	42,433,915	134,892	0.0032	0.9968	90.63
25.5	39,529,707	240,605	0.0061	0.9939	90.34
26.5	37,380,040	907,507	0.0243	0.9757	89.79
27.5	35,868,442	323,489	0.0090	0.9910	87.61
28.5	32,718,152	318,519	0.0097	0.9903	86.82
29.5	30,437,058	184,048	0.0060	0.9940	85.98
30.5	27,795,243	85,699	0.0031	0.9969	85.46
31.5	27,625,840	153,696	0.0056	0.9944	85.19
32.5	25,816,141	194,710	0.0075	0.9925	84.72
33.5	24,852,918	76,498	0.0031	0.9969	84.08
34.5	22,294,275	165,296	0.0074	0.9926	83.82
35.5	21,341,195	100,108	0.0047	0.9953	83.20
36.5	19,318,129	131,130	0.0068	0.9932	82.81
37.5	15,515,774	110,789	0.0071	0.9929	82.25
38.5	14,101,323	98,914	0.0070	0.9930	81.66

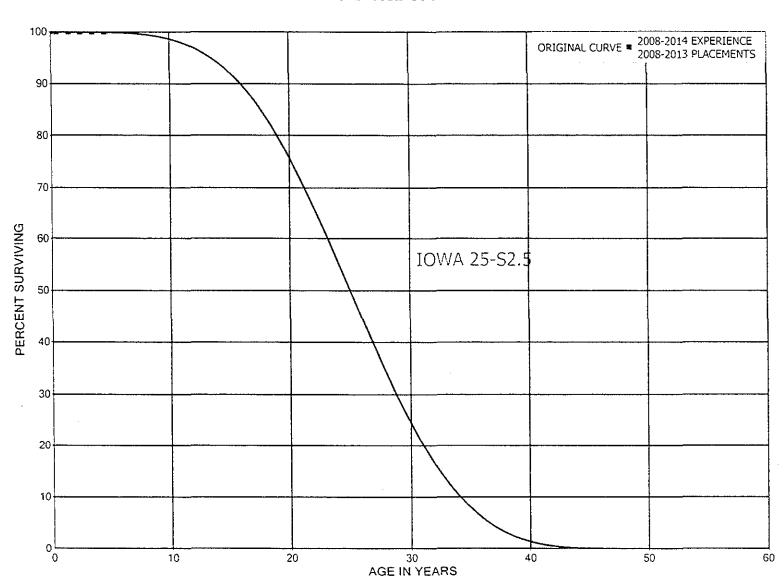
### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	11,709,332	252,388	0.0216	0.9784	81.09
40.5	10,397,885	108,973	0.0105	0.9895	79.34
41.5	10,201,821	312,395	0.0306	0.9694	78.51
42.5	9,116,329	61,926	0.0068	0.9932	76.11
43.5	7,880,311	325,078	0.0413	0.9587	75.59
44.5	7,148,556	94,559	0.0132	0.9868	72.47
45.5	5,061,414	98,428	0.0194	0.9806	71.51
46.5	3,910,798	69,978	0.0179	0.9821	70.12
47.5	3,025,704	66,393	0.0219	0.9781	68.87
48.5	2,628,620	3,906	0.0015	0.9985	67.36
49.5	2,441,809	620	0.0003	0.9997	67.26
50.5	2,245,283	3,606	0.0016	0.9984	67.24
51.5	2,004,433	23,341	0.0116	0.9884	67.13
52.5	1,759,283	16,078	0.0091	0.9909	66.35
53.5	1,286,113	3,636	0.0028	0.9972	65.74
54.5	974,989	4,682	0.0048	0.9952	65.56
55.5	910,464	14,410	0.0158	0.9842	65.24
56.5	591,610	1.0	0.0000	1.0000	64.21
57.5	465,552	10,908	0.0234	0.9766	64.21
58.5	368,170	39	0.0001	0.9999	62.70
59.5	308,837	8,019	0.0260	0.9740	62.70
60.5	257,906	1	0.0000	1.0000	61.07
61.5	303,870	9,083	0.0299	0.9701	61.07
62.5	286,268	1,076	0.0038	0.9962	59.24
63.5	273,526	12,208	0.0446	0.9554	59.02
64.5	256,877	·	0.0000	1.0000	56.39
65.5	253,812		0.0000	1.0000	56.39
66.5	166,650		0.0000	1.0000	56.39
67.5	156,326	16,124	0.1031	0.8969	56.39
68.5	132,468		0.0000	1.0000	50.57
69.5	132,005	571	0.0043	0.9957	50.57
70.5	131,434		0.0000	1.0000	50.35
71.5	130,006	201	0.0015	0.9985	50.35
72.5	128,711	456	0.0035	0.9965	50.27
73.5	124,114	400	0.0032	0.9968	50.10
74.5	123,714	451	0.0036	0.9964	49.93
75.5	122,281	- · <del>-</del>	0.0000	1.0000	49.75
76.5	85,946		0.0000	1.0000	49.75
77.5	88,850		0.0000	1,0000	49.75
78.5	120,230		0.0000	1.0000	49.75
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### ACCOUNT 353 STATION EQUIPMENT

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BANI	) 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	119,968		0.0000	1.0000	49.75
80.5	119,968		0.0000	1.0000	49.75
81.5	34,465		0.0000	1.0000	49.75
82.5	34,324		0.0000	1.0000	49.75
83.5	34,324	2,904	0.0846	0.9154	49.75
84.5	31,420		0.0000	1.0000	45.54
85.5	31,420		0.0000	1.0000	45.54
86.5	31,420		0.0000	1.0000	45.54
87.5	31,420		0.0000	1.0000	45.54
88.5	31,420		0.0000	1.0000	45.54
89.5	31,420		0.0000	1.0000	45.54
90.5	31,420		0.0000	1.0000	45.54
91.5	31,420		0.0000	1.0000	45.54
92.5	31,420	31,420	1.0000		45.54
93.5					

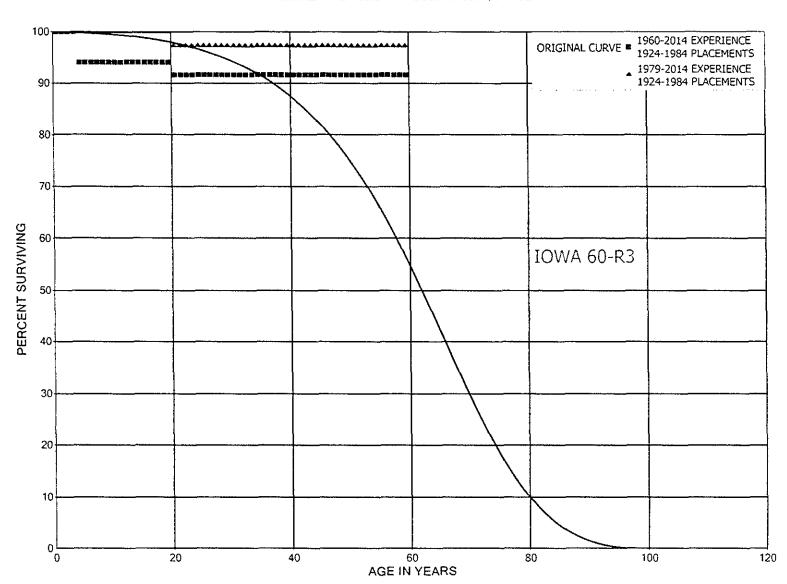
# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 353.03 STATION EQUIPMENT - COMMUNICATION ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 353.03 STATION EQUIPMENT - COMMUNICATION

PLACEMENT 1	BAND 2008-2013	EXPER	RIENCE BAN	D 2008-2014	
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 0.5 1.5 2.5 3.5 4.5	568,939 568,939 501,023 19,008 19,008		0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000	100.00 100.00 100.00 100.00 100.00

KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 354 TOWERS AND FIXTURES ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 354 TOWERS AND FIXTURES

AGE AT BEGIN OF INTERVAL BEGINNING OF INTERVAL DURING AGE RETHY SURV BEGIN OF INTERVAL  0.0 307,713 0.0000 1.0000 100.000 100.00 1.00.	PLACEMENT E	BAND 1924-1984		EXPER	RIENCE BAN	D 1960-2014
0.0         307,713         0.0000         1.0000         100.00           0.5         307,720         0.0000         1.0000         100.00           1.5         307,713         0.0000         1.0000         100.00           2.5         345,157         0.0000         1.0000         100.00           3.5         347,074         20,536         0.0592         0.9408         100.00           4.5         326,538         0.0000         1.0000         94.08           5.5         326,108         0.0000         1.0000         94.08           6.5         326,108         0.0000         1.0000         94.08           7.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           9.5         326,108         0.0000         1.0000         94.08           10.5         326,108         0.0000         1.0000         94.08           11.5         326,108         0.0000         1.0000         94.08           12.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000	BEGIN OF	BEGINNING OF	DURING AGE			BEGIN OF
0.5 307,720	INTERVAL	AGE INTERVAL	IMIEKAMD			
1.5 307,713						
2.5 345,157						
3.5         347,074         20,536         0.0592         0.9408         100.00           4.5         326,538         0.0000         1.0000         94.08           5.5         326,108         0.0000         1.0000         94.08           6.5         326,108         0.0000         1.0000         94.08           7.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           10.5         326,108         0.0000         1.0000         94.08           11.5         326,108         0.0000         1.0000         94.08           12.5         326,108         0.0000         1.0000         94.08           13.5         326,108         0.0000         1.0000         94.08           14.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           18.5         326,108         0.0000         1.0000						
4.5       326,538       0.0000       1.0000       94.08         5.5       326,108       0.0000       1.0000       94.08         6.5       326,108       0.0000       1.0000       94.08         7.5       326,108       0.0000       1.0000       94.08         8.5       326,108       0.0000       1.0000       94.08         9.5       326,108       0.0000       1.0000       94.08         10.5       326,108       0.0000       1.0000       94.08         11.5       326,108       0.0000       1.0000       94.08         12.5       326,108       0.0000       1.0000       94.08         13.5       326,108       0.0000       1.0000       94.08         14.5       326,108       0.0000       1.0000       94.08         15.5       326,108       0.0000       1.0000       94.08         15.5       326,108       0.0000       1.0000       94.08         15.5       326,108       0.0000       1.0000       94.08         16.5       326,108       0.0000       1.0000       94.08         17.5       326,108       0.0000       1.0000       94.08			20 526			
5.5         326,108         0.0000         1.0000         94.08           6.5         326,108         0.0000         1.0000         94.08           7.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           9.5         326,108         0.0000         1.0000         94.08           10.5         326,108         0.0000         1.0000         94.08           11.5         326,108         0.0000         1.0000         94.08           12.5         326,108         0.0000         1.0000         94.08           13.5         326,108         0.0000         1.0000         94.08           14.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           16.5         326,108         0.0000         1.0000         94.08           16.5         326,108         0.0000         1.0000         94.08           18.5         326,108         0.0000         1.0000         94.08           20.5         317,604         0.0000         1.0000         91.63			20,536			
6.5         326,108         0.0000         1.0000         94.08           7.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           9.5         326,108         0.0000         1.0000         94.08           10.5         326,108         0.0000         1.0000         94.08           11.5         326,108         0.0000         1.0000         94.08           12.5         326,108         0.0000         1.0000         94.08           13.5         326,108         0.0000         1.0000         94.08           14.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           18.5         326,108         0.0000         1.0000         94.08           20.5         317,604         0.0000         1.0000         91.63						
7.5         326,108         0.0000         1.0000         94.08           8.5         326,108         0.0000         1.0000         94.08           9.5         326,108         0.0000         1.0000         94.08           10.5         326,108         0.0000         1.0000         94.08           11.5         326,108         0.0000         1.0000         94.08           12.5         326,108         0.0000         1.0000         94.08           13.5         326,108         0.0000         1.0000         94.08           14.5         326,108         0.0000         1.0000         94.08           15.5         326,108         0.0000         1.0000         94.08           16.5         326,108         0.0000         1.0000         94.08           17.5         326,108         0.0000         1.0000         94.08           18.5         326,108         0.0000         1.0000         94.08           19.5         326,108         0.0000         1.0000         94.08           19.5         326,108         0.0000         1.0000         94.08           19.5         326,108         0.0000         1.0000         94.08						
8.5       326,108       0.0000       1.0000       94.08         9.5       326,108       0.0000       1.0000       94.08         10.5       326,108       0.0000       1.0000       94.08         11.5       326,108       0.0000       1.0000       94.08         12.5       326,108       0.0000       1.0000       94.08         13.5       326,108       0.0000       1.0000       94.08         14.5       326,108       0.0000       1.0000       94.08         15.5       326,108       0.0000       1.0000       94.08         16.5       326,108       0.0000       1.0000       94.08         17.5       326,108       0.0000       1.0000       94.08         18.5       326,108       0.0000       1.0000       94.08         19.5       326,108       0.0000       1.0000       94.08         19.5       326,108       0.0000       1.0000       94.08         20.5       317,604       0.0000       1.0000       94.08         20.5       317,604       0.0000       1.0000       91.63         22.5       391,463       0.0000       1.0000       91.63						
9.5						
10.5	8.5	320,100		0.000		
11.5	9.5	326,108				
12.5	10.5	326,108				
13.5       326,108       0.0000       1.0000       94.08         14.5       326,108       0.0000       1.0000       94.08         15.5       326,108       0.0000       1.0000       94.08         16.5       326,108       0.0000       1.0000       94.08         17.5       326,108       0.0000       1.0000       94.08         18.5       326,108       0.0000       1.0000       94.08         19.5       326,108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       317,604       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91	11.5	326,108				
14.5       326, 108       0.0000       1.0000       94.08         15.5       326, 108       0.0000       1.0000       94.08         16.5       326, 108       0.0000       1.0000       94.08         17.5       326, 108       0.0000       1.0000       94.08         18.5       326, 108       0.0000       1.0000       94.08         19.5       326, 108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000	12.5	326,108				
15.5       326,108       0.0000       1.0000       94.08         16.5       326,108       0.0000       1.0000       94.08         17.5       326,108       0.0000       1.0000       94.08         18.5       326,108       0.0000       1.0000       94.08         19.5       326,108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         26.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91	13.5	326,108				
16.5 326,108 0.0000 1.0000 94.08 17.5 326,108 0.0000 1.0000 94.08 18.5 326,108 0.0000 1.0000 94.08  19.5 326,108 0.0000 1.0000 94.08  20.5 317,604 0.0000 1.0000 91.63 21.5 317,604 0.0000 1.0000 91.63 22.5 317,604 0.0000 1.0000 91.63 23.5 391,463 0.0000 1.0000 91.63 24.5 391,463 0.0000 1.0000 91.63 25.5 391,463 0.0000 1.0000 91.63 26.5 391,463 0.0000 1.0000 91.63 27.5 317,604 0.0000 1.0000 91.63 28.5 317,604 0.0000 1.0000 91.63 29.5 317,604 0.0000 1.0000 91.63 30.5 210,171 0.0000 1.0000 91.63 31.5 210,171 0.0000 1.0000 91.63 32.5 210,171 0.0000 1.0000 91.63 33.5 210,171 0.0000 1.0000 91.63 33.5 210,171 0.0000 1.0000 91.63 33.5 210,171 0.0000 1.0000 91.63 34.5 210,171 0.0000 1.0000 91.63 35.5 216,207 0.0000 1.0000 91.63 35.5 216,207 0.0000 1.0000 91.63 36.5 216,207 0.0000 1.0000 91.63 37.5 216,207 0.0000 1.0000 91.63	14.5	326,108				
17.5       326,108       0.0000       1.0000       94.08         18.5       326,108       0.0000       1.0000       94.08         19.5       326,108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91	15.5	326,108				
18.5       326,108       0.0000       1.0000       94.08         19.5       326,108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91						
19.5       326,108       8,504       0.0261       0.9739       94.08         20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91						
20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63	18.5	326,108		0.0000	1.0000	94.06
20.5       317,604       0.0000       1.0000       91.63         21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63	19.5	326,108	8,504	0.0261	0.9739	94.08
21.5       317,604       0.0000       1.0000       91.63         22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63				0.0000	1.0000	91.63
22.5       317,604       0.0000       1.0000       91.63         23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         26.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63				0.0000	1.0000	91.63
23.5       391,463       0.0000       1.0000       91.63         24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         26.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63				0.0000	1.0000	91.63
24.5       391,463       0.0000       1.0000       91.63         25.5       391,463       0.0000       1.0000       91.63         26.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63		391,463		0.0000	1.0000	
26.5       391,463       0.0000       1.0000       91.63         27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63		391,463		0.0000	1.0000	
27.5       317,604       0.0000       1.0000       91.63         28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63	25.5	391,463		0.0000	1.0000	
28.5       317,604       0.0000       1.0000       91.63         29.5       317,604       0.0000       1.0000       91.63         30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63	26.5	391,463				
29.5       317,604       0.0000 1.0000 91.63         30.5       210,171 0.0000 1.0000 91.63         31.5       210,171 0.0000 1.0000 91.63         32.5       210,171 0.0000 1.0000 91.63         33.5       210,171 0.0000 1.0000 91.63         34.5       210,171 0.0000 1.0000 91.63         35.5       216,207 0.0000 1.0000 91.63         36.5       216,207 0.0000 1.0000 91.63         37.5       216,207 0.0000 1.0000 91.63	27.5	317,604				
30.5	28.5	317,604		0.0000	1.0000	91.63
30.5       210,171       0.0000       1.0000       91.63         31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63	29.5	317,604		0.0000	1,0000	91.63
31.5       210,171       0.0000       1.0000       91.63         32.5       210,171       0.0000       1.0000       91.63         33.5       210,171       0.0000       1.0000       91.63         34.5       210,171       0.0000       1.0000       91.63         35.5       216,207       0.0000       1.0000       91.63         36.5       216,207       0.0000       1.0000       91.63         37.5       216,207       0.0000       1.0000       91.63		210,171		0.0000	1.0000	91.63
32.5     210,171     0.0000     1.0000     91.63       33.5     210,171     0.0000     1.0000     91.63       34.5     210,171     0.0000     1.0000     91.63       35.5     216,207     0.0000     1.0000     91.63       36.5     216,207     0.0000     1.0000     91.63       37.5     216,207     0.0000     1.0000     91.63				0.0000		
33.5     210,171     0.0000     1.0000     91.63       34.5     210,171     0.0000     1.0000     91.63       35.5     216,207     0.0000     1.0000     91.63       36.5     216,207     0.0000     1.0000     91.63       37.5     216,207     0.0000     1.0000     91.63						
34.5     210,171     0.0000     1.0000     91.63       35.5     216,207     0.0000     1.0000     91.63       36.5     216,207     0.0000     1.0000     91.63       37.5     216,207     0.0000     1.0000     91.63				0.0000		
35.5     216,207     0.0000     1.0000     91.63       36.5     216,207     0.0000     1.0000     91.63       37.5     216,207     0.0000     1.0000     91.63		210,171				
36.5     216,207     0.0000     1.0000     91.63       37.5     216,207     0.0000     1.0000     91.63		216,207				
37.5 216,207 0.0000 1.0000 91.63		216,207				
38.5 216,207 0.0000 1.0000 91.63		216,207				
	38.5	216,207		0.0000	1.0000	91,63

#### ACCOUNT 354 TOWERS AND FIXTURES

PLACEMENT E	BAND 1924-1984		EXPER	IENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
					01 63
39.5	200,204		0.0000	1.0000	91.63
40.5	126,345		0.0000	1.0000	91.63
41.5	126,345		0.0000	1.0000	91.63
42.5	126,345		0.0000	1.0000	91.63
43.5	126,345		0.0000	1.0000	91.63
44.5	126,345		0.0000	1.0000	91.63
45.5	126,345		0.0000	1.0000	91.63
46.5	126,345		0.0000	1.0000	91.63
47.5	126,345		0.0000	1.0000	91.63
48.5	126,345		0.0000	1.0000	91.63
49.5	126,345		0.0000	1.0000	91.63
50.5	126,345		0.0000	1.0000	91.63
51.5	126,345		0.0000	1.0000	91.63
52.5	126,345		0.0000	1.0000	91.63
53.5	80,180		0.0000	1.0000	91.63
54.5	24,861		0.0000	1.0000	91.63
55.5	24,861		0.0000	1.0000	91.63
56.5	24,861		0.0000	1.0000	91.63
57.5	7,953		0.0000	1.0000	91.63
58.5	6,036		0.0000	1.0000	91.63
59.5	6,036		0.0000	1.0000	91.63
60.5	6,036		0.0000	1.0000	91.63
61.5	6,036		0.0000	1.0000	91.63
62.5	6,036		0.0000	1.0000	91.63
63.5	6,036		0.0000	1.0000	91,63
64.5	6,036		0.0000	1.0000	91.63
65.5	6,036		0.0000	1.0000	91.63
66.5	6,036		0.0000	1.0000	91.63
67.5	6,036		0.0000	1.0000	91.63
68.5	6,036		0.0000	1.0000	91.63
	C 026		0.0000	1.0000	91,63
69.5	6,036 6,036		0.0000	1.0000	91.63
70.5	•		0.0000	1.0000	91.63
71.5	6,036		0.0000	1.0000	91.63
72.5	6,036		0.0000	1.0000	91.63
73.5	6,036		0.0000	1.0000	91.63
74.5	6,036		0.0000	1.0000	91.63
75.5	6,036		0.0000	1.0000	91.63
76.5	6,036 6,036		0.0000	1.0000	91.63
77.5	6,036		0.0000	1.0000	91.63
78.5	6,036		3,0000		

#### ACCOUNT 354 TOWERS AND FIXTURES

PLACEMENT	BAND 1924-1984		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	6,036		0.0000	1.0000	91.63
80.5	6,036		0.0000	1.0000	91.63
81.5	6,036		0.0000	1.0000	91.63
82.5	6,036		0.0000	1.0000	91.63
83.5	6,036		0.0000	1.0000	91.63
84.5	6,036		0.0000	1.0000	91.63
85.5	6,036		0.0000	1.0000	91.63
86.5	6,036		0.0000	1.0000	91.63
87.5	6,036		0.0000	1.0000	91.63
88.5	6,036		0.0000	1.0000	91.63
89.5	6,036		0.0000	1.0000	91.63
90.5					91.63

#### ACCOUNT 354 TOWERS AND FIXTURES

PLACEMENT E	BAND 1924-1984		EXPER	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	115,937		0.000	1.0000	100.00
0.5	115,944		0.0000	1.0000	100.00
1.5	115,937		0.0000	1.0000	100.00
2.5	115,937		0.0000	1.0000	100.00
3.5	131,940		0.0000	1.0000	100.00
4.5	131,940		0.0000	1.0000	100.00 100.00
5.5	131,940		0.0000	1.0000	100.00
6.5	131,940		0.0000	1.0000 1.0000	100.00
7.5	131,940		0.0000	1.0000	100.00
8.5	205,799		0.0000	1.0000	100.00
9.5	205,799		0.0000	1.0000	100.00
10.5	205,799		0.0000	1.0000	100.00
11.5	205,799		0.0000	1.0000	100.00
12.5	205,799		0.0000	1.0000	100.00
13.5	205,799		0.0000	1.0000	100.00
14.5	205,799		0.0000	1.0000	100.00
15.5	205,799		0.0000	1.0000	100.00
16.5	205,799		0.0000	1.0000	100.00
17.5	251,964		0.0000	1.0000	100.00
18.5	307,283		0.0000	1.0000	100.00
10 5	307,283	8,504	0.0277	0.9723	100.00
19.5 20.5	298,779	0,501	0.0000	1.0000	97.23
21.5	315,687		0.0000	1.0000	97.23
22.5	317,604		0.0000	1.0000	97.23
23.5	391,463		0.0000	1.0000	97.23
24.5	391,463		0.0000	1.0000	97.23
25.5	391,463		0.0000	1.0000	97,23
26.5	391,463		0.0000	1.0000	97.23
27.5	317,604		0.0000	1.0000	97.23
28.5	317,604		0.0000	1.0000	97.23
			0 0000	1.0000	97.23
29.5	317,604		0.0000	1.0000	97.23
30.5	210,171		0.0000	1.0000	97.23
31.5	210,171		0.0000	1.0000	97.23
32.5	210,171		0.0000	1.0000	97.23
33.5	210,171		0.0000	1.0000	97.23
34.5	210,171		0.0000	1.0000	97.23
35.5	210,171		0.0000	1.0000	97.23
36.5	210,171		0.0000	1.0000	97.23
37.5	210,171		0.0000	1.0000	97.23
38.5	210,171		0.0000	1.0000	

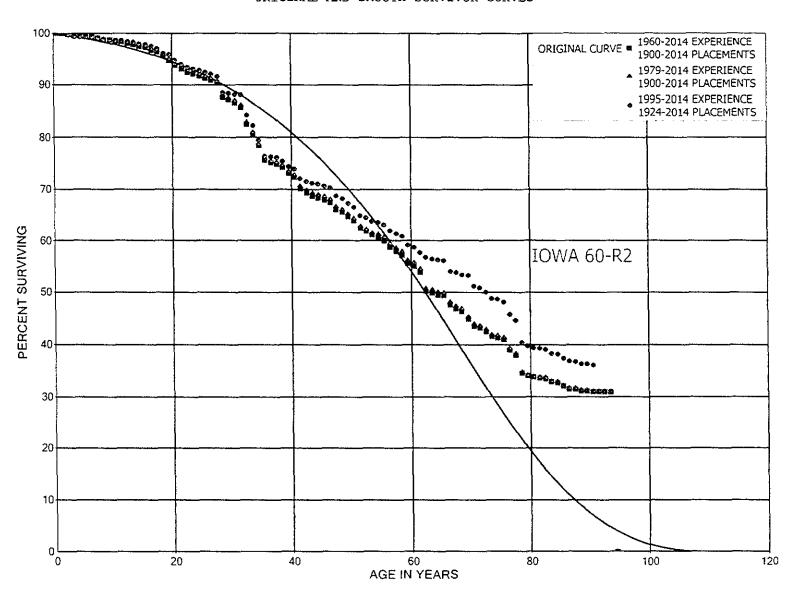
### ACCOUNT 354 TOWERS AND FIXTURES

PLACEMENT E	BAND 1924-1984		EXPER	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
	104 160		0.0000	1.0000	97.23
39.5	194,168		0.0000	1.0000	97.23
40,5	120,309		0.0000	1.0000	97.23
41.5	120,309		0.0000	1.0000	97.23
42.5	120,309		0.0000	1.0000	97.23
43.5	120,309		0.0000	1.0000	97.23
44.5	120,309 120,309		0.0000	1.0000	97.23
45.5	120,309		0.0000	1.0000	97.23
46.5	120,309		0.0000	1.0000	97.23
47.5	120,309		0.0000	1.0000	97.23
48.5	120,309		0.000		
49.5	120,309		0.0000	1.0000	97.23
50.5	120,309		0.0000	1.0000	97.23
51.5	120,309		0.0000	1.0000	97.23
52.5	120,309		0.0000	1.0000	97.23
53.5	74,144		0.0000	1.0000	97.23
54.5	24,861		0.0000	1.0000	97.23
55.5	24,861		0.0000	1.0000	97.23
56.5	24,861		0.0000	1.0000	97.23
57.5	7,953		0.0000	1.0000	97.23
58.5	6,036		0.0000	1.0000	97.23
59.5	6,036		0.0000	1.0000	97.23
60.5	6,036		0.0000	1.0000	97.23
61.5	6,036		0.0000	1.0000	97.23
62.5	6,036		0.0000	1.0000	97.23
63.5	6,036		0.0000	1.0000	97.23
64.5	6,036		0.0000	1.0000	97.23
65.5	6,036		0.0000	1.0000	97.23
66,5	6,036		0.0000	1.0000	97.23
67.5	6,036		0.0000	1.0000	97.23
68.5	6,036		0.0000	1.0000	97.23
69.5	6,036		0.0000	1.0000	97.23
70,5	6,036		0.0000	1.0000	97.23
71.5	6,036		0.0000	1.0000	97.23
72.5	6,036		0.0000	1.0000	97.23
73.5	6,036		0.0000	1.0000	97.23
74.5	6,036		0.0000	1.0000	97.23
75.5	6,036		0.0000	1.0000	97.23
76.5	6,036		0.0000	1.0000	97.23
77.5	6,036		0.0000	1.0000	97.23
78.5	6,036		0.0000	1.0000	97.23

### ACCOUNT 354 TOWERS AND FIXTURES

PLACEMENT BAND 1924-1984				EXPER	RIENCE BAN	D 1979-2014
	AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
	BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
	INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
	79.5	6,036		0.0000	1.0000	97.23
	80.5	6,036		0.0000	1.0000	97.23
	81.5	6,036		0.0000	1.0000	97.23
	82.5	6,036		0.0000	1.0000	97.23
	83.5	6,036		0.0000	1.0000	97.23
	84.5	6,036		0.0000	1.0000	97.23
	85.5	6,036		0.0000	1.0000	97.23
	86.5	6,036		0.0000	1.0000	97.23
	87.5	6,036		0.0000	1.0000	97.23
	88.5	6,036		0.0000	1.0000	97.23
	89.5	6,036		0.0000	1.0000	97.23
	90.5					97.23

KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 355 POLES AND FIXTURES ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 355 POLES AND FIXTURES

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	110,662,968	28,811	0.0003	0.9997	100.00
0.5	105,800,157	74,908	0.0007	0.9993	99.97
1,5	103,801,390	181,156	0.0017	0.9983	99.90
2.5	99,305,996	327,877	0.0033	0.9967	99.73
3.5	96,268,563	38,216	0.0004	0.9996	99.40
4.5	91,753,348	54,578	0.0006	0.9994	99.36
5.5	90,324,740	58,342	0.0006	0.9994	99.30
6.5	84,722,799	155,651	0.0018	0.9982	99.24
7.5	81,223,105	239,925	0.0030	0.9970	99.05
8.5	79,177,375	69,299	0.0009	0.9991	98.76
9.5	66,557,925	208,562	0.0031	0.9969	98.68
10.5	59,431,762	60,104	0.0010	0.9990	98.37
11.5	58,840,518	176,744	0.0030	0.9970	98.27
12.5	51,903,615	135,893	0.0026	0.9974	97.97
13.5	50,013,754	139,800	0.0028	0.9972	97.72
14.5	39,570,026	104,250	0.0026	0.9974	97.44
15.5	39,239,421	235,374	0.0060	0.9940	97.19
16.5	38,127,120	143,087	0.0038	0.9962	96.60
17.5	37,100,224	280,162	0.0076	0.9924	96.24
18.5	35,111,714	320,821	0.0091	0.9909	95.51
19.5	34,049,838	341,049	0.0100	0.9900	94.64
20.5	32,890,531	208,045	0.0063	0.9937	93.69
21.5	32,151,803	226,904	0.0071	0.9929	93.10
22.5	31,315,512	142,863	0.0046	0.9954	92,44
23.5	28,861,779	124,462	0.0043	0.9957	92.02
24.5	27,308,799	138,313	0.0051	0.9949	91.62
25.5	24,006,293	100,001	0.0042	0.9958	91.16
26.5	23,760,332	140,461	0.0059	0.9941	90.78
27.5	22,897,026	671,957	0.0293	0.9707	90.24
28,5	21,444,698	113,523	0.0053	0.9947	87.60
29.5	18,745,932	111,094	0.0059	0.9941	87.13
30.5	16,055,577	166,635	0.0104	0.9896	86.62
31.5	17,859,970	667,016	0.0373	0.9627	85.72
32.5	16,483,299	370,096	0.0225	0.9775	82.52
33.5	15,115,466	430,960	0.0285	0.9715	80.66
34.5	14,048,236	502,211	0.0357	0.9643	78.36
35.5	12,691,652	73,182	0.0058	0.9942	75.56
36.5	12,644,644	41,232	0.0033	0.9967	75.13
37.5	12,008,235	103,620	0.0086	0.9914	74.88
38.5	11,429,681	187,769	0.0164	0.9836	74.23

#### ACCOUNT 355 POLES AND FIXTURES

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	10,144,855	100,172	0.0099	0.9901	73.01
40.5	9,756,262	304,647	0.0312	0.9688	72.29
41.5	8,876,542	101,883	0.0115	0.9885	70.04
42.5	8,321,354	67,785	0.0081	0.9919	69.23
43.5	8,177,142	44,937	0.0055	0.9945	68.67
44.5	5,906,044	35,033	0.0059	0.9941	68.29
45.5	5,848,796	44,196	0.0076	0.9924	67.89
46.5	5,705,954	118,532	0.0208	0.9792	67.37
47.5	5,574,130	42,172	0.0076	0.9924	65.97
48.5	3,293,211	41,613	0.0126	0.9874	65.47
49.5	3,229,869	41,428	0.0128	0.9872	64.65
50.5	3,173,902	69,798	0.0220	0.9780	63.82
51.5	3,093,051	28,077	0.0091	0.9909	62.41
52.5	3,059,964	33,482	0.0109	0.9891	61.85
53.5	2,117,475	24,098	0.0114	0.9886	61.17
54.5	2,085,192	19,948	0.0096	0.9904	60.48
55.5	2,032,425	39,090	0.0192	0.9808	59.90
56.5	1,647,538	23,466	0.0142	0.9858	58.74
57.5	1,596,377	20,260	0.0127	0.9873	57.91
58.5	1,575,289	44,019	0.0279	0.9721	57.17
59.5	874,434	7,968	0.0091	0.9909	55.58
60.5	858,619	18,565	0.0216	0.9784	55.07
61.5	673,546	46,754	0.0694	0.9306	53.88
62.5	626,504	3,401	0.0054	0.9946	50.14
63.5	624,625	5,871	0.0094	0.9906	49.87
64.5	561,906	1,884	0.0034	0.9966	49.40
65.5	559,654	19,958	0.0357	0.9643	49.23
66.5	193,233	3,091	0.0160	0.9840	47.48
67.5	188,175	1,808	0.0096	0.9904	46.72
68.5	145,134	4,533	0.0312	0.9688	46.27
69.5	140,432	4,138	0.0295	0.9705	44.82
70.5	136,294	898	0.0066	0.9934	43.50
71.5	135,285	2,514	0.0186	0.9814	43.22
72.5	166,430	3,701	0.0222	0.9778	42.41
73.5	166,716	720	0.0043	0.9957	41.47
74.5	165,982	1,518	0.0091	0.9909	41.29
75.5	164,464	8,021	0.0488	0.9512	40.91
76.5	156,428	3,852	0.0246	0.9754	38.92
<b>77.</b> 5	107,710	9,806	0.0910	0.9090	37.96
78,5	96,765	1,672	0.0173	0.9827	34.50

#### ACCOUNT 355 POLES AND FIXTURES

PLACEMENT	BAND 1900-2014	EXPER	RIENCE BAN	D 1960-2014	
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	95,092 93,717 93,264 92,373 90,342 88,543 86,163 78,149 77,929 77,042	610 407 374 1,737 394 1,679 1,304 219 888	0.0064 0.0043 0.0040 0.0188 0.0044 0.0190 0.0151 0.0028 0.0114	0.9936 0.9957 0.9960 0.9812 0.9956 0.9810 0.9849 0.9972 0.9886 1.0000	33.91 33.69 33.54 33.41 32.78 32.64 32.02 31.53 31.45 31.09
89.5 90.5 91.5 92.5 93.5 94.5	42,436 2,965 2,965 2,965 2,965	201	0.0047 0.0000 0.0000 0.0000 1.0000	0.9953 1.0000 1.0000 1.0000	31.09 30.94 30.94 30.94 30.94

### ACCOUNT 355 POLES AND FIXTURES

PLACEMENT	BAND 1900-2014		EXPER	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	96,933,522	18,469	0.0002	0.9998	100.00
0.5	93,930,408	73,799	0.0008	0.9992	99.98
1.5	92,102,735	167,150	0.0018	0.9982	99.90
2.5	88,062,053	295,439	0.0034	0.9966	99.72
3.5	86,430,862	31,906	0.0004	0.9996	99.39
4.5	81,318,385	45,620	0.0006	0.9994	99.35
5.5	80,500,640	24,211	0.0003	0.9997	99.29
6.5	75,289,919	129,322	0.0017	0.9983	99,26
7.5	71,669,255	224,388	0.0031	0.9969	99.09
8.5	72,197,334	57,140	0.0008	0.9992	98.78
9.5	59,848,715	176,677	0.0030	0.9970	98.71
10.5	54,321,292	36,064	0.0007	0.9993	98.41
11.5	53,917,798	125,904	0.0023	0.9977	98.35
12.5	47,406,992	84,728	0.0018	0.9982	98.12
13.5	45,622,561	124,250	0.0027	0.9973	97.94
14.5	35,460,220	80,231	0.0023	0.9977	97.68
15.5	35,163,017	196,662	0.0056	0.9944	97.46
16.5	34,420,318	135,760	0.0039	0.9961	96.91
17.5	33,838,062	238,884	0.0071	0.9929	96.53
18.5	31,793,809	291,077	0.0092	0.9908	95.85
19.5	30,841,232	321,290	0.0104	0.9896	94.97
20.5	30,366,384	195,488	0.0064	0.9936	93.98
21.5	29,715,474	179,790	0.0061	0.9939	93.38
22.5	28,777,176	101,375	0.0035	0.9965	92.81
23.5	27,509,138	108,513	0.0039	0.9961	92.48
24.5	26,000,762	135,001	0.0052	0.9948	92.12
25.5	23,021,008	95,871	0.0042	0.9958	91.64
26.5	22,605,258	127,091	0.0056	0.9944	91.26
27.5	21,771,849	655,992	0.0301	0.9699	90.75
28.5	20,563,414	107,585	0.0052	0.9948	88.01
29.5	17,872,736	99,402	0.0056	0.9944	87.55
30.5	15,555,775	152,588	0.0098	0.9902	87.06
31.5	17,364,310	657,505	0.0379	0.9621	86.21
32.5	16,105,583	361,115	0.0224	0.9776	82.95
33.5	14,747,462	425,640	0.0289	0.9711	81.09
34.5	13,688,809	485,175	0.0354	0.9646	78.75
35.5	12,228,814	67,297	0.0055	0.9945	75.95
36.5	12,184,783	34,978	0.0029	0.9971	75.54
37.5	11,601,916	98,984	0.0085	0.9915	75.32
38.5	11,030,068	175,467	0.0159	0.9841	74.68

### ACCOUNT 355 POLES AND FIXTURES

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	9,757,692	84,311	0.0086	0.9914	73.49
40.5	9,386,403	287,659	0.0306	0.9694	72.85
41.5	8,621,129	97,227	0.0113	0.9887	70.62
42.5	8,084,395	57,665	0.0071	0.9929	69.82
43.5	7,950,548	39,316	0.0049	0.9951	69.33
44.5	5,606,695	34,291	0.0061	0.9939	68.98
45.5	5,620,630	43,290	0.0077	0.9923	68.56
46.5	5,471,190	118,140	0.0216	0.9784	68.03
47.5	5,340,133	42,080	0.0079	0.9921	66.57
48.5	3,061,314	41,289	0.0135	0.9865	66.04
49.5	3,003,796	41,026	0.0137	0.9863	65.15
50.5	2,963,677	69,749	0.0235	0.9765	64.26
51.5	2,882,875	24,704	0.0086	0.9914	62.75
52.5	2,853,161	32,664	0.0114	0.9886	62.21
53.5	1,911,490	7,433	0.0039	0.9961	61.50
54.5	2,085,159	19,948	0.0096	0.9904	61.26
55.5	2,032,392	39,090	0.0192	0.9808	60.67
56.5	1,647,505	23,466	0.0142	0.9858	59.51
57.5	1,596,344	20,260	0.0127	0.9873	58.66
58.5	1,575,256	44,019	0.0279	0.9721	57.91
59.5	871,436	7,968	0.0091	0.9909	56.30
60.5	855,621	18,565	0.0217	0.9783	55.78
61.5	670,548	46,754	0.0697	0.9303	54.57
62.5	623,506	3,401	0.0055	0.9945	50.77
63.5	621,627	5,871	0.0094	0.9906	50.49
64.5	558,908	1,884	0.0034	0.9966	50.01
65.5	556,656	19,958	0.0359	0.9641	49.84
66.5	190,235	3,091	0.0162	0.9838	48.06
67.5	185,177	1,808	0.0098	0.9902	47.28
68.5	142,136	4,533	0.0319	0.9681	46.81
69.5	137,467	4,138	0.0301	0.9699	45.32
70.5	133,329	898	0.0067	0.9933	43.96
71.5	132,320	2,514	0.0190	0.9810	43.66
72.5	163,465	3,701	0.0226	0.9774	42.83
73.5	163,751	720	0.0044	0.9956	41.86
74.5	163,017	1,518	0.0093	0.9907	41.68
75.5	161,499	8,021	0.0497	0.9503	41.29
76.5	153,463	3,852	0.0251	0.9749	39.24
77.5	104,745	9,806	0.0936	0.9064	38.25
78.5	96,765	1,672	0.0173	0.9827	34.67

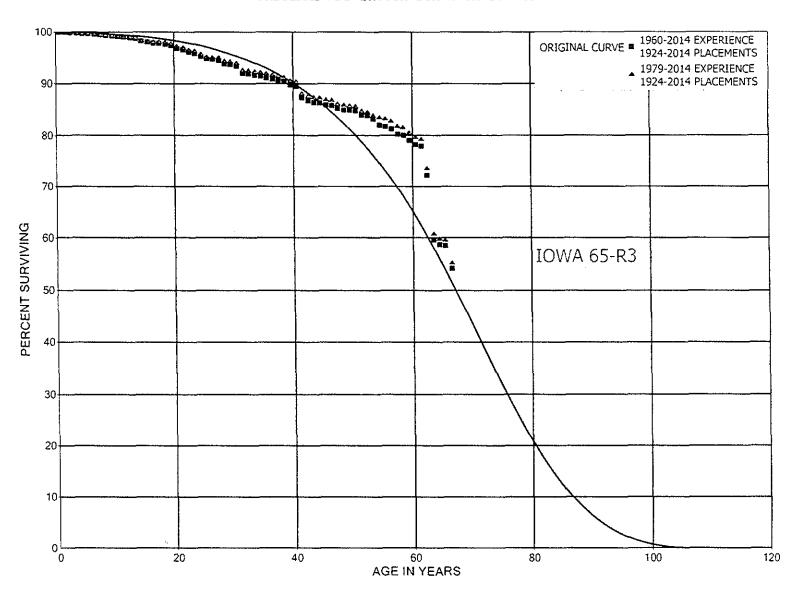
#### ACCOUNT 355 POLES AND FIXTURES

### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1900-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	95,092	610	0.0064	0.9936	34.07
80.5	93,717	407	0.0043	0.9957	33.85
81.5	93,264	374	0.0040	0.9960	33.71
82.5	92,373	1,737	0.0188	0.9812	33.57
83.5	90,342	394	0.0044	0.9956	32.94
84.5	88,543	1,679	0.0190	0.9810	32.80
85.5	86,163	1,304	0.0151	0.9849	32.18
86.5	78,149	219	0.0028	0.9972	31.69
87.5	77,929	888	0.0114	0.9886	31.60
88.5	77,042		0.0000	1.0000	31.24
89.5	42,436	201	0.0047	0.9953	31.24
90.5	2,965		0.0000	1.0000	31.09
91.5	2,965		0.0000	1.0000	31.09
92,5	2,965		0.0000	1.0000	31.09
93.5	2,965	2,965	1.0000		31.09
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# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

### ORIGINAL LIFE TABLE

DI.ACEMENT F	BAND 1924-2014		EXPE	RIENCE BAN	D 1960-2014
		D DOLL D DMDNOG			PCT SURV
AGE AT	EXPOSURES AT	RETIREMENTS	ייאיים ס	SURV	BEGIN OF
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	RATIO	INTERVAL
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	KATIO	TMIEKVAD
0.0	73,737,385	4,621	0.0001	0.9999	100.00
0.5	72,508,690	66,034	0.0009	0.9991	99.99
1.5	71,890,304	43,932	0.0006	0.9994	99.90
2.5	66,544,086	73,664	0.0011	0.9989	99.84
3.5	62,745,691	49,811	0.0008	0.9992	99.73
4.5	58,712,319	24,154	0.0004	0.9996	99.65
5.5	57,764,217	61,092	0.0011	0.9989	99.61
6.5	56,925,596	87,881	0.0015	0.9985	99.51
7.5	56,064,230	56,211	0.0010	0.9990	99,35
8.5	54,953,961	33,133	0.0006	0.9994	99.25
9.5	51,749,804	61,364	0.0012	0.9988	99.19
10.5	49,891,053	87,526	0.0018	0.9982	99.07
11.5	49,897,588	42,231	0.0008	0.9992	98.90
12.5	48,357,918	83,230	0.0017	0.9983	98.82
13.5	44,256,194	199,785	0.0045	0.9955	98.65
14.5	41,562,110	84,301	0.0020	0.9980	98.20
15.5	41,401,604	111,186	0.0027	0.9973	98.00
16.5	40,971,064	26,725	0.0007	0.9993	97.74
17.5	39,678,698	70,274	0.0018	0.9982	97.68
18.5	38,545,070	104,003	0.0027	0.9973	97,50
19.5	35,993,258	170,805	0.0047	0.9953	97.24
20.5	35,021,397	88,484	0.0025	0.9975	96.78
21.5	34,593,869	185,537	0.0054	0.9946	96.53
22.5	33,790,299	73,394	0.0022	0.9978	96.02
23.5	30,362,163	207,346	0.0068	0.9932	95.81
24.5	29,336,745	144,867	0.0049	0.9951	95.15
25.5	26,049,803	33,357	0.0013	0.9987	94.68
26.5	25,725,577	38,519	0.0015	0.9985	94.56
27.5	24,783,395	179,508	0.0072	0.9928	94.42
28.5	23,672,716	24,690	0.0010	0.9990	93.74
29.5	20,482,399	79,920	0.0039	0.9961	93.64
30.5	16,468,091	240,234	0.0146	0.9854	93.27
31.5	18,970,465	19,819	0.0010	0.9990	91.91
32.5	17,828,861	55,065	0.0031	0.9969	91.82
33.5	16,644,690	22,239	0.0013	0.9987	91.53
34.5	16,172,003	63,061	0.0039	0.9961	91.41
35.5	14,542,940	35,914	0.0025	0.9975	91.05
36.5	14,675,022	31,936	0.0022	0.9978	90.83
37.5	13,756,768	43,621	0.0032	0.9968	90.63
38.5	12,902,575	90,605	0.0070	0.9930	90.34
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### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

PLACEMENT B	BAND 1924-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	11,468,669	33,589	0.0029	0.9971	89.71
40.5	11,204,913	267,138	0.0238	0.9762	89.45
41.5	10,259,419	69,094	0.0067	0.9933	87.31
42.5	9,656,764	33,697	0.0035	0.9965	86.73
43.5	9,570,532	18,393	0.0019	0.9981	86.42
44.5	7,538,599	27,461	0.0036	0.9964	86.26
45.5	7,190,575	12,018	0.0017	0.9983	85.94
46.5	7,072,039	46,681	0.0066	0.9934	85.80
47.5	7,007,135	21,581	0.0031	0.9969	85.23
48.5	3,758,462	1,943	0.0005	0.9995	84.97
49.5	3,732,722	6,339	0.0017	0.9983	84.93
50.5	3,713,361	37,241	0.0100	0.9900	84.78
51.5	3,652,286	6,038	0.0017	0.9983	83.93
52.5	3,638,498	28,716	0.0079	0.9921	83.79
53.5	2,391,218	34,166	0.0143	0.9857	83.13
54.5	2,337,275	7,181	0.0031	0.9969	81.95
55.5	2,247,440	10,359	0.0046	0.9954	81.69
56.5	1,777,261	21,921	0.0123	0.9877	81.32
57.5	1,681,541	5,765	0.0034	0.9966	80.31
58.5	1,673,872	20,458	0.0122	0.9878	80.04
59.5	920,190	9,624	0.0105	0.9895	79.06
60.5	900,738	3,646	0.0103	0.9960	78.23
61.5	757,075	55,555	0.0030	0.9266	77.92
62.5	697,987	121,126	0.1735	0.8265	72.20
63.5	567,318	8,984	0.0158	0.9842	59.67
64.5	634,311	2,598	0.0041	0.9959	58.72
65.5	631,461	46,573	0.0738	0.9262	58.48
66.5	218,179	9,887	0.0453	0.9547	54.17
67.5	205,862	1,265	0.0061	0.9939	51.72
68.5	152,741	12,874	0.0843	0.9157	51.40
69.5	141,947	576	0.0041	0.9959	47.07
70.5	141,288		0.0041		46.88
71.5	139,333	814	0.0138	0.9802	46.23
72.5	138,098	706	0.0051	0.9949	45.96
73.5	157,850	162	0.0051	0.9990	45.72
74.5	157,830	59	0.0010	0.9996	45.67
75.5	157,223	9,366	0.0596	0.9990	45.66
76.5 76.5	142,781	715	0.0556	0.9950	42.94
77.5	91,114	4,833	0.0530	0.9470	42.72
78.5	86,281	1,566	0.0330	0.9470	40.45
, , , ,	00, 20±	1,500	0,0102	0.7010	10.45

### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

PLACEMENT 1	BAND 1924-2014		EXPE	RIENCE BAN	D 1960-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	84,715	129	0.0015	0.9985	39.72
80.5	83,663	359	0.0043	0.9957	39.66
81.5	83,257	393	0.0047	0.9953	39.49
82,5	82,509	714	0.0087	0.9913	39.30
83.5	81,795	2,232	0.0273	0.9727	38.96
84.5	78,811	182	0.0023	0.9977	37.90
85.5	77,857		0.0000	1.0000	37.81
86.5	74,987	6,137	0.0818	0.9182	37.81
87.5	68,851		0.0000	1.0000	34.72
88.5	68,851		0.0000	1.0000	34.72
89.5	68,851		0.0000	1.0000	34.72
90.5					34.72

#### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

PLACEMENT	BAND 1924-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	58,807,332	1,160	0.0000	1.0000	100.00
0.5	59,032,498	66,034	0.0011	0.9989	100.00
1.5	58,753,316	37,255	0.0006	0.9994	99.89
2.5	54,212,829	64,504	0.0012	0.9988	99.82
3.5	51,884,764	46,957	0.0009	0.9991	99.70
4.5	47,084,661	20,826	0.0004	0.9996	99.61
5.5	46,840,245	31,842	0.0007	0.9993	99.57
6.5	46,539,223	62,444	0.0013	0.9987	99.50
7.5	45,904,494	41,422	0.0009	0.9991	99.37
8,5	47,272,182	23,449	0.0005	0.9995	99.28
9,5	44,374,278	54,951	0.0012	0.9988	99.23
10.5	44,541,222	78,593	0.0018	0.9982	99.11
11.5	44,998,485	16,831	0.0004	0.9996	98.93
12.5	43,757,010	53,037	0.0012	0.9988	98.89
13.5	40,131,482	192,108	0.0048	0.9952	98.78
14.5	37,752,612	73,270	0.0019	0.9981	98.30
15.5	37,659,575	45,031	0.0012	0.9988	98.11
16.5	37,711,527	20,091	0.0005	0.9995	97.99
17.5	36,749,319	37,936	0.0010	0.9990	97.94
18.5	35,630,982	101,131	0.0028	0.9972	97.84
19.5	33,171,444	166,194	0.0050	0.9950	97.56
20.5	32,820,687	76,282	0.0023	0.9977	97.07
21.5	32,505,454	168,188	0.0052	0.9948	96.85
22.5	31,621,328	34,839	0.0011	0.9989	96.35
23.5	29,190,443	198,864	0.0068	0.9932	96.24
24.5	28,190,289	141,082	0.0050	0.9950	95.59
25.5	25,077,501	31,829	0.0013	0.9987	95.11
26.5	24,626,447	24,977	0.0010	0.9990	94.99
27.5	23,737,303	146,504	0.0062	0.9938	94.89
28.5	22,944,408	22,323	0.0010	0.9990	94.30
29.5	19,759,432	69,550	0.0035	0.9965	94.21
30.5	16,067,921	234,583	0.0146	0.9854	93.88
31.5	18,585,101	15,373	0.0008	0.9992	92.51
32.5	17,541,946	48,229	0,0027	0.9973	92.43
33.5	16,363,595	19,858	0.0012	0.9988	92.18
34.5	15,893,289	44,969	0.0028	0.9972	92.07
35.5	14,026,308	31,655	0.0023	0.9977	91.81
36.5	14,160,919	30,222	0.0021	0.9979	91.60
37.5	13,288,070	42,799	0.0032	0.9968	91.40
38.5	12,435,363	84,018	0.0068	0.9932	91.11

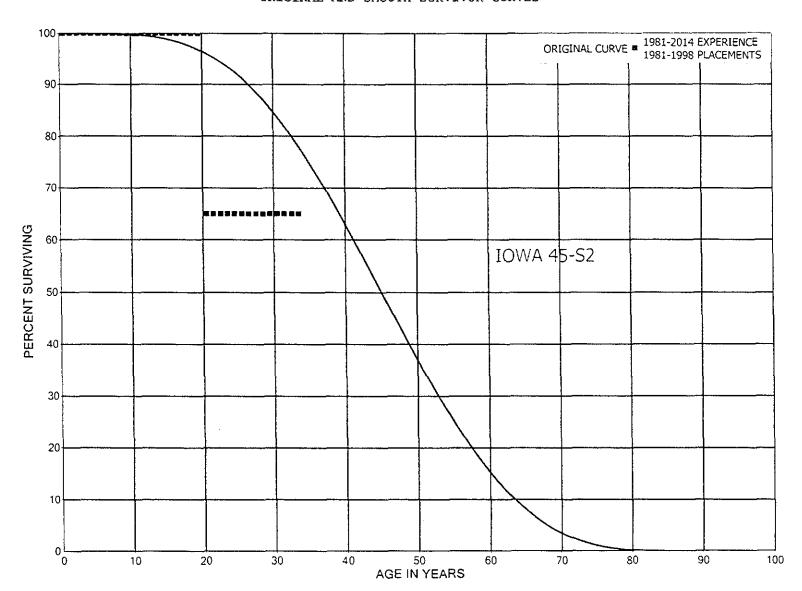
#### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

PLACEMENT :	BAND 1924-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	11,008,138	26,354	0.0024	0.9976	90.49
40.5	10,759,820	258,050	0.0240	0.9760	90.28
41.5	9,906,032	66,463	0.0067	0.9933	88.11
42.5	9,317,224	24,073	0.0026	0.9974	87.52
43.5	9,240,616	14,267	0.0015	0.9985	87.30
44.5	7,225,443	27,447	0.0038	0.9962	87.16
45.5	6,927,110	11,576	0.0017	0.9983	86.83
46.5	6,807,087	46,679	0.0069	0.9931	86.68
47.5	6,742,185	21,581	0.0032	0.9968	86.09
48.5	3,494,572	1,616	0.0005	0.9995	85.81
49.5	3,470,463	6,333	0.0018	0.9982	85.78
50.5	3,452,728	37,233	0.0108	0.9892	85.62
51.5	3,391,661	5,482	0.0016	0.9984	84.70
52.5	3,378,429	27,627	0.0082	0.9918	84.56
53.5	2,132,238	12,003	0.0056	0.9944	83.87
54.5	2,337,275	7,181	0.0031	0.9969	83.39
55.5	2,247,440	10,359	0.0046	0.9954	83.14
56.5	1,777,261	21,921	0.0123	0.9877	82.76
57.5	1,681,541	5,765	0.0034	0.9966	81.73
58.5	1,673,872	20,458	0.0122	0.9878	81.45
59.5	920,190	9,624	0.0105	0.9895	80.46
60.5	900,738	3,646	0.0040	0.9960	79.62
61.5	757,075	55,555	0.0734	0.9266	79.30
62.5	697,987	121,126	0.1735	0.8265	73.48
63.5	567,318	8,984	0.0158	0.9842	60.73
64.5	634,311	2,598	0.0041	0.9959	59.76
65.5	631,461	46,573	0.0738	0.9262	59.52
66.5	218,179	9,887	0.0453	0.9547	55.13
67.5	205,862	1,265	0.0061	0.9939	52.63
68.5	152,741	12,874	0.0843	0.9157	52.31
69.5	141,947	576	0.0041	0.9959	47.90
70.5	141,288	1,955	0.0138	0.9862	47.70
71.5	139,333	814	0.0058	0.9942	47.04
72.5	138,098	706	0.0051	0.9949	46.77
73.5	157,850	162	0.0010	0.9990	46.53
74.5	157,229	59	0.0004	0.9996	46.48
75.5	157,103	9,366	0.0596	0.9404	46.47
76.5	142,781	715	0.0050	0.9950	43.70
77.5	91,114	4,833	0.0530	0.9470	43.48
78.5	86,281	1,566	0.0182	0.9818	41.17

#### ACCOUNT 356 OVERHEAD CONDUCTORS AND DEVICES

PLACEMENT I	BAND 1924-2014		EXPE	RIENCE BAN	D 1979-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	84,715	129	0.0015	0.9985	40.42
80.5	83,663	359	0.0043	0.9957	40.36
81.5	83,257	393	0.0047	0.9953	40.19
82.5	82,509	714	0.0087	0.9913	40.00
83.5	81,795	2,232	0.0273	0.9727	39.65
84.5	78,811	182	0.0023	0.9977	38.57
85.5	77,857		0.0000	1.0000	38.48
86.5	74,987	6,137	0.0818	0.9182	38.48
87.5	68,851		0.0000	1.0000	35.33
88.5	68,851		0.0000	1.0000	35.33
89.5	68,851		0.0000	1.0000	35.33
90.5					35.33

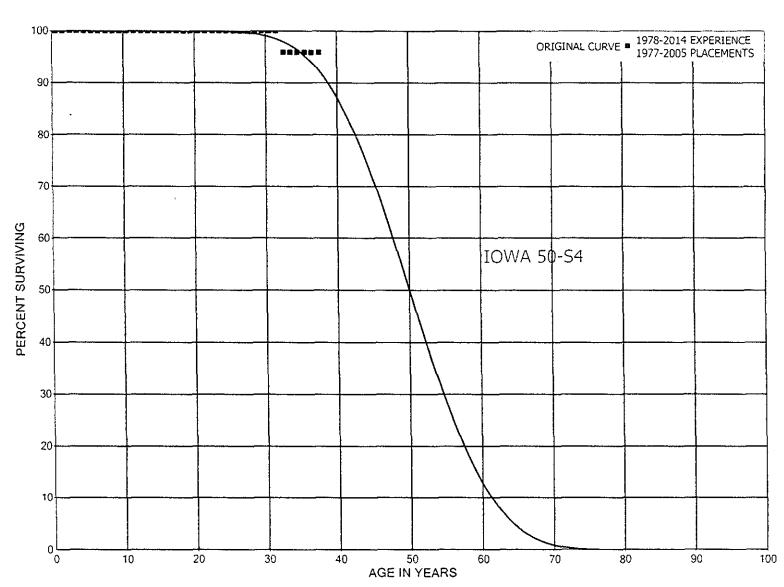
KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 357 UNDERGROUND CONDUIT ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 357 UNDERGROUND CONDUIT

PLACEMENT F	BAND 1981-1998		EXPE	RIENCE BAN	D 1981-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	13,708		0.0000	1.0000	100.00
0.5	13,708		0.0000	1.0000	100.00
1.5	13,708		0.0000	1.0000	100.00
2.5	13,708		0.0000	1.0000	100.00
3.5	13,708		0.0000	1.0000	100.00
4.5	13,708		0.0000	1.0000	100.00
5.5	13,708		0.0000	1.0000	100.00
6.5	13,708		0.0000	1.0000	100.00
7.5	22,944		0.0000	1.0000	100.00
8.5	22,944		0.0000	1.0000	100.00
9.5	22,944		0.0000	1.0000	100.00
10.5	22,944		0.0000	1.0000	100.00
11.5	22,944		0.0000	1.0000	100.00
12.5	22,944		0.0000	1.0000	100.00
13.5	22,944		0.0000	1.0000	100.00
14.5	22,944		0.0000	1.0000	100.00
15.5	22,944		0.0000	1.0000	100.00
16.5	19,465		0.0000	1.0000	100.00
17.5	19,465		0.0000	1.0000	100.00
18.5	19,465		0.0000	1.0000	100.00
19.5	19,465	6,796	0.3491	0.6509	100.00
20.5	3,433		0.0000	1.0000	65.09
21.5	3,433		0.0000	1.0000	65.09
22.5	3,433		0.0000	1.0000	65.09
23.5	3,433		0.0000	1.0000	65.09
24.5	3,433		0.0000	1.0000	65.09
25.5	3,433		0.0000	1.0000	65.09
26.5	3,433		0.0000	1.0000	65.09
27.5	3,433		0.0000	1.0000	65.09
28.5	3,433		0.0000	1.0000	65.09
29.5	3,433		0.0000	1.0000	65.09
30.5	3,433		0.0000	1.0000	65.09
31.5	3,433		0.0000	1.0000	65.09
32.5	3,433		0.0000	1.0000	65.09
33.5					65.09

# KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 358 UNDERGROUND CONDUCTORS AND DEVICES ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 358 UNDERGROUND CONDUCTORS AND DEVICES

PLACEMENT	BAND 1977-2005		EXPE	RIENCE BAN	D 1978-2014
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	36,009		0.0000	1.0000	100.00
0.5	90,117		0.0000	1.0000	100.00
1.5	90,117		0.0000	1.0000	100.00
2.5	90,117		0.0000	1.0000	100.00
3.5	90,117		0.0000	1.0000	100.00
4.5	90,117		0.0000	1.0000	100.00
5.5	90,117		0.0000	1.0000	100.00
6.5	90,117		0.0000	1.0000	100.00
7.5	90,117		0.0000	1.0000	100.00
8.5	90,117		0.0000	1.0000	100.00
9.5	89,650		0.0000	1.0000	100.00
10.5	89,650		0.0000	1.0000	100.00
11.5	89,650		0.0000	1.0000	100.00
12.5	89,650		0.0000	1.0000	100.00
13.5	89,650		0.0000	1.0000	100.00
14.5	89,650		0.0000	1.0000	100.00
15.5	89,650		0.0000	1.0000	100.00
16.5	89,650		0.0000	1.0000	100.00
17.5	89,650	~ -	0.0000	1,0000	100.00
18.5	89,650	75	0.0008	0.9992	100.00
19.5	89,575		0.0000	1.0000	99.92
20.5	88,983		0.0000	1.0000	99.92
21.5	88,983		0.0000	1.0000	99.92
22.5	88,983		0.0000	1.0000	99.92
23.5	85,133		0.0000	1.0000	99.92
24.5	85,133		0.0000	1.0000	99.92
25.5	85,133		0.0000	1.0000	99.92
26.5	85,133		0.0000	1.0000	99.92
27.5	85,133		0.0000	1.0000	99.92
28.5	85,133		0.0000	1.0000	99.92
29.5	85,133		0.0000	1.0000	99.92
30.5	85,133		0.0000	1.0000	99.92
31.5	85,133	3,481	0.0409	0.9591	99.92
32.5	81,652		0.0000	1.0000	95.83
33,5	54,108		0.0000	1.0000	95.83
34.5	54,108		0.0000	1.0000	95.83
35.5	54,108		0.0000	1.0000	95.83
36.5	54,108		0.0000	1.0000	95.83
37.5					95.83

## KCP&L - GREATER MISSOURI OPERATIONS ECORP, MPS AND L&P JURISDICTIONS ACCOUNT 361 STRUCTURES AND IMPROVEMENTS ORIGINAL AND SMOOTH SURVIVOR CURVES

