COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Natural Gas Rates; 2) Approval of a Decoupling Mechanism; 3) Approval of New Tariffs; and 4) All Other Required Approvals, Waivers, and Relief.	))))))	Case No. 2018-00261

DIRECT TESTIMONY OF

JOHN J. SPANOS

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC

August 31, 2018

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is John J. Spanos. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania, 17011.

Q. ARE YOU ASSOCIATED WITH ANY FIRM?

A. Yes. I am associated with the firm of Gannett Fleming Valuation and Rate Consultants, LLC (Gannett Fleming).

Q. HOW LONG HAVE YOU BEEN ASSOCIATED WITH GANNETT FLEMING?

A. I have been associated with the firm since college graduation in June 1986.

Q. WHAT IS YOUR POSITION WITH THE FIRM?

A. I am a Senior Vice President.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company).

Q. PLEASE STATE YOUR QUALIFICATIONS.

A. I have 32 years of depreciation experience which includes giving expert testimony in over 290 cases before 40 regulatory commissions, including this Commission. Please refer to Appendix A for my qualifications.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony will support and explain the depreciation study conducted under my direction and supervision for the gas utility plant of Duke Energy Kentucky, Inc. The study represents all gas plant assets.

II. DISCUSSION

Q. PLEASE DEFINE THE CONCEPT OF DEPRECIATION.

A. Depreciation refers to 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, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, obsolescence, changes in the art, changes in demand and the requirements of public authorities.

Q. PLEASE IDENTIFY EXHIBIT JJS-1.

A. Exhibit JJS-1 is a report entitled, "2017 Depreciation Study - Calculated Annual Depreciation Accruals Related to Gas Plant as of December 31, 2017." This report sets forth the results of my depreciation study for Duke Energy Kentucky, Inc.

Q. IS EXHIBIT JJS-1 A TRUE AND ACCURATE COPY OF YOUR DEPRECIATION STUDY?

A. Yes.

Q. DOES EXHIBIT JJS-1 ACCURATELY PORTRAY THE RESULTS OF YOUR DEPRECIATION STUDY AS OF DECEMBER 31, 2017?

A. Yes.

Q. WHAT WAS THE PURPOSE OF YOUR DEPRECIATION STUDY?

A. The purpose of the depreciation study was to estimate the annual depreciation accruals related to gas plant in service for ratemaking purposes and determine appropriate average service lives and net salvage percents for each plant account.

Q. PLEASE DESCRIBE THE CONTENTS OF YOUR REPORT.

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

The Depreciation Study also includes several tables and tabulations of data and calculations. Table 1 on pages VI-4 and VI-5 of the Depreciation Study presents the estimated survivor curve, the net salvage percent, the original cost as of December 31, 2017, the book depreciation reserve, and the calculated annual depreciation accrual and rate for each account or subaccount. The section beginning on page VII-2 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 presents the results of the net salvage analysis. The section beginning on page IX-2

presents the depreciation calculations related to surviving original cost as of December 31, 2017.

Q. PLEASE EXPLAIN HOW YOU PERFORMED YOUR DEPRECIATION STUDY.

A. I used the straight line remaining life method of depreciation, with the average service life procedure for all plant assets except some general plant accounts. The annual depreciation is based on a method of depreciation accounting that seeks 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.

For General Plant Accounts 2910, 2911, 2940, 2970 and 2980, I used the straight line remaining life method of amortization. The annual amortization is based on amortization accounting that distributes the unrecovered cost of fixed capital assets over the remaining amortization period selected for each account and vintage.

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 Duke Energy Kentucky's plant; analyzing these data to obtain historic trends of survivor and net salvage characteristics; obtaining supplementary information from Duke Energy Kentucky's 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 gas 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 period 1956 through 2017. 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, 2017.

Q. WHAT METHOD DID YOU USE TO ANALYZE THIS SERVICE LIFE DATA?

A. I used the retirement rate method. 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 of time covered by the study.

Q. PLEASE DESCRIBE HOW YOU USED THE RETIREMENT RATE METHOD TO ANALYZE DUKE ENERGY KENTUCKY'S SERVICE LIFE DATA.

A. I applied the retirement rate method to each different group of property in the study. 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 survivor curve represents the average survivor pattern experienced by the several vintage groups during the experience band studied. The survivor patterns do not necessarily describe the life characteristics of the property group; therefore, interpretation of the original survivor curves is required in order to use them as valid considerations in estimating service life. The Iowa-type survivor curves were used to perform these interpretations.

Q. WHAT IS AN "IOWA-TYPE SURVIVOR CURVE" AND HOW DID YOU USE SUCH CURVES TO ESTIMATE THE SERVICE LIFE CHARACTERISTICS FOR EACH PROPERTY GROUP?

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.

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 70-R3 indicates an average service life of seventy years; a right-moded, or R, type curve (the mode occurs after average life for right-moded curves); and a moderate height, 3, 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 PRODUCTION FACILITIES?

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 curve describes the rate of retirement related to the replacement of elements of the facility, such as, for a power plant, the retirement of assets such as pumps, motors and piping 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.

Q. IS THIS APPROACH WIDELY ACCEPTED FOR ESTIMATING THE SERVICE LIVES OF PRODUCTION FACILITIES?

A. Yes. The life span technique has been used previously for Duke Energy Kentucky. My firm has also used the life span technique in performing depreciation studies presented to many other public utility commissions across the United States and Canada.

Q. HOW ARE THE LIFE SPANS ESTIMATED FOR DUKE ENERGY KENTUCKY'S PRODUCTION FACILITIES?

A. The life span estimates are based on informed judgment that incorporates factors for each facility such as the technology of the facility, management plans and outlook for the facility, and the estimates for similar facilities for other utilities.

Q. ARE THE FACTORS CONSIDERED IN YOUR ESTIMATES OF SERVICE LIFE AND NET SALVAGE PERCENTS PRESENTED IN EXHIBIT JJS-1?

A. Yes. A discussion of the factors considered in the estimation of service lives and net salvage percents are presented in Part III and Part IV of Exhibit JJS-1.

Q. DID YOU PHYSICALLY OBSERVE DUKE ENERGY KENTUCKY'S PLANT AND EQUIPMENT AS PART OF YOUR DEPRECIATION STUDY?

A. Yes. I made a field review of Duke Energy Kentucky's property during March 2018 to observe representative portions of plant. I have also made field visits during prior studies since the early 1990s. Field reviews are conducted to become familiar with Company operations and obtain an understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future

causes of retirements. This knowledge was incorporated in the interpretation and extrapolation of the statistical analyses.

Q. WOULD YOU PLEASE EXPLAIN THE CONCEPT OF "NET SALVAGE"?

A. 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 $2,000 regulator will include not only the $2,000 of original cost, but also, on average, $550 to remove the regulator at the end of its life and $50 in salvage value. In this example, the net salvage component is negative $500 ($50 - $550), and the net salvage percent is negative 25% (($50 - $550)/$2,000).

Q. PLEASE DESCRIBE HOW YOU ESTIMATED NET SALVAGE PERCENTAGES.

A. The net salvage percentages estimated in the Depreciation Study were based on informed judgment that incorporated factors such as the statistical analyses of

historical net salvage data; information provided to me by the Company's operating personnel, general knowledge and experience of the industry practices; and trends in the industry in general. The statistical net salvage analyses incorporates the Company's actual historical data for the period 1980 through 2017, and considers the cost of removal and gross salvage ratios to the associated retirements during the 38-year period. Trends of these data are also measured based on three-year moving averages and the most recent five-year indications.

Q. WERE THE NET SALVAGE PERCENTAGES FOR PRODUCTION FACILITIES BASED ON THE SAME ANALYSES?

A. Yes, for the interim net salvage estimates. The net salvage percentages for production facilities were based on two components, the interim net salvage percentage and the final net salvage percentage. The interim net salvage percentage is determined based on the historical indications from the period 1980 to 2017 of the cost of removal and gross salvage amounts as a percentage of the associated plant retired. The final net salvage or dismantlement component was determined based on the retirement activities associated with the assets anticipated to be retired at the concurrent date of final retirement.

Q. HAVE YOU INCLUDED A DISMANTLEMENT OR DECOMMISSIONING COMPONENT INTO THE OVERALL RECOVERY OF PRODUCTION FACILITIES?

A. Yes. A dismantlement or decommissioning component has been included to the net salvage percentage for gas production facilities.

Q. CAN YOU EXPLAIN HOW THE FINAL NET SALVAGE COMPONENT IS INCLUDED IN THE DEPRECIATION STUDY?

A. Yes. The dismantlement component is part of the overall net salvage for each location within the production assets. Based on studies for other utilities and the cost estimates of Duke Energy Kentucky, it was determined that the dismantlement or decommissioning costs for gas 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 calculations of the overall net salvage for each location is set forth on page VIII-3 of the Depreciation Study.

Q. WHAT IS THE BASIS OF THE DISMANTLEMENT OR DECOMMISSIONING COST ESTIMATES?

A. The decommissioning cost estimates are based on a decommissioning study of the production site performed by Arcadis, U.S., Inc. This estimate is based on the current cost to decommission the facility. However, the costs to decommission the production plant have tended to increase over time (as have construction costs in general). For this reason, in order to recover the full decommissioning cost, all costs need to be escalated to the time of retirement. The calculations of the escalation of these costs have been provided in the table set forth on page VIII-2 of the Depreciation Study.

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 depreciable group based on the straight line remaining life method, using remaining lives weighted consistent with the average service life procedure. The calculation of annual depreciation accrual rates were developed as of December 31, 2017.

Q. PLEASE DESCRIBE THE STRAIGHT LINE REMAINING LIFE METHOD OF DEPRECIATION.

A. The straight line remaining life method of depreciation allocates the original cost of the property, less accumulated depreciation, less future net salvage, in equal amounts 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 or account 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 the rate is then 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. 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. The sum of the future book accruals is then 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 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 20-year amortization period will be fully recovered after 20 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 20 years remain on the books until the amortization period for that vintage has expired.

Q. AMORTIZATION ACCOUNTING IS BEING IMPLEMENTED FOR WHICH PLANT ACCOUNTS?

A. Amortization accounting is only appropriate for certain General Plant accounts. These accounts are 2910, 2911, 2940, 2970 and 2980 which represent approximately one percent of depreciable plant.

Q. PLEASE USE AN EXAMPLE TO ILLUSTRATE THE DEVELOPMENT OF THE ANNUAL DEPRECIATION ACCRUAL RATE FOR A PARTICULAR GROUP OF PROPERTY IN YOUR DEPRECIATION STUDY.

A. I will use Account 2763, Mains – Plastic, as an example because it is one of the largest depreciable groups and represents an easily understood asset.

The retirement rate method was used to analyze the survivor characteristics of this property group. Aged plant accounting data were compiled from 1975 through 2017 and analyzed in periods that best represent the overall service life of this property. The life table for the 1975-2017 experience band is presented in the depreciation study on pages VII-35 and VII-36. The life table displays the retirement and surviving ratios of the aged plant data exposed to retirement by age interval. For example, page VII-35 of Exhibit JJS-1, shows $15,215 retired during age interval 0.5-1.5 with $149,178,146 exposed to retirement at the beginning of the interval. Consequently, the retirement ratio is 0.0001 ($15,215/$149,178,146) and the survivor ratio is 0.9999 (1-0.0001). The life table, or original survivor curve, is plotted along with the estimated smooth survivor curve, the 70-R3, on page VII-34 of Exhibit JJS-1.

The combined net salvage percent for all mains accounts is presented on pages VIII-9 and VIII-10. 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 2017. The 38-year period experienced $1,973,850 ($2,080,326 - $4,054,176) in net salvage for $13,794,633 plant retired. The result is negative net salvage of 14 percent ($1,973,850/$13,794,633). Recent trends have shown indications of negative 39 percent, therefore, it was determined that based on industry ranges, historical indications and Company expectations, that negative 20 percent was the most appropriate estimate. The negative 20 percent estimate balances the overall average of 14 percent and more recent averages of negative 39 percent.

My calculation of the annual depreciation related to original cost of gas utility plant at December 31, 2017 for Account 2763 is presented on pages IX-14 and IX-15 of Exhibit JJS-1. The calculation is based on the 70-R3 survivor curve, 20% 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 Table 1 on page VI-4.

Q. DESCRIBE HOW THE COMPANY'S NATURAL GAS AMI/AMR GAS MODULES ARE TREATED IN THE DEPRECIATION STUDY?

A. The natural gas advanced metering infrastructure/automated meter reading modules (AMI/AMR) are accounted for within Account 2970 – Communication Equipment. The proposed life for this account is 15 years. This is consistent with the

useful/depreciable life approved for the AMI/AMR modules as part of Case No. 2016-152 (AMI Deployment Case).

Q. HAVE YOU DEVELOPED RATES FOR FUTURE ASSETS?

A. Yes. There are plans to add new assets to Account 2911, Office Furniture and Equipment and Account 2921, Transportation Equipment – Trailers. The existing assets are fully depreciated. The rates for these assets will be based on the amortization period or interim survivor curve for each account presented on page VI-4 of Exhibit JJS-1. Additionally, new rates were developed for assets in Account 2920 and Account 2960 which currently do not have existing assets. The assets will be based on the interim survivor curve and net salvage percent.

The interim survivor curve and net salvage percent for Account 2920 is 12-S3 and 0%, respectively. For Account 2960, the interim survivor curve is 14-R1.5 and the net salvage percent is positive 5%.

III. CONCLUSION

Q. WAS EXHIBIT JJS-1 PREPARED UNDER YOUR DIRECTION AND CONTROL?

A. Yes.

Q. IN YOUR OPINION, ARE THE DEPRECIATION AND AMORTIZATION RATES SET FORTH IN EXHIBIT JJS-1 THE APPROPRIATE RATES FOR THE COMMISSION TO ADOPT IN THIS PROCEEDING FOR DUKE ENERGY KENTUCKY?

A. Yes. These rates appropriately reflect the rates at which the costs of Duke Energy Kentucky's assets are being consumed over their useful lives. These rates are an appropriate basis for setting gas rates in this matter and for the Company to use for booking depreciation and amortization expense going forward.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

VERIFICATION

COMMONWEALTH OF PENNSYLVANIA)
) **SS:**
COUNTY OF CUMBERLAND)

The undersigned, John J. Spanos, Senior Vice President, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

John J. Spanos

John J. Spanos, Affiant

Subscribed and sworn to before me by John J. Spanos on this 9th day of August, 2018.

NOTARY PUBLIC

My Commission Expires: February 20, 2019

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2019
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

APPENDIX A

JOHN SPANOS

DEPRECIATION EXPERIENCE

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College.

Q. DO YOU BELONG TO ANY PROFESSIONAL SOCIETIES?

A. Yes. I am a member and past President of the Society of Depreciation Professionals and a member of the American Gas Association/Edison Electric Institute Industry Accounting Committee.

Q. DO YOU HOLD ANY SPECIAL CERTIFICATION AS A DEPRECIATION EXPERT?

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 1997 and was recertified in August 2003, February 2008 and January 2013.

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; Iowa-American Water Company; New Jersey-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; Duke Energy Progress; Northern Indiana Public Service Company; Tennessee-American Water Company; Columbia Gas of Maryland; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas; Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of

Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company; Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; PSE&G Company; Berkshire Gas Company; Alabama Gas Corporation; Mid-Atlantic Interstate Transmission, LLC; SUEZ Water; WEC Energy Group; Rocky Mountain Natural Gas, LLC; Illinois-American Water Company and Northern Illinois Gas Company.

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?

A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission;

the Indiana Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission ("FERC"); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service Commission; Wyoming Public Service Commission; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission; Commonwealth of Massachusetts Department of Public Utilities; Rhode Island Public Utilities 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

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

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
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-com & Ergy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Co.	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Co.	Depreciation
47.	2006	NC Util Cm.		Pub. Service Co. of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	ISO82, ETC. AL	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation
66.	2007	PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007	KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008	TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008	IN URC	43526	Northern Indiana Public Service Co.	Depreciation
75.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008	MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008	PA PUC	2008-20322689	Pennsylvania American Water Co.-Wastewater	Depreciation
80.	2008	NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008	IL CC	ICC-09-166	Peoples Gas, Light and Coke Co.	Depreciation
83.	2009	IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Co.	Depreciation
88.	2009	NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation

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

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

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
122.	2010	NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
125.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011	PA PUC	R-2010-2179103	Lancaster, City of – Bureau of Water	Depreciation
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	Il CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011	OK CC	201100087	Oklahoma Gas & Electric Co.	Depreciation
132.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation
133.	2011	FERC	2011-2232243	Carolina Gas Transmission	Depreciation
134.	2012	WA UTC	UE-120436/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
153.	2012	MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
153.	2012	TX PUC		Aqua Texas	Depreciation
155.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Co.– Atlantic City Electric	Depreciation
157.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013	VA St CC	2013-00020	Virginia Electric and Power Co.	Depreciation
159.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013	PA PUC	2013-2355276	Pennsylvania American Water Co.	Depreciation
161.	2013	NY PSC	13-E-0030, 13-G-0031, 13-S-0032	Consolidated Edison of New York	Depreciation
162.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013	TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013	DC PSC	Case 1103	PHI Service Co. – PEPCO	Depreciation
166.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Co.	Depreciation
167.	2013	FERC	ER13- -0000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013	FERC	ER13- -0000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Co.	Depreciation
172.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013	PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014	IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014	FERC	ER14-	Duquesne Light Company	Depreciation
181.	2014	SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014	WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014	PA PUC	2014-2428304	Hanover, Borough of – Municipal Water Works	Depreciation
184.	2014	PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
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
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	3270-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015	OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
216.	2015	KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015	NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016	WA UTC	Docket UE-17	Puget Sound Energy	Depreciation
219.	2016	NY PSC	Case No. 16-W-0130	Suez Water New York, Inc.	Depreciation
220.	2016	MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016	WI PSC		Wisconsin Public Service Commission	Depreciation
222.	2016	KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016	KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016	OH PUC	Case No. 16-0907-WW-AIR	Aqua Ohio	Depreciation
225.	2016	MD PSC	Case 9417	Columbia Gas of Maryland	Depreciation
226.	2016	KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016	DE PSC	16-0649	Delmarva Power and Light Co. – Electric	Depreciation
228.	2016	DE PSC	16-0650	Delmarva Power and Light Co. – Gas	Depreciation
229.	2016	NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016	PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016	PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016	PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation
233.	2016	PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016	PA PUC	R-2016-2529660	Columbia Gas of PA	Depreciation
235.	2016	KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016	MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016	AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016	PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016	ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016	OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016	ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016	KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016	KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016	IN URC		Indianapolis Power & Light	Depreciation
245.	2016	AL RC	U-16-081	Chugach Electric Association	Depreciation
246.	2017	MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western Massachusetts Electric Company	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
247.	2017	TX PUC	PUC-26831, SOAH 973-17-2686	El Paso Electric Company	Depreciation
248.	2017	WA UT&C	UE-17033 and UG-170034	Puget Sound Energy	Depreciation
249.	2017	OH PUC	Case No. 17-0032-EL-AIR	Duke Energy Ohio	Depreciation
250.	2017	VA SCC	Case No. PUE-2016-00413	Virginia Natural Gas, Inc.	Depreciation
251.	2017	OK CC	Case No. PUD201700151	Oklahoma, Public Service Company of	Depreciation
252.	2017	MD PSC	Case No. 9447	Columbia Gas of Maryland	Depreciation
253.	2017	NC UC	Docket No. E-2, Sub 1142	Duke Energy Progress	Depreciation
254.	2017	VA SCC	Case No. PUR-2017-00090	Dominion Virginia Electric and Power Company	Depreciation
255.	2017	FERC	ER17-1162	MidAmerican Energy Company	Depreciation
256.	2017	PA PUC	R-2017-2595853	Pennsylvania American Water Company	Depreciation
257.	2017	OR PUC	UM1809	Portland General Electric	Depreciation
258.	2017	FERC	ER17-217	Jersey Central Power & Light	Depreciation
259.	2017	FERC	ER17-211	Mid-Atlantic Interstate Transmission, LLC	Depreciation
260.	2017	MN PUC	Docket No. G007/D-17-442	Minnesota Energy Resources Corporation	Depreciation
261.	2017	IL CC	Docket No. 17-0124	Northern Illinois Gas Company	Depreciation
262.	2017	OR PUC	UM1808	Northwest Natural Gas Company	Depreciation
263.	2017	NY PSC	Case No. 17-W-0528	SUEZ Water Owego-Nichols	Depreciation
264.	2017	MO PSC	GR-2017-0215	Laclede Gas Company	Depreciation
265.	2017	MO PSC	GR-2017-0216	Missouri Gas Energy	Depreciation
266.	2017	ILL CC	Docket No. 17-0337	Illinois-American Water Company	Depreciation
267.	2017	FERC	Docket No. ER17-___	PPL Electric Utilities Corporation	Depreciation
268.	2017	IN URC	Cause No. 44988	Northern Indiana Public Service Company	Depreciation
269.	2017	NJ BPU	BPU Docket No. WR17090985	New Jersey American Water Company, Inc.	Depreciation
270.	2017	RI PUC	Docket No. 4800	SUEZ Water Rhode Island	Depreciation
271.	2017	OK CC	Cause No. PUD 201700496	Oklahoma Gas and Electric Company	Depreciation
272.	2017	NJ BPU	ER18010029 & GR18010030	Public Service Electric and Gas Company	Depreciation
273.	2017	NC Util Com.	Docket No. E-7, SUB 1146	Duke Energy Carolinas, LLC	Depreciation
274.	2017	KY PSC	Case No. 2017-00321	Duke Energy Kentucky, Inc.	Depreciation
275.	2017	MA DPU	D.P.U. 18-40	Berkshire Gas Company	Depreciation
276.	2018	IN IURC	Cause No. 44992	Indiana-American Water Company, Inc.	Depreciation
277.	2018	IN IURC	Cause No. 45029	Indianapolis Power and Light	Depreciation
278.	2018	NC Util Com.	Docket No. W-218, Sub 497	Aqua North Carolina, Inc.	Depreciation

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

	Year	Jurisdiction	Docket No.	Client Utility	Subject
279.	2018	PA PUC	Docket No. R-2018-2647577	Columbia Gas of Pennsylvania, Inc.	Depreciation
280.	2018	OR PUC	Docket UM 1933	Avista Corporation	Depreciation
281.	2018	WA UTC	Docket No. UE-108167	Avista Corporation	Depreciation
282.	2018	ID PUC	AVU-E-18-03, AVU-G-18-02	Avista Corporation	Depreciation
283.	2018	IN URC	Cause No. 45039	Citizens Energy Group	Depreciation
284.	2018	FERC	Docket No. ER18-	Duke Energy Progress	Depreciation
285.	2018	PA PUC	Docket No. R-2018-	Duquesne Light Company	Depreciation
286.	2018	MD PSC	Case No. 948	Columbia Gas of Maryland	Depreciation
287.	2018	MA DPU	D.P.U. 18-45	Columbia Gas of Massachusetts	Depreciation
288.	2018	OH PUC	Case No. 18-0299-GA-ALT	Vectren Energy Delivery of Ohio	Depreciation
289.	2018	PA PUC	Docket No. R-2018-3000834	SUEZ Water Pennsylvania Inc.	Depreciation
290.	2018	MD PSC	Case No.	Maryland-American Water Company	Depreciation
291.	2018	PA PUC	Docket No. R-2018-3000019	The York Water Company	Depreciation

DUKE ENERGY® KENTUCKY

2017 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2017

Prepared by:

Gannett Fleming

Excellence Delivered ***As Promised***

DUKE ENERGY KENTUCKY, INC.

Cincinnati, Ohio

2017 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2017

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Harrisburg, Pennsylvania

Gannett Fleming

Excellence Delivered ***As Promised***

August 2, 2018

Duke Energy Kentucky, Inc.
139 East Fourth Street
Cincinnati, OH 45201-0960

Attention Cynthia Lee
Director, Asset Accounting

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the gas plant of Duke Energy Kentucky, Inc. as of December 31, 2017. 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 and accrued depreciation.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
Senior Vice President

JJS:mle

063648.000

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DUKE ENERGY KENTUCKY, INC.

DEPRECIATION STUDY

EXECUTIVE SUMMARY

Pursuant to Duke Energy Kentucky, Inc.'s ("Duke Energy Kentucky" or "Company") request, Gannett Fleming Valuation and Rate Consultants, LLC ("Gannett Fleming") conducted a depreciation study related to the gas plant as of December 31, 2017. 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.

Duke Energy Kentucky's accounting policy has not changed since the last depreciation study was prepared. However, there has been a change in depreciation procedure, and a change in plans of assets, particularly at the production facility. Also, the service lives for many transmission and distribution plant assets have become slightly longer.

Gannett Fleming recommends the calculated annual depreciation accrual rates set forth herein apply specifically to gas plant in service as of December 31, 2017 as summarized by Table 1 of the study. Supporting analysis and calculations are provided within the study.

The study results set forth an annual depreciation expense of $11.6 million when applied to depreciable plant balances as of December 31, 2017. 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, 2017	PROPOSED RATE	PROPOSED EXPENSE
Gas Plant			
Production Plant	$ 7,702,420.76	7.90	$ 608,516
Distribution Plant	476,079,197.73	2.24	10,652,190
General Plant	4,583,184.72	7.29	333,939
Total	**$488,364,803.21**	**2.37**	**$11,594,645**

PART I. INTRODUCTION

DUKE ENERGY KENTUCKY, INC.
DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Duke Energy Kentucky, Inc. ("Company"), to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of gas plant as of December 31, 2017. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to gas plant in service as of December 31, 2017.

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 2017, a review of Company practice and outlook as they relate to plant operation and retirement, and consideration of current practice in the gas industry, including knowledge of service lives and net salvage estimates used for other gas companies.

PLAN OF REPORT

Part I, Introduction, contains statements with respect to the plan of the report, and the basis of the study. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and 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. 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 throughout the United States, including Kentucky. 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-8 of the report.

Service Life and Net Salvage Estimates

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

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

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

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

SURVIVOR CURVES

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

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

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

Iowa Type Curves

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

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

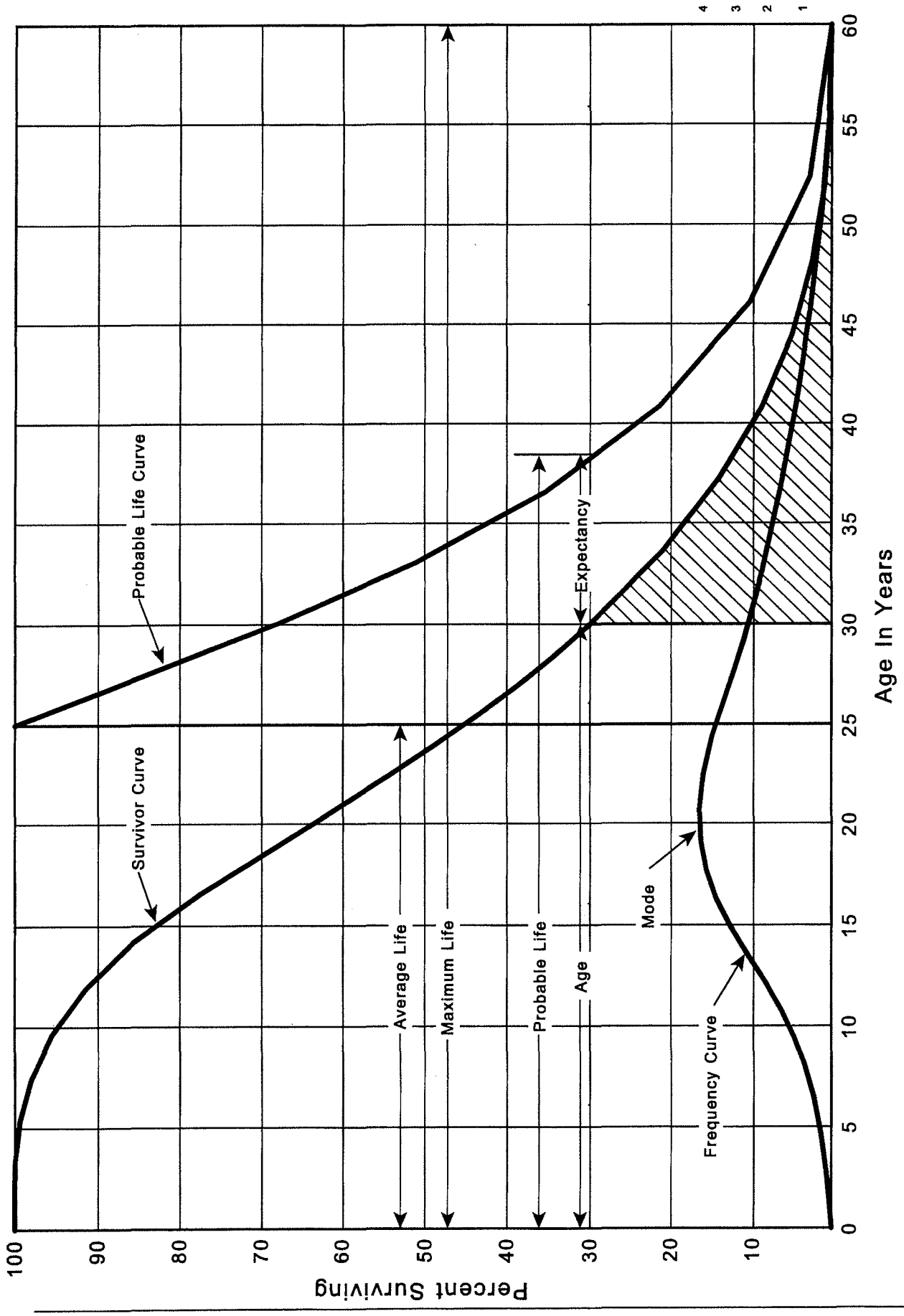


Figure 1. A Typical Survivor Curve and Derived Curves

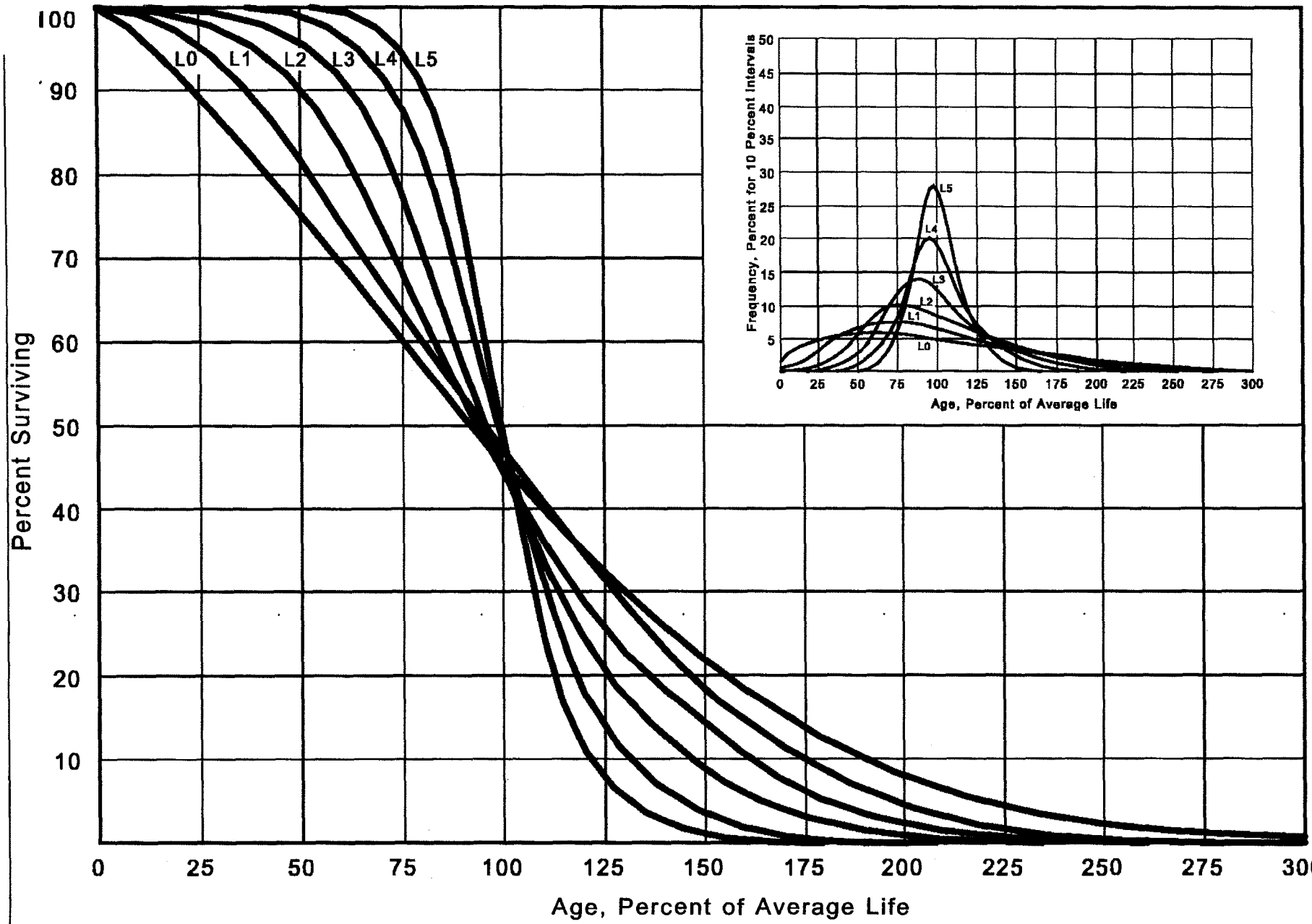


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

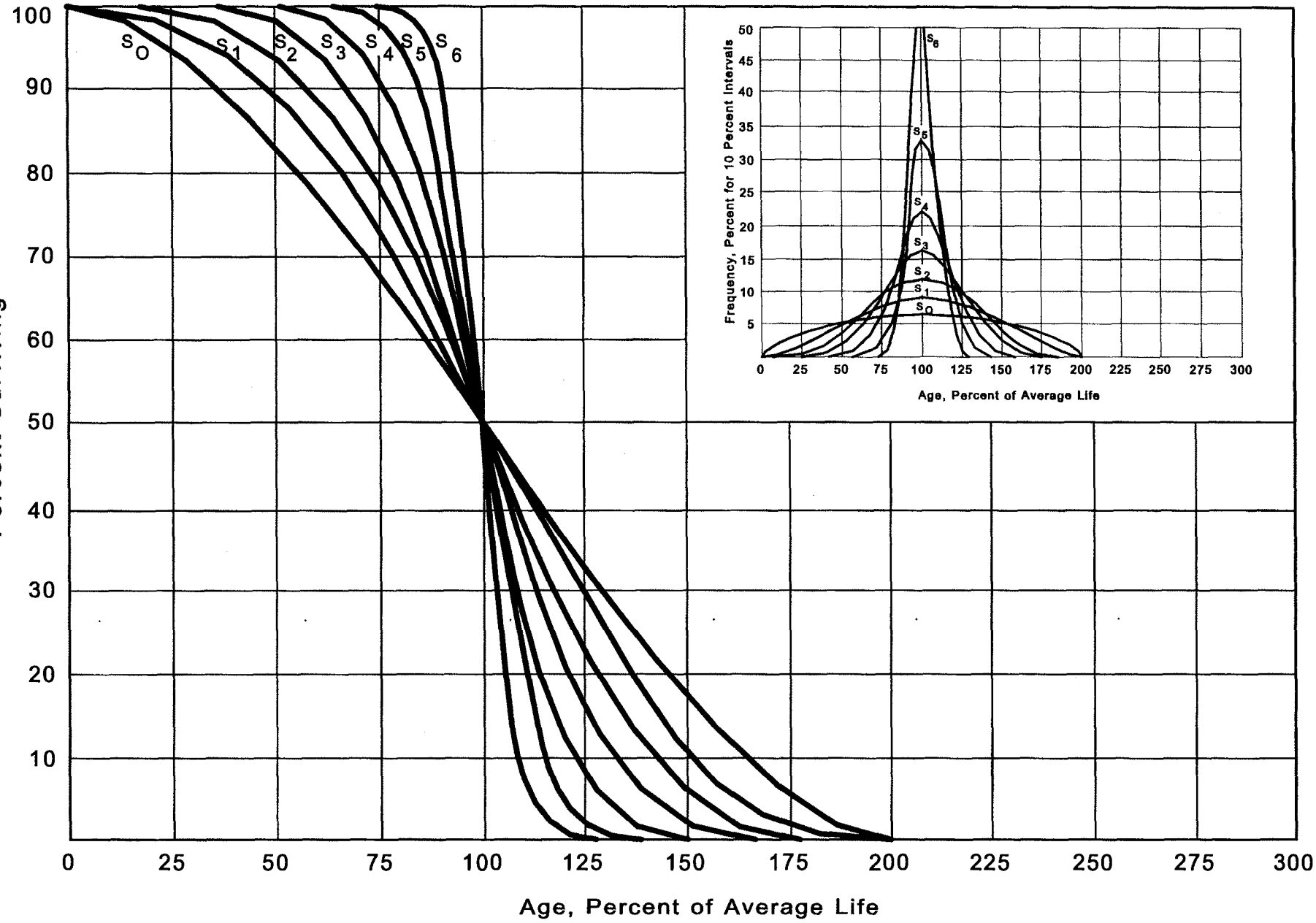


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

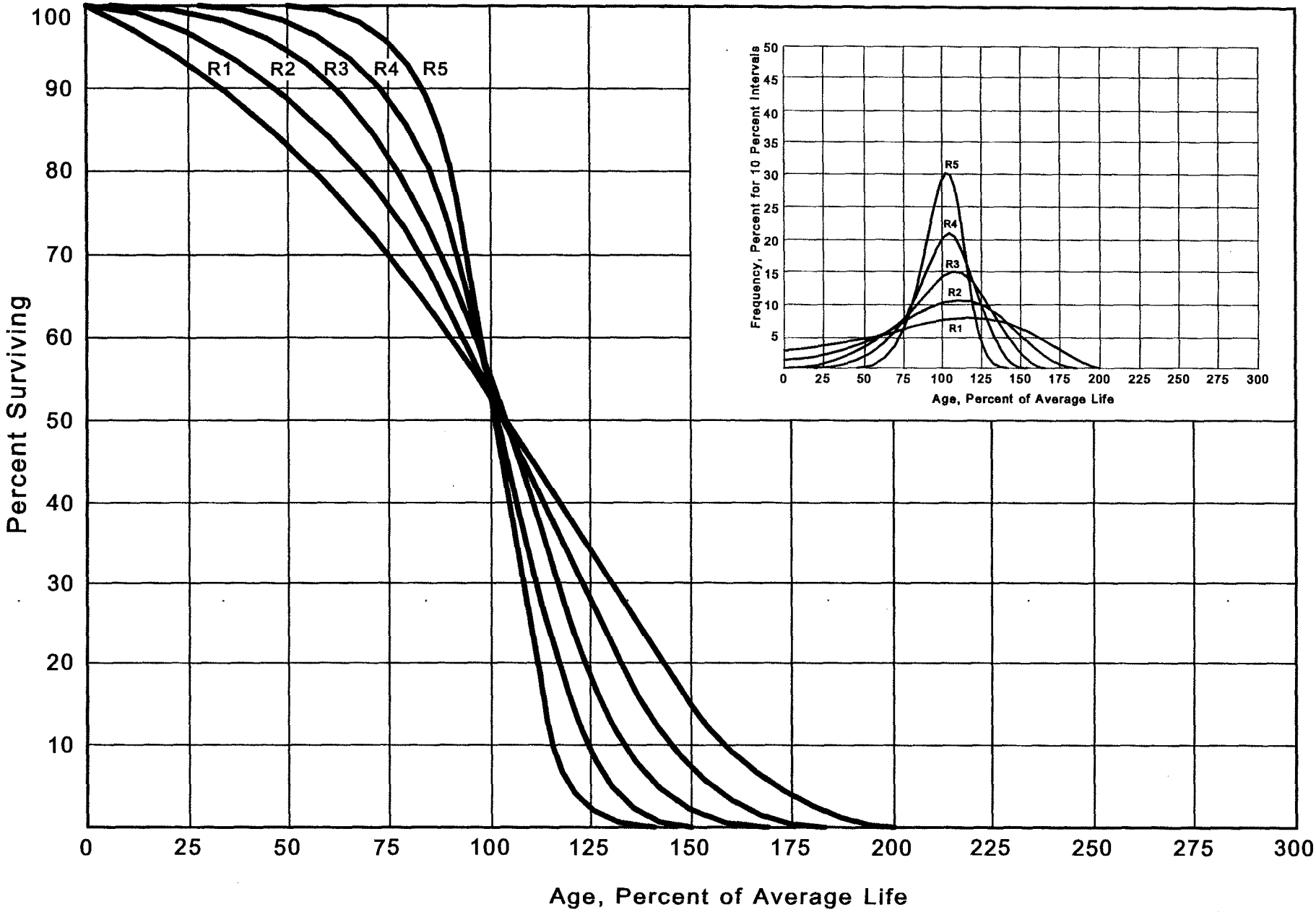


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

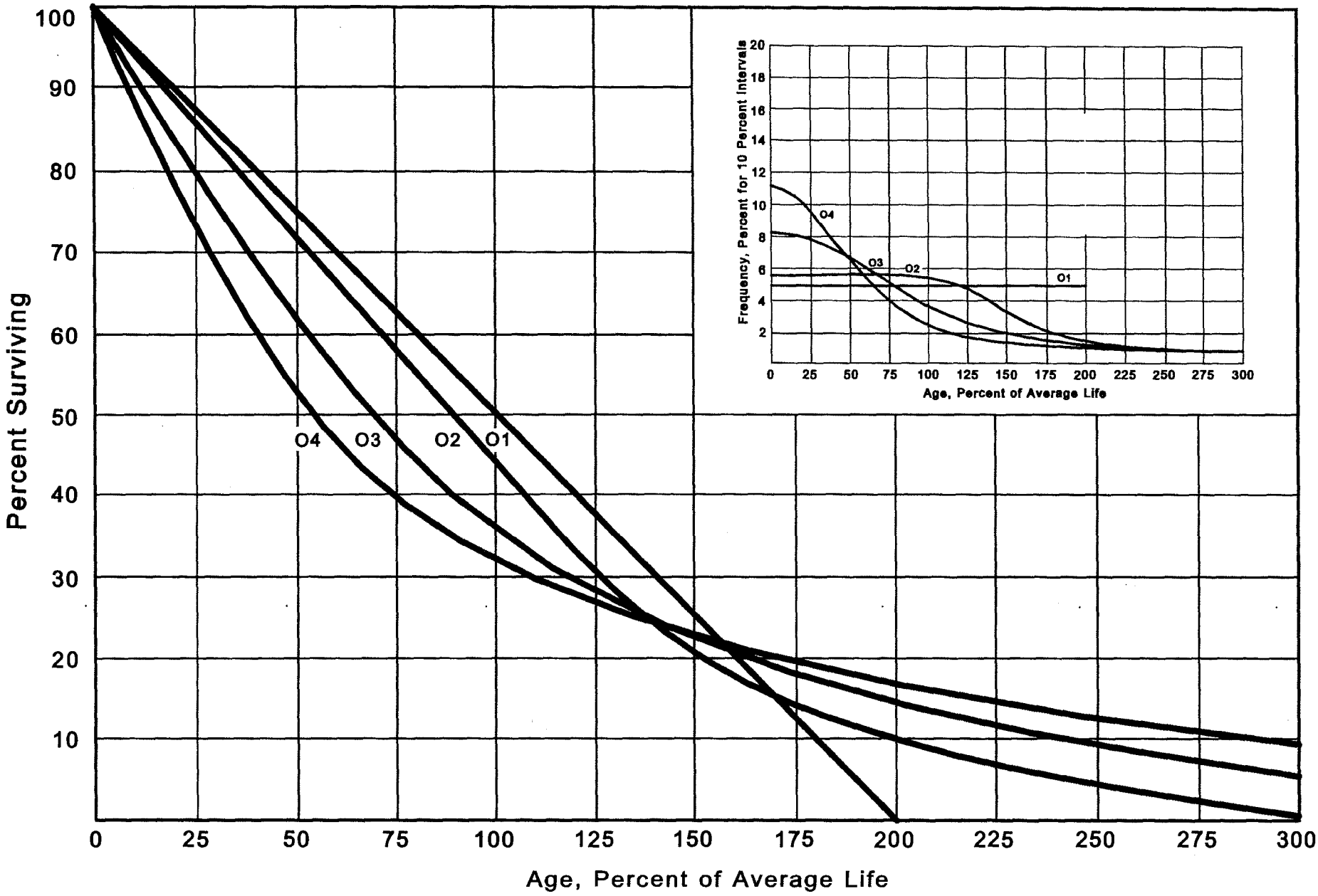


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

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

Retirement Rate Method of Analysis

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

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

---

[1]Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.
[2]Winfrey, Robley, Supra Note 1.
[3]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.
[4]Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2008-2017 during which there were placements during the years 2003-2017. 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 2003 were retired in 2008. 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 2008 retirements of 2003 installations and ending with the 2017 retirements of the 2012 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 2008-2017
SUMMARIZED BY AGE INTERVAL

Experience Band 2008-2017

Placement Band 2003-2017

Year Placed	Retirements, Thousands of Dollars During Year										Total During Age Interval	Age Interval
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2003	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2004	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2005	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2006	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2007	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2008	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2009		5	11	12	13	14	15	16	18	20	113	7½-8½
2010			6	12	13	15	16	17	19	19	124	6½-7½
2011				6	13	15	16	17	19	19	131	5½-6½
2012					7	14	16	17	19	20	143	4½-5½
2013						8	18	20	22	23	146	3½-4½
2014							9	20	22	25	150	2½-3½
2015								11	23	25	151	1½-2½
2016									11	24	153	½-1½
2017										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2008-2017
SUMMARIZED BY AGE INTERVAL

Experience Band 2008-2017 Placement Band 2003-2017

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars During Year										Total During Age Interval	Age Interval
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2003	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2004	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2005	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2006	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2007	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2008	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2009		-	-	-	-	-	-	-	-	-	6	7½-8½
2010			-	-	-	-	-	-	-	-	-	6½-7½
2011				-	-	-	-	(12)[b]	-	-	-	5½-6½
2012					-	-	-	-	22[a]	-	-	4½-5½
2013						-	-	(19)[b]	-	-	10	3½-4½
2014							-	-	-	-	-	2½-3½
2015								-	-	(102)[c]	(121)	1½-2½
2016									-	-	-	½-1½
2017											-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

[a] Transfer Affecting Exposures at Beginning of Year
[b] Transfer Affecting Exposures at End of Year
[c] Sale with Continued Use
Parentheses Denote Credit Amount.

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

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2008 through 2017 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 2013 are calculated in the following manner:

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

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2008-2017
SUMMARIZED BY AGE INTERVAL

Experience Band 2008-2017

Placement Band 2003-2017

Year Placed	Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year										Total at Beginning of Age Interval	Age Interval
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2003	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2004	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2005	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2006	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2007	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2008	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2009		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2010			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2011				580[a]	574	561	546	530	501	482	3,057	5½-6½
2012					660[a]	653	639	623	628	609	3,789	4½-5½
2013						750[a]	742	724	685	663	4,332	3½-4½
2014							850[a]	841	821	799	4,955	2½-3½
2015								960[a]	949	926	5,719	1½-2½
2016									1,080[a]	1,069	6,579	½-1½
2017										1,220[a]	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

[a]Additions during the year

For the entire experience band 2008-2017, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

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

Original Life Table

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

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

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

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

Experience Band 2008-2017 Placement Band 2003-2017

(Exposure and Retirement Amounts are in Thousands of Dollars)

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

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.
Column 3 from Schedule 1, Column 12, Retirements for Each Year.
Column 4 = Column 3 Divided by Column 2.
Column 5 = 1.0000 Minus Column 4.
Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

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

Smoothing the Original Survivor Curve

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

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

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

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

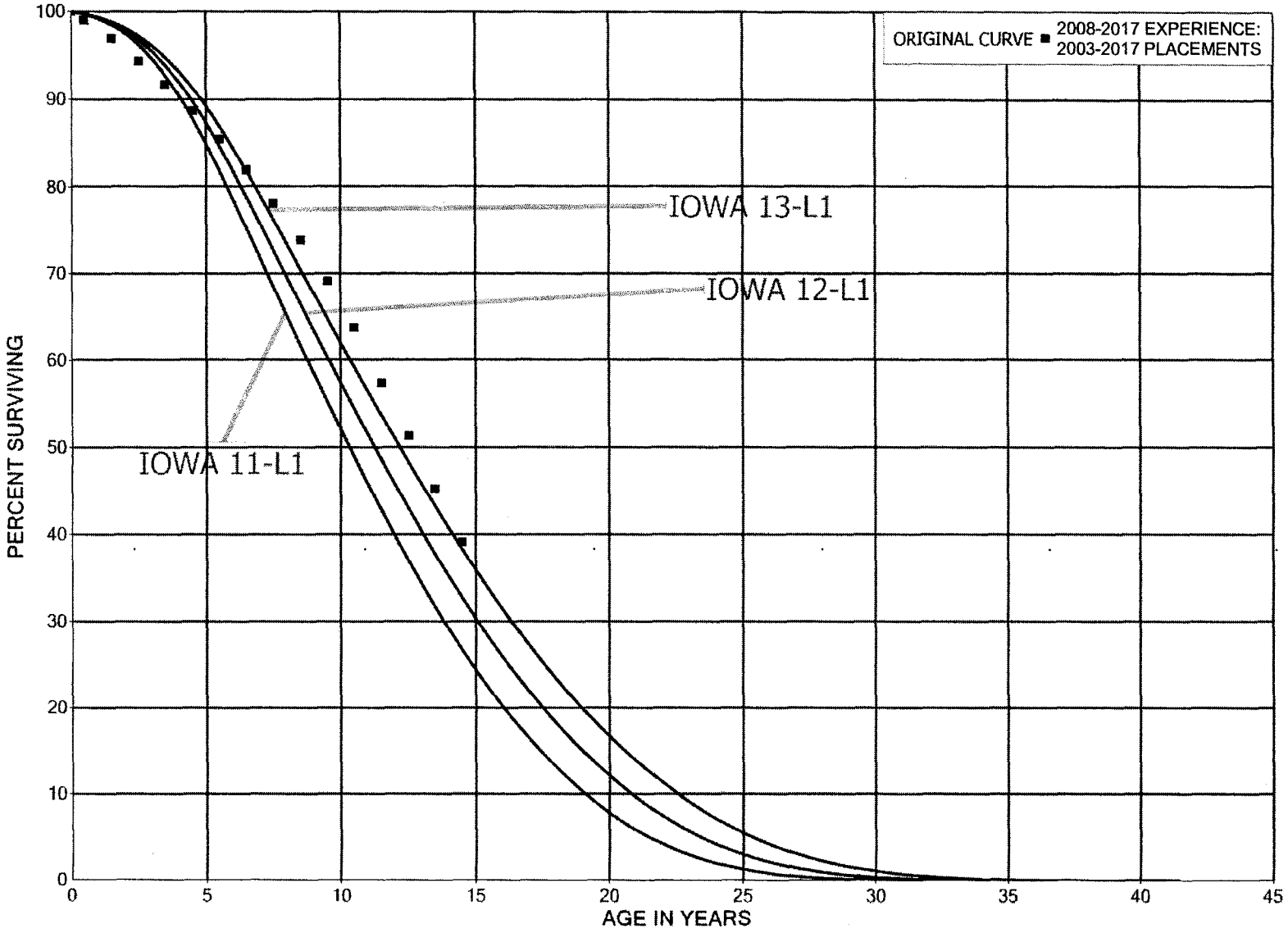


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

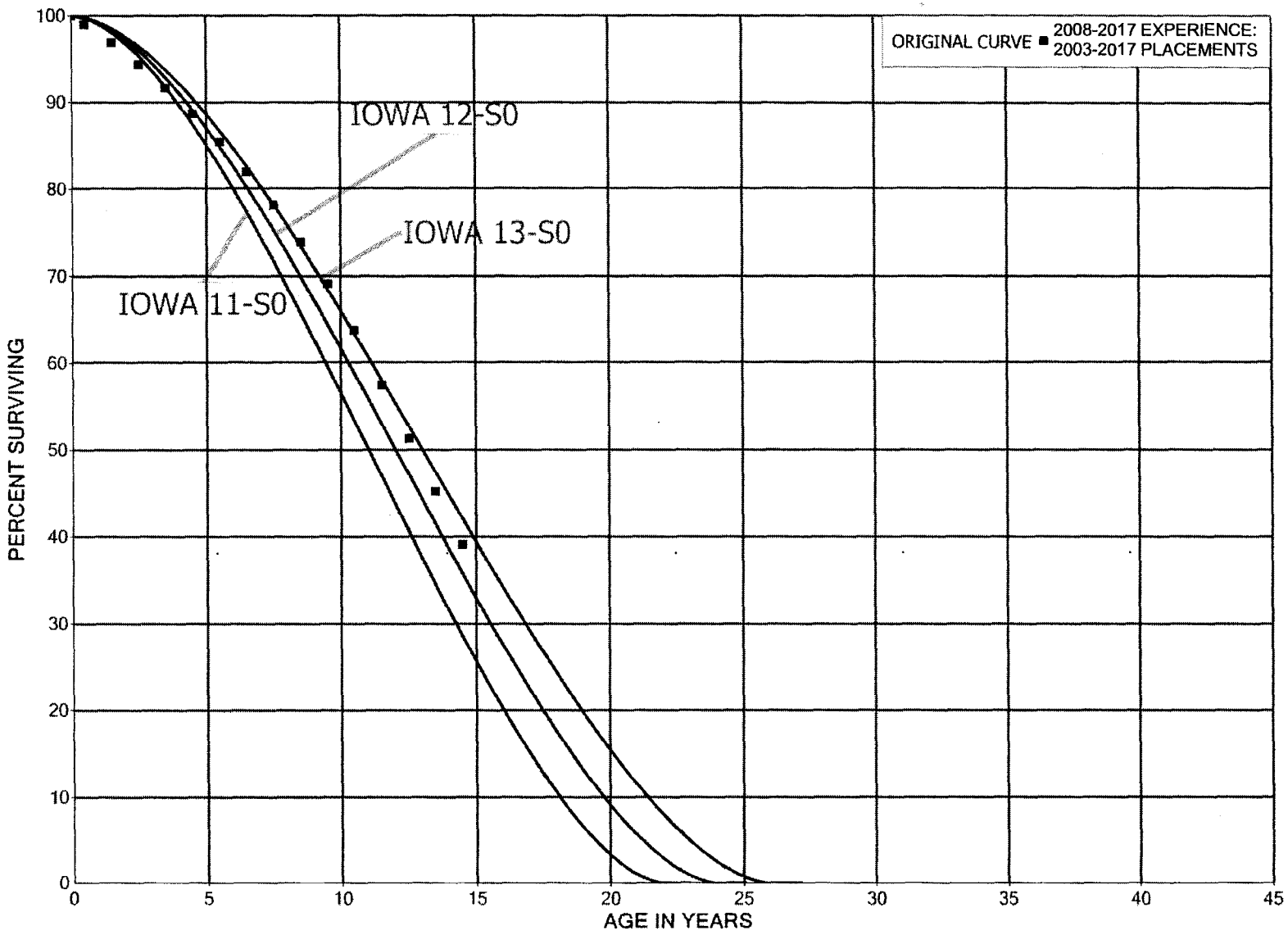


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

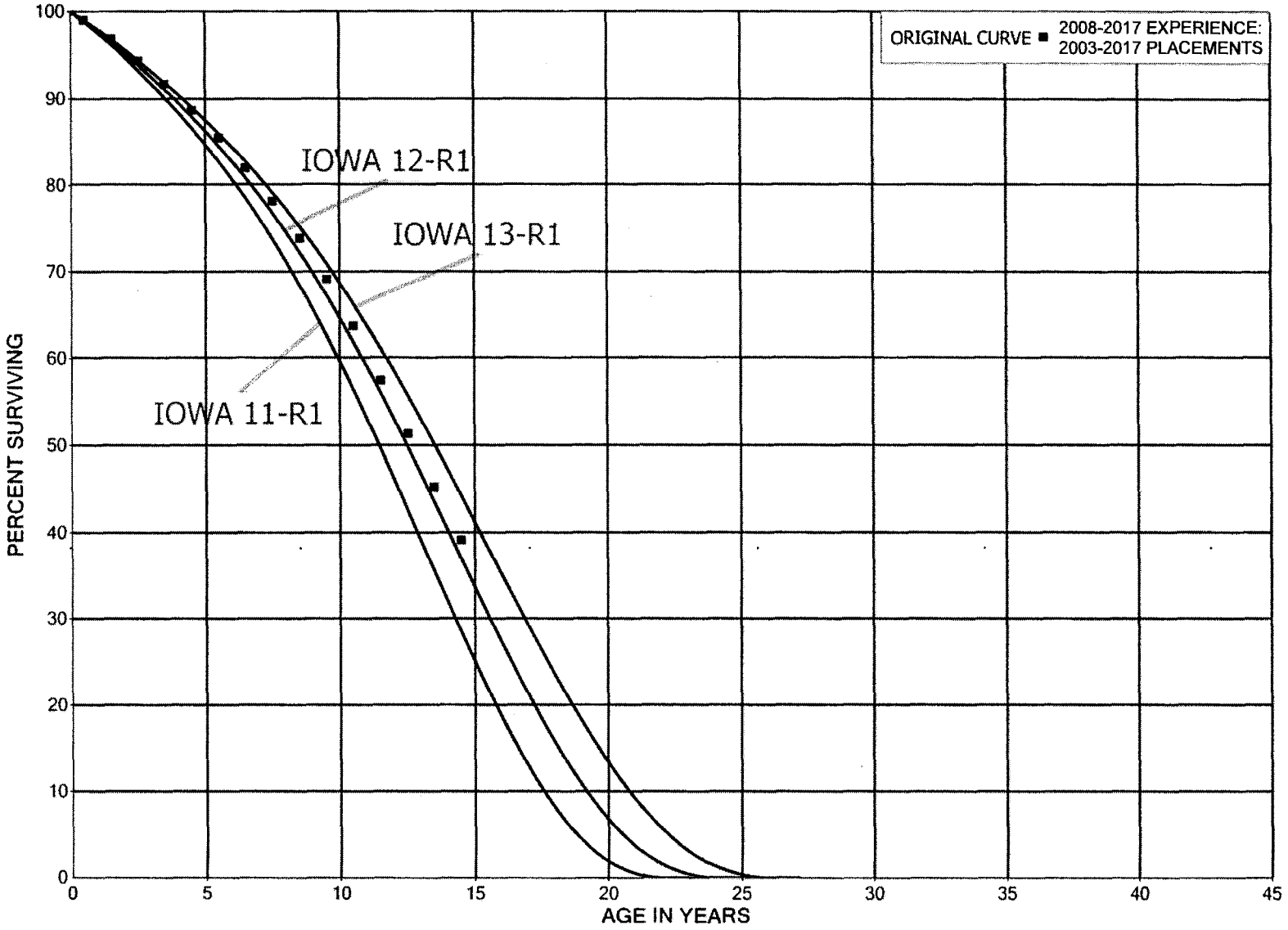
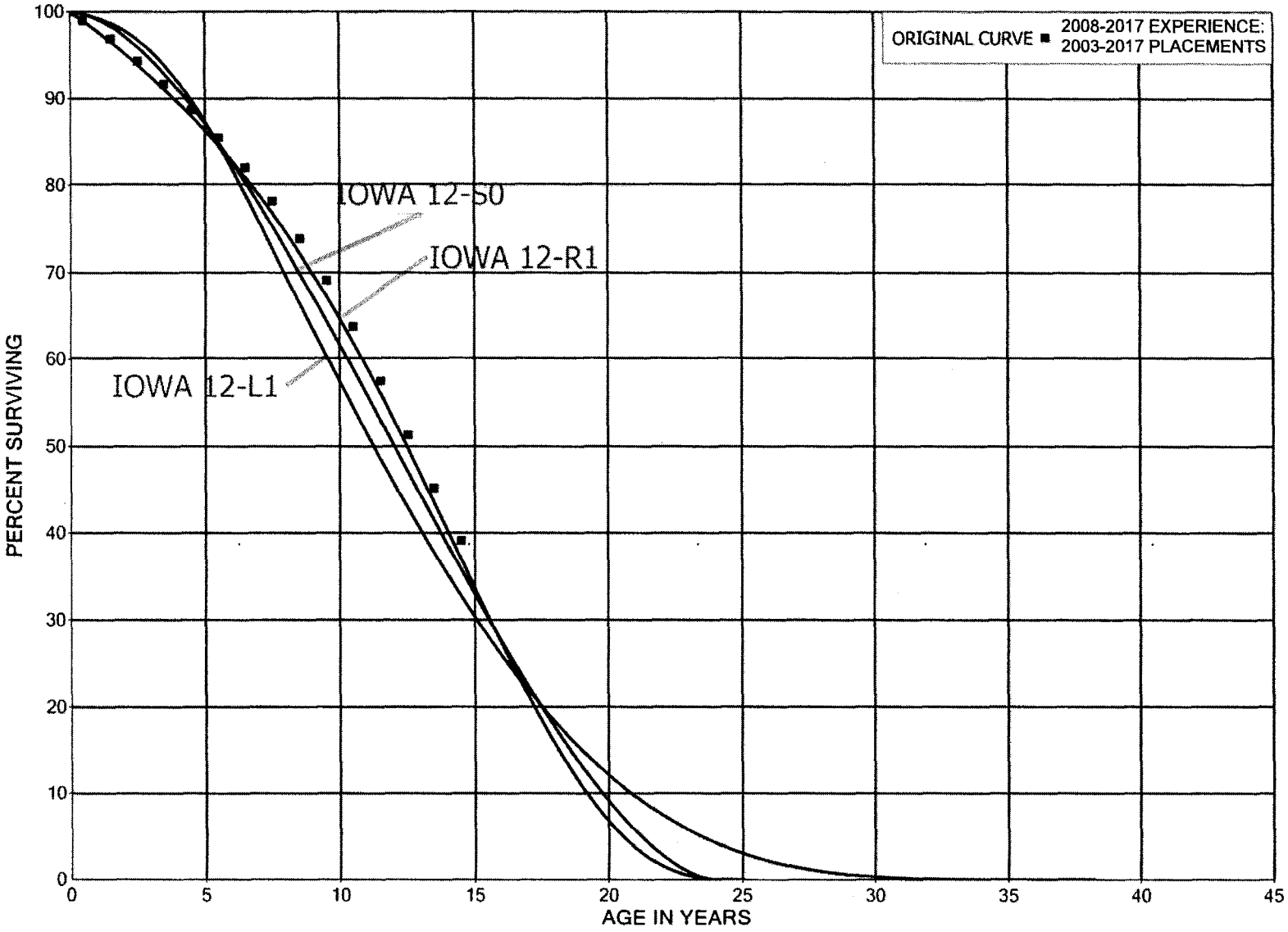


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

FIELD TRIPS

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

The following is a list of the locations visited during the most recent field trip.

March 13, 2018
Erlanger Measuring and Regulating Station
Erlanger Caverns
Foster City Gate Station
Bracken Measuring and Regulating Station
Arcadia District Regulator Station
Mineola District Regulator Station
Warsaw District Regulator Station

SERVICE LIFE ANALYSIS

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

For many of the plant accounts and subaccounts for which survivor curves were estimated, the statistical analyses using the retirement rate method resulted in good to excellent indications of the survivor patterns experienced. These accounts represent 96 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.

PRODUCTION PLANT
- 2110 Liquefied Petroleum Gas Equipment

DISTRIBUTION PLANT
- 2750 Structures and Improvements
- 2761 Mains – Cast Iron, Copper and All Valves
- 2762 Mains – Steel
- 2763 Mains – Plastic
- 2765 Mains – Steel Feeder Lines
- 2780 Measuring and Regulating Station Equipment – General
- 2801 Services – Cast Iron, Copper and All Valves
- 2802 Services – Steel
- 2803 Services – Plastic
- 2810 Meters
- 2820 Meter Installations
- 2840 House Regulator Installations
- 2850 Industrial Measuring and Regulating Station Equipment
- 2870 Other Equipment
- 2871 Street Lighting Equipment

GENERAL PLANT
- 2921 Transportation Equipment – Trailers

The combined analyses for Account 2762, Mains – Steel and Account 2765 – Mains – Steel Feeder Lines, and the analyses for Account 2803, Services – Plastic, are used to illustrate the manner in which the study was conducted for the groups in the preceding list. The combined Accounts 2762 and 2765 represents 24 percent, and Account 2803 represents 33 percent, of the total depreciable plant. Aged plant accounting data have been compiled for the years 1960 through 2017 and 1992 through 2017. These data have been coded in the course of the Company's normal record keeping according to account or property group, type of transaction, year in which the transaction took place, and year in which the gas plant was placed in service. The retirements, other plant transactions, and plant additions were analyzed by the retirement rate method.

The survivor curve estimate for the combined Account 2762 and 2765 is based on the statistical indications for the period 1960-2017 and 1988-2017. The Iowa 65-R2.5 is an excellent fit of the original survivor curve. The 65 year service life is within the typical service life range of 55 to 70 years for steel mains. The 65-year life reflects the Company's continued practices of heavy retirements after age 60. The previous estimate was the Iowa 55-R2.5.

The survivor curve estimate for Account 2803, Services – Plastic, is the 48-S0.5 and is based on the statistical indication for the periods 1972 through 2017 and 1998 through 2017. The 48-S0.5 is an excellent fit of the significant portion of the original survivor curve as set forth on page VII-59 consistent with management outlook for a continuation of historical experience, and at the upper end of the typical service life range of 40 to 50 years for plastic services.

Life Span Estimates

The life span technique was used for the Company's Production accounts. The life span procedure is appropriate for these accounts since many of the assets within the plant will be retired concurrently. A probable retirement date was estimated for the production facility and cavern. A life span for the Production Plant was the result of considering experienced life spans of similar facilities, the age of surviving units, general operating characteristics of the facility, major refurbishing, and discussions with management personnel concerning the probable long-term outlook for the facility.

The depreciable life span estimate for the Erlanger Gas Plant and Constance Cavern is 63 years. The typical range of life spans for such facilities in the past has been 50 to 70 years. This life span represents the expected depreciable life of the facility based on current company plans.

The life span and probable retirement date used for production facilities is as follows:

Depreciable Group	Major Year in Service	Depreciable Life Date	Depreciable Life Span
Production Plant			
Erlanger/Constance Cavern	1961	2024	63

The survivor curve estimates for the remaining accounts were based on judgment incorporating the statistical analyses and previous studies for this and other gas utilities.

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

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

PART IV. NET SALVAGE CONSIDERATIONS

PART IV. NET SALVAGE CONSIDERATIONS

SALVAGE ANALYSIS

The estimates of net salvage by account were based in part on historical data compiled for the years 1980 through 2017. 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 2017 contributed significantly toward the net salvage estimates for 18 plant accounts, representing 97 percent of the depreciable plant, as follows:

PRODUCTION PLANT
- 2050 Structures and Improvements
- 2110 Liquefied Petroleum Gas Equipment

DISTRIBUTION PLANT
- 2761 Mains – Cast Iron, Copper and All Valves
- 2762 Mains – Steel
- 2763 Mains – Plastic

2765 Mains – Steel Feeder Lines
2780 Measuring and Regulating Station Equipment – General
2781 Measuring and Regulating Station Equipment – Electronic
2782 Measuring and Regulating Station Equipment – District
2801 Services – Cast Iron, Copper and All Valves
2802 Services – Steel
2803 Services – Plastic
2810 Meters
2820 Meter Installations
2840 House Regulator Installations
2850 Industrial Measuring and Regulating Station Equipment
2851 Industrial Measuring and Regulating Station Equipment - Electronic

GENERAL PLANT
2921 Transportation Equipment - Trailers

The combined analyses of all subaccounts in Account 2760, Mains, 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 2017 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 2015-2017 periods were computed to smooth the annual amounts.

Cost of removal was high during the early 1990s and in the years 1998, 2006, 2013 and 2014. The high removal cost in the early 1990s related to practices during that time. The high removal in 2006, 2013 and 2014 related to the location of the mains which required additional labor hours. Cost of removal for the most recent five years averaged 39 percent.

Gross salvage has diminished drastically since 1999. The most recent five-year average of 0 percent gross salvage reflects recent trends of minimal salvage value for mains.

The net salvage percent based on the overall period 1980 through 2017 is 14 percent negative net salvage. The range of estimates made by other gas companies for mains is negative 15 to negative 40 percent. The net salvage estimate for mains is negative 20 percent, is within the range of estimates for other gas companies and reflects the overall experience for negative net salvage.

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 decommissioning analyses performed by various engineering organizations. The interim net salvage estimates were based in part on 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 of negative 9 percent was used for production plant accounts.

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 final retirements. These are shown on Table 1 in the Net Salvage Statistics section on page VIII-2. 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 page VIII-3.

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

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:

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

The accrued depreciation is:

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

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 2017, 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, 2017, 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:

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

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

Account		Amortization Period, Years
2910	Office Furniture and Equipment	20
2911	Electric Data Processing	5
2940	Tools, Shop and Garage Equipment	25
2970	Communication Equipment	15
2980	Miscellaneous Equipment	20

For the purpose of calculating annual amortization amounts as of December 31, 2017, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to

the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

PART VI. RESULTS OF STUDY

PART VI. RESULTS OF STUDY

QUALIFICATION OF RESULTS

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

The annual depreciation accrual rates are applicable specifically to the gas plant in service as of December 31, 2017. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2017, is reasonable for a period of three to five years.

DESCRIPTION OF DETAILED TABULATIONS

Table 1 sets forth a summary of the results of the study as applied to the original cost of gas plant at December 31, 2017. These results are presented on pages VI-4 and VI-5 of this report. The schedule sets forth the original cost, the book depreciation reserve, future accruals, the calculated annual depreciation rate and amount, and the composite remaining life related to gas plant.

The service life estimates were based on judgment that incorporated statistical analysis of retirement data, discussions with management and consideration of estimates made for other gas utilities. The results of the statistical analysis of service life are

presented in the section beginning on page VII-2, within the supporting documents of this report.

For each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table(s) plotted on the chart. The survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the curve type designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. The titles of the chart indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which 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, 2017 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.

DUKE ENERGY KENTUCKY
GAS PLANT

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2017

	ACCOUNT	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2017	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
	PRODUCTION PLANT								
2041	RIGHTS OF WAY	50-SQ *	0	24,458.90	24,439	20	4	0.02	5.0
2050	STRUCTURES AND IMPROVEMENTS	55-R4 *	(10)	1,722,763.66	1,419,183	475,857	80,887	4.70	5.9
2110	LIQUEFIED PETROLEUM GAS EQUIPMENT	55-R2.5 *	(10)	5,955,198.20	2,977,438	3,573,280	527,625	8.86	6.8
	TOTAL PRODUCTION PLANT			7,702,420.76	4,421,060	4,049,157	608,516	7.90	6.7
	DISTRIBUTION PLANT								
2741	RIGHTS OF WAY	70-R4	0	1,095,119.18	642,232	452,887	11,381	1.04	39.8
2750	STRUCTURES AND IMPROVEMENTS	60-R2	(5)	555,988.27	145,936	437,851	7,995	1.44	54.8
	MAINS								
2761	CAST IRON, COPPER AND ALL VALVES	47-R2.5	(20)	982,749.37	(122,219)	1,301,518	85,500	8.70	15.2
2762	STEEL	65-R2.5	(20)	83,504,429.58	39,512,552	60,692,763	1,373,621	1.64	44.2
2763	PLASTIC	70-R3	(20)	149,291,612.99	47,525,256	131,624,679	2,279,170	1.53	57.8
2765	STEEL FEEDER LINES	65-R2.5	(20)	34,279,326.54	15,918,386	25,216,805	509,068	1.49	49.5
	TOTAL MAINS			268,058,118.48	102,833,976	218,835,765	4,247,359	1.58	
2780	MEASURING AND REGULATING STATION EQUIPMENT - GENERAL	52-R1.5	(25)	6,402,913.06	2,338,883	5,664,759	130,926	2.04	43.3
2781	MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC	25-S2	(25)	1,136,972.88	495,731	925,485	72,375	6.37	12.8
2782	MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT	55-R2	(25)	2,302,852.69	1,014,222	1,864,343	37,922	1.65	49.2
	SERVICES								
2801	CAST IRON, COPPER AND ALL VALVES	40-R2	(25)	3,529,256.01	515,332	3,896,238	186,127	5.27	20.9
2802	STEEL	42-R2	(25)	8,822,095.39	2,270,659	8,756,960	294,302	3.34	29.8
2803	PLASTIC	48-S0.5	(25)	146,553,942.78	45,265,564	137,926,864	3,500,301	2.39	39.4
	TOTAL SERVICES			158,905,294.18	48,051,556	150,580,062	3,980,730	2.51	
2810	METERS	17-L0	0	14,160,599.88	(4,098,109)	18,258,709	1,524,720	10.77	12.0
2820	METER INSTALLATIONS	30-S0	0	10,424,840.45	2,316,474	8,108,367	398,018	3.82	20.4
2830	HOUSE REGULATORS	42-R1.5	0	6,650,479.43	2,104,614	4,545,865	142,834	2.15	31.8
2840	HOUSE REGULATOR INSTALLATIONS	50-R3	0	5,816,407.30	2,351,040	3,465,368	92,360	1.59	37.5
2850	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	42-R2	(10)	455,084.24	425,708	74,885	2,712	0.60	27.6
2851	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC	25-R2.5	(10)	64,790.82	47,089	24,181	2,361	3.64	10.2
2870	OTHER EQUIPMENT	17-R3	0	21,446.76	22,692	(1,245)	0	-	-
2871	STREET LIGHTING EQUIPMENT	35-S2.5	0	28,290.11	20,415	7,875	497	1.76	15.8
	TOTAL DISTRIBUTION PLANT			476,079,197.73	158,712,459	413,245,157	10,652,190	2.24	38.8
	GENERAL PLANT								
2910	OFFICE FURNITURE AND EQUIPMENT	20-SQ	0	13,861.47	13,921	(60)	0	- **	-
2911	OFFICE FURNITURE AND EQUIPMENT - ELECTRONIC DATA PROCESSING	5-SQ	0	310,654.92	75,511	235,144	71,308	22.95	3.3
2921	TRANSPORTATION EQUIPMENT - TRAILERS	14-R1.5	5	65,845.27	64,371	(1,818)	0	- **	-
2940	TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0	1,278,772.08	724,896	553,876	60,153	4.70	9.2
2970	COMMUNICATION EQUIPMENT	15-SQ	0	2,830,460.27	60,972	2,769,488	191,441	6.76	14.5
2980	MISCELLANEOUS EQUIPMENT	20-SQ	0	83,590.71	22,886	60,704	11,037	13.20	5.5
	TOTAL GENERAL PLANT			4,583,184.72	962,558	3,617,334	333,939	7.29	10.8
	TOTAL DEPRECIABLE PLANT			488,364,803.21	164,096,076	420,911,648	11,594,645	2.37	36.3

DUKE ENERGY KENTUCKY
GAS PLANT

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AS OF DECEMBER 31, 2017

	ACCOUNT	SURVIVOR CURVE	NET SALVAGE PERCENT	ORIGINAL COST AS OF DECEMBER 31, 2017	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
	NONDEPRECIABLE AND ACCOUNTS NOT STUDIED								
2030	MISCELLANEOUS INTANGIBLE PLANT			8,728,213.74	4,717,583				
2031	MISCELLANEOUS INTANGIBLE PLANT - 10-YEAR			2,551,238.23	82,444				
2040	LAND AND LAND RIGHTS			117,711.07					
2740	LAND AND LAND RIGHTS			43,358.14	4				
	TOTAL NONDEPRECIABLE AND ACCOUNTS NOT STUDIED			11,440,521.18	4,800,031				
	TOTAL GAS PLANT			499,805,324.39	168,896,107	420,911,648	11,594,645		

* LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE.
** NEW ADDITIONS AFTER JANUARY 1, 2018 WILL HAVE THE FOLLOWING RATES:

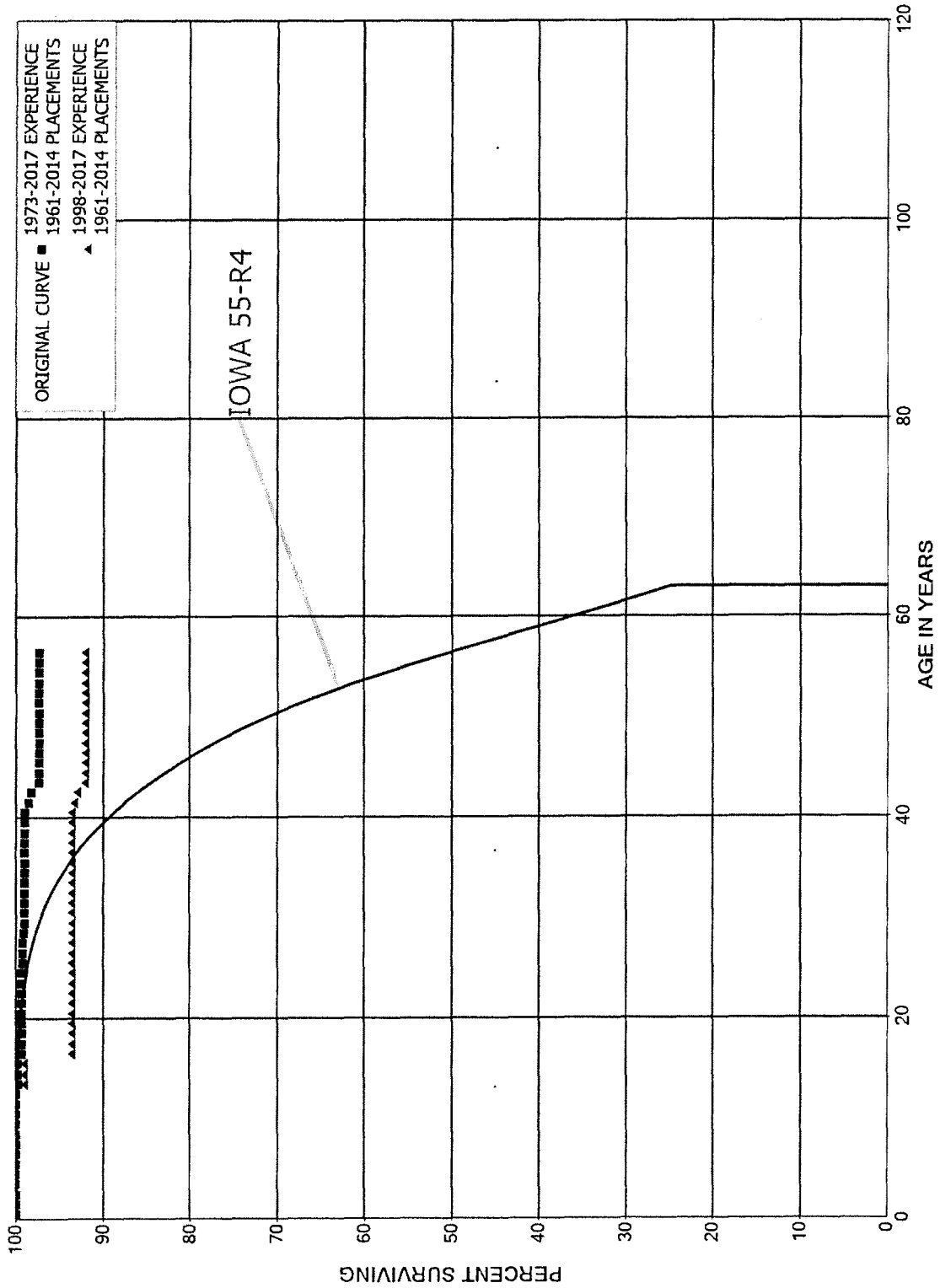
ACCOUNT	RATE
2910 OFFICE FURNITURE AND EQUIPMENT	5.00
2921 TRANSPORTATION EQUIPMENT - TRAILERS	6.99

NOTE: ADDITIONS FOR NEW ACCOUNTS AFTER JANUARY 1, 2018 SHOULD USE THE FOLLOWING RATES:

ACCOUNT	RATE
2920 TRANSPORTATION EQUIPMENT	8.70
2960 POWER OPERATED EQUIPMENT	6.90

PART VII. SERVICE LIFE STATISTICS

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1961-2014 EXPERIENCE BAND 1973-2017

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	642,440		0.0000	1.0000	100.00
0.5	649,082		0.0000	1.0000	100.00
1.5	672,745		0.0000	1.0000	100.00
2.5	680,084		0.0000	1.0000	100.00
3.5	622,084		0.0000	1.0000	100.00
4.5	622,084		0.0000	1.0000	100.00
5.5	524,799		0.0000	1.0000	100.00
6.5	378,423		0.0000	1.0000	100.00
7.5	378,423		0.0000	1.0000	100.00
8.5	378,423		0.0000	1.0000	100.00
9.5	380,532		0.0000	1.0000	100.00
10.5	380,532		0.0000	1.0000	100.00
11.5	1,601,531	610	0.0004	0.9996	100.00
12.5	1,600,921	3,739	0.0023	0.9977	99.96
13.5	1,597,183		0.0000	1.0000	99.73
14.5	1,464,923		0.0000	1.0000	99.73
15.5	1,413,433	6,368	0.0045	0.9955	99.73
16.5	1,399,233		0.0000	1.0000	99.28
17.5	1,372,766	368	0.0003	0.9997	99.28
18.5	1,361,191		0.0000	1.0000	99.25
19.5	1,356,684		0.0000	1.0000	99.25
20.5	1,356,684		0.0000	1.0000	99.25
21.5	1,356,684		0.0000	1.0000	99.25
22.5	1,356,684		0.0000	1.0000	99.25
23.5	1,356,684		0.0000	1.0000	99.25
24.5	1,356,684	1,479	0.0011	0.9989	99.25
25.5	1,355,205		0.0000	1.0000	99.14
26.5	1,351,881		0.0000	1.0000	99.14
27.5	1,302,869	524	0.0004	0.9996	99.14
28.5	1,301,019	1,958	0.0015	0.9985	99.10
29.5	1,299,060		0.0000	1.0000	98.96
30.5	1,299,060		0.0000	1.0000	98.96
31.5	1,292,831		0.0000	1.0000	98.96
32.5	1,292,831		0.0000	1.0000	98.96
33.5	1,292,831		0.0000	1.0000	98.96
34.5	1,292,831		0.0000	1.0000	98.96
35.5	1,292,831		0.0000	1.0000	98.96
36.5	1,292,451		0.0000	1.0000	98.96
37.5	1,292,451		0.0000	1.0000	98.96
38.5	1,288,879		0.0000	1.0000	98.96

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1961-2014 EXPERIENCE BAND 1973-2017

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	1,288,879		0.0000	1.0000	98.96
40.5	1,273,217	5,862	0.0046	0.9954	98.96
41.5	1,267,355	4,143	0.0033	0.9967	98.50
42.5	1,261,485	12,100	0.0096	0.9904	98.18
43.5	1,244,705		0.0000	1.0000	97.24
44.5	1,236,516		0.0000	1.0000	97.24
45.5	1,229,873		0.0000	1.0000	97.24
46.5	1,206,210		0.0000	1.0000	97.24
47.5	1,195,774		0.0000	1.0000	97.24
48.5	1,195,774		0.0000	1.0000	97.24
49.5	1,195,774		0.0000	1.0000	97.24
50.5	1,195,774		0.0000	1.0000	97.24
51.5	1,195,774		0.0000	1.0000	97.24
52.5	1,195,774		0.0000	1.0000	97.24
53.5	1,195,774		0.0000	1.0000	97.24
54.5	1,194,033		0.0000	1.0000	97.24
55.5	1,194,033		0.0000	1.0000	97.24
56.5					97.24

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1961-2014 EXPERIENCE BAND 1998-2017

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	538,521		0.0000	1.0000	100.00
0.5	538,521		0.0000	1.0000	100.00
1.5	538,521		0.0000	1.0000	100.00
2.5	538,521		0.0000	1.0000	100.00
3.5	480,521		0.0000	1.0000	100.00
4.5	480,521		0.0000	1.0000	100.00
5.5	380,139		0.0000	1.0000	100.00
6.5	237,087		0.0000	1.0000	100.00
7.5	289,547		0.0000	1.0000	100.00
8.5	290,873		0.0000	1.0000	100.00
9.5	290,873		0.0000	1.0000	100.00
10.5	290,873		0.0000	1.0000	100.00
11.5	303,471		0.0000	1.0000	100.00
12.5	303,471	3,448	0.0114	0.9886	100.00
13.5	300,023		0.0000	1.0000	98.86
14.5	167,763		0.0000	1.0000	98.86
15.5	116,273	6,368	0.0548	0.9452	98.86
16.5	102,453		0.0000	1.0000	93.45
17.5	75,986		0.0000	1.0000	93.45
18.5	68,351		0.0000	1.0000	93.45
19.5	63,844		0.0000	1.0000	93.45
20.5	79,506		0.0000	1.0000	93.45
21.5	79,506		0.0000	1.0000	93.45
22.5	81,233		0.0000	1.0000	93.45
23.5	85,913		0.0000	1.0000	93.45
24.5	94,102		0.0000	1.0000	93.45
25.5	100,745		0.0000	1.0000	93.45
26.5	121,084		0.0000	1.0000	93.45
27.5	82,508		0.0000	1.0000	93.45
28.5	81,182		0.0000	1.0000	93.45
29.5	81,182		0.0000	1.0000	93.45
30.5	81,182		0.0000	1.0000	93.45
31.5	74,952		0.0000	1.0000	93.45
32.5	74,952		0.0000	1.0000	93.45
33.5	74,952		0.0000	1.0000	93.45
34.5	76,693		0.0000	1.0000	93.45
35.5	76,693		0.0000	1.0000	93.45
36.5	1,292,451		0.0000	1.0000	93.45
37.5	1,292,451		0.0000	1.0000	93.45
38.5	1,288,879		0.0000	1.0000	93.45

DUKE ENERGY KENTUCKY
GAS PLANT

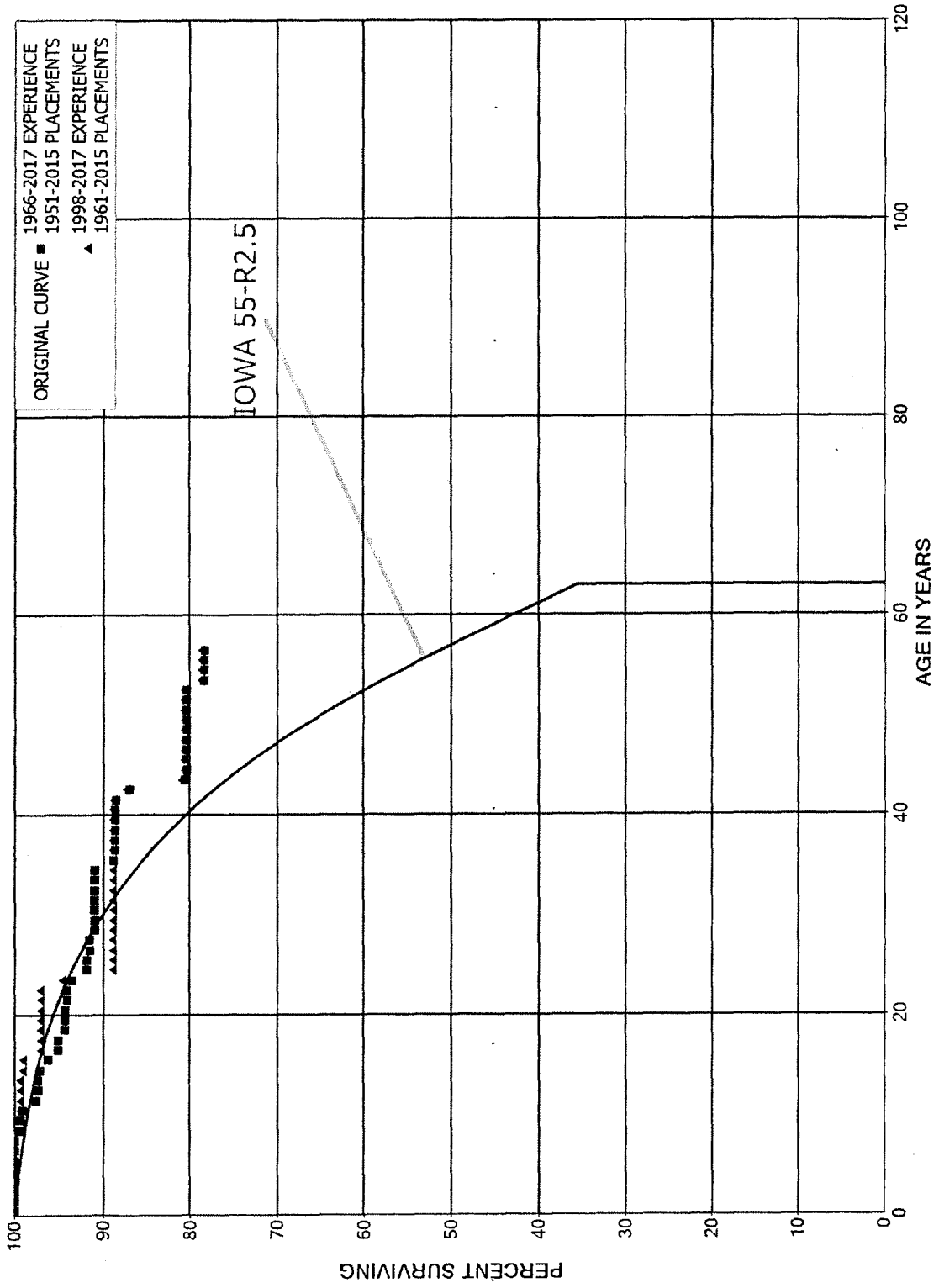
ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1961-2014 EXPERIENCE BAND 1998-2017

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	1,288,879		0.0000	1.0000	93.45
40.5	1,273,217	5,862	0.0046	0.9954	93.45
41.5	1,267,355	4,143	0.0033	0.9967	93.02
42.5	1,261,485	12,100	0.0096	0.9904	92.71
43.5	1,244,705		0.0000	1.0000	91.83
44.5	1,236,516		0.0000	1.0000	91.83
45.5	1,229,873		0.0000	1.0000	91.83
46.5	1,206,210		0.0000	1.0000	91.83
47.5	1,195,774		0.0000	1.0000	91.83
48.5	1,195,774		0.0000	1.0000	91.83
49.5	1,195,774		0.0000	1.0000	91.83
50.5	1,195,774		0.0000	1.0000	91.83
51.5	1,195,774		0.0000	1.0000	91.83
52.5	1,195,774		0.0000	1.0000	91.83
53.5	1,195,774		0.0000	1.0000	91.83
54.5	1,194,033		0.0000	1.0000	91.83
55.5	1,194,033		0.0000	1.0000	91.83
56.5					91.83

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1951-2015 EXPERIENCE BAND 1966-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,392,494		0.0000	1.0000	100.00
0.5	5,394,514		0.0000	1.0000	100.00
1.5	5,396,541		0.0000	1.0000	100.00
2.5	5,173,206		0.0000	1.0000	100.00
3.5	4,721,700		0.0000	1.0000	100.00
4.5	5,806,668	3,235	0.0006	0.9994	100.00
5.5	5,423,706	644	0.0001	0.9999	99.94
6.5	4,742,498		0.0000	1.0000	99.93
7.5	4,737,552	23,060	0.0049	0.9951	99.93
8.5	4,659,401	5,075	0.0011	0.9989	99.45
9.5	4,580,187	13,904	0.0030	0.9970	99.34
10.5	4,485,106	71,731	0.0160	0.9840	99.04
11.5	3,957,703	7,838	0.0020	0.9980	97.45
12.5	3,827,483		0.0000	1.0000	97.26
13.5	3,301,037	5,511	0.0017	0.9983	97.26
14.5	2,862,506	28,691	0.0100	0.9900	97.10
15.5	2,331,607	25,272	0.0108	0.9892	96.12
16.5	2,306,334		0.0000	1.0000	95.08
17.5	1,948,358	15,248	0.0078	0.9922	95.08
18.5	1,887,347	1,767	0.0009	0.9991	94.34
19.5	1,844,430		0.0000	1.0000	94.25
20.5	1,814,023	3,155	0.0017	0.9983	94.25
21.5	1,737,497		0.0000	1.0000	94.09
22.5	1,736,347	10,907	0.0063	0.9937	94.09
23.5	1,725,441	29,612	0.0172	0.9828	93.49
24.5	1,684,948		0.0000	1.0000	91.89
25.5	1,659,308	7,716	0.0047	0.9953	91.89
26.5	1,651,592		0.0000	1.0000	91.46
27.5	1,651,592	8,627	0.0052	0.9948	91.46
28.5	1,582,865		0.0000	1.0000	90.98
29.5	1,582,865		0.0000	1.0000	90.98
30.5	1,555,677	925	0.0006	0.9994	90.98
31.5	1,554,752		0.0000	1.0000	90.93
32.5	1,554,752		0.0000	1.0000	90.93
33.5	1,543,720		0.0000	1.0000	90.93
34.5	1,543,720	34,828	0.0226	0.9774	90.93
35.5	1,508,893	5,162	0.0034	0.9966	88.88
36.5	1,496,569		0.0000	1.0000	88.58
37.5	1,438,216		0.0000	1.0000	88.58
38.5	1,372,661		0.0000	1.0000	88.58

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1951-2015 EXPERIENCE BAND 1966-2017

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	1,367,681		0.0000	1.0000	88.58
40.5	1,360,055	1,722	0.0013	0.9987	88.58
41.5	1,343,950	22,398	0.0167	0.9833	88.46
42.5	1,215,446	88,343	0.0727	0.9273	86.99
43.5	1,105,216	4,430	0.0040	0.9960	80.67
44.5	1,100,786		0.0000	1.0000	80.34
45.5	1,073,759		0.0000	1.0000	80.34
46.5	995,026		0.0000	1.0000	80.34
47.5	995,026		0.0000	1.0000	80.34
48.5	995,026		0.0000	1.0000	80.34
49.5	991,564		0.0000	1.0000	80.34
50.5	991,564		0.0000	1.0000	80.34
51.5	981,041		0.0000	1.0000	80.34
52.5	979,021	24,865	0.0254	0.9746	80.34
53.5	952,129		0.0000	1.0000	78.30
54.5	952,129		0.0000	1.0000	78.30
55.5	952,129		0.0000	1.0000	78.30
56.5					78.30

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1961-2015 EXPERIENCE BAND 1998-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,655,549		0.0000	1.0000	100.00
0.5	4,685,956		0.0000	1.0000	100.00
1.5	4,759,326		0.0000	1.0000	100.00
2.5	4,537,142		0.0000	1.0000	100.00
3.5	4,087,121		0.0000	1.0000	100.00
4.5	3,903,256		0.0000	1.0000	100.00
5.5	3,549,170		0.0000	1.0000	100.00
6.5	2,868,606		0.0000	1.0000	100.00
7.5	2,863,659	22,545	0.0079	0.9921	100.00
8.5	2,851,080		0.0000	1.0000	99.21
9.5	2,776,941	1,485	0.0005	0.9995	99.21
10.5	2,735,592		0.0000	1.0000	99.16
11.5	2,279,920		0.0000	1.0000	99.16
12.5	2,157,538		0.0000	1.0000	99.16
13.5	1,642,124	4,958	0.0030	0.9970	99.16
14.5	1,200,991		0.0000	1.0000	98.86
15.5	698,783	14,125	0.0202	0.9798	98.86
16.5	691,820		0.0000	1.0000	96.86
17.5	403,103		0.0000	1.0000	96.86
18.5	449,935		0.0000	1.0000	96.86
19.5	413,765		0.0000	1.0000	96.86
20.5	390,984		0.0000	1.0000	96.86
21.5	331,998		0.0000	1.0000	96.86
22.5	436,953	10,907	0.0250	0.9750	96.86
23.5	447,934	27,041	0.0604	0.9396	94.44
24.5	410,012		0.0000	1.0000	88.74
25.5	411,398		0.0000	1.0000	88.74
26.5	490,131		0.0000	1.0000	88.74
27.5	490,131		0.0000	1.0000	88.74
28.5	430,032		0.0000	1.0000	88.74
29.5	433,494		0.0000	1.0000	88.74
30.5	406,307		0.0000	1.0000	88.74
31.5	416,829		0.0000	1.0000	88.74
32.5	418,849		0.0000	1.0000	88.74
33.5	409,844		0.0000	1.0000	88.74
34.5	409,844		0.0000	1.0000	88.74
35.5	409,844		0.0000	1.0000	88.74
36.5	1,496,569		0.0000	1.0000	88.74
37.5	1,438,216		0.0000	1.0000	88.74
38.5	1,372,661		0.0000	1.0000	88.74

DUKE ENERGY KENTUCKY
GAS PLANT

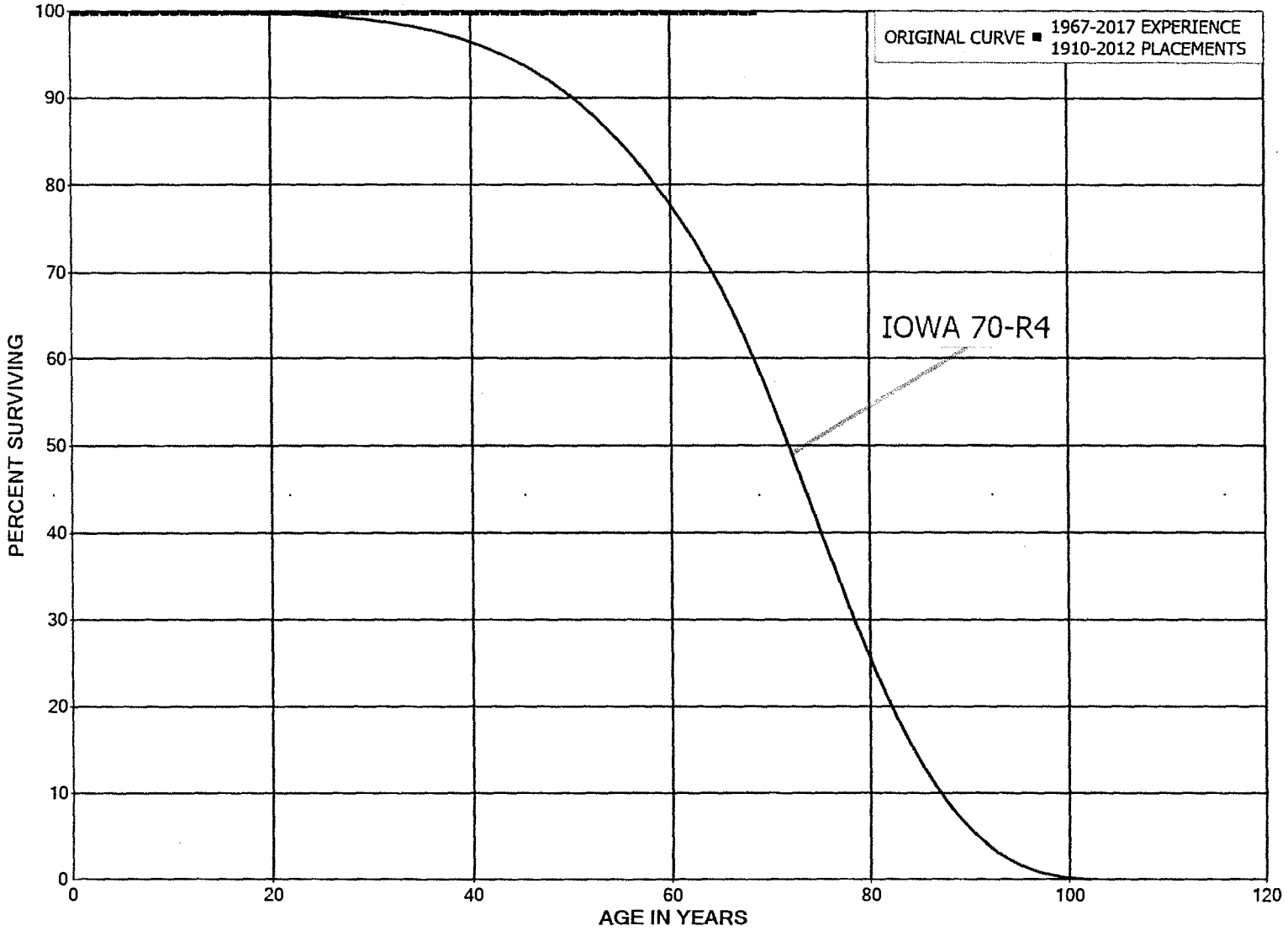
ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1961-2015 EXPERIENCE BAND 1998-2017

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	1,367,681		0.0000	1.0000	88.74
40.5	1,360,055	1,722	0.0013	0.9987	88.74
41.5	1,343,950	22,398	0.0167	0.9833	88.63
42.5	1,215,446	88,343	0.0727	0.9273	87.15
43.5	1,105,216	4,430	0.0040	0.9960	80.82
44.5	1,100,786		0.0000	1.0000	80.49
45.5	1,073,759		0.0000	1.0000	80.49
46.5	995,026		0.0000	1.0000	80.49
47.5	995,026		0.0000	1.0000	80.49
48.5	995,026		0.0000	1.0000	80.49
49.5	991,564		0.0000	1.0000	80.49
50.5	991,564		0.0000	1.0000	80.49
51.5	981,041		0.0000	1.0000	80.49
52.5	979,021	24,865	0.0254	0.9746	80.49
53.5	952,129		0.0000	1.0000	78.45
54.5	952,129		0.0000	1.0000	78.45
55.5	952,129		0.0000	1.0000	78.45
56.5					78.45

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2741 RIGHTS OF WAY
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2741 RIGHTS OF WAY

ORIGINAL LIFE TABLE

PLACEMENT BAND 1910-2012 EXPERIENCE BAND 1967-2017

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	852,323		0.0000	1.0000	100.00
0.5	853,394		0.0000	1.0000	100.00
1.5	988,010	152	0.0002	0.9998	100.00
2.5	989,849		0.0000	1.0000	99.98
3.5	991,664		0.0000	1.0000	99.98
4.5	1,010,737		0.0000	1.0000	99.98
5.5	1,017,604		0.0000	1.0000	99.98
6.5	1,018,713		0.0000	1.0000	99.98
7.5	1,020,659		0.0000	1.0000	99.98
8.5	1,020,967		0.0000	1.0000	99.98
9.5	1,025,935		0.0000	1.0000	99.98
10.5	1,015,502		0.0000	1.0000	99.98
11.5	991,784		0.0000	1.0000	99.98
12.5	989,134		0.0000	1.0000	99.98
13.5	990,961		0.0000	1.0000	99.98
14.5	992,304		0.0000	1.0000	99.98
15.5	992,304		0.0000	1.0000	99.98
16.5	992,304		0.0000	1.0000	99.98
17.5	992,304		0.0000	1.0000	99.98
18.5	992,304		0.0000	1.0000	99.98
19.5	992,304		0.0000	1.0000	99.98
20.5	992,304		0.0000	1.0000	99.98
21.5	967,637		0.0000	1.0000	99.98
22.5	966,728		0.0000	1.0000	99.98
23.5	861,629		0.0000	1.0000	99.98
24.5	851,864		0.0000	1.0000	99.98
25.5	670,867		0.0000	1.0000	99.98
26.5	641,376		0.0000	1.0000	99.98
27.5	604,281		0.0000	1.0000	99.98
28.5	534,367		0.0000	1.0000	99.98
29.5	519,022		0.0000	1.0000	99.98
30.5	497,452		0.0000	1.0000	99.98
31.5	473,093		0.0000	1.0000	99.98
32.5	463,054		0.0000	1.0000	99.98
33.5	465,598		0.0000	1.0000	99.98
34.5	458,638		0.0000	1.0000	99.98
35.5	414,184		0.0000	1.0000	99.98
36.5	409,072		0.0000	1.0000	99.98
37.5	393,186		0.0000	1.0000	99.98
38.5	414,003		0.0000	1.0000	99.98

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2741 RIGHTS OF WAY

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2012 EXPERIENCE BAND 1967-2017

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	410,272		0.0000	1.0000	99.98
40.5	388,164		0.0000	1.0000	99.98
41.5	379,582		0.0000	1.0000	99.98
42.5	351,162		0.0000	1.0000	99.98
43.5	334,201		0.0000	1.0000	99.98
44.5	327,267		0.0000	1.0000	99.98
45.5	291,658		0.0000	1.0000	99.98
46.5	273,707		0.0000	1.0000	99.98
47.5	264,087		0.0000	1.0000	99.98
48.5	260,606		0.0000	1.0000	99.98
49.5	255,519		0.0000	1.0000	99.98
50.5	242,796		0.0000	1.0000	99.98
51.5	241,725		0.0000	1.0000	99.98
52.5	106,736		0.0000	1.0000	99.98
53.5	104,745		0.0000	1.0000	99.98
54.5	102,930		0.0000	1.0000	99.98
55.5	83,857		0.0000	1.0000	99.98
56.5	76,838		0.0000	1.0000	99.98
57.5	75,729		0.0000	1.0000	99.98
58.5	73,783		0.0000	1.0000	99.98
59.5	73,475		0.0000	1.0000	99.98
60.5	58,344		0.0000	1.0000	99.98
61.5	58,163		0.0000	1.0000	99.98
62.5	30,522		0.0000	1.0000	99.98
63.5	30,497		0.0000	1.0000	99.98
64.5	28,670		0.0000	1.0000	99.98
65.5	27,328		0.0000	1.0000	99.98
66.5	27,328		0.0000	1.0000	99.98
67.5	27,328		0.0000	1.0000	99.98
68.5	27,328		0.0000	1.0000	99.98
69.5	27,328		0.0000	1.0000	99.98
70.5	5,569		0.0000	1.0000	99.98
71.5	5,569		0.0000	1.0000	99.98
72.5	5,569		0.0000	1.0000	99.98
73.5	6,247		0.0000	1.0000	99.98
74.5	15,071		0.0000	1.0000	99.98
75.5	15,071		0.0000	1.0000	99.98
76.5	15,071		0.0000	1.0000	99.98
77.5	15,071		0.0000	1.0000	99.98
78.5	15,071		0.0000	1.0000	99.98

DUKE ENERGY KENTUCKY
GAS PLANT

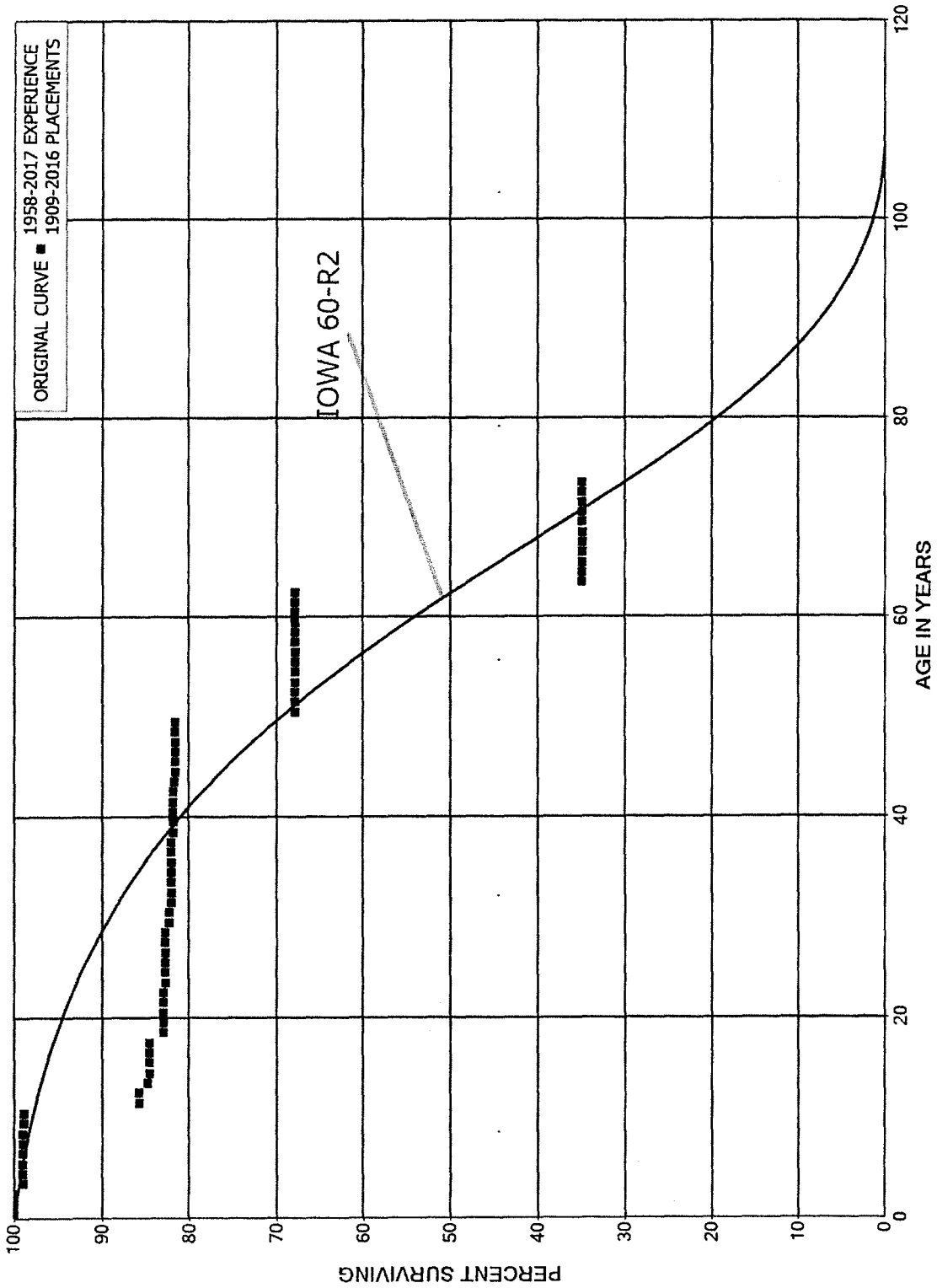
ACCOUNT 2741 RIGHTS OF WAY

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2012 EXPERIENCE BAND 1967-2017

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	16,692		0.0000	1.0000	99.98
80.5	16,692		0.0000	1.0000	99.98
81.5	16,692		0.0000	1.0000	99.98
82.5	16,692		0.0000	1.0000	99.98
83.5	16,692		0.0000	1.0000	99.98
84.5	11,123		0.0000	1.0000	99.98
85.5	11,123		0.0000	1.0000	99.98
86.5	11,123		0.0000	1.0000	99.98
87.5	11,123		0.0000	1.0000	99.98
88.5	21,759		0.0000	1.0000	99.98
89.5	21,759		0.0000	1.0000	99.98
90.5	21,759		0.0000	1.0000	99.98
91.5	21,759		0.0000	1.0000	99.98
92.5	21,080		0.0000	1.0000	99.98
93.5	12,257		0.0000	1.0000	99.98
94.5	12,257		0.0000	1.0000	99.98
95.5	12,257		0.0000	1.0000	99.98
96.5	12,257		0.0000	1.0000	99.98
97.5	12,257		0.0000	1.0000	99.98
98.5	10,635		0.0000	1.0000	99.98
99.5	10,635		0.0000	1.0000	99.98
100.5	10,635		0.0000	1.0000	99.98
101.5	10,635		0.0000	1.0000	99.98
102.5	10,635		0.0000	1.0000	99.98
103.5	10,635		0.0000	1.0000	99.98
104.5	10,635		0.0000	1.0000	99.98
105.5	10,635		0.0000	1.0000	99.98
106.5	10,635		0.0000	1.0000	99.98
107.5					99.98

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1909-2016 EXPERIENCE BAND 1958-2017

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	768,624		0.0000	1.0000	100.00
0.5	768,624		0.0000	1.0000	100.00
1.5	606,831		0.0000	1.0000	100.00
2.5	385,110	3,870	0.0100	0.9900	100.00
3.5	381,240		0.0000	1.0000	99.00
4.5	320,208		0.0000	1.0000	99.00
5.5	184,042		0.0000	1.0000	99.00
6.5	184,042		0.0000	1.0000	99.00
7.5	184,042		0.0000	1.0000	99.00
8.5	184,411	246	0.0013	0.9987	99.00
9.5	184,165		0.0000	1.0000	98.86
10.5	184,165	24,504	0.1331	0.8669	98.86
11.5	159,662		0.0000	1.0000	85.71
12.5	159,662	1,847	0.0116	0.9884	85.71
13.5	157,815	323	0.0020	0.9980	84.72
14.5	153,617		0.0000	1.0000	84.54
15.5	153,617		0.0000	1.0000	84.54
16.5	153,900		0.0000	1.0000	84.54
17.5	123,872	2,372	0.0192	0.9808	84.54
18.5	117,815		0.0000	1.0000	82.92
19.5	117,815		0.0000	1.0000	82.92
20.5	117,815		0.0000	1.0000	82.92
21.5	118,140		0.0000	1.0000	82.92
22.5	118,247	325	0.0027	0.9973	82.92
23.5	118,121		0.0000	1.0000	82.70
24.5	118,121		0.0000	1.0000	82.70
25.5	118,121		0.0000	1.0000	82.70
26.5	118,121		0.0000	1.0000	82.70
27.5	118,121		0.0000	1.0000	82.70
28.5	118,905	661	0.0056	0.9944	82.70
29.5	118,398		0.0000	1.0000	82.24
30.5	120,849	283	0.0023	0.9977	82.24
31.5	111,002		0.0000	1.0000	82.04
32.5	111,002		0.0000	1.0000	82.04
33.5	111,002		0.0000	1.0000	82.04
34.5	111,002		0.0000	1.0000	82.04
35.5	111,002		0.0000	1.0000	82.04
36.5	110,148		0.0000	1.0000	82.04
37.5	88,065	199	0.0023	0.9977	82.04
38.5	87,865		0.0000	1.0000	81.86

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2016 EXPERIENCE BAND 1958-2017

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	87,496		0.0000	1.0000	81.86
40.5	87,496		0.0000	1.0000	81.86
41.5	87,496		0.0000	1.0000	81.86
42.5	87,496	123	0.0014	0.9986	81.86
43.5	83,951	155	0.0018	0.9982	81.74
44.5	56,894		0.0000	1.0000	81.59
45.5	43,554		0.0000	1.0000	81.59
46.5	3,220		0.0000	1.0000	81.59
47.5	3,220		0.0000	1.0000	81.59
48.5	8,955		0.0000	1.0000	81.59
49.5	8,955	1,510	0.1686	0.8314	81.59
50.5	7,445		0.0000	1.0000	67.84
51.5	7,445		0.0000	1.0000	67.84
52.5	7,445		0.0000	1.0000	67.84
53.5	7,445		0.0000	1.0000	67.84
54.5	7,445		0.0000	1.0000	67.84
55.5	7,445		0.0000	1.0000	67.84
56.5	7,445		0.0000	1.0000	67.84
57.5	6,963		0.0000	1.0000	67.84
58.5	6,963		0.0000	1.0000	67.84
59.5	6,963		0.0000	1.0000	67.84
60.5	6,963		0.0000	1.0000	67.84
61.5	6,963		0.0000	1.0000	67.84
62.5	6,963	3,387	0.4864	0.5136	67.84
63.5	3,576		0.0000	1.0000	34.84
64.5	3,395		0.0000	1.0000	34.84
65.5	3,395		0.0000	1.0000	34.84
66.5	3,395		0.0000	1.0000	34.84
67.5	3,395		0.0000	1.0000	34.84
68.5	3,395		0.0000	1.0000	34.84
69.5	3,395		0.0000	1.0000	34.84
70.5	3,395		0.0000	1.0000	34.84
71.5	3,395		0.0000	1.0000	34.84
72.5	3,395		0.0000	1.0000	34.84
73.5	3,395		0.0000	1.0000	34.84
74.5	3,395		0.0000	1.0000	34.84
75.5	3,395		0.0000	1.0000	34.84
76.5	3,395		0.0000	1.0000	34.84
77.5	3,395		0.0000	1.0000	34.84
78.5	3,395		0.0000	1.0000	34.84

DUKE ENERGY KENTUCKY
GAS PLANT

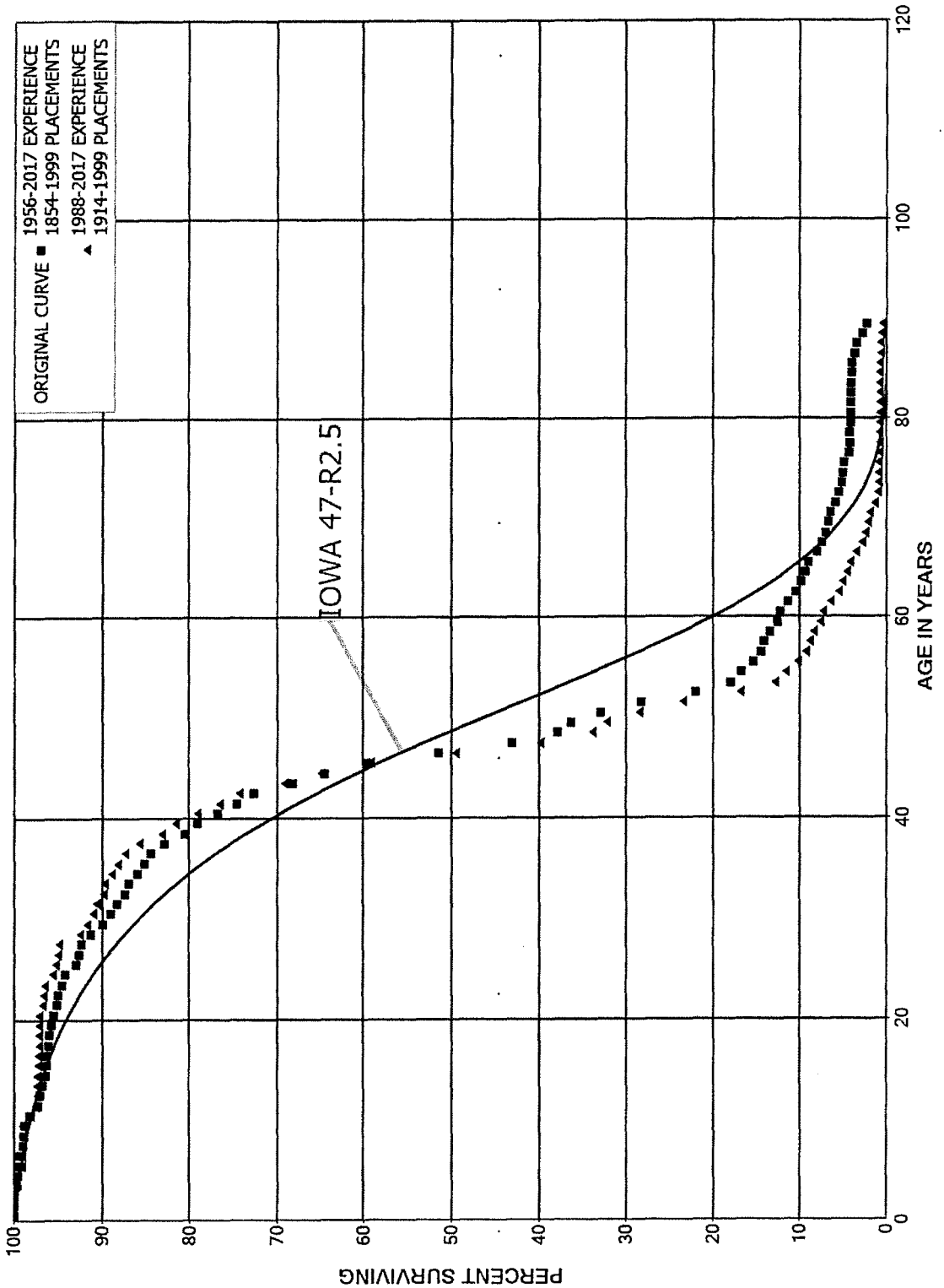
ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2016 EXPERIENCE BAND 1958-2017

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	3,395		0.0000	1.0000	34.84
80.5	3,395		0.0000	1.0000	34.84
81.5	3,395		0.0000	1.0000	34.84
82.5	3,288		0.0000	1.0000	34.84
83.5	3,288		0.0000	1.0000	34.84
84.5	3,288		0.0000	1.0000	34.84
85.5	3,288		0.0000	1.0000	34.84
86.5	3,288		0.0000	1.0000	34.84
87.5	3,288		0.0000	1.0000	34.84
88.5	3,288		0.0000	1.0000	34.84
89.5	3,288		0.0000	1.0000	34.84
90.5	838		0.0000	1.0000	34.84
91.5	838		0.0000	1.0000	34.84
92.5	838		0.0000	1.0000	34.84
93.5	838		0.0000	1.0000	34.84
94.5	838		0.0000	1.0000	34.84
95.5	838		0.0000	1.0000	34.84
96.5	838		0.0000	1.0000	34.84
97.5	838		0.0000	1.0000	34.84
98.5	838		0.0000	1.0000	34.84
99.5	838		0.0000	1.0000	34.84
100.5	838		0.0000	1.0000	34.84
101.5	838		0.0000	1.0000	34.84
102.5	838		0.0000	1.0000	34.84
103.5	838		0.0000	1.0000	34.84
104.5	838		0.0000	1.0000	34.84
105.5	838		0.0000	1.0000	34.84
106.5	838		0.0000	1.0000	34.84
107.5	838		0.0000	1.0000	34.84
108.5					34.84

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1854-1999 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,116,462		0.0000	1.0000	100.00
0.5	3,549,979		0.0000	1.0000	100.00
1.5	3,835,807	4,021	0.0010	0.9990	100.00
2.5	3,997,732	9,029	0.0023	0.9977	99.90
3.5	4,101,219	4,888	0.0012	0.9988	99.67
4.5	4,337,744	11,877	0.0027	0.9973	99.55
5.5	4,464,430	736	0.0002	0.9998	99.28
6.5	4,518,302	12,478	0.0028	0.9972	99.26
7.5	4,573,311	4,556	0.0010	0.9990	98.99
8.5	4,632,202	8,052	0.0017	0.9983	98.89
9.5	4,547,832	26,078	0.0057	0.9943	98.72
10.5	4,526,356	40,713	0.0090	0.9910	98.15
11.5	4,447,858	9,982	0.0022	0.9978	97.27
12.5	4,430,493	13,964	0.0032	0.9968	97.05
13.5	4,425,433	14,185	0.0032	0.9968	96.74
14.5	4,428,825	5,330	0.0012	0.9988	96.43
15.5	4,444,647	3,171	0.0007	0.9993	96.32
16.5	4,439,775	7,087	0.0016	0.9984	96.25
17.5	4,455,142	4,058	0.0009	0.9991	96.10
18.5	4,432,604	14,480	0.0033	0.9967	96.01
19.5	4,374,103	9,135	0.0021	0.9979	95.69
20.5	4,308,046	17,355	0.0040	0.9960	95.49
21.5	4,276,221	9,289	0.0022	0.9978	95.11
22.5	4,254,598	18,585	0.0044	0.9956	94.90
23.5	4,198,965	16,145	0.0038	0.9962	94.49
24.5	4,162,078	50,400	0.0121	0.9879	94.13
25.5	4,107,788	16,253	0.0040	0.9960	92.99
26.5	4,042,487	16,065	0.0040	0.9960	92.62
27.5	3,927,644	38,985	0.0099	0.9901	92.25
28.5	3,838,171	60,238	0.0157	0.9843	91.33
29.5	3,738,027	33,033	0.0088	0.9912	89.90
30.5	3,638,974	35,325	0.0097	0.9903	89.11
31.5	3,560,505	33,735	0.0095	0.9905	88.24
32.5	3,496,929	20,447	0.0058	0.9942	87.41
33.5	3,411,669	38,322	0.0112	0.9888	86.89
34.5	3,347,315	30,306	0.0091	0.9909	85.92
35.5	3,277,378	30,409	0.0093	0.9907	85.14
36.5	3,200,547	58,364	0.0182	0.9818	84.35
37.5	3,064,259	86,551	0.0282	0.9718	82.81
38.5	2,934,851	50,864	0.0173	0.9827	80.47

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1854-1999 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,835,611	85,269	0.0301	0.9699	79.08
40.5	2,840,929	80,955	0.0285	0.9715	76.70
41.5	2,800,057	71,829	0.0257	0.9743	74.51
42.5	2,702,976	166,870	0.0617	0.9383	72.60
43.5	2,458,607	129,644	0.0527	0.9473	68.12
44.5	2,314,779	175,768	0.0759	0.9241	64.53
45.5	2,127,362	294,362	0.1384	0.8616	59.63
46.5	1,826,749	295,868	0.1620	0.8380	51.38
47.5	1,524,548	184,764	0.1212	0.8788	43.06
48.5	1,334,997	55,788	0.0418	0.9582	37.84
49.5	1,274,629	119,563	0.0938	0.9062	36.26
50.5	1,152,825	163,758	0.1420	0.8580	32.86
51.5	983,354	218,727	0.2224	0.7776	28.19
52.5	761,239	137,396	0.1805	0.8195	21.92
53.5	621,181	42,270	0.0680	0.9320	17.96
54.5	569,314	48,184	0.0846	0.9154	16.74
55.5	513,933	30,322	0.0590	0.9410	15.32
56.5	474,373	12,959	0.0273	0.9727	14.42
57.5	449,873	20,701	0.0460	0.9540	14.03
58.5	404,822	25,172	0.0622	0.9378	13.38
59.5	371,936	11,215	0.0302	0.9698	12.55
60.5	340,733	24,964	0.0733	0.9267	12.17
61.5	314,165	23,319	0.0742	0.9258	11.28
62.5	288,382	17,238	0.0598	0.9402	10.44
63.5	267,860	15,569	0.0581	0.9419	9.82
64.5	250,925	8,749	0.0349	0.9651	9.25
65.5	239,987	25,236	0.1052	0.8948	8.92
66.5	211,664	16,878	0.0797	0.9203	7.99
67.5	193,290	9,852	0.0510	0.9490	7.35
68.5	182,718	9,823	0.0538	0.9462	6.97
69.5	172,838	6,321	0.0366	0.9634	6.60
70.5	164,388	13,366	0.0813	0.9187	6.36
71.5	151,022	10,302	0.0682	0.9318	5.84
72.5	140,721	10,044	0.0714	0.9286	5.44
73.5	130,584	2,695	0.0206	0.9794	5.05
74.5	127,684	1,973	0.0154	0.9846	4.95
75.5	125,166	16,118	0.1288	0.8712	4.87
76.5	108,998	443	0.0041	0.9959	4.25
77.5	108,353	2,445	0.0226	0.9774	4.23
78.5	105,859	1,720	0.0162	0.9838	4.13

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1854-1999 EXPERIENCE BAND 1956-2017

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	103,974	287	0.0028	0.9972	4.07
80.5	103,360	8	0.0001	0.9999	4.05
81.5	103,293	13	0.0001	0.9999	4.05
82.5	103,053	1,058	0.0103	0.9897	4.05
83.5	101,970	98	0.0010	0.9990	4.01
84.5	101,872	1,548	0.0152	0.9848	4.01
85.5	100,324	8,323	0.0830	0.9170	3.95
86.5	91,922	5,664	0.0616	0.9384	3.62
87.5	86,216	15,698	0.1821	0.8179	3.40
88.5	70,518	12,580	0.1784	0.8216	2.78
89.5	57,730		0.0000	1.0000	2.28
90.5	57,664		0.0000	1.0000	2.28
91.5	57,664		0.0000	1.0000	2.28
92.5	57,664		0.0000	1.0000	2.28
93.5	57,664	44,790	0.7768	0.2232	2.28
94.5	13,512	5,909	0.4373	0.5627	0.51
95.5	8,306		0.0000	1.0000	0.29
96.5	9,258	823	0.0888	0.9112	0.29
97.5	9,642		0.0000	1.0000	0.26
98.5	10,848		0.0000	1.0000	0.26
99.5	12,104		0.0000	1.0000	0.26
100.5	13,410		0.0000	1.0000	0.26
101.5	14,615	639	0.0437	0.9563	0.26
102.5	7,834	2,319	0.2960	0.7040	0.25
103.5	5,515	3,297	0.5978	0.4022	0.18
104.5	2,218	1,206	0.5437	0.4563	0.07
105.5	1,012	1,012	1.0000		0.03
106.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1914-1999 EXPERIENCE BAND 1988-2017

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	567,774		0.0000	1.0000	100.00
0.5	638,666		0.0000	1.0000	100.00
1.5	695,370		0.0000	1.0000	100.00
2.5	733,537	676	0.0009	0.9991	100.00
3.5	779,333	2,502	0.0032	0.9968	99.91
4.5	802,863	5,988	0.0075	0.9925	99.59
5.5	850,926		0.0000	1.0000	98.84
6.5	786,270		0.0000	1.0000	98.84
7.5	894,874		0.0000	1.0000	98.84
8.5	950,406		0.0000	1.0000	98.84
9.5	958,683	10,184	0.0106	0.9894	98.84
10.5	968,705	4,037	0.0042	0.9958	97.79
11.5	922,564	1,569	0.0017	0.9983	97.39
12.5	967,252		0.0000	1.0000	97.22
13.5	1,016,638		0.0000	1.0000	97.22
14.5	1,018,717	1,697	0.0017	0.9983	97.22
15.5	1,049,435		0.0000	1.0000	97.06
16.5	1,072,264	1,176	0.0011	0.9989	97.06
17.5	1,110,586		0.0000	1.0000	96.95
18.5	1,061,763		0.0000	1.0000	96.95
19.5	1,052,534		0.0000	1.0000	96.95
20.5	991,986	4,540	0.0046	0.9954	96.95
21.5	972,596	986	0.0010	0.9990	96.51
22.5	984,155	838	0.0009	0.9991	96.41
23.5	954,151	8,828	0.0093	0.9907	96.33
24.5	995,334	3,850	0.0039	0.9961	95.44
25.5	1,018,201	1,934	0.0019	0.9981	95.07
26.5	1,018,149	2,283	0.0022	0.9978	94.89
27.5	927,807	23,388	0.0252	0.9748	94.68
28.5	984,116	8,611	0.0087	0.9913	92.29
29.5	1,257,218	8,610	0.0068	0.9932	91.48
30.5	1,602,026	7,313	0.0046	0.9954	90.85
31.5	1,877,470	17,699	0.0094	0.9906	90.44
32.5	2,217,235	1,426	0.0006	0.9994	89.59
33.5	2,389,906	21,035	0.0088	0.9912	89.53
34.5	2,463,387	20,161	0.0082	0.9918	88.74
35.5	2,504,232	22,905	0.0091	0.9909	88.02
36.5	2,600,878	51,721	0.0199	0.9801	87.21
37.5	2,575,223	76,053	0.0295	0.9705	85.48
38.5	2,591,448	47,156	0.0182	0.9818	82.95

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1914-1999 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,545,813	81,361	0.0320	0.9680	81.44
40.5	2,490,858	79,356	0.0319	0.9681	78.84
41.5	2,415,866	70,502	0.0292	0.9708	76.33
42.5	2,328,112	162,207	0.0697	0.9303	74.10
43.5	2,101,152	127,846	0.0608	0.9392	68.94
44.5	1,959,813	173,809	0.0887	0.9113	64.74
45.5	1,781,999	293,863	0.1649	0.8351	59.00
46.5	1,505,454	295,429	0.1962	0.8038	49.27
47.5	1,222,591	184,038	0.1505	0.8495	39.60
48.5	1,044,431	52,969	0.0507	0.9493	33.64
49.5	1,008,533	118,596	0.1176	0.8824	31.94
50.5	916,967	162,346	0.1770	0.8230	28.18
51.5	769,969	216,674	0.2814	0.7186	23.19
52.5	555,608	136,563	0.2458	0.7542	16.66
53.5	422,332	41,163	0.0975	0.9025	12.57
54.5	377,608	46,876	0.1241	0.8759	11.34
55.5	325,051	30,131	0.0927	0.9073	9.94
56.5	296,702	11,935	0.0402	0.9598	9.01
57.5	277,825	14,590	0.0525	0.9475	8.65
58.5	241,265	24,575	0.1019	0.8981	8.20
59.5	220,323	10,492	0.0476	0.9524	7.36
60.5	191,062	22,364	0.1170	0.8830	7.01
61.5	167,229	23,224	0.1389	0.8611	6.19
62.5	141,627	14,272	0.1008	0.8992	5.33
63.5	124,072	14,519	0.1170	0.8830	4.79
64.5	108,222	6,848	0.0633	0.9367	4.23
65.5	99,185	18,175	0.1832	0.8168	3.97
66.5	77,924	15,415	0.1978	0.8022	3.24
67.5	61,013	7,325	0.1201	0.8799	2.60
68.5	52,968	7,881	0.1488	0.8512	2.29
69.5	45,030	5,647	0.1254	0.8746	1.95
70.5	37,829	11,796	0.3118	0.6882	1.70
71.5	26,064	8,574	0.3290	0.6710	1.17
72.5	128,814	5,750	0.0446	0.9554	0.79
73.5	130,584	2,695	0.0206	0.9794	0.75
74.5	127,684	1,973	0.0154	0.9846	0.74
75.5	125,166	16,118	0.1288	0.8712	0.72
76.5	108,998	443	0.0041	0.9959	0.63
77.5	108,353	2,445	0.0226	0.9774	0.63
78.5	105,859	1,720	0.0162	0.9838	0.61

DUKE ENERGY KENTUCKY
GAS PLANT

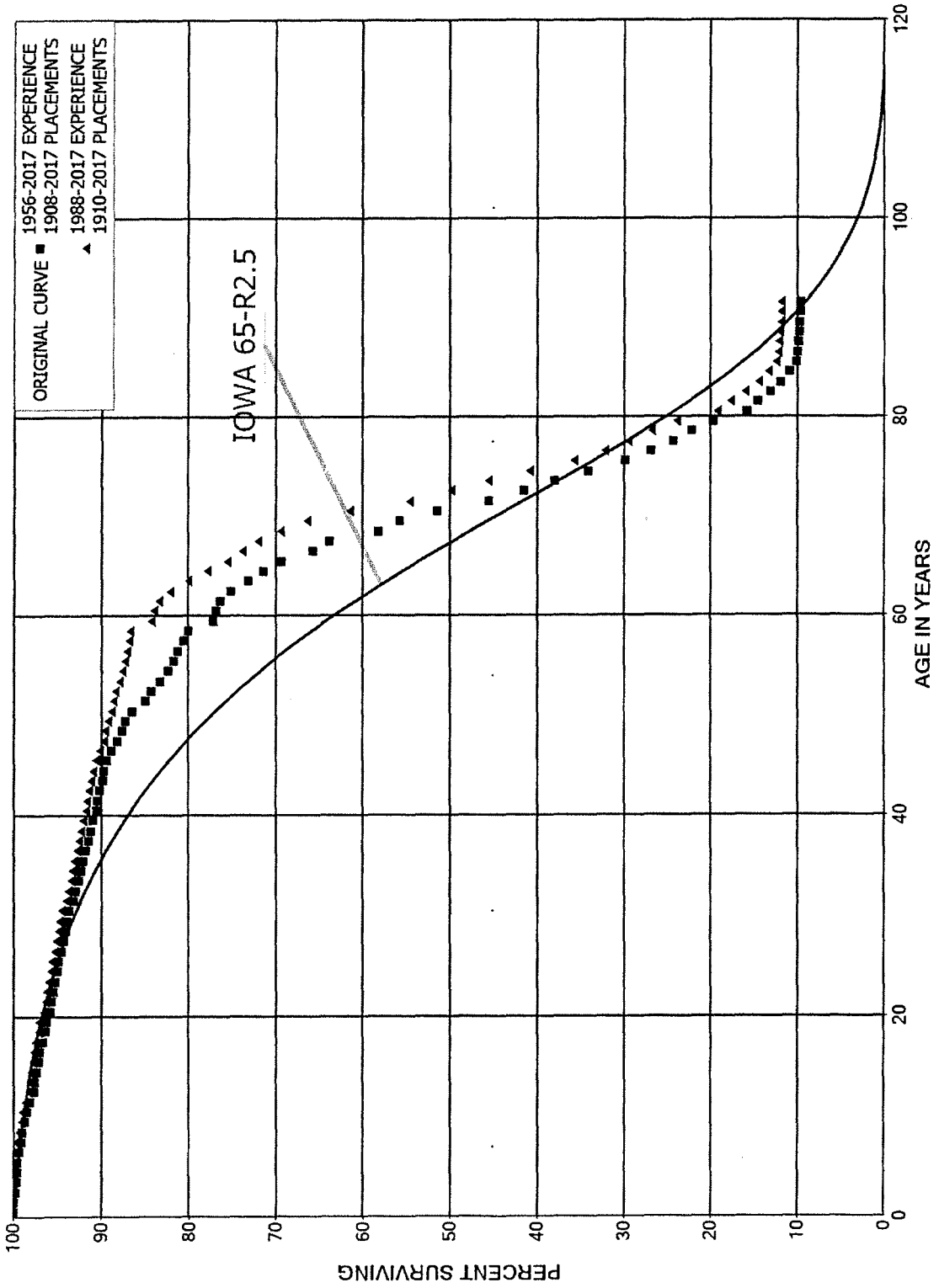
ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1914-1999 EXPERIENCE BAND 1988-2017

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	103,974	287	0.0028	0.9972	0.60
80.5	103,360	8	0.0001	0.9999	0.60
81.5	103,293	13	0.0001	0.9999	0.60
82.5	103,053	1,058	0.0103	0.9897	0.60
83.5	101,970	98	0.0010	0.9990	0.60
84.5	101,872	1,548	0.0152	0.9848	0.60
85.5	100,324	8,323	0.0830	0.9170	0.59
86.5	91,922	5,664	0.0616	0.9384	0.54
87.5	86,216	15,698	0.1821	0.8179	0.50
88.5	70,518	12,580	0.1784	0.8216	0.41
89.5	57,730		0.0000	1.0000	0.34
90.5	57,664		0.0000	1.0000	0.34
91.5	57,664		0.0000	1.0000	0.34
92.5	57,664		0.0000	1.0000	0.34
93.5	57,664	44,790	0.7768	0.2232	0.34
94.5	12,873	5,909	0.4590	0.5410	0.08
95.5	6,964		0.0000	1.0000	0.04
96.5	6,964	823	0.1181	0.8819	0.04
97.5	6,142		0.0000	1.0000	0.04
98.5	6,142		0.0000	1.0000	0.04
99.5	6,142		0.0000	1.0000	0.04
100.5	6,142		0.0000	1.0000	0.04
101.5	6,142		0.0000	1.0000	0.04
102.5					0.04

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1908-2017 EXPERIENCE BAND 1956-2017

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	121,037,627		0.0000	1.0000	100.00
0.5	119,373,204	16,845	0.0001	0.9999	100.00
1.5	115,221,860	254,205	0.0022	0.9978	99.99
2.5	113,570,704	127,609	0.0011	0.9989	99.77
3.5	113,210,267	112,609	0.0010	0.9990	99.65
4.5	112,266,391	115,804	0.0010	0.9990	99.55
5.5	108,422,634	159,998	0.0015	0.9985	99.45
6.5	107,932,930	203,365	0.0019	0.9981	99.30
7.5	106,549,142	226,702	0.0021	0.9979	99.12
8.5	102,854,922	312,496	0.0030	0.9970	98.91
9.5	96,287,069	221,863	0.0023	0.9977	98.61
10.5	92,707,273	295,505	0.0032	0.9968	98.38
11.5	90,138,133	393,423	0.0044	0.9956	98.07
12.5	85,966,517	83,465	0.0010	0.9990	97.64
13.5	84,687,903	185,352	0.0022	0.9978	97.54
14.5	81,307,389	212,529	0.0026	0.9974	97.33
15.5	78,810,781	79,079	0.0010	0.9990	97.07
16.5	75,104,348	250,243	0.0033	0.9967	96.98
17.5	74,184,550	256,983	0.0035	0.9965	96.65
18.5	71,394,842	74,324	0.0010	0.9990	96.32
19.5	70,603,186	335,656	0.0048	0.9952	96.22
20.5	70,065,395	147,435	0.0021	0.9979	95.76
21.5	70,141,539	143,018	0.0020	0.9980	95.56
22.5	69,926,718	173,182	0.0025	0.9975	95.37
23.5	69,266,990	105,477	0.0015	0.9985	95.13
24.5	67,794,309	113,600	0.0017	0.9983	94.98
25.5	64,444,581	237,803	0.0037	0.9963	94.83
26.5	58,038,533	180,942	0.0031	0.9969	94.48
27.5	48,986,435	91,041	0.0019	0.9981	94.18
28.5	41,238,084	70,985	0.0017	0.9983	94.01
29.5	36,025,055	96,389	0.0027	0.9973	93.84
30.5	32,094,031	183,314	0.0057	0.9943	93.59
31.5	29,594,003	81,157	0.0027	0.9973	93.06
32.5	27,803,641	97,434	0.0035	0.9965	92.80
33.5	26,834,663	58,133	0.0022	0.9978	92.48
34.5	25,122,637	72,495	0.0029	0.9971	92.28
35.5	23,241,127	71,695	0.0031	0.9969	92.01
36.5	21,938,125	68,535	0.0031	0.9969	91.73
37.5	19,504,940	48,926	0.0025	0.9975	91.44
38.5	18,063,297	60,016	0.0033	0.9967	91.21

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1908-2017 EXPERIENCE BAND 1956-2017

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	17,075,782	66,529	0.0039	0.9961	90.91
40.5	16,462,383	34,090	0.0021	0.9979	90.55
41.5	16,231,816	39,335	0.0024	0.9976	90.37
42.5	15,193,405	44,268	0.0029	0.9971	90.15
43.5	13,726,623	27,757	0.0020	0.9980	89.88
44.5	13,434,874	45,537	0.0034	0.9966	89.70
45.5	12,161,725	80,138	0.0066	0.9934	89.40
46.5	10,898,167	77,076	0.0071	0.9929	88.81
47.5	9,843,440	59,213	0.0060	0.9940	88.18
48.5	8,957,637	42,724	0.0048	0.9952	87.65
49.5	7,569,933	65,292	0.0086	0.9914	87.23
50.5	7,059,589	128,321	0.0182	0.9818	86.48
51.5	6,500,483	44,928	0.0069	0.9931	84.91
52.5	4,489,252	53,155	0.0118	0.9882	84.32
53.5	4,143,660	48,810	0.0118	0.9882	83.32
54.5	3,671,379	25,516	0.0069	0.9931	82.34
55.5	3,476,435	20,529	0.0059	0.9941	81.77
56.5	3,168,641	24,383	0.0077	0.9923	81.29
57.5	2,782,712	21,884	0.0079	0.9921	80.66
58.5	2,485,646	86,885	0.0350	0.9650	80.03
59.5	2,091,802	9,445	0.0045	0.9955	77.23
60.5	1,929,613	12,560	0.0065	0.9935	76.88
61.5	1,868,915	29,162	0.0156	0.9844	76.38
62.5	610,167	16,116	0.0264	0.9736	75.19
63.5	570,895	14,414	0.0252	0.9748	73.20
64.5	342,040	9,843	0.0288	0.9712	71.35
65.5	329,025	17,019	0.0517	0.9483	69.30
66.5	311,192	8,950	0.0288	0.9712	65.72
67.5	240,872	20,818	0.0864	0.9136	63.83
68.5	217,336	9,725	0.0447	0.9553	58.31
69.5	206,755	15,882	0.0768	0.9232	55.70
70.5	191,810	21,898	0.1142	0.8858	51.42
71.5	167,691	14,740	0.0879	0.9121	45.55
72.5	152,935	13,397	0.0876	0.9124	41.55
73.5	139,340	14,166	0.1017	0.8983	37.91
74.5	125,064	15,664	0.1252	0.8748	34.05
75.5	106,867	10,656	0.0997	0.9003	29.79
76.5	95,709	8,877	0.0928	0.9072	26.82
77.5	86,831	8,105	0.0933	0.9067	24.33
78.5	78,727	8,684	0.1103	0.8897	22.06

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1908-2017 EXPERIENCE BAND 1956-2017

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	70,043	13,842	0.1976	0.8024	19.63
80.5	56,201	4,621	0.0822	0.9178	15.75
81.5	51,580	4,874	0.0945	0.9055	14.45
82.5	46,435	4,573	0.0985	0.9015	13.09
83.5	41,862	3,397	0.0811	0.9189	11.80
84.5	37,876	2,595	0.0685	0.9315	10.84
85.5	35,281	419	0.0119	0.9881	10.10
86.5	28,876	395	0.0137	0.9863	9.98
87.5	28,474	314	0.0110	0.9890	9.84
88.5	18,715	57	0.0031	0.9969	9.73
89.5	12,537	54	0.0043	0.9957	9.70
90.5	5,511	22	0.0041	0.9959	9.66
91.5	3,821	80	0.0208	0.9792	9.62
92.5	3,608	13	0.0035	0.9965	9.42
93.5	1,245	21	0.0166	0.9834	9.39
94.5	1,100	6	0.0059	0.9941	9.23
95.5	1,093	14	0.0124	0.9876	9.18
96.5	890	1	0.0012	0.9988	9.07
97.5	889	2	0.0021	0.9979	9.05
98.5	857		0.0000	1.0000	9.04
99.5	857		0.0000	1.0000	9.04
100.5	281		0.0000	1.0000	9.04
101.5	281		0.0000	1.0000	9.04
102.5	281		0.0000	1.0000	9.04
103.5	281		0.0000	1.0000	9.04
104.5	281		0.0000	1.0000	9.04
105.5	281		0.0000	1.0000	9.04
106.5	281		0.0000	1.0000	9.04
107.5					9.04

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1910-2017 EXPERIENCE BAND 1988-2017

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	84,947,364		0.0000	1.0000	100.00
0.5	86,081,306	8,562	0.0001	0.9999	100.00
1.5	84,490,376	53,717	0.0006	0.9994	99.99
2.5	84,606,887	82,489	0.0010	0.9990	99.93
3.5	85,446,559	39,117	0.0005	0.9995	99.83
4.5	86,313,689	58,048	0.0007	0.9993	99.78
5.5	84,396,291	116,140	0.0014	0.9986	99.72
6.5	85,225,306	108,386	0.0013	0.9987	99.58
7.5	86,467,020	217,899	0.0025	0.9975	99.45
8.5	84,239,331	274,350	0.0033	0.9967	99.20
9.5	78,621,438	144,621	0.0018	0.9982	98.88
10.5	75,700,176	242,317	0.0032	0.9968	98.70
11.5	73,480,585	340,029	0.0046	0.9954	98.38
12.5	70,356,074	42,153	0.0006	0.9994	97.93
13.5	70,546,770	111,135	0.0016	0.9984	97.87
14.5	67,583,733	166,106	0.0025	0.9975	97.71
15.5	66,370,222	28,193	0.0004	0.9996	97.47
16.5	64,206,551	116,439	0.0018	0.9982	97.43
17.5	64,442,304	242,059	0.0038	0.9962	97.25
18.5	62,564,170	47,658	0.0008	0.9992	96.89
19.5	63,241,304	325,260	0.0051	0.9949	96.82
20.5	63,312,447	139,110	0.0022	0.9978	96.32
21.5	63,394,266	123,139	0.0019	0.9981	96.11
22.5	65,286,109	153,987	0.0024	0.9976	95.92
23.5	64,953,426	95,509	0.0015	0.9985	95.69
24.5	63,927,391	111,289	0.0017	0.9983	95.55
25.5	60,806,632	235,734	0.0039	0.9961	95.39
26.5	54,562,572	130,026	0.0024	0.9976	95.02
27.5	45,869,756	86,959	0.0019	0.9981	94.79
28.5	38,391,080	52,698	0.0014	0.9986	94.61
29.5	33,572,432	86,229	0.0026	0.9974	94.48
30.5	29,801,940	174,880	0.0059	0.9941	94.24
31.5	27,168,321	54,932	0.0020	0.9980	93.68
32.5	26,758,638	92,284	0.0034	0.9966	93.50
33.5	25,819,977	43,987	0.0017	0.9983	93.17
34.5	24,339,186	59,535	0.0024	0.9976	93.01
35.5	22,471,921	65,810	0.0029	0.9971	92.79
36.5	21,175,927	47,349	0.0022	0.9978	92.51
37.5	18,774,989	42,073	0.0022	0.9978	92.31
38.5	17,336,637	44,042	0.0025	0.9975	92.10

DUKE ENERGY KENTUCKY
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ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2017 EXPERIENCE BAND 1988-2017

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	16,419,150	63,247	0.0039	0.9961	91.87
40.5	15,792,523	27,896	0.0018	0.9982	91.51
41.5	15,513,066	36,391	0.0023	0.9977	91.35
42.5	14,478,659	38,900	0.0027	0.9973	91.14
43.5	13,017,972	24,947	0.0019	0.9981	90.89
44.5	12,730,049	41,596	0.0033	0.9967	90.72
45.5	11,467,160	55,929	0.0049	0.9951	90.42
46.5	10,149,992	51,567	0.0051	0.9949	89.98
47.5	9,113,606	18,423	0.0020	0.9980	89.52
48.5	8,268,831	24,501	0.0030	0.9970	89.34
49.5	6,899,408	35,726	0.0052	0.9948	89.08
50.5	6,418,648	14,106	0.0022	0.9978	88.62
51.5	5,974,084	15,924	0.0027	0.9973	88.42
52.5	3,992,187	20,375	0.0051	0.9949	88.19
53.5	3,679,403	13,095	0.0036	0.9964	87.74
54.5	3,242,989	14,885	0.0046	0.9954	87.42
55.5	3,058,676	6,174	0.0020	0.9980	87.02
56.5	2,792,537	8,075	0.0029	0.9971	86.85
57.5	2,434,421	3,081	0.0013	0.9987	86.60
58.5	2,241,287	62,781	0.0280	0.9720	86.49
59.5	1,959,279	8,572	0.0044	0.9956	84.06
60.5	1,822,640	11,164	0.0061	0.9939	83.70
61.5	1,768,023	25,692	0.0145	0.9855	83.18
62.5	524,439	13,575	0.0259	0.9741	81.97
63.5	501,260	13,726	0.0274	0.9726	79.85
64.5	283,050	8,161	0.0288	0.9712	77.67
65.5	274,448	6,615	0.0241	0.9759	75.43
66.5	268,862	6,338	0.0236	0.9764	73.61
67.5	203,497	7,730	0.0380	0.9620	71.87
68.5	196,179	8,279	0.0422	0.9578	69.14
69.5	187,044	13,896	0.0743	0.9257	66.23
70.5	178,668	20,182	0.1130	0.8870	61.30
71.5	158,491	13,756	0.0868	0.9132	54.38
72.5	151,258	13,340	0.0882	0.9118	49.66
73.5	138,015	14,166	0.1026	0.8974	45.28
74.5	123,739	15,664	0.1266	0.8734	40.63
75.5	105,542	10,656	0.1010	0.8990	35.49
76.5	94,384	7,833	0.0830	0.9170	31.91
77.5	86,831	8,105	0.0933	0.9067	29.26
78.5	78,727	8,684	0.1103	0.8897	26.53

DUKE ENERGY KENTUCKY
GAS PLANT

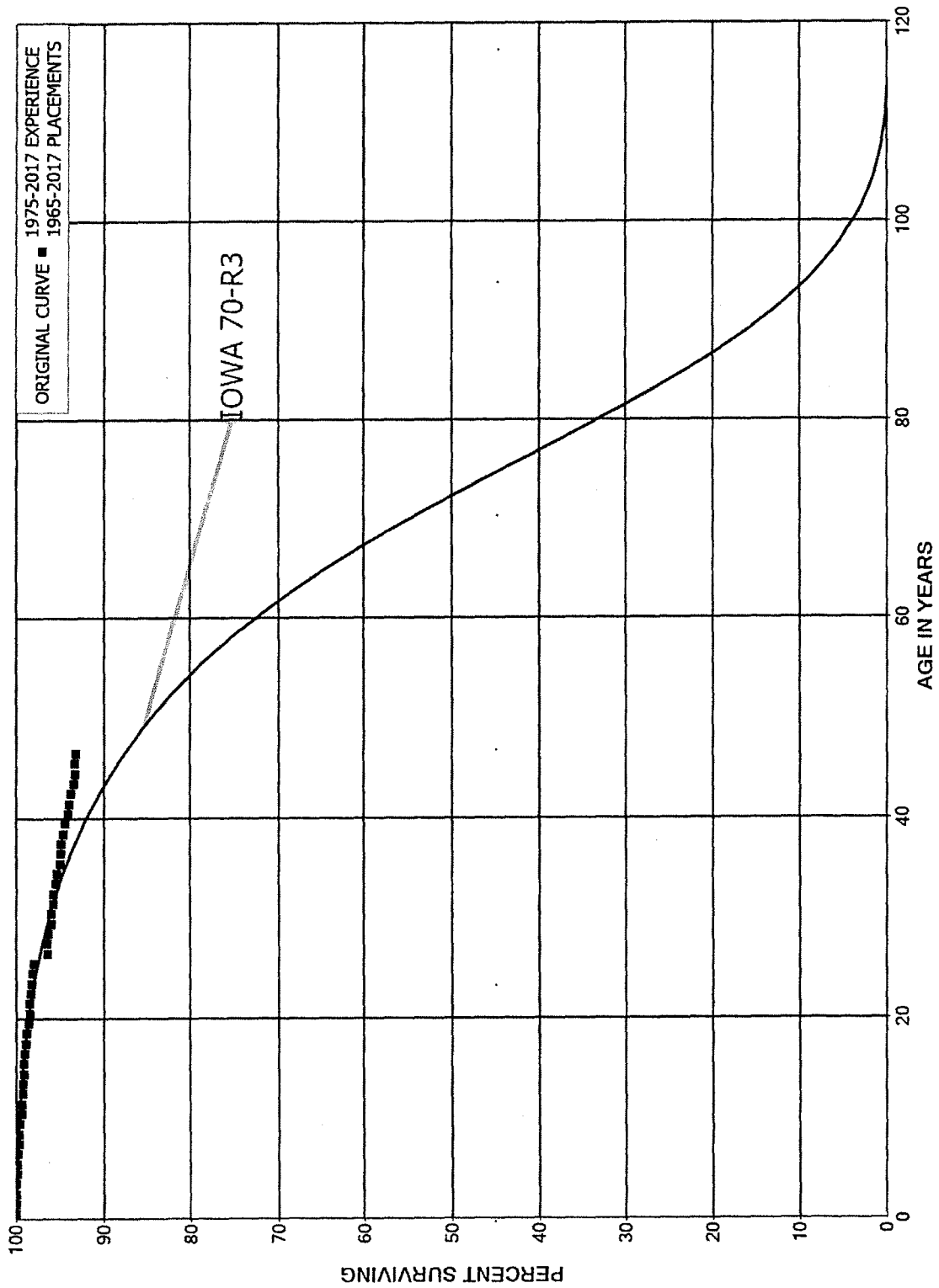
ACCOUNTS 2762 AND 2765 MAINS AND FEEDER LINES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2017 EXPERIENCE BAND 1988-2017

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	70,043	13,842	0.1976	0.8024	23.60
80.5	56,201	4,621	0.0822	0.9178	18.94
81.5	51,580	4,874	0.0945	0.9055	17.38
82.5	46,435	4,573	0.0985	0.9015	15.74
83.5	41,862	3,397	0.0811	0.9189	14.19
84.5	37,876	2,595	0.0685	0.9315	13.04
85.5	35,281	419	0.0119	0.9881	12.14
86.5	28,876	395	0.0137	0.9863	12.00
87.5	28,474	314	0.0110	0.9890	11.84
88.5	18,715	57	0.0031	0.9969	11.70
89.5	12,537	54	0.0043	0.9957	11.67
90.5	5,511	22	0.0041	0.9959	11.62
91.5	3,821	80	0.0208	0.9792	11.57
92.5	3,608	13	0.0035	0.9965	11.33
93.5	1,245	21	0.0166	0.9834	11.29
94.5	1,100	6	0.0059	0.9941	11.10
95.5	1,093	14	0.0124	0.9876	11.04
96.5	890	1	0.0012	0.9988	10.90
97.5	889	2	0.0021	0.9979	10.89
98.5	857		0.0000	1.0000	10.86
99.5	857		0.0000	1.0000	10.86
100.5	281		0.0000	1.0000	10.86
101.5	281		0.0000	1.0000	10.86
102.5	281		0.0000	1.0000	10.86
103.5	281		0.0000	1.0000	10.86
104.5	281		0.0000	1.0000	10.86
105.5	281		0.0000	1.0000	10.86
106.5	281		0.0000	1.0000	10.86
107.5					10.86

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2763 MAINS - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2763 MAINS - PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1965-2017 EXPERIENCE BAND 1975-2017

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	149,897,453		0.0000	1.0000	100.00
0.5	149,178,146	15,215	0.0001	0.9999	100.00
1.5	144,836,517	78,088	0.0005	0.9995	99.99
2.5	143,744,032	43,697	0.0003	0.9997	99.94
3.5	141,927,368	22,423	0.0002	0.9998	99.91
4.5	140,279,170	68,930	0.0005	0.9995	99.89
5.5	136,905,086	182,170	0.0013	0.9987	99.84
6.5	134,416,933	59,973	0.0004	0.9996	99.71
7.5	130,069,705	74,280	0.0006	0.9994	99.66
8.5	114,372,636	79,597	0.0007	0.9993	99.61
9.5	102,728,194	235,107	0.0023	0.9977	99.54
10.5	95,042,921	60,165	0.0006	0.9994	99.31
11.5	83,792,540	32,024	0.0004	0.9996	99.25
12.5	72,964,541	35,514	0.0005	0.9995	99.21
13.5	57,443,828	32,535	0.0006	0.9994	99.16
14.5	47,179,249	20,661	0.0004	0.9996	99.10
15.5	36,053,791	40,994	0.0011	0.9989	99.06
16.5	29,500,786	18,822	0.0006	0.9994	98.95
17.5	26,174,723	33,255	0.0013	0.9987	98.88
18.5	23,524,285	55,978	0.0024	0.9976	98.76
19.5	19,971,559	17,916	0.0009	0.9991	98.52
20.5	15,705,602	9,434	0.0006	0.9994	98.44
21.5	12,158,532	9,390	0.0008	0.9992	98.38
22.5	9,085,704	13,154	0.0014	0.9986	98.30
23.5	5,242,135	7,453	0.0014	0.9986	98.16
24.5	2,855,467	327	0.0001	0.9999	98.02
25.5	1,600,942	25,564	0.0160	0.9840	98.01
26.5	1,404,101	1,219	0.0009	0.9991	96.44
27.5	1,343,752	706	0.0005	0.9995	96.36
28.5	1,271,997	3,988	0.0031	0.9969	96.31
29.5	1,255,916	1,390	0.0011	0.9989	96.01
30.5	1,195,766	1,707	0.0014	0.9986	95.90
31.5	1,166,318	933	0.0008	0.9992	95.76
32.5	1,165,385	4,091	0.0035	0.9965	95.69
33.5	1,120,857	679	0.0006	0.9994	95.35
34.5	1,110,937	4,310	0.0039	0.9961	95.29
35.5	1,106,627	711	0.0006	0.9994	94.92
36.5	1,070,362	390	0.0004	0.9996	94.86
37.5	906,753	1,895	0.0021	0.9979	94.83
38.5	805,725	1,762	0.0022	0.9978	94.63

DUKE ENERGY KENTUCKY
GAS PLANT

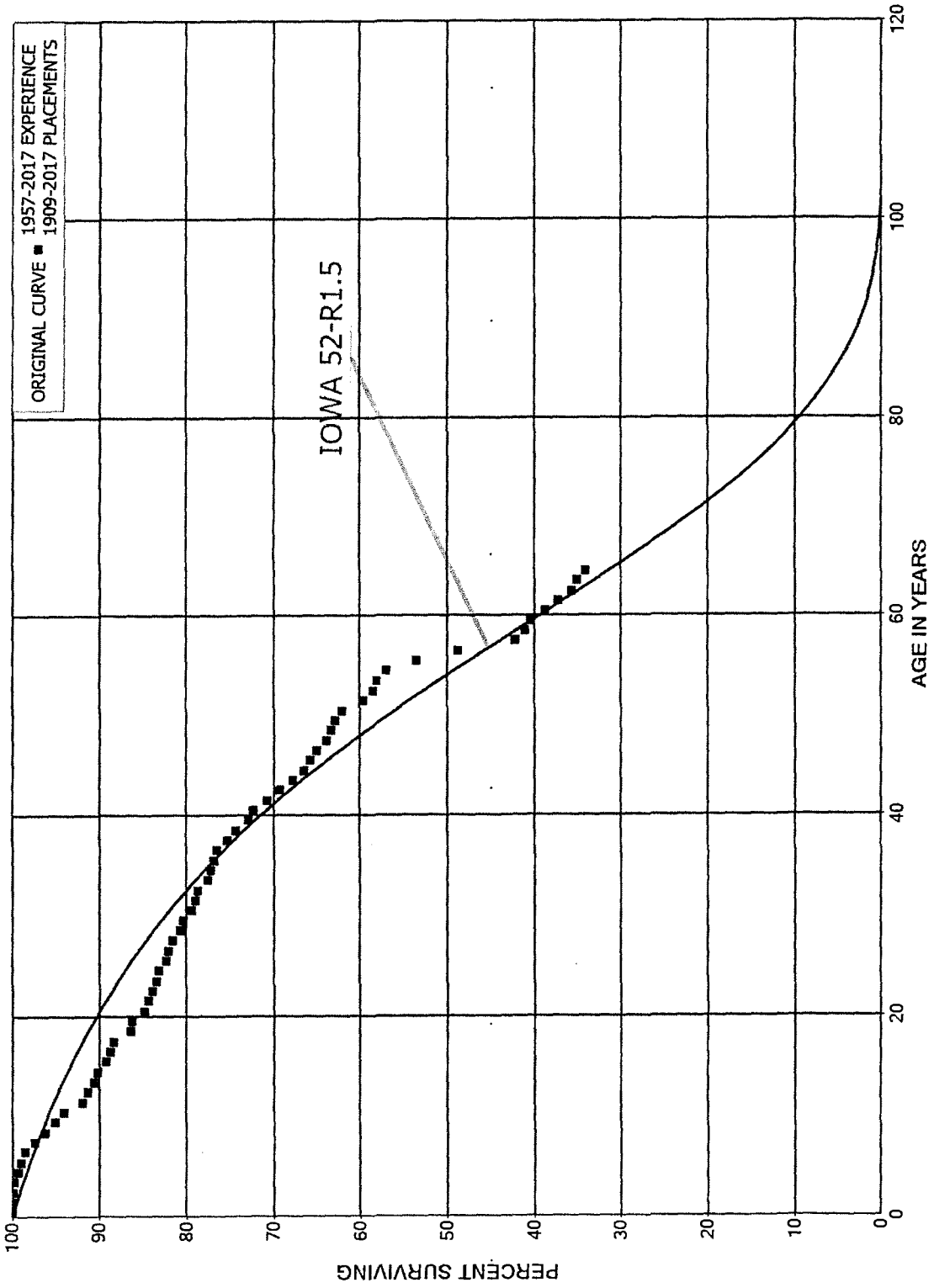
ACCOUNT 2763 MAINS - PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1965-2017 EXPERIENCE BAND 1975-2017

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	744,420	2,603	0.0035	0.9965	94.42
40.5	734,325	1,443	0.0020	0.9980	94.09
41.5	705,018	1,470	0.0021	0.9979	93.91
42.5	637,018	2,066	0.0032	0.9968	93.71
43.5	576,734	474	0.0008	0.9992	93.41
44.5	460,116	263	0.0006	0.9994	93.33
45.5	281,461	239	0.0008	0.9992	93.28
46.5	109,399	72	0.0007	0.9993	93.20
47.5	6,863	2	0.0003	0.9997	93.14
48.5	6,861	2	0.0003	0.9997	93.11
49.5	1,072		0.0000	1.0000	93.08
50.5	1,072	2	0.0019	0.9981	93.08
51.5	1,070	2	0.0019	0.9981	92.91
52.5					92.74

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2780 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2780 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1909-2017 EXPERIENCE BAND 1957-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,042,662	1,199	0.0002	0.9998	100.00
0.5	6,766,560	3,456	0.0005	0.9995	99.98
1.5	6,434,906	3,237	0.0005	0.9995	99.93
2.5	5,183,236	9,763	0.0019	0.9981	99.88
3.5	5,162,380	22,494	0.0044	0.9956	99.69
4.5	5,096,263	16,714	0.0033	0.9967	99.26
5.5	5,006,740	21,966	0.0044	0.9956	98.93
6.5	4,645,980	53,027	0.0114	0.9886	98.50
7.5	4,597,002	54,085	0.0118	0.9882	97.38
8.5	4,116,490	49,764	0.0121	0.9879	96.23
9.5	3,777,097	43,189	0.0114	0.9886	95.07
10.5	3,342,046	77,879	0.0233	0.9767	93.98
11.5	2,964,865	14,826	0.0050	0.9950	91.79
12.5	2,859,521	24,663	0.0086	0.9914	91.33
13.5	2,757,249	9,969	0.0036	0.9964	90.54
14.5	2,615,192	28,917	0.0111	0.9889	90.22
15.5	2,551,066	13,556	0.0053	0.9947	89.22
16.5	2,452,074	9,228	0.0038	0.9962	88.74
17.5	1,752,455	40,048	0.0229	0.9771	88.41
18.5	1,667,298	1,245	0.0007	0.9993	86.39
19.5	1,592,101	27,538	0.0173	0.9827	86.32
20.5	1,543,731	8,185	0.0053	0.9947	84.83
21.5	1,538,300	8,012	0.0052	0.9948	84.38
22.5	1,509,447	9,057	0.0060	0.9940	83.94
23.5	1,475,178	3,716	0.0025	0.9975	83.44
24.5	1,422,150	16,478	0.0116	0.9884	83.23
25.5	1,386,432	4,143	0.0030	0.9970	82.26
26.5	1,287,814	5,705	0.0044	0.9956	82.02
27.5	1,274,943	14,151	0.0111	0.9889	81.65
28.5	1,136,215	4,960	0.0044	0.9956	80.75
29.5	1,047,307	12,494	0.0119	0.9881	80.40
30.5	1,017,789	6,057	0.0060	0.9940	79.44
31.5	851,664	2,660	0.0031	0.9969	78.96
32.5	818,279	12,928	0.0158	0.9842	78.72
33.5	706,098	2,765	0.0039	0.9961	77.47
34.5	691,893	2,740	0.0040	0.9960	77.17
35.5	659,222	2,695	0.0041	0.9959	76.86
36.5	641,805	10,629	0.0166	0.9834	76.55
37.5	572,641	7,319	0.0128	0.9872	75.28
38.5	470,142	9,647	0.0205	0.9795	74.32
39.5	427,886	3,073	0.0072	0.9928	72.80

DUKE ENERGY KENTUCKY
GAS PLANT

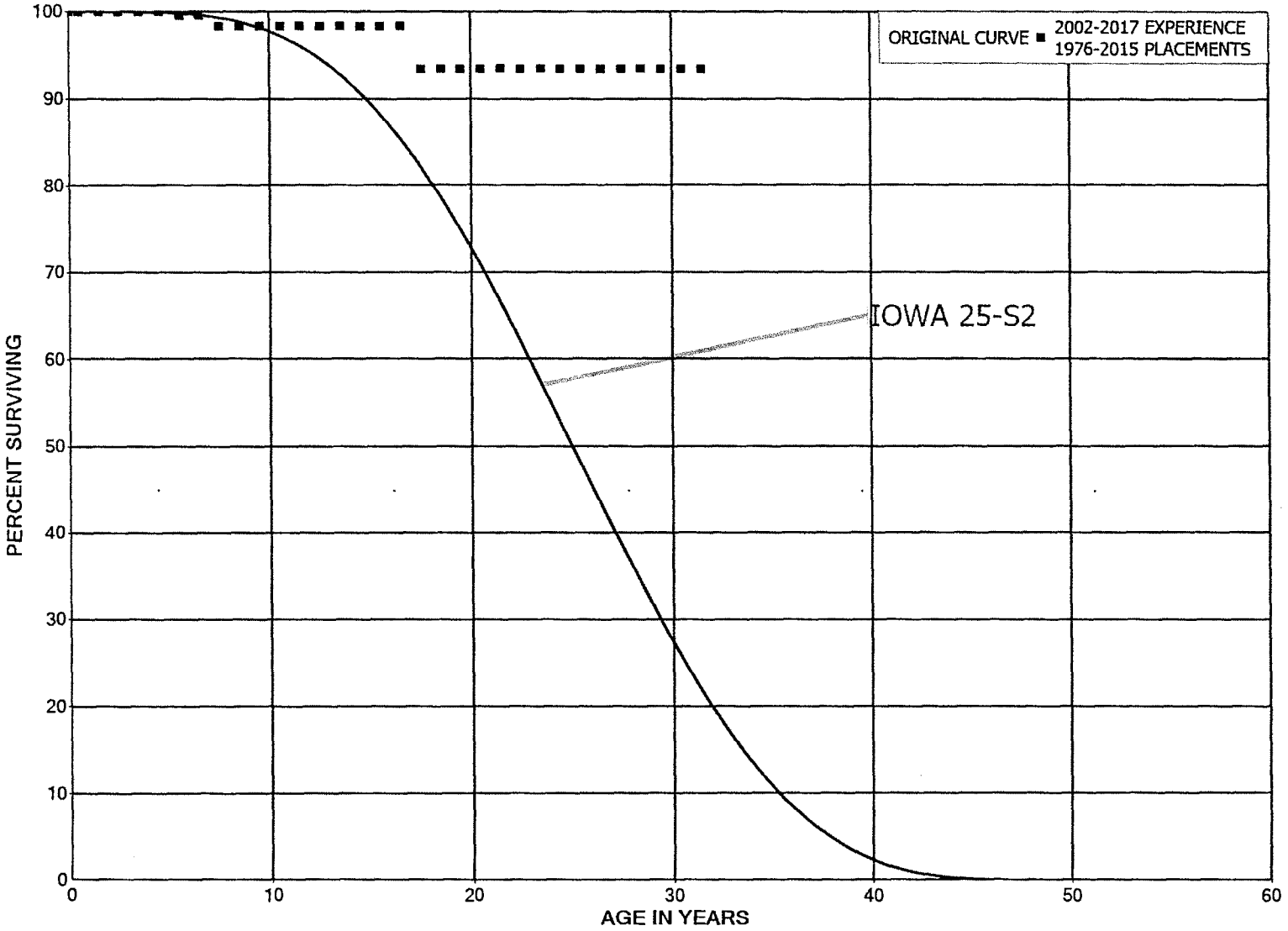
ACCOUNT 2780 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2017 EXPERIENCE BAND 1957-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
40.5	418,654	8,763	0.0209	0.9791	72.27
41.5	394,908	8,283	0.0210	0.9790	70.76
42.5	368,322	8,140	0.0221	0.9779	69.28
43.5	337,993	5,932	0.0175	0.9825	67.75
44.5	310,153	3,586	0.0116	0.9884	66.56
45.5	211,729	2,340	0.0111	0.9889	65.79
46.5	86,143	1,502	0.0174	0.9826	65.06
47.5	83,654	740	0.0088	0.9912	63.93
48.5	77,490	564	0.0073	0.9927	63.36
49.5	70,030	834	0.0119	0.9881	62.90
50.5	69,196	2,872	0.0415	0.9585	62.15
51.5	65,822	1,210	0.0184	0.9816	59.57
52.5	59,720	449	0.0075	0.9925	58.47
53.5	59,272	1,068	0.0180	0.9820	58.04
54.5	56,141	3,391	0.0604	0.9396	56.99
55.5	52,750	4,766	0.0903	0.9097	53.55
56.5	35,818	4,842	0.1352	0.8648	48.71
57.5	30,326	770	0.0254	0.9746	42.13
58.5	16,185	272	0.0168	0.9832	41.06
59.5	15,133	616	0.0407	0.9593	40.37
60.5	14,517	597	0.0411	0.9589	38.72
61.5	13,920	578	0.0415	0.9585	37.13
62.5	11,156	164	0.0147	0.9853	35.59
63.5	10,992	320	0.0292	0.9708	35.07
64.5	5,750	165	0.0286	0.9714	34.04
65.5	5,585	487	0.0871	0.9129	33.07
66.5	5,098	153	0.0301	0.9699	30.19
67.5	4,945	142	0.0287	0.9713	29.28
68.5	1,001	1	0.0012	0.9988	28.44
69.5	999	1	0.0011	0.9989	28.40
70.5	971	131	0.1346	0.8654	28.37
71.5	840		0.0000	1.0000	24.55
72.5	840		0.0000	1.0000	24.55
73.5	840	42	0.0502	0.9498	24.55
74.5	798	41	0.0513	0.9487	23.32
75.5	757	323	0.4269	0.5731	22.12
76.5	434		0.0000	1.0000	12.68
77.5	434	34	0.0794	0.9206	12.68
78.5	399	31	0.0774	0.9226	11.67
79.5	369	27	0.0742	0.9258	10.77
80.5	341	30	0.0885	0.9115	9.97
81.5	311	20	0.0641	0.9359	9.09
82.5					8.50

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2781 MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2781 MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2015 EXPERIENCE BAND 2002-2017

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	531,352		0.0000	1.0000	100.00
0.5	531,352		0.0000	1.0000	100.00
1.5	531,352		0.0000	1.0000	100.00
2.5	425,310		0.0000	1.0000	100.00
3.5	653,259		0.0000	1.0000	100.00
4.5	685,289	3,399	0.0050	0.9950	100.00
5.5	405,597		0.0000	1.0000	99.50
6.5	405,658	5,107	0.0126	0.9874	99.50
7.5	434,189		0.0000	1.0000	98.25
8.5	419,400		0.0000	1.0000	98.25
9.5	391,052		0.0000	1.0000	98.25
10.5	317,130		0.0000	1.0000	98.25
11.5	217,919		0.0000	1.0000	98.25
12.5	165,499		0.0000	1.0000	98.25
13.5	181,187		0.0000	1.0000	98.25
14.5	192,700		0.0000	1.0000	98.25
15.5	338,485		0.0000	1.0000	98.25
16.5	338,485	16,626	0.0491	0.9509	98.25
17.5	321,859		0.0000	1.0000	93.43
18.5	321,859		0.0000	1.0000	93.43
19.5	308,730		0.0000	1.0000	93.43
20.5	280,099		0.0000	1.0000	93.43
21.5	252,015		0.0000	1.0000	93.43
22.5	248,215		0.0000	1.0000	93.43
23.5	194,165		0.0000	1.0000	93.43
24.5	194,165		0.0000	1.0000	93.43
25.5	203,487		0.0000	1.0000	93.43
26.5	203,487		0.0000	1.0000	93.43
27.5	203,487		0.0000	1.0000	93.43
28.5	203,487		0.0000	1.0000	93.43
29.5	175,804		0.0000	1.0000	93.43
30.5	144,751		0.0000	1.0000	93.43
31.5	9,322		0.0000	1.0000	93.43
32.5	9,322		0.0000	1.0000	93.43
33.5	9,322		0.0000	1.0000	93.43
34.5	9,322		0.0000	1.0000	93.43
35.5	9,322		0.0000	1.0000	93.43
36.5	9,322		0.0000	1.0000	93.43
37.5	9,322		0.0000	1.0000	93.43
38.5	9,322		0.0000	1.0000	93.43

DUKE ENERGY KENTUCKY
GAS PLANT

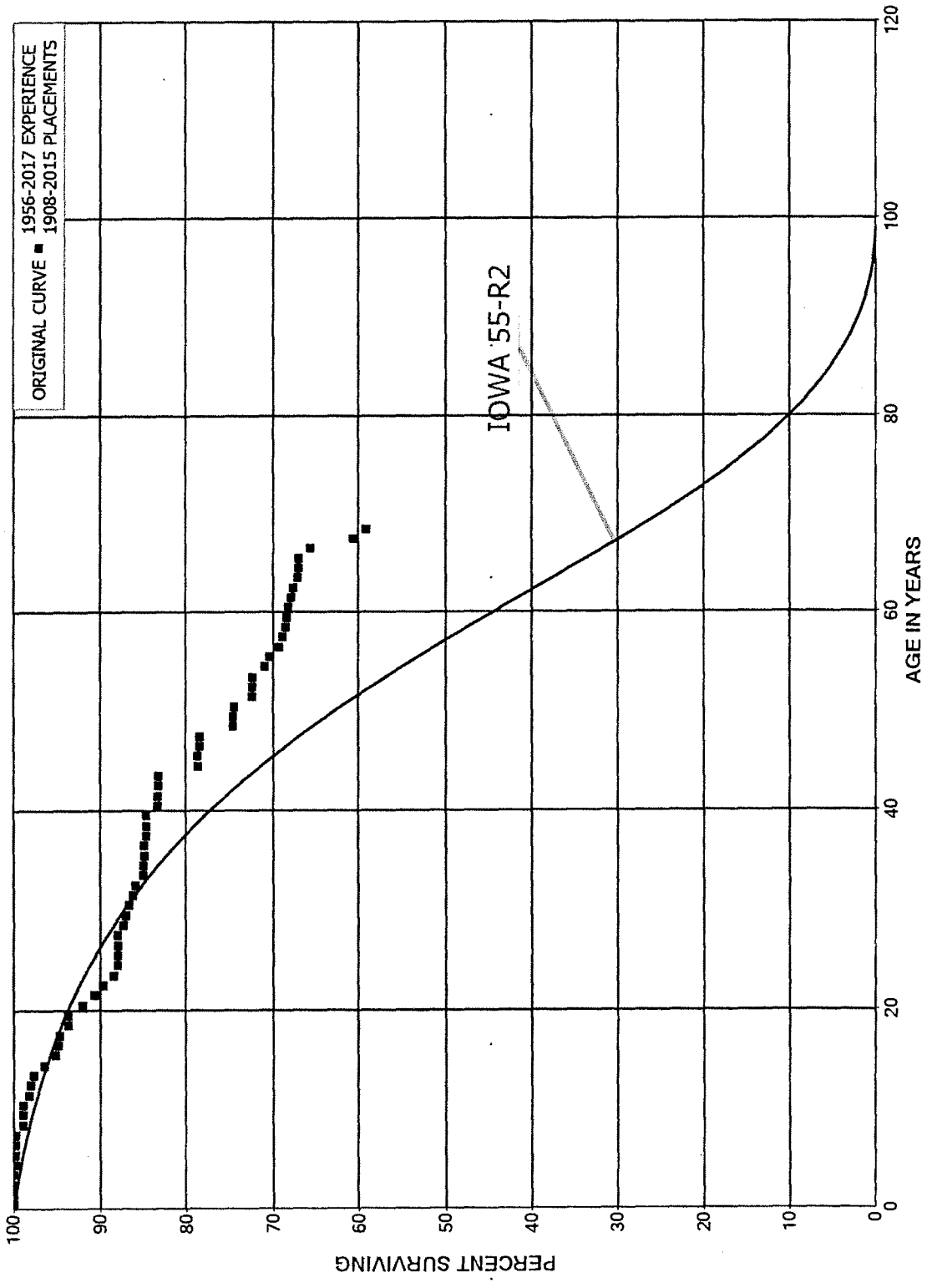
ACCOUNT 2781 MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1976-2015 EXPERIENCE BAND 2002-2017

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	9,322		0.0000	1.0000	93.43
40.5	9,322		0.0000	1.0000	93.43
41.5					93.43

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1908-2015 EXPERIENCE BAND 1956-2017

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	2,329,511		0.0000	1.0000	100.00
0.5	2,335,201	2,516	0.0011	0.9989	100.00
1.5	2,335,254		0.0000	1.0000	99.89
2.5	2,145,138		0.0000	1.0000	99.89
3.5	2,039,311	3,499	0.0017	0.9983	99.89
4.5	1,648,421	413	0.0003	0.9997	99.72
5.5	1,222,979		0.0000	1.0000	99.70
6.5	1,168,267		0.0000	1.0000	99.70
7.5	1,042,482	8,829	0.0085	0.9915	99.70
8.5	995,691		0.0000	1.0000	98.85
9.5	774,415		0.0000	1.0000	98.85
10.5	648,945	4,590	0.0071	0.9929	98.85
11.5	644,355	982	0.0015	0.9985	98.15
12.5	606,809	2,102	0.0035	0.9965	98.00
13.5	578,509	7,252	0.0125	0.9875	97.66
14.5	526,520	7,361	0.0140	0.9860	96.44
15.5	519,159	1,849	0.0036	0.9964	95.09
16.5	517,312	836	0.0016	0.9984	94.75
17.5	517,894	5,092	0.0098	0.9902	94.60
18.5	518,258	43	0.0001	0.9999	93.67
19.5	518,532	9,603	0.0185	0.9815	93.66
20.5	509,338	6,997	0.0137	0.9863	91.93
21.5	491,100	5,869	0.0120	0.9880	90.66
22.5	485,231	6,135	0.0126	0.9874	89.58
23.5	479,096	2,397	0.0050	0.9950	88.45
24.5	476,839	623	0.0013	0.9987	88.01
25.5	464,523		0.0000	1.0000	87.89
26.5	465,482		0.0000	1.0000	87.89
27.5	441,105	2,931	0.0066	0.9934	87.89
28.5	393,900	1,516	0.0038	0.9962	87.31
29.5	392,384	1,492	0.0038	0.9962	86.97
30.5	391,304	2,194	0.0056	0.9944	86.64
31.5	369,719	1,149	0.0031	0.9969	86.15
32.5	347,217	4,004	0.0115	0.9885	85.89
33.5	325,978		0.0000	1.0000	84.90
34.5	315,267	316	0.0010	0.9990	84.90
35.5	303,272	104	0.0003	0.9997	84.81
36.5	271,811	638	0.0023	0.9977	84.78
37.5	246,460	65	0.0003	0.9997	84.58
38.5	226,425		0.0000	1.0000	84.56

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1908-2015 EXPERIENCE BAND 1956-2017

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	176,560	2,661	0.0151	0.9849	84.56
40.5	172,087	79	0.0005	0.9995	83.29
41.5	153,508	88	0.0006	0.9994	83.25
42.5	133,000	83	0.0006	0.9994	83.20
43.5	122,468	6,659	0.0544	0.9456	83.15
44.5	89,144		0.0000	1.0000	78.63
45.5	89,073	217	0.0024	0.9976	78.63
46.5	86,120	62	0.0007	0.9993	78.44
47.5	78,184	3,729	0.0477	0.9523	78.38
48.5	74,283		0.0000	1.0000	74.64
49.5	74,283	100	0.0013	0.9987	74.64
50.5	74,183	2,097	0.0283	0.9717	74.54
51.5	65,114		0.0000	1.0000	72.43
52.5	62,778		0.0000	1.0000	72.43
53.5	58,300	1,211	0.0208	0.9792	72.43
54.5	55,040	410	0.0074	0.9926	70.93
55.5	54,630	907	0.0166	0.9834	70.40
56.5	48,971	267	0.0055	0.9945	69.23
57.5	45,871	212	0.0046	0.9954	68.85
58.5	43,138	115	0.0027	0.9973	68.54
59.5	43,023	130	0.0030	0.9970	68.35
60.5	42,893	211	0.0049	0.9951	68.15
61.5	42,682	124	0.0029	0.9971	67.81
62.5	38,342	290	0.0076	0.9924	67.61
63.5	38,052	107	0.0028	0.9972	67.10
64.5	25,938		0.0000	1.0000	66.91
65.5	10,918	217	0.0199	0.9801	66.91
66.5	10,701	806	0.0753	0.9247	65.58
67.5	9,895	233	0.0235	0.9765	60.65
68.5	8,239		0.0000	1.0000	59.22
69.5	6,836	134	0.0196	0.9804	59.22
70.5	6,702	39	0.0058	0.9942	58.06
71.5	6,663		0.0000	1.0000	57.72
72.5	6,663		0.0000	1.0000	57.72
73.5	6,663		0.0000	1.0000	57.72
74.5	6,663		0.0000	1.0000	57.72
75.5	6,663		0.0000	1.0000	57.72
76.5	6,663	109	0.0164	0.9836	57.72
77.5	6,554	273	0.0417	0.9583	56.77
78.5	6,278		0.0000	1.0000	54.41

DUKE ENERGY KENTUCKY
GAS PLANT

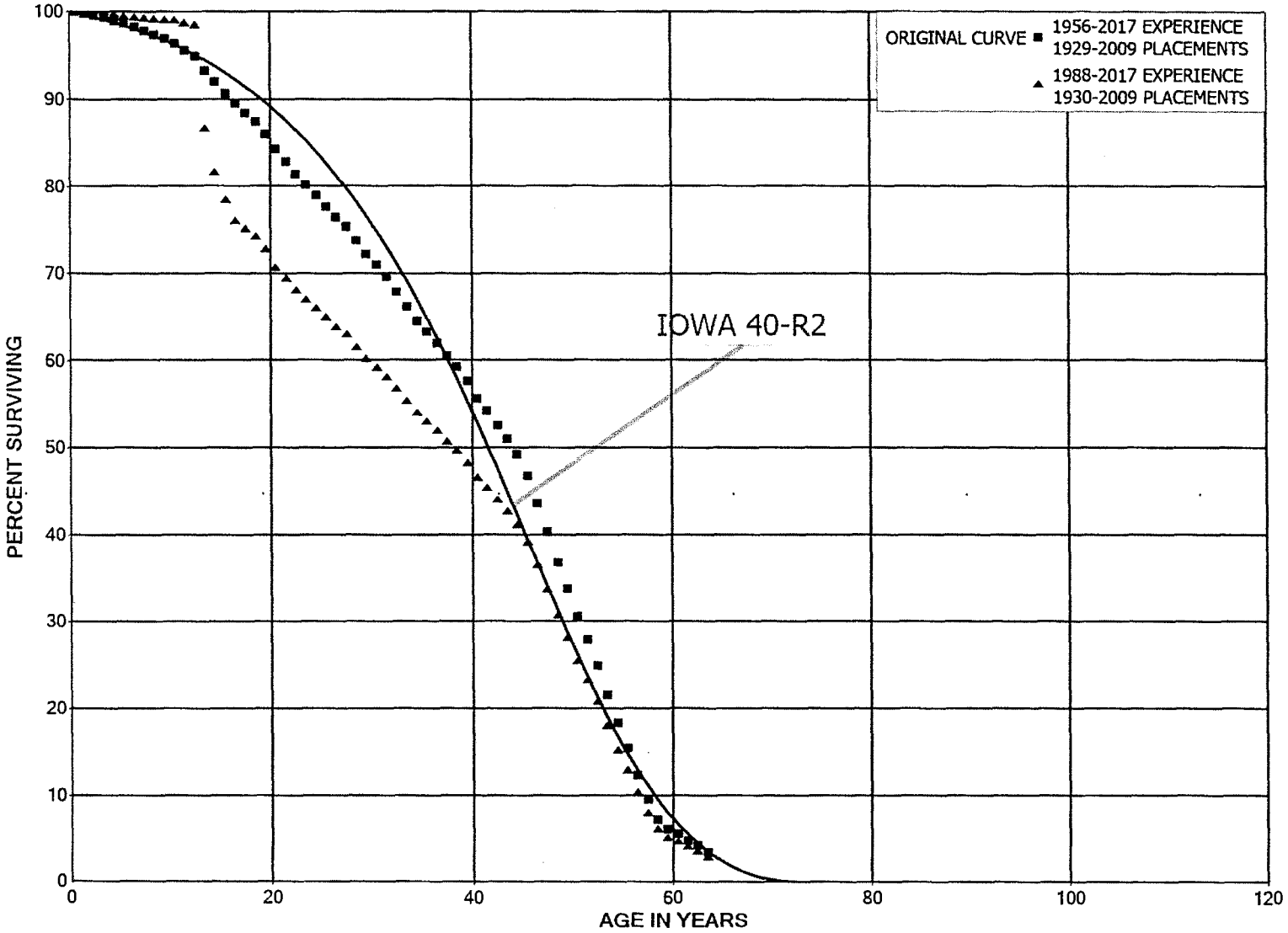
ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1908-2015 EXPERIENCE BAND 1956-2017

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	4,927		0.0000	1.0000	54.41
80.5	2,798		0.0000	1.0000	54.41
81.5	2,798		0.0000	1.0000	54.41
82.5	2,798		0.0000	1.0000	54.41
83.5	2,798		0.0000	1.0000	54.41
84.5	2,798		0.0000	1.0000	54.41
85.5	2,798		0.0000	1.0000	54.41
86.5	2,798		0.0000	1.0000	54.41
87.5	2,115		0.0000	1.0000	54.41
88.5	2,115		0.0000	1.0000	54.41
89.5	2,115		0.0000	1.0000	54.41
90.5	2,115		0.0000	1.0000	54.41
91.5	2,115		0.0000	1.0000	54.41
92.5	2,115		0.0000	1.0000	54.41
93.5	2,115		0.0000	1.0000	54.41
94.5	2,115		0.0000	1.0000	54.41
95.5	2,115		0.0000	1.0000	54.41
96.5	2,115		0.0000	1.0000	54.41
97.5	2,115		0.0000	1.0000	54.41
98.5	2,115		0.0000	1.0000	54.41
99.5	2,115		0.0000	1.0000	54.41
100.5	2,115		0.0000	1.0000	54.41
101.5	2,115		0.0000	1.0000	54.41
102.5	2,115		0.0000	1.0000	54.41
103.5	2,115		0.0000	1.0000	54.41
104.5	2,115		0.0000	1.0000	54.41
105.5	2,115		0.0000	1.0000	54.41
106.5	2,115		0.0000	1.0000	54.41
107.5	1,324		0.0000	1.0000	54.41
108.5					54.41

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2009 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,111,943	3,851	0.0005	0.9995	100.00
0.5	7,317,460	15,671	0.0021	0.9979	99.95
1.5	6,671,211	11,945	0.0018	0.9982	99.74
2.5	6,702,462	17,997	0.0027	0.9973	99.56
3.5	6,709,051	29,967	0.0045	0.9955	99.29
4.5	6,307,312	17,694	0.0028	0.9972	98.85
5.5	6,343,367	26,301	0.0041	0.9959	98.57
6.5	6,366,333	24,899	0.0039	0.9961	98.16
7.5	6,387,043	29,314	0.0046	0.9954	97.78
8.5	6,381,718	30,214	0.0047	0.9953	97.33
9.5	6,116,618	35,285	0.0058	0.9942	96.87
10.5	6,009,266	47,397	0.0079	0.9921	96.31
11.5	5,960,638	47,122	0.0079	0.9921	95.55
12.5	3,249,648	55,055	0.0169	0.9831	94.80
13.5	3,195,059	43,290	0.0135	0.9865	93.19
14.5	3,159,556	43,357	0.0137	0.9863	91.93
15.5	3,128,015	38,234	0.0122	0.9878	90.67
16.5	3,095,754	39,580	0.0128	0.9872	89.56
17.5	3,067,358	34,156	0.0111	0.9889	88.41
18.5	3,050,855	50,373	0.0165	0.9835	87.43
19.5	3,005,961	60,569	0.0201	0.9799	85.98
20.5	2,944,973	48,702	0.0165	0.9835	84.25
21.5	2,904,892	52,158	0.0180	0.9820	82.86
22.5	2,852,509	40,804	0.0143	0.9857	81.37
23.5	2,810,988	43,186	0.0154	0.9846	80.21
24.5	2,767,264	47,193	0.0171	0.9829	78.97
25.5	2,720,420	42,676	0.0157	0.9843	77.63
26.5	2,677,538	39,634	0.0148	0.9852	76.41
27.5	2,636,569	56,065	0.0213	0.9787	75.28
28.5	2,576,935	51,396	0.0199	0.9801	73.68
29.5	2,523,640	44,160	0.0175	0.9825	72.21
30.5	2,478,417	47,814	0.0193	0.9807	70.95
31.5	2,429,030	59,010	0.0243	0.9757	69.58
32.5	2,369,235	60,248	0.0254	0.9746	67.89
33.5	2,307,436	57,070	0.0247	0.9753	66.16
34.5	2,248,152	43,565	0.0194	0.9806	64.52
35.5	2,202,584	46,597	0.0212	0.9788	63.27
36.5	2,151,896	48,742	0.0227	0.9773	61.93
37.5	2,097,638	44,425	0.0212	0.9788	60.53
38.5	2,053,032	58,521	0.0285	0.9715	59.25
39.5	1,989,474	66,631	0.0335	0.9665	57.56

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2009 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
40.5	1,919,859	51,930	0.0270	0.9730	55.63
41.5	1,867,684	54,395	0.0291	0.9709	54.13
42.5	1,810,940	54,010	0.0298	0.9702	52.55
43.5	1,754,735	63,462	0.0362	0.9638	50.98
44.5	1,686,080	84,177	0.0499	0.9501	49.14
45.5	1,585,700	108,398	0.0684	0.9316	46.69
46.5	1,415,322	104,436	0.0738	0.9262	43.50
47.5	1,247,625	109,164	0.0875	0.9125	40.29
48.5	1,070,779	89,143	0.0833	0.9167	36.76
49.5	938,745	88,991	0.0948	0.9052	33.70
50.5	797,860	70,781	0.0887	0.9113	30.51
51.5	696,502	73,120	0.1050	0.8950	27.80
52.5	591,279	80,773	0.1366	0.8634	24.88
53.5	476,165	71,653	0.1505	0.8495	21.48
54.5	385,247	61,260	0.1590	0.8410	18.25
55.5	305,661	60,297	0.1973	0.8027	15.35
56.5	225,237	51,311	0.2278	0.7722	12.32
57.5	162,346	39,488	0.2432	0.7568	9.51
58.5	111,131	18,104	0.1629	0.8371	7.20
59.5	88,404	7,572	0.0857	0.9143	6.03
60.5	79,593	11,466	0.1441	0.8559	5.51
61.5	67,501	8,327	0.1234	0.8766	4.72
62.5	58,781	11,142	0.1896	0.8104	4.13
63.5	47,056	8,240	0.1751	0.8249	3.35
64.5	38,401	4,621	0.1203	0.8797	2.76
65.5	33,647	3,451	0.1026	0.8974	2.43
66.5	29,927	5,994	0.2003	0.7997	2.18
67.5	23,648	4,495	0.1901	0.8099	1.75
68.5	19,064	7,314	0.3837	0.6163	1.41
69.5	11,750	2,879	0.2450	0.7550	0.87
70.5	8,871	979	0.1104	0.8896	0.66
71.5	7,892	1,118	0.1416	0.8584	0.59
72.5	6,774	761	0.1124	0.8876	0.50
73.5	6,013	490	0.0814	0.9186	0.45
74.5	5,523	306	0.0553	0.9447	0.41
75.5	5,218	421	0.0807	0.9193	0.39
76.5	4,797	1,280	0.2669	0.7331	0.36
77.5	3,517	595	0.1692	0.8308	0.26
78.5	2,921	1,169	0.4002	0.5998	0.22
79.5	1,752	1,648	0.9406	0.0594	0.13
80.5	104	50	0.4770	0.5230	0.01
81.5	54	54	1.0000		0.00
82.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1930-2009 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	4,978,598	531	0.0001	0.9999	100.00
0.5	4,165,322	2,757	0.0007	0.9993	99.99
1.5	3,480,248		0.0000	1.0000	99.92
2.5	3,482,846	4,186	0.0012	0.9988	99.92
3.5	3,482,878	12,073	0.0035	0.9965	99.80
4.5	3,074,704	4,248	0.0014	0.9986	99.46
5.5	3,086,743	4,227	0.0014	0.9986	99.32
6.5	3,092,011	3,516	0.0011	0.9989	99.18
7.5	3,098,607	2,562	0.0008	0.9992	99.07
8.5	3,101,780	3,305	0.0011	0.9989	98.99
9.5	2,870,442	2,082	0.0007	0.9993	98.88
10.5	2,798,934	9,272	0.0033	0.9967	98.81
11.5	2,791,234	7,026	0.0025	0.9975	98.48
12.5	124,818	14,853	0.1190	0.8810	98.24
13.5	130,938	7,649	0.0584	0.9416	86.55
14.5	149,609	5,793	0.0387	0.9613	81.49
15.5	202,802	6,340	0.0313	0.9687	78.33
16.5	372,337	4,793	0.0129	0.9871	75.89
17.5	580,848	6,196	0.0107	0.9893	74.91
18.5	801,253	16,210	0.0202	0.9798	74.11
19.5	940,598	27,175	0.0289	0.9711	72.61
20.5	1,100,559	19,493	0.0177	0.9823	70.51
21.5	1,234,725	23,335	0.0189	0.9811	69.26
22.5	1,385,554	23,413	0.0169	0.9831	67.96
23.5	1,531,119	22,740	0.0149	0.9851	66.81
24.5	1,681,722	25,743	0.0153	0.9847	65.81
25.5	1,794,336	28,497	0.0159	0.9841	64.81
26.5	1,929,948	29,500	0.0153	0.9847	63.78
27.5	2,015,720	43,813	0.0217	0.9783	62.80
28.5	2,094,512	45,580	0.0218	0.9782	61.44
29.5	2,113,739	36,876	0.0174	0.9826	60.10
30.5	2,112,219	39,415	0.0187	0.9813	59.05
31.5	2,113,797	49,567	0.0234	0.9766	57.95
32.5	2,081,653	52,038	0.0250	0.9750	56.59
33.5	2,066,906	49,717	0.0241	0.9759	55.18
34.5	2,045,780	38,037	0.0186	0.9814	53.85
35.5	2,018,325	43,114	0.0214	0.9786	52.85
36.5	1,985,979	44,682	0.0225	0.9775	51.72
37.5	1,964,762	41,848	0.0213	0.9787	50.56
38.5	1,946,832	57,333	0.0294	0.9706	49.48
39.5	1,911,544	64,914	0.0340	0.9660	48.02

DUKE ENERGY KENTUCKY
GAS PLANT

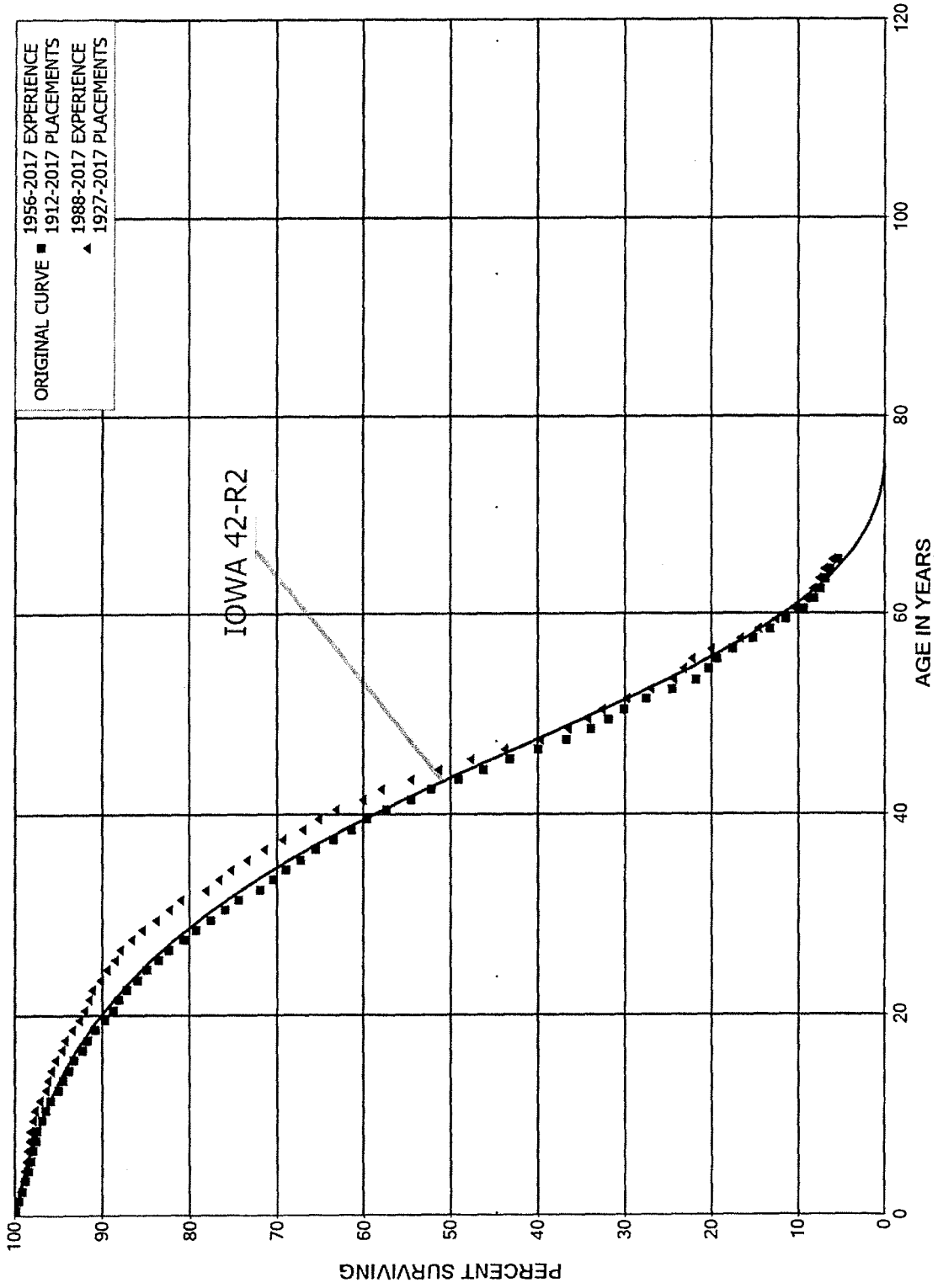
ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1930-2009 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
40.5	1,861,406	50,496	0.0271	0.9729	46.39
41.5	1,816,035	53,159	0.0293	0.9707	45.13
42.5	1,761,699	52,161	0.0296	0.9704	43.81
43.5	1,707,900	60,989	0.0357	0.9643	42.51
44.5	1,641,780	82,256	0.0501	0.9499	41.00
45.5	1,543,467	107,135	0.0694	0.9306	38.94
46.5	1,379,285	103,750	0.0752	0.9248	36.24
47.5	1,221,185	108,765	0.0891	0.9109	33.51
48.5	1,048,574	88,785	0.0847	0.9153	30.53
49.5	923,924	88,430	0.0957	0.9043	27.94
50.5	794,078	70,710	0.0890	0.9110	25.27
51.5	696,038	73,120	0.1051	0.8949	23.02
52.5	590,923	80,711	0.1366	0.8634	20.60
53.5	475,871	71,653	0.1506	0.8494	17.79
54.5	384,953	61,260	0.1591	0.8409	15.11
55.5	305,367	60,297	0.1975	0.8025	12.70
56.5	224,943	51,291	0.2280	0.7720	10.20
57.5	162,346	39,488	0.2432	0.7568	7.87
58.5	111,131	18,104	0.1629	0.8371	5.96
59.5	88,404	7,572	0.0857	0.9143	4.99
60.5	79,593	11,466	0.1441	0.8559	4.56
61.5	67,501	8,327	0.1234	0.8766	3.90
62.5	58,781	11,142	0.1896	0.8104	3.42
63.5	47,056	8,240	0.1751	0.8249	2.77
64.5	38,401	4,621	0.1203	0.8797	2.29
65.5	33,647	3,451	0.1026	0.8974	2.01
66.5	29,927	5,994	0.2003	0.7997	1.81
67.5	23,648	4,495	0.1901	0.8099	1.44
68.5	19,064	7,314	0.3837	0.6163	1.17
69.5	11,750	2,879	0.2450	0.7550	0.72
70.5	8,871	979	0.1104	0.8896	0.54
71.5	7,892	1,118	0.1416	0.8584	0.48
72.5	6,774	761	0.1124	0.8876	0.42
73.5	6,013	490	0.0814	0.9186	0.37
74.5	5,523	306	0.0553	0.9447	0.34
75.5	5,218	421	0.0807	0.9193	0.32
76.5	4,797	1,280	0.2669	0.7331	0.29
77.5	3,517	595	0.1692	0.8308	0.22
78.5	2,921	1,169	0.4002	0.5998	0.18
79.5	1,752	1,648	0.9406	0.0594	0.11
80.5	104	50	0.4770	0.5230	0.01
81.5	54	54	1.0000		0.00
82.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2802 SERVICES - STEEL
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1912-2017 EXPERIENCE BAND 1956-2017

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	9,942,654	16,198	0.0016	0.9984	100.00
0.5	9,891,110	37,659	0.0038	0.9962	99.84
1.5	9,713,689	41,180	0.0042	0.9958	99.46
2.5	9,485,183	33,230	0.0035	0.9965	99.04
3.5	9,350,261	31,154	0.0033	0.9967	98.69
4.5	9,305,751	26,335	0.0028	0.9972	98.36
5.5	9,236,923	22,260	0.0024	0.9976	98.08
6.5	9,054,255	29,921	0.0033	0.9967	97.84
7.5	9,000,786	16,121	0.0018	0.9982	97.52
8.5	4,328,402	22,768	0.0053	0.9947	97.35
9.5	4,282,498	21,008	0.0049	0.9951	96.83
10.5	4,255,484	25,220	0.0059	0.9941	96.36
11.5	3,581,125	30,377	0.0085	0.9915	95.79
12.5	3,557,114	21,803	0.0061	0.9939	94.98
13.5	3,545,680	25,707	0.0073	0.9927	94.39
14.5	3,532,119	22,158	0.0063	0.9937	93.71
15.5	3,520,905	34,203	0.0097	0.9903	93.12
16.5	3,511,457	24,110	0.0069	0.9931	92.22
17.5	3,360,793	32,700	0.0097	0.9903	91.58
18.5	3,258,978	37,884	0.0116	0.9884	90.69
19.5	3,159,276	31,627	0.0100	0.9900	89.64
20.5	3,036,090	24,087	0.0079	0.9921	88.74
21.5	2,942,802	29,428	0.0100	0.9900	88.04
22.5	2,806,339	39,249	0.0140	0.9860	87.16
23.5	2,624,902	33,695	0.0128	0.9872	85.94
24.5	2,326,440	37,015	0.0159	0.9841	84.83
25.5	2,216,092	29,200	0.0132	0.9868	83.48
26.5	1,994,148	39,105	0.0196	0.9804	82.38
27.5	1,744,661	31,732	0.0182	0.9818	80.77
28.5	1,508,312	31,493	0.0209	0.9791	79.30
29.5	1,384,885	30,781	0.0222	0.9778	77.64
30.5	1,268,696	26,154	0.0206	0.9794	75.92
31.5	1,167,266	38,214	0.0327	0.9673	74.35
32.5	1,069,337	22,413	0.0210	0.9790	71.92
33.5	992,486	19,945	0.0201	0.9799	70.41
34.5	936,031	22,722	0.0243	0.9757	69.00
35.5	890,023	24,533	0.0276	0.9724	67.32
36.5	822,253	23,952	0.0291	0.9709	65.47
37.5	746,274	24,970	0.0335	0.9665	63.56
38.5	678,348	20,025	0.0295	0.9705	61.43

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1912-2017 EXPERIENCE BAND 1956-2017

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	654,149	24,245	0.0371	0.9629	59.62
40.5	625,452	31,087	0.0497	0.9503	57.41
41.5	589,888	25,281	0.0429	0.9571	54.56
42.5	562,187	33,459	0.0595	0.9405	52.22
43.5	531,799	31,692	0.0596	0.9404	49.11
44.5	496,275	32,505	0.0655	0.9345	46.18
45.5	449,017	33,319	0.0742	0.9258	43.16
46.5	402,337	33,649	0.0836	0.9164	39.96
47.5	356,330	27,029	0.0759	0.9241	36.61
48.5	313,582	18,400	0.0587	0.9413	33.84
49.5	288,020	15,827	0.0550	0.9450	31.85
50.5	261,725	22,100	0.0844	0.9156	30.10
51.5	231,204	25,197	0.1090	0.8910	27.56
52.5	181,714	20,887	0.1149	0.8851	24.56
53.5	156,259	10,562	0.0676	0.9324	21.73
54.5	145,697	7,338	0.0504	0.9496	20.26
55.5	137,003	12,197	0.0890	0.9110	19.24
56.5	123,421	16,672	0.1351	0.8649	17.53
57.5	104,415	13,620	0.1304	0.8696	15.16
58.5	88,214	12,122	0.1374	0.8626	13.18
59.5	70,717	12,159	0.1719	0.8281	11.37
60.5	58,324	7,508	0.1287	0.8713	9.42
61.5	50,800	4,703	0.0926	0.9074	8.21
62.5	45,935	3,495	0.0761	0.9239	7.45
63.5	42,432	3,785	0.0892	0.9108	6.88
64.5	38,530	5,126	0.1330	0.8670	6.27
65.5	33,250	2,610	0.0785	0.9215	5.43
66.5	30,640	2,424	0.0791	0.9209	5.01
67.5	28,216	3,510	0.1244	0.8756	4.61
68.5	24,690	1,816	0.0735	0.9265	4.04
69.5	23,667	1,027	0.0434	0.9566	3.74
70.5	22,640	1,176	0.0520	0.9480	3.58
71.5	21,463	3,075	0.1433	0.8567	3.39
72.5	18,388	2,581	0.1403	0.8597	2.91
73.5	15,808	5,473	0.3462	0.6538	2.50
74.5	10,334	389	0.0376	0.9624	1.63
75.5	9,936	298	0.0300	0.9700	1.57
76.5	9,638	417	0.0433	0.9567	1.52
77.5	9,221	180	0.0195	0.9805	1.46
78.5	8,975	3,860	0.4301	0.5699	1.43

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1912-2017 EXPERIENCE BAND 1956-2017

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	5,115	1,573	0.3074	0.6926	0.81
80.5	3,491	275	0.0789	0.9211	0.56
81.5	3,216	522	0.1624	0.8376	0.52
82.5	2,694	408	0.1514	0.8486	0.44
83.5	2,286	115	0.0503	0.9497	0.37
84.5	2,171	169	0.0779	0.9221	0.35
85.5	2,002	70	0.0350	0.9650	0.32
86.5	1,932	203	0.1049	0.8951	0.31
87.5					0.28

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1927-2017 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	8,450,907	13,114	0.0016	0.9984	100.00
0.5	8,456,998	27,376	0.0032	0.9968	99.84
1.5	8,368,932	30,074	0.0036	0.9964	99.52
2.5	8,208,049	23,483	0.0029	0.9971	99.16
3.5	8,126,073	16,502	0.0020	0.9980	98.88
4.5	8,116,956	11,185	0.0014	0.9986	98.68
5.5	8,102,559	10,770	0.0013	0.9987	98.54
6.5	7,983,900	20,922	0.0026	0.9974	98.41
7.5	8,017,965	7,907	0.0010	0.9990	98.15
8.5	3,404,526	11,879	0.0035	0.9965	98.06
9.5	3,375,397	8,906	0.0026	0.9974	97.72
10.5	3,364,128	15,562	0.0046	0.9954	97.46
11.5	2,699,856	18,676	0.0069	0.9931	97.01
12.5	2,685,999	8,570	0.0032	0.9968	96.34
13.5	2,684,347	11,685	0.0044	0.9956	96.03
14.5	2,679,176	12,994	0.0049	0.9951	95.61
15.5	2,690,804	21,067	0.0078	0.9922	95.15
16.5	2,689,292	8,296	0.0031	0.9969	94.40
17.5	2,565,629	21,073	0.0082	0.9918	94.11
18.5	2,508,490	23,988	0.0096	0.9904	93.34
19.5	2,412,831	15,031	0.0062	0.9938	92.45
20.5	2,306,748	13,374	0.0058	0.9942	91.87
21.5	2,214,033	10,822	0.0049	0.9951	91.34
22.5	2,145,989	20,177	0.0094	0.9906	90.89
23.5	1,994,387	15,559	0.0078	0.9922	90.04
24.5	1,717,353	18,469	0.0108	0.9892	89.33
25.5	1,578,525	10,346	0.0066	0.9934	88.37
26.5	1,331,231	19,166	0.0144	0.9856	87.79
27.5	1,141,604	15,724	0.0138	0.9862	86.53
28.5	964,082	17,645	0.0183	0.9817	85.34
29.5	910,151	16,891	0.0186	0.9814	83.78
30.5	854,815	13,451	0.0157	0.9843	82.22
31.5	809,037	28,700	0.0355	0.9645	80.93
32.5	750,349	14,577	0.0194	0.9806	78.06
33.5	692,838	12,427	0.0179	0.9821	76.54
34.5	656,114	16,209	0.0247	0.9753	75.17
35.5	635,371	17,538	0.0276	0.9724	73.31
36.5	587,381	17,599	0.0300	0.9700	71.29
37.5	518,246	17,414	0.0336	0.9664	69.15
38.5	457,516	12,049	0.0263	0.9737	66.83

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1927-2017 EXPERIENCE BAND 1988-2017

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	440,609	13,830	0.0314	0.9686	65.07
40.5	422,458	20,920	0.0495	0.9505	63.02
41.5	399,289	13,835	0.0346	0.9654	59.90
42.5	386,260	23,096	0.0598	0.9402	57.83
43.5	362,093	21,287	0.0588	0.9412	54.37
44.5	338,703	24,118	0.0712	0.9288	51.17
45.5	302,167	24,699	0.0817	0.9183	47.53
46.5	268,629	25,672	0.0956	0.9044	43.65
47.5	235,291	18,870	0.0802	0.9198	39.47
48.5	208,391	12,750	0.0612	0.9388	36.31
49.5	191,965	9,565	0.0498	0.9502	34.09
50.5	174,108	15,168	0.0871	0.9129	32.39
51.5	156,922	14,228	0.0907	0.9093	29.57
52.5	121,465	12,172	0.1002	0.8998	26.89
53.5	105,852	4,836	0.0457	0.9543	24.19
54.5	101,863	4,710	0.0462	0.9538	23.09
55.5	96,312	9,440	0.0980	0.9020	22.02
56.5	87,368	14,562	0.1667	0.8333	19.86
57.5	104,388	13,620	0.1305	0.8695	16.55
58.5	88,186	12,122	0.1375	0.8625	14.39
59.5	70,689	12,159	0.1720	0.8280	12.41
60.5	58,324	7,508	0.1287	0.8713	10.28
61.5	50,800	4,703	0.0926	0.9074	8.95
62.5	45,935	3,495	0.0761	0.9239	8.13
63.5	42,432	3,785	0.0892	0.9108	7.51
64.5	38,530	5,126	0.1330	0.8670	6.84
65.5	33,250	2,610	0.0785	0.9215	5.93
66.5	30,640	2,424	0.0791	0.9209	5.46
67.5	28,216	3,510	0.1244	0.8756	5.03
68.5	24,690	1,816	0.0735	0.9265	4.40
69.5	23,667	1,027	0.0434	0.9566	4.08
70.5	22,640	1,176	0.0520	0.9480	3.90
71.5	21,463	3,075	0.1433	0.8567	3.70
72.5	18,388	2,581	0.1403	0.8597	3.17
73.5	15,808	5,473	0.3462	0.6538	2.73
74.5	10,334	389	0.0376	0.9624	1.78
75.5	9,936	298	0.0300	0.9700	1.71
76.5	9,638	417	0.0433	0.9567	1.66
77.5	9,221	180	0.0195	0.9805	1.59
78.5	8,975	3,860	0.4301	0.5699	1.56

DUKE ENERGY KENTUCKY
GAS PLANT

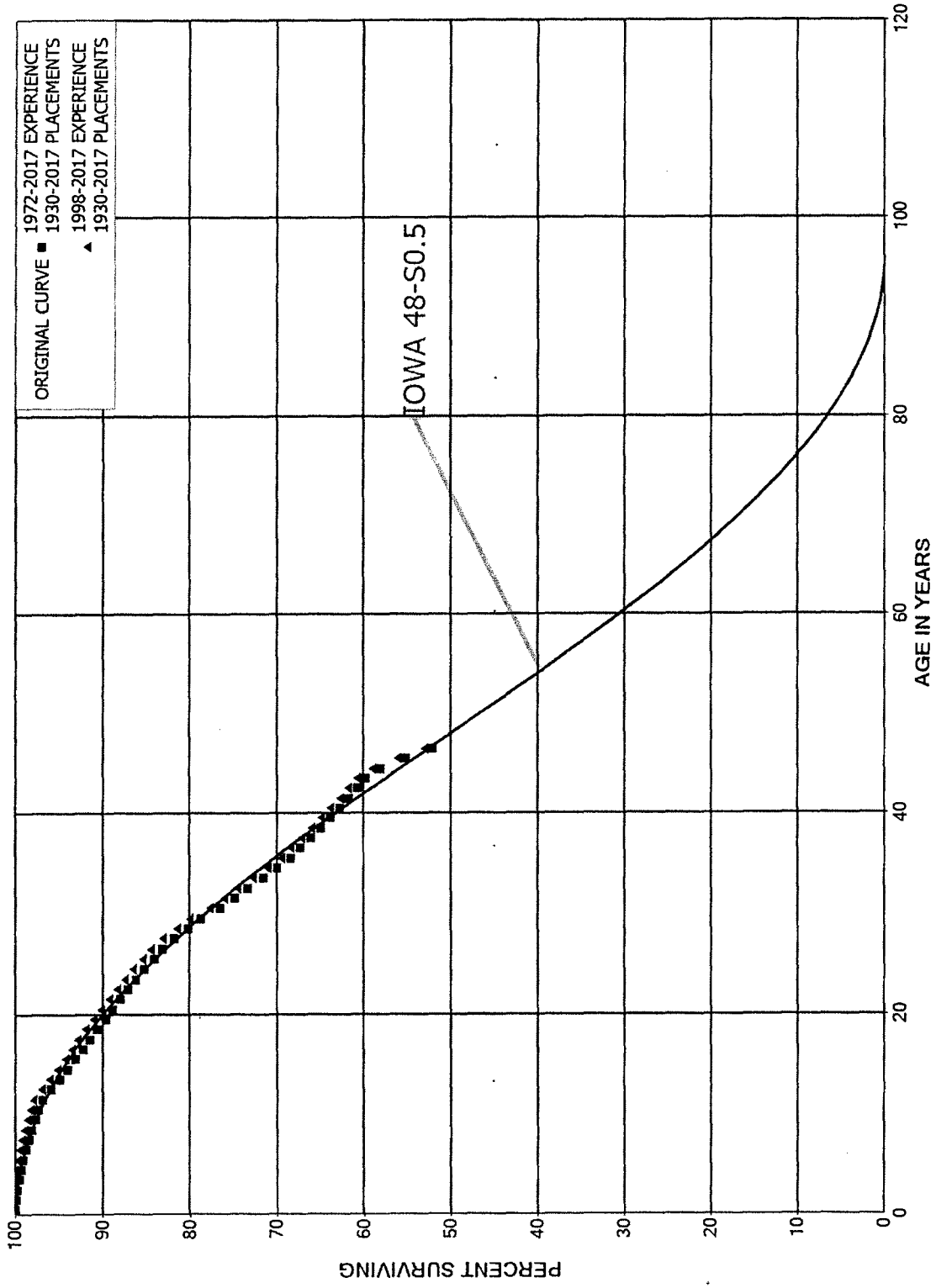
ACCOUNT 2802 SERVICES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1927-2017 EXPERIENCE BAND 1988-2017

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	5,115	1,573	0.3074	0.6926	0.89
80.5	3,491	275	0.0789	0.9211	0.62
81.5	3,216	522	0.1624	0.8376	0.57
82.5	2,694	408	0.1514	0.8486	0.48
83.5	2,286	115	0.0503	0.9497	0.40
84.5	2,171	169	0.0779	0.9221	0.38
85.5	2,002	70	0.0350	0.9650	0.35
86.5	1,932	203	0.1049	0.8951	0.34
87.5					0.31

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2803 SERVICES - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2803 SERVICES - PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1930-2017 EXPERIENCE BAND 1972-2017

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	152,693,381	96,175	0.0006	0.9994	100.00
0.5	136,844,044	163,472	0.0012	0.9988	99.94
1.5	128,172,642	187,935	0.0015	0.9985	99.82
2.5	123,700,890	231,049	0.0019	0.9981	99.67
3.5	120,498,060	250,751	0.0021	0.9979	99.49
4.5	117,851,834	304,227	0.0026	0.9974	99.28
5.5	114,797,586	338,880	0.0030	0.9970	99.02
6.5	111,977,134	381,832	0.0034	0.9966	98.73
7.5	107,629,385	392,008	0.0036	0.9964	98.39
8.5	86,968,220	349,133	0.0040	0.9960	98.03
9.5	82,915,009	338,172	0.0041	0.9959	97.64
10.5	77,340,884	345,436	0.0045	0.9955	97.24
11.5	38,769,699	410,630	0.0106	0.9894	96.81
12.5	35,677,616	341,027	0.0096	0.9904	95.78
13.5	35,148,138	334,103	0.0095	0.9905	94.87
14.5	32,842,834	324,224	0.0099	0.9901	93.97
15.5	29,535,931	267,100	0.0090	0.9910	93.04
16.5	28,689,134	237,820	0.0083	0.9917	92.20
17.5	27,936,549	257,949	0.0092	0.9908	91.43
18.5	26,803,755	273,662	0.0102	0.9898	90.59
19.5	24,065,247	232,398	0.0097	0.9903	89.66
20.5	21,886,562	223,514	0.0102	0.9898	88.80
21.5	20,163,529	196,113	0.0097	0.9903	87.89
22.5	18,504,399	192,108	0.0104	0.9896	87.04
23.5	16,280,228	183,444	0.0113	0.9887	86.13
24.5	14,188,012	191,779	0.0135	0.9865	85.16
25.5	12,339,903	127,680	0.0103	0.9897	84.01
26.5	10,298,575	156,314	0.0152	0.9848	83.14
27.5	8,109,160	167,711	0.0207	0.9793	81.88
28.5	6,601,138	121,085	0.0183	0.9817	80.19
29.5	5,525,385	154,873	0.0280	0.9720	78.72
30.5	4,609,057	101,097	0.0219	0.9781	76.51
31.5	3,997,695	82,204	0.0206	0.9794	74.83
32.5	3,515,680	85,230	0.0242	0.9758	73.29
33.5	3,171,940	70,415	0.0222	0.9778	71.52
34.5	2,835,852	61,327	0.0216	0.9784	69.93
35.5	2,392,579	41,037	0.0172	0.9828	68.42
36.5	1,954,006	33,292	0.0170	0.9830	67.24
37.5	1,420,158	24,431	0.0172	0.9828	66.10
38.5	1,061,680	18,635	0.0176	0.9824	64.96

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2803 SERVICES - PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1930-2017 EXPERIENCE BAND 1972-2017

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	954,376	16,503	0.0173	0.9827	63.82
40.5	824,167	13,106	0.0159	0.9841	62.72
41.5	753,655	11,832	0.0157	0.9843	61.72
42.5	622,286	9,765	0.0157	0.9843	60.75
43.5	493,201	14,131	0.0287	0.9713	59.80
44.5	321,103	16,254	0.0506	0.9494	58.08
45.5	130,312	7,167	0.0550	0.9450	55.14
46.5	53,345	1,954	0.0366	0.9634	52.11
47.5	33,337	1,360	0.0408	0.9592	50.20
48.5	20,626	1,163	0.0564	0.9436	48.15
49.5	7,377	101	0.0137	0.9863	45.44
50.5	6,465	111	0.0171	0.9829	44.81
51.5	5,581	327	0.0586	0.9414	44.05
52.5					41.47
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5	16		0.0000		
69.5	16		0.0000		
70.5	16	8	0.5000		
71.5	8		0.0000		
72.5	8	8	1.0000		
73.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2803 SERVICES - PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1930-2017 EXPERIENCE BAND 1998-2017

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	125,147,456	40,220	0.0003	0.9997	100.00
0.5	111,292,031	46,990	0.0004	0.9996	99.97
1.5	104,352,777	56,703	0.0005	0.9995	99.93
2.5	101,746,753	79,648	0.0008	0.9992	99.87
3.5	100,880,307	136,047	0.0013	0.9987	99.79
4.5	100,462,834	199,757	0.0020	0.9980	99.66
5.5	99,313,322	190,030	0.0019	0.9981	99.46
6.5	98,773,758	244,895	0.0025	0.9975	99.27
7.5	96,877,349	293,028	0.0030	0.9970	99.02
8.5	77,903,767	257,618	0.0033	0.9967	98.72
9.5	75,105,003	248,572	0.0033	0.9967	98.40
10.5	70,609,086	278,697	0.0039	0.9961	98.07
11.5	32,758,486	311,100	0.0095	0.9905	97.69
12.5	30,301,743	281,949	0.0093	0.9907	96.76
13.5	30,263,844	275,131	0.0091	0.9909	95.86
14.5	28,412,422	272,197	0.0096	0.9904	94.99
15.5	25,705,885	216,241	0.0084	0.9916	94.08
16.5	25,460,355	196,623	0.0077	0.9923	93.28
17.5	25,422,569	221,166	0.0087	0.9913	92.56
18.5	24,834,968	252,306	0.0102	0.9898	91.76
19.5	22,338,636	208,932	0.0094	0.9906	90.83
20.5	20,451,584	204,957	0.0100	0.9900	89.98
21.5	18,939,980	180,862	0.0095	0.9905	89.08
22.5	17,543,714	182,710	0.0104	0.9896	88.22
23.5	15,566,175	176,186	0.0113	0.9887	87.31
24.5	13,730,174	185,296	0.0135	0.9865	86.32
25.5	12,155,969	126,406	0.0104	0.9896	85.15
26.5	10,222,820	155,574	0.0152	0.9848	84.27
27.5	8,061,903	167,289	0.0208	0.9792	82.98
28.5	6,570,927	119,786	0.0182	0.9818	81.26
29.5	5,512,538	154,506	0.0280	0.9720	79.78
30.5	4,600,311	100,986	0.0220	0.9780	77.55
31.5	3,990,675	82,204	0.0206	0.9794	75.84
32.5	3,514,930	85,230	0.0242	0.9758	74.28
33.5	3,171,684	70,415	0.0222	0.9778	72.48
34.5	2,835,596	61,327	0.0216	0.9784	70.87
35.5	2,392,378	41,037	0.0172	0.9828	69.34
36.5	1,953,805	33,292	0.0170	0.9830	68.15
37.5	1,419,957	24,431	0.0172	0.9828	66.99
38.5	1,061,633	18,635	0.0176	0.9824	65.83

DUKE ENERGY KENTUCKY
GAS PLANT

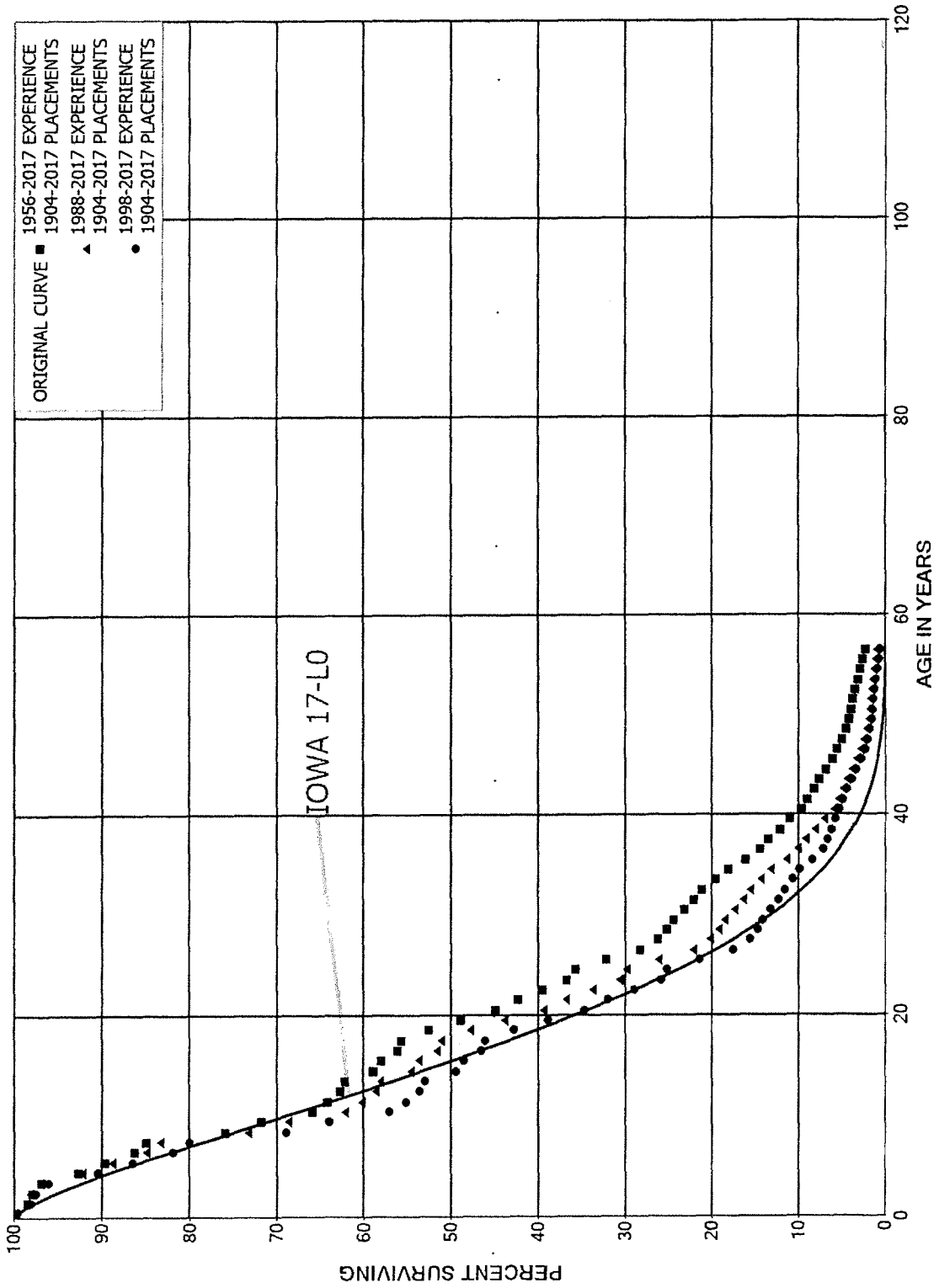
ACCOUNT 2803 SERVICES - PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1930-2017 EXPERIENCE BAND 1998-2017

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	954,329	16,503	0.0173	0.9827	64.68
40.5	824,120	13,106	0.0159	0.9841	63.56
41.5	753,608	11,832	0.0157	0.9843	62.55
42.5	622,239	9,765	0.0157	0.9843	61.57
43.5	493,154	14,084	0.0286	0.9714	60.60
44.5	321,103	16,254	0.0506	0.9494	58.87
45.5	130,312	7,167	0.0550	0.9450	55.89
46.5	53,345	1,954	0.0366	0.9634	52.82
47.5	33,337	1,360	0.0408	0.9592	50.88
48.5	20,626	1,163	0.0564	0.9436	48.81
49.5	7,377	101	0.0137	0.9863	46.05
50.5	6,465	111	0.0171	0.9829	45.42
51.5	5,581	327	0.0586	0.9414	44.65
52.5					42.03
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5	16		0.0000		
69.5	16		0.0000		
70.5	16	8	0.5000		
71.5	8		0.0000		
72.5	8	8	1.0000		
73.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2810 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1956-2017

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	24,207,349	64,190	0.0027	0.9973	100.00
0.5	20,913,543	284,467	0.0136	0.9864	99.73
1.5	17,266,887	87,706	0.0051	0.9949	98.38
2.5	15,786,766	174,357	0.0110	0.9890	97.88
3.5	14,866,393	648,844	0.0436	0.9564	96.80
4.5	13,571,439	428,232	0.0316	0.9684	92.57
5.5	11,642,197	433,153	0.0372	0.9628	89.65
6.5	11,272,642	185,520	0.0165	0.9835	86.32
7.5	11,629,423	1,220,335	0.1049	0.8951	84.90
8.5	10,420,439	579,121	0.0556	0.9444	75.99
9.5	9,570,024	785,073	0.0820	0.9180	71.76
10.5	8,588,779	221,503	0.0258	0.9742	65.88
11.5	8,231,181	185,245	0.0225	0.9775	64.18
12.5	7,988,969	75,815	0.0095	0.9905	62.73
13.5	7,833,971	404,622	0.0516	0.9484	62.14
14.5	7,413,215	108,981	0.0147	0.9853	58.93
15.5	7,219,081	235,051	0.0326	0.9674	58.06
16.5	6,828,465	57,517	0.0084	0.9916	56.17
17.5	6,513,051	369,530	0.0567	0.9433	55.70
18.5	5,707,407	399,283	0.0700	0.9300	52.54
19.5	5,118,041	422,476	0.0825	0.9175	48.86
20.5	4,470,122	249,145	0.0557	0.9443	44.83
21.5	4,141,215	276,033	0.0667	0.9333	42.33
22.5	3,836,468	283,597	0.0739	0.9261	39.51
23.5	3,489,668	91,330	0.0262	0.9738	36.59
24.5	3,330,350	327,619	0.0984	0.9016	35.63
25.5	2,927,860	349,931	0.1195	0.8805	32.13
26.5	2,537,600	185,114	0.0729	0.9271	28.29
27.5	2,291,818	94,101	0.0411	0.9589	26.22
28.5	2,064,596	62,290	0.0302	0.9698	25.15
29.5	1,970,417	96,498	0.0490	0.9510	24.39
30.5	1,842,854	92,578	0.0502	0.9498	23.19
31.5	1,705,974	78,827	0.0462	0.9538	22.03
32.5	1,594,906	110,544	0.0693	0.9307	21.01
33.5	1,455,423	111,433	0.0766	0.9234	19.55
34.5	1,307,578	140,638	0.1076	0.8924	18.06
35.5	1,163,737	121,482	0.1044	0.8956	16.11
36.5	1,021,289	76,021	0.0744	0.9256	14.43
37.5	918,117	91,141	0.0993	0.9007	13.36
38.5	818,653	77,481	0.0946	0.9054	12.03

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1956-2017

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	759,834	87,457	0.1151	0.8849	10.89
40.5	667,905	50,456	0.0755	0.9245	9.64
41.5	616,818	50,267	0.0815	0.9185	8.91
42.5	574,242	41,274	0.0719	0.9281	8.19
43.5	540,838	52,627	0.0973	0.9027	7.60
44.5	492,233	55,894	0.1136	0.8864	6.86
45.5	450,425	45,585	0.1012	0.8988	6.08
46.5	403,442	37,953	0.0941	0.9059	5.46
47.5	363,143	30,776	0.0847	0.9153	4.95
48.5	321,167	25,021	0.0779	0.9221	4.53
49.5	293,416	19,313	0.0658	0.9342	4.18
50.5	274,696	15,454	0.0563	0.9437	3.90
51.5	274,045	16,157	0.0590	0.9410	3.68
52.5	229,524	18,700	0.0815	0.9185	3.47
53.5	210,731	15,987	0.0759	0.9241	3.18
54.5	194,590	24,475	0.1258	0.8742	2.94
55.5	168,912	22,102	0.1308	0.8692	2.57
56.5	145,974	20,108	0.1377	0.8623	2.24
57.5	125,585	7,550	0.0601	0.9399	1.93
58.5	117,322	6,713	0.0572	0.9428	1.81
59.5	110,481	7,053	0.0638	0.9362	1.71
60.5	103,427	7,323	0.0708	0.9292	1.60
61.5	96,105	9,680	0.1007	0.8993	1.49
62.5	86,444	3,669	0.0424	0.9576	1.34
63.5	82,775	6,364	0.0769	0.9231	1.28
64.5	76,411	3,274	0.0428	0.9572	1.18
65.5	73,137	3,119	0.0426	0.9574	1.13
66.5	70,018	3,804	0.0543	0.9457	1.08
67.5	66,197	4,542	0.0686	0.9314	1.02
68.5	61,669	12,661	0.2053	0.7947	0.95
69.5	49,016	4,074	0.0831	0.9169	0.76
70.5	44,925	8,583	0.1911	0.8089	0.69
71.5	36,341	4,370	0.1203	0.8797	0.56
72.5	31,971	3,623	0.1133	0.8867	0.49
73.5	28,347	5,820	0.2053	0.7947	0.44
74.5	22,527	1,961	0.0871	0.9129	0.35
75.5	20,566	4,762	0.2315	0.7685	0.32
76.5	15,804	3,373	0.2134	0.7866	0.24
77.5	12,432	1,005	0.0808	0.9192	0.19
78.5	11,427	1,163	0.1018	0.8982	0.18

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1956-2017

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	10,264	803	0.0782	0.9218	0.16
80.5	9,461	1,186	0.1253	0.8747	0.15
81.5	8,275	786	0.0950	0.9050	0.13
82.5	7,489	719	0.0961	0.9039	0.12
83.5	6,770	198	0.0292	0.9708	0.10
84.5	6,572	1,035	0.1574	0.8426	0.10
85.5	5,538	79	0.0143	0.9857	0.09
86.5	5,458	1,095	0.2007	0.7993	0.08
87.5	4,363	85	0.0195	0.9805	0.07
88.5	4,278	118	0.0276	0.9724	0.07
89.5	4,160	24	0.0057	0.9943	0.06
90.5	4,136	180	0.0436	0.9564	0.06
91.5	3,956		0.0000	1.0000	0.06
92.5	3,956	11	0.0029	0.9971	0.06
93.5	3,945	52	0.0131	0.9869	0.06
94.5	3,893	1,217	0.3127	0.6873	0.06
95.5	2,676	75	0.0279	0.9721	0.04
96.5	2,601	42	0.0161	0.9839	0.04
97.5	2,559	38	0.0150	0.9850	0.04
98.5	2,521		0.0000	1.0000	0.04
99.5	2,521	265	0.1053	0.8947	0.04
100.5	2,255	354	0.1568	0.8432	0.03
101.5	1,902	176	0.0923	0.9077	0.03
102.5	1,726	191	0.1108	0.8892	0.03
103.5	1,535	62	0.0407	0.9593	0.02
104.5	1,472	65	0.0442	0.9558	0.02
105.5	1,407	254	0.1805	0.8195	0.02
106.5	1,153	510	0.4425	0.5575	0.02
107.5	643	36	0.0563	0.9437	0.01
108.5	607	192	0.3164	0.6836	0.01
109.5	415	244	0.5894	0.4106	0.01
110.5	170	32	0.1893	0.8107	0.00
111.5	138	138	1.0000		0.00
112.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1988-2017

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	22,205,796	64,131	0.0029	0.9971	100.00
0.5	18,934,320	251,115	0.0133	0.9867	99.71
1.5	15,347,232	77,011	0.0050	0.9950	98.39
2.5	13,895,461	166,417	0.0120	0.9880	97.90
3.5	12,981,744	644,526	0.0496	0.9504	96.72
4.5	11,729,157	424,921	0.0362	0.9638	91.92
5.5	9,816,126	425,939	0.0434	0.9566	88.59
6.5	9,557,164	180,917	0.0189	0.9811	84.75
7.5	10,087,724	1,216,117	0.1206	0.8794	83.14
8.5	8,951,473	573,289	0.0640	0.9360	73.12
9.5	8,118,479	774,007	0.0953	0.9047	68.44
10.5	7,169,685	208,489	0.0291	0.9709	61.91
11.5	6,839,064	177,176	0.0259	0.9741	60.11
12.5	6,602,543	68,918	0.0104	0.9896	58.55
13.5	6,471,914	397,241	0.0614	0.9386	57.94
14.5	6,082,126	100,995	0.0166	0.9834	54.39
15.5	5,923,676	228,888	0.0386	0.9614	53.48
16.5	5,614,180	49,314	0.0088	0.9912	51.42
17.5	5,354,999	359,059	0.0671	0.9329	50.96
18.5	4,610,504	386,565	0.0838	0.9162	47.55
19.5	4,073,223	411,873	0.1011	0.8989	43.56
20.5	3,469,346	237,223	0.0684	0.9316	39.16
21.5	3,133,690	257,895	0.0823	0.9177	36.48
22.5	2,904,451	266,014	0.0916	0.9084	33.48
23.5	2,632,217	73,332	0.0279	0.9721	30.41
24.5	2,515,435	308,065	0.1225	0.8775	29.56
25.5	2,162,473	331,377	0.1532	0.8468	25.94
26.5	1,802,420	168,152	0.0933	0.9067	21.97
27.5	1,585,425	77,825	0.0491	0.9509	19.92
28.5	1,384,104	45,330	0.0328	0.9672	18.94
29.5	1,333,061	79,750	0.0598	0.9402	18.32
30.5	1,256,736	75,842	0.0603	0.9397	17.22
31.5	1,167,837	64,962	0.0556	0.9444	16.18
32.5	1,104,404	85,807	0.0777	0.9223	15.28
33.5	1,025,165	85,760	0.0837	0.9163	14.10
34.5	940,244	125,654	0.1336	0.8664	12.92
35.5	860,718	101,923	0.1184	0.8816	11.19
36.5	746,095	67,340	0.0903	0.9097	9.87
37.5	671,207	85,226	0.1270	0.8730	8.98
38.5	593,515	73,985	0.1247	0.8753	7.84

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1988-2017

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	520,048	82,217	0.1581	0.8419	6.86
40.5	461,657	46,253	0.1002	0.8998	5.77
41.5	421,528	45,613	0.1082	0.8918	5.20
42.5	379,466	36,505	0.0962	0.9038	4.63
43.5	345,303	46,418	0.1344	0.8656	4.19
44.5	300,267	48,386	0.1611	0.8389	3.63
45.5	259,851	37,964	0.1461	0.8539	3.04
46.5	225,298	30,530	0.1355	0.8645	2.60
47.5	194,638	25,187	0.1294	0.8706	2.24
48.5	161,670	18,913	0.1170	0.8830	1.95
49.5	134,285	11,177	0.0832	0.9168	1.73
50.5	132,010	6,700	0.0508	0.9492	1.58
51.5	126,665	6,173	0.0487	0.9513	1.50
52.5	97,296	9,593	0.0986	0.9014	1.43
53.5	89,398	7,106	0.0795	0.9205	1.29
54.5	82,772	14,934	0.1804	0.8196	1.19
55.5	66,848	6,985	0.1045	0.8955	0.97
56.5	60,570	13,223	0.2183	0.7817	0.87
57.5	48,393	2,340	0.0484	0.9516	0.68
58.5	62,406	1,038	0.0166	0.9834	0.65
59.5	69,087	3,365	0.0487	0.9513	0.64
60.5	65,771	4,500	0.0684	0.9316	0.61
61.5	61,570	6,286	0.1021	0.8979	0.56
62.5	55,383	34	0.0006	0.9994	0.51
63.5	55,977	3,746	0.0669	0.9331	0.51
64.5	52,230	955	0.0183	0.9817	0.47
65.5	51,284	409	0.0080	0.9920	0.46
66.5	50,885	1,021	0.0201	0.9799	0.46
67.5	50,059	3,221	0.0643	0.9357	0.45
68.5	46,875	10,974	0.2341	0.7659	0.42
69.5	35,910	2,340	0.0652	0.9348	0.32
70.5	33,615	7,444	0.2214	0.7786	0.30
71.5	27,531	3,519	0.1278	0.8722	0.24
72.5	24,012	2,453	0.1021	0.8979	0.21
73.5	21,565	4,834	0.2241	0.7759	0.18
74.5	16,796	1,557	0.0927	0.9073	0.14
75.5	15,239	4,106	0.2694	0.7306	0.13
76.5	11,466	2,535	0.2211	0.7789	0.09
77.5	9,369	920	0.0982	0.9018	0.07
78.5	8,695	760	0.0875	0.9125	0.07

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1988-2017

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	8,045	481	0.0598	0.9402	0.06
80.5	7,602	1,118	0.1470	0.8530	0.06
81.5	6,797	786	0.1156	0.8844	0.05
82.5	6,429	705	0.1096	0.8904	0.04
83.5	6,770	198	0.0292	0.9708	0.04
84.5	6,572	1,035	0.1574	0.8426	0.04
85.5	5,538	79	0.0143	0.9857	0.03
86.5	5,458	1,095	0.2007	0.7993	0.03
87.5	4,363	85	0.0195	0.9805	0.02
88.5	4,278	118	0.0276	0.9724	0.02
89.5	4,160	24	0.0057	0.9943	0.02
90.5	4,136	180	0.0436	0.9564	0.02
91.5	3,956		0.0000	1.0000	0.02
92.5	3,956	11	0.0029	0.9971	0.02
93.5	3,945	52	0.0131	0.9869	0.02
94.5	3,893	1,217	0.3127	0.6873	0.02
95.5	2,676	75	0.0279	0.9721	0.02
96.5	2,601	42	0.0161	0.9839	0.01
97.5	2,559	38	0.0150	0.9850	0.01
98.5	2,521		0.0000	1.0000	0.01
99.5	2,521	265	0.1053	0.8947	0.01
100.5	2,255	354	0.1568	0.8432	0.01
101.5	1,902	176	0.0923	0.9077	0.01
102.5	1,726	191	0.1108	0.8892	0.01
103.5	1,535	62	0.0407	0.9593	0.01
104.5	1,472	65	0.0442	0.9558	0.01
105.5	1,407	254	0.1805	0.8195	0.01
106.5	1,153	510	0.4425	0.5575	0.01
107.5	643	36	0.0563	0.9437	0.00
108.5	607	192	0.3164	0.6836	0.00
109.5	415	244	0.5894	0.4106	0.00
110.5	170	32	0.1893	0.8107	0.00
111.5	138	138	1.0000		0.00
112.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1998-2017

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	17,768,155	63,591	0.0036	0.9964	100.00
0.5	15,953,426	246,581	0.0155	0.9845	99.64
1.5	12,809,943	75,787	0.0059	0.9941	98.10
2.5	11,507,411	165,987	0.0144	0.9856	97.52
3.5	10,856,573	643,951	0.0593	0.9407	96.11
4.5	9,833,707	423,449	0.0431	0.9569	90.41
5.5	7,983,010	425,632	0.0533	0.9467	86.52
6.5	7,966,447	180,709	0.0227	0.9773	81.91
7.5	8,773,529	1,215,740	0.1386	0.8614	80.05
8.5	7,901,102	570,378	0.0722	0.9278	68.96
9.5	7,179,168	771,777	0.1075	0.8925	63.98
10.5	6,295,101	207,757	0.0330	0.9670	57.10
11.5	6,031,114	175,530	0.0291	0.9709	55.22
12.5	5,871,150	66,110	0.0113	0.9887	53.61
13.5	5,776,330	396,443	0.0686	0.9314	53.01
14.5	5,445,678	98,830	0.0181	0.9819	49.37
15.5	5,317,865	220,336	0.0414	0.9586	48.47
16.5	5,093,715	46,276	0.0091	0.9909	46.46
17.5	4,957,745	355,267	0.0717	0.9283	46.04
18.5	4,245,787	384,605	0.0906	0.9094	42.74
19.5	3,688,774	408,583	0.1108	0.8892	38.87
20.5	3,071,652	233,013	0.0759	0.9241	34.57
21.5	2,729,699	255,001	0.0934	0.9066	31.94
22.5	2,447,390	261,539	0.1069	0.8931	28.96
23.5	2,150,524	59,064	0.0275	0.9725	25.86
24.5	2,055,893	302,832	0.1473	0.8527	25.15
25.5	1,707,172	317,497	0.1860	0.8140	21.45
26.5	1,396,151	155,408	0.1113	0.8887	17.46
27.5	1,200,845	67,634	0.0563	0.9437	15.52
28.5	1,046,504	39,195	0.0375	0.9625	14.64
29.5	1,009,067	67,152	0.0665	0.9335	14.09
30.5	929,610	62,294	0.0670	0.9330	13.16
31.5	836,527	49,238	0.0589	0.9411	12.27
32.5	798,881	61,391	0.0768	0.9232	11.55
33.5	728,943	58,694	0.0805	0.9195	10.66
34.5	654,284	96,678	0.1478	0.8522	9.81
35.5	576,491	81,487	0.1413	0.8587	8.36
36.5	489,047	35,569	0.0727	0.9273	7.18
37.5	444,772	30,796	0.0692	0.9308	6.65
38.5	414,056	28,370	0.0685	0.9315	6.19

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1998-2017

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	395,697	34,240	0.0865	0.9135	5.77
40.5	366,376	28,425	0.0776	0.9224	5.27
41.5	347,857	36,040	0.1036	0.8964	4.86
42.5	315,409	33,936	0.1076	0.8924	4.36
43.5	284,978	37,396	0.1312	0.8688	3.89
44.5	246,515	43,910	0.1781	0.8219	3.38
45.5	206,407	32,444	0.1572	0.8428	2.78
46.5	165,929	20,628	0.1243	0.8757	2.34
47.5	142,474	15,133	0.1062	0.8938	2.05
48.5	116,041	14,302	0.1232	0.8768	1.83
49.5	88,793	7,720	0.0869	0.9131	1.61
50.5	80,272	4,141	0.0516	0.9484	1.47
51.5	75,805	5,543	0.0731	0.9269	1.39
52.5	41,898	3,439	0.0821	0.9179	1.29
53.5	38,366	5,704	0.1487	0.8513	1.18
54.5	32,688	8,917	0.2728	0.7272	1.01
55.5	23,848	3,983	0.1670	0.8330	0.73
56.5	27,336	12,753	0.4665	0.5335	0.61
57.5	18,594	2,111	0.1136	0.8864	0.33
58.5	21,012	710	0.0338	0.9662	0.29
59.5	24,247	2,705	0.1115	0.8885	0.28
60.5	31,169	4,401	0.1412	0.8588	0.25
61.5	27,838	6,250	0.2245	0.7755	0.21
62.5	26,146	9	0.0003	0.9997	0.16
63.5	27,596	967	0.0350	0.9650	0.16
64.5	27,186	859	0.0316	0.9684	0.16
65.5	26,504		0.0000	1.0000	0.15
66.5	27,629	998	0.0361	0.9639	0.15
67.5	27,546	170	0.0062	0.9938	0.15
68.5	38,040	9,894	0.2601	0.7399	0.15
69.5	34,700	2,340	0.0674	0.9326	0.11
70.5	32,361	7,444	0.2300	0.7700	0.10
71.5	25,208	3,519	0.1396	0.8604	0.08
72.5	21,752	2,447	0.1125	0.8875	0.07
73.5	19,933	4,834	0.2425	0.7575	0.06
74.5	15,099	1,557	0.1031	0.8969	0.05
75.5	13,551	4,106	0.3030	0.6970	0.04
76.5	9,445	2,535	0.2684	0.7316	0.03
77.5	7,105	920	0.1295	0.8705	0.02
78.5	6,209	760	0.1225	0.8775	0.02

DUKE ENERGY KENTUCKY
GAS PLANT

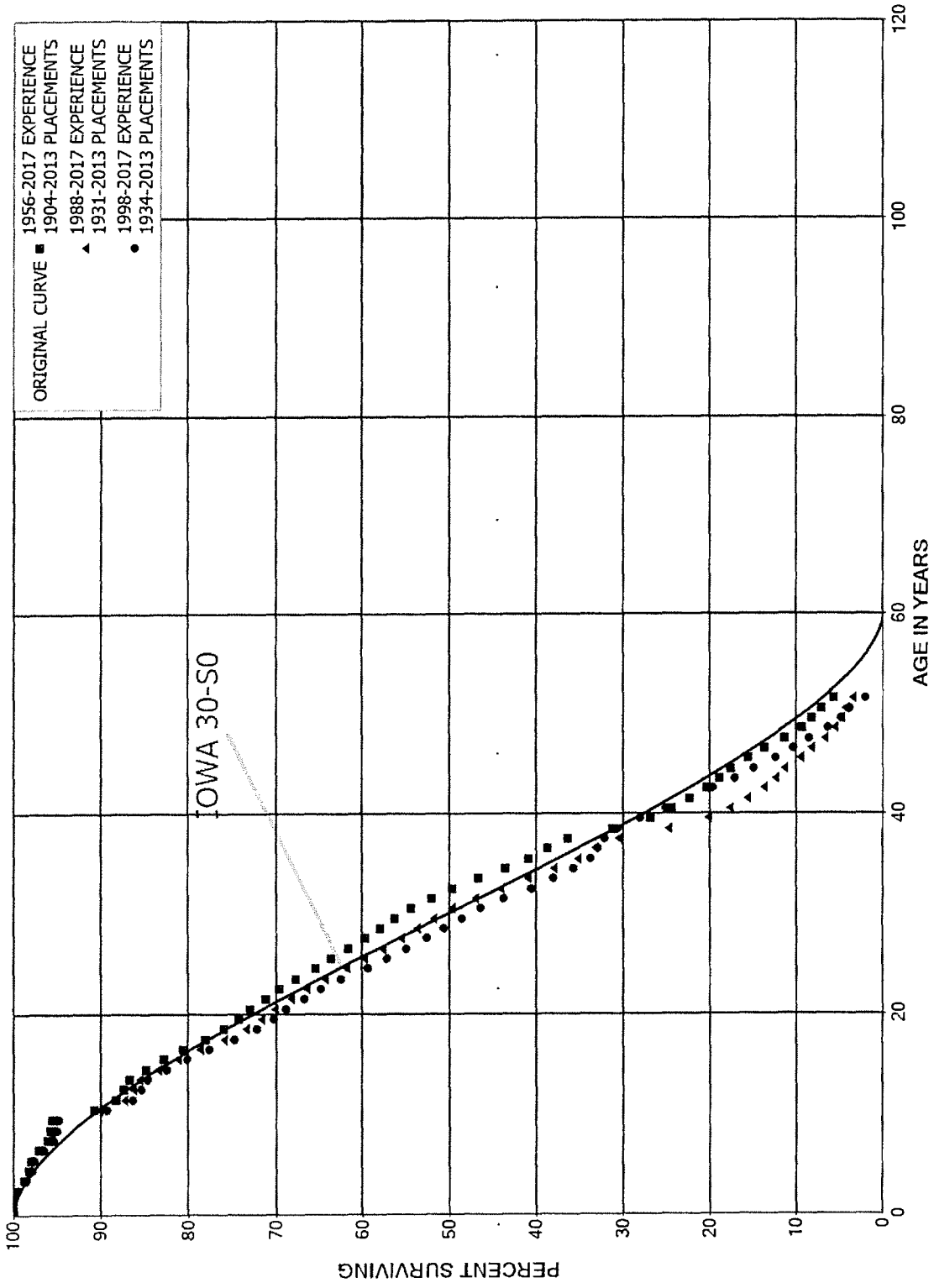
ACCOUNT 2810 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2017 EXPERIENCE BAND 1998-2017

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	5,448	481	0.0883	0.9117	0.02
80.5	5,012	1,100	0.2195	0.7805	0.01
81.5	5,266	786	0.1493	0.8507	0.01
82.5	4,480	705	0.1573	0.8427	0.01
83.5	3,781	147	0.0388	0.9612	0.01
84.5	3,698	1,011	0.2733	0.7267	0.01
85.5	2,688	72	0.0269	0.9731	0.01
86.5	2,949	768	0.2606	0.7394	0.01
87.5	2,566	76	0.0297	0.9703	0.00
88.5	2,713	39	0.0142	0.9858	0.00
89.5	2,785	24	0.0085	0.9915	0.00
90.5	2,761	180	0.0653	0.9347	0.00
91.5	2,581		0.0000	1.0000	0.00
92.5	2,990	11	0.0038	0.9962	0.00
93.5	3,945	52	0.0131	0.9869	0.00
94.5	3,893	1,217	0.3127	0.6873	0.00
95.5	2,676	75	0.0279	0.9721	0.00
96.5	2,601	42	0.0161	0.9839	0.00
97.5	2,559	38	0.0150	0.9850	0.00
98.5	2,521		0.0000	1.0000	0.00
99.5	2,521	265	0.1053	0.8947	0.00
100.5	2,255	354	0.1568	0.8432	0.00
101.5	1,902	176	0.0923	0.9077	0.00
102.5	1,726	191	0.1108	0.8892	0.00
103.5	1,535	62	0.0407	0.9593	0.00
104.5	1,472	65	0.0442	0.9558	0.00
105.5	1,407	254	0.1805	0.8195	0.00
106.5	1,153	510	0.4425	0.5575	0.00
107.5	643	36	0.0563	0.9437	0.00
108.5	607	192	0.3164	0.6836	0.00
109.5	415	244	0.5894	0.4106	0.00
110.5	170	32	0.1893	0.8107	0.00
111.5	138	138	1.0000		0.00
112.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2820 METER INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2013 EXPERIENCE BAND 1956-2017

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	12,387,647		0.0000	1.0000	100.00
0.5	12,649,237	2,061	0.0002	0.9998	100.00
1.5	13,724,821	50,433	0.0037	0.9963	99.98
2.5	13,677,028	120,585	0.0088	0.9912	99.62
3.5	13,525,088	73,738	0.0055	0.9945	98.74
4.5	13,057,398	32,287	0.0025	0.9975	98.20
5.5	10,548,318	98,337	0.0093	0.9907	97.96
6.5	10,464,021	107,937	0.0103	0.9897	97.04
7.5	9,492,753	32,651	0.0034	0.9966	96.04
8.5	9,028,289	21,239	0.0024	0.9976	95.71
9.5	8,992,689	446,897	0.0497	0.9503	95.49
10.5	8,310,462	229,687	0.0276	0.9724	90.74
11.5	7,202,878	69,742	0.0097	0.9903	88.23
12.5	6,506,729	51,454	0.0079	0.9921	87.38
13.5	6,307,083	135,452	0.0215	0.9785	86.69
14.5	5,961,227	142,127	0.0238	0.9762	84.83
15.5	5,703,851	152,287	0.0267	0.9733	82.80
16.5	5,422,122	169,449	0.0313	0.9687	80.59
17.5	4,696,524	130,657	0.0278	0.9722	78.07
18.5	4,243,542	91,686	0.0216	0.9784	75.90
19.5	3,771,716	66,892	0.0177	0.9823	74.26
20.5	2,991,188	70,765	0.0237	0.9763	72.95
21.5	2,443,347	56,267	0.0230	0.9770	71.22
22.5	2,136,085	56,943	0.0267	0.9733	69.58
23.5	1,880,138	64,061	0.0341	0.9659	67.73
24.5	1,642,054	44,703	0.0272	0.9728	65.42
25.5	1,551,811	48,161	0.0310	0.9690	63.64
26.5	1,411,445	45,563	0.0323	0.9677	61.66
27.5	1,253,898	36,260	0.0289	0.9711	59.67
28.5	1,178,020	33,757	0.0287	0.9713	57.95
29.5	1,088,368	36,142	0.0332	0.9668	56.29
30.5	1,012,624	42,946	0.0424	0.9576	54.42
31.5	948,754	45,160	0.0476	0.9524	52.11
32.5	880,608	52,642	0.0598	0.9402	49.63
33.5	812,002	55,572	0.0684	0.9316	46.66
34.5	745,357	44,904	0.0602	0.9398	43.47
35.5	687,921	36,883	0.0536	0.9464	40.85
36.5	634,611	38,446	0.0606	0.9394	38.66
37.5	576,433	82,146	0.1425	0.8575	36.32
38.5	485,841	67,694	0.1393	0.8607	31.14

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2013 EXPERIENCE BAND 1956-2017

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	421,678	38,427	0.0911	0.9089	26.80
40.5	382,613	33,070	0.0864	0.9136	24.36
41.5	349,571	31,194	0.0892	0.9108	22.25
42.5	319,068	23,361	0.0732	0.9268	20.27
43.5	295,038	19,951	0.0676	0.9324	18.78
44.5	269,690	30,955	0.1148	0.8852	17.51
45.5	236,997	28,288	0.1194	0.8806	15.50
46.5	206,736	35,266	0.1706	0.8294	13.65
47.5	168,664	30,110	0.1785	0.8215	11.32
48.5	135,504	16,557	0.1222	0.8778	9.30
49.5	119,535	16,501	0.1380	0.8620	8.17
50.5	102,116	19,872	0.1946	0.8054	7.04
51.5	84,892	10,175	0.1199	0.8801	5.67
52.5	74,267	8,352	0.1125	0.8875	4.99
53.5	65,678	5,022	0.0765	0.9235	4.43
54.5	60,380	9,930	0.1645	0.8355	4.09
55.5	50,395	2,899	0.0575	0.9425	3.42
56.5	47,480	10,483	0.2208	0.7792	3.22
57.5	36,945	3,032	0.0821	0.9179	2.51
58.5	33,913	17,031	0.5022	0.4978	2.30
59.5	16,882	944	0.0559	0.9441	1.15
60.5	15,939	656	0.0412	0.9588	1.08
61.5	15,282	2,184	0.1429	0.8571	1.04
62.5	13,099	2,120	0.1618	0.8382	0.89
63.5	10,979	918	0.0836	0.9164	0.75
64.5	10,061	640	0.0637	0.9363	0.68
65.5	9,421	995	0.1056	0.8944	0.64
66.5	8,426	1,876	0.2227	0.7773	0.57
67.5	6,550	1,201	0.1834	0.8166	0.44
68.5	5,349	637	0.1191	0.8809	0.36
69.5	4,711	2,101	0.4460	0.5540	0.32
70.5	2,610	753	0.2884	0.7116	0.18
71.5	1,857	56	0.0303	0.9697	0.13
72.5	1,801	700	0.3888	0.6112	0.12
73.5	1,101	1,051	0.9546	0.0454	0.07
74.5	50	50	1.0000		0.00
75.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2013 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	11,414,517		0.0000	1.0000	100.00
0.5	11,712,538	1,824	0.0002	0.9998	100.00
1.5	12,786,249	50,049	0.0039	0.9961	99.98
2.5	12,735,601	120,442	0.0095	0.9905	99.59
3.5	12,582,790	73,290	0.0058	0.9942	98.65
4.5	12,098,910	31,739	0.0026	0.9974	98.08
5.5	9,585,012	97,844	0.0102	0.9898	97.82
6.5	9,512,653	107,550	0.0113	0.9887	96.82
7.5	8,578,508	32,290	0.0038	0.9962	95.73
8.5	8,125,575	20,525	0.0025	0.9975	95.37
9.5	8,086,207	444,485	0.0550	0.9450	95.12
10.5	7,403,869	227,733	0.0308	0.9692	89.90
11.5	6,294,678	68,210	0.0108	0.9892	87.13
12.5	5,599,508	50,439	0.0090	0.9910	86.19
13.5	5,404,851	132,770	0.0246	0.9754	85.41
14.5	5,082,188	139,142	0.0274	0.9726	83.31
15.5	4,851,356	148,846	0.0307	0.9693	81.03
16.5	4,586,592	165,186	0.0360	0.9640	78.55
17.5	3,875,235	125,596	0.0324	0.9676	75.72
18.5	3,449,023	84,945	0.0246	0.9754	73.26
19.5	3,004,143	61,047	0.0203	0.9797	71.46
20.5	2,249,329	63,868	0.0284	0.9716	70.01
21.5	1,730,702	44,656	0.0258	0.9742	68.02
22.5	1,451,121	45,471	0.0313	0.9687	66.26
23.5	1,239,704	50,608	0.0408	0.9592	64.19
24.5	1,039,031	32,735	0.0315	0.9685	61.57
25.5	978,791	34,651	0.0354	0.9646	59.63
26.5	861,057	32,474	0.0377	0.9623	57.52
27.5	737,604	24,478	0.0332	0.9668	55.35
28.5	689,576	25,033	0.0363	0.9637	53.51
29.5	635,330	26,023	0.0410	0.9590	51.57
30.5	602,861	31,760	0.0527	0.9473	49.46
31.5	581,763	37,039	0.0637	0.9363	46.85
32.5	553,746	39,122	0.0706	0.9294	43.87
33.5	526,942	39,691	0.0753	0.9247	40.77
34.5	511,328	37,868	0.0741	0.9259	37.70
35.5	490,522	27,585	0.0562	0.9438	34.91
36.5	459,073	36,453	0.0794	0.9206	32.94
37.5	425,363	79,807	0.1876	0.8124	30.33
38.5	350,086	67,007	0.1914	0.8086	24.64

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2013 EXPERIENCE BAND 1988-2017

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	298,305	37,550	0.1259	0.8741	19.92
40.5	270,305	31,897	0.1180	0.8820	17.41
41.5	245,626	29,915	0.1218	0.8782	15.36
42.5	219,472	21,736	0.0990	0.9010	13.49
43.5	199,151	18,691	0.0939	0.9061	12.15
44.5	177,285	28,008	0.1580	0.8420	11.01
45.5	150,542	19,903	0.1322	0.8678	9.27
46.5	138,588	27,070	0.1953	0.8047	8.05
47.5	112,830	20,939	0.1856	0.8144	6.47
48.5	97,517	13,331	0.1367	0.8633	5.27
49.5	90,663	10,242	0.1130	0.8870	4.55
50.5	80,176	15,072	0.1880	0.8120	4.04
51.5	64,046	4,723	0.0737	0.9263	3.28
52.5	58,872	5,225	0.0888	0.9112	3.04
53.5	53,797	1,683	0.0313	0.9687	2.77
54.5	51,933	7,158	0.1378	0.8622	2.68
55.5	44,890	2,180	0.0486	0.9514	2.31
56.5	42,789	8,250	0.1928	0.8072	2.20
57.5	34,487	1,570	0.0455	0.9545	1.78
58.5	32,917	16,035	0.4871	0.5129	1.69
59.5	16,882	944	0.0559	0.9441	0.87
60.5	15,939	656	0.0412	0.9588	0.82
61.5	15,282	2,184	0.1429	0.8571	0.79
62.5	13,099	2,120	0.1618	0.8382	0.67
63.5	10,979	918	0.0836	0.9164	0.57
64.5	10,061	640	0.0637	0.9363	0.52
65.5	9,421	995	0.1056	0.8944	0.48
66.5	8,426	1,876	0.2227	0.7773	0.43
67.5	6,550	1,201	0.1834	0.8166	0.34
68.5	5,349	637	0.1191	0.8809	0.28
69.5	4,711	2,101	0.4460	0.5540	0.24
70.5	2,610	753	0.2884	0.7116	0.13
71.5	1,857	56	0.0303	0.9697	0.10
72.5	1,801	700	0.3888	0.6112	0.09
73.5	1,101	1,051	0.9546	0.0454	0.06
74.5	50	50	1.0000		0.00
75.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1934-2013 EXPERIENCE BAND 1998-2017

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	9,275,775		0.0000	1.0000	100.00
0.5	9,493,177	355	0.0000	1.0000	100.00
1.5	11,178,222	49,864	0.0045	0.9955	100.00
2.5	11,433,974	120,135	0.0105	0.9895	99.55
3.5	11,531,027	73,064	0.0063	0.9937	98.50
4.5	11,279,258	31,173	0.0028	0.9972	97.88
5.5	8,805,770	97,713	0.0111	0.9889	97.61
6.5	8,847,498	107,473	0.0121	0.9879	96.53
7.5	8,045,813	32,119	0.0040	0.9960	95.35
8.5	7,637,917	19,411	0.0025	0.9975	94.97
9.5	7,692,970	442,924	0.0576	0.9424	94.73
10.5	7,094,234	227,503	0.0321	0.9679	89.28
11.5	6,027,293	67,973	0.0113	0.9887	86.41
12.5	5,374,393	50,306	0.0094	0.9906	85.44
13.5	5,205,107	132,653	0.0255	0.9745	84.64
14.5	4,873,327	138,387	0.0284	0.9716	82.48
15.5	4,645,694	148,379	0.0319	0.9681	80.14
16.5	4,395,242	164,275	0.0374	0.9626	77.58
17.5	3,716,173	124,775	0.0336	0.9664	74.68
18.5	3,281,154	84,299	0.0257	0.9743	72.17
19.5	2,820,801	59,967	0.0213	0.9787	70.32
20.5	2,048,350	62,773	0.0306	0.9694	68.83
21.5	1,508,461	43,588	0.0289	0.9711	66.72
22.5	1,217,469	43,605	0.0358	0.9642	64.79
23.5	986,151	48,321	0.0490	0.9510	62.47
24.5	795,463	30,091	0.0378	0.9622	59.41
25.5	747,434	29,334	0.0392	0.9608	57.16
26.5	642,396	26,991	0.0420	0.9580	54.92
27.5	520,435	19,223	0.0369	0.9631	52.61
28.5	490,557	20,734	0.0423	0.9577	50.67
29.5	432,061	19,089	0.0442	0.9558	48.52
30.5	388,831	22,334	0.0574	0.9426	46.38
31.5	363,565	26,345	0.0725	0.9275	43.72
32.5	325,060	20,920	0.0644	0.9356	40.55
33.5	308,045	18,990	0.0616	0.9384	37.94
34.5	298,621	15,998	0.0536	0.9464	35.60
35.5	279,665	7,310	0.0261	0.9739	33.69
36.5	261,822	6,202	0.0237	0.9763	32.81
37.5	246,964	10,902	0.0441	0.9559	32.04
38.5	233,536	19,476	0.0834	0.9166	30.62

DUKE ENERGY KENTUCKY
GAS PLANT

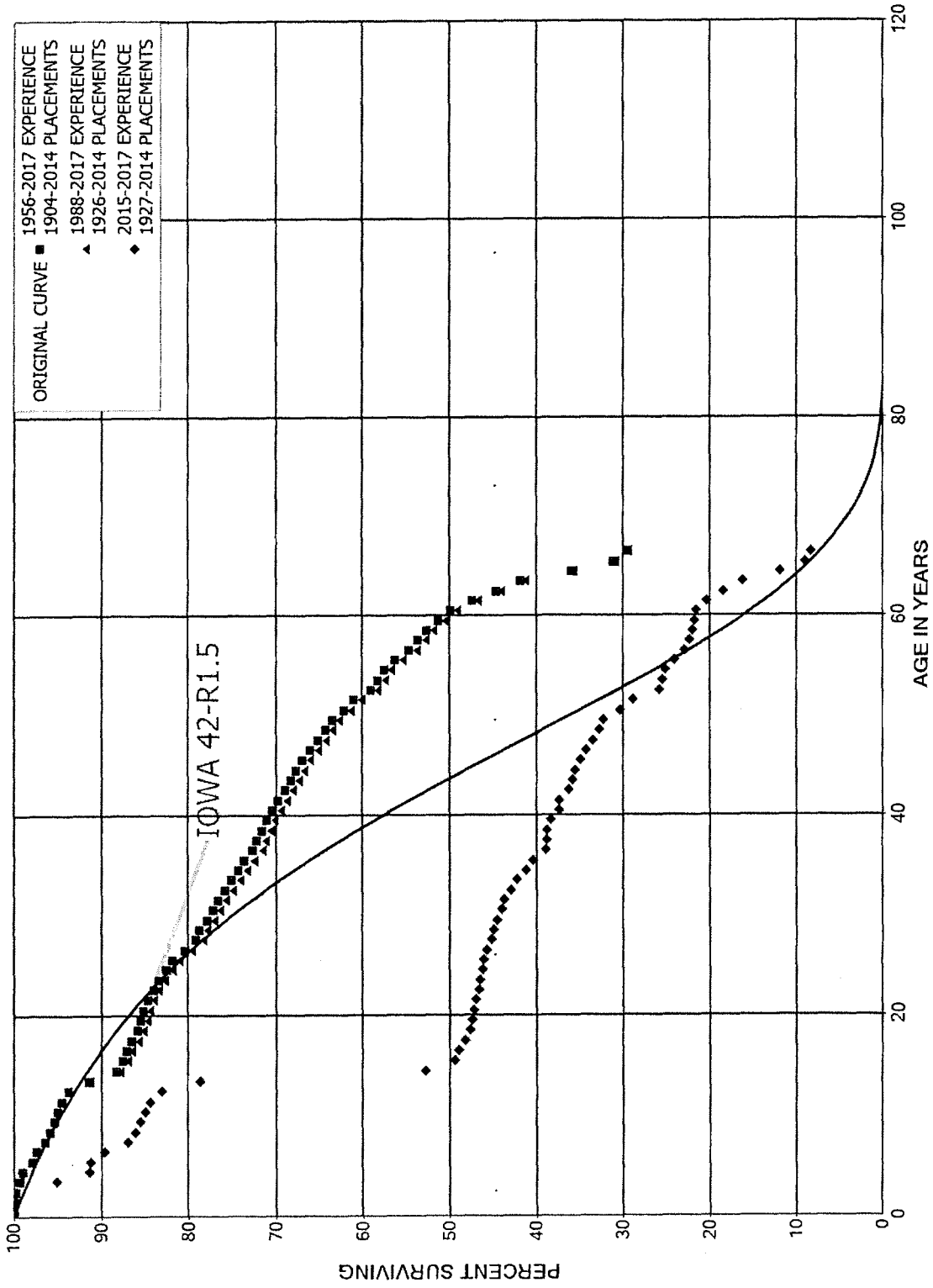
ACCOUNT 2820 METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1934-2013 EXPERIENCE BAND 1998-2017

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	216,127	23,243	0.1075	0.8925	28.07
40.5	195,330	21,481	0.1100	0.8900	25.05
41.5	178,154	21,781	0.1223	0.8777	22.29
42.5	156,363	20,034	0.1281	0.8719	19.57
43.5	136,131	17,636	0.1295	0.8705	17.06
44.5	112,953	19,751	0.1749	0.8251	14.85
45.5	87,763	13,887	0.1582	0.8418	12.25
46.5	70,159	12,068	0.1720	0.8280	10.32
47.5	57,077	14,882	0.2607	0.7393	8.54
48.5	41,771	10,512	0.2517	0.7483	6.31
49.5	36,806	7,341	0.1994	0.8006	4.72
50.5	28,618	12,834	0.4485	0.5515	3.78
51.5	14,952	3,934	0.2631	0.7369	2.09
52.5	11,994	1,002	0.0835	0.9165	1.54
53.5	12,678	1,112	0.0877	0.9123	1.41
54.5	12,114	45	0.0037	0.9963	1.29
55.5	12,896	321	0.0249	0.9751	1.28
56.5	22,271	7,748	0.3479	0.6521	1.25
57.5	19,058	1,556	0.0816	0.9184	0.81
58.5	26,449	12,607	0.4766	0.5234	0.75
59.5	15,569	944	0.0606	0.9394	0.39
60.5	15,708	656	0.0418	0.9582	0.37
61.5	15,052	2,184	0.1451	0.8549	0.35
62.5	12,868	2,120	0.1647	0.8353	0.30
63.5	10,979	918	0.0836	0.9164	0.25
64.5	10,061	640	0.0637	0.9363	0.23
65.5	9,421	995	0.1056	0.8944	0.22
66.5	8,426	1,876	0.2227	0.7773	0.19
67.5	6,550	1,201	0.1834	0.8166	0.15
68.5	5,349	637	0.1191	0.8809	0.12
69.5	4,711	2,101	0.4460	0.5540	0.11
70.5	2,610	753	0.2884	0.7116	0.06
71.5	1,857	56	0.0303	0.9697	0.04
72.5	1,801	700	0.3888	0.6112	0.04
73.5	1,101	1,051	0.9546	0.0454	0.03
74.5	50	50	1.0000		0.00
75.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2830 HOUSE REGULATORS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2014 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,418,131	1,298	0.0002	0.9998	100.00
0.5	7,461,914	10,328	0.0014	0.9986	99.98
1.5	7,347,595	6,447	0.0009	0.9991	99.84
2.5	7,345,675	34,939	0.0048	0.9952	99.76
3.5	7,210,615	23,922	0.0033	0.9967	99.28
4.5	6,946,067	78,798	0.0113	0.9887	98.95
5.5	6,701,077	31,808	0.0047	0.9953	97.83
6.5	6,677,957	70,159	0.0105	0.9895	97.37
7.5	5,806,911	30,629	0.0053	0.9947	96.34
8.5	5,133,395	27,196	0.0053	0.9947	95.83
9.5	4,668,157	15,800	0.0034	0.9966	95.33
10.5	4,120,853	20,740	0.0050	0.9950	95.00
11.5	3,715,471	31,643	0.0085	0.9915	94.53
12.5	3,155,751	79,375	0.0252	0.9748	93.72
13.5	1,957,233	64,998	0.0332	0.9668	91.36
14.5	1,891,878	16,848	0.0089	0.9911	88.33
15.5	1,766,930	8,613	0.0049	0.9951	87.54
16.5	1,757,867	13,091	0.0074	0.9926	87.12
17.5	1,745,703	12,108	0.0069	0.9931	86.47
18.5	1,532,498	6,989	0.0046	0.9954	85.87
19.5	1,353,671	5,556	0.0041	0.9959	85.48
20.5	1,264,167	7,471	0.0059	0.9941	85.13
21.5	1,207,234	9,018	0.0075	0.9925	84.62
22.5	1,102,748	7,444	0.0068	0.9932	83.99
23.5	992,217	10,887	0.0110	0.9890	83.42
24.5	931,247	7,961	0.0085	0.9915	82.51
25.5	886,358	14,767	0.0167	0.9833	81.80
26.5	808,338	13,021	0.0161	0.9839	80.44
27.5	714,928	4,080	0.0057	0.9943	79.14
28.5	599,549	6,132	0.0102	0.9898	78.69
29.5	541,247	4,812	0.0089	0.9911	77.89
30.5	494,537	3,924	0.0079	0.9921	77.20
31.5	448,801	4,108	0.0092	0.9908	76.58
32.5	433,349	4,709	0.0109	0.9891	75.88
33.5	419,975	4,197	0.0100	0.9900	75.06
34.5	400,513	3,848	0.0096	0.9904	74.31
35.5	391,136	5,459	0.0140	0.9860	73.59
36.5	369,695	1,777	0.0048	0.9952	72.57
37.5	301,219	2,669	0.0089	0.9911	72.22
38.5	276,613	1,857	0.0067	0.9933	71.58

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2014 EXPERIENCE BAND 1956-2017

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	270,996	2,542	0.0094	0.9906	71.10
40.5	267,854	2,617	0.0098	0.9902	70.43
41.5	264,291	2,976	0.0113	0.9887	69.74
42.5	260,187	2,512	0.0097	0.9903	68.96
43.5	249,141	2,257	0.0091	0.9909	68.29
44.5	240,319	2,510	0.0104	0.9896	67.67
45.5	225,787	3,035	0.0134	0.9866	66.96
46.5	203,308	2,859	0.0141	0.9859	66.06
47.5	182,864	2,364	0.0129	0.9871	65.14
48.5	164,015	1,930	0.0118	0.9882	64.29
49.5	154,941	3,230	0.0208	0.9792	63.54
50.5	143,295	2,761	0.0193	0.9807	62.21
51.5	129,332	4,052	0.0313	0.9687	61.01
52.5	119,688	1,715	0.0143	0.9857	59.10
53.5	108,904	1,463	0.0134	0.9866	58.26
54.5	98,601	2,130	0.0216	0.9784	57.47
55.5	88,055	2,521	0.0286	0.9714	56.23
56.5	80,691	1,494	0.0185	0.9815	54.62
57.5	74,846	1,320	0.0176	0.9824	53.61
58.5	67,868	1,726	0.0254	0.9746	52.67
59.5	59,288	1,702	0.0287	0.9713	51.33
60.5	55,234	2,663	0.0482	0.9518	49.85
61.5	47,848	2,806	0.0586	0.9414	47.45
62.5	40,384	2,597	0.0643	0.9357	44.67
63.5	34,996	4,967	0.1419	0.8581	41.79
64.5	26,948	3,630	0.1347	0.8653	35.86
65.5	20,212	971	0.0480	0.9520	31.03
66.5	15,495	751	0.0485	0.9515	29.54
67.5	12,834	129	0.0101	0.9899	28.11
68.5	9,760	116	0.0118	0.9882	27.82
69.5	7,788	103	0.0132	0.9868	27.49
70.5	7,261	187	0.0258	0.9742	27.13
71.5	6,711	114	0.0170	0.9830	26.43
72.5	6,593	123	0.0187	0.9813	25.98
73.5	6,470	96	0.0148	0.9852	25.50
74.5	6,374	173	0.0271	0.9729	25.12
75.5	5,980	66	0.0110	0.9890	24.44
76.5	5,584	33	0.0059	0.9941	24.17
77.5	5,455	15	0.0027	0.9973	24.03
78.5	5,220	23	0.0045	0.9955	23.96

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2014 EXPERIENCE BAND 1956-2017

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	4,860	51	0.0104	0.9896	23.85
80.5	4,612	457	0.0990	0.9010	23.60
81.5	4,047	450	0.1111	0.8889	21.27
82.5	3,591	411	0.1146	0.8854	18.90
83.5	3,179	385	0.1211	0.8789	16.74
84.5	2,794	493	0.1764	0.8236	14.71
85.5	2,293	520	0.2267	0.7733	12.12
86.5	1,774	55	0.0312	0.9688	9.37
87.5	1,641		0.0000	1.0000	9.08
88.5	3	3	1.0000		9.08
89.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1926-2014 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	6,850,060	1,188	0.0002	0.9998	100.00
0.5	6,933,045	4,990	0.0007	0.9993	99.98
1.5	6,872,643	4,835	0.0007	0.9993	99.91
2.5	6,879,391	33,720	0.0049	0.9951	99.84
3.5	6,748,830	23,046	0.0034	0.9966	99.35
4.5	6,490,682	76,469	0.0118	0.9882	99.01
5.5	6,246,085	29,019	0.0046	0.9954	97.85
6.5	6,237,647	69,423	0.0111	0.9889	97.39
7.5	5,446,447	27,170	0.0050	0.9950	96.31
8.5	4,802,492	24,443	0.0051	0.9949	95.83
9.5	4,344,241	15,267	0.0035	0.9965	95.34
10.5	3,798,195	19,948	0.0053	0.9947	95.00
11.5	3,395,080	30,537	0.0090	0.9910	94.50
12.5	2,838,663	78,563	0.0277	0.9723	93.65
13.5	1,649,884	63,225	0.0383	0.9617	91.06
14.5	1,594,677	15,946	0.0100	0.9900	87.57
15.5	1,485,508	7,572	0.0051	0.9949	86.70
16.5	1,501,432	12,264	0.0082	0.9918	86.26
17.5	1,513,431	11,460	0.0076	0.9924	85.55
18.5	1,322,352	6,222	0.0047	0.9953	84.90
19.5	1,155,147	4,553	0.0039	0.9961	84.50
20.5	1,072,447	5,874	0.0055	0.9945	84.17
21.5	1,025,489	7,095	0.0069	0.9931	83.71
22.5	931,885	6,709	0.0072	0.9928	83.13
23.5	858,511	9,823	0.0114	0.9886	82.53
24.5	810,935	7,193	0.0089	0.9911	81.59
25.5	778,498	14,374	0.0185	0.9815	80.86
26.5	703,015	11,812	0.0168	0.9832	79.37
27.5	617,741	3,242	0.0052	0.9948	78.04
28.5	510,985	4,998	0.0098	0.9902	77.63
29.5	463,535	4,330	0.0093	0.9907	76.87
30.5	420,786	3,601	0.0086	0.9914	76.15
31.5	382,773	3,868	0.0101	0.9899	75.50
32.5	374,194	4,366	0.0117	0.9883	74.74
33.5	366,058	3,894	0.0106	0.9894	73.86
34.5	352,870	3,646	0.0103	0.9897	73.08
35.5	349,399	5,141	0.0147	0.9853	72.32
36.5	340,048	1,560	0.0046	0.9954	71.26
37.5	279,479	2,300	0.0082	0.9918	70.93
38.5	260,904	1,690	0.0065	0.9935	70.35

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1926-2014 EXPERIENCE BAND 1988-2017

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	259,388	2,480	0.0096	0.9904	69.89
40.5	257,583	2,543	0.0099	0.9901	69.22
41.5	254,966	2,769	0.0109	0.9891	68.54
42.5	251,058	2,341	0.0093	0.9907	67.80
43.5	240,162	2,226	0.0093	0.9907	67.16
44.5	231,453	2,407	0.0104	0.9896	66.54
45.5	217,473	2,776	0.0128	0.9872	65.85
46.5	195,790	2,806	0.0143	0.9857	65.01
47.5	175,654	2,318	0.0132	0.9868	64.08
48.5	157,208	1,881	0.0120	0.9880	63.23
49.5	148,407	3,139	0.0212	0.9788	62.48
50.5	137,109	2,640	0.0193	0.9807	61.15
51.5	123,058	3,964	0.0322	0.9678	59.98
52.5	113,538	1,608	0.0142	0.9858	58.04
53.5	102,860	1,387	0.0135	0.9865	57.22
54.5	92,633	2,040	0.0220	0.9780	56.45
55.5	82,191	2,469	0.0300	0.9700	55.21
56.5	75,114	1,422	0.0189	0.9811	53.55
57.5	69,595	1,259	0.0181	0.9819	52.54
58.5	67,154	1,726	0.0257	0.9743	51.58
59.5	58,573	1,668	0.0285	0.9715	50.26
60.5	54,557	2,584	0.0474	0.9526	48.83
61.5	47,271	2,718	0.0575	0.9425	46.52
62.5	39,894	2,549	0.0639	0.9361	43.84
63.5	34,554	4,796	0.1388	0.8612	41.04
64.5	26,677	3,568	0.1337	0.8663	35.34
65.5	20,003	971	0.0485	0.9515	30.62
66.5	15,286	682	0.0446	0.9554	29.13
67.5	12,695	129	0.0102	0.9898	27.83
68.5	9,621	116	0.0120	0.9880	27.55
69.5	7,649	70	0.0092	0.9908	27.21
70.5	7,155	80	0.0112	0.9888	26.96
71.5	6,711	114	0.0170	0.9830	26.66
72.5	6,593	123	0.0187	0.9813	26.21
73.5	6,470	96	0.0148	0.9852	25.72
74.5	6,374	173	0.0271	0.9729	25.34
75.5	5,980	66	0.0110	0.9890	24.65
76.5	5,584	33	0.0059	0.9941	24.38
77.5	5,455	15	0.0027	0.9973	24.23
78.5	5,220	23	0.0045	0.9955	24.17

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1926-2014 EXPERIENCE BAND 1988-2017

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	4,860	51	0.0104	0.9896	24.06
80.5	4,612	457	0.0990	0.9010	23.81
81.5	4,047	450	0.1111	0.8889	21.45
82.5	3,591	411	0.1146	0.8854	19.07
83.5	3,179	385	0.1211	0.8789	16.88
84.5	2,794	493	0.1764	0.8236	14.84
85.5	2,293	520	0.2267	0.7733	12.22
86.5	1,774	55	0.0312	0.9688	9.45
87.5	1,641		0.0000	1.0000	9.16
88.5	3	3	1.0000		9.16
89.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1927-2014 EXPERIENCE BAND 2015-2017

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	107,311		0.0000	1.0000	100.00
1.5	388,557		0.0000	1.0000	100.00
2.5	584,008	28,737	0.0492	0.9508	100.00
3.5	447,960	17,845	0.0398	0.9602	95.08
4.5	815,562	1,442	0.0018	0.9982	91.29
5.5	1,282,821	20,759	0.0162	0.9838	91.13
6.5	1,959,667	59,841	0.0305	0.9695	89.66
7.5	1,886,013	15,856	0.0084	0.9916	86.92
8.5	1,622,005	13,050	0.0080	0.9920	86.19
9.5	1,469,167	9,069	0.0062	0.9938	85.49
10.5	2,075,900	14,465	0.0070	0.9930	84.97
11.5	1,675,719	26,769	0.0160	0.9840	84.37
12.5	1,364,591	72,296	0.0530	0.9470	83.03
13.5	171,279	56,451	0.3296	0.6704	78.63
14.5	114,828	7,244	0.0631	0.9369	52.71
15.5	206,622	1,661	0.0080	0.9920	49.39
16.5	382,470	6,081	0.0159	0.9841	48.99
17.5	470,125	5,500	0.0117	0.9883	48.21
18.5	322,558	1,990	0.0062	0.9938	47.65
19.5	245,320	870	0.0035	0.9965	47.35
20.5	260,711	1,168	0.0045	0.9955	47.19
21.5	252,437	1,849	0.0073	0.9927	46.97
22.5	193,597	596	0.0031	0.9969	46.63
23.5	158,179	964	0.0061	0.9939	46.49
24.5	188,340	355	0.0019	0.9981	46.20
25.5	266,222	2,144	0.0081	0.9919	46.12
26.5	247,544	3,345	0.0135	0.9865	45.74
27.5	206,785	753	0.0036	0.9964	45.13
28.5	138,404	1,288	0.0093	0.9907	44.96
29.5	97,167	1,380	0.0142	0.9858	44.54
30.5	62,890	303	0.0048	0.9952	43.91
31.5	36,536	739	0.0202	0.9798	43.70
32.5	29,977	461	0.0154	0.9846	42.82
33.5	38,877	877	0.0226	0.9774	42.16
34.5	93,491	1,850	0.0198	0.9802	41.21
35.5	109,164	4,149	0.0380	0.9620	40.39
36.5	92,826	300	0.0032	0.9968	38.86
37.5	26,528		0.0000	1.0000	38.73
38.5	5,441	68	0.0125	0.9875	38.73

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1927-2014 EXPERIENCE BAND 2015-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,871	68	0.0238	0.9762	38.24
40.5	10,941	17	0.0016	0.9984	37.33
41.5	17,064	519	0.0304	0.9696	37.27
42.5	27,724	315	0.0114	0.9886	36.14
43.5	38,806	393	0.0101	0.9899	35.73
44.5	50,484	789	0.0156	0.9844	35.37
45.5	55,264	1,015	0.0184	0.9816	34.82
46.5	43,165	1,042	0.0241	0.9759	34.18
47.5	33,487	711	0.0212	0.9788	33.35
48.5	29,634	455	0.0154	0.9846	32.64
49.5	28,734	1,700	0.0592	0.9408	32.14
50.5	30,405	1,402	0.0461	0.9539	30.24
51.5	26,616	2,834	0.1065	0.8935	28.85
52.5	26,872	386	0.0143	0.9857	25.77
53.5	22,923	314	0.0137	0.9863	25.40
54.5	18,943	769	0.0406	0.9594	25.06
55.5	15,842	768	0.0485	0.9515	24.04
56.5	17,559	462	0.0263	0.9737	22.87
57.5	15,160	233	0.0154	0.9846	22.27
58.5	14,166	109	0.0077	0.9923	21.93
59.5	12,136	128	0.0105	0.9895	21.76
60.5	13,152	732	0.0557	0.9443	21.53
61.5	11,888	1,153	0.0970	0.9030	20.33
62.5	10,278	1,197	0.1165	0.8835	18.36
63.5	14,651	4,011	0.2738	0.7262	16.22
64.5	12,964	3,142	0.2423	0.7577	11.78
65.5	10,235	722	0.0706	0.9294	8.93
66.5	7,624	589	0.0772	0.9228	8.30
67.5	5,344	64	0.0119	0.9881	7.66
68.5	2,698	55	0.0203	0.9797	7.56
69.5	791		0.0000	1.0000	7.41
70.5	367		0.0000	1.0000	7.41
71.5	15		0.0000	1.0000	7.41
72.5	232	11	0.0468	0.9532	7.41
73.5	551		0.0000	1.0000	7.06
74.5	647		0.0000	1.0000	7.06
75.5	647		0.0000	1.0000	7.06
76.5	653		0.0000	1.0000	7.06
77.5	754		0.0000	1.0000	7.06
78.5	642		0.0000	1.0000	7.06

DUKE ENERGY KENTUCKY
GAS PLANT

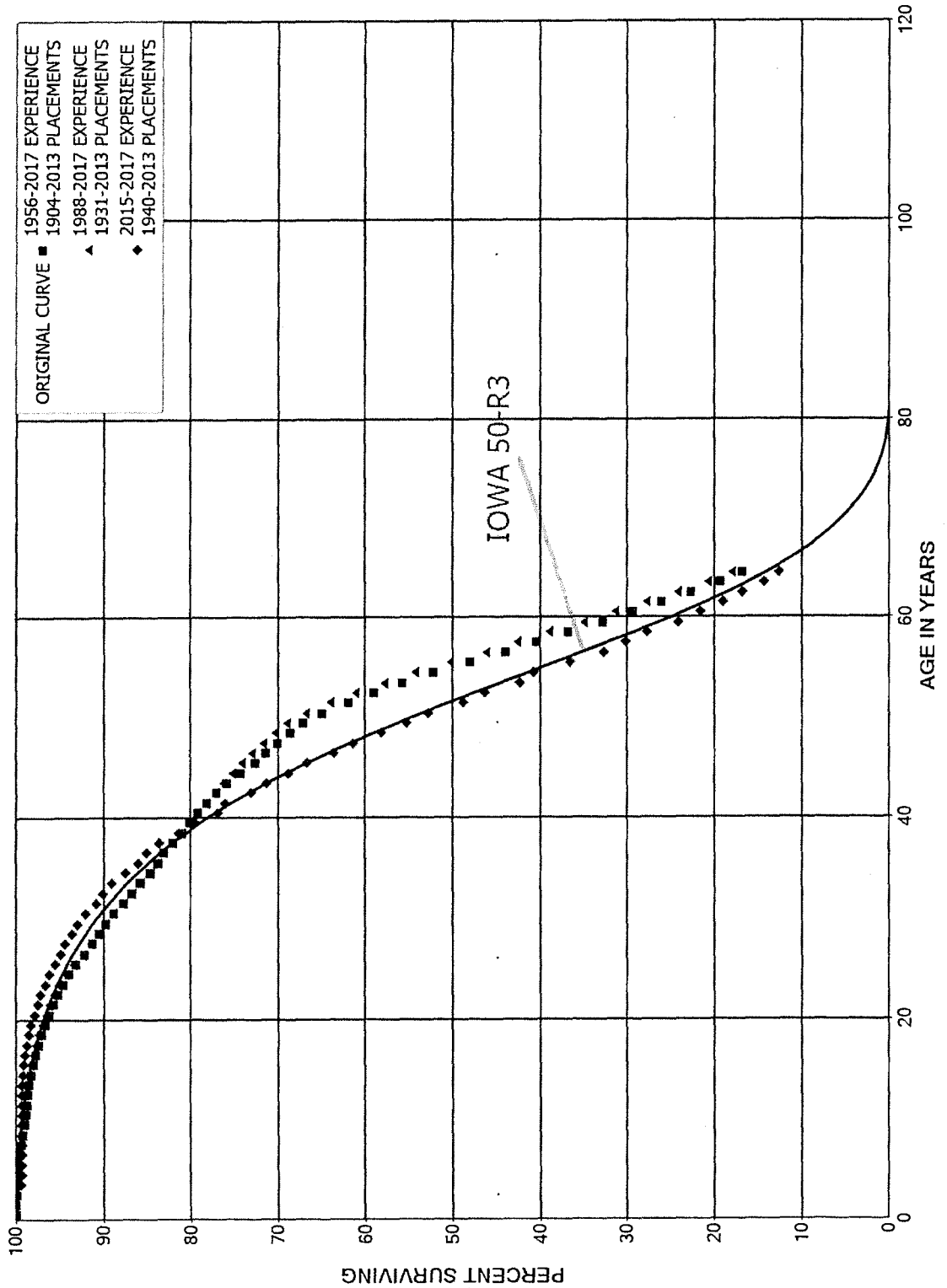
ACCOUNT 2830 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1927-2014 EXPERIENCE BAND 2015-2017

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	328		0.0000	1.0000	7.06
80.5	131	16	0.1217	0.8783	7.06
81.5	6		0.0000	1.0000	6.20
82.5	8		0.0000	1.0000	6.20
83.5	166		0.0000	1.0000	6.20
84.5	251	158	0.6302	0.3698	6.20
85.5	2,290	520	0.2270	0.7730	2.29
86.5	1,770	55	0.0313	0.9687	1.77
87.5	1,641		0.0000	1.0000	1.72
88.5	3	3	1.0000		1.72
89.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2013 EXPERIENCE BAND 1956-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,909,566	8	0.0000	1.0000	100.00
0.5	5,917,379	4,736	0.0008	0.9992	100.00
1.5	6,018,679	6,389	0.0011	0.9989	99.92
2.5	6,018,794	5,847	0.0010	0.9990	99.81
3.5	6,019,323	4,340	0.0007	0.9993	99.72
4.5	5,977,101	2,972	0.0005	0.9995	99.64
5.5	5,979,784	7,938	0.0013	0.9987	99.60
6.5	5,976,637	6,593	0.0011	0.9989	99.46
7.5	5,247,073	8,596	0.0016	0.9984	99.35
8.5	4,828,182	12,965	0.0027	0.9973	99.19
9.5	5,044,602	5,618	0.0011	0.9989	98.92
10.5	4,323,201	3,377	0.0008	0.9992	98.81
11.5	4,034,470	3,322	0.0008	0.9992	98.74
12.5	3,263,809	3,653	0.0011	0.9989	98.66
13.5	1,811,818	4,213	0.0023	0.9977	98.55
14.5	1,808,027	6,321	0.0035	0.9965	98.32
15.5	1,575,088	4,208	0.0027	0.9973	97.97
16.5	1,490,574	4,871	0.0033	0.9967	97.71
17.5	1,354,643	4,693	0.0035	0.9965	97.39
18.5	1,132,620	4,912	0.0043	0.9957	97.05
19.5	1,012,464	4,578	0.0045	0.9955	96.63
20.5	918,173	4,057	0.0044	0.9956	96.20
21.5	845,460	5,038	0.0060	0.9940	95.77
22.5	723,577	4,141	0.0057	0.9943	95.20
23.5	599,660	4,532	0.0076	0.9924	94.66
24.5	544,392	4,507	0.0083	0.9917	93.94
25.5	453,939	4,816	0.0106	0.9894	93.16
26.5	417,143	3,868	0.0093	0.9907	92.17
27.5	372,179	3,277	0.0088	0.9912	91.32
28.5	277,024	2,586	0.0093	0.9907	90.52
29.5	244,882	2,358	0.0096	0.9904	89.67
30.5	211,476	2,569	0.0122	0.9878	88.81
31.5	194,793	2,063	0.0106	0.9894	87.73
32.5	190,684	2,213	0.0116	0.9884	86.80
33.5	183,678	2,269	0.0124	0.9876	85.79
34.5	178,833	1,999	0.0112	0.9888	84.73
35.5	175,828	1,537	0.0087	0.9913	83.78
36.5	169,589	1,973	0.0116	0.9884	83.05
37.5	154,617	2,009	0.0130	0.9870	82.09
38.5	146,959	1,603	0.0109	0.9891	81.02

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2013 EXPERIENCE BAND 1956-2017

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	145,963	1,805	0.0124	0.9876	80.14
40.5	144,134	1,773	0.0123	0.9877	79.14
41.5	142,327	2,048	0.0144	0.9856	78.17
42.5	139,760	2,158	0.0154	0.9846	77.05
43.5	137,620	2,893	0.0210	0.9790	75.86
44.5	131,858	2,853	0.0216	0.9784	74.26
45.5	126,246	2,273	0.0180	0.9820	72.65
46.5	120,113	2,238	0.0186	0.9814	71.35
47.5	116,071	2,375	0.0205	0.9795	70.02
48.5	110,662	2,324	0.0210	0.9790	68.58
49.5	107,005	3,508	0.0328	0.9672	67.14
50.5	101,335	4,696	0.0463	0.9537	64.94
51.5	94,777	4,365	0.0461	0.9539	61.93
52.5	89,525	5,101	0.0570	0.9430	59.08
53.5	82,181	5,234	0.0637	0.9363	55.71
54.5	75,595	6,025	0.0797	0.9203	52.17
55.5	64,884	5,501	0.0848	0.9152	48.01
56.5	58,566	4,664	0.0796	0.9204	43.94
57.5	52,212	4,752	0.0910	0.9090	40.44
58.5	40,805	4,423	0.1084	0.8916	36.76
59.5	30,684	3,236	0.1055	0.8945	32.77
60.5	25,998	2,988	0.1149	0.8851	29.32
61.5	21,155	2,753	0.1302	0.8698	25.95
62.5	16,594	2,403	0.1448	0.8552	22.57
63.5	12,529	1,707	0.1362	0.8638	19.30
64.5	9,696	1,412	0.1457	0.8543	16.67
65.5	6,903	938	0.1359	0.8641	14.24
66.5	5,243	792	0.1510	0.8490	12.31
67.5	3,930	584	0.1486	0.8514	10.45
68.5	2,926	383	0.1308	0.8692	8.90
69.5	2,296	399	0.1736	0.8264	7.73
70.5	1,657	468	0.2824	0.7176	6.39
71.5	1,091	432	0.3957	0.6043	4.59
72.5	659	323	0.4898	0.5102	2.77
73.5	336	207	0.6168	0.3832	1.41
74.5	129	108	0.8381	0.1619	0.54
75.5	21	21	1.0000		0.09
76.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2013 EXPERIENCE BAND 1988-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	5,681,498	8	0.0000	1.0000	100.00
0.5	5,719,632	4,201	0.0007	0.9993	100.00
1.5	5,830,594	5,011	0.0009	0.9991	99.93
2.5	5,829,301	4,950	0.0008	0.9992	99.84
3.5	5,831,114	3,300	0.0006	0.9994	99.76
4.5	5,787,019	2,778	0.0005	0.9995	99.70
5.5	5,786,005	7,762	0.0013	0.9987	99.65
6.5	5,784,210	6,497	0.0011	0.9989	99.52
7.5	5,066,860	8,433	0.0017	0.9983	99.41
8.5	4,652,071	12,852	0.0028	0.9972	99.24
9.5	4,867,048	5,148	0.0011	0.9989	98.97
10.5	4,146,112	3,243	0.0008	0.9992	98.86
11.5	3,857,465	2,861	0.0007	0.9993	98.78
12.5	3,088,839	2,854	0.0009	0.9991	98.71
13.5	1,637,193	3,206	0.0020	0.9980	98.62
14.5	1,638,408	4,814	0.0029	0.9971	98.43
15.5	1,411,991	3,651	0.0026	0.9974	98.14
16.5	1,333,813	3,980	0.0030	0.9970	97.88
17.5	1,201,335	4,083	0.0034	0.9966	97.59
18.5	984,569	3,762	0.0038	0.9962	97.26
19.5	867,853	3,933	0.0045	0.9955	96.89
20.5	778,270	3,388	0.0044	0.9956	96.45
21.5	710,450	4,045	0.0057	0.9943	96.03
22.5	591,482	3,637	0.0061	0.9939	95.48
23.5	476,511	3,634	0.0076	0.9924	94.90
24.5	425,585	3,773	0.0089	0.9911	94.17
25.5	346,187	4,187	0.0121	0.9879	93.34
26.5	311,123	3,011	0.0097	0.9903	92.21
27.5	270,470	2,559	0.0095	0.9905	91.32
28.5	193,636	1,861	0.0096	0.9904	90.45
29.5	178,201	1,722	0.0097	0.9903	89.58
30.5	150,302	1,967	0.0131	0.9869	88.72
31.5	140,589	1,660	0.0118	0.9882	87.56
32.5	143,344	1,696	0.0118	0.9882	86.52
33.5	144,171	1,775	0.0123	0.9877	85.50
34.5	144,583	1,637	0.0113	0.9887	84.45
35.5	147,821	1,231	0.0083	0.9917	83.49
36.5	146,580	1,705	0.0116	0.9884	82.79
37.5	135,654	1,472	0.0108	0.9892	81.83
38.5	131,912	1,403	0.0106	0.9894	80.94

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2013 EXPERIENCE BAND 1988-2017

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	133,359	1,697	0.0127	0.9873	80.08
40.5	134,219	1,643	0.0122	0.9878	79.06
41.5	134,011	1,919	0.0143	0.9857	78.09
42.5	131,372	1,547	0.0118	0.9882	76.98
43.5	129,623	1,695	0.0131	0.9869	76.07
44.5	124,857	1,862	0.0149	0.9851	75.08
45.5	120,357	1,855	0.0154	0.9846	73.96
46.5	114,768	2,014	0.0176	0.9824	72.82
47.5	111,176	2,110	0.0190	0.9810	71.54
48.5	106,395	2,085	0.0196	0.9804	70.18
49.5	103,296	3,346	0.0324	0.9676	68.80
50.5	98,097	4,094	0.0417	0.9583	66.58
51.5	92,102	4,035	0.0438	0.9562	63.80
52.5	87,273	4,840	0.0555	0.9445	61.00
53.5	80,305	4,897	0.0610	0.9390	57.62
54.5	74,055	5,533	0.0747	0.9253	54.11
55.5	63,864	5,219	0.0817	0.9183	50.06
56.5	57,873	4,543	0.0785	0.9215	45.97
57.5	51,641	4,418	0.0855	0.9145	42.36
58.5	40,568	4,186	0.1032	0.8968	38.74
59.5	30,684	3,236	0.1055	0.8945	34.74
60.5	25,998	2,988	0.1149	0.8851	31.08
61.5	21,155	2,753	0.1302	0.8698	27.51
62.5	16,594	2,403	0.1448	0.8552	23.93
63.5	12,529	1,707	0.1362	0.8638	20.46
64.5	9,696	1,412	0.1457	0.8543	17.67
65.5	6,903	938	0.1359	0.8641	15.10
66.5	5,243	792	0.1510	0.8490	13.05
67.5	3,930	584	0.1486	0.8514	11.08
68.5	2,926	383	0.1308	0.8692	9.43
69.5	2,296	399	0.1736	0.8264	8.20
70.5	1,657	468	0.2824	0.7176	6.77
71.5	1,091	432	0.3957	0.6043	4.86
72.5	659	323	0.4898	0.5102	2.94
73.5	336	207	0.6168	0.3832	1.50
74.5	129	108	0.8381	0.1619	0.57
75.5	21	21	1.0000		0.09
76.5					

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1940-2013 EXPERIENCE BAND 2015-2017

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	44,572	21	0.0005	0.9995	100.00
2.5	44,551	261	0.0059	0.9941	99.95
3.5	44,290	29	0.0007	0.9993	99.37
4.5	740,125	3	0.0000	1.0000	99.30
5.5	1,140,955		0.0000	1.0000	99.30
6.5	1,140,955	3	0.0000	1.0000	99.30
7.5	1,116,669	0	0.0000	1.0000	99.30
8.5	1,001,310		0.0000	1.0000	99.30
9.5	1,541,000		0.0000	1.0000	99.30
10.5	2,274,252		0.0000	1.0000	99.30
11.5	1,988,779		0.0000	1.0000	99.30
12.5	1,676,348	127	0.0001	0.9999	99.30
13.5	308,456	224	0.0007	0.9993	99.29
14.5	440,947	577	0.0013	0.9987	99.22
15.5	431,943	627	0.0015	0.9985	99.09
16.5	467,180	951	0.0020	0.9980	98.95
17.5	425,127	820	0.0019	0.9981	98.75
18.5	276,057	877	0.0032	0.9968	98.56
19.5	277,704	1,102	0.0040	0.9960	98.24
20.5	308,120	1,118	0.0036	0.9964	97.85
21.5	289,827	1,080	0.0037	0.9963	97.50
22.5	259,988	1,478	0.0057	0.9943	97.13
23.5	172,314	661	0.0038	0.9962	96.58
24.5	163,437	1,109	0.0068	0.9932	96.21
25.5	169,912	1,218	0.0072	0.9928	95.56
26.5	165,996	747	0.0045	0.9955	94.87
27.5	155,691	1,407	0.0090	0.9910	94.45
28.5	76,777	552	0.0072	0.9928	93.59
29.5	48,872	454	0.0093	0.9907	92.92
30.5	21,872	287	0.0131	0.9869	92.06
31.5	9,871	81	0.0082	0.9918	90.85
32.5	8,675	105	0.0121	0.9879	90.10
33.5	8,689	150	0.0172	0.9828	89.01
34.5	19,535	323	0.0165	0.9835	87.48
35.5	24,203	256	0.0106	0.9894	86.03
36.5	19,327	334	0.0173	0.9827	85.12
37.5	6,037	163	0.0269	0.9731	83.65
38.5	168	4	0.0231	0.9769	81.39

DUKE ENERGY KENTUCKY
GAS PLANT

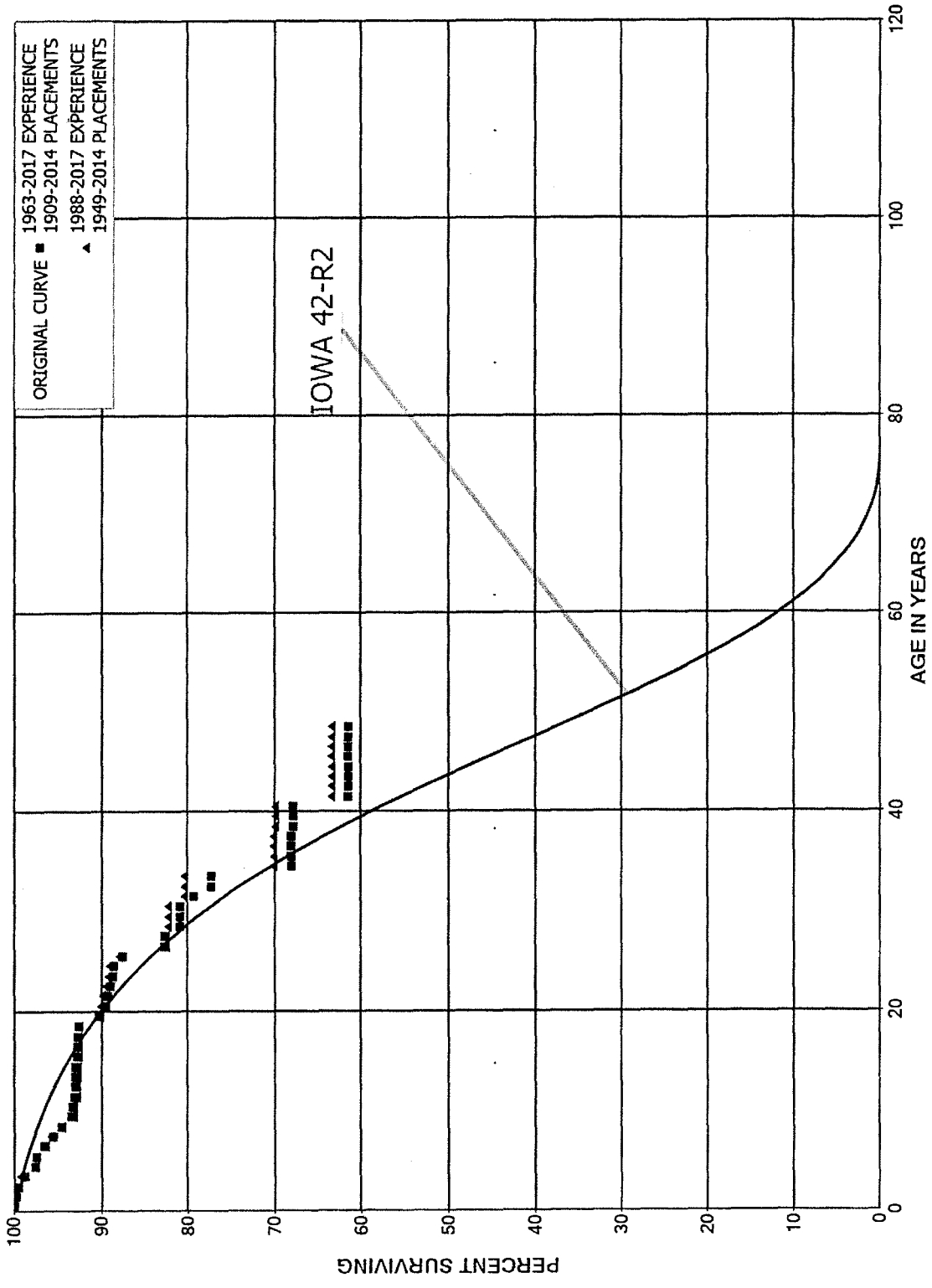
ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1940-2013 EXPERIENCE BAND 2015-2017

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	862	29	0.0333	0.9667	79.51
40.5	1,012	10	0.0099	0.9901	76.87
41.5	4,337	173	0.0398	0.9602	76.11
42.5	6,998	174	0.0249	0.9751	73.08
43.5	11,170	385	0.0344	0.9656	71.26
44.5	9,812	293	0.0299	0.9701	68.80
45.5	9,862	460	0.0467	0.9533	66.75
46.5	7,256	251	0.0345	0.9655	63.63
47.5	7,731	411	0.0532	0.9468	61.43
48.5	6,953	346	0.0498	0.9502	58.17
49.5	6,007	281	0.0467	0.9533	55.27
50.5	6,250	468	0.0748	0.9252	52.69
51.5	5,145	256	0.0497	0.9503	48.74
52.5	9,917	875	0.0882	0.9118	46.32
53.5	7,851	281	0.0357	0.9643	42.24
54.5	8,429	872	0.1034	0.8966	40.73
55.5	11,747	1,267	0.1079	0.8921	36.52
56.5	17,413	1,324	0.0760	0.9240	32.58
57.5	16,414	1,362	0.0830	0.9170	30.10
58.5	11,032	1,393	0.1263	0.8737	27.60
59.5	6,572	707	0.1076	0.8924	24.12
60.5	6,900	807	0.1170	0.8830	21.52
61.5	5,974	713	0.1193	0.8807	19.01
62.5	5,662	830	0.1465	0.8535	16.74
63.5	4,372	544	0.1244	0.8756	14.28
64.5	3,615	595	0.1647	0.8353	12.51
65.5	2,418	418	0.1729	0.8271	10.45
66.5	1,775	316	0.1779	0.8221	8.64
67.5	1,471	327	0.2222	0.7778	7.10
68.5	971	196	0.2019	0.7981	5.53
69.5	527	126	0.2395	0.7605	4.41
70.5	161	63	0.3895	0.6105	3.35
71.5	1	1	0.5276	0.4724	2.05
72.5	41	28	0.6878	0.3122	0.97
73.5	29	17	0.5805	0.4195	0.30
74.5	13	13	1.0000		0.13
75.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1909-2014 EXPERIENCE BAND 1963-2017

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	500,913		0.0000	1.0000	100.00
0.5	502,480	1,247	0.0025	0.9975	100.00
1.5	503,128	1,102	0.0022	0.9978	99.75
2.5	504,898	3,911	0.0077	0.9923	99.53
3.5	497,229	6,364	0.0128	0.9872	98.76
4.5	496,036	562	0.0011	0.9989	97.50
5.5	495,794	4,490	0.0091	0.9909	97.39
6.5	491,545	4,833	0.0098	0.9902	96.51
7.5	490,587	5,500	0.0112	0.9888	95.56
8.5	492,630	5,664	0.0115	0.9885	94.49
9.5	488,569	320	0.0007	0.9993	93.40
10.5	488,717	1,717	0.0035	0.9965	93.34
11.5	477,054	25	0.0001	0.9999	93.01
12.5	475,066	195	0.0004	0.9996	93.01
13.5	469,521	200	0.0004	0.9996	92.97
14.5	465,950	1,026	0.0022	0.9978	92.93
15.5	464,805	86	0.0002	0.9998	92.72
16.5	453,826	661	0.0015	0.9985	92.71
17.5	438,693	512	0.0012	0.9988	92.57
18.5	399,822	9,183	0.0230	0.9770	92.46
19.5	371,200	3,332	0.0090	0.9910	90.34
20.5	360,046	1,045	0.0029	0.9971	89.53
21.5	362,416	1,307	0.0036	0.9964	89.27
22.5	343,796	870	0.0025	0.9975	88.95
23.5	326,094	381	0.0012	0.9988	88.72
24.5	304,114	3,500	0.0115	0.9885	88.62
25.5	284,257	15,635	0.0550	0.9450	87.60
26.5	243,361		0.0000	1.0000	82.78
27.5	174,429	3,924	0.0225	0.9775	82.78
28.5	164,385		0.0000	1.0000	80.92
29.5	152,595		0.0000	1.0000	80.92
30.5	147,060	2,886	0.0196	0.9804	80.92
31.5	134,361	3,422	0.0255	0.9745	79.33
32.5	122,370		0.0000	1.0000	77.31
33.5	109,641	13,088	0.1194	0.8806	77.31
34.5	76,199		0.0000	1.0000	68.08
35.5	76,199		0.0000	1.0000	68.08
36.5	76,199		0.0000	1.0000	68.08
37.5	62,294	195	0.0031	0.9969	68.08
38.5	60,764		0.0000	1.0000	67.87

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1909-2014 EXPERIENCE BAND 1963-2017

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	60,764		0.0000	1.0000	67.87
40.5	60,764	5,666	0.0933	0.9067	67.87
41.5	55,097		0.0000	1.0000	61.54
42.5	55,097		0.0000	1.0000	61.54
43.5	55,097		0.0000	1.0000	61.54
44.5	54,940		0.0000	1.0000	61.54
45.5	52,797		0.0000	1.0000	61.54
46.5	47,902		0.0000	1.0000	61.54
47.5	46,526		0.0000	1.0000	61.54
48.5	9,307		0.0000	1.0000	61.54
49.5	8,754		0.0000	1.0000	61.54
50.5	7,410		0.0000	1.0000	61.54
51.5	6,874		0.0000	1.0000	61.54
52.5	4,847		0.0000	1.0000	61.54
53.5	5,088		0.0000	1.0000	61.54
54.5	4,345		0.0000	1.0000	61.54
55.5	3,340		0.0000	1.0000	61.54
56.5	3,340		0.0000	1.0000	61.54
57.5	3,340		0.0000	1.0000	61.54
58.5	2,311		0.0000	1.0000	61.54
59.5	2,311	242	0.1045	0.8955	61.54
60.5	2,069		0.0000	1.0000	55.11
61.5	2,069		0.0000	1.0000	55.11
62.5	1,760		0.0000	1.0000	55.11
63.5	1,654		0.0000	1.0000	55.11
64.5	251		0.0000	1.0000	55.11
65.5					55.11

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1949-2014 EXPERIENCE BAND 1988-2017

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	342,515		0.0000	1.0000	100.00
0.5	348,074	1,247	0.0036	0.9964	100.00
1.5	362,918	1,102	0.0030	0.9970	99.64
2.5	374,618	1,039	0.0028	0.9972	99.34
3.5	381,201	6,364	0.0167	0.9833	99.06
4.5	397,248	562	0.0014	0.9986	97.41
5.5	397,309	4,490	0.0113	0.9887	97.27
6.5	382,847	2,015	0.0053	0.9947	96.17
7.5	396,002	5,500	0.0139	0.9861	95.67
8.5	391,862	5,664	0.0145	0.9855	94.34
9.5	386,393	320	0.0008	0.9992	92.97
10.5	386,273	1,265	0.0033	0.9967	92.90
11.5	375,193	25	0.0001	0.9999	92.59
12.5	373,095	195	0.0005	0.9995	92.59
13.5	361,885	200	0.0006	0.9994	92.54
14.5	358,471	217	0.0006	0.9994	92.49
15.5	360,823	86	0.0002	0.9998	92.43
16.5	359,724		0.0000	1.0000	92.41
17.5	347,475		0.0000	1.0000	92.41
18.5	351,874	9,183	0.0261	0.9739	92.41
19.5	324,014		0.0000	1.0000	90.00
20.5	319,676	1,045	0.0033	0.9967	90.00
21.5	309,365	1,307	0.0042	0.9958	89.70
22.5	310,150	870	0.0028	0.9972	89.32
23.5	295,334	381	0.0013	0.9987	89.07
24.5	274,098	3,500	0.0128	0.9872	88.96
25.5	255,246	15,635	0.0613	0.9387	87.82
26.5	214,350		0.0000	1.0000	82.44
27.5	145,418	383	0.0026	0.9974	82.44
28.5	139,945		0.0000	1.0000	82.23
29.5	128,155		0.0000	1.0000	82.23
30.5	122,619	2,886	0.0235	0.9765	82.23
31.5	119,188		0.0000	1.0000	80.29
32.5	110,929		0.0000	1.0000	80.29
33.5	102,126	13,088	0.1282	0.8718	80.29
34.5	70,087		0.0000	1.0000	70.00
35.5	70,337		0.0000	1.0000	70.00
36.5	70,337		0.0000	1.0000	70.00
37.5	56,628	195	0.0034	0.9966	70.00
38.5	60,764		0.0000	1.0000	69.76

DUKE ENERGY KENTUCKY
GAS PLANT

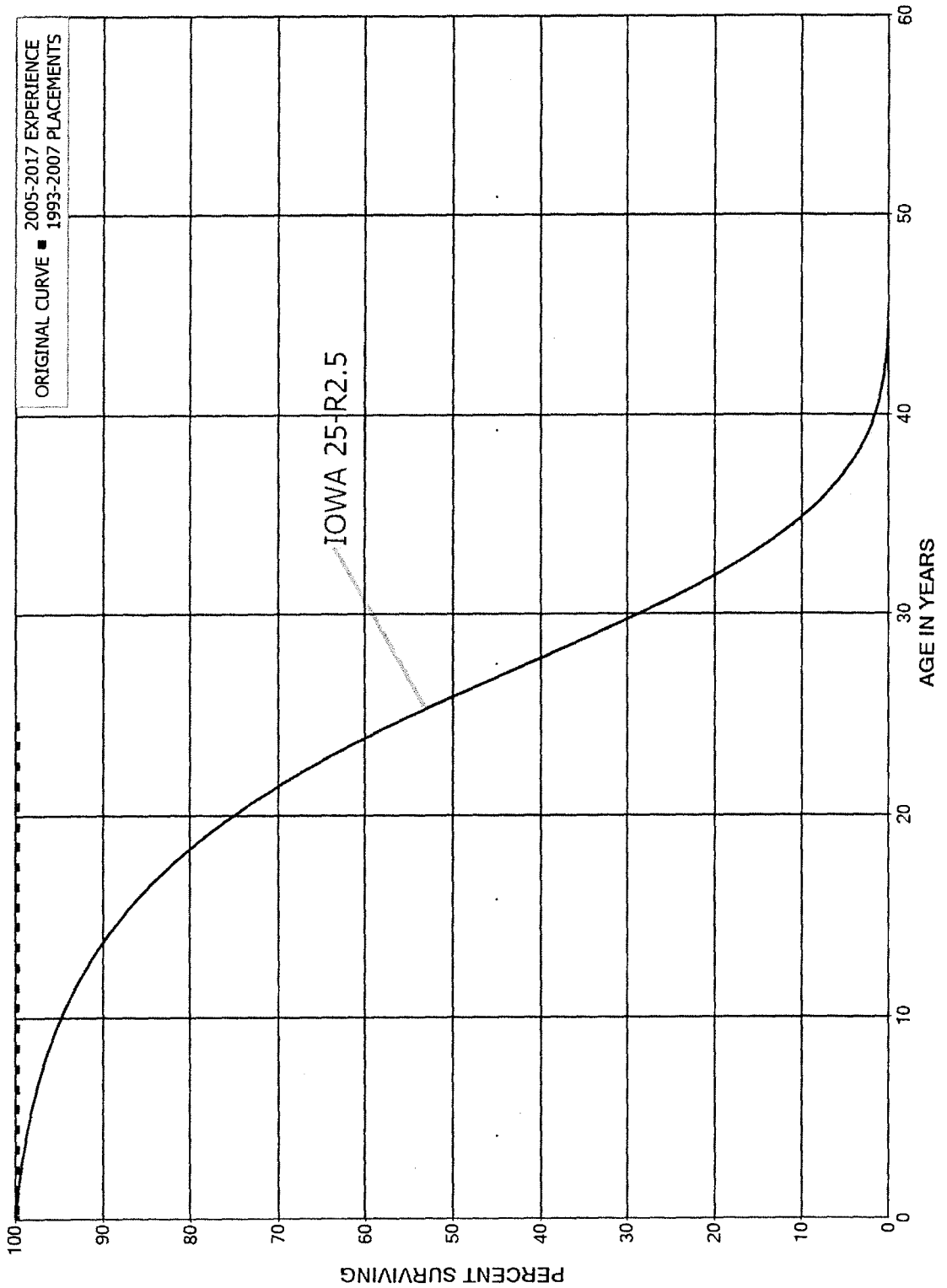
ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1949-2014 EXPERIENCE BAND 1988-2017

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	60,764		0.0000	1.0000	69.76
40.5	60,764	5,666	0.0933	0.9067	69.76
41.5	55,097		0.0000	1.0000	63.25
42.5	55,097		0.0000	1.0000	63.25
43.5	55,097		0.0000	1.0000	63.25
44.5	54,940		0.0000	1.0000	63.25
45.5	52,797		0.0000	1.0000	63.25
46.5	47,902		0.0000	1.0000	63.25
47.5	46,526		0.0000	1.0000	63.25
48.5	9,307		0.0000	1.0000	63.25
49.5	8,754		0.0000	1.0000	63.25
50.5	7,410		0.0000	1.0000	63.25
51.5	6,874		0.0000	1.0000	63.25
52.5	4,847		0.0000	1.0000	63.25
53.5	4,847		0.0000	1.0000	63.25
54.5	4,103		0.0000	1.0000	63.25
55.5	3,098		0.0000	1.0000	63.25
56.5	3,098		0.0000	1.0000	63.25
57.5	3,098		0.0000	1.0000	63.25
58.5	2,069		0.0000	1.0000	63.25
59.5	2,069		0.0000	1.0000	63.25
60.5	2,069		0.0000	1.0000	63.25
61.5	2,069		0.0000	1.0000	63.25
62.5	1,760		0.0000	1.0000	63.25
63.5	1,654		0.0000	1.0000	63.25
64.5	251		0.0000	1.0000	63.25
65.5					63.25

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2851 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

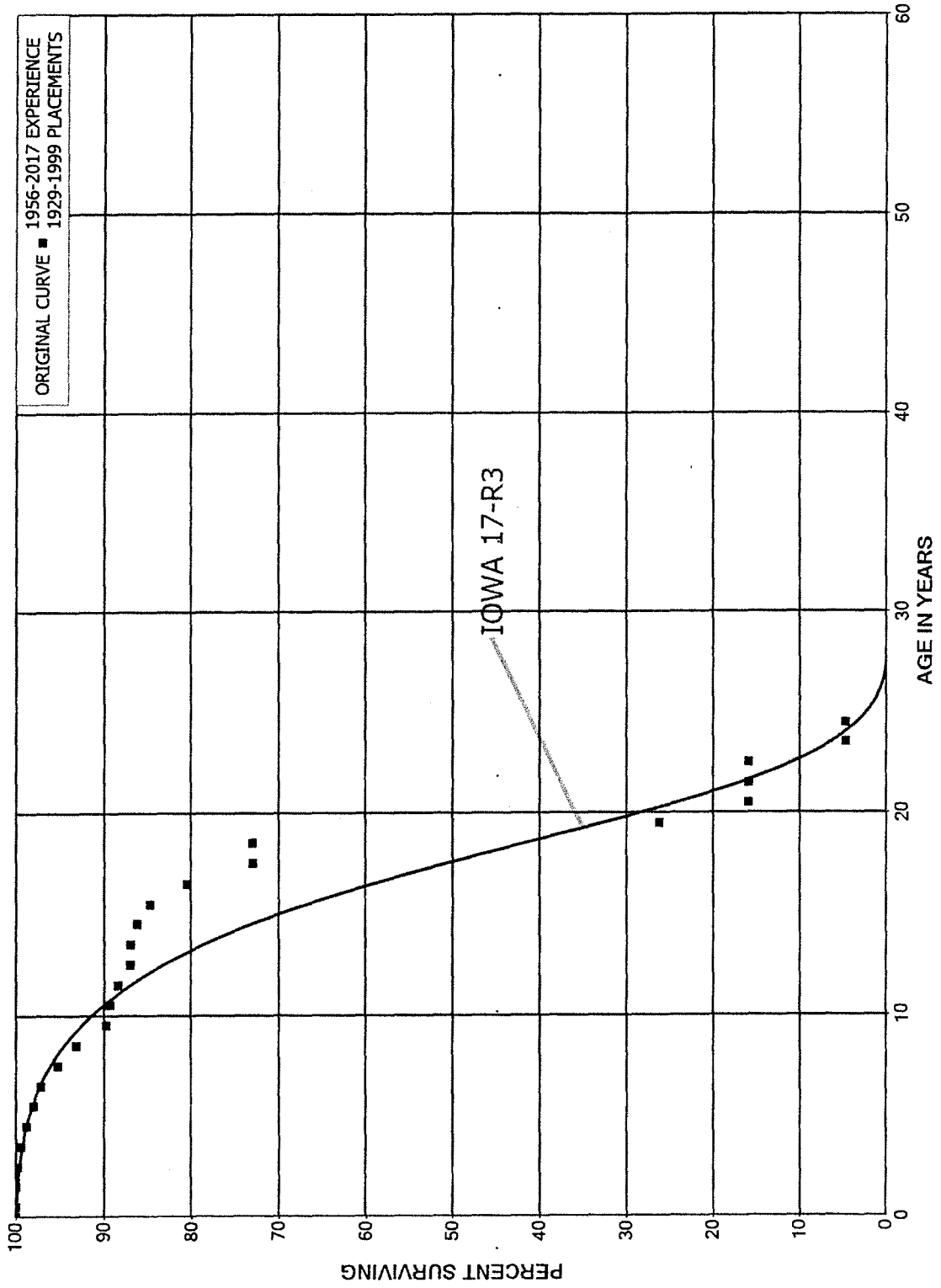
ACCOUNT 2851 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1993-2007 EXPERIENCE BAND 2005-2017

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	23,064		0.0000	1.0000	100.00
0.5	23,064		0.0000	1.0000	100.00
1.5	23,064		0.0000	1.0000	100.00
2.5	23,064		0.0000	1.0000	100.00
3.5	23,064		0.0000	1.0000	100.00
4.5	23,064		0.0000	1.0000	100.00
5.5	23,064		0.0000	1.0000	100.00
6.5	23,064		0.0000	1.0000	100.00
7.5	23,064		0.0000	1.0000	100.00
8.5	23,064		0.0000	1.0000	100.00
9.5	35,684		0.0000	1.0000	100.00
10.5	12,620		0.0000	1.0000	100.00
11.5	41,727		0.0000	1.0000	100.00
12.5	41,727		0.0000	1.0000	100.00
13.5	41,727		0.0000	1.0000	100.00
14.5	41,727		0.0000	1.0000	100.00
15.5	41,727		0.0000	1.0000	100.00
16.5	41,727		0.0000	1.0000	100.00
17.5	41,727		0.0000	1.0000	100.00
18.5	41,727		0.0000	1.0000	100.00
19.5	41,727		0.0000	1.0000	100.00
20.5	41,727		0.0000	1.0000	100.00
21.5	41,727		0.0000	1.0000	100.00
22.5	29,107		0.0000	1.0000	100.00
23.5	29,107		0.0000	1.0000	100.00
24.5					100.00

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2870 OTHER EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

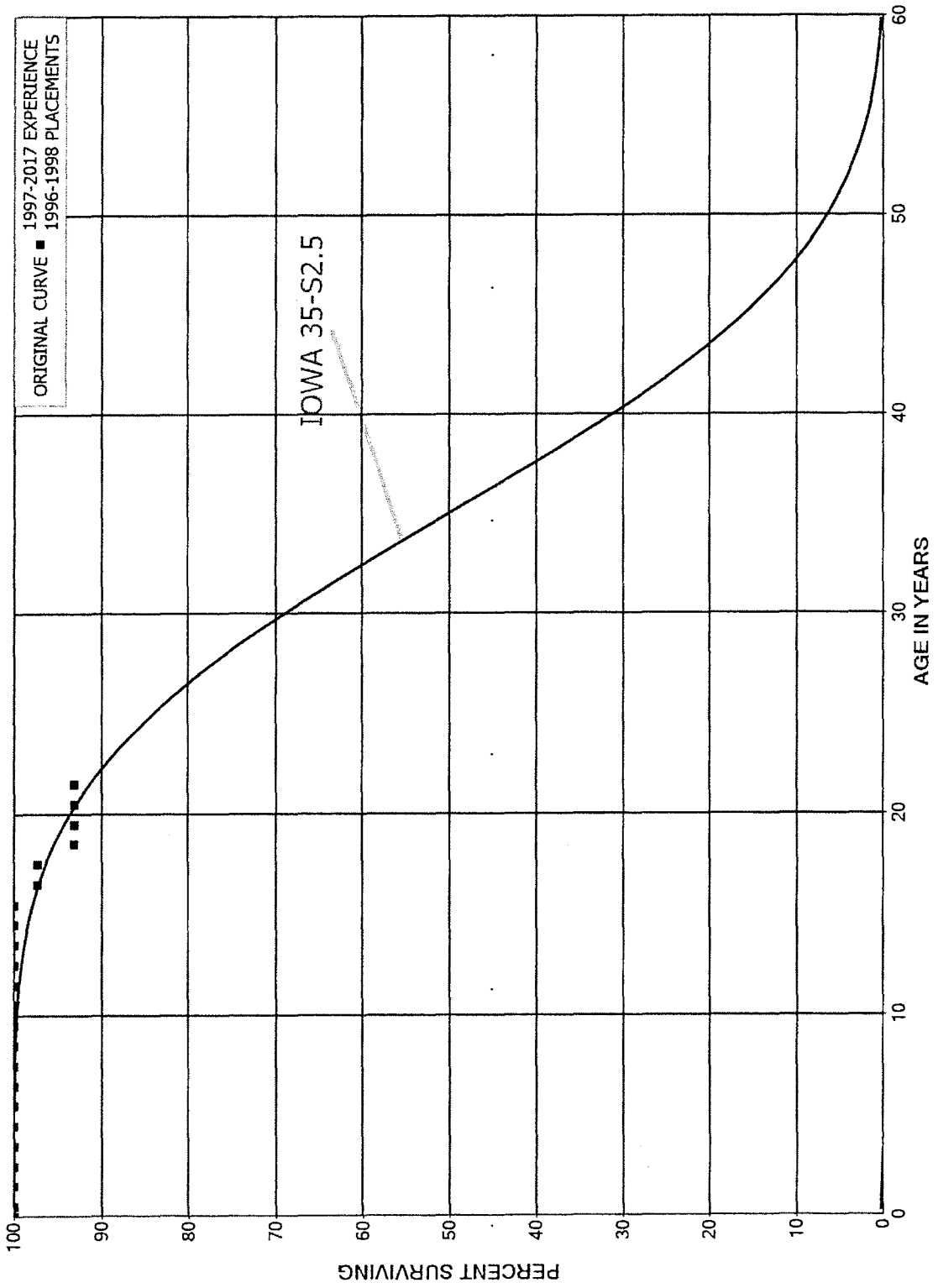
ACCOUNT 2870 OTHER EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-1999 EXPERIENCE BAND 1956-2017

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	121,298		0.0000	1.0000	100.00
0.5	121,298		0.0000	1.0000	100.00
1.5	121,960	355	0.0029	0.9971	100.00
2.5	122,120	389	0.0032	0.9968	99.71
3.5	124,026	866	0.0070	0.9930	99.39
4.5	126,404	898	0.0071	0.9929	98.70
5.5	125,506	1,233	0.0098	0.9902	98.00
6.5	128,819	2,399	0.0186	0.9814	97.03
7.5	127,368	2,952	0.0232	0.9768	95.23
8.5	124,416	4,340	0.0349	0.9651	93.02
9.5	120,453	637	0.0053	0.9947	89.77
10.5	120,217	1,286	0.0107	0.9893	89.30
11.5	118,930	1,854	0.0156	0.9844	88.34
12.5	117,144	77	0.0007	0.9993	86.97
13.5	117,130	966	0.0082	0.9918	86.91
14.5	29,698	515	0.0173	0.9827	86.19
15.5	29,183	1,426	0.0489	0.9511	84.70
16.5	27,757	2,620	0.0944	0.9056	80.56
17.5	25,137		0.0000	1.0000	72.96
18.5	3,690	2,369	0.6419	0.3581	72.96
19.5	1,321	520	0.3935	0.6065	26.13
20.5	801		0.0000	1.0000	15.84
21.5	801		0.0000	1.0000	15.84
22.5	801	570	0.7110	0.2890	15.84
23.5	232		0.0000	1.0000	4.58
24.5	232		0.0000	1.0000	4.58
25.5	232		0.0000	1.0000	4.58
26.5	252		0.0000	1.0000	4.58
27.5	252	20	0.0795	0.9205	4.58
28.5	232	16	0.0686	0.9314	4.21
29.5	216	45	0.2106	0.7894	3.93
30.5	170	170	1.0000		3.10
31.5					

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2871 STREET LIGHTING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

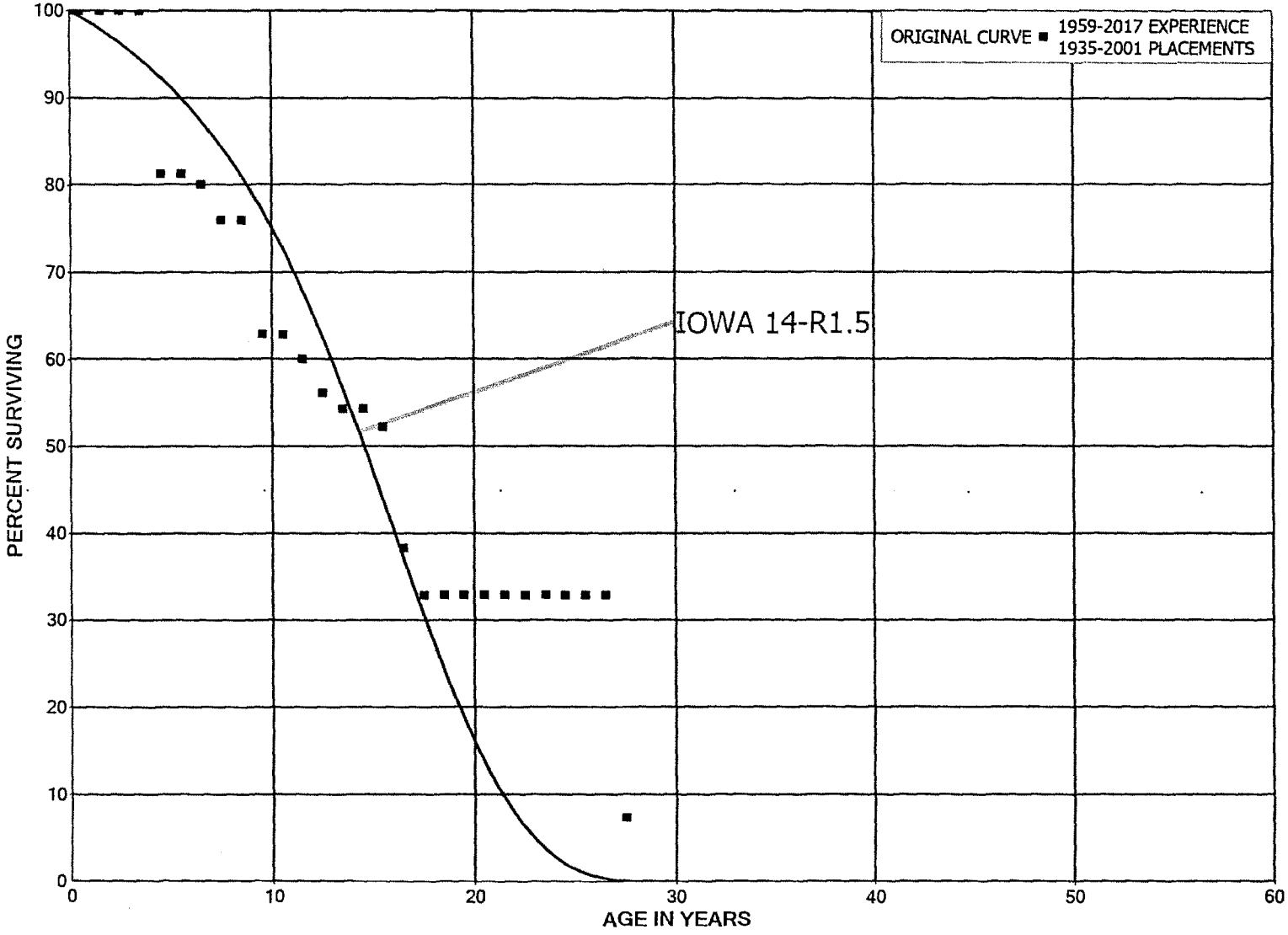
ACCOUNT 2871 STREET LIGHTING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1996-1998 EXPERIENCE BAND 1997-2017

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	20,794		0.0000	1.0000	100.00
0.5	29,953		0.0000	1.0000	100.00
1.5	30,411		0.0000	1.0000	100.00
2.5	30,411		0.0000	1.0000	100.00
3.5	30,411		0.0000	1.0000	100.00
4.5	30,411		0.0000	1.0000	100.00
5.5	30,411		0.0000	1.0000	100.00
6.5	30,411		0.0000	1.0000	100.00
7.5	30,411		0.0000	1.0000	100.00
8.5	30,411		0.0000	1.0000	100.00
9.5	30,411		0.0000	1.0000	100.00
10.5	30,411		0.0000	1.0000	100.00
11.5	30,411		0.0000	1.0000	100.00
12.5	30,411		0.0000	1.0000	100.00
13.5	30,411		0.0000	1.0000	100.00
14.5	30,411		0.0000	1.0000	100.00
15.5	30,411	813	0.0267	0.9733	100.00
16.5	29,598		0.0000	1.0000	97.33
17.5	29,598	1,308	0.0442	0.9558	97.33
18.5	28,290		0.0000	1.0000	93.03
19.5	23,935		0.0000	1.0000	93.03
20.5	8,309		0.0000	1.0000	93.03
21.5					93.03

DUKE ENERGY KENTUCKY
GAS PLANT
ACCOUNT 2921 TRANSPORTATION EQUIPMENT - TRAILERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2921 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1935-2001 EXPERIENCE BAND 1959-2017

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	180,049		0.0000	1.0000	100.00
0.5	180,049		0.0000	1.0000	100.00
1.5	181,172		0.0000	1.0000	100.00
2.5	181,172		0.0000	1.0000	100.00
3.5	181,172	33,976	0.1875	0.8125	100.00
4.5	147,196		0.0000	1.0000	81.25
5.5	147,196	2,061	0.0140	0.9860	81.25
6.5	145,388	7,476	0.0514	0.9486	80.11
7.5	137,911		0.0000	1.0000	75.99
8.5	137,911	23,806	0.1726	0.8274	75.99
9.5	114,105		0.0000	1.0000	62.87
10.5	117,285	5,269	0.0449	0.9551	62.87
11.5	115,758	7,541	0.0651	0.9349	60.05
12.5	109,158	3,529	0.0323	0.9677	56.14
13.5	106,783		0.0000	1.0000	54.32
14.5	106,783	4,227	0.0396	0.9604	54.32
15.5	102,556	27,304	0.2662	0.7338	52.17
16.5	56,715	8,079	0.1424	0.8576	38.28
17.5	45,251		0.0000	1.0000	32.83
18.5	19,104		0.0000	1.0000	32.83
19.5	10,213		0.0000	1.0000	32.83
20.5	3,948		0.0000	1.0000	32.83
21.5	3,948		0.0000	1.0000	32.83
22.5	1,328		0.0000	1.0000	32.83
23.5	1,705		0.0000	1.0000	32.83
24.5	1,705		0.0000	1.0000	32.83
25.5	1,705		0.0000	1.0000	32.83
26.5	1,705	1,328	0.7785	0.2215	32.83
27.5	378		0.0000	1.0000	7.27
28.5	378		0.0000	1.0000	7.27
29.5	378		0.0000	1.0000	7.27
30.5	378	378	1.0000		7.27
31.5					

PART VIII. NET SALVAGE STATISTICS

DUKE ENERGY KENTUCKY
GAS PLANT

TABLE 1. CALCULATION OF TERMINAL AND INTERIM RETIREMENTS AS A PERCENT OF TOTAL RETIREMENTS

ACCOUNT	PROJECTED RETIREMENTS		TOTAL OF ALL RETIREMENTS	TERMINAL RETIREMENT %	INTERIM RETIREMENT %
	TERMINAL	INTERIM			
(1)	(2)	(3)	(4)=(2)+(3)	(5)=(2)/(4)	(6)=(3)/(4)
2050	(1,151,865)	(570,898)	(1,722,764)	66.86	33.14
2110	(5,552,918)	(402,280)	(5,955,198)	93.24	6.76
TOTAL PRODUCTION	**(6,704,783)**	**(973,179)**	**(7,677,962)**	87.33	12.67

DUKE ENERGY KENTUCKY
GAS PLANT

TABLE 2. CALCULATION OF WEIGHTED NET SALVAGE PERCENT

LOCATION	TERMINAL RETIREMENTS		INTERIM RETIREMENTS		WEIGHTED AVERAGE NET SALVAGE %
	RETIREMENTS (%)	NET SALVAGE (%)	RETIREMENTS (%)	NET SALVAGE (%)	
(1)	(2)	(3)	(4)	(5)	(6)=(2)*(3)+(4)*(5)
ERLANGER	87.33	(10)	12.67	(9)	(10)

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1981	368		0		0		0
1982							
1983							
1984							
1985							
1986	1,479	860	58		0	860-	58-
1987							
1988							
1989	524		0		0		0
1990	1,958	660	34		0	660-	34-
1991							
1992							
1993							
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002	12,230		0		0		0
2003	7,590		0		0		0
2004	12,100		0		0		0
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
TOTAL	36,249	1,520	4		0	1,520-	4-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
81-83	123		0		0		0
82-84							
83-85							
84-86	493	287	58		0	287-	58-
85-87	493	287	58		0	287-	58-
86-88	493	287	58		0	287-	58-
87-89	175		0		0		0
88-90	827	220	27		0	220-	27-
89-91	827	220	27		0	220-	27-
90-92	653	220	34		0	220-	34-
91-93							
92-94							
93-95							
94-96							
95-97							
96-98							
97-99							
98-00							
99-01							
00-02	4,077		0		0		0
01-03	6,607		0		0		0
02-04	10,640		0		0		0
03-05	6,563		0		0		0
04-06	4,033		0		0		0
05-07							
06-08							
07-09							
08-10							
09-11							
10-12							
11-13							
12-14							
13-15							
14-16							
15-17							
FIVE-YEAR AVERAGE							
13-17							

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	1,767	32	2		0	32-	2-
1981	11,185	1,007	9		0	1,007-	9-
1982							
1983							
1984							
1985	2,570	708	28		0	708-	28-
1986							
1987	19,808	2,210	11		0	2,210-	11-
1988							
1989	8,627		0		0		0
1990		538				538-	
1991							
1992	925		0		0		0
1993		338				338-	
1994							
1995	1,234	226	18		0	226-	18-
1996	42,666	766	2		0	766-	2-
1997	5,162		0	125-	2-	125-	2-
1998							
1999							
2000							
2001							
2002	1,722		0		0		0
2003	79,428		0		0		0
2004	89,828	343	0		0	343-	0
2005	37,208	22,715	61		0	22,715-	61-
2006	35,465	2,422	7		0	2,422-	7-
2007							
2008							
2009							
2010							
2011	22,545	517	2		0	517-	2-
2012							
2013							
2014	24,865	10,248	41		0	10,248-	41-
2015							
2016							
2017							
TOTAL	385,006	42,070	11	125-	0	42,195-	11-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	4,317	346	8		0	346-	8-
81-83	3,728	336	9		0	336-	9-
82-84							
83-85	857	236	28		0	236-	28-
84-86	857	236	28		0	236-	28-
85-87	7,460	973	13		0	973-	13-
86-88	6,603	737	11		0	737-	11-
87-89	9,478	737	8		0	737-	8-
88-90	2,876	179	6		0	179-	6-
89-91	2,876	179	6		0	179-	6-
90-92	308	179	58		0	179-	58-
91-93	308	112	36		0	112-	36-
92-94	308	112	36		0	112-	36-
93-95	411	188	46		0	188-	46-
94-96	14,633	331	2		0	331-	2-
95-97	16,354	331	2	42-	0	372-	2-
96-98	15,942	255	2	42-	0	297-	2-
97-99	1,721		0	42-	2-	42-	2-
98-00							
99-01							
00-02	574		0		0		0
01-03	27,050		0		0		0
02-04	56,993	114	0		0	114-	0
03-05	68,822	7,686	11		0	7,686-	11-
04-06	54,167	8,493	16		0	8,493-	16-
05-07	24,225	8,379	35		0	8,379-	35-
06-08	11,822	807	7		0	807-	7-
07-09							
08-10							
09-11	7,515	172	2		0	172-	2-
10-12	7,515	172	2		0	172-	2-
11-13	7,515	172	2		0	172-	2-
12-14	8,288	3,416	41		0	3,416-	41-
13-15	8,288	3,416	41		0	3,416-	41-
14-16	8,288	3,416	41		0	3,416-	41-
15-17							
FIVE-YEAR AVERAGE							
13-17	4,973	2,050	41		0	2,050-	41-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2004	2,372		0		0		0
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
TOTAL	2,372		0		0		0
THREE-YEAR MOVING AVERAGES							
04-06	791		0		0		0
05-07							
06-08							
07-09							
08-10							
09-11							
10-12							
11-13							
12-14							
13-15							
14-16							
15-17							
FIVE-YEAR AVERAGE							
13-17							

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2760 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	297,448	63,990	22	226,938	76	162,948	55
1981	96,963	31,862	33	137-	0	31,999-	33-
1982	101,423	42,201	42	87,935	87	45,734	45
1983	56,366	50,631	90	175,712	312	125,081	222
1984	69,904	27,581	39	21,909	31	5,672-	8-
1985	99,714	27,067	27	126,424	127	99,358	100
1986	162,431	47,728	29	15,840	10	31,889-	20-
1987	208,624	47,610	23	9,107	4	38,503-	18-
1988	74,281	62,808	85	199,126	268	136,319	184
1989	144,904	152,404	105	215,651	149	63,247	44
1990	374,020	257,462	69	92,061	25	165,401-	44-
1991	325,319	210,093	65	1,374	0	208,719-	64-
1992	309,776	229,016	74	43,084-	14-	272,100-	88-
1993	401,462	57,958	14	655,817	163	597,859	149
1994	145,620	43,617	30	17,369	12	26,248-	18-
1995	169,197	80,946	48	159,250	94	78,304	46
1996	379,558	70,301	19	7,734	2	62,567-	16-
1997	280,831	82,481	29	20,990	7	61,490-	22-
1998	120,612	129,207	107	5,348	4	123,859-	103-
1999	478,232	97,369	20	14,793	3	82,576-	17-
2000	309,772	31,208-	10-	2,048	1	33,255	11
2001	951,780	380,571	40	342	0	380,229-	40-
2002	911,154	263,744	29		0	263,744-	29-
2003	496,164	74,211-	15-		0	74,211	15
2004	1,153,525	20,143	2		0	20,143-	2-
2005	535,014	12,886	2		0	12,886-	2-
2006	1,044,020	820,972	79		0	820,972-	79-
2007	464,868	178,746	38		0	178,746-	38-
2008	902,897	2,088	0	72,599	8	70,511	8
2009	768,874	151,704	20		0	151,704-	20-
2010	361,638	2,636	1		0	2,636-	1-
2011	28,962		0		0		0
2012	386,020	57,499	15	155-	0	57,654-	15-
2013	473,152	264,737	56	819-	0	265,556-	56-
2014	175,294	107,314	61	768-	0	108,082-	62-
2015	406,913	64,713	16	3,079-	1-	67,792-	17-
2016	45,141	19,513	43		0	19,513-	43-
2017	82,762		0		0		0
TOTAL	13,794,633	4,054,176	29	2,080,326	15	1,973,850-	14-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2760 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	165,278	46,018	28	104,912	63	58,894	36
81-83	84,917	41,565	49	87,837	103	46,272	54
82-84	75,898	40,138	53	95,185	125	55,048	73
83-85	75,328	35,093	47	108,015	143	72,922	97
84-86	110,683	34,125	31	54,724	49	20,599	19
85-87	156,923	40,802	26	50,457	32	9,655	6
86-88	148,445	52,715	36	74,691	50	21,976	15
87-89	142,603	87,607	61	141,295	99	53,688	38
88-90	197,735	157,558	80	168,946	85	11,388	6
89-91	281,414	206,653	73	103,029	37	103,624-	37-
90-92	336,371	232,190	69	16,784	5	215,406-	64-
91-93	345,519	165,689	48	204,702	59	39,014	11
92-94	285,619	110,197	39	210,034	74	99,837	35
93-95	238,760	60,840	25	277,479	116	216,639	91
94-96	231,458	64,955	28	61,451	27	3,503-	2-
95-97	276,528	77,909	28	62,658	23	15,251-	6-
96-98	260,333	93,996	36	11,357	4	82,639-	32-
97-99	293,225	103,019	35	13,710	5	89,309-	30-
98-00	302,872	65,123	22	7,396	2	57,727-	19-
99-01	579,928	148,911	26	5,728	1	143,183-	25-
00-02	724,235	204,369	28	797	0	203,572-	28-
01-03	786,366	190,034	24	114	0	189,920-	24-
02-04	853,614	69,892	8		0	69,892-	8-
03-05	728,234	13,728-	2-		0	13,728	2
04-06	910,853	284,667	31		0	284,667-	31-
05-07	681,301	337,535	50		0	337,535-	50-
06-08	803,928	333,935	42	24,200	3	309,736-	39-
07-09	712,213	110,846	16	24,200	3	86,646-	12-
08-10	677,803	52,142	8	24,200	4	27,943-	4-
09-11	386,491	51,447	13		0	51,447-	13-
10-12	258,873	20,045	8	52-	0	20,097-	8-
11-13	296,045	107,412	36	325-	0	107,737-	36-
12-14	344,822	143,183	42	581-	0	143,764-	42-
13-15	351,786	145,588	41	1,555-	0	147,143-	42-
14-16	209,116	63,847	31	1,282-	1-	65,129-	31-
15-17	178,272	28,075	16	1,026-	1-	29,102-	16-
FIVE-YEAR AVERAGE							
13-17	236,652	91,255	39	933-	0	92,188-	39-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2780 AND 2781 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	25,901	14,529	56	1,441	6	13,088-	51-
1981	1,913	930	49	2,031	106	1,102	58
1982	65-	3,167		50	77-	3,117-	
1983				10		10	
1984							
1985	12,087	3,716	31	409	3	3,307-	27-
1986	44,778	2,356	5	3,776	8	1,420	3
1987	42,349	10,457	25	6,680	16	3,776-	9-
1988	8,059	5,502	68	765	9	4,737-	59-
1989	54,330	6,734	12	1,198	2	5,536-	10-
1990		6,389		3,604		2,785-	
1991	7,057	7,981	113	49	1	7,932-	112-
1992	2,007	566	28	3	0	563-	28-
1993	16,129	273	2	48	0	226-	1-
1994	20,980		0	19	0	19	0
1995							
1996	30,954	2,672	9		0	2,672-	9-
1997				90-		90-	
1998							
1999							
2000							
2001							
2002	14,005		0		0		0
2003	24,878		0		0		0
2004	4,363		0		0		0
2005	5,278	5,939	113		0	5,939-	113-
2006	28,480	6,131	22		0	6,131-	22-
2007	54,620	2,738	5		0	2,738-	5-
2008							
2009	17,062	12,000	70	800	5	11,200-	66-
2010	17,574	12,000	68	800	5	11,200-	64-
2011	18,101	29,964	166	800	4	29,164-	161-
2012	92,692		0		0		0
2013	18,644	12,000	64	800	4	11,200-	60-
2014	19,203	12,000	62	800	4	11,200-	58-
2015	19,780	12,000	61	800	4	11,200-	57-
2016	20,373	12,000	59	800	4	11,200-	55-
2017	20,984	15,000	71	1,000	5	14,000-	67-
TOTAL	642,519	197,044	31	26,594	4	170,450-	27-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNTS 2780 AND 2781 MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	9,250	6,209	67	1,174	13	5,035-	54-
81-83	616	1,366	222	697	113	668-	108-
82-84	22-	1,056		20	93-	1,036-	
83-85	4,029	1,239	31	140	3	1,099-	27-
84-86	18,955	2,024	11	1,395	7	629-	3-
85-87	33,072	5,509	17	3,622	11	1,888-	6-
86-88	31,729	6,105	19	3,740	12	2,364-	7-
87-89	34,913	7,564	22	2,881	8	4,683-	13-
88-90	20,797	6,209	30	1,856	9	4,353-	21-
89-91	20,462	7,035	34	1,617	8	5,418-	26-
90-92	3,021	4,979	165	1,219	40	3,760-	124-
91-93	8,398	2,940	35	33	0	2,907-	35-
92-94	13,038	280	2	23	0	256-	2-
93-95	12,369	91	1	22	0	69-	1-
94-96	17,311	891	5	6	0	884-	5-
95-97	10,318	891	9	30-	0	921-	9-
96-98	10,318	891	9	30-	0	921-	9-
97-99				30-		30-	
98-00							
99-01							
00-02	4,668		0		0		0
01-03	12,961		0		0		0
02-04	14,415		0		0		0
03-05	11,507	1,980	17		0	1,980-	17-
04-06	12,707	4,023	32		0	4,023-	32-
05-07	29,460	4,936	17		0	4,936-	17-
06-08	27,700	2,956	11		0	2,956-	11-
07-09	23,894	4,913	21	267	1	4,646-	19-
08-10	11,545	8,000	69	533	5	7,467-	65-
09-11	17,579	17,988	102	800	5	17,188-	98-
10-12	42,789	13,988	33	533	1	13,455-	31-
11-13	43,146	13,988	32	533	1	13,455-	31-
12-14	43,513	8,000	18	533	1	7,467-	17-
13-15	19,209	12,000	62	800	4	11,200-	58-
14-16	19,785	12,000	61	800	4	11,200-	57-
15-17	20,379	13,000	64	867	4	12,133-	60-
FIVE-YEAR AVERAGE							
13-17	19,797	12,600	64	840	4	11,760-	59-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	2,308	416	18	486	21	70	3
1981	5,034	2,740	54	199	4	2,541-	50-
1982	1,629		0		0		0
1983	1,002	109	11	125	13	16	2
1984	14,822	2,250	15	344	2	1,906-	13-
1985	3,257	8,900	273	1,259	39	7,641-	235-
1986	5,959	6,689	112	482	8	6,207-	104-
1987				301		301	
1988	2,724	5,590	205	388	14	5,201-	191-
1989	4,437		0	137	3	137	3
1990		7,121		291		6,830-	
1991	5,557	3,153	57	48	1	3,104-	56-
1992	6,941	4,239	61	4	0	4,235-	61-
1993				13		13	
1994							
1995	2,924	5,160	176	26	1	5,134-	176-
1996							
1997	8,705	4,876	56		0	4,876-	56-
1998							
1999							
2000							
2001							
2002							
2003							
2004	5,462		0		0		0
2005							
2006							
2007	123,301		0		0		0
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
TOTAL	194,062	51,242	26	4,104	2	47,138-	24-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	2,990	1,052	35	228	8	824-	28-
81-83	2,555	950	37	108	4	842-	33-
82-84	5,818	787	14	156	3	630-	11-
83-85	6,361	3,753	59	576	9	3,177-	50-
84-86	8,013	5,946	74	695	9	5,251-	66-
85-87	3,072	5,196	169	681	22	4,516-	147-
86-88	2,894	4,093	141	390	13	3,703-	128-
87-89	2,387	1,863	78	276	12	1,588-	67-
88-90	2,387	4,237	178	272	11	3,965-	166-
89-91	3,331	3,425	103	159	5	3,266-	98-
90-92	4,166	4,838	116	114	3	4,723-	113-
91-93	4,166	2,464	59	22	1	2,442-	59-
92-94	2,314	1,413	61	6	0	1,407-	61-
93-95	975	1,720	176	13	1	1,707-	175-
94-96	975	1,720	176	9	1	1,711-	176-
95-97	3,877	3,345	86	9	0	3,337-	86-
96-98	2,902	1,625	56		0	1,625-	56-
97-99	2,902	1,625	56		0	1,625-	56-
98-00							
99-01							
00-02							
01-03							
02-04	1,821		0		0		0
03-05	1,821		0		0		0
04-06	1,821		0		0		0
05-07	41,100		0		0		0
06-08	41,100		0		0		0
07-09	41,100		0		0		0
08-10							
09-11							
10-12							
11-13							
12-14							
13-15							
14-16							
15-17							
FIVE-YEAR AVERAGE							
13-17							

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2800 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	135,656	50,083	37	18,509	14	31,573-	23-
1981	302,302	62,979	21	37,075	12	25,904-	9-
1982	149,937	64,940	43	43,970	29	20,969-	14-
1983	238,055	76,514	32	24,929	10	51,585-	22-
1984	112,911	65,364	58	39,679	35	25,685-	23-
1985	106,308	64,400	61	21,039	20	43,361-	41-
1986	140,701	80,731	57	20,432	15	60,298-	43-
1987	147,848	74,281	50	30,560	21	43,720-	30-
1988	157,350	143,746	91	25,861	16	117,885-	75-
1989	186,402	84,688	45	22,024	12	62,664-	34-
1990	265,841	97,991	37	37,664	14	60,328-	23-
1991	204,646	113,540	55	36,078	18	77,462-	38-
1992	217,280	73,083	34	11,764	5	61,320-	28-
1993	166,165	82,826	50	15,233	9	67,593-	41-
1994	164,178	68,270	42	15,698	10	52,572-	32-
1995	223,270	70,646	32	20,634	9	50,012-	22-
1996	218,739	84,035	38	24,112	11	59,923-	27-
1997	172,654	62,567	36	17,057	10	45,509-	26-
1998	285,837	127,759	45	9,132	3	118,627-	42-
1999	390,999	136,649	35	39,352	10	97,297-	25-
2000							
2001	298,851		0		0		0
2002	748,583	180,819	24		0	180,819-	24-
2003	751,729	491,114	65	2,439	0	488,675-	65-
2004	1,175,885	126,107	11		0	126,107-	11-
2005	1,326,366	767-	0		0	767	0
2006	2,016,660	994,460	49		0	994,460-	49-
2007	1,207,953	141,491	12		0	141,491-	12-
2008	1,910,520	1,937	0		0	1,937-	0
2009	1,657,019	17,447	1		0	17,447-	1-
2010	689,795		0		0		0
2011	208,392	47,571	23		0	47,571-	23-
2012	405,900		0		0		0
2013	472,263		0		0		0
2014	275,270		0		0		0
2015	261,301		0		0		0
2016	355,078		0		0		0
2017	1,157,849		0		0		0
TOTAL	18,906,492	3,685,271	19	513,243	3	3,172,028-	17-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2800 SERVICES

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	195,965	59,334	30	33,185	17	26,149-	13-
81-83	230,098	68,144	30	35,325	15	32,820-	14-
82-84	166,968	68,939	41	36,193	22	32,746-	20-
83-85	152,425	68,759	45	28,549	19	40,210-	26-
84-86	119,973	70,165	58	27,050	23	43,115-	36-
85-87	131,619	73,137	56	24,011	18	49,126-	37-
86-88	148,633	99,586	67	25,618	17	73,968-	50-
87-89	163,867	100,905	62	26,149	16	74,756-	46-
88-90	203,198	108,809	54	28,516	14	80,292-	40-
89-91	218,963	98,740	45	31,922	15	66,818-	31-
90-92	229,256	94,871	41	28,502	12	66,370-	29-
91-93	196,030	89,816	46	21,025	11	68,791-	35-
92-94	182,541	74,727	41	14,232	8	60,495-	33-
93-95	184,538	73,914	40	17,188	9	56,725-	31-
94-96	202,062	74,317	37	20,148	10	54,169-	27-
95-97	204,888	72,416	35	20,601	10	51,815-	25-
96-98	225,743	91,454	41	16,767	7	74,686-	33-
97-99	283,163	108,992	38	21,847	8	87,145-	31-
98-00	225,612	88,136	39	16,161	7	71,975-	32-
99-01	229,950	45,550	20	13,117	6	32,432-	14-
00-02	349,145	60,273	17		0	60,273-	17-
01-03	599,721	223,978	37	813	0	223,164-	37-
02-04	892,066	266,013	30	813	0	265,200-	30-
03-05	1,084,660	205,485	19	813	0	204,672-	19-
04-06	1,506,304	373,267	25		0	373,267-	25-
05-07	1,516,993	378,395	25		0	378,395-	25-
06-08	1,711,711	379,296	22		0	379,296-	22-
07-09	1,591,830	53,625	3		0	53,625-	3-
08-10	1,419,111	6,462	0		0	6,462-	0
09-11	851,735	21,673	3		0	21,673-	3-
10-12	434,695	15,857	4		0	15,857-	4-
11-13	362,185	15,857	4		0	15,857-	4-
12-14	384,477		0		0		0
13-15	336,278		0		0		0
14-16	297,216		0		0		0
15-17	591,409		0		0		0
FIVE-YEAR AVERAGE							
13-17	504,352		0		0		0

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	44,360	769	2	15,015	34	14,246	32
1981	24,426	905	4	8,646	35	7,741	32
1982	34,256	1,091	3	12,800	37	11,710	34
1983	58,836	1,673	3	15,702	27	14,029	24
1984	63,821	738	1	10,694	17	9,956	16
1985	34,017	678	2	7,340	22	6,662	20
1986	49,461	1,064	2	9,448	19	8,384	17
1987	58,238	1,086	2	3,347	6	2,261	4
1988	46,074	1,034-	2-	6,303	14	7,337	16
1989	28,598	1,010	4	8,864	31	7,854	27
1990	77,800	1,889	2	1,666	2	224-	0
1991	85,222	1,321	2		0	1,321-	2-
1992	72,432	6,450	9	841	1	5,609-	8-
1993	50,387	12,835	25	2,612	5	10,224-	20-
1994	60,429	18,042	30	19,727	33	1,685	3
1995	89,728	4,369	5	18,263	20	13,894	15
1996	85,011	40	0	18,808	22	18,768	22
1997	69,582	406	1	29,350	42	28,944	42
1998	176,137	1,510	1	33,876	19	32,366	18
1999	190,950	1,815	1	38,022	20	36,207	19
2000		1,879		1,685		194-	
2001		3,117		2,244		873-	
2002		2,666		2,330		336-	
2003		1,402		4,371		2,969	
2004	102,135	296	0	6,885	7	6,589	6
2005	131,239		0		0		0
2006	265,830		0		0		0
2007	359,876		0		0		0
2008	356,538		0		0		0
2009	293,807		0		0		0
2010							
2011	276,736		0		0		0
2012	301,709	2,231	1		0	2,231-	1-
2013	158,425		0		0		0
2014	745,781		0		0		0
2015	46,576		0	182,244	391	182,244	391
2016	4,235,134		0		0		0
2017	18,016		0		0		0
TOTAL	8,691,565	68,248	1	461,081	5	392,834	5

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	34,347	922	3	12,154	35	11,232	33
81-83	39,173	1,223	3	12,383	32	11,160	28
82-84	52,304	1,167	2	13,066	25	11,898	23
83-85	52,225	1,030	2	11,245	22	10,216	20
84-86	49,100	827	2	9,161	19	8,334	17
85-87	47,239	943	2	6,712	14	5,769	12
86-88	51,258	372	1	6,366	12	5,994	12
87-89	44,303	354	1	6,171	14	5,817	13
88-90	50,824	622	1	5,611	11	4,989	10
89-91	63,873	1,407	2	3,510	5	2,103	3
90-92	78,485	3,220	4	835	1	2,385-	3-
91-93	69,347	6,869	10	1,151	2	5,718-	8-
92-94	61,083	12,442	20	7,726	13	4,716-	8-
93-95	66,848	11,749	18	13,534	20	1,785	3
94-96	78,389	7,484	10	18,933	24	11,449	15
95-97	81,440	1,605	2	22,141	27	20,535	25
96-98	110,243	652	1	27,345	25	26,693	24
97-99	145,556	1,244	1	33,750	23	32,506	22
98-00	122,362	1,735	1	24,528	20	22,793	19
99-01	63,650	2,270	4	13,984	22	11,713	18
00-02		2,554		2,086		468-	
01-03		2,395		2,981		586	
02-04	34,045	1,455	4	4,528	13	3,074	9
03-05	77,791	566	1	3,752	5	3,186	4
04-06	166,401	99	0	2,295	1	2,196	1
05-07	252,315		0		0		0
06-08	327,415		0		0		0
07-09	336,740		0		0		0
08-10	216,781		0		0		0
09-11	190,181		0		0		0
10-12	192,815	744	0		0	744-	0
11-13	245,623	744	0		0	744-	0
12-14	401,972	744	0		0	744-	0
13-15	316,927		0	60,748	19	60,748	19
14-16	1,675,830		0	60,748	4	60,748	4
15-17	1,433,242		0	60,748	4	60,748	4
FIVE-YEAR AVERAGE							
13-17	1,040,786		0	36,449	4	36,449	4

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	23,536	564	2	2,805	12	2,241	10
1981	14,897	6	0	3,134	21	3,128	21
1982	17,381	8	0	1,084	6	1,076	6
1983	31,237	2-	0	2,050	7	2,052	7
1984	33,973	68	0	2,486	7	2,418	7
1985	20,584		0	2,846	14	2,846	14
1986	17,419		0	1,618	9	1,618	9
1987	32,090	10	0	3,044	9	3,034	9
1988	20,095		0	2,580	13	2,580	13
1989	18,351		0	1,204	7	1,204	7
1990	57,234		0	1,969	3	1,969	3
1991	62,824	36	0	1,128	2	1,092	2
1992	52,537		0	33	0	33	0
1993	36,728	738	2	292	1	446-	1-
1994	32,931	6	0	88	0	83	0
1995	48,587	283	1	531	1	248	1
1996	25,275		0		0		0
1997	38,151		0		0		0
1998	80,727		0		0		0
1999	57,346		0		0		0
2000							
2001							
2002							
2003							
2004	44,579		0		0		0
2005	57,269		0		0		0
2006	199,280		0		0		0
2007							
2008							
2009							
2010							
2011	287,216		0		0		0
2012	572,833		0		0		0
2013	162,528		0		0		0
2014	588,776		0		0		0
2015							
2016							
2017							
TOTAL	2,634,385	1,718	0	26,893	1	25,175	1

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	18,605	193	1	2,341	13	2,148	12
81-83	21,172	4	0	2,089	10	2,085	10
82-84	27,530	25	0	1,873	7	1,849	7
83-85	28,598	22	0	2,461	9	2,439	9
84-86	23,992	23	0	2,317	10	2,294	10
85-87	23,365	3	0	2,503	11	2,499	11
86-88	23,202	3	0	2,414	10	2,411	10
87-89	23,512	3	0	2,276	10	2,273	10
88-90	31,893		0	1,918	6	1,918	6
89-91	46,136	12	0	1,434	3	1,422	3
90-92	57,532	12	0	1,043	2	1,031	2
91-93	50,697	258	1	484	1	226	0
92-94	40,732	248	1	138	0	110-	0
93-95	39,416	342	1	304	1	39-	0
94-96	35,598	96	0	207	1	110	0
95-97	37,338	94	0	177	0	83	0
96-98	48,051		0		0		0
97-99	58,741		0		0		0
98-00	46,024		0		0		0
99-01	19,115		0		0		0
00-02							
01-03							
02-04	14,860		0		0		0
03-05	33,949		0		0		0
04-06	100,376		0		0		0
05-07	85,516		0		0		0
06-08	66,427		0		0		0
07-09							
08-10							
09-11	95,739		0		0		0
10-12	286,683		0		0		0
11-13	340,859		0		0		0
12-14	441,379		0		0		0
13-15	250,435		0		0		0
14-16	196,259		0		0		0
15-17							
FIVE-YEAR AVERAGE							
13-17	150,261		0		0		0

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	4,614	29	1	974	21	946	20
1981	4,743	455	10	3,040	64	2,585	54
1982	3,216	435	14	2,072	64	1,637	51
1983	2,492		0	1,035	42	1,035	42
1984	1,898	28	1	700	37	672	35
1985	4,371	41	1	2,873	66	2,832	65
1986	5,467	155	3	3,675	67	3,520	64
1987	6,521	39	1	2,449	38	2,409	37
1988	5,541	67	1	2,707	49	2,640	48
1989	9,307	885	10	2,755	30	1,870	20
1990	15,816	1,006	6	198	1	808-	5-
1991	12,354	683	6	913	7	230	2
1992	13,129	928	7	6,142	47	5,214	40
1993	19,067	1,135	6	4,544	24	3,409	18
1994	17,868	437	2	4,374	24	3,937	22
1995	11,977	752	6	5,395	45	4,642	39
1996	16,188		0	9,988	62	9,988	62
1997	16,522	272	2	5,557	34	5,285	32
1998	20,252		0	7,232	36	7,232	36
1999	5,002	1,294	26	1,486	30	191	4
2000		1,169				1,169-	
2001		843				843-	
2002		3,303				3,303-	
2003		8,199				8,199-	
2004	38,322	2,049	5		0	2,049-	5-
2005	13,807		0		0		0
2006	29,210		0		0		0
2007							
2008							
2009	69,799		0		0		0
2010	18,822		0		0		0
2011	19,386		0		0		0
2012	19,968		0		0		0
2013	20,567		0		0		0
2014	21,184		0		0		0
2015	98,345		0	34,713	35	34,713	35
2016	123,620		0		0		0
2017	65,283		0		0		0
TOTAL	734,656	24,205	3	102,819	14	78,614	11

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	4,191	306	7	2,029	48	1,722	41
81-83	3,483	297	9	2,049	59	1,752	50
82-84	2,535	154	6	1,269	50	1,115	44
83-85	2,920	23	1	1,536	53	1,513	52
84-86	3,912	75	2	2,416	62	2,341	60
85-87	5,453	79	1	2,999	55	2,920	54
86-88	5,843	87	1	2,943	50	2,856	49
87-89	7,123	330	5	2,637	37	2,306	32
88-90	10,222	653	6	1,886	18	1,234	12
89-91	12,492	858	7	1,289	10	430	3
90-92	13,766	872	6	2,418	18	1,545	11
91-93	14,850	915	6	3,866	26	2,951	20
92-94	16,688	833	5	5,020	30	4,187	25
93-95	16,304	775	5	4,771	29	3,996	25
94-96	15,344	397	3	6,586	43	6,189	40
95-97	14,896	341	2	6,980	47	6,638	45
96-98	17,654	91	1	7,592	43	7,502	42
97-99	13,925	522	4	4,758	34	4,236	30
98-00	8,418	821	10	2,906	35	2,084	25
99-01	1,667	1,102	66	495	30	607-	36-
00-02		1,772				1,772-	
01-03		4,115				4,115-	
02-04	12,774	4,517	35		0	4,517-	35-
03-05	17,376	3,416	20		0	3,416-	20-
04-06	27,113	683	3		0	683-	3-
05-07	14,339		0		0		0
06-08	9,737		0		0		0
07-09	23,266		0		0		0
08-10	29,540		0		0		0
09-11	36,002		0		0		0
10-12	19,392		0		0		0
11-13	19,974		0		0		0
12-14	20,573		0		0		0
13-15	46,698		0	11,571	25	11,571	25
14-16	81,049		0	11,571	14	11,571	14
15-17	95,749		0	11,571	12	11,571	12
FIVE-YEAR AVERAGE							
13-17	65,800		0	6,943	11	6,943	11

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	978	122	12	154	16	32	3
1981	1,881	1	0	134	7	133	7
1982	1,242		0	191	15	191	15
1983	885		0	109	12	109	12
1984	1,356	16	1	63	5	48	4
1985	1,373		0	132	10	132	10
1986	1,389		0	104	7	104	7
1987	1,590	1	0	213	13	212	13
1988	1,863		0	163	9	163	9
1989	4,144		0	223	5	223	5
1990	4,359		0	255	6	255	6
1991	3,797		0	73	2	73	2
1992	3,957		0	4	0	4	0
1993	8,943	499	6	42	0	457-	5-
1994	6,023	26	0	19	0	7-	0
1995	3,549	36	1	46	1	11	0
1996	4,700		0		0		0
1997	14,562		0		0		0
1998	10,239		0		0		0
1999	2,701		0		0		0
2000							
2001							
2002							
2003							
2004	34,397		0		0		0
2005	17,871		0		0		0
2006	35,211		0		0		0
2007							
2008							
2009	13,820		0		0		0
2010	14,234		0		0		0
2011	14,661		0		0		0
2012	15,101		0		0		0
2013	15,554		0		0		0
2014	16,021		0		0		0
2015	16,501		0		0		0
2016	261		0		0		0
2017	16,996		0		0		0
TOTAL	290,157	699	0	1,925	1	1,226	0

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	1,367	41	3	159	12	119	9
81-83	1,336		0	144	11	144	11
82-84	1,161	5	0	121	10	116	10
83-85	1,205	5	0	102	8	96	8
84-86	1,373	5	0	100	7	95	7
85-87	1,450		0	150	10	149	10
86-88	1,614		0	160	10	160	10
87-89	2,532		0	200	8	200	8
88-90	3,455		0	214	6	214	6
89-91	4,100		0	184	4	184	4
90-92	4,037		0	111	3	111	3
91-93	5,565	166	3	40	1	127-	2-
92-94	6,308	175	3	22	0	153-	2-
93-95	6,172	187	3	36	1	151-	2-
94-96	4,757	20	0	22	0	1	0
95-97	7,604	12	0	15	0	4	0
96-98	9,833		0		0		0
97-99	9,167		0		0		0
98-00	4,313		0		0		0
99-01	900		0		0		0
00-02							
01-03							
02-04	11,466		0		0		0
03-05	17,423		0		0		0
04-06	29,160		0		0		0
05-07	17,694		0		0		0
06-08	11,737		0		0		0
07-09	4,607		0		0		0
08-10	9,351		0		0		0
09-11	14,238		0		0		0
10-12	14,665		0		0		0
11-13	15,105		0		0		0
12-14	15,559		0		0		0
13-15	16,025		0		0		0
14-16	10,928		0		0		0
15-17	11,253		0		0		0
FIVE-YEAR AVERAGE							
13-17	13,067		0		0		0

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
1980	452		0	18	4	18	4
1981	661	226	34	39	6	187-	28-
1982							
1983	3,542		0		0		0
1984		569		290		280-	
1985							
1986	4,743	622	13	330	7	292-	6-
1987	1,602	95	6	328	21	233	15
1988	7,866	1,009	13	470	6	539-	7-
1989	2,149	799	37	356	17	443-	21-
1990	22,374	2,351	11	22	0	2,329-	10-
1991	23,687	1,921	8	389	2	1,532-	6-
1992	3,001	161	5	8	0	154-	5-
1993	6,490	1,252	19	36	1	1,216-	19-
1994	1,746		0	7	0	7	0
1995	4,370	1,800	41	52	1	1,748-	40-
1996	1,367	501	37		0	501-	37-
1997							
1998	5,041	207	4		0	207-	4-
1999	6,340	214	3		0	214-	3-
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013							
2014							
2015							
2016							
2017							
TOTAL	95,431	11,728	12	2,345	2	9,383-	10-

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
THREE-YEAR MOVING AVERAGES							
80-82	371	75	20	19	5	56-	15-
81-83	1,401	75	5	13	1	62-	4-
82-84	1,181	190	16	97	8	93-	8-
83-85	1,181	190	16	97	8	93-	8-
84-86	1,581	397	25	207	13	190-	12-
85-87	2,115	239	11	220	10	20-	1-
86-88	4,737	576	12	376	8	199-	4-
87-89	3,872	634	16	385	10	250-	6-
88-90	10,796	1,386	13	283	3	1,104-	10-
89-91	16,070	1,690	11	256	2	1,435-	9-
90-92	16,354	1,478	9	140	1	1,338-	8-
91-93	11,059	1,111	10	144	1	967-	9-
92-94	3,746	471	13	17	0	454-	12-
93-95	4,202	1,017	24	32	1	986-	23-
94-96	2,494	767	31	20	1	747-	30-
95-97	1,913	767	40	17	1	750-	39-
96-98	2,136	236	11		0	236-	11-
97-99	3,794	141	4		0	141-	4-
98-00	3,794	141	4		0	141-	4-
99-01	2,113	72	3		0	72-	3-
00-02							
01-03							
02-04							
03-05							
04-06							
05-07							
06-08							
07-09							
08-10							
09-11							
10-12							
11-13							
12-14							
13-15							
14-16							
15-17							
FIVE-YEAR AVERAGE							
13-17							

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2921 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

1980	6,372		0		0		0
1981							
1982	4,767		0	1,545	32	1,545	32
1983							
1984							
1985							
1986	3,073	91	3	1,850	60	1,759	57
1987							
1988							
1989	1,328		0		0		0
1990							
1991							
1992				67		67	
1993							
1994							
1995							
1996							
1997	19,604		0		0		0
1998							
1999							
2000							
2001							
2002							
2003							
2004							
2005							
2006							
2007							
2008							
2009							
2010							
2011							
2012							
2013	30,313		0		0		0
2014							
2015							
2016							
2017							
TOTAL	65,457	91	0	3,462	5	3,371	5
THREE-YEAR MOVING AVERAGES							
80-82	3,713		0	515	14	515	14
81-83	1,589		0	515	32	515	32

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2921 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

THREE-YEAR MOVING AVERAGES							
82-84	1,589		0	515	32	515	32
83-85							
84-86	1,024	30	3	617	60	586	57
85-87	1,024	30	3	617	60	586	57
86-88	1,024	30	3	617	60	586	57
87-89	443		0		0		0
88-90	443		0		0		0
89-91	443		0		0		0
90-92				22		22	
91-93				22		22	
92-94				22		22	
93-95							
94-96							
95-97	6,535		0		0		0
96-98	6,535		0		0		0
97-99	6,535		0		0		0
98-00							
99-01							
00-02							
01-03							
02-04							
03-05							
04-06							
05-07							
06-08							
07-09							
08-10							
09-11							
10-12							
11-13	10,104		0		0		0
12-14	10,104		0		0		0
13-15	10,104		0		0		0
14-16							
15-17							
FIVE-YEAR AVERAGE							
13-17	6,063		0		0		0

PART IX. DETAILED DEPRECIATION CALCULATIONS

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2041 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
INTERIM SURVIVOR CURVE.. SQUARE							
PROBABLE RETIREMENT YEAR.. 12-2024							
NET SALVAGE PERCENT.. 0							
1961	16,886.85	16,887	16,887				
1972	7,551.70	6,872	7,539	13	4.50		3
2009	20.35	11	13	8	7.00		1
	24,458.90	23,770	24,439	20			4

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.0 0.02

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2050 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 55-R4						
PROBABLE RETIREMENT YEAR.. 12-2024						
NET SALVAGE PERCENT.. -10						
1961	1,194,033.14	1,189,553	1,080,760	232,676	5.08	45,802
1963	1,741.01	1,723	1,565	350	5.36	65
1970	10,435.91	10,068	9,147	2,333	6.18	378
1971	23,663.21	22,749	20,668	5,362	6.26	857
1972	6,642.53	6,364	5,782	1,525	6.33	241
1973	8,189.23	7,819	7,104	1,904	6.39	298
1974	4,680.08	4,452	4,045	1,103	6.45	171
1975	1,727.21	1,638	1,488	412	6.49	63
1977	15,661.74	14,736	13,388	3,840	6.58	584
1979	3,572.65	3,335	3,030	900	6.65	135
1981	379.83	351	319	99	6.71	15
1986	6,229.14	5,616	5,102	1,750	6.83	256
1989	1,326.34	1,173	1,066	393	6.88	57
1990	49,012.04	43,036	39,100	14,813	6.89	2,150
1991	3,324.02	2,895	2,630	1,026	6.91	148
1998	4,507.34	3,650	3,316	1,642	6.97	236
1999	11,206.91	8,947	8,129	4,199	6.97	602
2000	26,467.14	20,811	18,908	10,206	6.97	1,464
2001	7,831.50	6,050	5,497	3,118	6.98	447
2002	51,490.30	39,038	35,468	21,171	6.98	3,033
2003	132,259.87	98,188	89,208	56,278	6.98	8,063
2012	100,382.56	48,585	44,142	66,279	7.00	9,468
2014	57,999.96	21,266	19,321	44,479	7.00	6,354
	1,722,763.66	1,562,043	1,419,183	475,857		80,887

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.9 4.70

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 55-R2.5						
PROBABLE RETIREMENT YEAR.. 12-2024						
NET SALVAGE PERCENT.. -10						
1961	952,129.34	928,469	652,754	394,588	5.86	67,336
1964	2,027.28	1,963	1,380	850	6.04	141
1965	2,019.79	1,952	1,372	850	6.09	140
1966	10,522.69	10,143	7,131	4,444	6.14	724
1968	3,462.69	3,320	2,334	1,475	6.24	236
1971	78,732.83	74,871	52,638	33,968	6.37	5,332
1972	27,026.69	25,624	18,015	11,714	6.41	1,827
1974	21,887.44	20,624	14,500	9,576	6.48	1,478
1975	106,105.55	99,657	70,063	46,653	6.51	7,166
1976	14,383.85	13,463	9,465	6,357	6.54	972
1977	7,625.84	7,112	5,000	3,388	6.57	516
1978	4,979.82	4,628	3,254	2,224	6.59	337
1979	65,554.96	60,682	42,662	29,448	6.62	4,448
1980	58,352.96	53,801	37,824	26,364	6.64	3,970
1981	7,162.06	6,576	4,623	3,255	6.66	489
1984	11,031.84	9,986	7,021	5,114	6.72	761
1987	27,187.85	24,203	17,016	12,891	6.77	1,904
1989	60,099.34	52,833	37,144	28,965	6.79	4,266
1992	25,640.82	22,031	15,489	12,716	6.83	1,862
1993	10,880.49	9,269	6,517	5,452	6.84	797
1995	1,150.30	961	676	589	6.86	86
1996	73,370.31	60,626	42,623	38,084	6.87	5,544
1997	30,406.78	24,829	17,456	15,991	6.88	2,324
1998	41,149.54	33,185	23,330	21,934	6.88	3,188
1999	45,764.19	36,383	25,579	24,762	6.89	3,594
2000	357,976.15	280,186	196,983	196,791	6.90	28,520
2002	502,208.14	379,231	266,616	285,813	6.91	41,362
2003	436,175.63	322,363	226,635	253,158	6.92	36,584
2004	526,445.47	380,120	267,241	311,849	6.92	45,065
2005	122,382.62	85,981	60,448	74,173	6.93	10,703
2006	455,671.93	310,593	218,360	282,879	6.93	40,819
2007	81,176.60	53,390	37,536	51,758	6.94	7,458
2008	74,139.43	46,809	32,909	48,644	6.94	7,009
2009	55,090.59	33,108	23,276	37,324	6.95	5,370
2010	4,946.53	2,806	1,973	3,468	6.95	499
2011	680,563.79	359,472	252,724	495,896	6.95	71,352
2012	379,727.07	183,061	128,700	289,000	6.96	41,523

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2110 LIQUEFIED PETROLEUM GAS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 55-R2.5						
PROBABLE RETIREMENT YEAR.. 12-2024						
NET SALVAGE PERCENT.. -10						
2013	194,745.20	83,548	58,738	155,482	6.96	22,339
2014	171,958.81	62,930	44,242	144,913	6.96	20,821
2015	223,334.99	64,279	45,191	200,477	6.97	28,763
	5,955,198.20	4,235,068	2,977,438	3,573,280		527,625
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					6.8	8.86

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2741 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1910	10,635.46	10,635	10,635			
1919	1,621.43	1,582	1,621			
1924	8,823.50	8,461	8,824			
1925	678.47	648	678			
1933	5,568.76	5,153	5,569			
1952	1,342.39	1,101	1,340	2	12.57	
1953	1,826.75	1,484	1,806	21	13.15	2
1954	25.70	21	26			
1955	27,640.73	21,962	26,733	908	14.38	63
1956	180.45	142	173	7	15.02	
1957	15,131.04	11,744	14,295	836	15.67	53
1958	308.05	236	287	21	16.33	1
1959	1,946.26	1,473	1,793	153	17.01	9
1960	1,108.84	828	1,008	101	17.70	6
1961	7,019.04	5,175	6,299	720	18.39	39
1962	19,073.27	13,869	16,882	2,191	19.10	115
1963	1,814.75	1,301	1,584	231	19.81	12
1964	1,991.19	1,407	1,713	278	20.54	14
1965	134,989.37	93,953	114,363	20,626	21.28	969
1966	1,070.30	733	892	178	22.03	8
1967	12,722.90	8,582	10,446	2,277	22.78	100
1968	5,087.66	3,376	4,109	979	23.55	42
1969	3,480.98	2,271	2,764	717	24.33	29
1970	9,619.27	6,167	7,507	2,112	25.12	84
1971	17,951.13	11,301	13,756	4,195	25.93	162
1972	35,609.14	22,006	26,787	8,822	26.74	330
1973	6,934.62	4,204	5,117	1,818	27.56	66
1974	16,960.64	10,082	12,272	4,689	28.39	165
1975	28,419.62	16,552	20,148	8,272	29.23	283
1976	8,582.46	4,893	5,956	2,626	30.09	87
1977	22,107.90	12,333	15,012	7,096	30.95	229
1978	3,731.10	2,035	2,477	1,254	31.82	39
1979	941.95	502	611	331	32.70	10
1980	15,885.32	8,263	10,058	5,827	33.59	173
1981	5,112.34	2,594	3,158	1,954	34.48	57
1982	44,454.50	21,980	26,755	17,700	35.39	500
1983	6,959.60	3,351	4,079	2,881	36.30	79
1984	3,024.89	1,417	1,725	1,300	37.22	35
1985	10,039.09	4,569	5,562	4,477	38.14	117
1986	24,359.25	10,763	13,101	11,258	39.07	288
1987	21,569.99	9,241	11,249	10,321	40.01	258

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2741 RIGHTS OF WAY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1988	15,344.70	6,368	7,751	7,594	40.95	185
1989	69,914.21	28,066	34,163	35,751	41.90	853
1990	37,094.33	14,382	17,506	19,588	42.86	457
1991	29,490.94	11,034	13,431	16,060	43.81	367
1992	180,997.49	65,212	79,379	101,618	44.78	2,269
1993	9,764.91	3,384	4,119	5,646	45.74	123
1994	105,098.80	34,967	42,564	62,535	46.71	1,339
1995	909.60	290	353	557	47.68	12
1996	25,191.12	7,680	9,348	15,843	48.66	326
2005	2,674.77	476	579	2,096	57.54	36
2006	51,359.23	8,416	10,245	41,114	58.53	702
2007	10,613.11	1,589	1,934	8,679	59.52	146
2008	10,163.32	1,376	1,675	8,488	60.52	140
2012	152.55	12	15	138	64.51	2
	1,095,119.18	531,642	642,232	452,887		11,381

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.8 1.04

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2750 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 60-R2						
NET SALVAGE PERCENT.. -5						
1909	838.18	869	880			
1927	2,450.16	2,326	2,573			
1935	106.66	97	112			
1953	181.28	144	190			
1960	481.63	356	506			
1971	40,333.78	25,467	38,988	3,362	23.92	141
1972	13,340.47	8,281	12,678	1,329	24.53	54
1973	26,902.59	16,407	25,118	3,130	25.15	124
1974	3,422.20	2,049	3,137	456	25.78	18
1978	369.00	204	312	75	28.38	3
1980	22,083.46	11,698	17,909	5,279	29.73	178
1981	853.89	442	677	220	30.42	7
1986	9,563.62	4,356	6,669	3,373	33.97	99
1999	3,684.93	1,030	1,577	2,292	44.02	52
2000	30,027.79	7,966	12,195	19,334	44.84	431
2003	3,874.50	859	1,315	2,753	47.33	58
2012	13,960.53	1,202	1,840	12,819	55.08	233
2015	221,720.41	8,730	13,365	219,441	57.75	3,800
2016	161,793.19	3,851	5,895	163,988	58.64	2,797
	555,988.27	96,334	145,936	437,851		7,995

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 54.8 1.44

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R2.5						
NET SALVAGE PERCENT.. -20						
1915	6,141.84	7,370	7,370			
1927	66.11	79	79			
1928	208.11	250	250			
1930	42.12	51	51			
1931	78.79	94	17-	112	0.25	112
1934	24.86	29	5-	35	0.97	35
1935	227.33	266	49-	322	1.23	262
1936	58.03	67	12-	82	1.50	55
1937	326.86	377	69-	461	1.77	260
1938	165.13	190	35-	233	2.05	114
1939	49.94	57	10-	70	2.33	30
1940	201.04	228	42-	283	2.60	109
1941	50.58	57	10-	71	2.85	25
1942	545.62	612	112-	767	3.10	247
1943	204.96	229	42-	288	3.33	86
1944	92.66	103	19-	130	3.55	37
1947	95.30	104	19-	133	4.21	32
1948	57.02	62	11-	79	4.43	18
1949	719.75	778	142-	1,006	4.65	216
1950	1,020.27	1,097	200-	1,424	4.88	292
1951	3,086.68	3,302	602-	4,306	5.10	844
1952	1,753.10	1,865	340-	2,444	5.33	459
1953	1,366.68	1,446	264-	1,904	5.57	342
1954	3,283.40	3,453	630-	4,570	5.81	787
1955	2,464.63	2,577	470-	3,428	6.05	567
1956	1,603.45	1,666	304-	2,228	6.30	354
1957	19,988.82	20,639	3,763-	27,750	6.56	4,230
1958	7,713.83	7,913	1,443-	10,700	6.82	1,569
1959	24,349.71	24,812	4,524-	33,744	7.09	4,759
1960	11,541.17	11,675	2,129-	15,978	7.38	2,165
1961	9,237.57	9,276	1,691-	12,776	7.67	1,666
1962	7,197.58	7,171	1,307-	9,944	7.98	1,246
1963	9,596.41	9,482	1,729-	13,245	8.30	1,596
1964	2,661.41	2,607	475-	3,669	8.63	425
1965	3,388.63	3,289	600-	4,666	8.98	520
1966	5,713.58	5,492	1,001-	7,857	9.35	840
1967	617.76	588	107-	848	9.74	87
1968	4,580.67	4,311	786-	6,283	10.14	620
1969	4,786.47	4,453	812-	6,556	10.56	621
1970	6,332.36	5,820	1,061-	8,660	11.00	787
1971	6,490.06	5,889	1,074-	8,862	11.46	773

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2761 MAINS - CAST IRON, COPPER AND ALL VALVES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R2.5						
NET SALVAGE PERCENT.. -20						
1972	11,648.43	10,427	1,901-	15,879	11.94	1,330
1973	8,947.66	7,895	1,440-	12,177	12.44	979
1974	28,422.68	24,710	4,505-	38,612	12.95	2,982
1975	25,251.13	21,611	3,940-	34,241	13.48	2,540
1976	2,592.82	2,183	398-	3,509	14.03	250
1977	21,405.44	17,707	3,229-	28,916	14.60	1,981
1978	48,406.97	39,327	7,171-	65,259	15.18	4,299
1979	43,431.50	34,620	6,312-	58,430	15.78	3,703
1980	74,471.63	58,202	10,612-	99,978	16.39	6,100
1981	46,421.90	35,533	6,479-	62,185	17.02	3,654
1982	39,631.38	29,678	5,411-	52,969	17.67	2,998
1983	26,032.21	19,056	3,474-	34,713	18.33	1,894
1984	38,499.45	27,523	5,018-	51,217	19.00	2,696
1985	29,763.41	20,761	3,785-	39,501	19.68	2,007
1986	42,282.42	28,749	5,242-	55,981	20.37	2,748
1987	12,620.73	8,352	1,523-	16,668	21.08	791
1988	40,038.59	25,761	4,697-	52,743	21.80	2,419
1989	19,529.91	12,202	2,225-	25,661	22.53	1,139
1990	85,267.90	51,661	9,420-	111,741	23.27	4,802
1991	34,654.48	20,324	3,706-	45,291	24.03	1,885
1992	12,115.32	6,870	1,253-	15,791	24.79	637
1993	16,723.67	9,155	1,669-	21,737	25.56	850
1994	9,537.02	5,028	917-	12,361	26.35	469
1995	11,765.39	5,966	1,088-	15,206	27.14	560
1996	16,194.08	7,881	1,437-	20,870	27.94	747
1997	14,476.97	6,746	1,230-	18,602	28.75	647
1998	58,388.34	25,984	4,737-	74,803	29.57	2,530
1999	16,097.65	6,823	1,244-	20,561	30.40	676
	982,749.37	720,561	122,219-	1,301,518		85,500

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.2 8.70

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2762 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -20						
1917	1.29	1	1	1	5.17	
1919	29.79	33	36			
1921	189.03	206	227			
1922	1.10	1	1			
1923	124.44	134	149			
1924	322.45	347	387			
1925	133.91	144	161			
1926	1,667.08	1,780	2,000			
1927	6,972.69	7,415	8,367			
1928	6,120.30	6,482	7,344			
1929	9,445.11	9,962	11,334			
1930	6.81	7	8			
1931	5,441.11	5,690	6,529			
1933	106.31	110	128			
1935	271.64	279	326			
1941	6.97	7	8			
1942	2,533.51	2,506	2,957	83	11.43	7
1943	110.57	109	129	4	11.76	
1944	197.17	193	228	9	12.11	1
1945	16.60	16	19	1	12.46	
1946	2,221.36	2,139	2,524	142	12.83	11
1947	1,096.92	1,049	1,238	78	13.21	6
1948	173.29	164	194	14	13.60	1
1949	118.78	112	132	11	14.01	1
1950	3,741.43	3,493	4,121	369	14.43	26
1951	814.02	754	890	87	14.86	6
1952	1,390.02	1,275	1,504	164	15.30	11
1953	33,151.01	30,136	35,558	4,223	15.76	268
1954	12,590.53	11,334	13,373	1,736	16.24	107
1955	18,445.61	16,441	19,399	2,736	16.72	164
1956	48,138.72	42,463	50,103	7,663	17.22	445
1957	49,571.44	43,260	51,044	8,442	17.73	476
1958	256,940.12	221,713	261,605	46,723	18.26	2,559
1959	171,521.44	146,295	172,618	33,208	18.80	1,766
1960	344,283.88	290,153	342,360	70,781	19.35	3,658
1961	255,717.80	212,867	251,168	55,693	19.91	2,797
1962	169,058.14	138,950	163,951	38,919	20.48	1,900
1963	406,888.14	329,994	389,369	98,897	21.07	4,694
1964	292,437.05	233,933	276,024	74,900	21.67	3,456
1965	527,787.47	416,253	491,149	142,196	22.28	6,382
1966	376,687.26	292,772	345,450	106,575	22.90	4,654

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2762 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -20						
1967	296,377.35	226,906	267,733	87,920	23.53	3,737
1968	614,676.11	463,331	546,697	190,914	24.17	7,899
1969	620,051.16	459,942	542,698	201,363	24.82	8,113
1970	516,375.15	376,747	444,534	175,116	25.48	6,873
1971	392,660.77	281,557	332,217	138,976	26.16	5,313
1972	533,099.74	375,567	443,142	196,578	26.84	7,324
1973	244,017.37	168,800	199,172	93,649	27.53	3,402
1974	373,144.52	253,373	298,962	148,811	28.22	5,273
1975	383,177.98	255,160	301,070	158,744	28.93	5,487
1976	245,769.14	160,438	189,305	105,618	29.64	3,563
1977	237,556.28	151,875	179,202	105,866	30.37	3,486
1978	635,412.54	397,672	469,224	293,271	31.10	9,430
1979	1,231,049.60	753,624	889,222	588,038	31.84	18,469
1980	2,211,078.82	1,322,986	1,561,028	1,092,267	32.59	33,515
1981	1,235,859.87	722,355	852,327	630,705	33.34	18,917
1982	1,508,781.65	860,694	1,015,557	794,981	34.10	23,313
1983	1,649,809.39	917,703	1,082,823	896,948	34.87	25,723
1984	816,575.52	442,460	522,071	457,820	35.65	12,842
1985	1,659,023.53	874,730	1,032,118	958,710	36.44	26,309
1986	1,982,233.24	1,016,243	1,199,093	1,179,587	37.23	31,684
1987	3,609,326.86	1,797,791	2,121,264	2,209,928	38.02	58,125
1988	4,905,428.81	2,370,028	2,796,462	3,090,053	38.83	79,579
1989	4,779,363.07	2,237,602	2,640,209	3,095,027	39.64	78,078
1990	9,053,682.15	4,101,753	4,839,773	6,024,646	40.46	148,904
1991	4,856,372.75	2,126,625	2,509,264	3,318,383	41.28	80,387
1992	2,434,645.34	1,028,832	1,213,948	1,707,626	42.11	40,552
1993	1,111,866.82	452,614	534,052	800,188	42.95	18,631
1994	99,935.73	39,132	46,173	73,750	43.79	1,684
1995	67,159.85	25,244	29,786	50,806	44.64	1,138
1996	236,297.70	85,067	100,373	183,184	45.50	4,026
1997	205,809.96	70,824	83,567	163,405	46.36	3,525
1998	678,840.21	222,828	262,921	551,687	47.22	11,683
1999	2,169,695.63	676,945	798,746	1,804,889	48.10	37,524
2000	177,149.83	52,426	61,859	150,721	48.97	3,078
2001	3,604,612.44	1,008,196	1,189,599	3,135,936	49.85	62,907
2002	2,160,436.76	568,748	671,082	1,921,442	50.74	37,868
2003	1,852,972.36	457,365	539,658	1,683,909	51.63	32,615
2004	1,176,677.49	270,895	319,636	1,092,377	52.53	20,795
2005	3,486,823.89	744,786	878,794	3,305,395	53.43	61,864
2006	1,357,357.62	267,372	315,480	1,313,349	54.33	24,174
2007	1,980,406.25	356,830	421,033	1,955,454	55.24	35,399

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2762 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -20						
2008	4,487,111.49	733,104	865,010	4,519,524	56.15	80,490
2009	3,406,793.30	498,755	588,495	3,499,657	57.07	61,322
2010	1,093,358.35	141,502	166,962	1,145,068	57.99	19,746
2011	98,469.72	11,071	13,063	105,101	58.91	1,784
2012	623,534.88	59,395	70,082	678,160	59.84	11,333
2013	208,240.52	16,263	19,189	230,700	60.77	3,796
2014	250,130.07	15,194	17,928	282,228	61.71	4,573
2015	1,478,650.70	64,428	76,020	1,698,361	62.64	27,113
2016	1,201,354.06	31,500	37,167	1,404,458	63.58	22,090
2017	258,722.93	2,245	2,649	307,818	64.53	4,770
	83,504,429.58	33,488,495	39,512,552	60,692,763		1,373,621

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 44.2 1.64

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2763 MAINS - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R3						
NET SALVAGE PERCENT.. -20						
1965	1,068.29	836	1,227	55	24.33	2
1968	5,786.86	4,322	6,341	603	26.43	23
1970	102,464.12	74,003	108,581	14,376	27.87	516
1971	171,822.92	121,917	178,883	27,305	28.61	954
1972	178,393.08	124,314	182,400	31,672	29.35	1,079
1973	116,143.78	79,423	116,534	22,839	30.11	759
1974	58,217.99	39,053	57,301	12,561	30.87	407
1975	66,529.18	43,750	64,192	15,643	31.64	494
1976	27,864.79	17,951	26,339	7,099	32.42	219
1977	7,491.98	4,726	6,934	2,056	33.20	62
1978	59,543.09	36,757	53,932	17,520	33.99	515
1979	99,133.03	59,837	87,796	31,164	34.79	896
1980	163,218.93	96,253	141,227	54,636	35.60	1,535
1981	35,554.88	20,467	30,030	12,636	36.42	347
1983	9,241.43	5,058	7,421	3,669	38.07	96
1984	40,437.09	21,552	31,622	16,903	38.91	434
1986	27,741.10	13,982	20,515	12,774	40.60	315
1987	58,759.72	28,748	42,181	28,331	41.46	683
1988	12,093.70	5,739	8,421	6,091	42.32	144
1989	71,049.07	32,654	47,912	37,347	43.19	865
1990	59,129.80	26,284	38,565	32,391	44.07	735
1991	171,276.74	73,552	107,919	97,613	44.95	2,172
1992	1,254,198.97	519,449	762,163	742,876	45.84	16,206
1993	2,379,214.85	949,107	1,392,580	1,462,478	46.73	31,296
1994	3,830,414.69	1,468,903	2,155,252	2,441,246	47.63	51,254
1995	3,063,437.21	1,126,990	1,653,579	2,022,546	48.54	41,668
1996	3,537,636.66	1,246,253	1,828,568	2,416,596	49.45	48,869
1997	4,248,040.91	1,430,247	2,098,534	2,999,115	50.36	59,554
1998	3,496,748.41	1,121,575	1,645,634	2,550,464	51.29	49,726
1999	2,617,183.06	798,157	1,171,098	1,969,522	52.21	37,723
2000	3,307,240.94	955,898	1,402,544	2,566,145	53.14	48,290
2001	6,512,010.49	1,777,232	2,607,649	5,206,764	54.08	96,279
2002	11,104,797.40	2,851,712	4,184,183	9,141,574	55.02	166,150
2003	10,232,044.06	2,462,689	3,613,388	8,665,065	55.96	154,844
2004	15,485,199.15	3,474,879	5,098,527	13,483,712	56.91	236,930
2005	10,795,974.78	2,246,815	3,296,646	9,658,524	57.86	166,929
2006	11,190,216.81	2,146,642	3,149,667	10,278,593	58.81	174,776
2007	7,450,165.66	1,306,521	1,916,997	7,023,202	59.77	117,504
2008	11,566,801.16	1,838,150	2,697,031	11,183,130	60.73	184,145
2009	15,622,789.10	2,222,873	3,261,518	15,485,829	61.70	250,986
2010	4,287,255.69	538,702	790,412	4,354,295	62.67	69,480

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2763 MAINS - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R3						
NET SALVAGE PERCENT.. -20						
2011	2,313,573.32	252,254	370,120	2,406,168	63.64	37,809
2012	3,305,155.16	305,396	448,093	3,518,093	64.61	54,451
2013	1,730,891.75	130,855	191,998	1,885,072	65.59	28,740
2014	2,006,427.93	118,315	173,598	2,234,116	66.56	33,565
2015	1,200,453.03	50,621	74,274	1,366,270	67.54	20,229
2016	4,446,755.70	112,805	165,513	5,170,594	68.52	75,461
2017	764,024.53	6,418	9,417	907,412	69.51	13,054
	149,291,612.99	32,390,636	47,525,256	131,624,679		2,279,170

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 57.8 1.53

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2765 MAINS - STEEL FEEDER LINES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -20						
1910	280.88	319	337			
1917	575.29	635	690			
1924	2,027.03	2,181	2,432			
1931	545.02	570	654			
1933	482.94	501	580			
1941	494.82	492	594			
1948	682.29	647	819			
1949	2,599.74	2,447	3,120			
1952	2,217.47	2,035	2,637	24	15.30	2
1953	181,290.46	164,802	213,590	3,959	15.76	251
1954	10,565.19	9,511	12,327	351	16.24	22
1955	1,211,139.92	1,079,518	1,399,101	54,267	16.72	3,246
1957	103,172.26	90,036	116,691	7,116	17.73	401
1958	50,018.88	43,161	55,938	4,085	18.26	224
1959	103,660.36	88,414	114,588	9,804	18.80	521
1960	17,263.12	14,549	18,856	1,860	19.35	96
1961	31,546.59	26,260	34,034	3,822	19.91	192
1962	369.71	304	394	50	20.48	2
1963	16,583.27	13,449	17,430	2,470	21.07	117
1965	1,438,515.09	1,134,522	1,470,389	255,829	22.28	11,482
1966	54,097.51	42,046	54,493	10,424	22.90	455
1967	148,675.27	113,826	147,523	30,887	23.53	1,313
1968	730,303.21	550,488	713,456	162,908	24.17	6,740
1969	206,539.82	153,207	198,563	49,285	24.82	1,986
1970	468,510.11	341,825	443,020	119,192	25.48	4,678
1971	869,403.93	623,404	807,958	235,327	26.16	8,996
1972	696,028.33	490,349	635,513	199,721	26.84	7,441
1973	25,211.04	17,440	22,603	7,650	27.53	278
1974	1,049,369.28	712,543	923,486	335,757	28.22	11,898
1975	615,896.91	410,128	531,544	207,532	28.93	7,174
1976	13,686.47	8,935	11,580	4,844	29.64	163
1977	328,001.01	209,699	271,779	121,822	30.37	4,011
1978	297,002.30	185,878	240,906	115,497	31.10	3,714
1979	168,072.08	102,890	133,350	68,336	31.84	2,146
1980	157,023.76	93,954	121,768	66,661	32.59	2,045
1982	303,717.21	173,257	224,549	139,912	34.10	4,103
1983	6,359.69	3,538	4,585	3,047	34.87	87
1984	85,891.38	46,540	60,318	42,752	35.65	1,199
1985	61,378.46	32,362	41,943	31,711	36.44	870
1986	539,582.84	276,631	358,526	288,973	37.23	7,762
1987	290,703.15	144,798	187,664	161,180	38.02	4,239

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2765 MAINS - STEEL FEEDER LINES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R2.5						
NET SALVAGE PERCENT.. -20						
1988	241,464.08	116,662	151,199	138,558	38.83	3,568
1989	2,954,728.98	1,383,345	1,792,874	1,752,801	39.64	44,218
1990	14,881.18	6,742	8,738	9,119	40.46	225
1991	1,505,103.02	659,091	854,210	951,914	41.28	23,060
1992	828,495.52	350,106	453,752	540,443	42.11	12,834
1993	319,948.28	130,243	168,801	215,137	42.95	5,009
1994	416,050.07	162,914	211,144	288,116	43.79	6,579
1995	12,293.53	4,621	5,989	8,763	44.64	196
1996	22,720.37	8,179	10,600	16,664	45.50	366
1997	46,344.74	15,948	20,669	34,945	46.36	754
1998	50,313.62	16,515	21,404	38,972	47.22	825
1999	402,737.30	125,654	162,853	320,432	48.10	6,662
2000	492,608.82	145,785	188,944	402,187	48.97	8,213
2001	37,700.39	10,545	13,667	31,573	49.85	633
2002	134,442.84	35,393	45,871	115,460	50.74	2,276
2003	1,350,852.65	333,428	432,137	1,188,886	51.63	23,027
2004	27,645.95	6,365	8,249	24,926	52.53	475
2005	315,485.79	67,388	87,338	291,245	53.43	5,451
2006	979,242.34	192,891	249,995	925,096	54.33	17,027
2007	1,391,725.30	250,761	324,997	1,345,073	55.24	24,350
2008	1,873,802.15	306,142	396,773	1,851,790	56.15	32,979
2009	71,469.36	10,463	13,560	72,203	57.07	1,265
2010	178,656.06	23,122	29,967	184,420	57.99	3,180
2011	426,573.78	47,959	62,157	449,732	58.91	7,634
2012	3,147,112.93	299,781	388,529	3,388,007	59.84	56,618
2013	685,506.59	53,535	69,384	753,224	60.77	12,395
2015	172,225.53	7,504	9,726	196,945	62.64	3,144
2016	3,004,038.07	78,766	102,084	3,502,762	63.58	55,092
2017	2,885,673.21	25,036	32,447	3,430,361	64.53	53,159
	34,279,326.54	12,282,975	15,918,386	25,216,805		509,068

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.5 1.49

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2780 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-R1.5						
NET SALVAGE PERCENT.. -25						
1935	291.04	321	364			
1947	27.44	28	34			
1949	3,802.18	3,816	4,753			
1953	4,922.12	4,780	6,153			
1955	2,185.44	2,084	2,732			
1958	780.88	723	976			
1959	13,369.94	12,255	16,712			
1960	650.41	590	813			
1961	12,166.97	10,909	15,209			
1963	2,062.37	1,806	2,577	1	15.57	
1965	4,892.04	4,177	5,961	154	16.48	9
1966	501.89	423	604	23	16.95	1
1968	6,895.66	5,649	8,062	558	17.92	31
1969	5,424.11	4,378	6,248	532	18.42	29
1970	6,016.50	4,783	6,826	695	18.93	37
1971	123,245.71	96,434	137,623	16,434	19.45	845
1972	94,838.28	72,998	104,177	14,371	19.98	719
1973	21,908.02	16,578	23,659	3,726	20.52	182
1974	22,189.86	16,498	23,545	4,192	21.07	199
1975	18,303.39	13,362	19,069	3,810	21.63	176
1976	14,982.50	10,733	15,317	3,411	22.20	154
1977	6,159.11	4,326	6,174	1,525	22.78	67
1978	32,608.91	22,450	32,039	8,722	23.36	373
1979	95,181.31	64,156	91,558	27,419	23.96	1,144
1980	58,534.73	38,610	55,101	18,067	24.56	736
1981	14,721.63	9,491	13,545	4,857	25.18	193
1982	29,929.94	18,850	26,901	10,511	25.80	407
1983	11,440.59	7,032	10,036	4,265	26.43	161
1984	99,252.36	59,479	84,884	39,181	27.07	1,447
1985	30,724.75	17,940	25,603	12,803	27.71	462
1986	160,068.01	90,923	129,758	70,327	28.37	2,479
1987	17,023.87	9,400	13,415	7,865	29.03	271
1988	87,813.81	47,074	67,180	42,587	29.70	1,434
1989	124,739.13	64,828	92,517	63,407	30.38	2,087
1990	7,971.22	4,012	5,726	4,238	31.06	136
1991	94,475.85	45,988	65,630	52,465	31.75	1,652
1992	19,238.92	9,041	12,903	11,146	32.45	343
1993	49,312.77	22,345	31,889	29,752	33.15	897
1994	25,211.88	10,994	15,690	15,825	33.86	467
1995	20,840.58	8,727	12,454	13,597	34.58	393
1997	22,605.99	8,678	12,385	15,872	36.03	441

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2780 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 52-R1.5						
NET SALVAGE PERCENT.. -25						
1998	74,245.14	27,200	38,818	53,988	36.76	1,469
1999	45,109.43	15,723	22,439	33,948	37.50	905
2000	690,390.66	228,364	325,902	537,086	38.24	14,045
2001	85,436.17	26,719	38,131	68,664	38.99	1,761
2002	48,427.71	14,261	20,352	40,183	39.75	1,011
2003	132,176.72	36,539	52,146	113,075	40.50	2,792
2004	77,608.77	20,018	28,568	68,443	41.27	1,658
2005	91,901.20	22,025	31,432	83,444	42.03	1,985
2006	299,301.57	66,191	94,462	279,665	42.80	6,534
2007	393,704.44	79,686	113,722	378,409	43.58	8,683
2008	290,405.58	53,333	76,113	286,894	44.36	6,467
2009	426,981.37	70,308	100,338	433,389	45.15	9,599
2010	4,800.67	699	998	5,003	45.94	109
2011	342,121.82	43,343	61,855	365,797	46.73	7,828
2012	77,132.52	8,288	11,828	84,588	47.53	1,780
2013	50,552.68	4,460	6,365	56,826	48.33	1,176
2014	23,297.23	1,602	2,286	26,836	49.14	546
2015	1,248,921.05	61,541	87,826	1,473,325	49.95	29,496
2016	341,270.88	10,089	14,398	412,191	50.77	8,119
2017	291,815.34	2,874	4,102	360,667	51.59	6,991
	6,402,913.06	1,640,932	2,338,883	5,664,759		130,926

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 43.3 2.04

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2781 MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 25-S2						
NET SALVAGE PERCENT.. -25						
1976	9,321.74	10,892	8,935	2,717	1.63	1,667
1986	135,429.25	141,388	115,980	53,307	4.12	12,939
1987	31,052.72	31,953	26,211	12,605	4.42	2,852
1988	27,683.04	28,057	23,015	11,589	4.73	2,450
1994	54,049.86	48,780	40,014	27,548	6.95	3,964
1995	3,799.69	3,346	2,745	2,005	7.39	271
1996	28,084.62	24,069	19,744	15,362	7.86	1,954
1997	28,631.08	23,850	19,564	16,225	8.34	1,945
1998	13,128.47	10,595	8,691	7,720	8.86	871
2002	6,270.87	4,317	3,541	4,298	11.23	383
2003	19,539.19	12,798	10,498	13,926	11.90	1,170
2004	11,995.27	7,425	6,091	8,903	12.62	705
2005	52,419.53	30,482	25,004	40,520	13.37	3,031
2006	99,210.95	53,822	44,150	79,864	14.15	5,644
2007	73,922.63	37,072	30,410	61,993	14.97	4,141
2008	28,347.51	12,997	10,661	24,773	15.83	1,565
2009	14,788.92	6,123	5,023	13,463	16.72	805
2010	20,411.63	7,522	6,170	19,345	17.63	1,097
2011	3,738.91	1,200	984	3,690	18.58	199
2012	304,378.07	83,095	68,162	312,311	19.54	15,983
2014	64,727.07	11,295	9,265	71,644	21.51	3,331
2015	106,041.86	13,255	10,873	121,679	22.50	5,408
	1,136,972.88	604,333	495,731	925,485		72,375

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.8 6.37

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R2						
NET SALVAGE PERCENT.. -25						
1909	1,324.10	1,655	1,655			
1910	790.42	988	988			
1930	683.94	793	855			
1937	2,128.52	2,371	2,661			
1938	1,351.39	1,496	1,689			
1939	1.99	2	2			
1948	1,403.07	1,454	1,754			
1949	1,423.51	1,465	1,779			
1952	15,020.07	15,088	18,775			
1953	12,006.48	11,960	15,008			
1955	4,216.45	4,125	5,271			
1959	2,520.47	2,370	3,151			
1960	2,832.87	2,636	3,541			
1961	4,752.05	4,373	5,940			
1963	2,049.31	1,842	2,562			
1964	4,478.32	3,976	5,598			
1965	2,336.22	2,047	2,920			
1966	6,971.70	6,029	8,715			
1969	172.23	143	215			
1970	8,163.68	6,663	10,205			
1971	4,561.64	3,665	5,702			
1972	1,878.25	1,485	2,348			
1973	26,665.90	20,727	33,332			
1974	10,564.00	8,067	13,205			
1975	21,000.40	15,750	26,250			
1976	18,501.10	13,619	23,126			
1977	2,257.00	1,630	2,821			
1978	50,274.91	35,569	62,844			
1979	20,187.49	13,989	25,234			
1980	24,713.69	16,761	30,892			
1981	31,356.29	20,795	39,195			
1982	11,678.95	7,567	14,599			
1983	10,848.54	6,862	13,525	36	27.17	1
1984	17,235.44	10,635	20,961	583	27.85	21
1985	21,620.50	12,997	25,616	1,410	28.55	49
1986	19,391.30	11,348	22,366	1,873	29.25	64
1989	44,358.02	23,782	46,873	8,575	31.41	273
1990	24,859.96	12,910	25,445	5,630	32.15	175
1992	13,666.49	6,634	13,075	4,008	33.64	119
1996	11,583.38	4,812	9,484	4,995	36.72	136
2003	44,747.25	12,834	25,295	30,639	42.38	723

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2782 MEASURING AND REGULATING STATION EQUIPMENT - DISTRICT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R2						
NET SALVAGE PERCENT.. -25						
2004	26,197.41	7,020	13,836	18,911	43.21	438
2005	36,565.03	9,100	17,936	27,770	44.05	630
2007	125,470.12	26,377	51,988	104,850	45.75	2,292
2008	221,340.25	42,257	83,286	193,389	46.60	4,150
2009	37,961.83	6,505	12,821	34,631	47.46	730
2010	129,637.53	19,651	38,731	123,316	48.33	2,552
2011	59,909.79	7,897	15,565	59,322	49.20	1,206
2012	427,612.96	47,812	94,235	440,281	50.08	8,792
2013	394,548.07	36,136	71,222	421,963	50.97	8,279
2014	128,065.73	9,168	18,069	142,013	51.85	2,739
2015	208,966.68	10,686	21,061	240,147	52.75	4,553
	2,302,852.69	556,523	1,014,222	1,864,343		37,922

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.2 1.65

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2						
NET SALVAGE PERCENT.. -25						
1940	0.01					
1949	90.31	109	37	76	1.51	50
1950	284.63	340	114	242	1.79	135
1951	269.31	319	107	230	2.07	111
1952	132.35	156	52	113	2.35	48
1953	415.49	485	163	356	2.63	135
1954	589.99	684	230	507	2.92	174
1955	393.66	453	152	340	3.21	106
1956	634.10	723	243	550	3.50	157
1957	1,239.53	1,403	472	1,077	3.79	284
1958	4,623.11	5,189	1,745	4,034	4.08	989
1959	11,726.95	13,057	4,391	10,268	4.37	2,350
1960	11,579.94	12,785	4,299	10,176	4.67	2,179
1961	20,127.42	22,040	7,412	17,747	4.96	3,578
1962	18,325.58	19,895	6,690	16,217	5.26	3,083
1963	19,264.59	20,734	6,973	17,108	5.56	3,077
1964	34,340.36	36,626	12,317	30,608	5.87	5,214
1965	32,104.38	33,920	11,407	28,723	6.19	4,640
1966	30,576.70	32,000	10,761	27,460	6.51	4,218
1967	51,918.78	53,801	18,092	46,806	6.84	6,843
1968	42,891.09	43,977	14,789	38,825	7.19	5,400
1969	67,681.72	68,655	23,088	61,514	7.54	8,158
1970	63,261.61	63,459	21,340	57,737	7.90	7,308
1971	61,979.23	61,437	20,660	56,814	8.28	6,862
1972	16,203.67	15,864	5,335	14,920	8.67	1,721
1973	5,192.32	5,019	1,688	4,802	9.07	529
1974	2,195.40	2,093	704	2,040	9.49	215
1975	2,349.32	2,208	743	2,194	9.92	221
1976	244.28	226	76	229	10.37	22
1977	2,983.78	2,720	915	2,815	10.83	260
1978	5,037.33	4,516	1,519	4,778	11.31	422
1980	5,514.94	4,774	1,605	5,289	12.30	430
1981	3,825.09	3,249	1,093	3,688	12.82	288
1982	1,848.80	1,539	518	1,793	13.36	134
1983	2,214.57	1,806	607	2,161	13.91	155
1984	1,550.80	1,237	416	1,522	14.47	105
1985	1,064.12	830	279	1,051	15.05	70
1986	1,436.93	1,094	368	1,428	15.64	91
1987	910.20	676	227	911	16.25	56
1988	1,777.07	1,284	432	1,789	16.87	106
1989	3,194.08	2,246	755	3,238	17.50	185

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2801 SERVICES - CAST IRON, COPPER AND ALL VALVES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2						
NET SALVAGE PERCENT.. -25						
1990	1,335.19	912	307	1,362	18.15	75
1993	999.46	620	208	1,041	20.16	52
1998	1,734.57	881	296	1,872	23.75	79
1999	1,021.27	495	166	1,111	24.50	45
2005	2,668,143.19	899,665	302,543	3,032,636	29.21	103,822
2006	2,128.22	663	223	2,437	30.03	81
2007	76,184.57	21,760	7,317	87,914	30.86	2,849
2008	245,716.00	63,809	21,458	285,687	31.69	9,015
	3,529,256.01	1,532,433	515,332	3,896,238		186,127

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.9 5.27

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-R2						
NET SALVAGE PERCENT.. -25						
1930	1,729.24	2,162	2,162			
1937	51.22	64	64			
1938	0.02					
1939	65.93	82	82			
1942	9.38	12	12			
1948	153.92	182	138	54	2.26	24
1952	153.92	177	135	57	3.41	17
1953	117.50	134	102	45	3.70	12
1955	154.07	173	132	61	4.28	14
1957	233.44	258	196	96	4.86	20
1958	5,374.76	5,893	4,480	2,238	5.16	434
1959	2,581.27	2,807	2,134	1,093	5.46	200
1960	2,332.81	2,516	1,913	1,003	5.76	174
1961	1,385.30	1,481	1,126	606	6.07	100
1962	1,356.53	1,438	1,093	603	6.38	95
1964	4,568.35	4,755	3,615	2,095	7.03	298
1965	24,292.95	25,045	19,042	11,324	7.36	1,539
1966	8,420.37	8,593	6,533	3,992	7.71	518
1967	10,442.42	10,545	8,017	5,036	8.07	624
1968	7,162.42	7,154	5,439	3,514	8.44	416
1969	15,718.49	15,522	11,801	7,847	8.82	890
1970	12,358.06	12,060	9,169	6,279	9.21	682
1971	13,360.27	12,875	9,789	6,911	9.62	718
1972	14,753.92	14,034	10,670	7,772	10.04	774
1973	3,831.47	3,595	2,733	2,056	10.47	196
1974	3,355.56	3,104	2,360	1,834	10.92	168
1975	2,342.66	2,135	1,623	1,305	11.38	115
1976	4,296.27	3,854	2,930	2,440	11.86	206
1977	4,450.90	3,928	2,986	2,578	12.35	209
1978	4,950.75	4,295	3,265	2,923	12.85	227
1979	43,408.68	36,988	28,122	26,139	13.37	1,955
1980	52,640.97	44,024	33,471	32,330	13.90	2,326
1981	43,846.13	35,951	27,333	27,475	14.45	1,901
1982	23,746.85	19,075	14,503	15,181	15.01	1,011
1983	37,210.77	29,259	22,245	24,268	15.58	1,558
1984	55,436.65	42,617	32,401	36,895	16.17	2,282
1985	61,187.10	45,945	34,932	41,552	16.77	2,478
1986	76,624.61	56,146	42,687	53,094	17.38	3,055
1987	86,700.63	61,903	47,064	61,312	18.01	3,404
1988	93,159.23	64,740	49,221	67,228	18.65	3,605
1989	206,477.56	139,496	106,058	152,039	19.30	7,878

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2802 SERVICES - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-R2						
NET SALVAGE PERCENT.. -25						
1990	213,237.65	139,873	106,345	160,202	19.96	8,026
1991	257,712.22	163,831	124,560	197,580	20.64	9,573
1992	127,547.10	78,464	59,656	99,778	21.33	4,678
1993	269,441.96	160,220	121,814	214,988	22.02	9,763
1994	145,812.25	83,625	63,580	118,685	22.73	5,222
1995	111,689.80	61,663	46,882	92,730	23.45	3,954
1996	104,833.83	55,600	42,272	88,770	24.18	3,671
1997	110,475.32	56,159	42,697	95,397	24.92	3,828
1998	87,899.98	42,720	32,480	77,395	25.67	3,015
1999	75,282.61	34,885	26,523	67,580	26.43	2,557
2000	136,850.36	60,279	45,830	125,233	27.20	4,604
2001	1,595.90	666	506	1,489	27.98	53
2003	1,070.42	396	301	1,037	29.56	35
2006	656,184.70	195,100	148,333	671,898	32.01	20,990
2007	12,541.19	3,419	2,599	13,077	32.84	398
2008	25,519.72	6,319	4,804	27,096	33.68	805
2009	4,656,522.90	1,036,658	788,165	5,032,489	34.52	145,785
2010	25,030.05	4,932	3,750	27,538	35.38	778
2011	162,192.38	27,804	21,139	181,601	36.24	5,011
2012	56,682.08	8,249	6,272	64,581	37.11	1,740
2013	40,149.20	4,803	3,652	46,534	37.98	1,225
2014	142,609.73	13,327	10,132	168,130	38.86	4,327
2015	209,523.32	14,030	10,667	251,237	39.75	6,320
2016	160,248.97	6,438	4,894	195,417	40.65	4,807
2017	100,998.40	1,352	1,028	125,220	41.55	3,014
	8,822,095.39	2,985,829	2,270,659	8,756,960		294,302

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.8 3.34

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2803 SERVICES - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-S0.5						
NET SALVAGE PERCENT.. -25						
1965	5,254.09	4,462	5,825	743	15.39	48
1966	773.54	649	847	120	15.79	8
1967	810.37	671	876	137	16.20	8
1968	12,086.11	9,877	12,894	2,214	16.62	133
1969	11,350.74	9,152	11,948	2,240	17.04	131
1970	18,054.45	14,359	18,745	3,823	17.46	219
1971	69,800.10	54,731	71,449	15,801	17.89	883
1972	174,537.30	134,902	176,109	42,063	18.32	2,296
1973	157,967.28	120,286	157,029	40,430	18.76	2,155
1974	119,319.39	89,458	116,784	32,365	19.21	1,685
1975	119,614.75	88,279	115,245	34,273	19.66	1,743
1976	57,497.56	41,745	54,497	17,375	20.12	864
1977	113,705.51	81,193	105,994	36,138	20.58	1,756
1978	88,828.43	62,342	81,385	29,651	21.05	1,409
1979	334,482.97	230,567	300,996	117,108	21.53	5,439
1980	500,555.61	338,789	442,276	183,419	22.01	8,333
1981	397,802.81	264,062	344,723	152,531	22.51	6,776
1982	382,099.72	248,761	324,748	152,877	23.00	6,647
1983	265,673.06	169,436	221,192	110,899	23.51	4,717
1984	258,510.48	161,369	210,661	112,477	24.03	4,681
1985	399,532.13	243,984	318,512	180,903	24.55	7,369
1986	510,265.16	304,565	397,598	240,233	25.08	9,579
1987	761,609.15	443,875	579,462	372,549	25.62	14,541
1988	954,667.37	542,716	708,495	484,839	26.17	18,527
1989	1,340,311.48	742,750	969,632	705,757	26.72	26,413
1990	2,033,101.00	1,096,502	1,431,441	1,109,935	27.29	40,672
1991	1,914,235.73	1,003,490	1,310,018	1,082,777	27.87	38,851
1992	1,656,338.14	842,828	1,100,280	970,143	28.46	34,088
1993	1,908,818.09	941,978	1,229,716	1,156,307	29.05	39,804
1994	2,032,341.66	970,646	1,267,141	1,273,286	29.66	42,929
1995	1,463,016.40	675,127	881,353	947,418	30.28	31,289
1996	1,502,954.48	668,890	873,210	1,005,483	30.91	32,529
1997	1,946,512.60	833,351	1,087,908	1,345,233	31.56	42,625
1998	2,464,846.13	1,013,545	1,323,144	1,757,914	32.21	54,577
1999	874,844.47	344,470	449,692	643,864	32.88	19,582
2000	515,563.20	193,871	253,091	391,363	33.56	11,662
2001	579,696.71	207,423	270,783	453,838	34.26	13,247
2002	2,982,677.73	1,012,880	1,322,276	2,406,071	34.96	68,824
2003	1,971,456.74	632,000	825,052	1,639,269	35.69	45,931
2004	188,451.07	56,830	74,189	161,375	36.42	4,431
2005	2,687,126.79	757,837	989,327	2,369,581	37.17	63,750

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2803 SERVICES - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-S0.5						
NET SALVAGE PERCENT.. -25						
2006	38,225,749.48	10,014,191	13,073,144	34,709,043	37.94	914,840
2007	5,238,546.15	1,265,960	1,652,663	4,895,520	38.72	126,434
2008	3,709,549.97	819,208	1,069,445	3,567,492	39.52	90,271
2009	20,271,346.22	4,048,948	5,285,747	20,053,436	40.33	497,234
2010	3,971,135.58	706,316	922,069	4,041,850	41.17	98,175
2011	2,497,156.15	388,870	507,655	2,613,790	42.02	62,203
2012	2,778,385.76	370,463	483,625	2,989,357	42.88	69,714
2013	2,812,786.31	309,828	404,469	3,111,514	43.77	71,088
2014	3,003,550.58	260,483	340,050	3,414,388	44.67	76,436
2015	4,309,411.89	270,469	353,087	5,033,678	45.59	110,412
2016	9,234,939.03	351,159	458,424	11,085,250	46.54	238,188
2017	16,724,295.16	213,444	278,643	20,626,726	47.51	434,155
	146,553,942.78	34,673,987	45,265,564	137,926,864		3,500,301

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.4 2.39

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 17-L0						
NET SALVAGE PERCENT.. 0						
1958	128.59	115	187-	316	1.82	174
1959	704.51	624	1,013-	1,718	1.94	886
1960	280.89	247	401-	682	2.07	329
1961	836.62	728	1,182-	2,019	2.20	918
1962	1,202.66	1,038	1,686-	2,889	2.33	1,240
1963	153.75	132	214-	368	2.46	150
1964	93.57	79	128-	222	2.59	86
1965	28,363.23	23,808	38,666-	67,029	2.73	24,553
1966	531.00	442	718-	1,249	2.86	437
1967	1,588.58	1,308	2,124-	3,713	3.00	1,238
1968	13,271.58	10,812	17,559-	30,831	3.15	9,788
1969	14,570.19	11,750	19,083-	33,653	3.29	10,229
1970	7,619.27	6,078	9,871-	17,490	3.44	5,084
1971	8,533.97	6,732	10,933-	19,467	3.59	5,423
1972	1,711.29	1,335	2,168-	3,879	3.74	1,037
1973	4,531.17	3,494	5,674-	10,205	3.89	2,623
1974	29.73	23	37-	67	4.05	17
1975	145.55	110	179-	325	4.21	77
1976	1,833.66	1,362	2,212-	4,046	4.37	926
1977	5,083.23	3,726	6,051-	11,134	4.54	2,452
1978	1,775.03	1,283	2,084-	3,859	4.71	819
1979	12,230.63	8,720	14,162-	26,393	4.88	5,408
1980	27,624.16	19,402	31,510-	59,134	5.06	11,687
1981	21,297.47	14,733	23,927-	45,224	5.24	8,631
1982	5,012.74	3,412	5,541-	10,554	5.43	1,944
1983	38,306.60	25,643	41,646-	79,953	5.62	14,227
1984	28,616.25	18,836	30,591-	59,207	5.81	10,191
1985	37,264.49	24,112	39,160-	76,424	6.00	12,737
1986	53,386.38	33,885	55,032-	108,418	6.21	17,459
1987	34,282.52	21,356	34,684-	68,967	6.41	10,759
1988	34,311.24	20,950	34,024-	68,335	6.62	10,323
1989	145,939.98	87,221	141,653-	287,593	6.84	42,046
1990	90,321.41	52,812	85,770-	176,091	7.06	24,942
1991	71,684.98	40,945	66,497-	138,182	7.29	18,955
1992	79,232.37	44,184	71,758-	150,990	7.52	20,078
1993	70,785.89	38,474	62,484-	133,270	7.76	17,174
1994	59,849.79	31,685	51,459-	111,309	8.00	13,914
1995	27,621.19	14,217	23,089-	50,710	8.25	6,147
1996	122,541.46	61,198	99,390-	221,931	8.51	26,079
1997	229,251.26	110,850	180,028-	409,279	8.78	46,615
1998	195,151.87	91,263	148,217-	343,369	9.05	37,941

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2810 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 17-L0						
NET SALVAGE PERCENT.. 0						
1999	447,398.89	201,857	327,830-	775,229	9.33	83,090
2000	264,876.88	114,988	186,748-	451,625	9.62	46,946
2001	162,012.57	67,569	109,737-	271,750	9.91	27,422
2002	97,658.35	38,948	63,254-	160,912	10.22	15,745
2003	26,856.07	10,221	16,600-	43,456	10.53	4,127
2004	76,432.12	27,650	44,905-	121,337	10.85	11,183
2005	64,964.46	22,202	36,058-	101,022	11.19	9,028
2006	98,010.93	31,536	51,217-	149,228	11.53	12,943
2007	182,624.89	55,003	89,329-	271,954	11.88	22,892
2008	277,583.13	77,723	126,227-	403,810	12.24	32,991
2009	16,656.48	4,292	6,971-	23,627	12.62	1,872
2010	340,364.64	80,084	130,062-	470,427	13.00	36,187
2011	47,214.89	9,971	16,194-	63,409	13.41	4,728
2012	1,591,636.23	296,792	482,010-	2,073,646	13.83	149,938
2013	956,114.12	152,414	247,531-	1,203,645	14.29	84,230
2014	827,080.53	108,008	175,412-	1,002,493	14.78	67,828
2015	1,581,903.07	157,257	255,396-	1,837,299	15.31	120,006
2016	2,268,593.86	146,801	238,415-	2,507,009	15.90	157,674
2017	3,354,917.02	80,921	131,421-	3,486,338	16.59	210,147
	14,160,599.88	2,523,361	4,098,109-	18,258,709		1,524,720

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.0 10.77

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-S0						
NET SALVAGE PERCENT.. 0						
1960	52.10	51	37	15	0.92	15
1961	15.86	15	11	5	1.29	4
1962	54.96	52	38	17	1.66	10
1963	275.46	257	186	89	2.03	44
1964	237.55	219	158	80	2.40	33
1965	450.75	409	296	155	2.78	56
1966	1,058.18	947	685	373	3.15	118
1967	1,380.10	1,218	881	499	3.53	141
1968	2,097.85	1,824	1,319	779	3.92	199
1969	3,728.18	3,194	2,311	1,417	4.30	330
1970	3,323.93	2,804	2,028	1,296	4.69	276
1971	3,716.37	3,087	2,233	1,483	5.08	292
1972	5,533.22	4,524	3,273	2,260	5.47	413
1973	7,113.23	5,724	4,141	2,972	5.86	507
1974	2,442.14	1,933	1,398	1,044	6.26	167
1975	953.97	742	537	417	6.66	63
1977	774.41	582	421	353	7.46	47
1978	1,467.80	1,083	783	685	7.87	87
1979	9,186.23	6,651	4,811	4,375	8.28	528
1980	19,747.71	14,021	10,143	9,605	8.70	1,104
1981	16,435.29	11,444	8,279	8,156	9.11	895
1982	12,965.69	8,843	6,397	6,569	9.54	689
1983	11,575.00	7,732	5,593	5,982	9.96	601
1984	16,000.07	10,459	7,566	8,434	10.39	812
1985	24,377.14	15,585	11,274	13,103	10.82	1,211
1986	23,461.59	14,656	10,602	12,860	11.26	1,142
1987	42,824.07	26,123	18,897	23,927	11.70	2,045
1988	56,632.55	33,696	24,376	32,257	12.15	2,655
1989	42,996.65	24,938	18,040	24,957	12.60	1,981
1990	117,572.92	66,390	48,026	69,547	13.06	5,325
1991	99,850.84	54,851	39,679	60,172	13.52	4,451
1992	47,251.71	25,217	18,242	29,010	13.99	2,074
1993	174,840.08	90,509	65,474	109,366	14.47	7,558
1994	199,170.07	99,918	72,280	126,890	14.95	8,488
1995	251,186.40	121,908	88,188	162,998	15.44	10,557
1996	478,386.58	224,363	162,303	316,084	15.93	19,842
1997	715,160.89	323,253	233,840	481,321	16.44	29,277
1998	380,645.36	165,581	119,780	260,865	16.95	15,390
1999	335,414.82	140,093	101,343	234,072	17.47	13,399
2000	568,873.53	227,549	164,608	404,266	18.00	22,459
2001	142,202.38	54,321	39,296	102,906	18.54	5,550

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2820 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-S0						
NET SALVAGE PERCENT.. 0						
2002	121,438.54	44,164	31,948	89,491	19.09	4,688
2003	220,445.63	76,054	55,017	165,429	19.65	8,419
2004	157,154.72	51,232	37,061	120,094	20.22	5,939
2005	423,344.34	129,683	93,812	329,532	20.81	15,835
2006	881,695.05	252,456	182,625	699,070	21.41	32,652
2007	325,415.70	86,453	62,540	262,876	22.03	11,933
2008	147,924.38	36,193	26,182	121,742	22.66	5,373
2009	445,182.05	99,129	71,709	373,473	23.32	16,015
2010	928,193.07	185,945	134,511	793,682	23.99	33,084
2011	33,895.35	6,011	4,348	29,547	24.68	1,197
2012	2,543,181.43	389,946	282,085	2,261,096	25.40	89,020
2013	375,536.56	48,193	34,863	340,674	26.15	13,028
	10,424,840.45	3,202,225	2,316,474	8,108,367		398,018

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.4 3.82

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-R1.5						
NET SALVAGE PERCENT.. 0						
1929	1,637.67	1,638	1,638			
1930	77.27	77	77			
1932	8.05	8	8			
1935	6.32	6	6			
1936	109.16	107	109			
1937	196.67	191	197			
1938	336.39	323	336			
1939	220.83	210	221			
1940	95.96	91	96			
1941	330.14	310	330			
1942	220.72	206	221			
1945	4.07	4	4			
1946	363.22	330	363			
1947	423.67	383	424			
1948	1,856.51	1,668	1,857			
1949	2,944.77	2,629	2,945			
1950	2,169.88	1,924	2,170			
1951	3,745.57	3,299	3,746			
1952	3,106.10	2,716	3,106			
1953	3,080.49	2,674	3,080			
1954	2,791.10	2,404	2,791			
1955	4,658.79	3,982	4,659			
1956	4,722.92	4,004	4,723			
1957	2,352.09	1,978	2,352			
1958	6,854.56	5,715	6,855			
1959	5,657.23	4,677	5,657			
1960	4,351.11	3,565	4,316	35	7.59	5
1961	4,843.82	3,933	4,762	82	7.90	10
1962	8,415.74	6,769	8,195	221	8.22	27
1963	8,839.65	7,040	8,524	316	8.55	37
1964	9,069.75	7,150	8,657	413	8.89	46
1965	5,591.37	4,363	5,282	309	9.23	33
1966	11,607.69	8,960	10,848	760	9.58	79
1967	8,458.27	6,455	7,815	643	9.95	65
1968	7,457.73	5,625	6,810	648	10.32	63
1969	16,501.05	12,293	14,884	1,617	10.71	151
1970	17,490.79	12,864	15,575	1,916	11.11	172
1971	19,163.35	13,912	16,844	2,319	11.51	201
1972	12,065.45	8,638	10,458	1,607	11.93	135
1973	6,582.16	4,644	5,623	959	12.37	78
1974	8,502.25	5,909	7,154	1,348	12.81	105

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2830 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-R1.5						
NET SALVAGE PERCENT.. 0						
1975	1,205.17	824	998	207	13.27	16
1976	946.41	637	771	175	13.74	13
1977	633.92	419	507	127	14.22	9
1978	3,792.57	2,464	2,983	810	14.71	55
1979	22,033.75	14,049	17,010	5,024	15.22	330
1980	66,699.38	41,703	50,491	16,208	15.74	1,030
1981	15,982.05	9,791	11,854	4,128	16.27	254
1982	5,514.75	3,306	4,003	1,512	16.82	90
1983	15,175.58	8,899	10,774	4,402	17.37	253
1984	8,636.97	4,948	5,991	2,646	17.94	147
1985	11,523.54	6,442	7,800	3,724	18.52	201
1986	41,827.07	22,796	27,600	14,227	19.11	744
1987	42,238.81	22,417	27,141	15,098	19.71	766
1988	51,670.22	26,672	32,293	19,377	20.32	954
1989	111,363.99	55,815	67,577	43,787	20.95	2,090
1990	80,442.85	39,111	47,353	33,090	21.58	1,533
1991	69,150.83	32,567	39,430	29,721	22.22	1,338
1992	37,239.44	16,953	20,526	16,713	22.88	730
1993	50,769.55	22,314	27,016	23,754	23.54	1,009
1994	103,994.56	44,049	53,332	50,663	24.21	2,093
1995	95,523.86	38,915	47,116	48,408	24.89	1,945
1996	58,366.24	22,818	27,626	30,740	25.58	1,202
1997	89,944.37	33,665	40,759	49,185	26.28	1,872
1998	171,961.53	61,497	74,456	97,506	26.98	3,614
1999	200,915.85	68,408	82,824	118,092	27.70	4,263
2002	107,584.04	31,046	37,588	69,996	29.88	2,343
2004	1,121,016.28	283,987	343,832	777,184	31.36	24,783
2005	527,882.60	124,179	150,348	377,535	32.12	11,754
2006	385,715.47	83,847	101,516	284,199	32.87	8,646
2007	532,421.12	105,978	128,311	404,110	33.64	12,013
2008	681,749.18	123,199	149,161	532,588	34.41	15,478
2009	642,936.92	104,400	126,400	516,537	35.18	14,683
2010	559,284.10	80,296	97,217	462,067	35.97	12,846
2012	177,605.83	18,860	22,835	154,771	37.54	4,123
2013	252,509.76	22,004	26,641	225,869	38.34	5,891
2014	107,310.54	7,282	8,816	98,494	39.15	2,516
	6,650,479.43	1,740,231	2,104,614	4,545,865		142,834

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 31.8 2.15

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. 0						
1946	98.10	92	98			
1947	240.46	224	240			
1948	247.76	229	248			
1949	419.58	386	420			
1950	520.99	477	521			
1951	721.75	657	722			
1952	1,381.41	1,250	1,381			
1953	1,125.46	1,013	1,125			
1954	1,661.98	1,487	1,662			
1955	1,807.17	1,607	1,807			
1956	1,854.61	1,638	1,855			
1957	1,450.43	1,273	1,450			
1958	5,698.52	4,966	5,699			
1959	6,654.67	5,756	6,655			
1960	1,690.03	1,451	1,690			
1961	817.96	697	818			
1962	4,684.88	3,955	4,685			
1963	1,352.08	1,131	1,352			
1964	2,242.55	1,859	2,243			
1965	886.45	727	886			
1966	2,317.11	1,881	2,317			
1967	2,216.26	1,780	2,216			
1968	1,667.03	1,323	1,667			
1969	3,115.15	2,442	3,115			
1970	1,868.05	1,445	1,868			
1971	4,071.13	3,106	4,071			
1972	3,212.70	2,417	3,213			
1973	3,081.21	2,283	3,081			
1974	201.00	147	201			
1975	719.86	516	720			
1976	42.27	30	42			
1977	40.44	28	40			
1978	78.45	53	78			
1979	5,751.37	3,830	5,751			
1980	12,999.42	8,481	12,759	240	17.38	14
1981	4,703.22	3,003	4,518	185	18.07	10
1982	1,068.30	667	1,003	65	18.77	3
1983	2,635.98	1,608	2,419	217	19.49	11
1984	4,792.34	2,854	4,293	499	20.22	25
1985	2,226.27	1,293	1,945	281	20.97	13
1986	14,446.29	8,171	12,292	2,154	21.72	99

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2840 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
NET SALVAGE PERCENT.. 0						
1987	31,497.93	17,330	26,071	5,427	22.49	241
1988	29,646.92	15,855	23,852	5,795	23.26	249
1989	92,354.67	47,932	72,107	20,248	24.05	842
1990	41,853.06	21,052	31,670	10,183	24.85	410
1991	33,028.90	16,078	24,187	8,842	25.66	345
1992	86,714.10	40,790	61,363	25,351	26.48	957
1993	50,870.56	23,085	34,728	16,143	27.31	591
1994	119,801.20	52,353	78,758	41,043	28.15	1,458
1995	116,845.14	49,075	73,827	43,018	29.00	1,483
1996	68,777.95	27,704	41,677	27,101	29.86	908
1997	89,844.32	34,626	52,090	37,754	30.73	1,229
1998	115,698.10	42,577	64,051	51,647	31.60	1,634
1999	217,759.31	76,259	114,721	103,038	32.49	3,171
2000	131,806.52	43,812	65,909	65,898	33.38	1,974
2001	80,828.88	25,413	38,230	42,599	34.28	1,243
2002	226,968.63	67,228	101,135	125,834	35.19	3,576
2004	1,449,088.43	375,894	565,481	883,607	37.03	23,862
2005	539,690.40	129,957	195,503	344,187	37.96	9,067
2006	285,473.32	63,432	95,425	190,048	38.89	4,887
2007	715,836.45	145,458	218,822	497,014	39.84	12,475
2009	400,831.83	66,217	99,614	301,218	41.74	7,217
2010	740,119.44	108,205	162,780	577,339	42.69	13,524
2013	44,260.55	3,904	5,873	38,388	45.59	842
	5,816,407.30	1,572,469	2,351,040	3,465,368		92,360

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 37.5 1.59

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-R2						
NET SALVAGE PERCENT.. -10						
1952	250.87	254	276			
1953	1,403.07	1,407	1,543			
1954	106.00	106	117			
1955	309.42	306	340			
1959	1,029.10	985	1,132			
1962	1,004.94	938	1,105			
1963	743.50	687	818			
1965	2,026.70	1,839	2,229			
1966	536.44	482	590			
1967	1,344.27	1,195	1,479			
1968	553.04	486	608			
1969	37,218.79	32,343	40,941			
1970	1,375.85	1,182	1,513			
1971	4,894.93	4,151	5,384			
1972	2,142.73	1,794	2,357			
1973	157.82	130	174			
1979	1,335.60	1,001	1,469			
1980	13,904.37	10,233	15,295			
1983	20,354.71	14,085	22,390			
1984	12,728.85	8,611	14,002			
1985	8,568.64	5,662	9,426			
1986	9,813.01	6,328	10,794			
1987	5,535.59	3,478	6,089			
1988	11,789.80	7,210	12,969			
1989	6,120.05	3,639	6,732			
1990	68,931.92	39,790	74,185	1,640	19.96	82
1991	25,260.80	14,132	26,348	1,439	20.64	70
1992	16,357.02	8,855	16,509	1,484	21.33	70
1993	21,598.41	11,302	21,072	2,686	22.02	122
1994	16,831.84	8,495	15,838	2,677	22.73	118
1995	17,312.42	8,411	15,682	3,362	23.45	143
1996	10,462.79	4,883	9,104	2,405	24.18	99
1997	7,822.30	3,499	6,524	2,081	24.92	84
1998	19,439.49	8,314	15,501	5,882	25.67	229
1999	38,358.37	15,642	29,163	13,031	26.43	493
2000	14,472.84	5,610	10,459	5,461	27.20	201
2001	10,892.69	4,000	7,458	4,524	27.98	162
2002	118.73	41	76	55	28.77	2
2003	3,371.40	1,098	2,047	1,662	29.56	56
2004	11,015.52	3,355	6,255	5,862	30.37	193
2005	2,158.71	612	1,141	1,234	31.18	40

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2850 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIVOR CURVE.. IOWA 42-R2						
NET SALVAGE PERCENT.. -10						
2006	10,031.84	2,625	4,895	6,140	32.01	192
2011	10,291.82	1,553	2,896	8,425	36.24	232
2014	5,107.24	420	783	4,835	38.86	124
	455,084.24	251,169	425,708	74,885		2,712
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					27.6	0.60

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2851 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - ELECTRONIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIVOR CURVE.. IOWA 25-R2.5						
NET SALVAGE PERCENT.. -10						
1993	29,106.64	24,064	26,079	5,938	6.21	956
1995	12,620.37	9,868	10,694	3,188	7.23	441
2007	23,063.81	9,519	10,316	15,054	15.62	964
	64,790.82	43,451	47,089	24,181		2,361

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.2 3.64

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2870 OTHER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 17-R3						
NET SALVAGE PERCENT.. 0						
1999	21,446.76	17,927	22,692	1,245-		
	21,446.76	17,927	22,692	1,245-		
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					0.0	0.00

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2871 STREET LIGHTING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. 0						
1996	8,308.51	4,707	6,195	2,114	15.17	139
1997	15,626.37	8,523	11,218	4,408	15.91	277
1998	4,355.23	2,281	3,002	1,353	16.67	81
	28,290.11	15,511	20,415	7,875		497

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.8 1.76

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2910 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2000	13,861.47	12,129	13,921		60-	
	13,861.47	12,129	13,921		60-	
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					0.0	0.00

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2911 OFFICE FURNITURE AND EQUIPMENT - ELECTRONIC DATA PROCESSING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2013	10,778.22	9,700	7,675	3,103	0.50	3,103
2014	46,511.90	32,558	25,760	20,752	1.50	13,835
2015	63,728.72	31,864	25,211	38,518	2.50	15,407
2016	11,761.04	3,528	2,791	8,970	3.50	2,563
2017	177,875.04	17,788	14,074	163,801	4.50	36,400
	310,654.92	95,438	75,511	235,144		71,308

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.3 22.95

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2921 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIVOR CURVE.. IOWA 14-R1.5						
NET SALVAGE PERCENT.. +5						
1995	2,620.51	2,209	2,489			
1997	6,264.80	5,046	5,952			
1998	8,890.83	6,980	8,446			
1999	26,146.76	19,978	24,839			
2000	3,385.80	2,509	3,217			
2001	18,536.57	13,283	19,428	1,819-		
	65,845.27	50,005	64,371	1,818-		
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					0.0	0.00

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2940 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1993	89,374.01	87,587	83,063	6,311	0.50	6,311
1994	47,440.13	44,594	42,291	5,149	1.50	3,433
1995	10,176.65	9,159	8,686	1,491	2.50	596
1996	26,062.82	22,414	21,256	4,807	3.50	1,373
1997	81,327.44	66,689	63,244	18,083	4.50	4,018
1999	428,478.41	317,074	300,696	127,782	6.50	19,659
2001	57,006.96	37,625	35,682	21,325	8.50	2,509
2002	42,172.04	26,147	24,796	17,376	9.50	1,829
2003	18,721.21	10,858	10,297	8,424	10.50	802
2004	46,609.77	25,169	23,869	22,741	11.50	1,977
2005	54,739.69	27,370	25,956	28,784	12.50	2,303
2006	6,587.17	3,030	2,874	3,713	13.50	275
2007	18,357.55	7,710	7,312	11,046	14.50	762
2008	110,147.47	41,856	39,694	70,453	15.50	4,545
2009	15,619.06	5,310	5,036	10,583	16.50	641
2010	13,247.88	3,974	3,769	9,479	17.50	542
2011	27,057.60	7,035	6,671	20,387	18.50	1,102
2012	5,455.52	1,200	1,138	4,318	19.50	221
2013	14,118.06	2,541	2,410	11,708	20.50	571
2014	96,265.62	13,477	12,781	83,485	21.50	3,883
2015	8,688.89	869	824	7,865	22.50	350
2016	36,675.87	2,201	2,087	34,589	23.50	1,472
2017	24,442.26	489	464	23,978	24.50	979
	1,278,772.08	764,378	724,896	553,876		60,153

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.2 4.70

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2970 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2011	7,340.21	3,181	1,944	5,396	8.50	635
2015	68.68	11	7	62	12.50	5
2016	37,092.76	3,709	2,267	34,826	13.50	2,580
2017	2,785,958.62	92,856	56,754	2,729,205	14.50	188,221
	2,830,460.27	99,757	60,972	2,769,488		191,441

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5 6.76

DUKE ENERGY KENTUCKY
GAS PLANT

ACCOUNT 2980 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	83,590.71	60,603	22,886	60,704	5.50	11,037
	83,590.71	60,603	22,886	60,704		11,037
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					5.5	13.20

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Natural Gas Rates; 2) Approval of a Decoupling Mechanism; 3) Approval of New Tariffs; and 4) All Other Required Approvals, Waivers, and Relief.	)))))))	Case No. 2018-00261

DIRECT TESTIMONY OF

WILLIAM DON WATHEN JR.

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

August 31, 2018

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Attachments:

WDW-1 – Base Revenue Decline Since 2009 Rate Case

WDW-2 – Revenue Requirement Using Rate Base vs. Capitalization

WDW-3 – Deferral for Impact of TCJA on Base Rates Since January 1, 2018

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is William Don Wathen Jr., and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS), as Director of Rates and Regulatory Strategy for Ohio and Kentucky. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky or Company) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I received Bachelor Degrees in Business and Chemical Engineering, and a Master of Business Administration Degree, all from the University of Kentucky. After completing graduate studies, I was employed by Kentucky Utilities Company as a planning analyst. In 1989, I began employment with the Indiana Utility Regulatory Commission as a senior engineer. From 1992 until mid-1998, I was employed by SVBK Consulting Group, where I held several positions as a consultant, focusing principally on utility rate matters. I was hired by Duke Energy (then Cinergy Services, Inc.), in 1998, as an Economic and Financial Specialist in the Budgets and Forecasts Department. In 1999, I was promoted to the position of Manager, Financial Forecasts. In August 2003, I was named to the position of Director - Rates. On December 1, 2009, I took the position of General Manager and Vice President of

Rates, Ohio and Kentucky. On July 3, 2012, as a result of the merger between Duke Energy and Progress Energy Corp., my title changed to Director of Rates and Regulatory Strategy for Ohio and Kentucky.

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AS DIRECTOR OF RATES AND REGULATORY STRATEGY FOR OHIO AND KENTUCKY.

A. As Director of Rates and Regulatory Strategy for Ohio and Kentucky, I am responsible for all state and federal rate matters involving Duke Energy Kentucky and its parent, Duke Energy Ohio, Inc.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. Yes. I have previously testified in a number of cases before the Kentucky Public Service Commission (Commission) and other regulatory commissions.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THESE PROCEEDINGS?

A. On behalf of Duke Energy Kentucky, I provide some background for its request to increase base natural gas revenues and the drivers behind the Company's application. I also support other requests including: (1) the reasonableness of calculating the Company's natural gas rates on its rate base; and (2) creation of a decoupling mechanism in the form of a weather normalization rider similar to those already in place for other Kentucky jurisdictional natural gas utilities. I support the reasonableness of the Company's proposed rate increase and sponsor Filing Requirement (FR) 16(1)(b)(1) to comply with the Commission's filing requirements.

II. BACKGROUND AND DRIVERS FOR REQUESTED RATE INCREASE

Q. WHEN DID THE COMMISSION APPROVE DUKE ENERGY KENTUCKY'S CURRENT NATURAL GAS RATES?

A. The Company's current base rates for natural gas service were approved by the Commission on December 29, 2009, in Case No. 2009-00202 (2009 Rate Case). The test period in that proceeding was the twelve months ended January 31, 2011, and the rate base and capitalization used in that case was the thirteen-month average from January 31, 2010, through January 31, 2011. The current rates went into effect on January 4, 2010. The timing of the last rate case was significant in that the Company completed its Accelerated Main Replacement Program (AMRP).

Q. WHAT PERIOD IS DUKE ENERGY KENTUCKY USING FOR ITS FORECASTED TEST PERIOD IN THIS CASE?

A. The Company's Application in this case requests an increase in its overall natural gas base revenues based on the twelve-month period April 1, 2019, through March 31, 2020.

Q. WHY IS DUKE ENERGY KENTUCKY FILING A RATE CASE AT THIS TIME?

A. For the forecasted test period, the Company is projecting that the earned return on its investment in the natural gas system is not providing fair and reasonable compensation to its investors.

Since the time of the last natural gas base rate case, the Company has made significant capital investments in its natural gas delivery system

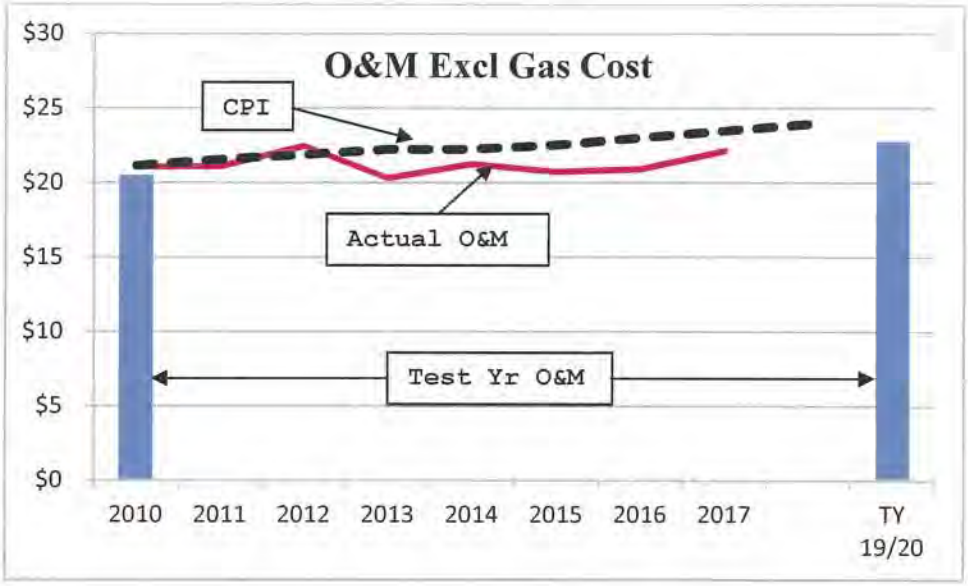
infrastructure. Gross utility plant in the 2009 Rate Case was approximately $389 million. The thirteen-month average of gross plant in this forecasted test period for this case is $589 million. This represents an increase of approximately $200 million in gross utility plant, an increase of over 50 percent. The depreciation, property taxes, and return on this increased investment are the primary drivers of the need for new rates. Importantly, the Company has diligently controlled its operation and maintenance (O&M) over that time. This effort to control costs through efficiency and productivity gains has helped the Company avoid the need for a natural gas base rate increase for more than eight years.

Another driver of the need for a rate case is the end of the Company's Accelerated Service Replacement Program (ASRP). The Company initiated this program with Commission approval in 2016 and, as explained by Duke Energy Kentucky witness Gary J. Hebbeler, is scheduled to be completed as part of the forecasted test period in this case.

Q. PLEASE QUANTIFY THE COMPANY'S SUCCESS IN CONTROLLING ITS O&M EXPENSE SINCE ITS LAST BASE NATURAL GAS RATE CASE.

A. The chart below best demonstrates the fact that the Company has successfully controlled its O&M costs over the last eight years. The bars to the left and right represent the Company's test year O&M expense in its 2009 Rate Case and that projected in this current case, respectfully. The horizontal line shows the Company's O&M, as reported in its Annual Reports filed with the Commission. As this chart shows, the Company's O&M expense has remained relatively flat

since the 2009 Rate Case.



The Company's efforts at managing its costs have enabled it to maintain natural gas rates that are competitive with our peer natural gas utilities operating within the Commonwealth of Kentucky.

Q. HAS LOAD GROWTH OFFSET THE NEED FOR THE PROPOSED INCREASE?

A. No. Although there has been some growth in terms of customer count, the usage per customer has actually declined since the 2009 Rate Case. Many customers are consciously making decisions to control their energy consumption, and equipment such as heaters and water heaters have become more efficient as well. Total retail sales for the test period in the last rate case were 13,246,468 MCF. For the forecasted test period in this proceeding, Duke Energy Kentucky is projecting total retail sales of 13,143,813 MCF, a decrease of almost 1 percent over that period. As shown in Attachment WDW-1, the net impact of higher customer count but much lower consumption has reduced base revenue by about $1.8

million since the 2009 Rate Case.

Q. IS THE COST OF CAPITAL CONTRIBUTING TO OVERALL INCREASE?

A. No. Actually, since the 2009 Rate Case, the cost of capital has decreased. Although the last case was settled with a specified 10.375 return on equity, the return on equity of 9.90 percent being proposed in this case is lower than the rate settled upon in the 2009 Rate Case. Additionally, the cost of debt has also decreased over that period. The Company's long-term debt rate included in the approved rate of return in the 2009 Rate Case was 4.703 percent. The long-term debt interest rate for the forecasted test period in this case has fallen to 4.398 percent. Both the previous and current case included an equity ratio of just under 51%. The significance of the change in cost of capital is that, although the Company's investment has grown since the time of the last rate case, the cost of capital related to the investment has offset a significant portion of the cost of that investment.

Q. THE COMMISSION RECENTLY APPROVED THE COMPANY'S APPLICATION TO IMPLEMENT ADVANCED METERING IN ITS SERVICE TERRITORY. WILL YOU DESCRIBE HOW THAT PROGRAM IS BEING ADDRESSED IN THE RATE CASE?

A. On May 25, 2017, the Commission modified and approved a stipulation reached between the Company and the Attorney General, in Case No. 2016-00152, for a certificate of public convenience and necessity (CPCN) request to implement advanced metering infrastructure (AMI) deployment in its electric and gas service

territories (AMI Case). The Commission's approval of the Company's CPCN occurred later than anticipated in the Company's application in Case No 2016-00152. As a result, the Company's actual AMI deployment is significantly later than the plan submitted in the cost-benefit analysis submitted in that case.

The Company commenced installation of the new metering technology in August 2017 and expects to continue installations through most of 2018 when the deployment is expected to be complete. Because the AMI deployment is projected to be completed prior to the commencement of the forecasted test period in this case, the test period includes the full impact of the complete AMI deployment on the Company's gas distribution business. The most conspicuous benefit is a significant reduction in meter reading expenses (Account 902) dropping from around $777,000 in the prior rate case to below $16,000 in the forecast period used in this case.

III. ADDITIONAL RELIEF REQUESTED

A. ESTABLISHING NATURAL GAS RATES THROUGH BASE RATES

Q. PLEASE EXPLAIN DUKE ENERGY KENTUCKY'S USE OF RATE BASE TO ESTABLISH RATES IN THIS PROCEEDING.

A. Rate base represents the actual value of the physical plant used to provide utility service to customers. The Commission has the option to provide its regulated utilities a return on its capitalization supporting the rate base or to simply use rate base. Numerous examples exist where the Commission has approved base rates relying on capitalization and relying on rate base. For a combination company (*i.e.*, providing both gas and electric service), like Duke Energy Kentucky,

offering both natural gas distribution service and electric service, overall capitalization supports both service types; so, it is necessary to estimate the capitalization assignable to either gas service or electric service. In order to develop this estimate, Duke Energy Kentucky has historically used relative rate base ratios to allocate capitalization (a method very recently approved by the Commission in Duke Energy Kentucky's electric rate case, Case No. 2017-00321[1]). It is much simpler and more straightforward to simply use the rate base, which is easily understood and easily verifiable, than to estimate capitalization. Rate base should be approximately equal to capitalization; so, the choice of using one over the other should not result in materially different results but rate base is an easier and more conventional way to represent investment in utility plant.

Q. IS THE USE OF RATE BASE TO ESTABLISH RATES REASONABLE AND IN THE PUBLIC INTEREST?

A. Yes. Rate base is the predominant basis among most regulators in the United States for reflecting investment in equipment and facilities used to provide utility service. Rate base is calculated relying on the books and records of the utility. Because it requires relatively few (if any) estimates, it is reasonable basis for calculating the return component of the utility's overall cost of service.

Q. HAS THE COMPANY QUANTIFIED THE DIFFERENCE BETWEEN ESTABLISHING NATURAL GAS RATES THROUGH A RETURN ON CAPITALIZATION VERSUS THE RATE BASE METHODOLOGY?

A. The filing requirements applicable to this case require a reconciliation of rate base to capitalization, FR 16(6)(f). In this case, the estimated capitalization is higher

[1] *See* April 13, 2018, Order in Case No. 2017-00321, page 7.

than the rate base; so, applying a return to a higher basis would produce a higher revenue requirement. In this case, using capitalization instead of rate base would produce a revenue requirement more than $2 million higher on an annual basis than the amount the Company is seeking by using rate base. Attachment WDW-2 shows the summary revenue requirement calculation, from Schedule A of the Application, using rate base in one column and capitalization in the other. At least in this case, using rate base produces a lower overall revenue requirement than using capitalization.

Q. HAVE OTHER KENTUCKY NATURAL GAS UTILITIES USED THE RATE BASE METHODOLOGY TO DETERMINE THEIR RATES?

A. Yes. Atmos Energy, Columbia Gas of Kentucky, and Delta Natural Gas have all used rate base as the basis for computing cost of service since at least 2002.[2] In all of these cases, the Commission approved rates that provided a return on rate base rather than capitalization. Although Duke Energy Kentucky natural gas distribution rates have been established using capitalization in past cases, that should not preclude the Company from seeking to use rate base in this case and should not preclude the Commission from approving the use of rate base in this case, especially, since it produces a lower revenue requirement in this case than if capitalization was used instead.

[2] *See* Cases No. 2002-0145, 2007-0008, 2009-0141, 2013-0167, 2016-0162, 2006-0464, 2009-0354, 2013-0148, 2015-0343, 2017-0349, 2004-0067, 2007-0089, and 2010-0116.

B. WEATHER NORMALIZATION ADJUSTMENT

Q. PLEASE DESCRIBE THE COMPANY'S PROPOSAL TO CREATE A WEATHER NORMALIZATION ADJUSTMENT RIDER.

A. In Case No. 2009-00202, the Company proposed to decouple its base revenue from sales by recovering most of its revenue requirement in the form of a fixed monthly bill. As part of a settlement reached in that case, the Company withdrew the request. Any form of decoupling is intended to mitigate the impact to the customer and the Company of changes in volumetric sales. The most significant factors impacting volumetric sales for natural gas are the weather, customer behavior, and improvements in efficiency.

The Company's historical data clearly shows a dramatic decline in weather-normalized usage per customer from the last case. The headwind created by changes in consumption per customer does provide some indication of the challenges faced by gas utilities in recovering its costs of service over time. That trend, albeit decidedly negative for the utility, has been predictable and somewhat gradual. The influence of weather, on the other hand, has a much more profound effect on the Company's ability to recover its costs, not to mention on customer bills. When cost recovery is dependent on volumetric sales, deviations from "normal" weather can mean abrupt changes in a gas utility's ability to recover its costs. During colder-than-normal winters, the Company is likely to over-recover its costs and during warmer-than-normal winters, volumetric sales fall and the Company is likely to under-recover its cost.

Q. WHY IS IT REASONABLE FOR DUKE ENERGY KENTUCKY TO IMPLEMENT A WEATHER NORMALIZATION ADJUSTMENT?

A. Weather normalization adjustment (WNA) mechanisms are common throughout the United States and are also common in Kentucky. Of the five major local distribution companies (LDCs)[3] in Kentucky, Duke Energy Kentucky is the only LDC that currently does not have a mechanism to normalize its base revenue for deviations from normal weather. WNA mechanisms have been used in Kentucky for many years and are familiar to the Commission. Duke Energy Kentucky is proposing in this case to implement such a mechanism modeled after the mechanisms already approved in Kentucky for other LDCs.

Q. HOW WILL THIS MECHANISM WORK?

A. Simply put, the proposed WNA will adjust customers' bills such that the component of their bills, other than the commodity cost of gas, do not fluctuate significantly due to abnormally cold or warm weather.

In the interest of minimizing controversy over the form of the rider, Duke Energy Kentucky is modeling its proposed WNA after a similar mechanism already approved by the Commission and it is similar to a WNA currently in effect for one of its affiliates, Piedmont, operating a gas distribution utility in Tennessee. Using the WNA currently in effect for Atmos Energy,[4] the Company is proposing the WNA as a mechanism to essentially true up volumetric usage

[3] Atmos Energy Corporation, Columbia Gas of Kentucky, Inc., Duke Energy Kentucky, Louisville Gas & Electric Company and Delta Natural Gas Company, Inc..

[4] *See In the Matter of the Application of Western Kentucky Gas Company for an Adjustment of Rates*, Case No. 1999-00070, Ky. P.S.C. Dec. 21, 1999, approving the WNA for Western Kentucky Gas Company (n/k/a Atmos); *See In the Matter of the Application of Atmos Energy Corporation for and Adjustment of Rates and Tariff Modifications* Case No. 2013-00148, Ky. .P.S.C. April 22, 2014, Approving permanent WNA Clause for Atmos.

during the winter months to a base level of consumption. The formula and the manner in which Duke Energy Kentucky proposes to administer the WNA is described more fully in the direct testimony of Bruce Sailers but the WNA adds to or reduces the volumetric charge on customers' bills to decouple usage from the influence of weather.

In short, the WNA will minimize the impact of weather on customer bills and company revenues. It will have a stabilizing effect on Duke Energy Kentucky's earnings. In abnormally cold winters, it minimizes the Company's ability to achieve a rate of return on equity in excess of its authorized rate due to abnormal weather conditions. In abnormally warm winters, it provides earnings protection to the Company and mitigates the need for more frequent rate proceedings.

IV. PREVIOUSLY APPROVED ACCOUNTING DEFERRALS

Q. WILL YOU SUMMARIZE THE ACCOUNTING DEFERRALS FOR WHICH DUKE ENERGY KENTUCKY IS SEEKING BASE RATE RECOVERY IN THIS CASE?

A. Currently, the Company has only one accounting deferral related to its gas business. In Case No. 2016-00159[5], the Commission has approved the Company's request to defer costs related to its Integrity Management Program implemented in response to the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011 ("Pipeline Safety Act of 2011").

In addition, the Company is also seeking deferral of its rate case expenses

[5] *See In the Matter of the Application of Duke Energy Kentucky, Inc., for Approval to Establish a Regulatory Asset.* July 22, 2016.

associated with this case as well as authority to include amortization of this expense in base rates.

Q. ARE THESE DEFERRALS CURRENTLY EARNING CARRYING COSTS?

A. No.

Q. HOW IS THE COMPANY RECOMMENDING THESE DEFERRALS BE RECOVERED IN THIS RATE CASE?

A. The Company is seeking to amortize these deferrals over a five-year period beginning with the implementation of new base rates. The five-year period is consistent with the amortization approved in the Company's most recent electric rate case, Case No. 2017-00321, for similar deferrals.

V. COMPLIANCE WITH COMMISSION DIRECTIVES

Q. ARE YOU FAMILIAR WITH THE VARIOUS REGULATORY COMMITMENTS AND COMMISSION DIRECTIVES IMPOSED ON DUKE ENERGY KENTUCKY AS THEY RELATE TO RETAIL RATEMAKING?

A. Yes. As part of the recent mergers with Duke Energy and Progress Energy[6] and Piedmont Corporation (Piedmont),[7] there are a few commitments made by Duke Energy Kentucky as it relates to the implications of these mergers on retail rates.

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[6] *See In the Matter of the Joint Application of Duke Energy Corporation, Cinergy Corp., Duke Energy Ohio, Inc., Duke Energy Kentucky, Inc., Diamond Acquisitions Corporation, and Progress Energy Inc., for Approval of the indirect Transfer of Control of Duke Energy Kentucky, Inc.,* Case No. 2011-00124 KY. P.S.C. Order (Oct. 28, 2011).

[7] *See In the Matter of the Application of Duke Energy Kentucky, Inc., for a Declaratory Order,* Case No. 2015-00413 (Ky. P.S.C. March 7, 2016).

Q. PLEASE LIST THE COMMITMENTS THAT RELATE TO RATE-MAKING AND COST RECOVERY AND EXPLAIN HOW THE COMPANY HAS COMPLIED WITH THESE COMMITMENTS IN THIS CASE?

A. As part of the resolution of Case No. 2011-0124, Duke Energy Kentucky made numerous commitments. I am addressing the specific commitments that touch on the Company's rate making and cost recovery:

1) Commitment 3: The payment of Progress Energy Stock shall be excluded from the books of Duke Energy Kentucky for retail ratemaking purpose. The Company has not included any such payments in the Company's test year budget.

2) Commitment No. 4: Any acquisition premium paid by Duke Energy for the Progress Energy stock shall not be pushed down to Duke Energy Kentucky. The Company has not included any such payments in its test year budget.

3) Commitment No. 5: No change in control payments shall be allocated to Duke Energy Kentucky retail rate payers. The Company has not included any such payments in its test year budget.

4) Commitment No. 14: The Commission shall have ongoing jurisdiction over the Company's capital structure, financing and cost of capital. The Company has presented its capital structure and costs of capital for the Commission's review in this proceeding.

5) Commitment No. 15: The merger will have no adverse impact on the base rates or the operation of the fuel adjustment clause, gas cost recovery and demand side management clause of Duke Energy Kentucky. There are no such adverse impacts caused by the merger.

6) Commitment No. 16: Duke Energy Kentucky will not seek a higher rate or return on equity than would have been sought if the merger transaction had not occurred. Duke Energy Kentucky presents the direct testimony of Roger A. Morin Ph.D., whose analysis supports the Company's requested return on equity.

7) Commitment No. 17: The accounting and ratemaking treatments of Duke Energy Kentucky's excess accumulated deferred income taxes (ADITs) will not be affected by the merger of Duke Energy and Progress Energy. As demonstrated by the Company's application in this proceeding, there has been no impact to the Company's ADITs.

8) Commitment No. 22, Duke Energy Kentucky will pay dividends only out of retained earnings and to maintain a capital structure that maintains a minimum of thirty-five (35) percent equity. As demonstrated by its application, the Company has maintained an equity ratio that is greater than 35 percent equity. Further, the Company has only paid its dividends out of retained earnings.

9) Commitment No. 44, if the merger between Duke Energy and Progress Energy was not completed, Kentucky customers will not bear any costs of the failed transaction. As the Commission is aware, the merger between

Duke Energy and Progress Energy was completed, so there were no termination payments made or received.

10) Commitment 47, Duke Energy Kentucky committed to aggressively pursue cost-effective demand-side management (DSM) and energy efficiency (EE) programs and to deploy such programs using industry best practices in Kentucky. The Company continues to evaluate and offer cost effective DSM and EE programs, which are filed at least annually with the Commission.

11) Commitment 49, no costs to achieve the merger transaction will be recovered from Duke Energy Kentucky ratepayers. As evidenced by the Company's filing, no costs to achieve the merger transactions have been included in the Company's application.

Most recently, in Case No. 2015-00413, regarding the merger between Duke Energy and Piedmont Natural Gas Company, Duke Energy Kentucky reasserted its commitment that in future rate cases, it will not seek a higher rate or return on equity than would have been sought if the proposed acquisition of Piedmont had not occurred. The Company has presented the Direct Testimony of Dr. Roger A. Morin to support the Company's requested return on equity in this proceeding. Dr. Morin's testimony and recommended range of a reasonable return is accompanied by a thorough analysis that is not reliant upon the Company's history of mergers.

VI. TAX CUTS AND JOBS ACT

Q. PLEASE DESCRIBE HOW THE COMPANY HAS INCORPORATED THE IMPACT OF THE TAX CUTS AND JOBS ACT OF 2017 (TCJA) INTO ITS REVENUE REQUIREMENT CALCULATION IN THIS FILING.

A. As discussed in the direct testimony of Sarah E. Lawler and John Panizza, the Company's revenue requirement includes (1) federal income taxes calculated at the lower 21 percent rate, (2) a proposal to amortize excess accumulated deferred income taxes (EDITs) using the average rate assumption method for 'protected' EDITs and over a ten-year period for 'unprotected' EDITs, and (3) an adjustment related to the Company's Accelerated Service Replacement Program Rider (Rider ASRP) revenue requirement for 2018 to reflect the change in the federal income tax rate that began on January 1, 2018. This last adjustment was made because the Rider ASRP rate that was approved by the Commission for 2018 was determined prior to the passage of the TCJA.

In its electric case, Case No. 2017-00321, the Company proposed a method for calculating the amount of any refunds required for the change in income taxes from January 1, 2018, through the effective date of new base rates. In Attachment WDW-3, I provide a similar calculation, using the same assumptions used in the electric case to calculate the amount of refunds, if any, that would be due in this proceeding.

As can be seen in Attachment WDW-3, using the same methodology from the electric case indicates that any benefit from the lower FIT for the period

January 1, 2018, through March 31, 2019, is more than offset by the higher cost associated with the return on the Company's capitalization from the 2009 Rate Case to the forecasted period in this case. It should be noted that this methodology also mirrors the methodology proposed by the Company in Case No. 2018-0036 except that the capitalization amounts used in that case have been updated for more refined data available as part of the rate case application.

VII. REASONABLENESS OF REQUEST

Q. IS THE COMPANY'S REQUESTED RATE RELIEF REASONABLE?

A. Yes. Duke Energy Kentucky has done a good job of keeping its expenses down over the years; however, the need to continually invest it its gas distribution system, combined with the challenge of reductions in volumetric usage by consumers creates a need for the Company to seek additional rate relief. The overall increase over rates set in 2009 is about eleven percent, which is significantly less than the rate of inflation over that same period.

VIII. FILING REQUIREMENTS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE FR 16(1)(b)(1).

A. FR 16(1)(b)(1) is Duke Energy Kentucky's statement of the reasons for the proposed increase.

IX. CONCLUSION

Q. HAVE YOU REVIEWED DUKE ENERGY KENTUCKY'S APPLICATION IN THESE PROCEEDINGS?

A. Yes. I have also reviewed the testimony and attachments of all Company witnesses. I believe that the Company's total gas revenue requirement is properly computed, the costs of service are properly allocated to customer classes, and the rate design is equitable.

Q. DO YOU BELIEVE DUKE ENERGY KENTUCKY'S RATE REQUEST IS REASONABLE?

A. Yes.

Q. WERE ATTACHMENTS WDW-1, WDW-2, WDW-3, AND FR 16(1)(b)(1) PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, William Don Wathen Jr., Director of Rates & Regulatory Strategy, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

William Don Wathen Jr., Affiant

Subscribed and sworn to before me by William Don Wathen Jr., on this 30th day of AUGUST, 2018.

NOTARY PUBLIC

ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2019

My Commission Expires: 1/5/2019

Duke Energy Kentucky
Base Revenue Loss from Lower Sales

	Annual Bills			Customer Charge	Incr/(Decr) in Revenue
	2009-00202	2018-00261	Difference	Per Month	
Residential Service	1,073,044	1,110,274	37,230	$16.00	$595,680
General Service Commercial	77,136	78,250	1,114	47.50	52,915
General Service Industrial	2,746	2,513	(233)	47.50	(11,068)
General Service Other Public Authorities	4,452	4,482	30	47.50	1,425
Firm Transportation - Large	1,020	1,128	108	430.00	46,440
Interruptible Transportation	288	264	(24)	$430.00	(10,320)
Total Change in Rev From Customer Charges	1,158,686	1,196,911	38,225		$675,073

	Volumetric Sales			Base Volumetric Rate	Incr/(Decr) in Revenue
	2009-00202	2018-00261	Difference		
	MCF	MCF	MCF	$/MCF	
Residential Service	6,850,026	5,915,484	(934,542)	$3.7213	($3,477,711)
General Service Commercial	3,070,778	2,630,680	(440,098)	2.0530	(903,521)
General Service Industrial	385,646	171,720	(213,926)	2.0530	(439,190)
General Service Other Public Authorities	523,797	328,708	(195,089)	2.0530	(400,518)
Firm Transportation - Large	1,185,859	2,617,229	1,431,370	1.7639	2,524,794
Interruptible Transportation	1,230,362	1,479,992	249,630	$0.9493	236,974
Total Change in Rev From Base Volumetric Charges	13,246,468	13,143,813	(102,655)		($2,459,173)
Total Change in BASE Revenue					**($1,784,100)**

	MCF Usage per Customer per Year		Difference	
	2009-00202	2018-00261	Amount	Percent
	MCF	MCF	MCF	
Residential Service	6.38	5.33	(1.06)	-16.5%
General Service Commercial	39.81	33.62	(6.19)	-15.6%
General Service Industrial	140.44	68.33	(72.11)	-51.3%
General Service Other Public Authorities	117.65	73.34	(44.31)	-37.7%
Firm Transportation - Large	1,162.61	2,320.24	1,157.63	99.6%
Interruptible Transportation	4,272.09	5,606.03	1,333.94	31.2%

Duke Energy Kentucky, Inc.
Case No. 2018-00261
Overall Financial Summary

Line No.	Description	Jurisdictional Revenue Requirements Forecasted Period Rate Base	Jurisdictional Revenue Requirements Forecasted Period Capitalization
1	Basis for Return Component	$313,675,239	$336,264,336
2	Operating Income	$14,626,290	$14,626,290
3	Earned Rate of Return (Line 2 / Line 1)	4.660%	4.350%
4	Required Rate of Return	7.181%	7.181%
5	Required Operating Income (Line 1 x Line 4)	$22,525,019	$24,147,142
6	Operating Income Deficiency (Line 5 - Line 2)	$7,898,729	$9,520,852
7	Gross Revenue Conversion Factor	1.3346730	1.3346730
8	Revenue Deficiency (Line 6 x Line 7)	$10,542,220	$12,707,224

Duke Energy Kentucky
Case No. 2018-00261
Adjustment to Test Period Revenue Requirements

		Case No. 2009-00202 [a]	Avg Capitalization From 1/1/18 [b]	Difference	
1	Basis for Return Component of Revenue Requirement	$253,750,235	$328,889,925	$75,139,690	
2	Pre-Tax Return	10.78%	9.24%	-1.54%	Page 3 of 3
3	Increase/(Decrease) in Annual Revenue Requirement	$27,351,443	$30,401,620	**$3,050,176**	(a)(3) - (b)(3)
4	Deferral from Jan 1, 2018, through Mar 31, 2019			**$0**	No request for recovery in Test Period revenue requirement
5	Amortize over five years			**$0**	Line 4 ÷ 5 years

Note: [a] As approved.
[b] Avg of capitalization as of 12/31/17 and 3/31/19. See Page 2 of 3

Duke Energy Kentucky
Case No. 2018-00261
Average Capitalization from January 1, 2018 to March 31, 2019

Line No.			12/31/2017	% of Total
1	Common Equity	(a)	$486,710,962	50.80%
2	Long-Term Debt	(a)	451,576,284	43.60%
3	Short-Term Debt	(a)	30,556,687	5.61%
4	Total Capitalization		$968,843,933	0.00%
	Less:			
5	Gas Non-jurisdictional rate base	(b)	$6,084,744	
6	Electric Non-jurisdictional rate base	(b)	477,422	
7	Non-jurisdictional rate base	(b)	(52,833,599)	
8	Jurisdictional Capitalization		$1,015,115,366	
9	[(b)] Avg of capitalization as of 12/31/17 and 3/31/19. See I(b)		31.834%	
10	Total allocated gas capitalization		$323,151,826	

Notes:
(a) December 31, 2017 capitalization is per filing requirement FR16(7)(h)(11) in Case No. 2017-00321.
(b) Represents rate base ratio and non-jurisdictional rate base for base period in Case No. 2017-00321
(12 months ended 11/30/17) which is the closest approximation calculated by the Company to 12/31/17

			3/31/2019	% of Total
11	Common Equity	(c)	$607,525,090	50.80%
12	Long-Term Debt	(c)	448,518,458	43.60%
13	Short-Term Debt	(c)	130,308,424	5.61%
14	Total Capitalization		$1,186,351,972	0.00%
	Less:			
15	Gas Non-jurisdictional rate base	(d)	$5,965,955	
16	Electric Non-jurisdictional rate base	(d)	(3,255,750)	
17	Non-jurisdictional rate base	(d)	(27,418,363)	
18	Jurisdictional Capitalization		$1,211,060,130	
19	Gas Jurisdictional Rate Base Allocation %	(d)	27.631%	
20	Total allocated gas capitalization		$334,628,025	

Notes:
(c) March 31, 2019 capitalization is per Company Records.
(d) Represents rate base ratio and non-jurisdictional rate base for base period in this case
(12 months ended 11/30/18) which is the closest approximation calculated by the Company to 12/31/19

21	Average 12/31/17 and 3/31/19 allocated gas capitalization	$328,889,925

Duke Energy Kentucky
Case No. 2018-00261
Weighted-Average Cost of Capital (Pre-Tax)

	Approved Capitalization in Case No. 2009-00202 (w/ GRCF @ 35% FIT and 10.375% ROE)					
	13-Mo Avg. Bal.	% of Total	Cost	Weighted Cost	GRCF	Pre-Tax ROR
Common Equity	$411,218,278	50.80%	10.375%	5.270%	1.6437800	8.66%
Long-Term Debt	352,923,437	43.60%	4.703%	2.050%	1.0043490	2.06%
Short-Term Debt	45,403,690	5.61%	1.009%	0.057%	1.0043490	0.06%
Total Capitalization	$809,545,405	100.00%	After-Tax WACC-->	7.377%	Pre-Tax WACC-->	10.78%

	Approved Capitalization in Case No. 2009-00202 (w/ GRCF @ 21% FIT and 10.375% ROE)					
	13-Mo Avg. Bal.	% of Total	Cost	Weighted Cost	GRCF	Pre-Tax ROR
Common Equity	$411,218,278	50.80%	10.375%	5.270%	1.3524750	7.13%
Long-Term Debt	352,923,437	43.60%	4.703%	2.050%	1.0043490	2.06%
Short-Term Debt	45,403,690	5.61%	1.009%	0.057%	1.0043490	0.06%
Total Capitalization	$809,545,405	100.00%	After-Tax WACC-->	7.377%	Pre-Tax WACC-->	9.24%

Notes: (a) See 5chedule J-1, Forecast Period in Application for Case No. 2009-00202.

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

The Electronic Application of Duke Energy Kentucky, Inc., for: 1) An Adjustment of the Natural Gas Rates; 2) Approval of a Decoupling Mechanism; 3) Approval of New Tariffs; and 4) All Other Required Approvals, Waivers, and Relief.	)))))))	Case No. 2018-00261

DIRECT TESTIMONY OF

JAMES E. ZIOLKOWSKI

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

August 31, 2018

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I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is James E. Ziolkowski, and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (DEBS) as Director, Rates & Regulatory Planning. DEBS provides various administrative and other services to Duke Energy Kentucky, Inc., (Duke Energy Kentucky) and other affiliated companies of Duke Energy Corporation (Duke Energy).

Q. PLEASE BRIEFLY SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science degree in Mechanical Engineering from the U.S. Naval Academy in 1979 and a Master of Business Administration degree from Miami University in 1988. I am also a licensed Professional Engineer in the state of Ohio. I received certification as a Chartered Industrial Gas Consultant in 1994 from the Institute of Gas Technology and the American Gas Association. I have attended the EUCI Cost of Service seminar.

After graduating from the Naval Academy, I attended the Naval Nuclear Power School and other follow-on schools. I served as a nuclear-trained officer on various ships in the U.S. Navy through 1986. From 1988 through 1990, I worked for Mobil Oil Corporation as a Marine Marketing Representative in the New York City area.

I joined The Cincinnati Gas & Electric Company n/k/a Duke Energy Ohio,

Inc., (Duke Energy Ohio) in 1990 as a Product Applications Engineer, in which capacity I designed and managed some of Duke Energy Ohio's demand side management programs, including Energy Audits and Interruptible Rates. From 1996 until 1998, I was an Account Engineer and worked with large customers to resolve various service-related issues, particularly in the areas of billing, metering, and demand management. In 1998, I joined the Rate Department, where I focused on rate design and tariff administration. I was appointed to my current position in January 2014.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AS DIRECTOR RATES & REGULATORY PLANNING.

A. As Director Rates & Regulatory Planning, I am responsible for cost of service studies, tariff administration, billing, and revenue reporting issues in Kentucky and Ohio. I also prepare filings to modify charges and terms in the retail tariffs of both Duke Energy Kentucky and Duke Energy Ohio, and I develop rates for new services. During major rate cases, I help with the design of the new base rates. Additionally, I frequently work with Duke Energy Kentucky's and Duke Energy Ohio's customer contact and billing personnel to answer rate-related questions, and to apply the retail tariffs to specific situations. Occasionally, I meet with customers and Company representatives to explain rates or provide rate training. I also prepare reports that are required by regulatory authorities.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I sponsor Schedules B-7, B-7.1, B-7.2, D-3, D-4, and D-5 in response to Filing Requirement FR 16(8)(b) and FR 16(8)(d), respectively. I also support the gas cost of service studies identified in response to Filing Requirement FR 16(7)(v).

II. SCHEDULES AND FILING REQUIREMENTS SPONSORED BY WITNESS

Q. PLEASE DESCRIBE SCHEDULES B-7 AND D-3.

A. These schedules report the allocation factors used to determine the jurisdictional percentages of gas plant, expenses, *etc.*, necessary to allocate the amount of the proposed new gas rates between jurisdictional and non-jurisdictional customers. These schedules indicate that 100 percent of the costs are jurisdictional, because Duke Energy Kentucky does not provide service to any non-jurisdictional natural gas customers.

Q. PLEASE DESCRIBE SCHEDULES B-7.1 AND D-4.

A. These schedules are the support for Schedules B-7 and D-3 described above. They provide the basis for the actual jurisdictional allocation factors. These schedules also show that 100% of Duke Energy Kentucky's gas costs are jurisdictional.

Q. PLEASE DESCRIBE SCHEDULES B-7.2 AND D-5.

A. These schedules explain changes made to the jurisdictional allocation from the Company's prior gas rate proceeding in Case No. 2009-00202. In Duke Energy Kentucky's last gas rate case, 100% of its costs were also jurisdictional. As a result, there were no changes in the jurisdictional allocation factors used in this proceeding.

Q. PLEASE DESCRIBE FR 16(7)(v).

A. FR 16(7)(v) contains 12 schedules: Schedules FR 16(7)(v)-1 through FR 16(7)(v)-12 which represent the fully allocated, embedded cost of service study by rate class. I discuss these filing requirements in greater detail in my testimony below.

III. COST OF SERVICE STUDIES

Q. WHAT IS THE PURPOSE OF A COST-OF-SERVICE STUDY?

A. A cost-of-service study is an analytical tool used in traditional utility rate design to allocate costs to different classes of customers. When the process of preparing a cost-of-service study is completed, the resulting class cost-of-service study can (1) assist in determining the revenue requirement for the services offered by a utility; (2) analyze, at a very detailed level, the costs imposed on the utility's system by different classes of customers; (3) show the total costs the company incurs in serving each retail rate class, as well as the rate of return on capitalization earned from each class during the test period; and (4) establish cost responsibility that makes it possible to determine just and reasonable rates based on costs.

Q. WHAT INFORMATION DID THE COMPANY USE TO DEVELOP THE COST ALLOCATION FACTORS FOR THE COST OF SERVICE STUDIES USED IN THIS PROCEEDING?

A. The test period for this proceeding is the twelve months ending March 31, 2020, which is comprised of forecasted test period data. The development of the test period allocation factors is primarily based on historical data for the twelve months

ended December 2017. Otherwise, forecasted test period information was used as appropriate. I will discuss the actual development of the various allocation factors used in this proceeding later in my testimony.

Q. PLEASE DESCRIBE THE GAS COST OF SERVICE STUDY.

A. The gas cost of service study contained in Schedules FR-16(7)(v)-1 through FR-16(7)(v)-12 is an embedded, fully allocated cost of service study by rate class for the test period ended March 31, 2020. In preparing the cost of service study, I used information provided by other Company employees. The cost of service study functionalizes, classifies, and allocates cost items such as plant investment, operating expenses, and taxes to the various customer classes and calculates the revenue responsibility of each class. Finally, the cost of service study calculates the revenue responsibility of each rate class required to generate the recommended rate of return.

Q. PLEASE DESCRIBE HOW THE COST OF SERVICE STUDY IS ORGANIZED IN SCHEDULES FR-16(7)(v)-1 THROUGH SCHEDULE FR-16(7)(v)-12.

A. Each of the schedules (Schedule FR-16(7)(v)-1 through Schedule FR-16(7)(v)-12) provided in the cost of service study are organized as shown in the table below. The detailed calculation and derivation of the allocation factors utilized in the cost of service study are included in the workpapers filed in these proceedings.

Table 1		
Schedule	Page No.	Description
Schedule 1	1	Summary of Results
Schedule 2	2	Gross Plant in Service
Schedule 3	3	Depreciation Reserve
Schedule 4	4	Net Gas Plant in Service
Schedule 5	5	Subtractive Rate Base Adjustments
Schedule 5.1	6	Additive Rate Base Adjustments
Schedule 5.2	7	Working Capital
Schedule 6	8	O&M Expenses
Schedule 6.1	9	O&M Expenses
Schedule 7	10	Depreciation Expense
Schedule 8	11	Taxes Other Than Income Taxes
Schedule 9	12	Federal Income Tax Based on Return
Schedule 9.1	13	State Income Tax Based on Return
Schedule 10	14	Cost of Service Computation
Schedule 11	15	ROR, Tax Rates & Special Factors
Schedule 12	16	Allocation Factors
Schedule 12.1	17	Allocation Factors
Schedule 12.2	18	Allocation Factors

Q. WHAT JURISDICTIONAL RATE CLASSES WERE USED IN THE CLASS COST OF SERVICE STUDY?

A. I used the following customer classes; RS-Residential, GS-General Service, FT-L-Firm Transportation and IT- Interruptible Transportation.

Q. WHAT ARE THE ELEMENTS OF A COST OF SERVICE STUDY?

A. Much like the components of the overall revenue requirement, the elements of a cost of service study consist of the following elements, which are allocated to each function, classification and rate class:

Operating & Maintenance Expense

+ Depreciation

+ Other Taxes

+ Federal Income Tax

+ State Income Tax

+ Return (Jurisdictional Rate Base x Rate of Return (ROR))

- Revenue Credits

= Class Revenue Requirement or Cost of Service

Q. PLEASE DESCRIBE SCHEDULES FR-16(7)(v)-1 THROUGH FR-16(7)(V)-12.

A. Schedule FR-16(7)(v)-1 is a functional cost of service study that separates the cost items into the production, storage and distribution functions. In this case, no costs were functionalized as storage. Costs were functionalized as either production-related or distribution-related.

Schedule FR-16(7)(v)-2 classifies the production function into the demand, commodity, and customer classifications. In this filing, all of the production costs are classified as commodity.

Schedule FR-16(7)(v)-3 allocates the production commodity costs to the four retail rates.

Schedule FR-16(7)(v)-4 classifies the distribution function into demand, commodity, and customer classifications. In this filing, no distribution costs are classified as commodity.

Schedule FR-16(7)(v)-5 allocates the distribution demand costs to the four retail rates.

Schedule FR-16(7)(v)-6 allocates the distribution customer costs to the four retail rates.

Schedule FR-16(7)(v)-7 is not used in this filing.

Schedule FR-16(7)(v)-8 shows the total costs that were allocated to each of the retail rates from Schedule FR-16(7)(v)-3, Schedule FR-16(7)(v)-5, and Schedule FR-16(7)(v)-6.

Schedule FR-16(7)(v)-9 through Schedule FR-16(7)(v)-12 show the classified costs (demand, commodity, and customer) for each of the four retail rate schedules.

Q. HOW DID YOU DEVELOP THE BASIC COST OF SERVICE STUDY THAT YOU USED TO ALLOCATE COSTS TO THE DIFFERENT CUSTOMER CLASSES?

A. First, I received functionalized costs, *i.e.,* production and distribution, from Duke Energy Kentucky witness Ms. Sarah Lawler. Then, I developed the classification factors based on customer, commodity and demand statistics for the test period. Finally, I made the allocation to rate classes based on the general principles outlined in the National Association of Regulatory Utility Commissioners (NARUC) Gas Distribution Rate Design Manual, Chapter 7 - Cost Allocation Studies of the AGA book *Gas Rate Fundamentals* (fourth edition), my utility company experience and my knowledge of cost-of-service studies.

Q. PLEASE DESCRIBE THE METHODOLOGY USED TO ALLOCATE PRODUCTION PLANT AND OTHER DEMAND RELATED ITEMS TO THE VARIOUS CLASSES OF CUSTOMERS.

A. The average and excess method (also known as the average and peak demand method) was used in the allocation of these items. The Company has a gas load research program, which allows us to determine the class coincident peaks utilized in this methodology.

Q. PLEASE DESCRIBE THE AVERAGE AND EXCESS DEMAND METHOD OF ALLOCATION.

A. This method is sometimes referred to as the "used and unused capacity method." "Used capacity" is the minimum capacity necessary to deliver the total gas used and is numerically equal to average deliveries. "Unused capacity" is simply the difference between average capacity and peak capacity. As noted in the NARUC Gas Distribution Rate Design Manual, this method reflects a compromise between the coincident and non-coincident demand methods. Total demand costs are multiplied by the system's load factor to arrive at the capacity costs attributed to average use and are apportioned to the various customer classes on an annual volumetric basis. The remaining costs are considered to have been incurred to meet the individual peak demands of the various classes of service and are allocated on the basis on the coincident peak of each class.

Q. DO YOU HAVE AN OPINION REGARDING WHETHER THIS IS A REASONABLE ALLOCATION METHOD TO USE?

A. Yes. The average and excess demand method is a reasonable cost allocation method to use because: (1) shifts in the system peak do not greatly affect the allocation, as would happen in the coincident peak method; (2) the allocation of unused capacity is similar to the non-coincident demand method, except that it is

applied only to the excess of class peak day demands above the average daily demand; and (3) this method gives recognition to load-factor.

Q. HOW DID THE COMPANY DEVELOP CLASS COINCIDENT PEAK DAY DEMAND DATA?

A. Load research data and historical volumes were developed by the Company and utilized to determine peak day demand data. This information is included on the Daily Demand Analysis and the Monthly Gas Statistics pages of the cost of service study work papers WP FR-16(7)(v). The following is an example of how the demands were calculated for Rate RS for the month of January.

Step 1 - Determine the average daily demand by dividing the monthly volumes by the number of days in the month.

1,183,299Mcf ÷ 31 days =38,171 Mcf/day

Step 2 - Determine the daily class coincident peak demand by dividing the average daily demand, from Step 1, by the coincident peak load factor, which was obtained from load research data.

38,171Mcf/day ÷ 0.489236 = 78,022Mcf/day

This process was followed for each rate class for each month to determine each rate class' monthly coincident peak day demand. The coincident peak day demands for the peak month were then used to develop the average and excess demand allocators in the cost-of-service studies. My calculation of the coincident peak day demand factors for each rate class is at work paper WP FR-16(7)(v) Daily Demand Analysis.

Q. WHAT COSTS DID YOU ALLOCATE BY USING THE AVERAGE AND EXCESS DEMAND COST ALLOCATORS?

A. Using the average and excess demand formula, I calculated two peak day demand factors K203 and K205. I used allocation factor K203 to allocate all the rate classes the demand component of the following costs: system measuring and regulating equipment, regulators, mains, and associated land, rights of way, structures and improvements. I used allocation factor K205 to allocate production facilities costs among rate classes.

Q. WHAT METHOD DID YOU USE TO ALLOCATE ADMINISTRATIVE AND GENERAL EXPENSES?

A. I used a two-step approach. First, I functionalized Administrative and General (A&G) expenses based on specific groupings of employee salaries and wages. These groupings include Production Plant, Production Commodity, Distribution Plant, Customer Accounting, Customer Service and Information and Sales. I then allocated these expenses to each rate class based on (O&M) expense allocation factors.

Q. HOW DID YOU ALLOCATE THE REMAINING DISTRIBUTION PLANT COSTS TO THE VARIOUS CUSTOMER CLASSES?

A. I allocated the costs for large industrial measuring and regulating plant by using allocator K595, based on Mcf ratios, excluding residential, commercial and interdepartmental Mcf. This equipment serves the industrial customers of the General Service, Firm Transportation and Interruptible Transportation Service rate groups.

I allocated the services based upon weighted customer ratios. I calculated the weighting factors by using the average cost of the different types and sizes of services. I allocated the meter and meter installation costs using ratios developed from a meter cost study. I allocated house regulator and regulator installation costs based upon the weighted ratios within each rate class.

Q. HOW DID YOU ALLOCATE THE COSTS FOR COMMON AND GENERAL PLANT?

A. I functionalized the common and general plant costs into specific functional categories using my earlier functionalization of the labor costs. I allocated these costs to each rate class based on how much of the direct O&M for that specific function had been allocated to each rate class. This was the same method I used to allocate A&G expenses.

Q. HOW DID YOU ALLOCATE THE ADJUSTMENTS THAT WERE SUBTRACTED FROM RATE BASE?

A. I used net plant ratios to allocate the majority of the dollars associated with the subtractive adjustments. I used the meter cost allocator to allocate leased meter adjustments to the rate classes. I used the A&G allocator to allocate other adjustments, such as vacation pay accrual, to the rate classes.

Q. HOW DID YOU ALLOCATE ADJUSTMENTS THAT WERE ADDED TO RATE BASE?

A. I used various allocators such as net plant, Mcf throughput, and A&G to allocate the numerous additive adjustments to the rate classes.

Q. HOW DID YOU ALLOCATE WORKING CAPITAL?

A. Working capital consists of the following items: materials and supplies, prepayments, cash, and other miscellaneous items. Propane and materials and supplies were allocated based on the Mcf throughput allocator, K301 and net plant ratios, respectively. Cash working capital is a simple calculation equal to 1/8 of O&M expense minus the cost of gas.

Q. HOW DID YOU ALLOCATE PRODUCTION OPERATION AND MAINTENANCE EXPENSES?

A. I used firm Mcf sales (K301) to allocate the demand and commodity-related production expenses. I allocated the other production expenses by using the total throughput allocation factor K300.

Q. HOW DID YOU ALLOCATE DISTRIBUTION OPERATION AND MAINTENANCE EXPENSES?

A. I allocated load dispatching costs based on average and excess allocator K203. I allocated mains and services operating expenses based on mains and services plant cost allocation ratio K667. I allocated measuring and regulating station expenses based on the peak and average demand cost allocator K203. I allocated customer installation and other distribution expenses based on the combination customer/ demand cost allocation factor K415.

I allocated meter and house regulator O&M expenses based on meter and house regulator plant cost allocation allocator K697. I allocated mains maintenance expense based on the combination customer/ demand cost allocation factor K415. I allocated services maintenance expense based on the weighted

customer-services ratio K403, similar to the allocation of services' plant costs. I allocated supervision and engineering expenses based on the total distribution plant cost allocation ratio D249.

I allocated other distribution expenses based on the combination customer/ demand cost allocation factor K415.

Q. HOW DID YOU ALLOCATE CUSTOMER ACCOUNTING, UNCOLLECTIBLE ACCOUNTS, CUSTOMER SERVICE AND INFORMATION, AND SALES EXPENSES?

A. Customer Accounting includes Accounts 901, 902, 903 and 905 and was allocated to class based on allocator K405. Uncollectible expense is recorded in Account 904 and was allocated using K406. Customer Service & Information includes Account 907, 908, 909, and 910 and was allocated using K407. Sales Expense includes Accounts 911, 912, and 913. Sales expense was allocated using K408.

To create the allocators, each account was allocated to rate class based on allocator K401, total customers. Next, the account amounts needed to calculate each allocator were summed by rate class. For example, the Customer Accounting Expense Allocator K405 was derived by summing the amounts allocated to each rate in Accounts 901, 902, and 903 and then dividing these sums by the total 901-903 dollars. Allocator K405 was then applied to test period Customer Accounting Expense. A similar process was used for Customer Service and Information Expense and Sales Expense.

Q. HOW DID YOU ALLOCATE DEPRECIATION EXPENSES?

A. I allocated depreciation expenses to rate class based on the class net plant ratios.

Q. HOW DID YOU ALLOCATE REAL ESTATE AND PROPERTY TAXES?

A. I allocated real estate and property taxes to rate class based on the weighted class net plant ratio NP29.

Q. HOW DID YOU ALLOCATE PAYROLL AND HIGHWAY TAXES, THE PSC ASSESSMENT AND OTHER MISCELLANEOUS TAXES?

A. I allocated these items to rate class based the class-weighted A&G expense ratio AG39.

Q. HOW DID YOU ALLOCATE FEDERAL AND STATE INCOME TAXES?

A. I reviewed each income tax component to determine the functional cause of the component then selected the appropriate allocation factor. For example, Depreciation in Excess of Book Depreciation was allocated to the rate classes based on the appropriate class depreciation expense ratio.

Q. HOW DID YOU ALLOCATE OTHER OPERATING REVENUES?

A. Miscellaneous service revenues were allocated to class based on the ratio K401, customers by class to the total. Interdepartmental sales were allocated to class based on the A&G allocator. Rents were allocated based on net distribution plant ratios.

IV. RESULTS OF COST OF SERVICE STUDY

Q. WHAT DO THE RESULTS OF THE COST OF SERVICE STUDY SHOW?

A. Schedule FR-16(7)(v)-8, page 1 of 15, is a summary of the cost of service study that shows the costs allocated to each rate class.

Q. HOW WERE THE RESULTS OF YOUR COST OF SERVICE STUDY USED IN THESE PROCEEDINGS?

A. The results of the fully allocated cost of service study by rate class were supplied to Duke Energy Kentucky witness Bruce Sailers, who used this data to develop the proposed rate design for these proceedings.

V. DISTRIBUTION OF PROPOSED REVENUE INCREASE

Q. DID THE COST OF SERVICE STUDY SHOW THAT THE INCREASE REQUIRED FOR EACH CUSTOMER CLASS WAS PROPORTIONAL?

A. No. The cost of service study revealed that there are significant differences among the rate classes when comparing the actual return earned by each rate class to the overall return being requested in this case. Put another way, developing rates that generate the amount of revenue that equals the allocated revenue requirement for each rate class will mean much greater increases for some rate classes, in terms of percentage increases, than other classes.

In order to mitigate the rate shock that may come from completely eliminating the subsidy/excess (or rate disparities) among the rate classes, the Company is proposing to use a two-step process to distribute the proposed revenue increase. The first step eliminated 15 percent of the subsidy/excess revenues between customer classes based on present revenues. The second step allocated the rate increase to customer classes based on rate base.

Q. PLEASE EXPLAIN IN GREATER DETAIL THE FIRST STEP THAT ELIMINATES 15 PERCENT OF THE SUBSIDY/EXCESS REVENUES.

A. Again, it is a general tenet of ratemaking that each class should, to the extent practicable, pay the costs of providing service to that class. The elimination of a portion of the subsidy/excess takes into consideration that the Company is not

earning the same rate of return on all customer classes. It is unlikely that equal rates of return across all rate classes are achievable; nonetheless, to the extent possible, large variances among the customer classes should be eliminated. A comparison of revenues under present rates and at the retail average rate of return is made and then 15 percent of that amount is added to, or subtracted from, the rate increase to determine the proposed revenues in this proceeding.

Admittedly, this proposal lets a subsidy/excess persist but it will close the gap so that each class is paying rates that more closely reflect their costs of service.

Q. HOW DID THIS RATE DISPARITY ARISE?

A. Rate disparities exist mostly due to the fact that over the years rates have not been set based on the cost to serve customers as determined by a cost of service study. Other factors include: (1) customer mix and usage often change between rate cases, *i.e.,* Firm Transportation-Large, for example, may make up more or less of the total today than it did the last time rates were set; (2) different asset classes depreciate at different rates and because different asset classes are allocated differently, long periods between rate cases can shift the relative costs to serve each rate class. Also, regulators may purposely allow subsidy/excesses to persist in the interest of rate gradualism.

Q. WHY DID YOU PROPOSE A FIFTEEN PERCENT REDUCTION OF THE SUBSIDY/EXCESS REVENUES IN THESE PROCEEDINGS?

A. The present rate of returns by class shown on Work Paper FR-16(7)(v)-8, page 1, indicate that there is a significant difference in those returns. In order to ensure that each rate class pays the actual cost to serve that class, and move each class to the

average rate of return, 100 percent of the subsidy/excess would need to be eliminated. However, given the disparity among rate classes, particularly with Rate FT-L, complete elimination of the subsidy excess would cause a dramatic swing in rate impacts between and among various rate classes. By proposing to eliminate only fifteen percent of the subsidy/excess, the Company is choosing to invoke the rate making principle of gradualism so to mitigate the volatility of 100 percent subsidy/excess elimination.

VI. CONCLUSION

Q. WERE SCHEDULES B-7, B-7.1, B-7.2, D-3, D-4 AND D-5, AS WELL AS, FR 16(7)(v), AND WORKPAPER FR 16(7)(v), PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, James E. Ziolkowski, Director, Rates & Regulatory Planning, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony and that it is true and correct to the best of his knowledge, information and belief.

James E. Ziolkowski Affiant

Subscribed and sworn to before me by James E. Ziolkowski on this 30th day of AUGUST, 2018.

NOTARY PUBLIC

ADELE M. FRISCH
Notary Public, State of Ohio
My Commission Expires 01-05-2019

My Commission Expires: 1/5/2019