**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

In the Matter of the Application of Black Hills/Kansas Gas Utility Company, LLC, d/b/a Black Hills Energy, for Approval of the Commission to Make Certain Changes in its Rates for Natural Gas Service	Docket No. 14-BHCG-_502_-RTS

DIRECT TESTIMONY OF

JOHN J. SPANOS

FOR BLACK HILLS/KANSAS GAS UTILITY COMPANY, LLC

1

2   **I.   NAME AND POSITION**

3   **Q.   PLEASE STATE YOUR NAME AND ADDRESS.**

4   A.   My name is John J. Spanos. My business address is 207 Senate Avenue, Camp

5   Hill, Pennsylvania, 17011.

6   **Q.   ARE YOU ASSOCIATED WITH ANY FIRM?**

7   A.   Yes. I am associated with the firm of Gannett Fleming, Inc.

8   **Q.   HOW LONG HAVE YOU BEEN ASSOCIATED WITH GANNETT FLEMING,**

9   **INC.?**

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

11   **Q.   WHAT IS YOUR POSITION WITH THE FIRM?**

12   A.   I am a Senior Vice President.

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

14   A.   I am testifying on behalf of Black Hills/Kansas Gas Utility Company, LLC ("Black

1 Hills Kansas," or the "Company").

2 **BACKGROUND AND QUALIFICATION OF WITNESS**

3 **Q. PLEASE STATE YOUR QUALIFICATIONS.**

4 A. I have over 27 years of depreciation experience which includes expert testimony

5 in over 170 cases before 39 regulatory commissions, including this Commission.

6 Please refer to Exhibit __ (JJS-1) for my qualifications.

7

8 **II. PURPOSE OF TESTIMONY**

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. I sponsor the Depreciation Study performed for Black Hills Kansas attached

11 hereto as Exhibit __(JJS-2) ("Depreciation Study"). The Depreciation Study sets

12 forth the calculated annual depreciation accrual rates by account as of

13 September 30, 2013. Based on the Depreciation Study, I recommend

14 depreciation rates using the September 30, 2013, plant and reserve balances for

15 approval. The proposed rates appropriately reflect the rates at which the

16 Company's assets should be depreciated over their useful lives and are based

17 on the most commonly used methods and procedures for determining

18 depreciation rates.

19

20 **III. DEPRECIATION STUDY**

21 **Q. PLEASE DEFINE THE CONCEPT OF DEPRECIATION.**

22 A. Depreciation refers to the loss in service value not restored by current

23 maintenance incurred in connection with the consumption or prospective

24 retirement of utility plant in the course of service from causes which can be

1   reasonably anticipated or contemplated, against which the Company is not

2   protected by insurance. Among the causes to be given consideration are wear

3   and tear, decay, action of the elements, inadequacy, obsolescence, changes in

4   the art, changes in demand and the requirements of public authorities.

5 **Q.   DID YOU PREPARE THE DEPRECIATION STUDY FILED BY BLACK HILLS**

6   **KANSAS IN THIS PROCEEDING?**

7 A.   Yes. I prepared the Depreciation Study attached as Exhibit ___(JJS-2). My report

8   is entitled: "Depreciation Study - Calculated Annual Depreciation Accruals

9   Related to Gas Plant as of September 30, 2013." This report sets forth the results

10   of my Depreciation Study for the company.

11 **Q.   IN PREPARING THE DEPRECIATION STUDY, DID YOU FOLLOW**

12   **GENERALLY ACCEPTED PRACTICES IN THE FIELD OF DEPRECIATION**

13   **VALUATION?**

14 A.   Yes.

15 **Q.   ARE THE METHODS AND PROCEDURES OF THIS DEPRECIATION STUDY**

16   **CONSISTENT WITH PAST PRACTICES?**

17 A.   The methods and procedures of this study are the same as those utilized in the

18   past by this Company as well as others before this Commission. Depreciation

19   rates are determined based on the average service life procedure and the

20   remaining life method.

21 **Q.   PLEASE DESCRIBE THE CONTENTS OF THE DEPRECIATION STUDY.**

22 A.   The Depreciation Study is presented in nine parts: Part I, Introduction, presents

23   the scope and basis for the Depreciation Study; Part II, Estimation of Survivor

24   Curves, includes descriptions of the methodology of estimating survivor curves.

1 Parts III and IV set forth the analysis for determining life and net salvage

2 estimates. Part V, Calculation of Annual and Accrued Depreciation includes the

3 concepts of depreciation and amortization using the remaining life. Part VI,

4 Results of Study, presents a description of the results and a summary of the

5 depreciation calculations. Parts VII, VIII and IX include graphs and tables that

6 relate to the service life and net salvage analyses, and the detailed depreciation

7 calculations.

8

9 The table on pages III-4 through III-6 of the Depreciation Study presents the

10 estimated survivor curve, the net salvage percent, the original cost as of

11 September 30, 2013, the book depreciation reserve and the calculated annual

12 depreciation accrual and rate for each account or subaccount. The section

13 beginning on page VII-2 presents the results of the retirement rate analyses

14 prepared as the historical bases for the service life estimates. The section

15 beginning on page VIII-2 presents the results of the salvage analysis. The

16 section beginning on page IX-2 presents the depreciation calculations related to

17 surviving original cost as of September 30, 2013.

18 Q. **PLEASE EXPLAIN HOW YOU PERFORMED YOUR DEPRECIATION STUDY.**

19 A. I used the straight line remaining life method of depreciation, with the average

20 service life procedure. The annual depreciation is based on a method of

21 depreciation accounting that seeks to distribute the unrecovered cost of fixed

22 capital assets over the estimated remaining useful life of each unit, or group of

23 assets, in a systematic and reasonable manner.

24

1   For General Plant Accounts 391.01, 391.03, 393, 394, 395, 397 and 398, I used

2   the straight line remaining life method of amortization. The account numbers

3   identified throughout my testimony represent those in effect as of September 30,

4   2013. The annual amortization is based on amortization accounting that

5   distributes the unrecovered cost of fixed capital assets over the remaining

6   amortization period selected for each account and vintage.

7 **Q.   HOW DID YOU DETERMINE THE RECOMMENDED ANNUAL**

8 **DEPRECIATION ACCRUAL RATES?**

9 A.   I did this in two phases. In the first phase, I estimated the service life and net

10   salvage characteristics for each depreciable group, that is, each plant account or

11   subaccount   identified as having similar characteristics. In the second phase, I

12   calculated the composite remaining lives and annual depreciation accrual rates

13   based on the service life and net salvage estimates determined in the first phase.

14 **Q.   PLEASE DESCRIBE THE FIRST PHASE OF THE DEPRECIATION STUDY, IN**

15 **WHICH YOU ESTIMATED THE SERVICE LIFE AND NET SALVAGE**

16 **CHARACTERISTICS FOR EACH DEPRECIABLE GROUP.**

17 A.   The service life and net salvage study consisted of compiling historical data from

18   records related to Black Hills Kansas' plant; analyzing these data to obtain

19   historical trends of survivor characteristics; obtaining supplementary information

20   from management and operating personnel concerning practices and plans as

21   they relate to plant operations; and interpreting the above data and the estimates

22   used by other gas utilities to form judgments of average service life and net

23   salvage characteristics.

24

1 **Q. WHAT HISTORICAL DATA DID YOU ANALYZE FOR THE PURPOSE OF**

2 **ESTIMATING SERVICE LIFE CHARACTERISTICS?**

3 A. Where available, I analyzed the Company's accounting entries that record plant

4 transactions during the period 2006 through September 2013. The transactions

5 included additions, retirements, transfers, sales, and the related balances.

6 **Q. WHAT METHOD DID YOU USE TO ANALYZE THESE SERVICE LIFE DATA?**

7 A. I used the retirement rate method for most plant accounts. This is the most

8 appropriate method when retirement data covering a long period of time is

9 available because this method determines the average rates of retirement

10 actually experienced by the Company during the period of time covered by the

11 Depreciation Study.

12 **Q. PLEASE DESCRIBE HOW YOU USED THE RETIREMENT RATE METHOD**

13 **TO ANALYZE BLACK HILLS KANSAS' SERVICE LIFE DATA.**

14 A. I applied the retirement rate analysis to each different group of property in the

15 study. For each property group, I used the retirement rate data to form a life

16 table which, when plotted, shows an original survivor curve for that property

17 group. Each original survivor curve represents the average survivor pattern

18 experienced by the several vintage groups during the experience band studied.

19 The survivor patterns do not necessarily describe the life characteristics of the

20 property group; therefore, interpretation of the original survivor curves is required

21 in order to use them as valid considerations in estimating service life. The Iowa-

22 type survivor curves were used to perform these interpretations.

23

24

1 **Q. WHAT IS AN "IOWA-TYPE SURVIVOR CURVE" AND HOW DID YOU USE**

2 **SUCH CURVES TOESTIMATE THE SERVICE LIFE CHARACTERISTICS FOR**

3 **EACH PROPERTY GROUP?**

4 A. Iowa-type curves are a widely-used group of survivor curves that contain the

5 range of survivor characteristics usually experienced by utilities and other

6 industrial companies. The Iowa curves were developed at the Iowa State College

7 Engineering Experiment Station through an extensive process of observing and

8 classifying the ages at which various types of property used by utilities and other

9 industrial companies had been retired.

10

11 Iowa-type curves are used to smooth and extrapolate original survivor curves

12 determined by the retirement rate method. The Iowa curves and truncated Iowa

13 curves were used in this study to describe the forecasted rates of retirement

14 based on the observed rates of retirement and the outlook for future retirements.

15 The estimated survivor curve designations for each depreciable property group

16 indicate the average service life, the family within the Iowa system to which the

17 property group belongs, and the relative height of the mode. For example, the

18 Iowa 60-R2.5 indicates an average service life of 60 years; a right-moded, or R,

19 type curve (the mode occurs after average life for right-moded curves); and a

20 moderate height, 2.5, for the mode (possible modes for R type curves range from

21 1 to 5).

22 **Q. DID YOU PHYSICALLY OBSERVE BLACK HILLS KANSAS' PLANT AND**

23 **EQUIPMENT AS PART OF YOUR DEPRECIATION STUDY?**

24 A. Yes. I made a field review of Black Hills Kansas' property as part of this study

1   during December 2013 to observe representative portions of plant. Field reviews

2   are conducted to become familiar with Company operations and obtain an

3   understanding of the function of the plant and information with respect to the

4   reasons for past retirements and the expected future causes of retirements. This

5   knowledge as well as information from other discussions with management was

6   incorporated in the interpretation and extrapolation of the statistical analyses.

7   **Q.   PLEASE DESCRIBE HOW YOU ESTIMATED NET SALVAGE**

8   **PERCENTAGES.**

9   A.   I estimated the net salvage percentages by incorporating the historical data for

10   the period 2006 through September 2013 and considered estimates for other gas

11   companies. The net salvage percentages are based on a combination of

12   statistical analyses and informed judgment. The statistical analyses consider the

13   cost of removal and gross salvage ratios to the associated retirements during the

14   8-year period. Trends of these data are also measured based on three-year

15   moving averages and the most recent five-year indications.

16   **Q.   PLEASE DESCRIBE THE SECOND PHASE OF THE PROCESS THAT YOU**

17   **USED IN THE DEPRECIATION STUDY IN WHICH YOU CALCULATED**

18   **COMPOSITE REMAINING LIVES AND ANNUAL DEPRECIATION ACCRUAL**

19   **RATES.**

20   A.   After I estimated the service life and net salvage characteristics for each

21   depreciable   property group, I calculated the annual depreciation accrual rates

22   for each group, using the straight line remaining life method, and using remaining

23   lives weighted consistent with the average service life procedure.

24

1 **Q. PLEASE DESCRIBE THE STRAIGHT LINE REMAINING LIFE METHOD OF**

2 **DEPRECIATION.**

3 A. The straight line remaining life method of depreciation allocates the original cost

4   of the property, less accumulated depreciation, less future net salvage, in equal

5   amounts to each year of remaining service life.

6 **Q. PLEASE DESCRIBE AMORTIZATION ACCOUNTING.**

7 A. In amortization accounting, units of property are capitalized in the same manner

8   as they are in depreciation accounting. Amortization accounting is used for

9   accounts with a large number of units, but small asset values, therefore,

10   depreciation accounting is difficult for these assets because periodic inventories

11   are required to properly reflect plant in service. Consequently, retirements are

12   recorded when a vintage is fully amortized rather than as the units are removed

13   from service. That is, there is no dispersion of retirement. All units are retired

14   when the age of the vintage reaches the amortization period. Each plant account

15   or group of assets is assigned a fixed period which represents an anticipated life

16   during which the asset will render full benefit. For example, in amortization

17   accounting, assets that have a 20-year amortization period will be fully recovered

18   after 20 years of service and taken off the Company's books, but not necessarily

19   removed from service. In contrast, assets that are taken out of service before 20

20   years remain on the books until the amortization period for that vintage has

21   expired.

22

23

1 Q. **AMORTIZATION ACCOUNTING IS BEING UTILIZED FOR WHICH PLANT**

2 **ACCOUNTS?**

3 A. Amortization accounting is only appropriate for certain General Plant accounts.

4 These accounts are 391.01, 391.03, 393, 394, 395, 397 and 398 in gas plant,

5 which represent slightly more than 2 percent of depreciable plant.

6 Q. **HAVE YOU MADE ADDITIONAL RECOMMENDATIONS FOR THE**

7 **AMORTIZATION ACCOUNTS?**

8 A. Yes. In order to achieve a more stable rate for these accounts in the future, I

9 have recommended new additions for all vintages 2014 and subsequent should

10 be amortized consistent with the amortization period.

11 Q. **PLEASE USE AN EXAMPLE TO ILLUSTRATE HOW THE ANNUAL**

12 **DEPRECIATION ACCRUAL RATE FOR A PARTICULAR GROUP OF**

13 **PROPERTY IS PRESENTED IN YOUR DEPRECIATION STUDY.**

14 A. I will use Account 378.00, Measuring and Regulating Station Equipment -

15 General, as an example because it is a well understood depreciable mass

16 account and represents approximately two percent of depreciable gas plant.

17

18 The retirement rate method was used to analyze the survivor characteristics of

19 this property group. Aged plant accounting data was compiled from 2006 through

20 2013 and analyzed in periods that best represent the overall service life of this

21 property. The life table for the 2006-2013 experience band is presented on pages

22 VII-46 through VII-48 of the report. The life table displays the retirement and

23 surviving ratios of the aged plant data exposed to retirement by age interval. For

24 example, page VII-46 shows $9,144 retired at age 2.5 with $662,948 exposed to

1   retirement. Consequently, the retirement ratio is 0.0138 and the surviving ratio is

2   0.9862. This life table, or original survivor curve, is plotted along with the

3   estimated smooth survivor curve, the 40-R2.5 on page VII-45.

4

5   The net salvage percent is presented on page VIII-12. The percentage is based

6   on the result of annual gross salvage minus the cost to remove plant assets as

7   compared to the original cost of plant retired during the period 2006 through

8   2013. The 8-year period experienced $16,933 ($0 -$16,933) in net salvage for

9   $235,656 plant retired. The result is negative net salvage of seven percent

10 ($16,933/$235,654). Based on the overall negative seven percent net salvage

11 which does not include the 2013 cost of removal and gross salvage amounts and

12 the most recent five years of five percent as well as industry ranges and

13 Company expectations, it was determined that negative ten percent was the

14 most appropriate estimate.

15

16 My calculation of the annual depreciation related to the original cost at

17 September 30, 2013, of gas plant is presented on pages IX-23 and IX-24. The

18 calculation is based on the 40-R2.5 survivor curve, negative 10 percent negative

19 net salvage, the attained age, and the allocated book reserve. The tabulation

20 sets forth the installation year, the original cost, calculated accrued depreciation,

21 allocated book reserve, future accruals, remaining life and annual accrual. These

22 totals are brought forward to the table on page VI-4.

23

24

1 **Q. WERE THERE ANY OTHER ACCOUNTS THAT HAD NEW RATES**

2 **RECOMMENDED?**

3 A.   Yes. The depreciation rate for new assets as of January 1, 2014 in Accounts

4   391.01, 391.03, 393, 394, 395, 397 and 398 reflect the plans to properly

5   implement amortization accounting for those assets as soon as they are placed

6   in service.

7

8 **IV. <u>CONCLUSION</u>**

9 **Q. WAS THE DEPRECIATION STUDY FILED BY BLACK HILLS KANSAS IN**

10   **THIS PROCEEDING PREPARED BY YOU OR UNDER YOUR DIRECTION**

11   **AND CONTROL?**

12 A.   Yes.

13 **Q. CAN YOU SUMMARIZE THE RESULTS OF YOUR DEPRECIATION STUDY?**

14 A.   Yes. The depreciation rates as of September 30, 2013 appropriately reflect the

15   rates at which the value of Black Hills Kansas' assets has been consumed over

16   their useful lives to date. These rates are based on the most commonly used

17   methods and procedures for determining depreciation rates. The life and salvage

18   parameters are based on widely used techniques and the depreciation rates are

19   based on the average service life procedure and remaining life method.

20   Therefore, the depreciation rates set forth on pages VI-4 through VI-6 of Exhibit

21   ___(JJS-2) represent the calculated rates as of September 30, 2013.

22 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

23 A.   Yes.

EXHIBIT __ (JJS-1)

<u>Attachment 1</u>

John J. Spanos Qualification Statement

1 **Q.   PLEASE STATE YOUR NAME.**

2 A.   My name is John J. Spanos.

3 **Q.   WHAT IS YOUR EDUCATIONAL BACKGROUND?**

4 A.   I have Bachelor of Science degrees in Industrial Management and Mathematics

5   from Carnegie-Mellon University and a Master of Business Administration from

6   York College.

7 **Q.   DO YOU BELONG TO ANY PROFESSIONAL SOCIETIES?**

8 A.   Yes. I am a member and current President of the Society of Depreciation

9   Professionals and a member of the American Gas Association/Edison Electric

10   Institute Industry Accounting Committee.

11 **Q.   DO YOU HOLD ANY SPECIAL CERTIFICATION AS A DEPRECIATION**

12   **EXPERT?**

13 A.   Yes. The Society of Depreciation Professionals has established national

14   standards for depreciation professionals. The Society administers an

15   examination to become certified in this field. I passed the certification exam in

16   September 1997 and was recertified in August 2003, February 2008 and January

17   2013.

18 **Q.   PLEASE OUTLINE YOUR EXPERIENCE IN THE FIELD OF DEPRECIATION.**

19 A.   In June, 1986, I was employed by Gannett Fleming Valuation and Rate

20   Consultants, Inc. as a Depreciation Analyst. During the period from June, 1986

21   through December, 1995, I helped prepare numerous depreciation and original

22   cost studies for utility companies in various industries. I helped perform

23   depreciation studies for the following telephone companies: United Telephone of

24   Pennsylvania, United Telephone of New Jersey, and Anchorage Telephone

1   Utility. I helped perform depreciation studies for the following companies in the

2   railroad industry: Union Pacific Railroad, Burlington Northern Railroad, and

3   Wisconsin Central Transportation Corporation.

4

5   I helped perform depreciation studies for the following organizations in the

6   electric utility industry: Chugach Electric Association, The Cincinnati Gas and

7   Electric Company (CG&E), The Union Light, Heat and Power Company

8   (ULH&P), Northwest Territories Power Corporation, and the City of Calgary -

9   Electric System.

10

11   I helped perform depreciation studies for the following pipeline companies:

12   TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd.,

13   Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead

14   Pipeline Company.

15

16   I helped perform depreciation studies for the following gas utility companies:

17   Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural

18   Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P,

19   Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

20

21   I helped perform depreciation studies for the following water utility companies:

22   Indiana-American Water Company, Consumers Pennsylvania Water Company

23   and The York Water Company; and depreciation and original cost studies for

24   Philadelphia Suburban Water Company and Pennsylvania-American Water

1   Company.

2

3   In each of the above studies, I assembled and analyzed historical and simulated

4   data, performed field reviews, developed preliminary estimates of service life and

5   net salvage, calculated annual depreciation, and prepared reports for submission

6   to state public utility commissions or federal regulatory agencies. I performed

7   these studies under the general direction of William M. Stout, P.E.

8

9   In January, 1996, I was assigned to the position of Supervisor of Depreciation

10   Studies. In July, 1999, I was promoted to the position of Manager, Depreciation

11   and Valuation Studies. In December, 2000, I was promoted to the position as

12   Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc. and in

13   April 2012, I was promoted to my present position as Senior Vice President of the

14   Valuation and Rate Division of Gannett Fleming Inc.   In my current position I am

15   responsible for conducting all depreciation, valuation and original cost studies,

16   including the preparation of final exhibits and responses to data requests for

17   submission to the appropriate regulatory bodies.

18

19   Since January 1996, I have conducted depreciation studies similar to those

20   previously listed including assignments for Pennsylvania-American Water

21   Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-

22   American Water Company; Indiana-American Water Company; Hampton Water

23   Works Company; Omaha Public Power District; Enbridge Pipe Line Company;

24   Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel

1   Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of

2   Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of

3   Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water

4   Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge

5   Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water

6   Company; St. Louis County Water Company; Missouri-American Water

7   Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas &

8   Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-

9   Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI -

10   Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation

11   – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company;

12   Idaho Power Company; El Paso Electric Company; Central Hudson Gas &

13   Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas;

14   CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint

15   Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.;

16   United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin

17   Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest

18   Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North

19   Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican

20   Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services

21   Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City

22   Power and Light; Duke Energy North Carolina; Duke Energy South Carolina;

23   Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Northern

24   Indiana Public Service Company; Tennessee-American Water Company;

1   Columbia Gas of Maryland; Bonneville Power Administration; NSTAR Electric

2   and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy

3   Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf

4   States Louisiana; the Borough of Hanover; Madison Gas and Electric; Central

5   Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey

6   Central Power & Light Company; Cheyenne Light, Fuel and Power Company;

7   Central Vermont Public Service Corporation; Green Mountain Power; Portland

8   General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills

9   Power; Black Hills Colorado Gas; Public Service Company of Oklahoma;

10   Peoples Gas Light and Coke Company; North Shore Gas Company; and Greater

11   Missouri Operations. My additional duties include determining final life and

12   salvage estimates, conducting field reviews, presenting recommended

13   depreciation rates to management for its consideration and supporting such rates

14   before regulatory bodies.

15 **Q.** **HAVE YOU SUBMITTED TESTIMONY TO ANY STATE UTILITY COMMISSION**

16   **ON THE SUBJECT OF UTILITY PLANT DEPRECIATION?**

17 A.   Yes. I have submitted testimony to the Pennsylvania Public Utility Commission;

18   the Commonwealth of Kentucky Public Service Commission; the Public Utilities

19   Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities

20   Board of New Jersey; the Missouri Public Service Commission; the

21   Massachusetts Department of Telecommunications and Energy; the Alberta

22   Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana

23   Public Service Commission; the State Corporation Commission of Kansas; the

24   Oklahoma Corporate Commission; the Public Service Commission of South

1   Carolina; Railroad Commission of Texas – Gas Services Division; the New York

2   Public Service Commission; Illinois Commerce Commission; the Indiana Utility

3   Regulatory Commission; the California Public Utilities Commission; the Federal

4   Energy Regulatory Commission ("FERC"); the Arkansas Public Service

5   Commission; the Public Utility Commission of Texas; Maryland Public Service

6   Commission; Washington Utilities and Transportation Commission; The

7   Tennessee Regulatory Commission; the Regulatory Commission of Alaska;

8   Minnesota Public Utility Commission; Utah Public Service Commission; District of

9   Columbia Public Service Commission; the Mississippi Public Service

10   Commission; Delaware Public Service Commission; Virginia State Corporation

11   Commission; Colorado Public Utility Commission; Oregon Public Utility

12   Commission; Wisconsin Public Service Commission; Wyoming Public Service

13   Commission; Maine Public Utility Commission; Iowa Utility Board; and the North

14   Carolina Utilities Commission.

15   **Q.   HAVE YOU HAD ANY ADDITIONAL EDUCATION RELATING TO UTILITY**

16   **PLANT DEPRECIATION?**

17   A.   Yes. I have completed the following courses conducted by Depreciation

18   Programs, Inc.: "Techniques of Life Analysis," "Techniques of Salvage and

19   Depreciation Analysis," "Forecasting Life and Salvage," "Modeling and Life

20   Analysis Using Simulation," and "Managing a Depreciation Study." I have also

21   completed the "Introduction to Public Utility Accounting" program conducted by

22   the American Gas Association.

23   **Q.   DOES THIS CONCLUDE YOUR QUALIFICATION STATEMENT?**

24   A.   Yes.

Attachment 2

List of Cases In Which John J. Spanos Submitted Testimony

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
1.	1998	PA PUC	R-00984375	City of Bethlehem-Bureau of Water	Original Cost and Depreciation
2.	1998	PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
3.	1999	PA PUC	R-00994605	The York Water Company	Depreciation
4.	2000	D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
5.	2001	PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
6.	2001	PA PUC	R-00016236	The York Water Company	Depreciation
7.	2001	PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
8.	2001	OH PUC	01-1228-GA-AIR	Cinergy Corp. - Cincinnati Gas and Electric Company	Depreciation
9.	2001	KY PSC	2001-092	Cinergy Corp. - Union Light, Heat and Power Company	Depreciation
10.	2002	PA PUC	R-00016750	Philadelphia Suburban Water Co.	Depreciation
11.	2002	KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002	NJ BPU	GR02040245	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	Cause 42359	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	Doc. 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 Co.	Depreciation
23.	2004	Alberta Energy & Util. Board	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.	PUD 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 Svcs. Div.	Depreciation
30.	2004	NY PUC	04-G-1047	National Fuel Gas Distribution Corp. (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	GR-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 Svcs. Div.	Depreciation
39.	2005	FERC		Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Co.	Depreciation
41.	2005	MA Dept Telcom & Energy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-0934/05-G-0935	Central Hudson Gas & Electric Co.	Depreciation
43.	2005	AK Reg Cm	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A.05-12-002	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		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	SC PSC		Duke Energy Kentucky	Depreciation
				SCANA	Depreciation
54.	2006	AK Reg Cm	U-06-6	Municipal Light and Power	Depreciation
55.	2006	DE PSC		Delmarva Power and Light	Depreciation
56.	2006	IN URC	IURC43081	Indiana American Water Co.	Depreciation
57.	2006	AK Reg Cm	U-06-134	Chugach Electric Association	Depreciation
58.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
59.	2006	FERC	ISO5-82, et.al	TransAlaska Pipeline	Depreciation

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

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
60.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
61.	2007	NC Util Cm E-7		Duke Energy Carolinas, LLC	Depreciation
62.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
63.	2007	PA PUC	R-00072155	PPL Electric Utilities Corp .	Depreciation
64.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation
65.	2007	PA PUC	R-00072229	Pennsylvania American Water Co.	Depreciation
66.	2007	KY PSC	2007-00008	NiSource - Columbia Gas of Kentucky	Depreciation
67.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp. (NY)	Depreciation
68.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
69.	2008	TN Reg Ath	08-00039	Tennessee American Water Company	Depreciation
70.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
71.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
72.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
73.	2008	IN URC	43526	Northern Indiana Public Service Co.	Depreciation
74.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
75.	2008	MD PSC	9159	NiSource - Columbia Gas of Maryland	Depreciation
76.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
77.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
78.	2008	PA PUC	2008-2032689	Pennsylvania American Water Co.	Depreciation
79.	2008	NY PSC	08-E887/08-G0888	Central Hudson	Depreciation
80.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
81.	2009	IL CC	09-	Peoples Gas, Light and Coke Co.	Depreciation
82.	2009	IL CC	09-	North Shore Gas Company	Depreciation
83.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
84.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
85.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
86.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Co.	Depreciation
87.	2009	NC Util Cm E-7, Sub 909		Duke Energy Carolinas, LLC	Depreciation
88.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
89.	2009	VA	St CCPUE-2009-00059	Aqua Virginia, Inc.	Depreciation
90.	2009	PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
91.	2009	MS PSC	09-	Entergy Mississippi	Depreciation
92.	2009	AK PSC	09-084-U	Entergy Arkansas	Depreciation
93.	2009	TX PUC	37744	Entergy Texas	Depreciation
94.	2009	TX PUC	37690	El Paso Electric Co.	Depreciation
95.	2009	PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
96.	2009	KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
97.	2009	PA PUC	R-2009-	United Water Pennsylvania	Depreciation
98.	2009	OH PUC		Aqua Ohio Water Company.	Depreciation
99.	2009	WI PSC	3270-DU-103	Madison Gas & Electric Co.	Depreciation
100.	2009	MO PSC	WR-2010	Missouri American Water Co.	Depreciation
101.	2009	AK Reg Cm.	U-09-097	Chugach Electric Association	Depreciation
102.	2010	IN URC		Northern Indiana Public Service Co.	Depreciation
103.	2010	WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
104.	2010	PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
105.	2010	KY PSC	2010-00036	Kentucky American Water Co.	Depreciation
106.	2010	PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
107.	2010	MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
108.	2010	SC PSC	2009-489-E	South Carolina Electric & Gas Co.	Depreciation
109.	2010	NJ Bd of PU	ER09080664	Atlantic City Electric	Depreciation
110.	2010	VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
111.	2010	PA PUC	R-2010-2157140	The York Water Company	Depreciation
112.	2010	MO PSC	ER-2010-0356	Greater Missouri Operations Co.	Depreciation
113.	2010	PA PUC	R-2010-2167797	T. W. Phillips Gas and Oil Co.	Depreciation
114.	2010	PSC SC	2009-489-E	SCANA - Electric	Depreciation
115.	2010	PA PUC	R-2010-2201702	Peoples Natural Gas, LLC	Depreciation
116.	2010	AK PSC		Oklahoma Gas and Electric Co.	Depreciation
117.	2010	IN URC		Northern Indiana Public Serv. Co. – NIFL	Depreciation
118.	2010	IN URC		Northern Indiana Public Serv. Co. – Kokomo	Depreciation
119.	2010	PA PUC	R-2010-2166212	Pennsylvania American Water Co. – WW	Depreciation
120.	2010	NC Util Cm.		Aqua North Carolina, Inc.	Depreciation
121.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
122.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
123.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
124.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
125.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
126.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
127.	2011	Il CC	11-0217	MidAmerican Energy Corporation	Depreciation
128.	2011	OK CC	201100087	Oklahoma Gas & Electric Co.	Depreciation
129.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation
130.	2011	FERC		Carolina Gas Transmission	Depreciation
131.	2012	WA UTC		Avista Corporation	Depreciation
132.	2012	AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
133.	2012	MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
134.	2012	TX PUC	40094	El Paso Electric Company	Depreciation
135.	2012	ID PUC	IPC-E-12	Idaho Power Company	Depreciation
136.	2012	PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
137.	2012	PA PUC	R-2012-2311725	Hanover, Borough of – Bureau of Water	Depreciation
138.	2012	KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
139.	2012	KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
140.	2012	PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
141.	2012	DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
142.	2012	OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
143.	2012	OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
144.	2012	PA PUC	R-2012-	Lancaster, City of – Bureau of Water	Depreciation
145.	2012	PA PUC	R-2012-2310366	Lancaster, City of – Sewer Fund	Depreciation
146.	2012	PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
147.	2012	FERC		ITC Holdings	Depreciation
148.	2012	MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
149.	2012	MO PSC	ER-2012-0174	KCPL Greater Missouri Operations Co.	Depreciation
150.	2012	MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
151.	2012	MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation
152.	2012	TX PUC		Aqua Texas	Depreciation
153.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
154.	2013	NJ BPU	ER12121071	PHI Service Co.– Atlantic City Electric	Depreciation
155.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation

	Year	Jurisdiction	Docket No.	Client/Utility	Subject
156.	2013	VA St CC	2013-00020	Virginia Electric and Power Co.	Depreciation
157.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
158.	2013	PA PUC	2013-2355276	Pennsylvania American Water Co.	Depreciation
159.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
160.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
161.	2013	DC PSC	Case 1103	PHI Service Co. – PEPCO	Depreciation
162.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Co.	Depreciation
163.	2013	FERC	ER13- -0000	Kentucky Utilities	Depreciation
164.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
165.	2013	FERC	ER13- -0000	PPL Utilities	Depreciation
166.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
167.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Co.	Depreciation
168.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
169.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
170.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
171.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
172.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
173.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
174.	2014	IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
175.	2014	IL CC	14-0226	North Shore Gas Company	Depreciation
176.	2014	FERC	ER14-	Duquesne Light Company	Depreciation
177.	2014	WY PSC		Black Hills Power Company	Depreciation

Commonwealth of Pennsylvania   )
) ss
County of Cumberland   )

AFFIDAVIT OF JOHN J. SPANOS

I, John J. Spanos, being first duly sworn on oath, depose and state that I am the same John J. Spanos identified in the foregoing Direct Testimony; that I have caused the foregoing Direct Testimony to be prepared and am familiar with the contents thereof, and that the foregoing Direct Testimony as identified therein is true and correct to the best of my knowledge, information, and belief as of the date of this Affidavit.

John J. Spanos
John J. Spanos

Subscribed and sworn to before me,
a Notary Public, in and for said County
and Commonwealth, this _10th_ day of _April, 2014._

Notary Public   _Cheryl Ann Rutter_

My Commission expires: _February 20, 2015_

BLACK HILLS KANSAS GAS

LAWRENCE, KANSAS

2013 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO GAS PLANT
AS OF SEPTEMBER 30, 2013

Prepared by:

Gannett Fleming

*Excellence Delivered **As Promised***

BLACK HILLS KANSAS GAS

Lawrence, Kansas

2013 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO GAS PLANT
AS OF SEPTEMBER 30, 2013

GANNETT FLEMING, INC. – VALUATION AND RATE DIVISION

Camp Hill, Pennsylvania

Gannett Fleming

*Excellence Delivered **As Promised***

March 14, 2014

Black Hills Kansas Gas
625 Ninth Street
Rapid City, SD 57701

Attention   Mr. Rich Peterson
            Director of Regulatory Services - Reporting

            Mr. Steve Jurek
            Vice President of Regulatory Services - Policy

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the gas plant of Black Hills Kansas Gas as of September 30, 2013. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual depreciation accrual rates, the statistical support for the life and net salvage estimates and the detailed tabulations of annual depreciation.

Respectfully submitted,

GANNETT FLEMING, INC.

John J. Spanos

JOHN J. SPANOS
Sr. Vice President
Valuation and Rate Division

JJS:krm

058070

TABLE OF CONTENTS

PART I. INTRODUCTION

BLACK HILLS KANSAS GAS
DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Black Hills Kansas Gas ("BHKG"), to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of gas plant as of September 30, 2013. 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 September 30, 2013.

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 September 2013, 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 used in the service life and net salvage studies and the methods. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Net Salvage Considerations, presents the results of the net salvage study. Part V, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part VI, Results of Study,

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

BASIS OF THE STUDY

Depreciation

Depreciation, in public utility regulation, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities.

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

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

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

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

Service Life and Net Salvage Estimates

The service life and net salvage estimates used in the depreciation and amortization calculations were based on informed judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the 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,

Figure 1. A Typical Survivor Curve and Derived Curves
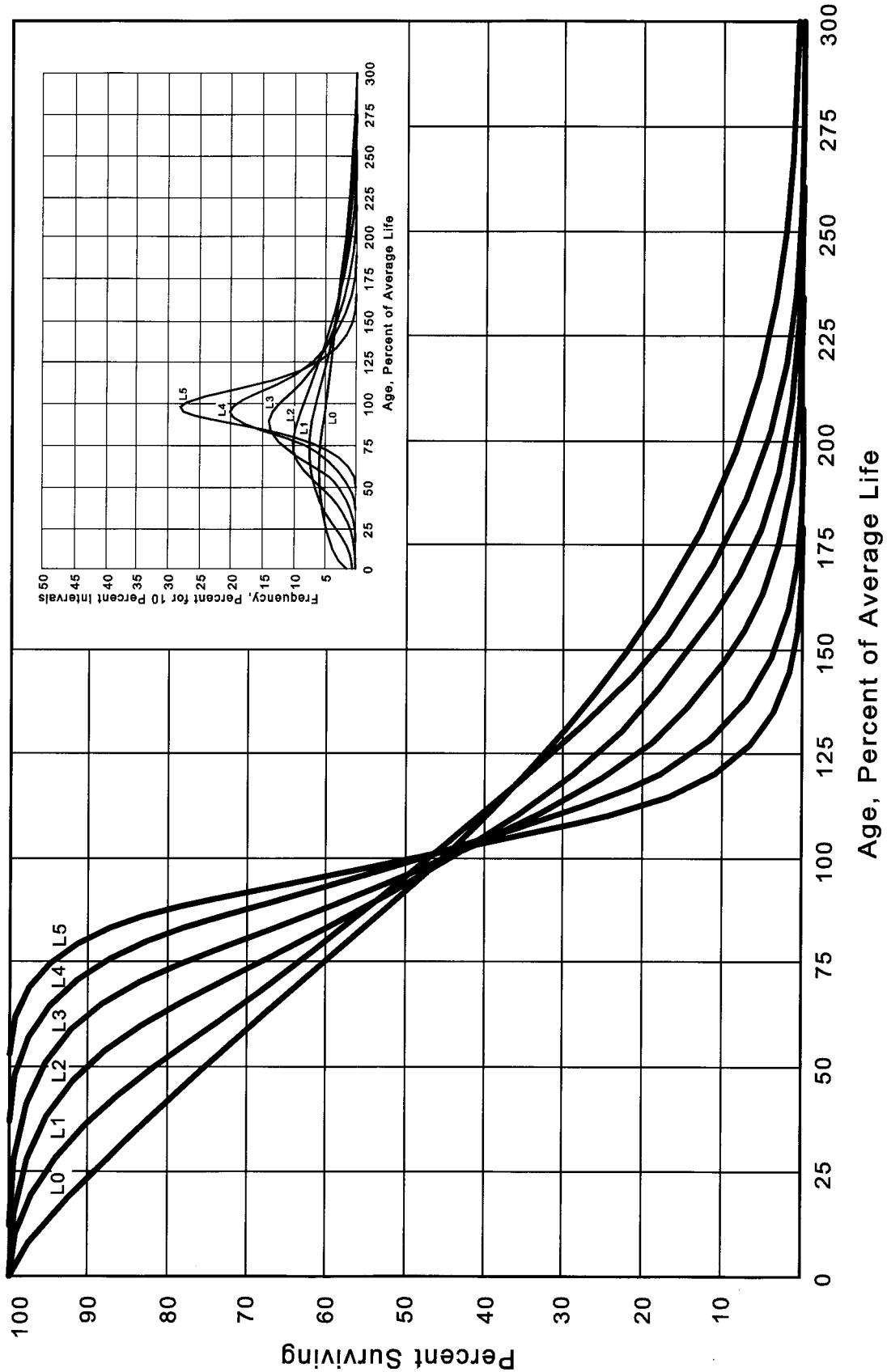
Figure 2. Left Modal or "L" Iowa Type Survivor Curves
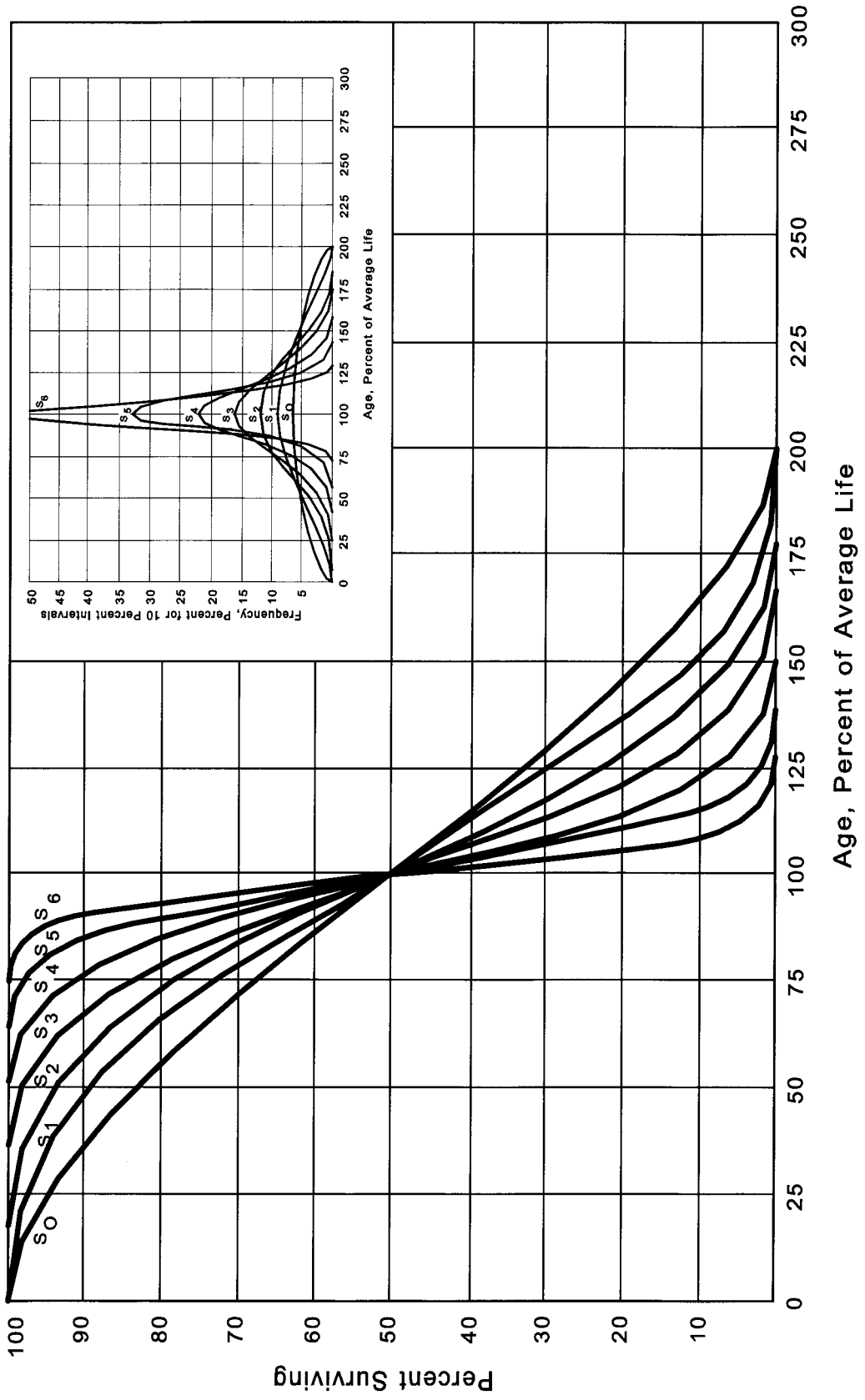
Figure 3. Symmetrical or "S" Iowa Type Survivor Curves
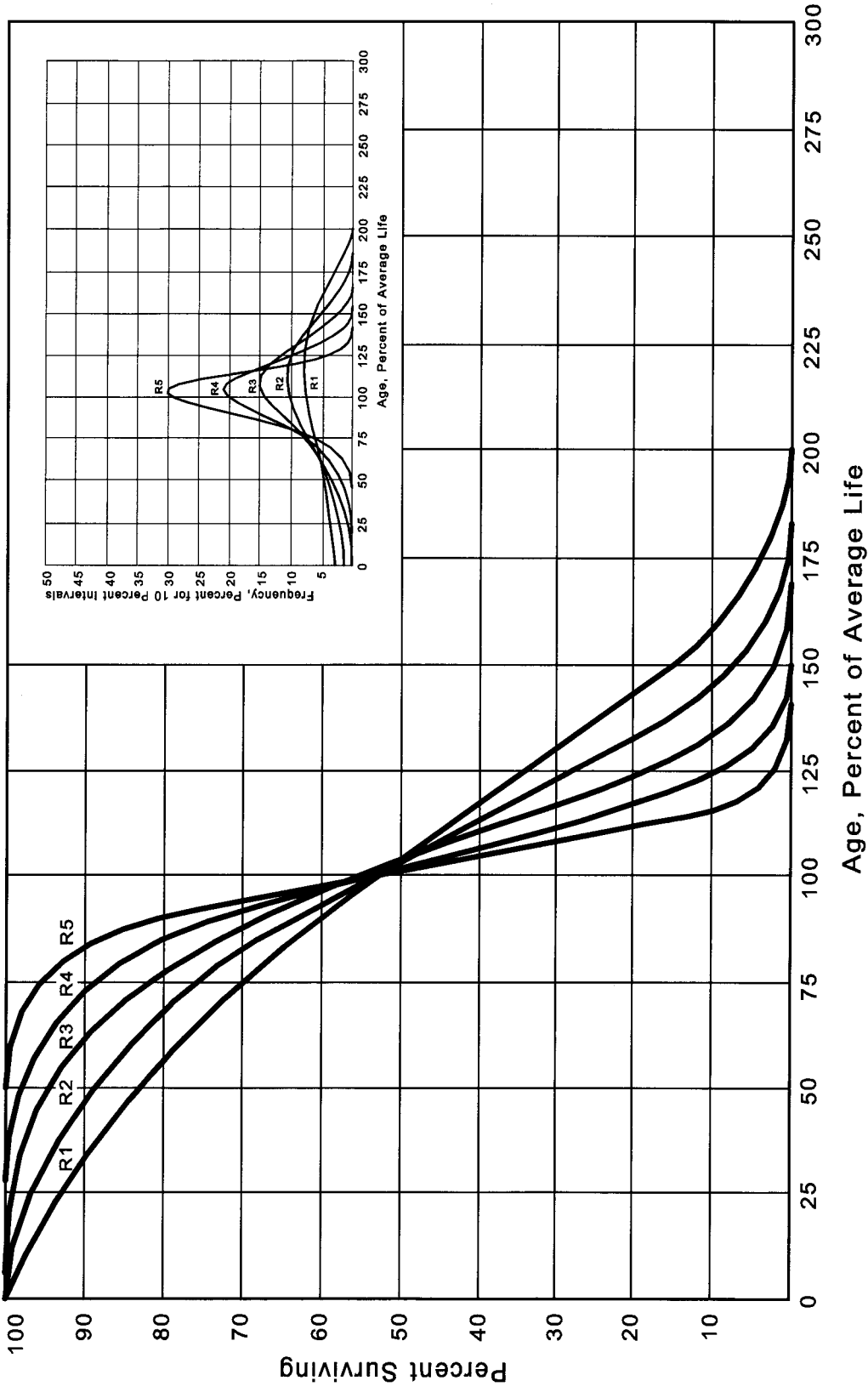
Figure 4. Right Modal or "R" Iowa Type Survivor Curves
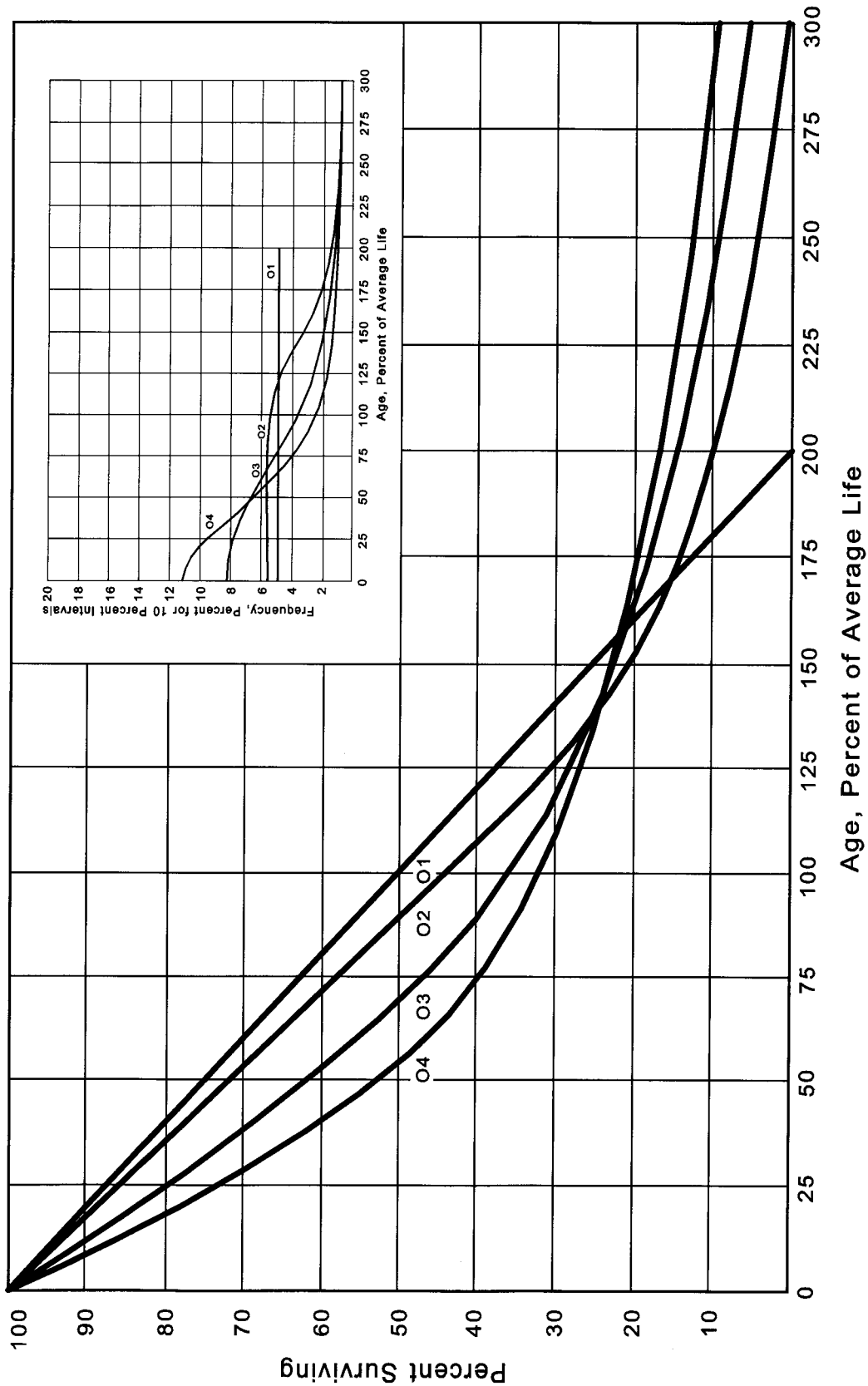
Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

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

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

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2004-2013 during which there were placements during the years 1999-2013. 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 1999 were retired in 2004. 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 2004 retirements of 1999 installations and ending with the 2013 retirements of the 2008 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 2004-2013 SUMMARIZED BY AGE INTERVAL

Experience Band 2004-2013

Placement Band 1999-2013

Retirements, Thousands of Dollars During Year

Year Placed	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total During Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1999	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2000	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2001	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2002	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2003	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2004	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2005		5	11	12	13	14	15	16	18	20	113	7½-8½
2006			6	12	13	15	16	17	19	19	124	6½-7½
2007				6	13	15	16	17	19	19	131	5½-6½
2008					7	14	16	17	19	20	143	4½-5½
2009						8	18	20	22	23	146	3½-4½
2010							9	20	22	25	150	2½-3½
2011								11	23	25	151	1½-2½
2012									11	24	153	½-1½
2013										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2004-2013
SUMMARIZED BY AGE INTERVAL

Experience Band 2004-2013

Placement Band 1999-2013

Acquisitions, Transfers and Sales, Thousands of Dollars

Placed (1)	During Year 2004 (2)	2005 (3)	2006 (4)	2007 (5)	2008 (6)	2009 (7)	2010 (8)	2011 (9)	2012 (10)	2013 (11)	Total During Age Interval (12)	Age Interval (13)
1999	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2000	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2001	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2002	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2003	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2004	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2005		-	-	-	-	-	-	-	-	-	6	7½-8½
2006			-	-	-	-	-	-	-	-	-	6½-7½
2007				-	-	-	-	(12)[b]	-	-	-	5½-6½
2008					-	-	-	-	22[a]	-	-	4½-5½
2009						-	-	(19)[b]	-	-	10	3½-4½
2010							-	-	-	-	-	2½-3½
2011								-	-	(102)[c]	(121)	1½-2½
2012										-	-	½-1½
2013												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 2004 through 2013 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 <u>exposed</u> to retirement in this group <u>at the beginning of the year</u> in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the <u>beginning of the following year</u>. 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 2009 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 2004-2013 SUMMARIZED BY AGE INTERVAL

Experience Band 2004-2013   Placement Band 1999-2013

Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year

Year Placed (1)	2004 (2)	2005 (3)	2006 (4)	2007 (5)	2008 (6)	2009 (7)	2010 (8)	2011 (9)	2012 (10)	2013 (11)	Total at Beginning of Age Interval (12)	Age Interval (13)
1999	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2000	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2001	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2002	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2003	376	367	257	346	334	321	307	267	280	261	1,097	9½-10½
2004	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2005		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2006			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2007				580[a]	574	561	546	530	501	482	3,057	5½-6½
2008					660[a]	653	639	623	628	609	3,789	4½-5½
2009						750[a]	742	724	685	663	4,332	3½-4½
2010							850[a]	841	821	799	4,955	2½-3½
2011								960[a]	949	923	5,719	1½-2½
2012									1,080[a]	1,069	6,579	½-1½
2013										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.

Gannett Fleming

For the entire experience band 2004-2013, 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 (Table 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

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

Experience Band 2004-2013   Placement Band 1999-2013

(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
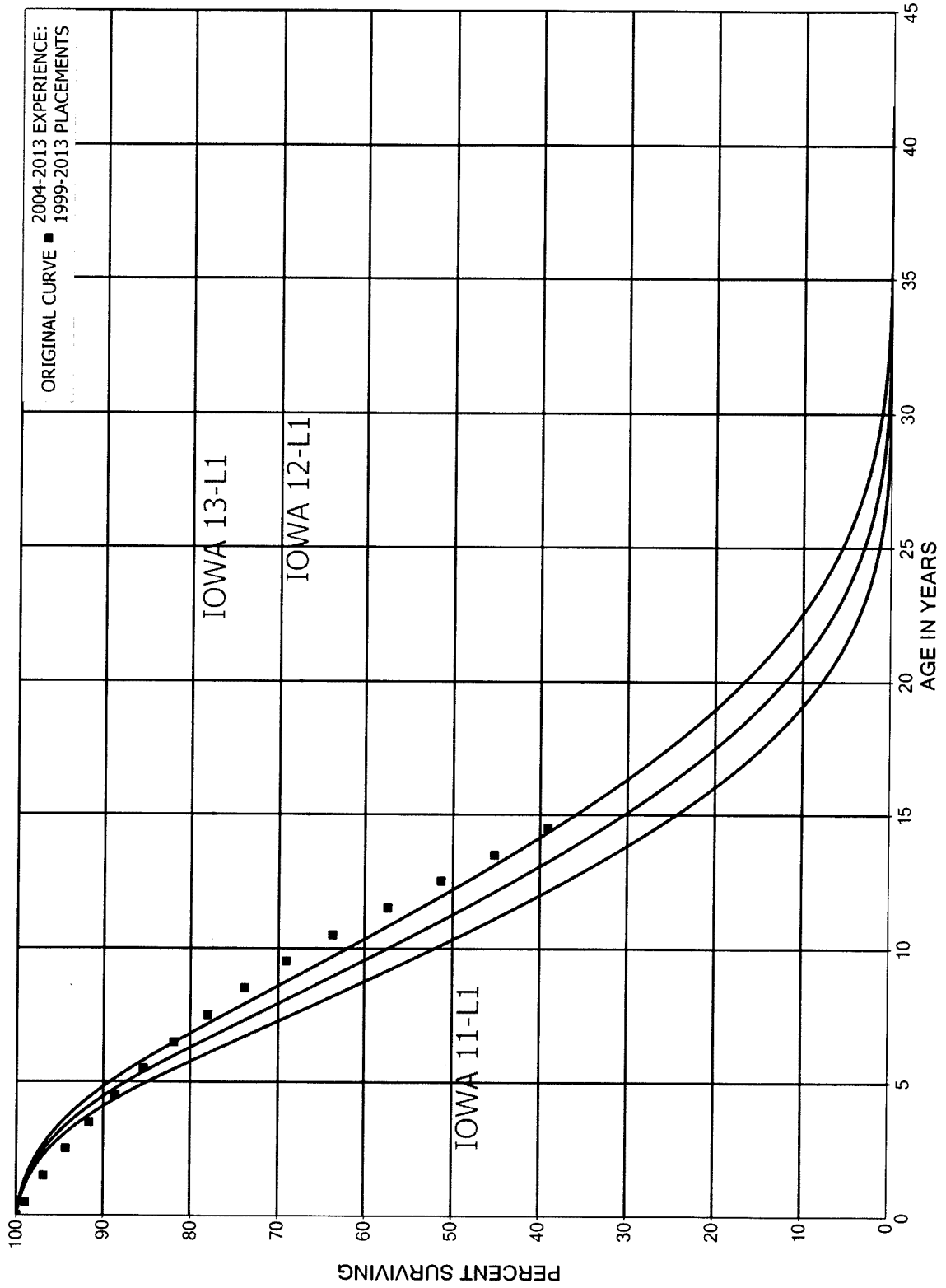
FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES
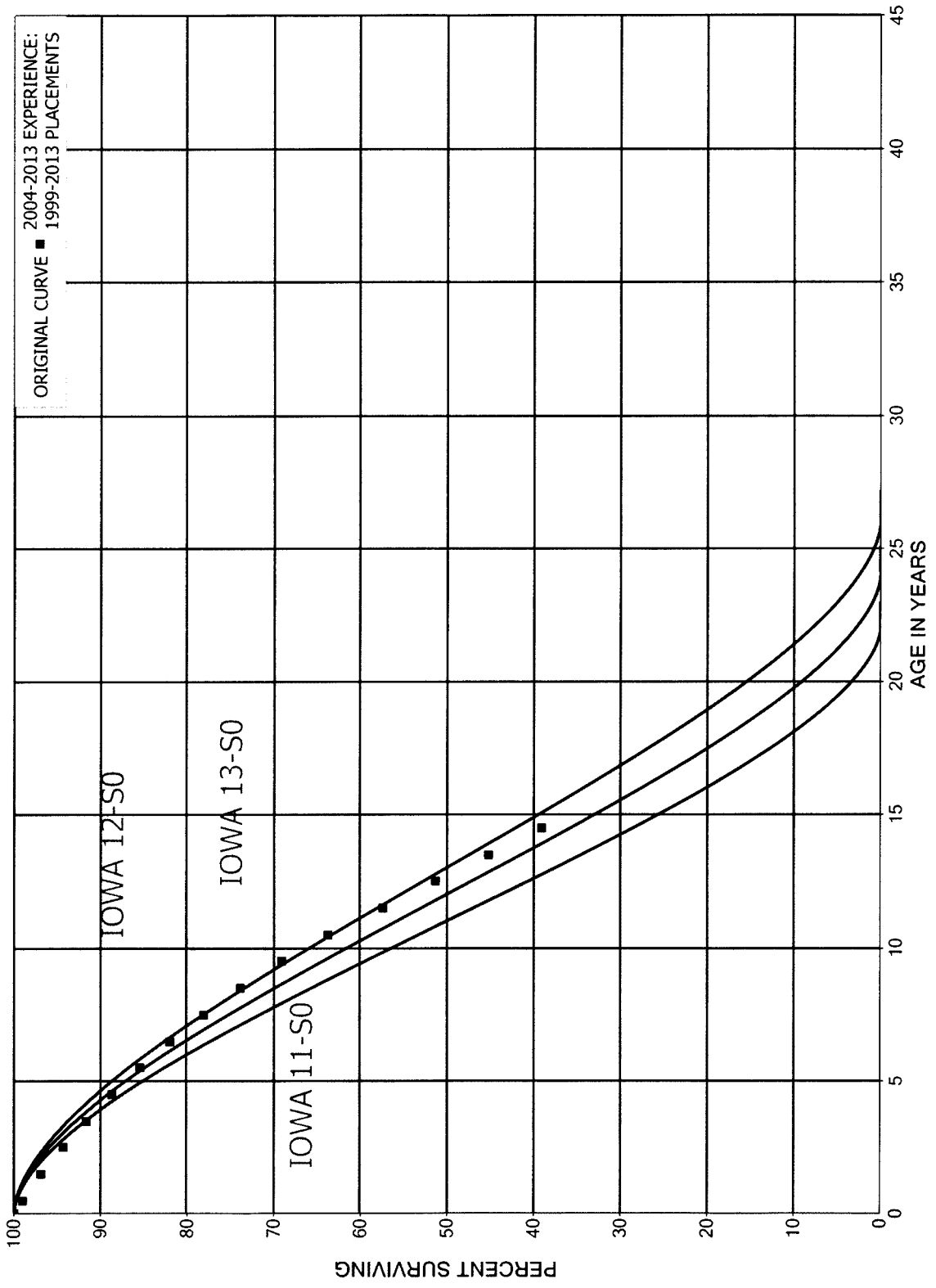
FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

Black Hills Kansas Gas
September 30, 2013
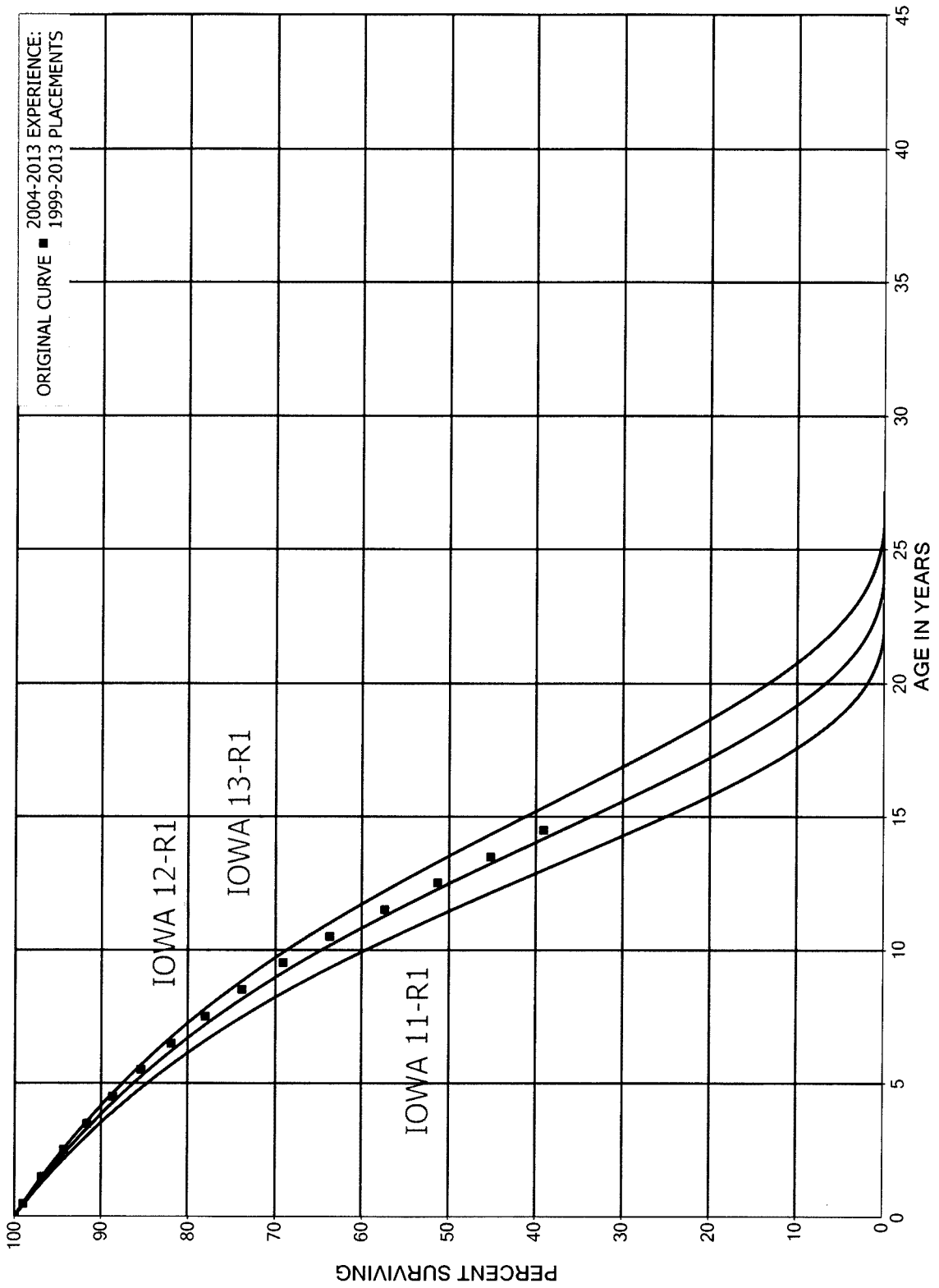
FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE

ORIGINAL AND SMOOTH SURVIVOR CURVES
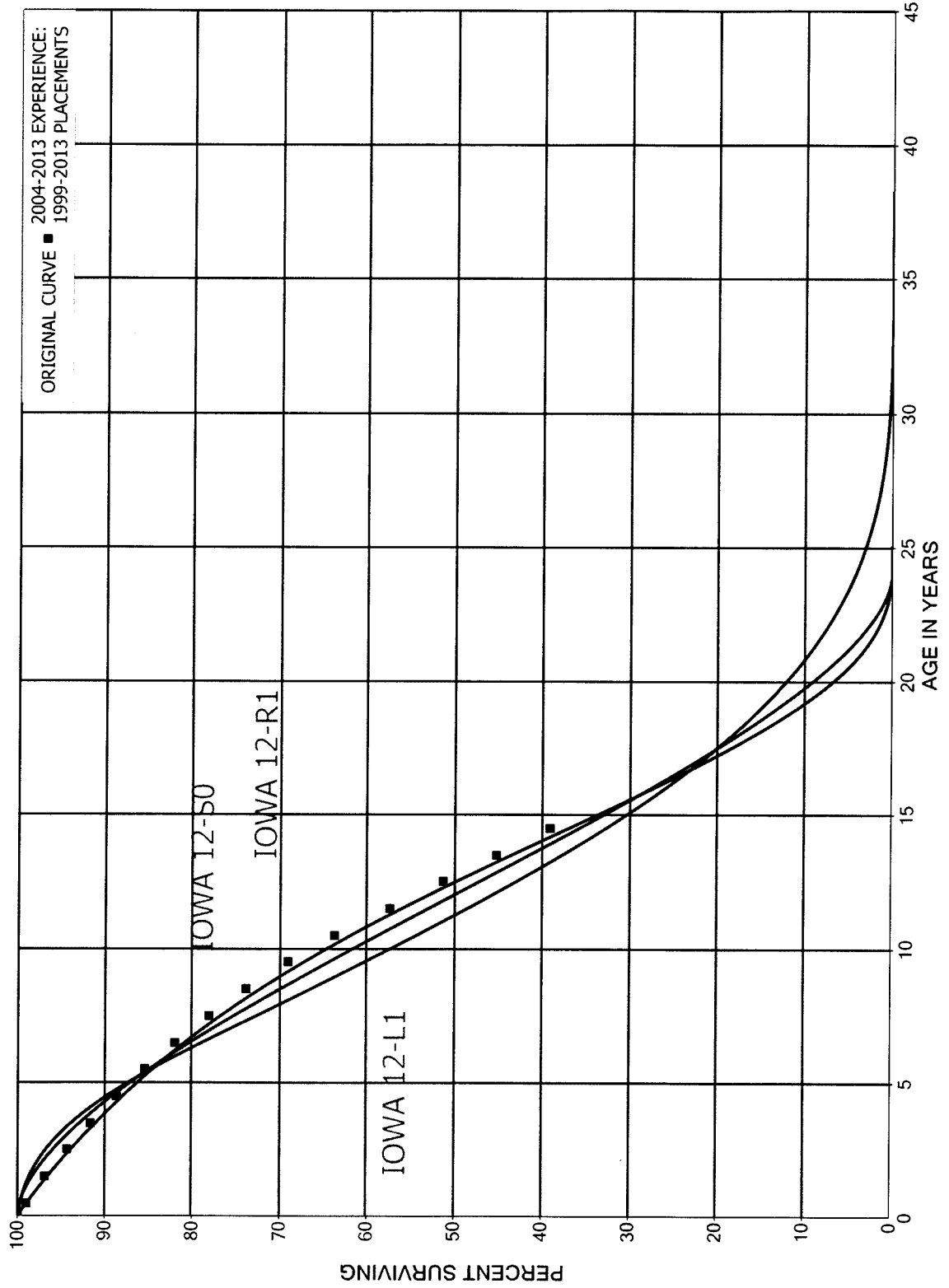
PART III. SERVICE LIFE CONSIDERATIONS

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 this field trip.

December 12, 2013
55th and Hoover Town Border Station
South Wichita Town Border Station
North Town Border Station
55th and West Street District Regulator Station
47th and West Street District Regulator Station
West and MacArthur Street District Regulator Station
Maize District Regulator Station
Maize Town Border Station
Sedgewick County Yard Meter Set
West Street and Bolin Industrial Measuring and Regulating Station
Wichita Service Center

SERVICE LIFE ANALYSIS

The service life estimates were based on informed judgment which considered a number of factors. The primary factors were the statistical analyses of data; current Company policies and outlook as determined during conversations with management; and the survivor curve estimates from previous studies of this company and other electric 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 91 percent of depreciable plant. Generally, the information external to the statistics led to no significant departure from the indicated survivor curves for the accounts listed below. The statistical support for the service life estimates is presented in the section beginning on page VII-2.

TRANSMISSION PLANT
      366.01   Structures and Improvements
      367.03   Mains – Steel
      367.73   Mains – Steel – Farm Tap
      369.03   Measuring and Regulating Station Equipment
      369.73   Measuring and Regulating Station Equipment – Farm Tap
      371.01   Other Equipment

DISTRIBUTION PLANT
      376.03   Mains - Steel
      376.07   Mains – Other Equipment
      376.25   Mains – PE/Plastic
      378.00   Measuring and Regulating Station Equipment - General
      380.03   Services – Steel
      380.25   Services – PE/Plastic
      382.01   Meter Installations
      383.01   House Regulators
      385.01   Industrial Measuring and Regulating Equipment
      387.00   Other Equipment

GENERAL PLANT
      390.01   Structures and Improvements – Owned
      392.03   Transportation Equipment – Light Trucks
      392.04   Transportation Equipment – Medium Trucks
      392.06   Transportation Equipment - Trailers

The estimated survivor curves for most property accounts are based on statistical analyses of plant accounting data and the range of lives and type curves used for other companies in the gas industry. Account 380.25, Services – PE/Plastic, is one of the largest plant accounts and is used to illustrate the manner in which the study was conducted for the groups using the retirement rate method. Aged retirement and other plant accounting data were compiled for the years 2006 through 2013. These data

were coded in the course of the Company's normal recordkeeping according to plant 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 data were analyzed by the retirement rate method of life analysis. The survivor curve chart for the account is presented on page VII-57 and the life table for the experience band is plotted on the chart that follows.

Typical service lives for services of other gas companies range from 40 to 55 years. The Iowa 50-R4 survivor curve is estimated to represent the future, inasmuch as it is a reasonable interpretation of the significant portion of the stub survivor curve through age 55, reflects the outlook of management and is at the upper end of the typical range of lives for this account.

Another large account is Account 376.03, Mains - Steel. The estimate of survivor characteristics is based on the 2006-2013 experience band. As the stub survivor curve chart illustrates, the experience band represents similar life characteristics and supports the 60-R2.5 survivor curve. The 60-year average life is within the range of lives used by others in the industry. Most other gas companies estimate lives between 55 and 70 years.

The estimated survivor curves for Accounts 392.03, Transportation Equipment – Light Trucks, Account 392.04, Transportation Equipment – Medium Trucks, and Account 392.06, Transportation Equipment - Trailers, are also based on statistical analyses of aged retirements during the period 2006-2013, using the retirement rate method. The 6-L2 for Account 392.03, 7-L2 for Account 392.04 and the 19-R2 for Account 392.06 are very good fits of the original survivor curves as shown on pages VII-94, VII-96 and VII-100, respectively, and are typical for the surviving equipment in these accounts.

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 2006 through 2013. 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 2006 through 2013 contributed significantly toward the net salvage estimates for 23 plant accounts, representing 89 percent of the depreciable plant, as follows:

TRANSMISSION PLANT
  367.01 Mains - Iron
  367.02 Mains - PE
  367.03 Mains - Steel
  367.73 Mains - Steel – Farm Tap
  369.03 Measuring and Regulating Station Equipment
  369.73 Measuring and Regulating Station Equipment – Farm Tap
  371.01 Other Equipment

DISTRIBUTION PLANT
  376.03 Mains – Steel
  376.07 Mains – Other Equipment
  376.25 Mains – PE/Plastic
  378.00 Measuring and Regulating Station Equipment – General
  379.00 Measuring and Regulating Station Equipment – City Gate
  380.03 Services - Steel
  380.04 Services - PVC
  380.25 Services - PE/Plastic
  382.01 Meter Installations
  383.01 House Regulators
  385.01 Industrial Measuring and Regulating Equipment
  387.00 Other Equipment

GENERAL PLANT
  392.03 Transportation Equipment – Light Trucks
  392.04 Transportation Equipment – Medium Trucks
  396.01 Power Operated Equipment – Short Life
  396.02 Power Operated Equipment – Long Life

The net salvage results for Accounts 376.03, Mains-Steel, and 380.03, Services-Steel, will be used to illustrate the methods for estimating net salvage. The net salvage estimate for the Account 376.03, Mains - Steel, is negative 10 percent and is based on the historical analysis of salvage percents as shown in the tabulation on page VIII-8 and the typical range of net salvage estimates used by other gas utilities for mains. The historical indication for the period 2006 through 2013 is negative 9 percent, however, the range of estimates for other gas companies is negative 20 to 50 percent. The 2009-2013 average was negative 5 percent net salvage. Based on the historical data and the range of estimates used by others, negative 10 percent net salvage is estimated for

Account 376.03, Mains - Steel. For Account 380.03, Services - Steel, the net salvage

estimate of negative 40 percent, is based on the historical analysis of salvage percents

as shown on page VIII-13. The average net salvage for this account for the period

2006-2013 is negative 57 percent and most recent five-year band, is negative 29

percent. The use of negative 40 percent net salvage is based on these indications and

the range for other gas companies of negative 20 to negative 150 percent for steel

services.

The net salvage estimates for the remaining plant accounts were estimated using

the above-described process of historical indications, judgment and reviewing the

typical range of estimates used by other gas companies. The results of the net salvage

for each plant account are presented in account sequence beginning in the section titled

"Net Salvage Statistics", page VIII-2.

Generally, the net salvage estimates for the general plant accounts were zero

percent, consistent with amortization accounting.

PART V. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

PART V. CALCULATION OF ANNUAL AND
ACCRUED DEPRECIATION

GROUP DEPRECIATION PROCEDURES

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

Single Unit of Property

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

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

The accrued depreciation is:

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

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of September 30, 2013, 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 September 30, 2013, 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:

ACCT	TITLE	AMORTIZATION PERIOD, YEARS
391,	Office Furniture and Equipment	
	Furniture	20
	Computer Hardware	5
393,	Stores Equipment	25
394,	Tools, Shop and Garage Equipment	25
395,	Laboratory Equipment	20
397,	Communication Equipment	15
398,	Miscellaneous Equipment	15

For the purpose of calculating annual amortization amounts as of September 30, 2013, 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 September 30, 2013. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to September 30, 2013, is reasonable for a period of three to five years.

DESCRIPTION OF DETAILED TABULATIONS

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 September 30, 2013 are presented in account sequence starting on page VIII-2 of the supporting documents. The tables indicate the estimated survivor curve and net salvage percent for the account and set forth, for each installation year, the original cost, the calculated accrued depreciation, the allocated book reserve, future accruals, the remaining life, and the calculated annual accrual amount.

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST AS OF SEPTEMBER 30, 2013 (4)	BOOK RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
PRODUCTION PLANT								
336.01 PURIFICATION EQUIPMENT	30 - S2	0	18,718.78	8,359	10,360	623	3.33	16.6
TOTAL PRODUCTION PLANT			**18,718.78**	**8,359**	**10,360**	**623**	**3.33**	**16.6**
TRANSMISSION PLANT								
366.01 STRUCTURES AND IMPROVEMENTS	40 - R2.5	(5)	111,517.87	84,000	33,094	2,179	1.95	15.2
366.71 STRUCTURES AND IMPROVEMENTS - FARM TAP	40 - R2.5	(5)	8,600.16	7,851	1,179	185	2.15	6.4
MAINS								
367.01 IRON	70 - R3	(10)	328,464.43	9,826	351,485	5,185	1.58	67.8
367.02 PE	65 - S2.5	(10)	880,394.62	110,562	857,872	15,098	1.71	56.8
367.03 STEEL	70 - R1	(10)	22,211,307.67	8,938,567	15,493,871	268,433	1.21	57.7
367.73 STEEL - FARM TAP	70 - R1	(10)	1,834,272.38	1,224,436	793,264	14,933	0.81	53.1
TOTAL MAINS			25,254,439.10	10,283,391	17,496,492	303,649	1.20	57.6
368.04 COMPRESSOR STATION EQUIPMENT	35 - S1.5	(5)	21,483.71	4,793	17,765	1,141	5.31	15.6
369.03 MEASURING AND REGULATING STATION EQUIPMENT	37 - S0.5	(5)	3,312,966.70	1,035,402	2,443,213	100,183	3.02	24.4
369.73 MEASURING AND REGULATING STATION EQUIPMENT - FARM TAP	37 - S0.5	(5)	51,471.37	22,620	31,425	1,541	2.99	20.4
371.01 OTHER EQUIPMENT	23 - L3	(1)	108,344.42	31,949	77,479	8,056	7.44	9.6
TOTAL TRANSMISSION PLANT			**28,868,823.33**	**11,470,006**	**20,100,547**	**416,934**	**1.44**	**48.2**
DISTRIBUTION PLANT								
375.01 STRUCTURES AND IMPROVEMENTS	35 - R2.5	(5)	161,380.22	29,120	140,329	10,691	6.62	13.1
MAINS								
376.03 STEEL	60 - R2.5	(10)	24,537,889.82	16,535,529	10,456,150	261,952	1.07	39.9
376.04 PVC	45 - R4	(10)	498,264.92	462,451	85,640	8,006	1.61	10.7
376.07 OTHER EQUIPMENT	30 - S0.5	0	634,850.83	33,835	601,016	23,884	3.76	25.2
376.25 PE / PLASTIC	55 - S2	(25)	46,815,119.60	15,913,459	42,605,440	970,883	2.07	43.9
TOTAL MAINS			72,486,125.17	32,945,274	53,748,246	1,264,725	1.74	42.5
377.00 COMPRESSOR EQUIPMENT	35 - S1.5	(5)	174,659.15	16,849	166,543	5,242	3.00	31.8
378.00 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL	40 - R2.5	(10)	2,853,293.62	1,194,225	1,944,398	72,147	2.53	27.0
379.00 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE	40 - L2.5	(10)	72,795.83	27,933	52,142	2,552	3.51	20.4
SERVICES								
380.03 STEEL	42 - R2	(40)	4,429,793.99	2,659,732	3,541,980	171,640	3.87	20.6
380.04 PVC	45 - S2	(20)	76,555.53	9,396	82,471	3,566	4.66	23.1
380.25 PE / PLASTIC	50 - R4	(20)	42,509,896.74	17,942,018	33,069,858	927,039	2.18	35.7
TOTAL SERVICES			47,016,246.26	20,611,146	36,694,309	1,102,245	2.34	33.3

BLACK HILLS KANSAS GAS
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION RATES AS OF SEPTEMBER 30, 2013

ACCOUNT (1)		SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST AS OF SEPTEMBER 30, 2013 (4)	BOOK RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
381.00	METERS	30 - L2	0	545,322.39	29,390	515,932	18,623	3.42	27.7
381.01	METERS - ERT	15 - S2.5	0	7,620,366.32	705,057	6,915,309	528,335	6.93	13.1
381.23	METERS - AMR / AMI	15 - S2.5	0	682,788.64	119,511	563,278	41,660	6.10	13.5
382.01	METER INSTALLATIONS	55 - S2.5	(5)	2,002,791.55	1,505,798	597,133	14,404	0.72	41.5
383.01	HOUSE REGULATORS	45 - R2.5	(15)	13,340,705.24	2,408,223	12,933,588	358,287	2.69	36.1
385.01	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	55 - R3	(10)	3,620,165.72	1,963,199	2,018,983	48,869	1.35	41.3
385.02	INDUSTRIAL METERS - LARGE	35 - S1.5	(5)	211,317.56	53,884	167,999	6,877	3.25	24.4
387.00	OTHER EQUIPMENT	28 - L3	0	385,025.65	221,245	163,781	6,527	1.70	25.1
	TOTAL DISTRIBUTION PLANT			151,172,983.32	61,830,854	116,621,970	3,481,184	2.30	33.5
	GENERAL PLANT								
	STRUCTURES AND IMPROVEMENTS								
390.01	OWNED	40 - R3	(5)	6,212,180.65	609,895	5,912,895	165,218	2.66	35.8
390.51	LEASED	20 - S3	0	56,360.76	30,279	26,082	1,920	3.41	13.6
	TOTAL STRUCTURES AND IMPROVEMENTS			6,268,541.41	640,174	5,938,977	167,138	2.67	35.5
391.01	OFFICE FURNITURE AND EQUIPMENT - FURNITURE								
	FULLY ACCRUED			152,556.37	152,556	0	0	-	-
	AMORTIZED	20 - SQ	0	492,860.12	1,892	490,968	54,579	11.07 *	9.0
	TOTAL FURNITURE			645,416.49	154,448	490,968	54,579	8.46	
391.03	OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE								
	FULLY ACCRUED			513,276.03	513,276	0	0	-	-
	AMORTIZED	5 - SQ	0	606,366.10	3,739	602,627	286,159	47.19 *	2.1
	TOTAL COMPUTER HARDWARE			1,119,642.13	517,015	602,627	286,159	25.56	
391.04	OFFICE FURNITURE AND EQUIPMENT - SOFTWARE	7 - S4	0	7,150.62	5,405	1,746	1,746	24.42	1.0
	TOTAL OFFICE FURNITURE AND EQUIPMENT			1,772,209.24	676,868	1,095,341	342,484	19.33	3.2
	TRANSPORTATION EQUIPMENT								
392.01	SUBUNIT	7 - L4	25	27,324.44	5,533	14,960	3,149	11.52	4.8
392.02	CARS	4 - L2	25	161,147.69	24,592	96,269	47,708	29.61	2.0
392.03	LIGHT TRUCKS	6 - L2	30	1,669,488.62	314,478	854,164	220,840	13.23	3.9
392.04	MEDIUM TRUCKS	7 - L2	30	1,493,853.29	307,986	737,711	185,196	12.40	4.0
392.05	HEAVY TRUCKS	10 - L3	30	224,702.29	38,920	118,372	19,391	8.63	6.1
392.06	TRAILERS	19 - R2	20	150,959.25	42,263	78,504	8,772	5.81	8.9
	TOTAL TRANSPORTATION EQUIPMENT			3,727,475.58	733,772	1,899,980	485,056	13.01	3.9
393.00	STORES EQUIPMENT	25 - SQ	0	25,828.45	18,570	7,258	685	2.65 *	10.6
394.00	TOOLS, SHOP AND GARAGE EQUIPMENT								
	FULLY ACCRUED			246,816.45	246,816	0	0	-	-
	AMORTIZED	25 - SQ	0	1,597,526.68	719,392	878,135	41,200	2.58 *	21.3
	TOTAL TOOLS, SHOP AND GARAGE EQUIPMENT			1,844,343.13	966,208	878,135	41,200	2.23	

BLACK HILLS KANSAS GAS
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK RESERVE AND CALCULATED
ANNUAL DEPRECIATION RATES AS OF SEPTEMBER 30, 2013

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST AS OF SEPTEMBER 30, 2013 (4)	BOOK RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
395.00 LABORATORY EQUIPMENT								
FULLY ACCRUED			16,984.67	16,985	0	0	-	
AMORTIZED	20 - SQ	0	47,272.34	35,980	11,292	731	1.55 *	15.4
TOTAL LABORATORY EQUIPMENT			64,257.01	52,965	11,292	731	1.14	
POWER OPERATED EQUIPMENT								
396.01 SHORT LIFE	15 - S1.5	25	206,144.25	100,039	54,569	4,840	2.35	11.3
396.02 LONG LIFE	20 - S2.5	25	376,530.01	106,701	175,697	10,666	2.83	16.5
TOTAL POWER OPERATED EQUIPMENT			582,674.26	206,740	230,266	15,506	2.66	14.9
397.00 COMMUNICATION EQUIPMENT								
FULLY ACCRUED			165,314.52	165,315	0	0	-	
AMORTIZED	15 - SQ	0	903,342.12	200,687	702,655	135,213	14.97 *	5.2
TOTAL COMMUNICATION EQUIPMENT			1,068,656.64	366,002	702,655	135,213	12.65	
398.00 MISCELLANEOUS EQUIPMENT								
FULLY ACCRUED			12,550.55	12,551	0	0	-	
AMORTIZED	15 - SQ	0	10,218.11	5,725	4,493	2,795	27.35 *	1.6
TOTAL MISCELLANEOUS EQUIPMENT			22,768.66	18,276	4,493	2,795	12.28	
TOTAL GENERAL PLANT			15,376,754.38	3,679,575	10,768,397	1,190,808	7.74	9.0
TOTAL DEPRECIABLE PLANT			195,437,279.81	76,988,794	147,501,374	5,089,549	2.60	29.0
NONDEPRECIABLE AND ACCOUNTS NOT STUDIED								
301.00 ORGANIZATION			186,931.82	130,156				
302.00 FRANCHISES AND CONSENTS			74,989.75	65,656				
303.00 MISCELLANEOUS INTANGIBLE PLANT			1,039,860.39	108,881				
303.01 MISCELLANEOUS INTANGIBLE PLANT - EASEMENTS			1,730,332.20	445,935				
303.02 MISCELLANEOUS INTANGIBLE PLANT - TRADEMARKS			181,000.00	575,755				
303.07 MISCELLANEOUS INTANGIBLE PLANT - FARM TAP			295,645.70	295,097				
365.01 LAND			10,130.51					
365.02 LAND RIGHTS			501,788.01					
365.71 LAND - FARM TAP			643.94					
365.72 LAND RIGHTS - FARM TAP			2,100.26					
374.01 LAND			230,634.62					
374.02 LAND RIGHTS			154,332.63					
389.01 LAND			426,291.73					
TOTAL NONDEPRECIABLE AND ACCOUNTS NOT STUDIED			4,834,681.56	1,621,480				
TOTAL GAS PLANT			200,271,961.37	78,610,274	147,501,374	5,089,549		

* ADDITIONS AS OF JANUARY 1, 2014 WILL UTILIZE THE STANDARD AMORTIZATION RATE.

PART VII. SERVICE LIFE STATISTICS

BLACK HILLS KANSAS GAS
ACCOUNT 336.01 PURIFICATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 30-S2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1999-2000 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS
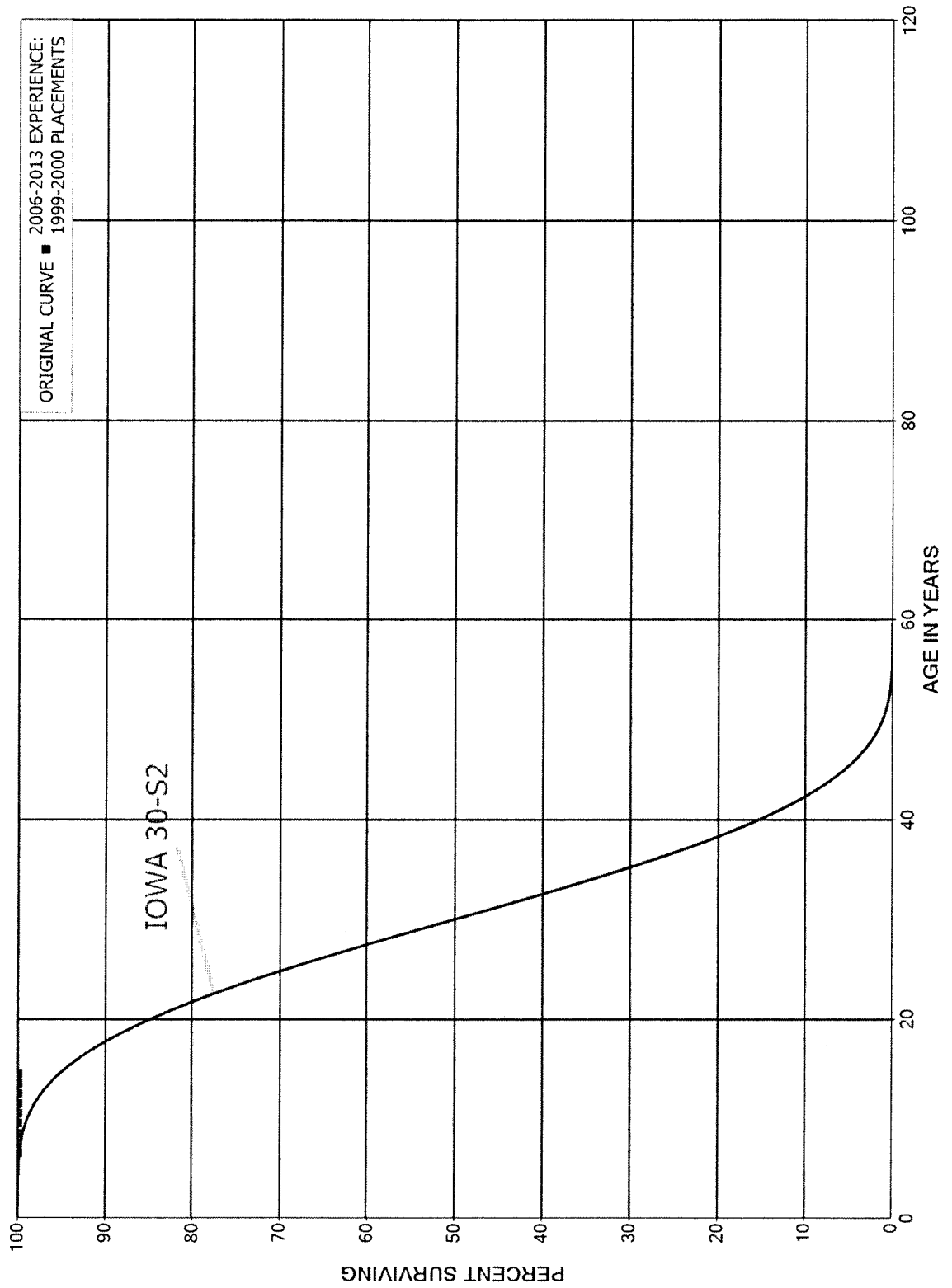
BLACK HILLS KANSAS GAS

ACCOUNT 336.01 PURIFICATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1999-2000   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5	18,719		0.0000	1.0000	100.00
7.5	18,719		0.0000	1.0000	100.00
8.5	18,719		0.0000	1.0000	100.00
9.5	18,719		0.0000	1.0000	100.00
10.5	18,719		0.0000	1.0000	100.00
11.5	18,719		0.0000	1.0000	100.00
12.5	18,719		0.0000	1.0000	100.00
13.5	18,719		0.0000	1.0000	100.00
14.5					100.00

BLACK HILLS KANSAS GAS
ACCOUNT 366.01 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES

BLACK HILLS KANSAS GAS

ACCOUNT 366.01 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2000   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5	8,437		0.0000	1.0000	100.00
9.5	14,566		0.0000	1.0000	100.00
10.5	16,830		0.0000	1.0000	100.00
11.5	17,919		0.0000	1.0000	100.00
12.5	17,919		0.0000	1.0000	100.00
13.5	17,919		0.0000	1.0000	100.00
14.5	17,919		0.0000	1.0000	100.00
15.5	17,919		0.0000	1.0000	100.00
16.5	9,482	2,264	0.2388	0.7612	100.00
17.5	1,088		0.0000	1.0000	76.12
18.5	5,335		0.0000	1.0000	76.12
19.5	4,253		0.0000	1.0000	76.12
20.5	9,426		0.0000	1.0000	76.12
21.5	16,108		0.0000	1.0000	76.12
22.5	19,511		0.0000	1.0000	76.12
23.5	50,112		0.0000	1.0000	76.12
24.5	55,789		0.0000	1.0000	76.12
25.5	61,984		0.0000	1.0000	76.12
26.5	60,688		0.0000	1.0000	76.12
27.5	60,681		0.0000	1.0000	76.12
28.5	55,508		0.0000	1.0000	76.12
29.5	57,660		0.0000	1.0000	76.12
30.5	56,328		0.0000	1.0000	76.12
31.5	25,728	4,775	0.1856	0.8144	76.12
32.5	15,275	2,615	0.1712	0.8288	61.99
33.5	11,713		0.0000	1.0000	51.38
34.5	17,756		0.0000	1.0000	51.38
35.5	22,603		0.0000	1.0000	51.38
36.5	26,513	2,071	0.0781	0.9219	51.38
37.5	16,267		0.0000	1.0000	47.37
38.5	17,002		0.0000	1.0000	47.37

PLACEMENT BAND 1932-2000   EXPERIENCE BAND 2006-2013

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	17,002		0.0000	1.0000	47.37
40.5	17,194		0.0000	1.0000	47.37
41.5	17,048		0.0000	1.0000	47.37
42.5	10,670		0.0000	1.0000	47.37
43.5	5,933		0.0000	1.0000	47.37
44.5	2,622	40	0.0153	0.9847	47.37
45.5	7,856		0.0000	1.0000	46.64
46.5	7,161		0.0000	1.0000	46.64
47.5	13,252	235	0.0177	0.9823	46.64
48.5	13,200		0.0000	1.0000	45.82
49.5	16,960	194	0.0114	0.9886	45.82
50.5	21,506	200	0.0093	0.9907	45.29
51.5	21,571	5,933	0.2751	0.7249	44.87
52.5	18,239		0.0000	1.0000	32.53
53.5	18,714	475	0.0254	0.9746	32.53
54.5	18,239		0.0000	1.0000	31.70
55.5	12,148	3,658	0.3011	0.6989	31.70
56.5	8,240		0.0000	1.0000	22.16
57.5	8,240		0.0000	1.0000	22.16
58.5	3,500	3,000	0.8572	0.1428	22.16
59.5	125		0.0000	1.0000	3.16
60.5	205		0.0000	1.0000	3.16
61.5	205		0.0000	1.0000	3.16
62.5	205	125	0.6098	0.3902	3.16
63.5	250		0.0000	1.0000	1.24
64.5	250		0.0000	1.0000	1.24
65.5	250		0.0000	1.0000	1.24
66.5	545	80	0.1467	0.8533	1.24
67.5	465		0.0000	1.0000	1.05
68.5	465		0.0000	1.0000	1.05
69.5	465	170	0.3653	0.6347	1.05
70.5	295		0.0000	1.0000	0.67
71.5	295		0.0000	1.0000	0.67
72.5	445	295	0.6632	0.3368	0.67
73.5	150		0.0000	1.0000	0.23
74.5	150		0.0000	1.0000	0.23
75.5	150		0.0000	1.0000	0.23
76.5	150		0.0000	1.0000	0.23
77.5	150		0.0000	1.0000	0.23
78.5	150		0.0000	1.0000	0.23
79.5	150		0.0000	1.0000	0.23
80.5					0.23

BLACK HILLS KANSAS GAS

ACCOUNT 366.71 STRUCTURES AND IMPROVEMENTS - FARM TAP
ORIGINAL AND SMOOTH SURVIVOR CURVES
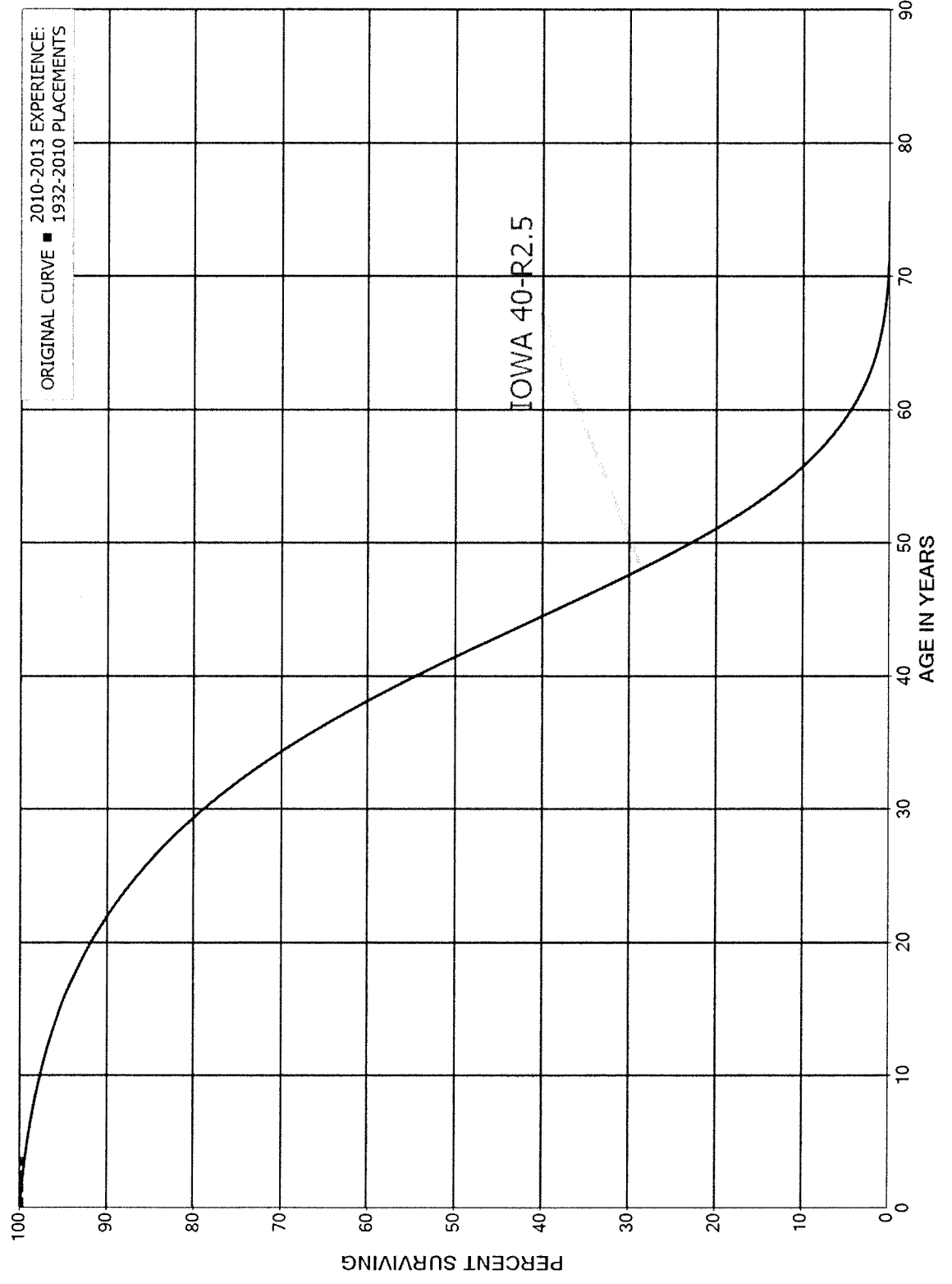
ORIGINAL CURVE ■ 2010-2013 EXPERIENCE:
1932-2010 PLACEMENTS

IOWA 40-R2.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 366.71 STRUCTURES AND IMPROVEMENTS - FARM TAP

ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2010   EXPERIENCE BAND 2010-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	522		0.0000	1.0000	100.00
0.5	522		0.0000	1.0000	100.00
1.5	522		0.0000	1.0000	100.00
2.5	522		0.0000	1.0000	100.00
3.5					100.00
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

BLACK HILLS KANSAS GAS

ACCOUNT 366.71 STRUCTURES AND IMPROVEMENTS - FARM TAP

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2010 EXPERIENCE BAND 2010-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5	4,775		0.0000		
54.5	4,775		0.0000		
55.5	4,775		0.0000		
56.5	9,842		0.0000		
57.5	5,067		0.0000		
58.5	5,067	1,764	0.3482		
59.5	3,303		0.0000		
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5	432		0.0000		
71.5	432		0.0000		
72.5	432	432	1.0000		
73.5					
74.5					
75.5					
76.5					
77.5	361		0.0000		
78.5	361		0.0000		
79.5	361	361	1.0000		
80.5					

BLACK HILLS KANSAS GAS
ACCOUNT 367.01 MAINS - IRON
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2011-2013 EXPERIENCE:
2011-2011 PLACEMENTS

IOWA 70-R3

PERCENT SURVIVING

AGE IN YEARS

Black Hills Kansas Gas
September 30, 2013
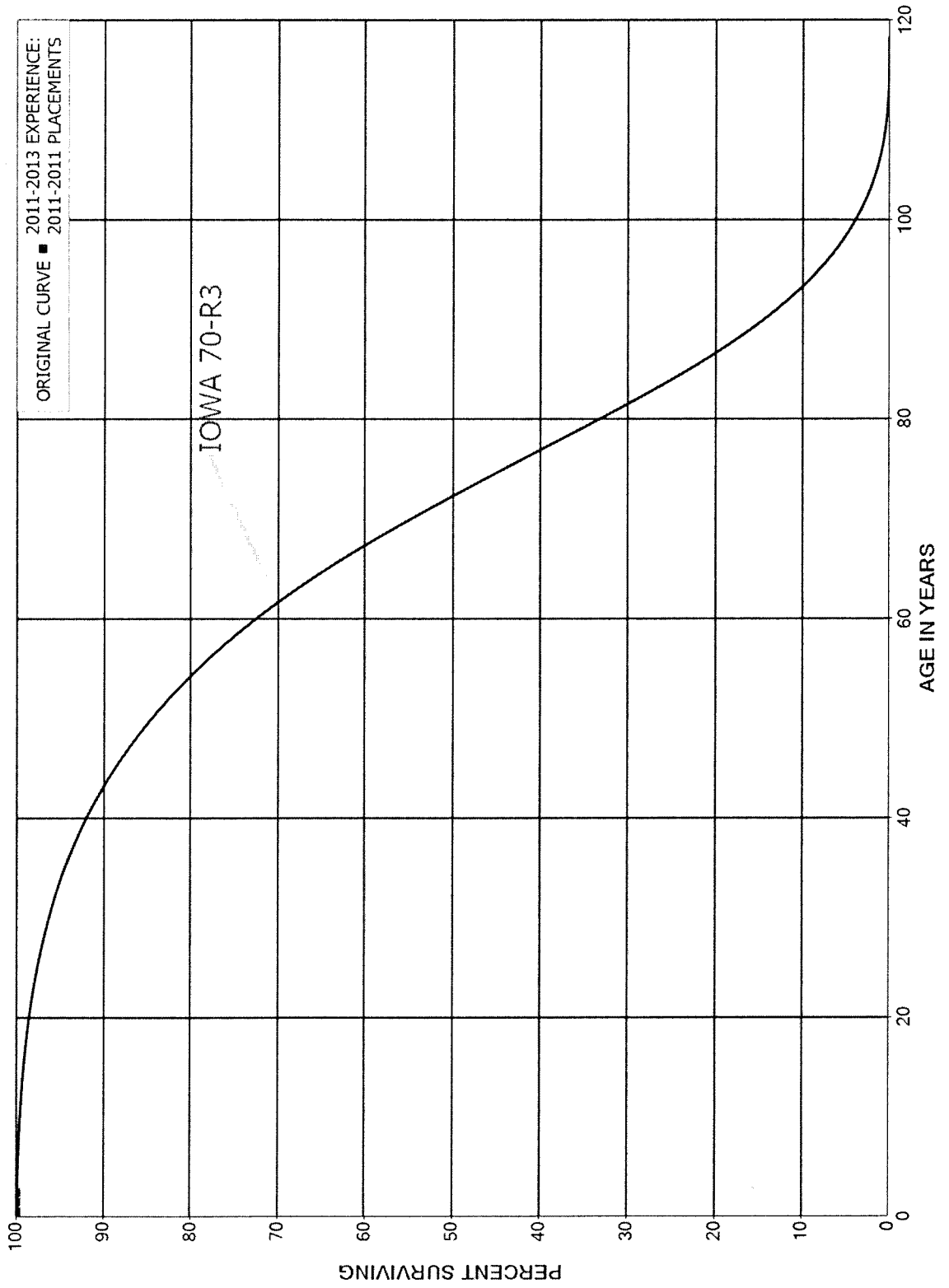
BLACK HILLS KANSAS GAS

ACCOUNT 367.01 MAINS - IRON

ORIGINAL LIFE TABLE

PLACEMENT BAND 2011-2011   EXPERIENCE BAND 2011-2013

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	328,464		0.0000		
0.5	328,464		0.0000	1.0000	100.00
1.5	328,464		0.0000	1.0000	100.00
2.5					100.00

BLACK HILLS KANSAS GAS

ACCOUNT 367.02 MAINS - PE

ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2007-2013 EXPERIENCE:
1980-2013 PLACEMENTS

IOWA 65-S2.5

PERCENT SURVIVING

AGE IN YEARS
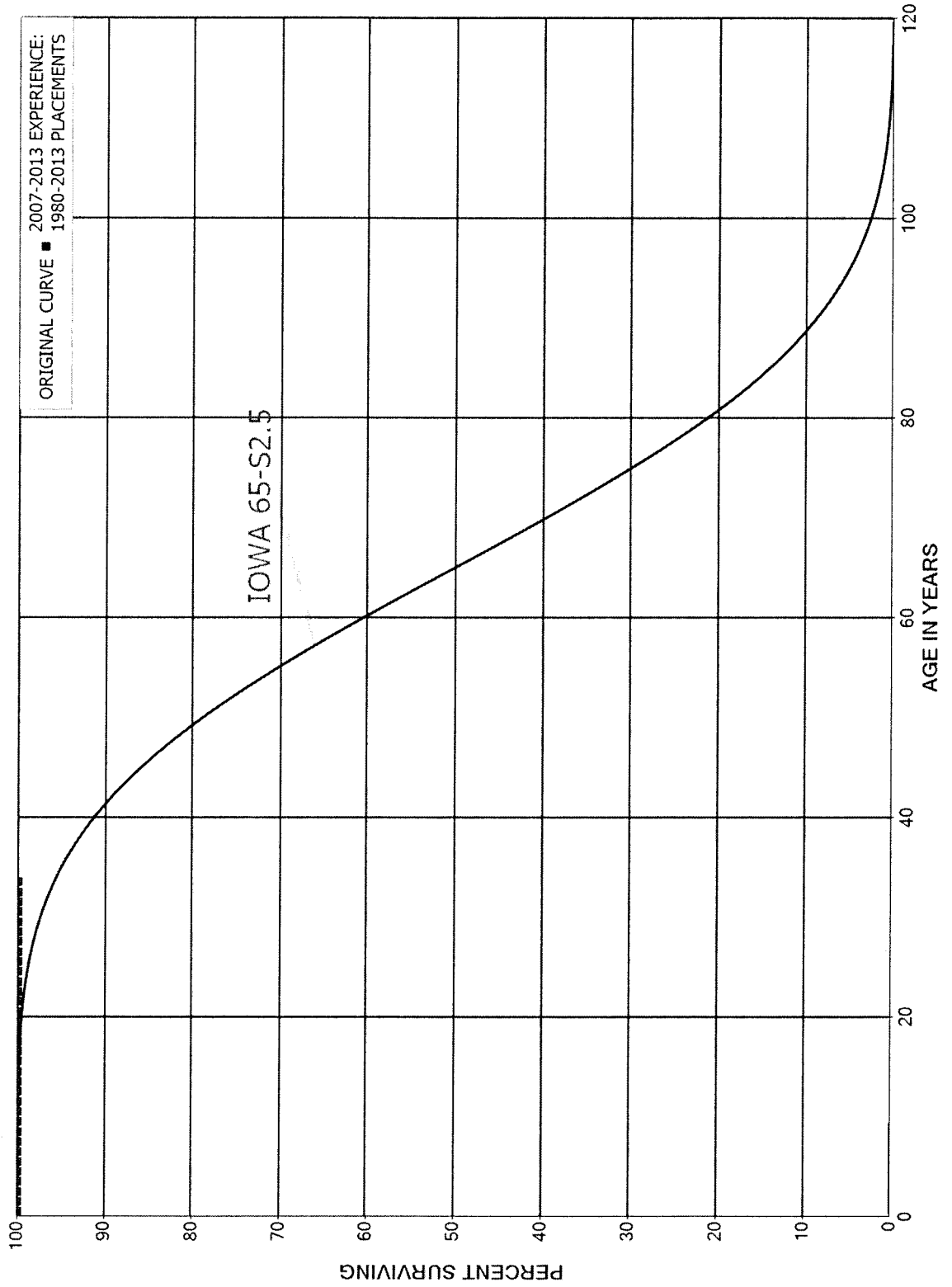
BLACK HILLS KANSAS GAS

ACCOUNT 367.02 MAINS - PE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1980-2013   EXPERIENCE BAND 2007-2013

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	588,566		0.0000	1.0000	100.00
0.5	553,657	4	0.0000	1.0000	100.00
1.5	144,984		0.0000	1.0000	100.00
2.5	164,614		0.0000	1.0000	100.00
3.5	165,944		0.0000	1.0000	100.00
4.5	165,944		0.0000	1.0000	100.00
5.5	136,819		0.0000	1.0000	100.00
6.5	87,197		0.0000	1.0000	100.00
7.5	96,689		0.0000	1.0000	100.00
8.5	103,195		0.0000	1.0000	100.00
9.5	84,097		0.0000	1.0000	100.00
10.5	86,073		0.0000	1.0000	100.00
11.5	86,541		0.0000	1.0000	100.00
12.5	79,235		0.0000	1.0000	100.00
13.5	57,709		0.0000	1.0000	100.00
14.5	31,018		0.0000	1.0000	100.00
15.5	10,258		0.0000	1.0000	100.00
16.5	10,258		0.0000	1.0000	100.00
17.5	6,952		0.0000	1.0000	100.00
18.5	6,484		0.0000	1.0000	100.00
19.5	1,660		0.0000	1.0000	100.00
20.5	1,660		0.0000	1.0000	100.00
21.5	1,660		0.0000	1.0000	100.00
22.5	130,677		0.0000	1.0000	100.00
23.5	130,677		0.0000	1.0000	100.00
24.5	130,677		0.0000	1.0000	100.00
25.5	136,194		0.0000	1.0000	100.00
26.5	141,245		0.0000	1.0000	100.00
27.5	141,245		0.0000	1.0000	100.00
28.5	141,245		0.0000	1.0000	100.00
29.5	10,569		0.0000	1.0000	100.00
30.5	10,569		0.0000	1.0000	100.00
31.5	10,569		0.0000	1.0000	100.00
32.5	5,051		0.0000	1.0000	100.00
33.5					100.00

BLACK HILLS KANSAS GAS
ACCOUNTS 367.03 AND 367.73 MAINS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 70-R1

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1925-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNTS 367.03 AND 367.73 MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1925-2013   EXPERIENCE BAND 2006-2013

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	5,553,344		0.0000	1.0000	100.00
0.5	5,902,511		0.0000	1.0000	100.00
1.5	5,281,562		0.0000	1.0000	100.00
2.5	5,424,799	207,467	0.0382	0.9618	100.00
3.5	4,344,208		0.0000	1.0000	96.18
4.5	3,323,234	116,100	0.0349	0.9651	96.18
5.5	3,671,901		0.0000	1.0000	92.82
6.5	4,249,519		0.0000	1.0000	92.82
7.5	5,441,288	49,158	0.0090	0.9910	92.82
8.5	5,780,310	142,547	0.0247	0.9753	91.98
9.5	5,483,224	12,646	0.0023	0.9977	89.71
10.5	5,662,143		0.0000	1.0000	89.50
11.5	5,920,349	343,751	0.0581	0.9419	89.50
12.5	4,799,498	64,011	0.0133	0.9867	84.31
13.5	4,622,002	59,307	0.0128	0.9872	83.18
14.5	5,283,779	502	0.0001	0.9999	82.11
15.5	4,013,417		0.0000	1.0000	82.11
16.5	3,584,913		0.0000	1.0000	82.11
17.5	3,969,380		0.0000	1.0000	82.11
18.5	4,343,466		0.0000	1.0000	82.11
19.5	4,089,430		0.0000	1.0000	82.11
20.5	4,016,442		0.0000	1.0000	82.11
21.5	4,063,028		0.0000	1.0000	82.11
22.5	2,957,153	3,061	0.0010	0.9990	82.11
23.5	3,589,890	1,822	0.0005	0.9995	82.02
24.5	3,945,316	617	0.0002	0.9998	81.98
25.5	3,531,105	5,717	0.0016	0.9984	81.97
26.5	3,209,922		0.0000	1.0000	81.83
27.5	3,171,841	8,871	0.0028	0.9972	81.83
28.5	3,138,194	3,780	0.0012	0.9988	81.60
29.5	3,039,329	7,266	0.0024	0.9976	81.51
30.5	2,754,269	3,228	0.0012	0.9988	81.31
31.5	1,959,512		0.0000	1.0000	81.22
32.5	1,454,235	11,222	0.0077	0.9923	81.22
33.5	1,334,884	3,936	0.0029	0.9971	80.59
34.5	1,038,505		0.0000	1.0000	80.35
35.5	990,316		0.0000	1.0000	80.35
36.5	923,045		0.0000	1.0000	80.35
37.5	1,041,251	31,501	0.0303	0.9697	80.35
38.5	960,759	6,077	0.0063	0.9937	77.92

PLACEMENT BAND 1925-2013   EXPERIENCE BAND 2006-2013

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	983,331		0.0000	1.0000	77.43
40.5	1,076,441		0.0000	1.0000	77.43
41.5	1,247,209	2,063	0.0017	0.9983	77.43
42.5	1,392,730		0.0000	1.0000	77.30
43.5	1,383,342		0.0000	1.0000	77.30
44.5	2,312,865		0.0000	1.0000	77.30
45.5	2,321,433	3,820	0.0016	0.9984	77.30
46.5	2,165,010	21,128	0.0098	0.9902	77.17
47.5	1,956,659	2	0.0000	1.0000	76.42
48.5	1,749,688	24,385	0.0139	0.9861	76.42
49.5	1,617,657	8,716	0.0054	0.9946	75.35
50.5	1,670,260	17,656	0.0106	0.9894	74.95
51.5	1,658,516	6,275	0.0038	0.9962	74.16
52.5	692,839	2,418	0.0035	0.9965	73.88
53.5	555,809	117	0.0002	0.9998	73.62
54.5	558,273		0.0000	1.0000	73.60
55.5	547,207		0.0000	1.0000	73.60
56.5	510,573		0.0000	1.0000	73.60
57.5	843,938		0.0000	1.0000	73.60
58.5	485,101		0.0000	1.0000	73.60
59.5	449,324	900	0.0020	0.9980	73.60
60.5	435,181	635	0.0015	0.9985	73.46
61.5	432,290		0.0000	1.0000	73.35
62.5	430,058		0.0000	1.0000	73.35
63.5	432,567	1,100	0.0025	0.9975	73.35
64.5	430,950		0.0000	1.0000	73.16
65.5	11,942		0.0000	1.0000	73.16
66.5	10,261		0.0000	1.0000	73.16
67.5	9,166		0.0000	1.0000	73.16
68.5	79,724		0.0000	1.0000	73.16
69.5	134,189	9,490	0.0707	0.9293	73.16
70.5	126,172	9,808	0.0777	0.9223	67.99
71.5	213,902	6,476	0.0303	0.9697	62.70
72.5	216,939	8,721	0.0402	0.9598	60.80
73.5	228,351		0.0000	1.0000	58.36
74.5	227,091	1,498	0.0066	0.9934	58.36
75.5	225,593	6,410	0.0284	0.9716	57.97
76.5	332,736		0.0000	1.0000	56.33
77.5	287,357	1	0.0000	1.0000	56.33
78.5	284,242		0.0000	1.0000	56.33

PLACEMENT BAND 1925-2013   EXPERIENCE BAND 2006-2013

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	181,504		0.0000	1.0000	56.33
80.5	175,106		0.0000	1.0000	56.33
81.5	154,973		0.0000	1.0000	56.33
82.5	154,973		0.0000	1.0000	56.33
83.5	154,973	2,469	0.0159	0.9841	56.33
84.5	1,680		0.0000	1.0000	55.43
85.5					55.43

BLACK HILLS KANSAS GAS

ACCOUNT 368.04 COMPRESSOR STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1950-2002 PLACEMENTS

IOWA 35-S1.5

PERCENT SURVIVING

AGE IN YEARS

ACCOUNT 368.04 COMPRESSOR STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2002   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5	20,927		0.0000		
10.5	21,820		0.0000		
11.5	21,820		0.0000		
12.5	21,820		0.0000		
13.5	105,227	3,290	0.0313	0.9687	100.00
14.5	125,064		0.0000	1.0000	96.87
15.5	140,869		0.0000	1.0000	96.87
16.5	142,976		0.0000	1.0000	96.87
17.5	148,268		0.0000	1.0000	96.87
18.5	147,376		0.0000	1.0000	96.87
19.5	147,376	82,882	0.5624	0.4376	96.87
20.5	64,493	23,126	0.3586	0.6414	42.39
21.5	40,841	15,806	0.3870	0.6130	27.19
22.5	25,036	2,107	0.0842	0.9158	16.67
23.5	22,929	22,929	1.0000		15.27
24.5	154,991		0.0000	1.0000	
25.5	155,182		0.0000	1.0000	
26.5	155,182		0.0000	1.0000	
27.5	155,182		0.0000	1.0000	
28.5	155,672		0.0000	1.0000	
29.5	155,672		0.0000	1.0000	
30.5	158,077	154,991	0.9805	0.0195	
31.5	11,081	191	0.0172	0.9828	
32.5	10,890		0.0000	1.0000	
33.5	11,200		0.0000	1.0000	
34.5	94,923	490	0.0052	0.9948	
35.5	108,852		0.0000	1.0000	
36.5	108,852	2,405	0.0221	0.9779	
37.5	106,609	7,995	0.0750	0.9250	
38.5	98,613		0.0000	1.0000	

ACCOUNT 368.04 COMPRESSOR STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1950-2002   EXPERIENCE BAND 2006-2013

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	98,917	309	0.0031	0.9969	
40.5	100,975	83,724	0.8292	0.1708	
41.5	17,753	14,418	0.8122	0.1878	
42.5	14,313		0.0000	1.0000	
43.5	82,937	162	0.0019	0.9981	
44.5	136,414		0.0000	1.0000	
45.5	171,862	304	0.0018	0.9982	
46.5	171,559	2,367	0.0138	0.9862	
47.5	169,192	502	0.0030	0.9970	
48.5	168,690	8,550	0.0507	0.9493	
49.5	160,139	68,624	0.4285	0.5715	
50.5	89,087	53,638	0.6021	0.3979	
51.5	35,448	35,448	1.0000		
52.5					

BLACK HILLS KANSAS GAS

ACCOUNTS 369.03 AND 369.73 MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 37-S0.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1933-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNTS 369.03 AND 369.73 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1933-2012   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,325,381		0.0000	1.0000	100.00
0.5	1,341,453		0.0000	1.0000	100.00
1.5	766,246		0.0000	1.0000	100.00
2.5	680,682		0.0000	1.0000	100.00
3.5	556,953	17,731	0.0318	0.9682	100.00
4.5	376,332	4,517	0.0120	0.9880	96.82
5.5	354,775	355	0.0010	0.9990	95.65
6.5	322,133		0.0000	1.0000	95.56
7.5	552,449		0.0000	1.0000	95.56
8.5	777,203		0.0000	1.0000	95.56
9.5	871,636		0.0000	1.0000	95.56
10.5	1,003,280	23,309	0.0232	0.9768	95.56
11.5	1,049,062	10,636	0.0101	0.9899	93.34
12.5	1,045,857		0.0000	1.0000	92.39
13.5	947,819	7,145	0.0075	0.9925	92.39
14.5	1,162,734		0.0000	1.0000	91.70
15.5	930,750	742	0.0008	0.9992	91.70
16.5	728,667	1,604	0.0022	0.9978	91.62
17.5	611,153	1,965	0.0032	0.9968	91.42
18.5	666,373		0.0000	1.0000	91.13
19.5	593,708		0.0000	1.0000	91.13
20.5	602,407	1,296	0.0022	0.9978	91.13
21.5	750,057		0.0000	1.0000	90.93
22.5	548,138	1,344	0.0025	0.9975	90.93
23.5	895,626		0.0000	1.0000	90.71
24.5	932,624	177	0.0002	0.9998	90.71
25.5	920,651	2,324	0.0025	0.9975	90.69
26.5	775,929	55,417	0.0714	0.9286	90.46
27.5	710,223	76,820	0.1082	0.8918	84.00
28.5	613,479		0.0000	1.0000	74.92
29.5	513,780	137,675	0.2680	0.7320	74.92
30.5	361,894	3,352	0.0093	0.9907	54.84
31.5	150,909	1,197	0.0079	0.9921	54.33
32.5	103,526	34,769	0.3358	0.6642	53.90
33.5	63,296	3,730	0.0589	0.9411	35.80
34.5	46,688		0.0000	1.0000	33.69
35.5	44,254	839	0.0190	0.9810	33.69
36.5	28,683		0.0000	1.0000	33.05
37.5	27,021		0.0000	1.0000	33.05
38.5	25,988		0.0000	1.0000	33.05

BLACK HILLS KANSAS GAS

ACCOUNTS 369.03 AND 369.73 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1933-2012   EXPERIENCE BAND 2006-2013

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	35,022	752	0.0215	0.9785	33.05
40.5	36,215	5,497	0.1518	0.8482	32.34
41.5	44,068		0.0000	1.0000	27.43
42.5	74,678	250	0.0033	0.9967	27.43
43.5	82,098	500	0.0061	0.9939	27.34
44.5	84,860	845	0.0100	0.9900	27.17
45.5	130,647	51,121	0.3913	0.6087	26.90
46.5	75,550		0.0000	1.0000	16.38
47.5	79,322	989	0.0125	0.9875	16.38
48.5	82,126		0.0000	1.0000	16.17
49.5	75,748	1,300	0.0172	0.9828	16.17
50.5	46,040		0.0000	1.0000	15.89
51.5	39,382		0.0000	1.0000	15.89
52.5	35,063	2,496	0.0712	0.9288	15.89
53.5	36,916	166	0.0045	0.9955	14.76
54.5	33,172	710	0.0214	0.9786	14.70
55.5	26,554	2,150	0.0810	0.9190	14.38
56.5	19,768	1,036	0.0524	0.9476	13.22
57.5	14,685	2,445	0.1665	0.8335	12.53
58.5	8,056	138	0.0172	0.9828	10.44
59.5	7,356	4,927	0.6698	0.3302	10.26
60.5	2,334		0.0000	1.0000	3.39
61.5	2,172		0.0000	1.0000	3.39
62.5	2,172	960	0.4420	0.5580	3.39
63.5	1,087		0.0000	1.0000	1.89
64.5	1,038		0.0000	1.0000	1.89
65.5	931		0.0000	1.0000	1.89
66.5	907	895	0.9863	0.0137	1.89
67.5	12		0.0000	1.0000	0.03
68.5	12		0.0000	1.0000	0.03
69.5	12		0.0000	1.0000	0.03
70.5	12		0.0000	1.0000	0.03
71.5	12		0.0000	1.0000	0.03
72.5	2,227	12	0.0056	0.9944	0.03
73.5	2,215		0.0000	1.0000	0.03
74.5	2,215		0.0000	1.0000	0.03
75.5	2,215		0.0000	1.0000	0.03
76.5	2,215		0.0000	1.0000	0.03
77.5	2,215		0.0000	1.0000	0.03
78.5	2,215	2,150	0.9706	0.0294	0.03
79.5	65		0.0000	1.0000	0.00
80.5					0.00

BLACK HILLS KANSAS GAS
ACCOUNT 371.01 OTHER EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 23-L3

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1958-2011 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

ACCOUNT 371.01 OTHER EQUIPMENT
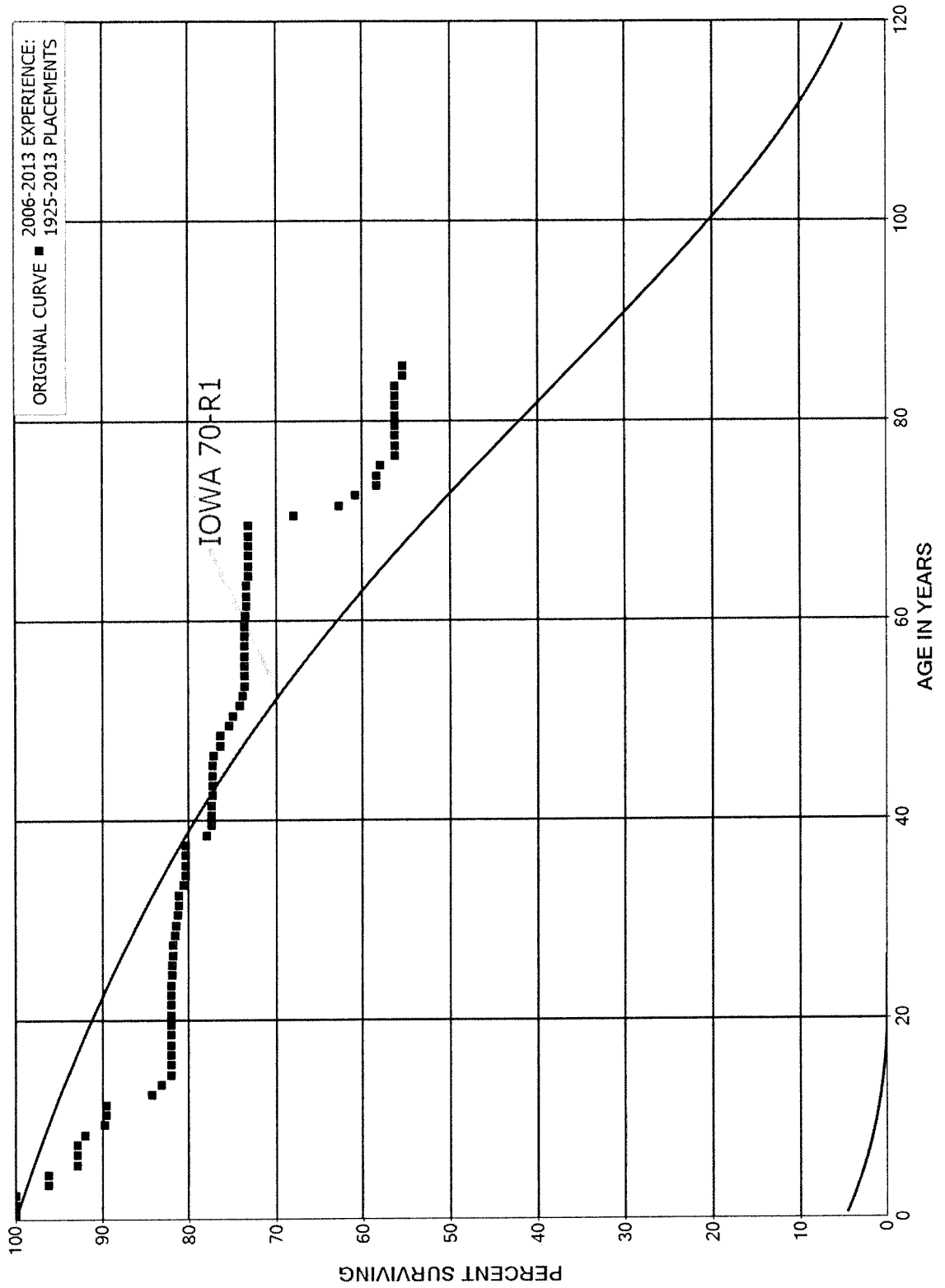
ORIGINAL LIFE TABLE

PLACEMENT BAND 1958-2011   EXPERIENCE BAND 2006-2013

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	50,034		0.0000		
0.5	50,034		0.0000		
1.5	50,034		0.0000		
2.5	50,034		0.0000		
3.5	50,034		0.0000		
4.5	50,034		0.0000		
5.5					
6.5					
7.5					
8.5					
9.5	1,444		0.0000		
10.5	32,344		0.0000		
11.5	35,783		0.0000		
12.5	35,783		0.0000	1.0000	100.00
13.5	75,700		0.0000	1.0000	100.00
14.5	75,700		0.0000	1.0000	100.00
15.5	94,563		0.0000	1.0000	100.00
16.5	100,046	32,344	0.3233	0.6767	100.00
17.5	94,655		0.0000	1.0000	67.67
18.5	108,266		0.0000	1.0000	67.67
19.5	112,374	32,601	0.2901	0.7099	67.67
20.5	89,371		0.0000	1.0000	48.04
21.5	86,064	16,749	0.1946	0.8054	48.04
22.5	69,315		0.0000	1.0000	38.69
23.5	69,272		0.0000	1.0000	38.69
24.5	63,788	13,611	0.2134	0.7866	38.69
25.5	23,225	7,548	0.3250	0.6750	30.43
26.5	15,677		0.0000	1.0000	20.54
27.5	17,549	4,008	0.2284	0.7716	20.54
28.5	11,314		0.0000	1.0000	15.85
29.5	12,153	1,609	0.1324	0.8676	15.85
30.5	13,109		0.0000	1.0000	13.75
31.5	17,791		0.0000	1.0000	13.75
32.5	17,791		0.0000	1.0000	13.75
33.5	17,791	1,871	0.1052	0.8948	13.75
34.5	16,151	7,371	0.4564	0.5436	12.31
35.5	8,780		0.0000	1.0000	6.69
36.5	8,780	2,566	0.2922	0.7078	6.69
37.5	6,929	5,144	0.7424	0.2576	4.74
38.5	1,785		0.0000	1.0000	1.22

BLACK HILLS KANSAS GAS

ACCOUNT 371.01 OTHER EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1958-2011   EXPERIENCE BAND 2006-2013

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	1,785		0.0000	1.0000	1.22
40.5	2,668		0.0000	1.0000	1.22
41.5	11,736		0.0000	1.0000	1.22
42.5	18,745		0.0000	1.0000	1.22
43.5	33,398		0.0000	1.0000	1.22
44.5	39,105		0.0000	1.0000	1.22
45.5	38,182		0.0000	1.0000	1.22
46.5	38,182	883	0.0231	0.9769	1.22
47.5	39,174	9,068	0.2315	0.7685	1.19
48.5	30,105	7,241	0.2405	0.7595	0.92
49.5	22,865	14,653	0.6409	0.3591	0.70
50.5	8,212	5,386	0.6559	0.3441	0.25
51.5	2,826	630	0.2229	0.7771	0.09
52.5	1,875	1,100	0.5867	0.4133	0.07
53.5	775	775	1.0000		0.03
54.5					

BLACK HILLS KANSAS GAS
ACCOUNT 375.01 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 35-R2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1929-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	133,477		0.0000	1.0000	100.00
0.5	132,708		0.0000	1.0000	100.00
1.5	81,440		0.0000	1.0000	100.00
2.5	85,598		0.0000	1.0000	100.00
3.5	102,382		0.0000	1.0000	100.00
4.5	106,782		0.0000	1.0000	100.00
5.5	35,849		0.0000	1.0000	100.00
6.5	35,849		0.0000	1.0000	100.00
7.5	43,766		0.0000	1.0000	100.00
8.5	43,766		0.0000	1.0000	100.00
9.5	43,766		0.0000	1.0000	100.00
10.5	39,608	16,783	0.4237	0.5763	100.00
11.5	23,522		0.0000	1.0000	57.63
12.5	8,615		0.0000	1.0000	57.63
13.5	21,384		0.0000	1.0000	57.63
14.5	42,951		0.0000	1.0000	57.63
15.5	35,033		0.0000	1.0000	57.63
16.5	35,033	2,371	0.0677	0.9323	57.63
17.5	48,500	697	0.0144	0.9856	53.73
18.5	48,496		0.0000	1.0000	52.95
19.5	48,496	12,769	0.2633	0.7367	52.95
20.5	35,726		0.0000	1.0000	39.01
21.5	35,726		0.0000	1.0000	39.01
22.5	16,531		0.0000	1.0000	39.01
23.5	25,397	3,757	0.1479	0.8521	39.01
24.5	21,640		0.0000	1.0000	33.24
25.5	12,463		0.0000	1.0000	33.24
26.5	11,770		0.0000	1.0000	33.24
27.5	14,480		0.0000	1.0000	33.24
28.5	14,480		0.0000	1.0000	33.24
29.5	17,432		0.0000	1.0000	33.24
30.5	17,432		0.0000	1.0000	33.24
31.5	8,566	648	0.0757	0.9243	33.24
32.5	7,917		0.0000	1.0000	30.73
33.5	8,315		0.0000	1.0000	30.73
34.5	8,615		0.0000	1.0000	30.73
35.5	5,905		0.0000	1.0000	30.73
36.5	8,870		0.0000	1.0000	30.73
37.5	6,245		0.0000	1.0000	30.73
38.5	6,845		0.0000	1.0000	30.73

BLACK HILLS KANSAS GAS

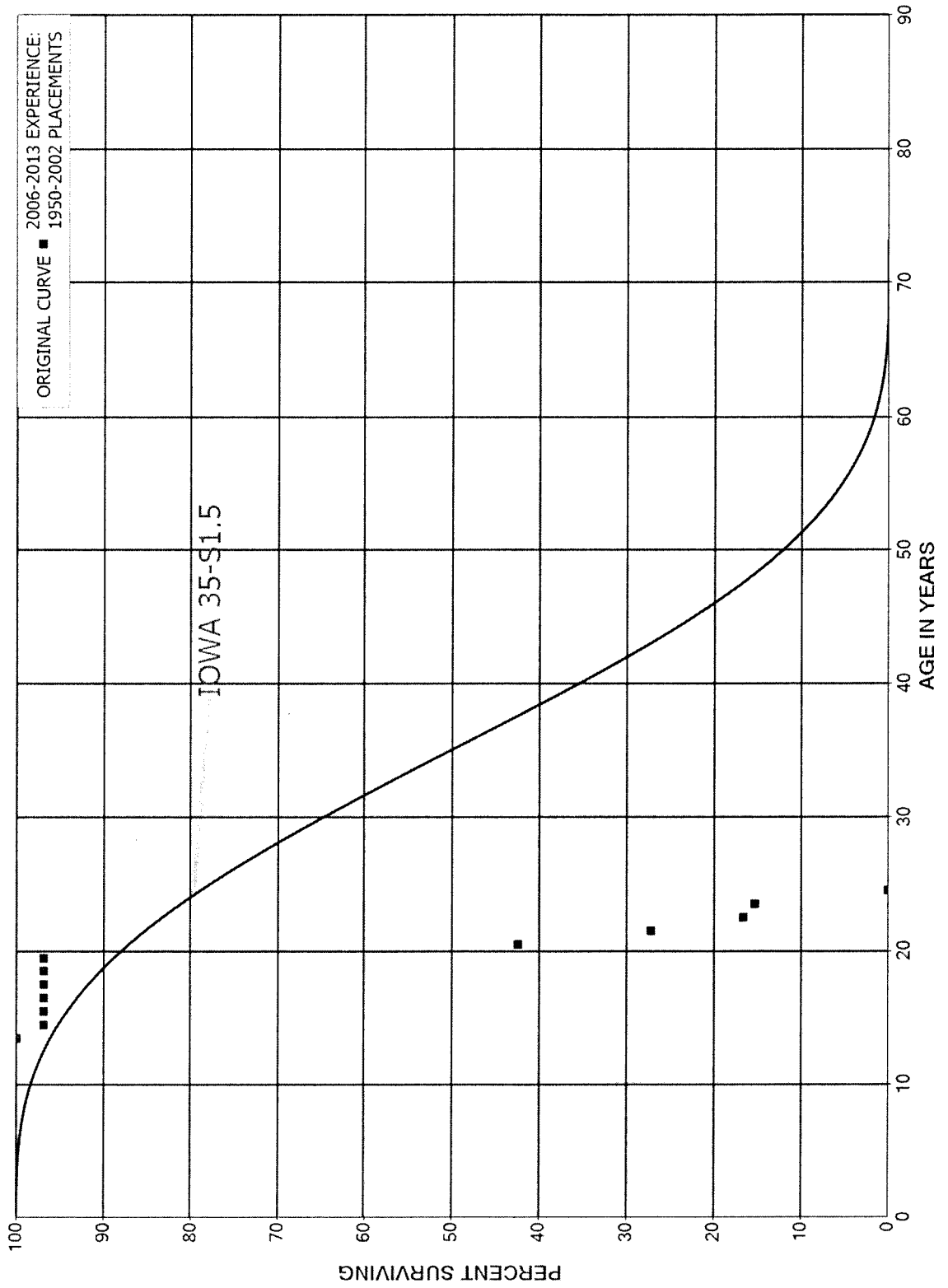ACCOUNT 375.01 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

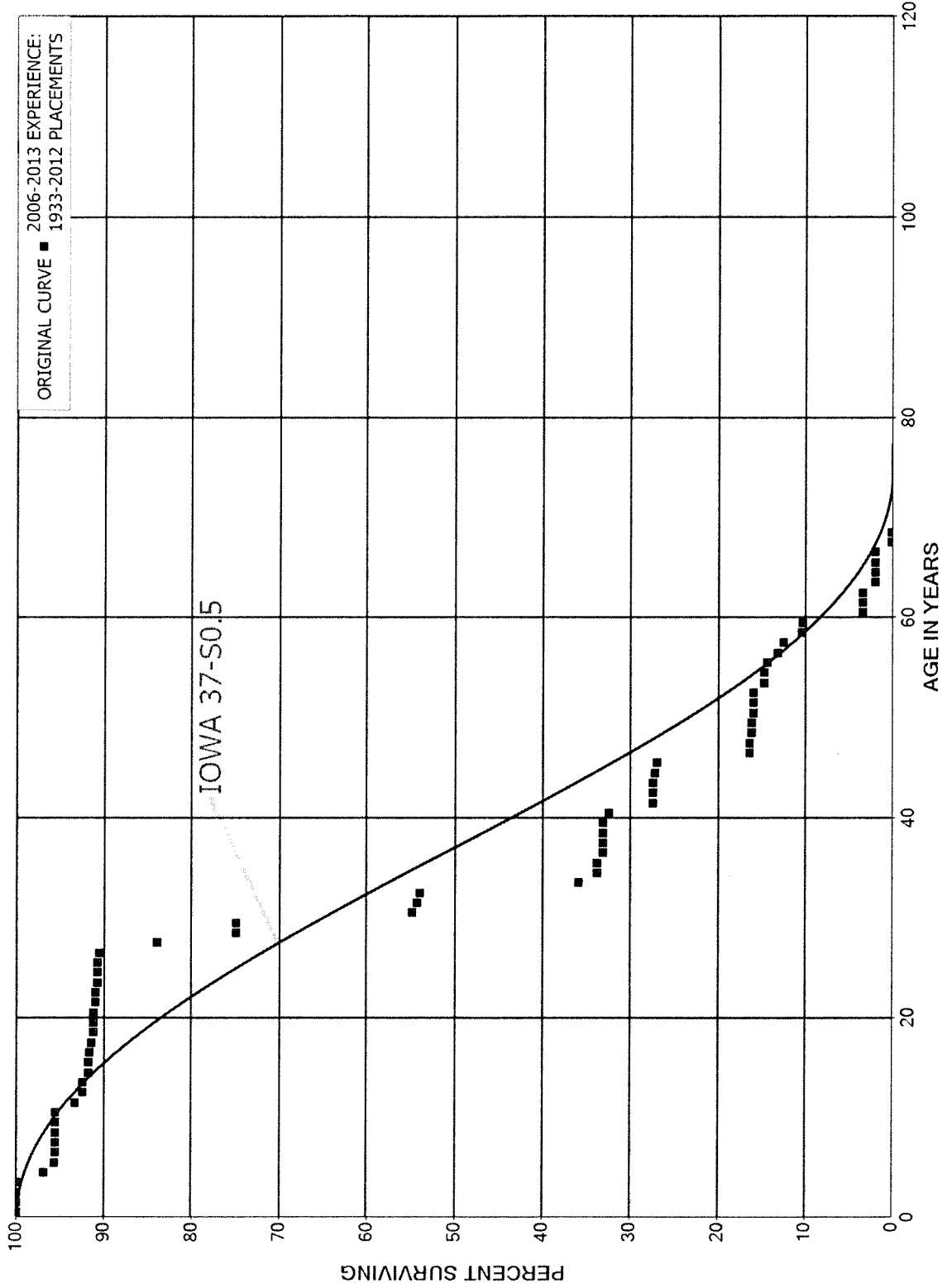| AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	6,845		0.0000	1.0000	30.73
40.5	7,466		0.0000	1.0000	30.73
41.5	5,838		0.0000	1.0000	30.73
42.5	6,462	2,965	0.4589	0.5411	30.73
43.5	3,766	623	0.1655	0.8345	16.63
44.5	13,961	294	0.0210	0.9790	13.87
45.5	13,667		0.0000	1.0000	13.58
46.5	13,067	621	0.0476	0.9524	13.58
47.5	13,127		0.0000	1.0000	12.94
48.5	37,798		0.0000	1.0000	12.94
49.5	38,902	270	0.0069	0.9931	12.94
50.5	39,415	33,423	0.8480	0.1520	12.85
51.5	7,321	309	0.0421	0.9579	1.95
52.5	14,944		0.0000	1.0000	1.87
53.5	15,636	681	0.0436	0.9564	1.87
54.5	15,717	751	0.0478	0.9522	1.79
55.5	16,489		0.0000	1.0000	1.70
56.5	20,915	1,412	0.0675	0.9325	1.70
57.5	19,611	1,330	0.0678	0.9322	1.59
58.5	18,282	4,876	0.2667	0.7333	1.48
59.5	13,406	1,144	0.0853	0.9147	1.09
60.5	8,768	402	0.0459	0.9541	0.99
61.5	8,561		0.0000	1.0000	0.95
62.5	8,200	3,935	0.4799	0.5201	0.95
63.5	3,068		0.0000	1.0000	0.49
64.5	2,200		0.0000	1.0000	0.49
65.5	612		0.0000	1.0000	0.49
66.5	1,102		0.0000	1.0000	0.49
67.5	1,133	194	0.1715	0.8285	0.49
68.5	939		0.0000	1.0000	0.41
69.5	1,154	325	0.2816	0.7184	0.41
70.5	829		0.0000	1.0000	0.29
71.5	829	93	0.1121	0.8879	0.29
72.5	736	490	0.6655	0.3345	0.26
73.5	246	31	0.1249	0.8751	0.09
74.5	314		0.0000	1.0000	0.08
75.5	828	216	0.2602	0.7398	0.08
76.5	2,051		0.0000	1.0000	0.06
77.5	2,051		0.0000	1.0000	0.06
78.5	2,051		0.0000	1.0000	0.06

BLACK HILLS KANSAS GAS

ACCOUNT 375.01 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,051		0.0000	1.0000	0.06
80.5	2,051	99	0.0482	0.9518	0.06
81.5	1,953	462	0.2366	0.7634	0.05
82.5	1,491	1,439	0.9652	0.0348	0.04
83.5					0.00

BLACK HILLS KANSAS GAS
ACCOUNT 376.03 MAINS - STEEL
ORIGINAL AND SMOOTH SURVIVOR CURVES
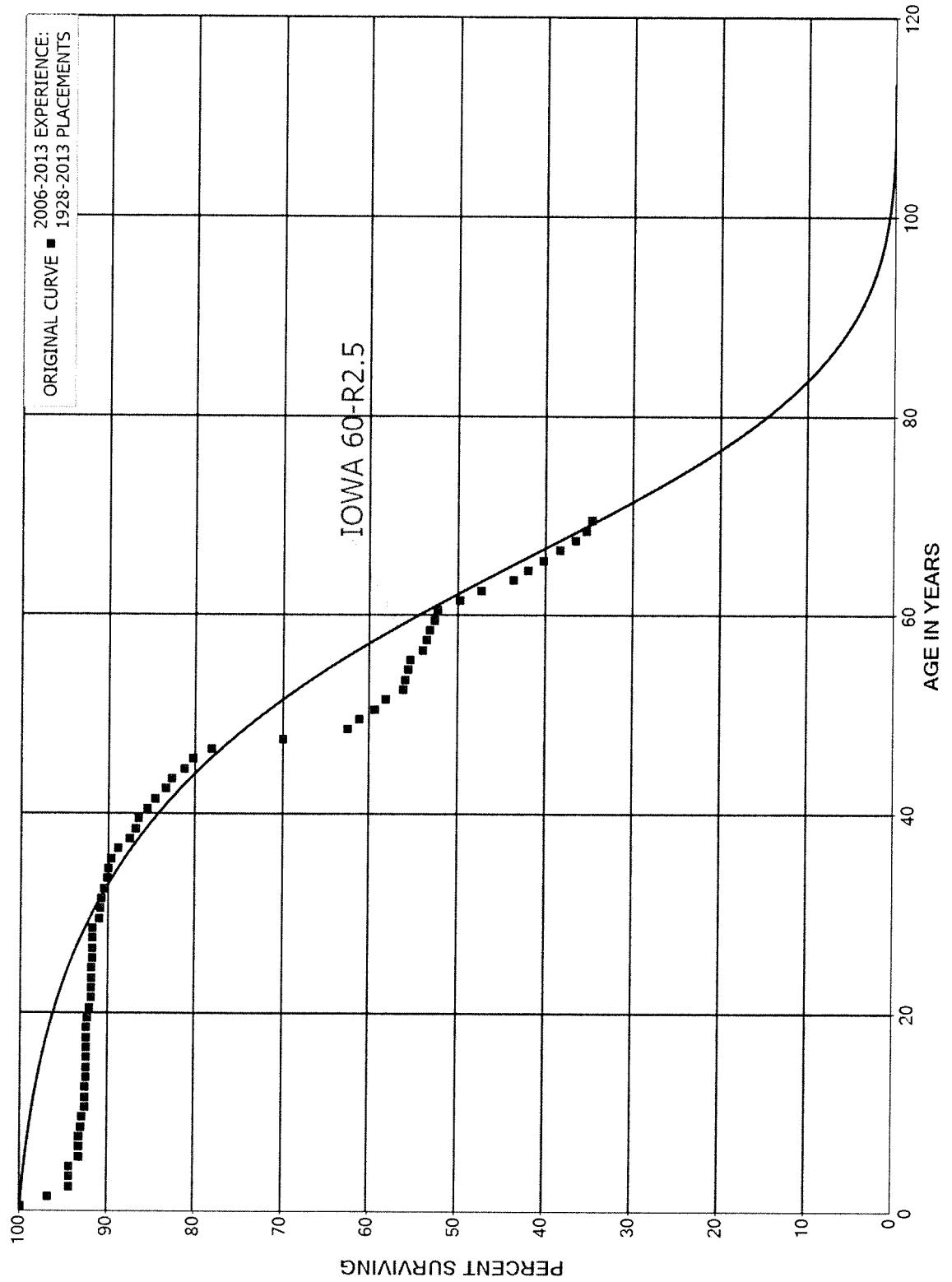
IOWA 60-R2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1928-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 376.03 MAINS - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1928-2013   EXPERIENCE BAND 2006-2013

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	2,680,296	3,646	0.0014	0.9986	100.00
0.5	2,376,356	74,663	0.0314	0.9686	99.86
1.5	2,102,369	53,550	0.0255	0.9745	96.73
2.5	1,661,017		0.0000	1.0000	94.26
3.5	1,463,160		0.0000	1.0000	94.26
4.5	1,440,222	16,206	0.0113	0.9887	94.26
5.5	1,901,014		0.0000	1.0000	93.20
6.5	2,457,621		0.0000	1.0000	93.20
7.5	2,686,334	8,859	0.0033	0.9967	93.20
8.5	3,135,906	309	0.0001	0.9999	92.89
9.5	3,397,447	13,088	0.0039	0.9961	92.89
10.5	3,521,163	210	0.0001	0.9999	92.53
11.5	3,675,803	1,436	0.0004	0.9996	92.52
12.5	3,410,129	2,213	0.0006	0.9994	92.49
13.5	3,300,800	1,305	0.0004	0.9996	92.43
14.5	2,991,187	148	0.0000	1.0000	92.39
15.5	2,924,199	595	0.0002	0.9998	92.38
16.5	2,646,559	705	0.0003	0.9997	92.37
17.5	2,804,805		0.0000	1.0000	92.34
18.5	2,858,596	924	0.0003	0.9997	92.34
19.5	3,204,819	7,268	0.0023	0.9977	92.31
20.5	3,472,419	8,318	0.0024	0.9976	92.10
21.5	3,348,424	2,993	0.0009	0.9991	91.88
22.5	3,410,407		0.0000	1.0000	91.80
23.5	4,167,462	557	0.0001	0.9999	91.80
24.5	4,699,724	3,081	0.0007	0.9993	91.79
25.5	4,866,877	121	0.0000	1.0000	91.73
26.5	5,402,542	2,769	0.0005	0.9995	91.72
27.5	5,348,378	154	0.0000	1.0000	91.68
28.5	5,581,326	45,847	0.0082	0.9918	91.68
29.5	6,428,109	8,004	0.0012	0.9988	90.92
30.5	7,019,541	2,970	0.0004	0.9996	90.81
31.5	6,856,292	24,921	0.0036	0.9964	90.77
32.5	6,509,581	23,636	0.0036	0.9964	90.44
33.5	6,360,221	8,129	0.0013	0.9987	90.11
34.5	5,884,248	25,059	0.0043	0.9957	90.00
35.5	6,219,186	53,269	0.0086	0.9914	89.61
36.5	5,990,713	88,258	0.0147	0.9853	88.85
37.5	5,070,697	38,594	0.0076	0.9924	87.54
38.5	4,461,653	20,969	0.0047	0.9953	86.87

BLACK HILLS KANSAS GAS

ACCOUNT 376.03 MAINS - STEEL
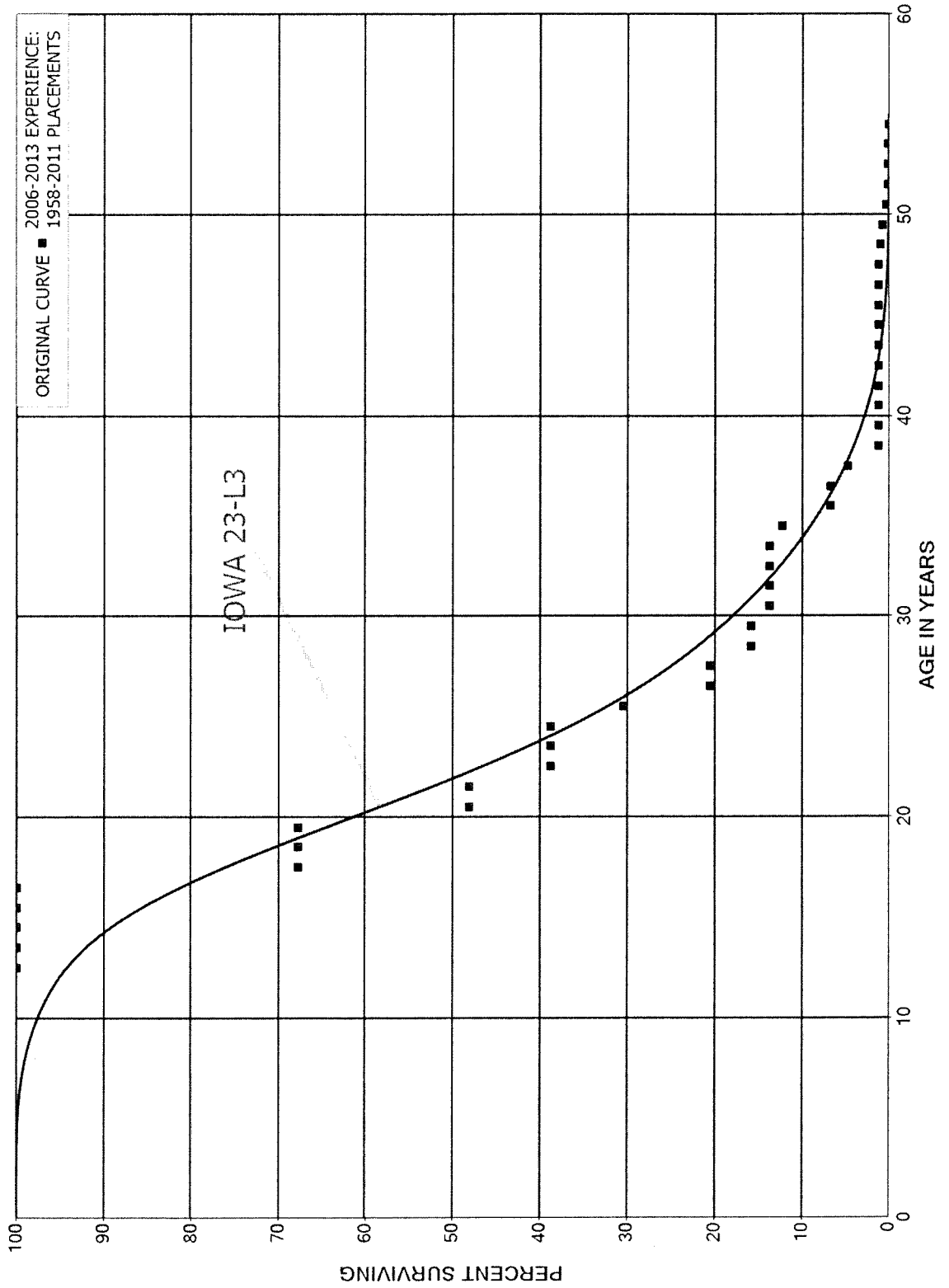
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1928-2013   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,800,464	40,238	0.0106	0.9894	86.46
40.5	3,835,061	44,094	0.0115	0.9885	85.55
41.5	3,477,634	46,772	0.0134	0.9866	84.56
42.5	3,108,306	27,899	0.0090	0.9910	83.43
43.5	2,404,061	40,957	0.0170	0.9830	82.68
44.5	2,816,455	35,375	0.0126	0.9874	81.27
45.5	2,609,253	67,040	0.0257	0.9743	80.25
46.5	2,207,601	231,221	0.1047	0.8953	78.19
47.5	1,892,800	202,915	0.1072	0.8928	70.00
48.5	1,541,349	32,861	0.0213	0.9787	62.49
49.5	1,503,907	43,063	0.0286	0.9714	61.16
50.5	1,418,113	30,087	0.0212	0.9788	59.41
51.5	1,331,543	46,021	0.0346	0.9654	58.15
52.5	650,381	2,244	0.0035	0.9965	56.14
53.5	618,674	3,390	0.0055	0.9945	55.95
54.5	610,352	2,757	0.0045	0.9955	55.64
55.5	604,306	15,666	0.0259	0.9741	55.39
56.5	522,823	3,867	0.0074	0.9926	53.95
57.5	466,561	3,032	0.0065	0.9935	53.55
58.5	397,296	4,810	0.0121	0.9879	53.20
59.5	349,047	1,947	0.0056	0.9944	52.56
60.5	284,303	13,820	0.0486	0.9514	52.27
61.5	251,717	12,241	0.0486	0.9514	49.73
62.5	184,875	14,600	0.0790	0.9210	47.31
63.5	136,776	5,035	0.0368	0.9632	43.57
64.5	99,994	4,233	0.0423	0.9577	41.97
65.5	30,348	1,438	0.0474	0.9526	40.19
66.5	18,214	858	0.0471	0.9529	38.29
67.5	16,079	549	0.0341	0.9659	36.48
68.5	16,011	306	0.0191	0.9809	35.24
69.5	15,642	530	0.0339	0.9661	34.56
70.5	18,405	6,326	0.3437	0.6563	33.39
71.5	10,136		0.0000	1.0000	21.91
72.5	7,472		0.0000	1.0000	21.91
73.5	7,998	907	0.1134	0.8866	21.91
74.5	10,493		0.0000	1.0000	19.43
75.5	78,464	1,787	0.0228	0.9772	19.43
76.5	88,977	1,762	0.0198	0.9802	18.99
77.5	104,339	3,976	0.0381	0.9619	18.61
78.5	94,480	5,984	0.0633	0.9367	17.90

ACCOUNT 376.03 MAINS - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1928-2013   EXPERIENCE BAND 2006-2013

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	88,011	8,182	0.0930	0.9070	16.77
80.5	79,773	7,974	0.1000	0.9000	15.21
81.5	71,356	37,373	0.5238	0.4762	13.69
82.5	27,773	2,252	0.0811	0.9189	6.52
83.5	19,010	4,044	0.2127	0.7873	5.99
84.5	4,986	1,288	0.2584	0.7416	4.72
85.5					3.50

BLACK HILLS KANSAS GAS
ACCOUNT 376.04 MAINS - PVC
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 45-R4

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1928-1998 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 376.04 MAINS - PVC

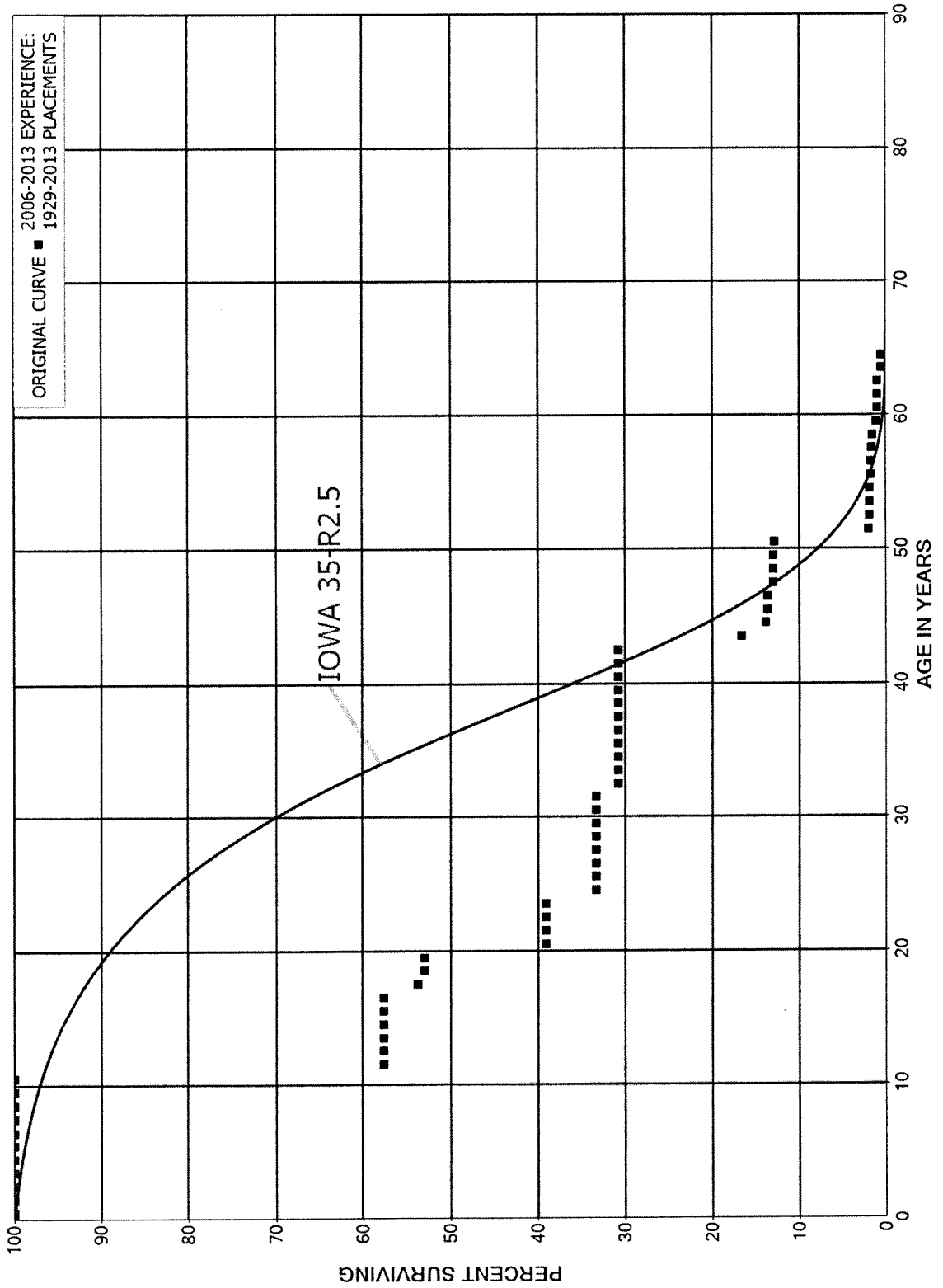ORIGINAL LIFE TABLE

PLACEMENT BAND 1928-1998   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5	12,683	5	0.0004	0.9996	100.00
16.5	12,678	2,751	0.2170	0.7830	99.96
17.5	12,668		0.0000	1.0000	78.27
18.5	12,668	42	0.0033	0.9967	78.27
19.5	12,657		0.0000	1.0000	78.01
20.5	12,657		0.0000	1.0000	78.01
21.5	13,180	679	0.0515	0.9485	78.01
22.5	13,196	4,218	0.3197	0.6803	73.99
23.5	1,567		0.0000	1.0000	50.34
24.5	113,577		0.0000	1.0000	50.34
25.5	118,224	18,681	0.1580	0.8420	50.34
26.5	119,778		0.0000	1.0000	42.38
27.5	121,646		0.0000	1.0000	42.38
28.5	135,192		0.0000	1.0000	42.38
29.5	193,961		0.0000	1.0000	42.38
30.5	299,133	721	0.0024	0.9976	42.38
31.5	430,341	661	0.0015	0.9985	42.28
32.5	351,292	882	0.0025	0.9975	42.22
33.5	362,697	1,506	0.0042	0.9958	42.11
34.5	397,215	12,973	0.0327	0.9673	41.94
35.5	514,801	32,467	0.0631	0.9369	40.57
36.5	720,838	83,090	0.1153	0.8847	38.01
37.5	761,177	94,899	0.1247	0.8753	33.63
38.5	715,906	21,970	0.0307	0.9693	29.43

BLACK HILLS KANSAS GAS

ACCOUNT 376.04 MAINS - PVC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1928-1998   EXPERIENCE BAND 2006-2013

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	707,584	4,932	0.0070	0.9930	28.53
40.5	784,512	21,669	0.0276	0.9724	28.33
41.5	861,941	22,236	0.0258	0.9742	27.55
42.5	825,404	115,465	0.1399	0.8601	26.84
43.5	600,791	148,705	0.2475	0.7525	23.08
44.5	325,280	76,691	0.2358	0.7642	17.37
45.5	243,601	40,606	0.1667	0.8333	13.28
46.5	202,733	92,880	0.4581	0.5419	11.06
47.5	109,853	108,062	0.9837	0.0163	5.99
48.5	152		0.0000	1.0000	0.10
49.5	152	8	0.0525	0.9475	0.10
50.5	144	142	0.9868	0.0132	0.09
51.5					0.00
52.5					
53.5					
54.5					
55.5					
56.5					
57.5	8,196	8,196	1.0000		
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5	2		0.0000		
72.5	2	2	1.0000		
73.5					

BLACK HILLS KANSAS GAS
ACCOUNT 376.07 MAINS - OTHER EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 30-S0.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1936-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 376.07 MAINS - OTHER EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1936-2013   EXPERIENCE BAND 2006-2013

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	380,636		0.0000	1.0000	100.00
0.5	374,536		0.0000	1.0000	100.00
1.5	376,393		0.0000	1.0000	100.00
2.5	454,901		0.0000	1.0000	100.00
3.5	248,345		0.0000	1.0000	100.00
4.5	193,355		0.0000	1.0000	100.00
5.5	198,366		0.0000	1.0000	100.00
6.5	197,975	16,385	0.0828	0.9172	100.00
7.5	144,315		0.0000	1.0000	91.72
8.5	114,829		0.0000	1.0000	91.72
9.5	73,114	830	0.0113	0.9887	91.72
10.5	49,695		0.0000	1.0000	90.68
11.5	39,382	3,786	0.0961	0.9039	90.68
12.5	35,596		0.0000	1.0000	81.97
13.5	19,039		0.0000	1.0000	81.97
14.5	7,513		0.0000	1.0000	81.97
15.5	6,714		0.0000	1.0000	81.97
16.5	5,281		0.0000	1.0000	81.97
17.5					81.97
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

ACCOUNT 376.07 MAINS - OTHER EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1936-2013   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5	93		0.0000		
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5					
76.5	137		0.0000		
77.5					

BLACK HILLS KANSAS GAS

ACCOUNT 376.25 MAINS - PE / PLASTIC

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 55-S2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1961-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 376.25 MAINS - PE / PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1961-2013   EXPERIENCE BAND 2006-2013

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	18,132,045	366	0.0000	1.0000	100.00
0.5	18,582,418	305	0.0000	1.0000	100.00
1.5	17,060,165		0.0000	1.0000	100.00
2.5	15,952,234		0.0000	1.0000	100.00
3.5	15,300,854	8,344	0.0005	0.9995	100.00
4.5	13,925,682	15,869	0.0011	0.9989	99.94
5.5	12,906,023		0.0000	1.0000	99.83
6.5	12,632,832	124	0.0000	1.0000	99.83
7.5	12,332,931	167	0.0000	1.0000	99.83
8.5	11,999,298	1,758	0.0001	0.9999	99.83
9.5	11,958,802	1,291	0.0001	0.9999	99.81
10.5	11,693,542	686	0.0001	0.9999	99.80
11.5	12,687,330	255	0.0000	1.0000	99.79
12.5	12,789,555	2,318	0.0002	0.9998	99.79
13.5	12,628,429	1,926	0.0002	0.9998	99.77
14.5	13,213,367	14,945	0.0011	0.9989	99.76
15.5	12,491,705	4,538	0.0004	0.9996	99.65
16.5	12,025,906	39,509	0.0033	0.9967	99.61
17.5	11,046,999	17,222	0.0016	0.9984	99.28
18.5	10,008,465	14,647	0.0015	0.9985	99.13
19.5	8,074,568	6,619	0.0008	0.9992	98.98
20.5	6,920,849	688	0.0001	0.9999	98.90
21.5	5,811,351	9,326	0.0016	0.9984	98.89
22.5	4,189,771	11,182	0.0027	0.9973	98.73
23.5	3,508,061	5,321	0.0015	0.9985	98.47
24.5	2,530,465	2,953	0.0012	0.9988	98.32
25.5	2,077,339	6,641	0.0032	0.9968	98.21
26.5	1,761,910	3,851	0.0022	0.9978	97.89
27.5	1,452,099	1,456	0.0010	0.9990	97.68
28.5	1,336,746	7,229	0.0054	0.9946	97.58
29.5	1,081,515	32,932	0.0305	0.9695	97.05
30.5	835,416	3,897	0.0047	0.9953	94.10
31.5	806,759	63	0.0001	0.9999	93.66
32.5	745,579	12,140	0.0163	0.9837	93.65
33.5	657,509	66,060	0.1005	0.8995	92.13
34.5	526,716	10,655	0.0202	0.9798	82.87
35.5	417,206	16,174	0.0388	0.9612	81.19
36.5	302,183	17,767	0.0588	0.9412	78.05
37.5	242,965	1,574	0.0065	0.9935	73.46
38.5	164,403	1,072	0.0065	0.9935	72.98

ACCOUNT 376.25 MAINS - PE / PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1961-2013   EXPERIENCE BAND 2006-2013

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	114,338	31,291	0.2737	0.7263	72.51
40.5	45,583	858	0.0188	0.9812	52.66
41.5	6,641		0.0000	1.0000	51.67
42.5	2,088		0.0000	1.0000	51.67
43.5	2,088		0.0000	1.0000	51.67
44.5	6,278	411	0.0655	0.9345	51.67
45.5	5,867		0.0000	1.0000	48.29
46.5	5,867		0.0000	1.0000	48.29
47.5	4,190		0.0000	1.0000	48.29
48.5	4,190		0.0000	1.0000	48.29
49.5	4,190		0.0000	1.0000	48.29
50.5	4,190		0.0000	1.0000	48.29
51.5	4,190		0.0000	1.0000	48.29
52.5					48.29

BLACK HILLS KANSAS GAS
ACCOUNT 377 COMPRESSOR EQUIPMENT
SMOOTH SURVIVOR CURVE

IOWA 35-S1.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 40-R2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1932-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
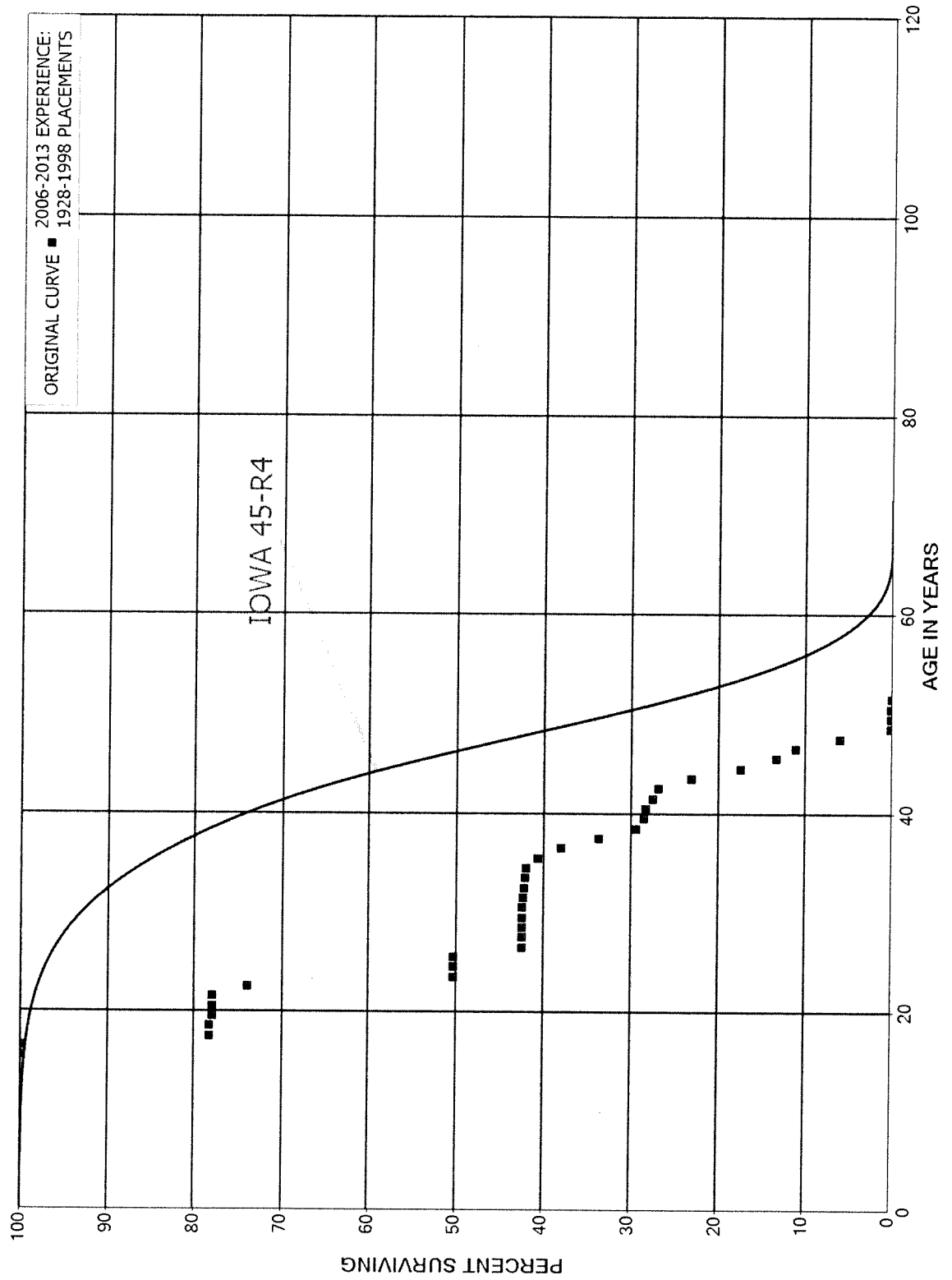
ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2013   EXPERIENCE BAND 2006-2013

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	944,637		0.0000	1.0000	100.00
0.5	910,943		0.0000	1.0000	100.00
1.5	794,343		0.0000	1.0000	100.00
2.5	662,948	9,144	0.0138	0.9862	100.00
3.5	487,549		0.0000	1.0000	98.62
4.5	360,994	776	0.0021	0.9979	98.62
5.5	317,825	1,634	0.0051	0.9949	98.41
6.5	362,978	15,320	0.0422	0.9578	97.90
7.5	360,148		0.0000	1.0000	93.77
8.5	363,366		0.0000	1.0000	93.77
9.5	479,141		0.0000	1.0000	93.77
10.5	570,527	1,362	0.0024	0.9976	93.77
11.5	655,376		0.0000	1.0000	93.55
12.5	715,023	1,764	0.0025	0.9975	93.55
13.5	758,820	2,822	0.0037	0.9963	93.32
14.5	926,985	2,790	0.0030	0.9970	92.97
15.5	990,570	14,949	0.0151	0.9849	92.69
16.5	943,207	3,449	0.0037	0.9963	91.29
17.5	851,782	19,157	0.0225	0.9775	90.96
18.5	776,760	823	0.0011	0.9989	88.91
19.5	709,329		0.0000	1.0000	88.82
20.5	645,575	2,164	0.0034	0.9966	88.82
21.5	552,456	11,166	0.0202	0.9798	88.52
22.5	324,195		0.0000	1.0000	86.73
23.5	288,094		0.0000	1.0000	86.73
24.5	330,972	2,051	0.0062	0.9938	86.73
25.5	388,127		0.0000	1.0000	86.19
26.5	330,044		0.0000	1.0000	86.19
27.5	342,319	3,326	0.0097	0.9903	86.19
28.5	302,473	541	0.0018	0.9982	85.36
29.5	336,647	1,675	0.0050	0.9950	85.20
30.5	358,508	903	0.0025	0.9975	84.78
31.5	291,761	20,669	0.0708	0.9292	84.57
32.5	221,942		0.0000	1.0000	78.57
33.5	175,572	499	0.0028	0.9972	78.57
34.5	179,027	3,282	0.0183	0.9817	78.35
35.5	152,738	5,706	0.0374	0.9626	76.92
36.5	172,089	5,148	0.0299	0.9701	74.04
37.5	115,808	4,564	0.0394	0.9606	71.83
38.5	89,956	397	0.0044	0.9956	69.00

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
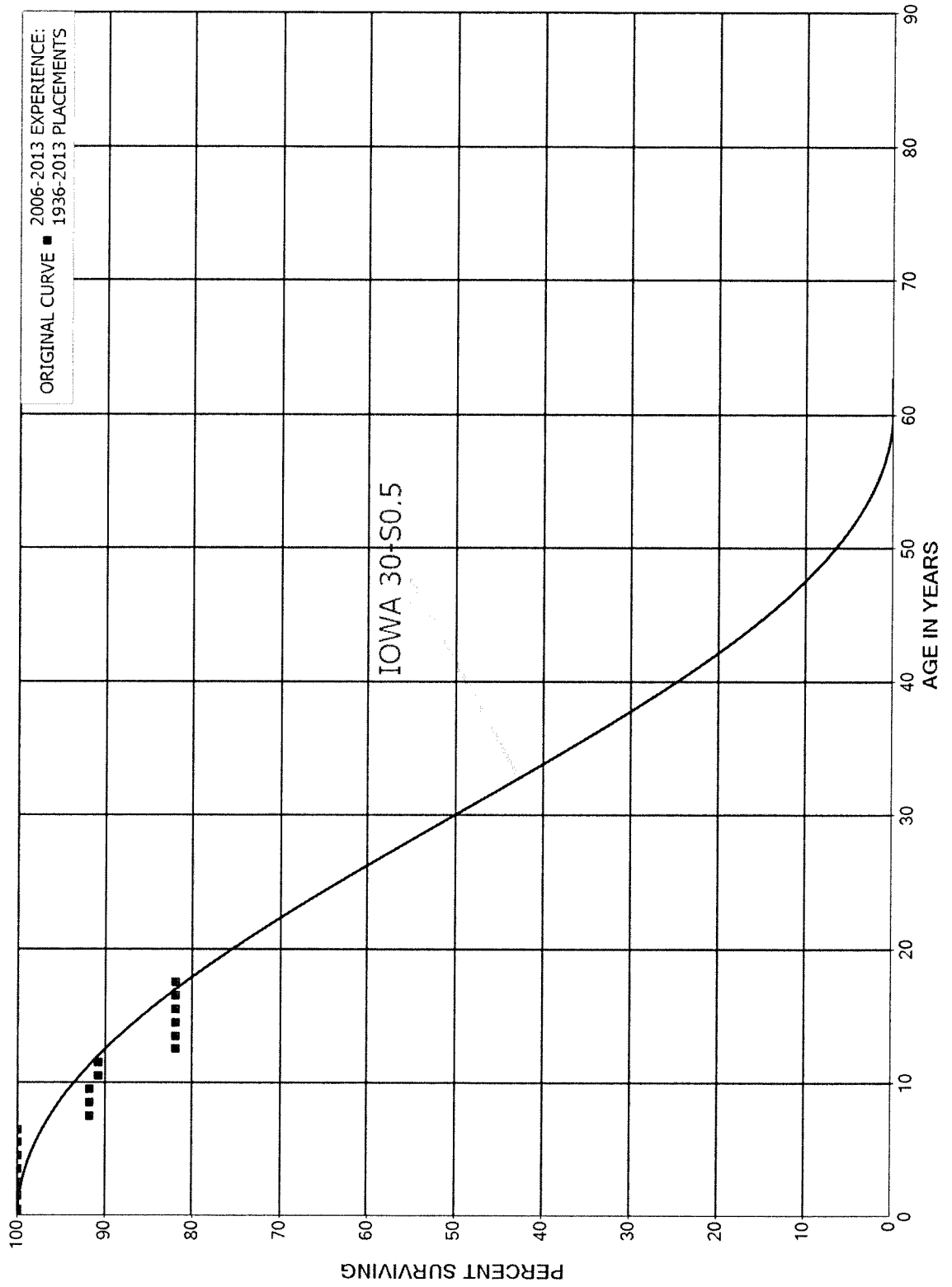
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2013   EXPERIENCE BAND 2006-2013

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	78,907	2,558	0.0324	0.9676	68.69
40.5	77,810	5,285	0.0679	0.9321	66.46
41.5	66,123	7,922	0.1198	0.8802	61.95
42.5	51,780	7,706	0.1488	0.8512	54.53
43.5	43,242	6,081	0.1406	0.8594	46.41
44.5	43,627	4,726	0.1083	0.8917	39.89
45.5	38,382	20,500	0.5341	0.4659	35.57
46.5	14,807	3,863	0.2609	0.7391	16.57
47.5	11,144	5,419	0.4862	0.5138	12.25
48.5	9,518	195	0.0205	0.9795	6.29
49.5	9,599		0.0000	1.0000	6.16
50.5	8,792	66	0.0075	0.9925	6.16
51.5	8,844	784	0.0887	0.9113	6.12
52.5	7,429		0.0000	1.0000	5.58
53.5	7,189	200	0.0278	0.9722	5.58
54.5	7,416	313	0.0422	0.9578	5.42
55.5	7,738	275	0.0355	0.9645	5.19
56.5	2,892		0.0000	1.0000	5.01
57.5	3,005	52	0.0173	0.9827	5.01
58.5	2,915	16	0.0054	0.9946	4.92
59.5	3,136		0.0000	1.0000	4.89
60.5	2,000		0.0000	1.0000	4.89
61.5	1,740	635	0.3650	0.6350	4.89
62.5	678	154	0.2270	0.7730	3.11
63.5	1,084	60	0.0553	0.9447	2.40
64.5	1,121		0.0000	1.0000	2.27
65.5	972	236	0.2426	0.7574	2.27
66.5	757		0.0000	1.0000	1.72
67.5	896		0.0000	1.0000	1.72
68.5	833		0.0000	1.0000	1.72
69.5	833	564	0.6772	0.3228	1.72
70.5	370	68	0.1846	0.8154	0.55
71.5	368	18	0.0477	0.9523	0.45
72.5	516		0.0000	1.0000	0.43
73.5	590	34	0.0570	0.9430	0.43
74.5	540	82	0.1527	0.8473	0.41
75.5	352		0.0000	1.0000	0.34
76.5	352		0.0000	1.0000	0.34
77.5	352	66	0.1863	0.8137	0.34
78.5	185		0.0000	1.0000	0.28

BLACK HILLS KANSAS GAS

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2013   EXPERIENCE BAND 2006-2013

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	185		0.0000	1.0000	0.28
80.5	74		0.0000	1.0000	0.28
81.5					0.28

BLACK HILLS KANSAS GAS

ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

SMOOTH SURVIVOR CURVE
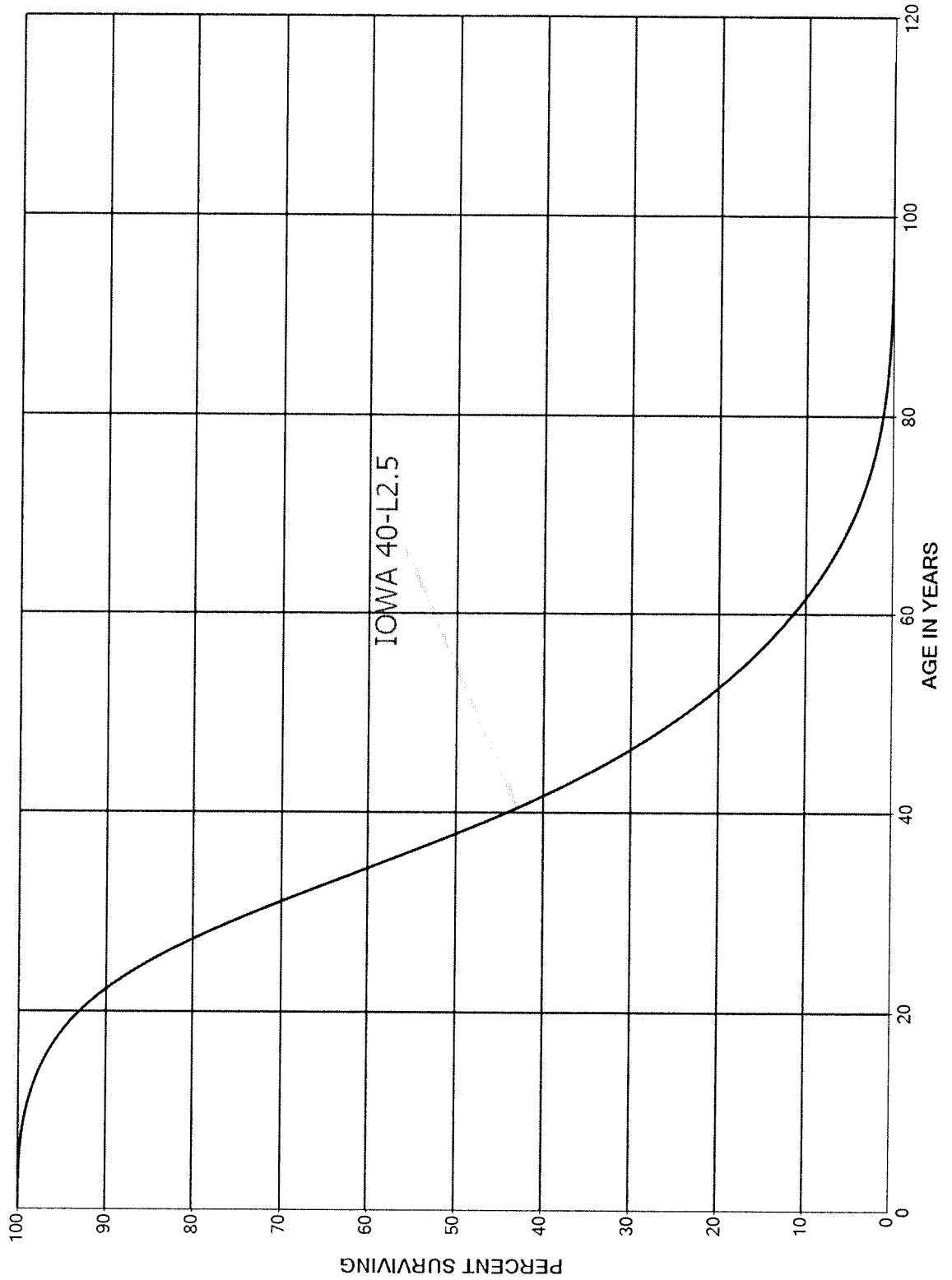
IOWA 40-L2.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS
ACCOUNT 380.03 SERVICES - STEEL
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 42-R2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1929-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

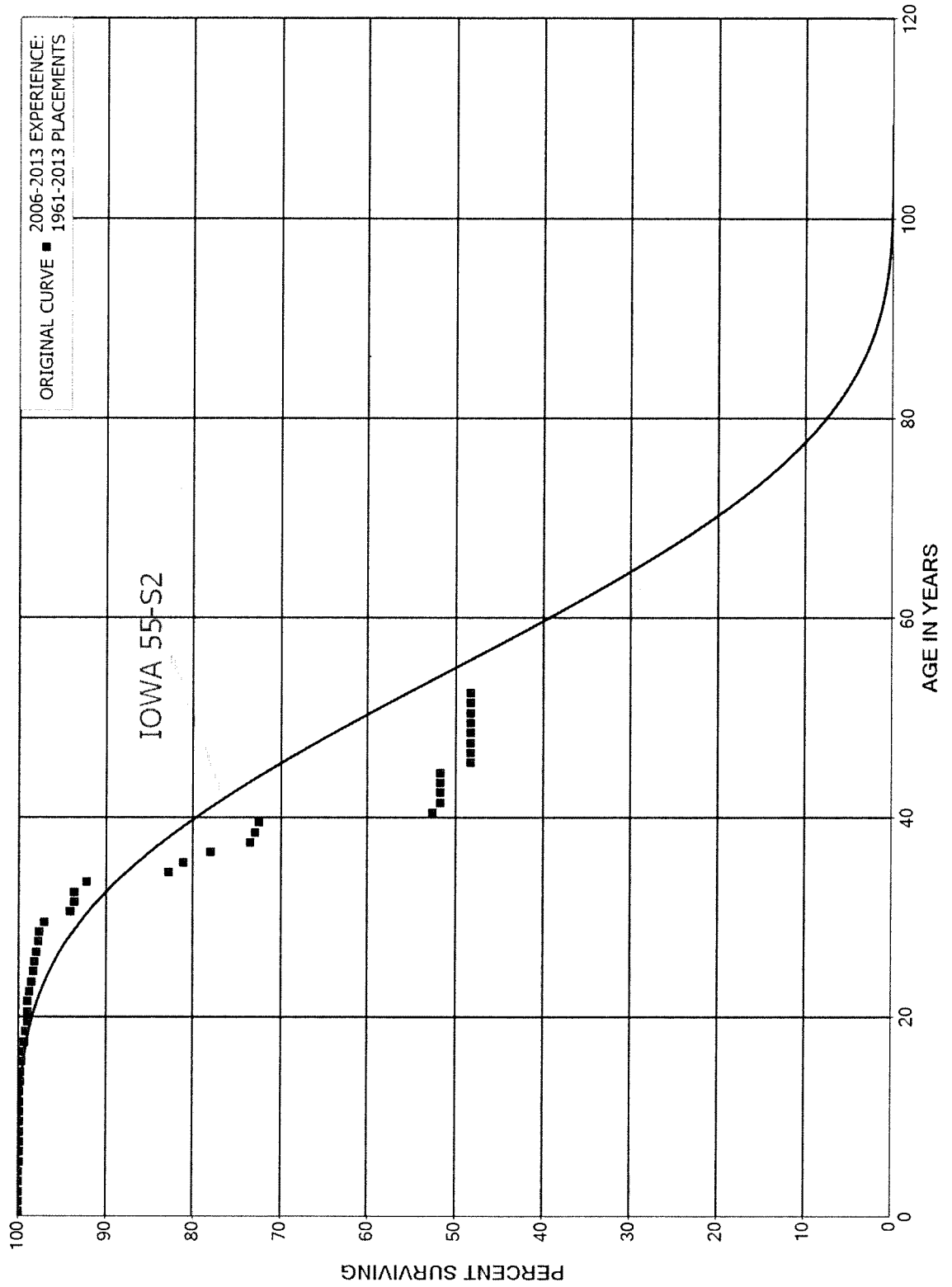ACCOUNT 380.03 SERVICES - STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

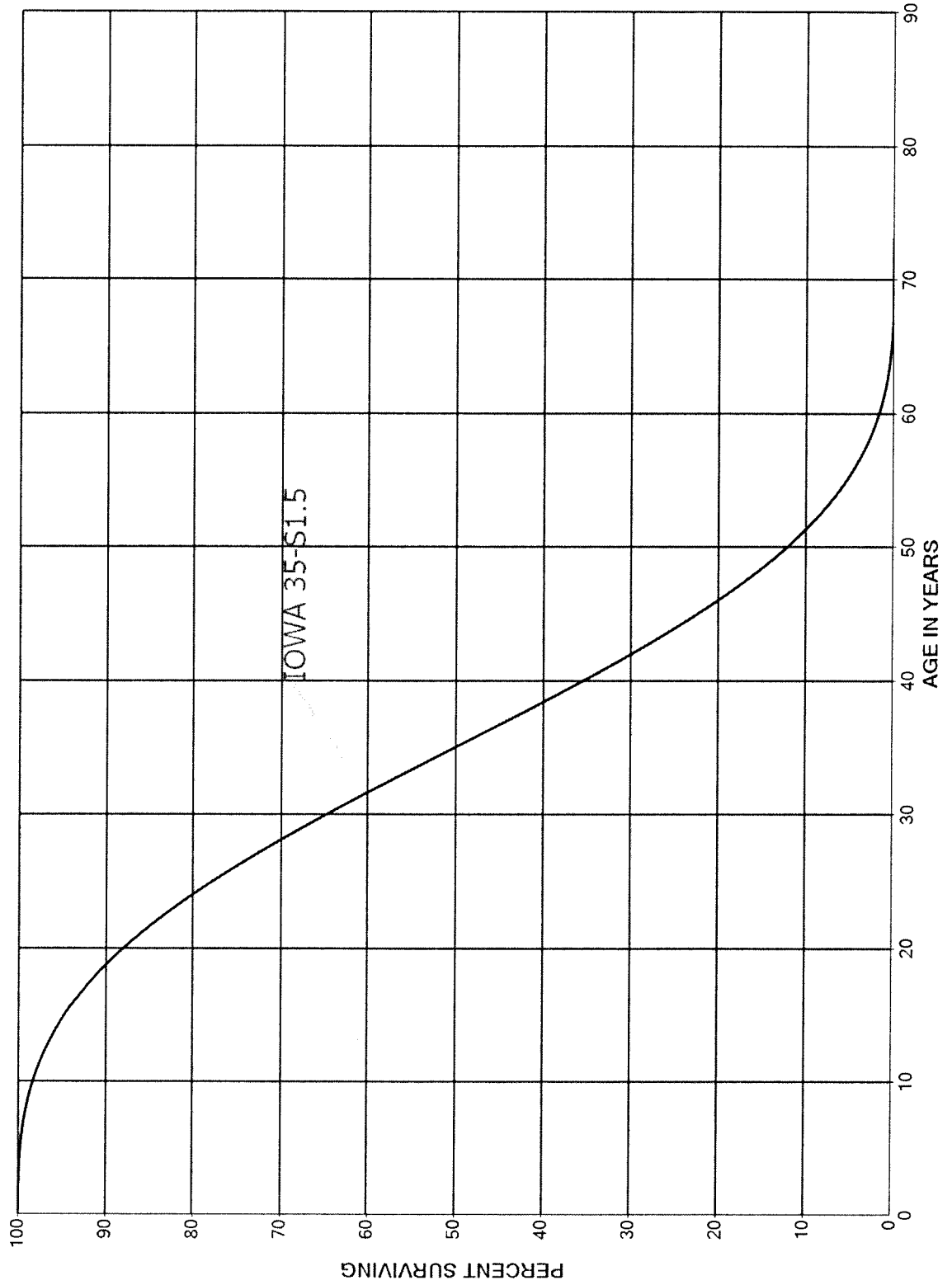| AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	616,950	4,063	0.0066	0.9934	100.00
0.5	488,564	11,599	0.0237	0.9763	99.34
1.5	347,680	2,772	0.0080	0.9920	96.98
2.5	254,040	1,534	0.0060	0.9940	96.21
3.5	266,415	24,648	0.0925	0.9075	95.63
4.5	180,563	426	0.0024	0.9976	86.78
5.5	196,071	1,183	0.0060	0.9940	86.58
6.5	206,697	20	0.0001	0.9999	86.05
7.5	259,093	265	0.0010	0.9990	86.05
8.5	337,875	662	0.0020	0.9980	85.96
9.5	442,694	124	0.0003	0.9997	85.79
10.5	531,650	426	0.0008	0.9992	85.77
11.5	611,320	864	0.0014	0.9986	85.70
12.5	732,372	546	0.0007	0.9993	85.58
13.5	768,471		0.0000	1.0000	85.51
14.5	871,586		0.0000	1.0000	85.51
15.5	931,202		0.0000	1.0000	85.51
16.5	922,669	309	0.0003	0.9997	85.51
17.5	864,981	646	0.0007	0.9993	85.48
18.5	807,234	1,054	0.0013	0.9987	85.42
19.5	747,874		0.0000	1.0000	85.31
20.5	660,439	2,250	0.0034	0.9966	85.31
21.5	620,484		0.0000	1.0000	85.02
22.5	591,237		0.0000	1.0000	85.02
23.5	699,361	1,321	0.0019	0.9981	85.02
24.5	950,606	1,789	0.0019	0.9981	84.86
25.5	1,172,272	1,076	0.0009	0.9991	84.70
26.5	1,270,260		0.0000	1.0000	84.62
27.5	1,408,063	33,779	0.0240	0.9760	84.62
28.5	1,460,694	32,242	0.0221	0.9779	82.59
29.5	1,493,120	4,667	0.0031	0.9969	80.77
30.5	1,653,639	7,080	0.0043	0.9957	80.51
31.5	1,659,765	4,636	0.0028	0.9972	80.17
32.5	1,444,628	2,210	0.0015	0.9985	79.94
33.5	1,367,187	5,568	0.0041	0.9959	79.82
34.5	1,312,997	8,419	0.0064	0.9936	79.50
35.5	1,229,117	14,853	0.0121	0.9879	78.99
36.5	1,132,107	58,154	0.0514	0.9486	78.03
37.5	965,252	2,617	0.0027	0.9973	74.02
38.5	802,384	82,780	0.1032	0.8968	73.82

BLACK HILLS KANSAS GAS

ACCOUNT 380.03 SERVICES - STEEL
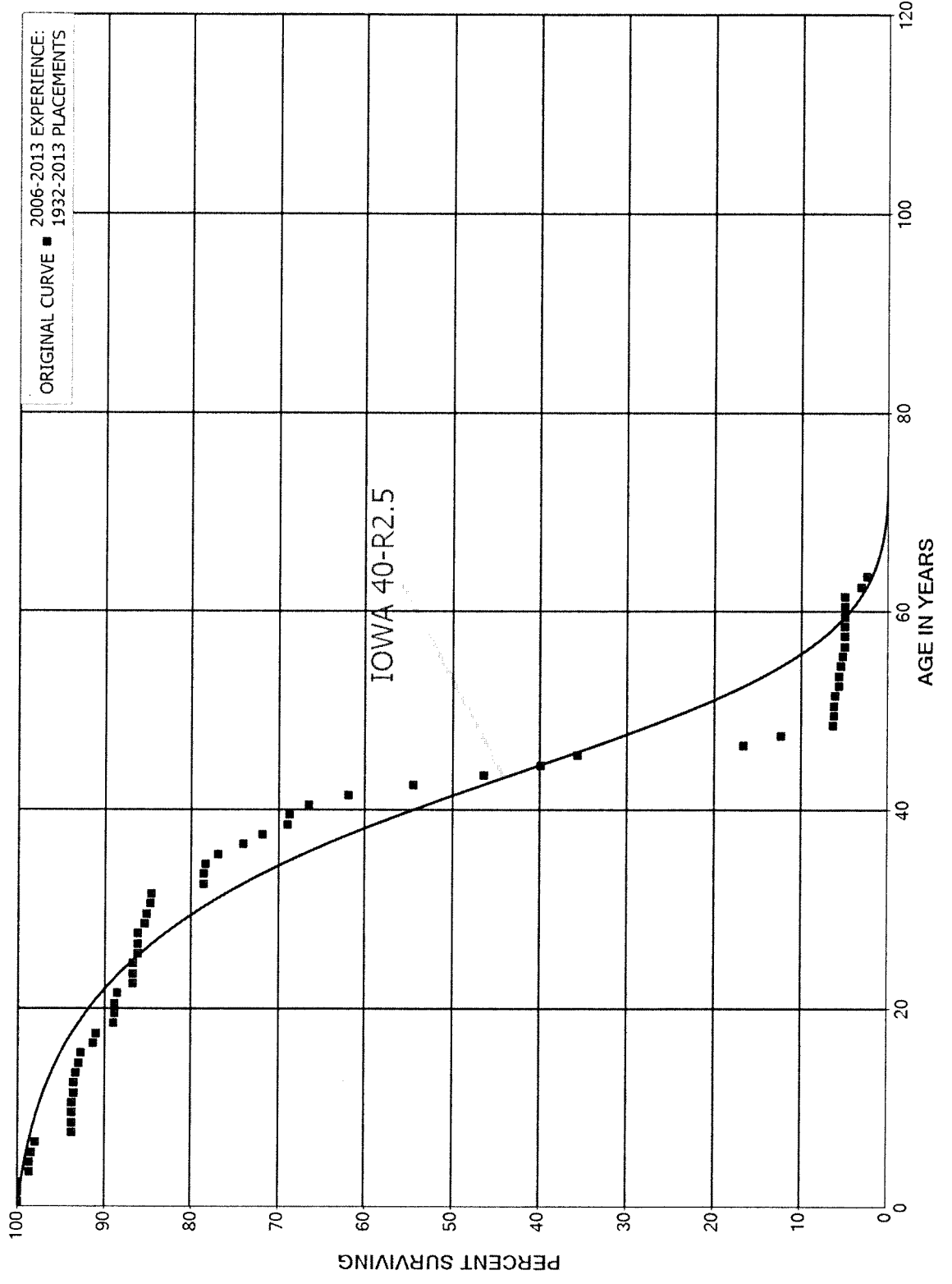
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	597,247	13,319	0.0223	0.9777	66.21
40.5	523,186	19,853	0.0379	0.9621	64.73
41.5	389,083	20,479	0.0526	0.9474	62.28
42.5	291,686	26,918	0.0923	0.9077	59.00
43.5	190,842	28,384	0.1487	0.8513	53.55
44.5	114,531	12,072	0.1054	0.8946	45.59
45.5	98,344	10,523	0.1070	0.8930	40.78
46.5	71,830	4,854	0.0676	0.9324	36.42
47.5	69,122	5,643	0.0816	0.9184	33.96
48.5	84,301	2,718	0.0322	0.9678	31.19
49.5	86,783	5,040	0.0581	0.9419	30.18
50.5	87,270	7,551	0.0865	0.9135	28.43
51.5	78,288	3,146	0.0402	0.9598	25.97
52.5	78,244	4,613	0.0590	0.9410	24.92
53.5	68,109	3,074	0.0451	0.9549	23.46
54.5	64,689	11,347	0.1754	0.8246	22.40
55.5	50,568	7,231	0.1430	0.8570	18.47
56.5	31,806	4,391	0.1381	0.8619	15.83
57.5	29,950	3,423	0.1143	0.8857	13.64
58.5	28,119	5,816	0.2068	0.7932	12.08
59.5	23,946	3,392	0.1416	0.8584	9.58
60.5	20,209	3,664	0.1813	0.8187	8.23
61.5	16,646	8,044	0.4832	0.5168	6.73
62.5	8,526	5,711	0.6699	0.3301	3.48
63.5	2,881	1,992	0.6915	0.3085	1.15
64.5	978	152	0.1550	0.8450	0.35
65.5	1,054	319	0.3030	0.6970	0.30
66.5	746	336	0.4512	0.5488	0.21
67.5	812	118	0.1456	0.8544	0.11
68.5	962	64	0.0662	0.9338	0.10
69.5	1,044	54	0.0513	0.9487	0.09
70.5	1,090	225	0.2065	0.7935	0.09
71.5	1,182	109	0.0923	0.9077	0.07
72.5	1,573	650	0.4130	0.5870	0.06
73.5	1,059	545	0.5140	0.4860	0.04
74.5	2,362	939	0.3974	0.6026	0.02
75.5	2,285	471	0.2062	0.7938	0.01
76.5	1,985	359	0.1811	0.8189	0.01
77.5	1,621	600	0.3699	0.6301	0.01
78.5	1,022	358	0.3502	0.6498	0.00

BLACK HILLS KANSAS GAS

ACCOUNT 380.03 SERVICES - STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	664	430	0.6477	0.3523	0.00
80.5	210	107	0.5105	0.4895	0.00
81.5	103	71	0.6885	0.3115	0.00
82.5	32		0.0000	1.0000	0.00
83.5					0.00

BLACK HILLS KANSAS GAS
ACCOUNT 380.04 SERVICES - PVC
ORIGINAL AND SMOOTH SURVIVOR CURVES
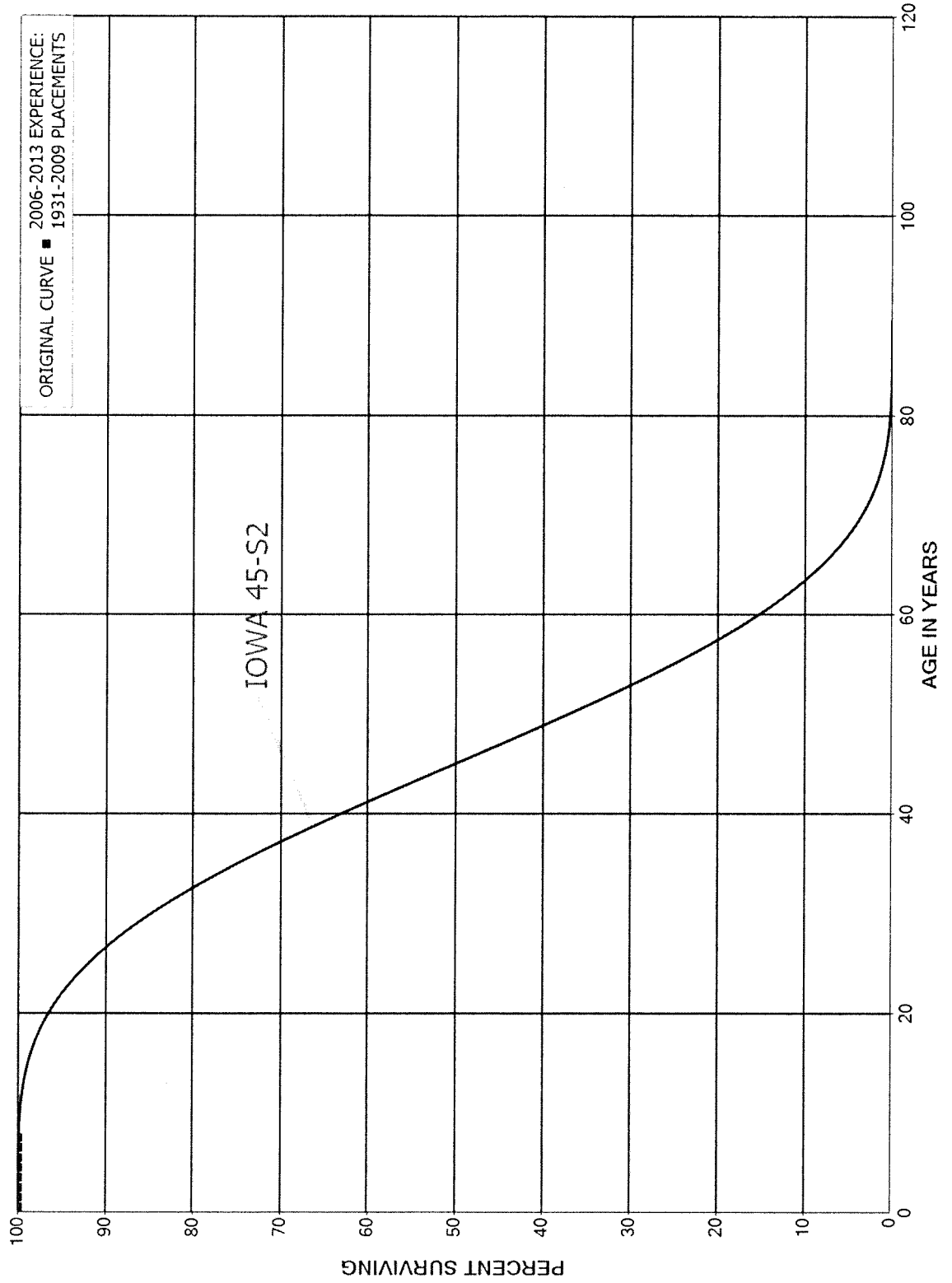
IOWA 45-S2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1931-2009 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 380.04 SERVICES - PVC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1931-2009   EXPERIENCE BAND 2006-2013

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	3,771		0.0000	1.0000	100.00
0.5	3,771		0.0000	1.0000	100.00
1.5	3,771		0.0000	1.0000	100.00
2.5	3,773		0.0000	1.0000	100.00
3.5	3,773		0.0000	1.0000	100.00
4.5	2		0.0000	1.0000	100.00
5.5	2		0.0000	1.0000	100.00
6.5	2		0.0000	1.0000	100.00
7.5	167	11	0.0656	0.9344	100.00
8.5	154		0.0000	1.0000	93.44
9.5	2		0.0000	1.0000	93.44
10.5					93.44
11.5					
12.5					
13.5					
14.5					
15.5	67,595	115	0.0017		
16.5	67,595	14	0.0002		
17.5	67,498		0.0000		
18.5	67,498		0.0000		
19.5	67,740		0.0000		
20.5	67,740		0.0000		
21.5	67,830		0.0000		
22.5	67,830		0.0000		
23.5	332		0.0000		
24.5	746	8,419	11.2790		
25.5	811		0.0000		
26.5	811	130	0.1598		
27.5	2,544		0.0000		
28.5	2,544		0.0000		
29.5	7,009	1,770	0.2525		
30.5	7,351	415	0.0564		
31.5	7,427	979	0.1319		
32.5	6,479	44	0.0068		
33.5	6,423	49	0.0076		
34.5	8,565	45	0.0052		
35.5	8,797	46	0.0052		
36.5	8,818	2,176	0.2468		
37.5	2,411	1,083	0.4494		
38.5	825	31	0.0379		

BLACK HILLS KANSAS GAS

ACCOUNT 380.04 SERVICES - PVC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1931-2009   EXPERIENCE BAND 2006-2013

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	794	178	0.2246		
40.5	615	201	0.3266		
41.5	320	82	0.2552		
42.5	238	2,882	12.0894		
43.5	84	84	1.0000		
44.5					
45.5					
46.5					
47.5					
48.5	794		0.0000		
49.5	794		0.0000		
50.5	794		0.0000		
51.5	794	242	0.3047		
52.5	553	205	0.3702		
53.5	348	13	0.0373		
54.5	335	10	0.0310		
55.5	325	325	1.0000		
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5	12		0.0000		
75.5	12	41	3.2998		
76.5	9	14	1.5200		
77.5					

BLACK HILLS KANSAS GAS
ACCOUNT 380.25 SERVICES - PE / PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 50-R4

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1957-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

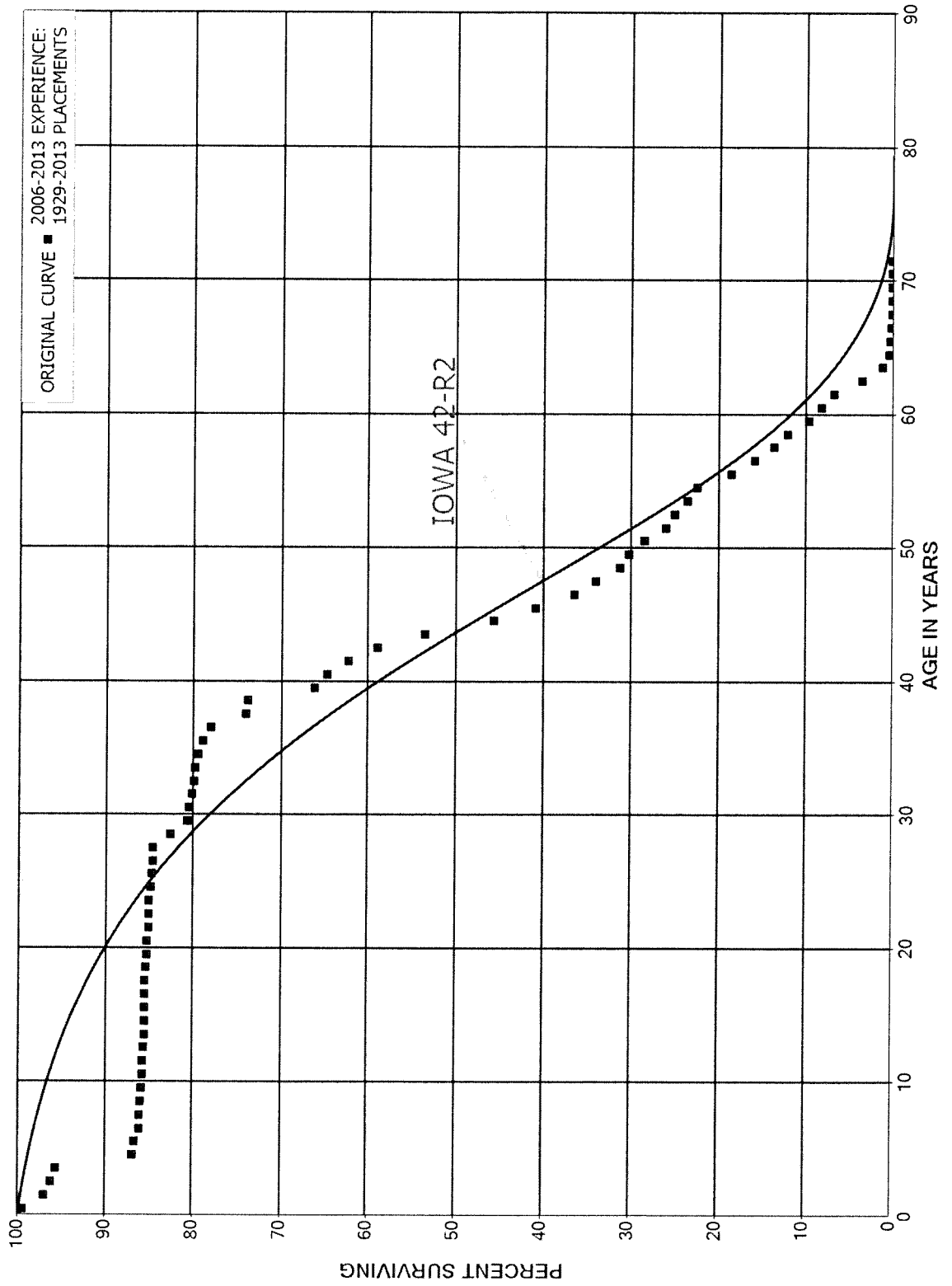ACCOUNT 380.25 SERVICES - PE / PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1957-2013   EXPERIENCE BAND 2006-2013

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	10,898,553	31,038	0.0028	0.9972	100.00
0.5	11,193,216	1,006	0.0001	0.9999	99.72
1.5	10,951,182	5,503	0.0005	0.9995	99.71
2.5	10,937,402	63	0.0000	1.0000	99.66
3.5	10,604,833	463	0.0000	1.0000	99.66
4.5	10,061,429	964	0.0001	0.9999	99.65
5.5	9,903,715	1,241	0.0001	0.9999	99.64
6.5	9,810,644	2,246	0.0002	0.9998	99.63
7.5	9,381,998	1,882	0.0002	0.9998	99.61
8.5	9,767,988	411	0.0000	1.0000	99.59
9.5	10,495,576	1,363	0.0001	0.9999	99.58
10.5	10,916,182	1,188	0.0001	0.9999	99.57
11.5	11,549,843	752	0.0001	0.9999	99.56
12.5	12,584,518	3,888	0.0003	0.9997	99.55
13.5	13,674,646	128	0.0000	1.0000	99.52
14.5	14,227,120	1,696	0.0001	0.9999	99.52
15.5	15,024,232	2,178	0.0001	0.9999	99.51
16.5	14,706,913	1,349	0.0001	0.9999	99.49
17.5	13,579,525	1,472	0.0001	0.9999	99.48
18.5	12,445,997	3,246	0.0003	0.9997	99.47
19.5	11,194,448	2,900	0.0003	0.9997	99.45
20.5	9,738,688	11,034	0.0011	0.9989	99.42
21.5	8,024,223	10,062	0.0013	0.9987	99.31
22.5	6,559,319	13,949	0.0021	0.9979	99.19
23.5	5,150,442	6,085	0.0012	0.9988	98.97
24.5	4,014,414	9,534	0.0024	0.9976	98.86
25.5	3,431,120	9,364	0.0027	0.9973	98.62
26.5	3,203,207	9,923	0.0031	0.9969	98.35
27.5	2,865,739	9,742	0.0034	0.9966	98.05
28.5	2,544,035	4,875	0.0019	0.9981	97.72
29.5	2,213,224	5,000	0.0023	0.9977	97.53
30.5	1,938,058	918	0.0005	0.9995	97.31
31.5	1,714,945	125	0.0001	0.9999	97.26
32.5	1,479,318	305	0.0002	0.9998	97.25
33.5	1,336,223	507	0.0004	0.9996	97.23
34.5	1,132,963	164	0.0001	0.9999	97.20
35.5	1,055,971	112	0.0001	0.9999	97.18
36.5	850,939	179	0.0002	0.9998	97.17
37.5	693,061	43,091	0.0622	0.9378	97.15
38.5	611,879	44,129	0.0721	0.9279	91.11

PLACEMENT BAND 1957-2013   EXPERIENCE BAND 2006-2013

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	500,015	47,055	0.0941	0.9059	84.54
40.5	558,224	52,090	0.0933	0.9067	76.59
41.5	436,528	171,836	0.3936	0.6064	69.44
42.5	213,211	18	0.0001	0.9999	42.10
43.5	181,901	6	0.0000	1.0000	42.10
44.5	252,010	1,248	0.0050	0.9950	42.10
45.5	317,365	1,725	0.0054	0.9946	41.89
46.5	281,106	107,521	0.3825	0.6175	41.66
47.5	164,298	1,635	0.0100	0.9900	25.73
48.5	186,186	1,674	0.0090	0.9910	25.47
49.5	183,270	4,502	0.0246	0.9754	25.24
50.5	178,161	6,329	0.0355	0.9645	24.62
51.5	168,554	77,026	0.4570	0.5430	23.75
52.5	27,140		0.0000	1.0000	12.90
53.5	27,140		0.0000	1.0000	12.90
54.5	27,140	27,140	1.0000		12.90
55.5					

BLACK HILLS KANSAS GAS
ACCOUNT 381 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
2000-2013 PLACEMENTS

IOWA 30-L2

PERCENT SURVIVING

AGE IN YEARS

▲ *Gannett Fleming*

Black Hills Kansas Gas
September 30, 2013

BLACK HILLS KANSAS GAS

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2013   EXPERIENCE BAND 2006-2013

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	532,730		0.0000	1.0000	100.00
0.5	475,836		0.0000	1.0000	100.00
1.5	439,953		0.0000	1.0000	100.00
2.5	16,170		0.0000	1.0000	100.00
3.5	16,170		0.0000	1.0000	100.00
4.5					100.00
5.5	12,592		0.0000		
6.5	12,592		0.0000		
7.5	12,592		0.0000		
8.5	12,592		0.0000		
9.5	12,592		0.0000		
10.5	12,592		0.0000		
11.5	12,592		0.0000		
12.5	12,592		0.0000		
13.5					

BLACK HILLS KANSAS GAS
ACCOUNT 381.01 METERS - ERT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 15-S2.5

ORIGINAL CURVE ■ 2011-2013 EXPERIENCE:
2011-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 381.01 METERS - ERT

ORIGINAL LIFE TABLE

PLACEMENT BAND 2011-2012   EXPERIENCE BAND 2011-2013

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	7,625,348		0.0000	1.0000	100.00
0.5	7,625,348	4,640	0.0006	0.9994	100.00
1.5	4,999,909	205	0.0000	1.0000	99.94
2.5					99.94

BLACK HILLS KANSAS GAS
ACCOUNT 381.23 METERS - AMR / AMI
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2011-2013 EXPERIENCE:
                 2011-2013 PLACEMENTS

IOWA 15-S2.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 381.23 METERS - AMR / AMI

ORIGINAL LIFE TABLE

PLACEMENT BAND 2011-2013   EXPERIENCE BAND 2011-2013

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	682,789		0.0000	1.0000	100.00
0.5	552,493		0.0000	1.0000	100.00
1.5	293,843		0.0000	1.0000	100.00
2.5					100.00

BLACK HILLS KANSAS GAS
ACCOUNT 382.01 METER INSTALLATIONS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 55-S2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1920-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

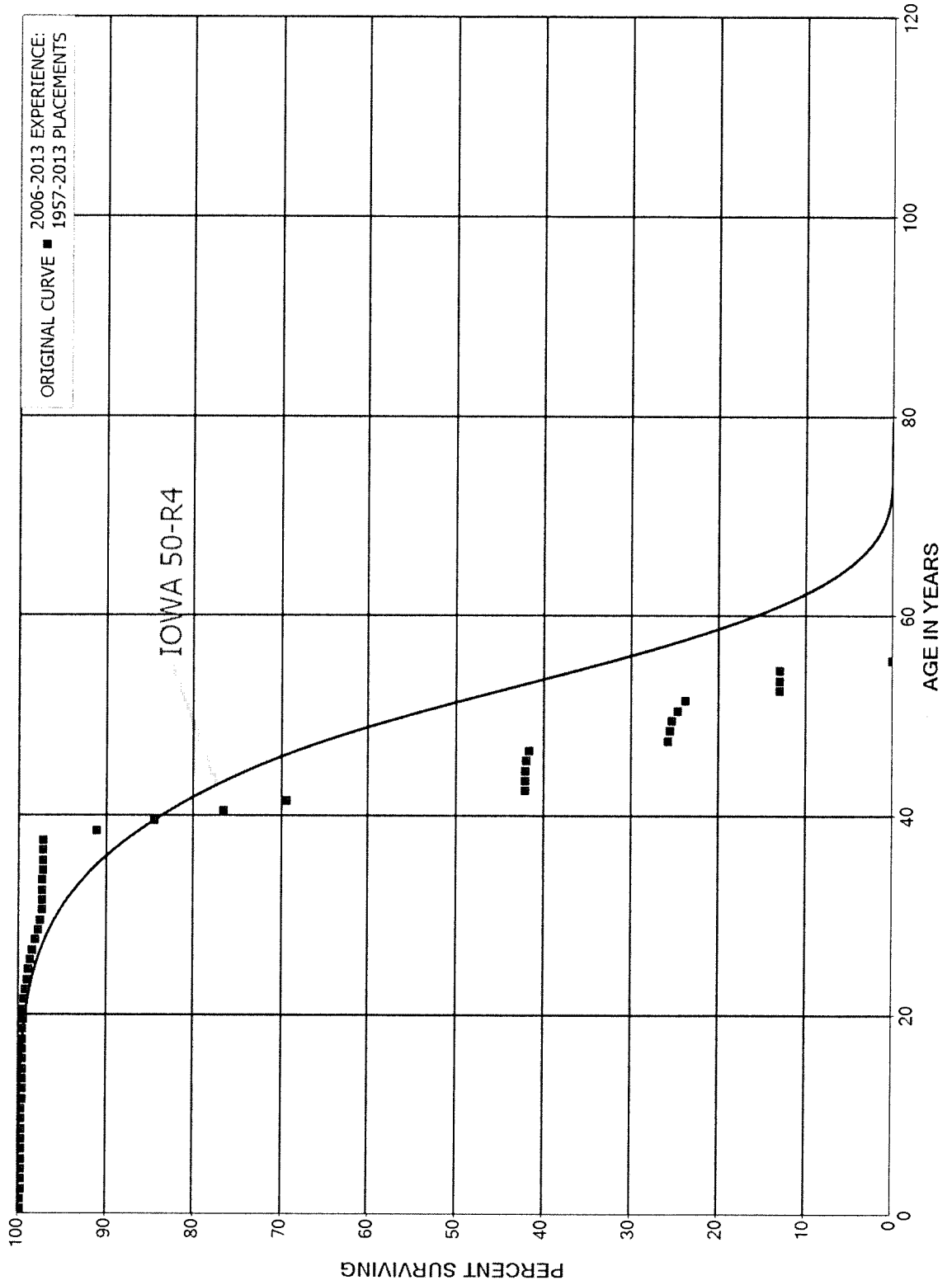ACCOUNT 382.01 METER INSTALLATIONS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	247,814		0.0000	1.0000	100.00
0.5	235,189		0.0000	1.0000	100.00
1.5	174,170		0.0000	1.0000	100.00
2.5	139,406		0.0000	1.0000	100.00
3.5	86,206		0.0000	1.0000	100.00
4.5	70,801		0.0000	1.0000	100.00
5.5	78,631		0.0000	1.0000	100.00
6.5	70,920		0.0000	1.0000	100.00
7.5	70,920		0.0000	1.0000	100.00
8.5	231,421		0.0000	1.0000	100.00
9.5	369,304		0.0000	1.0000	100.00
10.5	431,775	472	0.0011	0.9989	100.00
11.5	496,011		0.0000	1.0000	99.89
12.5	525,093		0.0000	1.0000	99.89
13.5	561,492		0.0000	1.0000	99.89
14.5	604,082		0.0000	1.0000	99.89
15.5	654,943		0.0000	1.0000	99.89
16.5	504,859		0.0000	1.0000	99.89
17.5	442,143		0.0000	1.0000	99.89
18.5	418,904		0.0000	1.0000	99.89
19.5	415,292		0.0000	1.0000	99.89
20.5	424,165		0.0000	1.0000	99.89
21.5	431,291		0.0000	1.0000	99.89
22.5	471,167		0.0000	1.0000	99.89
23.5	494,425	493	0.0010	0.9990	99.89
24.5	510,104	1,156	0.0023	0.9977	99.79
25.5	494,635		0.0000	1.0000	99.56
26.5	494,792		0.0000	1.0000	99.56
27.5	472,545		0.0000	1.0000	99.56
28.5	439,884		0.0000	1.0000	99.56
29.5	389,203		0.0000	1.0000	99.56
30.5	336,273	5,467	0.0163	0.9837	99.56
31.5	269,386	3,152	0.0117	0.9883	97.95
32.5	227,406	3,817	0.0168	0.9832	96.80
33.5	177,257	24,447	0.1379	0.8621	95.18
34.5	126,583	2,220	0.0175	0.9825	82.05
35.5	229,640	4,489	0.0195	0.9805	80.61
36.5	215,448	3,462	0.0161	0.9839	79.03
37.5	205,379	2,880	0.0140	0.9860	77.76
38.5	184,775	1,464	0.0079	0.9921	76.67

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	179,848	1,285	0.0071	0.9929	76.07
40.5	202,967	1,900	0.0094	0.9906	75.52
41.5	196,142	1,929	0.0098	0.9902	74.82
42.5	191,889	2,232	0.0116	0.9884	74.08
43.5	76,832	1,903	0.0248	0.9752	73.22
44.5	72,656	1,499	0.0206	0.9794	71.40
45.5	81,424	1,086	0.0133	0.9867	69.93
46.5	75,109	721	0.0096	0.9904	69.00
47.5	72,504	1,159	0.0160	0.9840	68.34
48.5	50,559	522	0.0103	0.9897	67.24
49.5	87,862	509	0.0058	0.9942	66.55
50.5	86,194	502	0.0058	0.9942	66.16
51.5	84,733	11,940	0.1409	0.8591	65.78
52.5	72,861	576	0.0079	0.9921	56.51
53.5	71,101	393	0.0055	0.9945	56.06
54.5	71,858	415	0.0058	0.9942	55.75
55.5	74,673	279	0.0037	0.9963	55.43
56.5	71,549	509	0.0071	0.9929	55.23
57.5	32,997	470	0.0142	0.9858	54.83
58.5	31,007	516	0.0166	0.9834	54.05
59.5	28,291	427	0.0151	0.9849	53.15
60.5	24,883	601	0.0242	0.9758	52.35
61.5	22,224	2,239	0.1008	0.8992	51.09
62.5	18,026	1,713	0.0950	0.9050	45.94
63.5	12,807	535	0.0418	0.9582	41.57
64.5	7,716	571	0.0739	0.9261	39.84
65.5	8,713	490	0.0562	0.9438	36.89
66.5	7,092	310	0.0437	0.9563	34.82
67.5	6,561	241	0.0367	0.9633	33.30
68.5	6,300	146	0.0232	0.9768	32.07
69.5	6,272	125	0.0199	0.9801	31.33
70.5	5,661	182	0.0322	0.9678	30.71
71.5	5,888	4,435	0.7533	0.2467	29.72
72.5	1,595	112	0.0702	0.9298	7.33
73.5	1,660	94	0.0566	0.9434	6.82
74.5	2,142	90	0.0420	0.9580	6.43
75.5	3,524	82	0.0233	0.9767	6.16
76.5	6,100	86	0.0141	0.9859	6.02
77.5	5,938		0.0000	1.0000	5.93
78.5	5,820	50	0.0086	0.9914	5.93

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	5,335	44	0.0083	0.9917	5.88
80.5	5,095	8	0.0015	0.9985	5.83
81.5	4,808		0.0000	1.0000	5.82
82.5	4,199		0.0000	1.0000	5.82
83.5	2,729		0.0000	1.0000	5.82
84.5	16		0.0000	1.0000	5.82
85.5	1,619		0.0000	1.0000	5.82
86.5	1,619		0.0000	1.0000	5.82
87.5	1,619		0.0000	1.0000	5.82
88.5	1,619		0.0000	1.0000	5.82
89.5	1,619		0.0000	1.0000	5.82
90.5	1,619	108	0.0667	0.9333	5.82
91.5	1,511	1,511	1.0000		5.44
92.5					

BLACK HILLS KANSAS GAS
ACCOUNT 383.01 HOUSE REGULATORS
ORIGINAL AND SMOOTH SURVIVOR CURVES
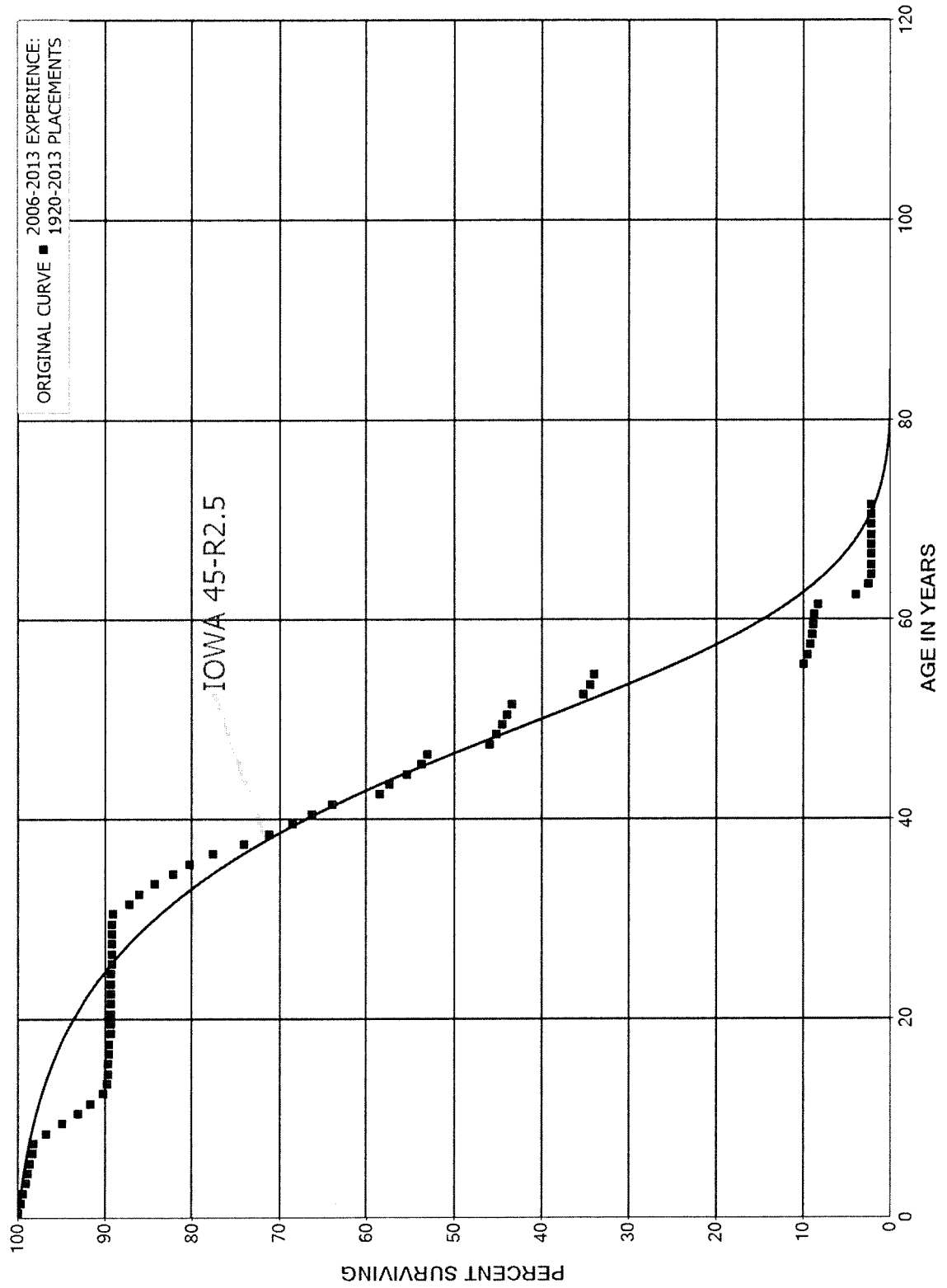
IOWA 45-R2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1920-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

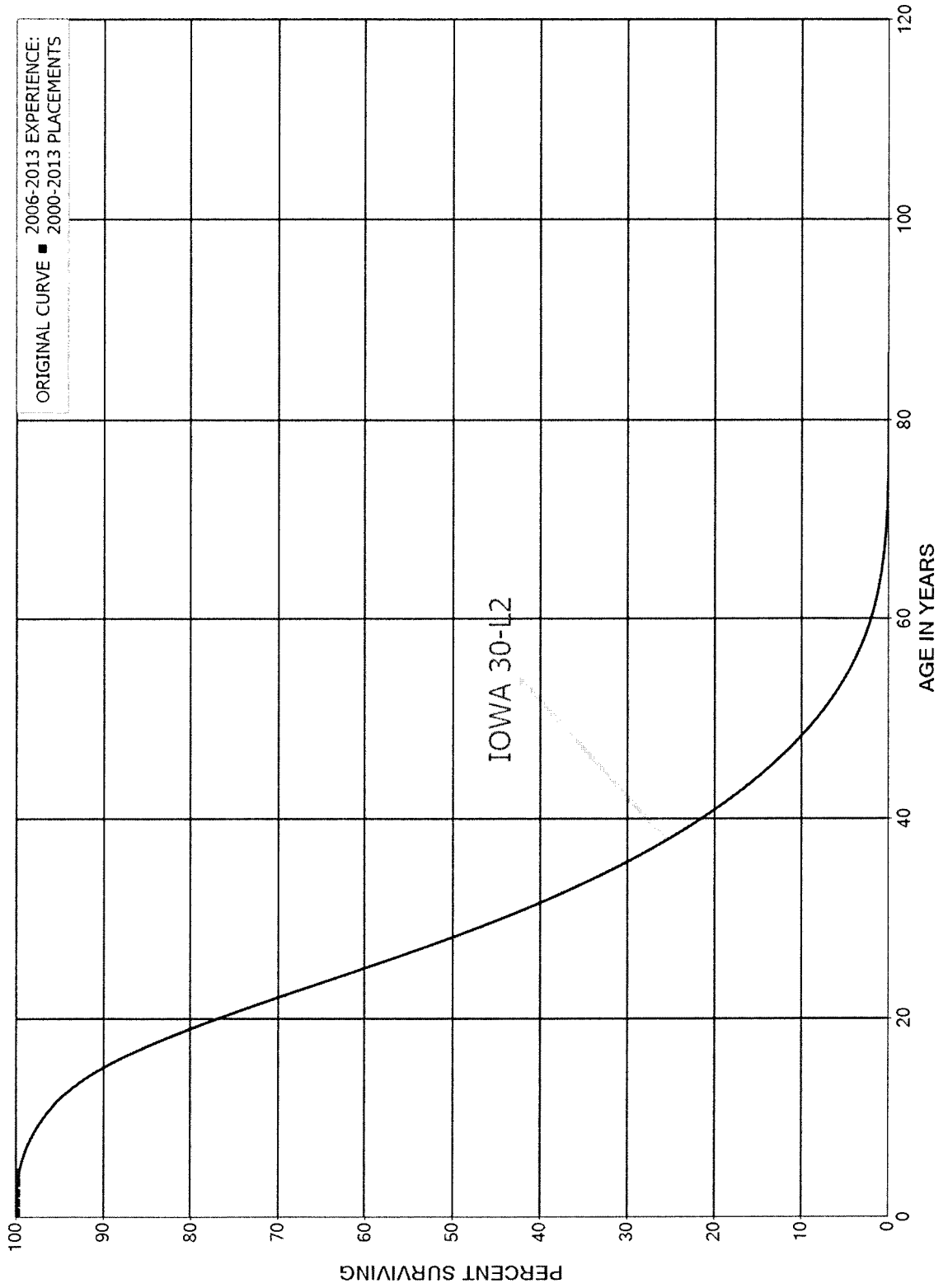ACCOUNT 383.01 HOUSE REGULATORS
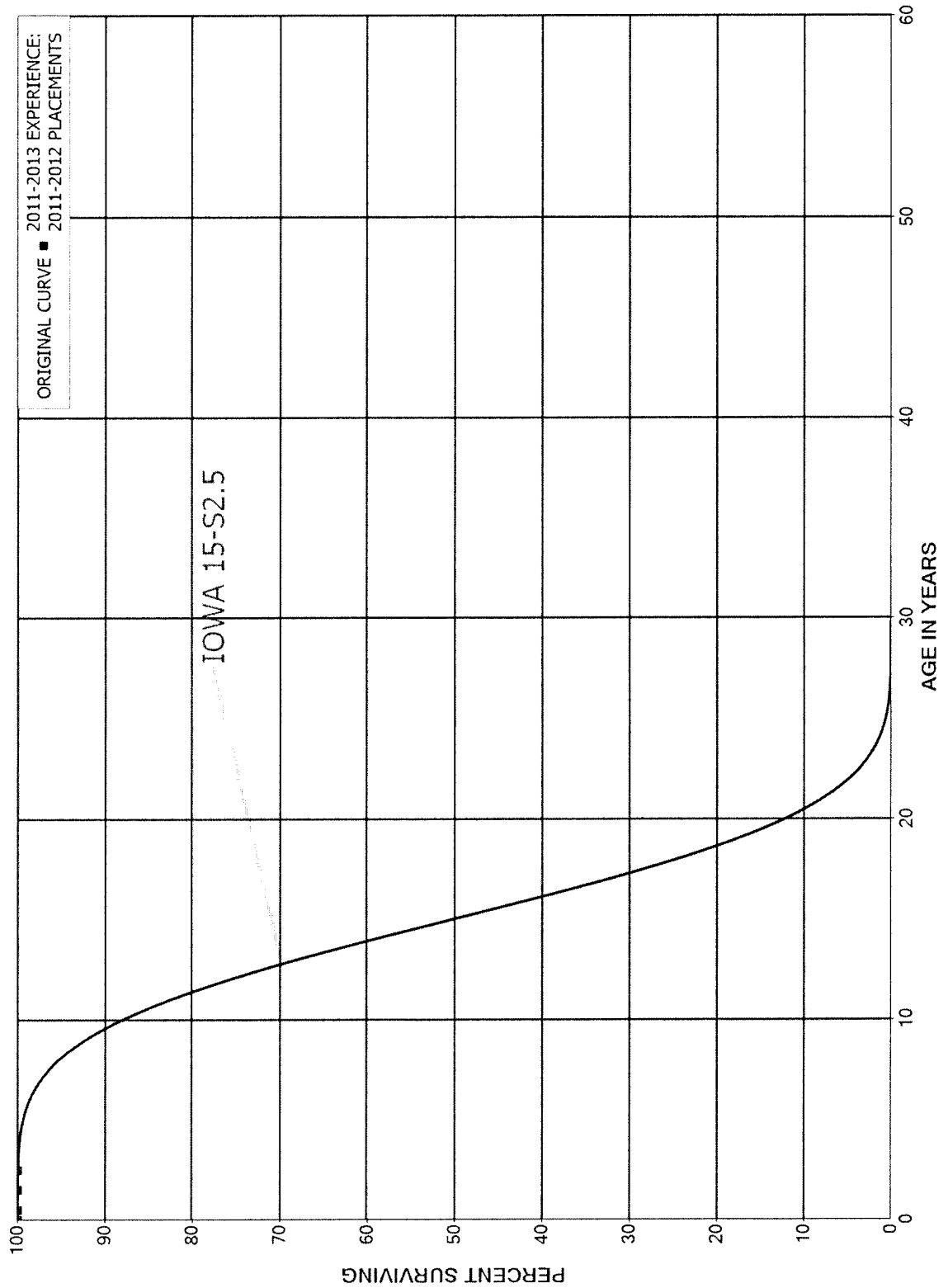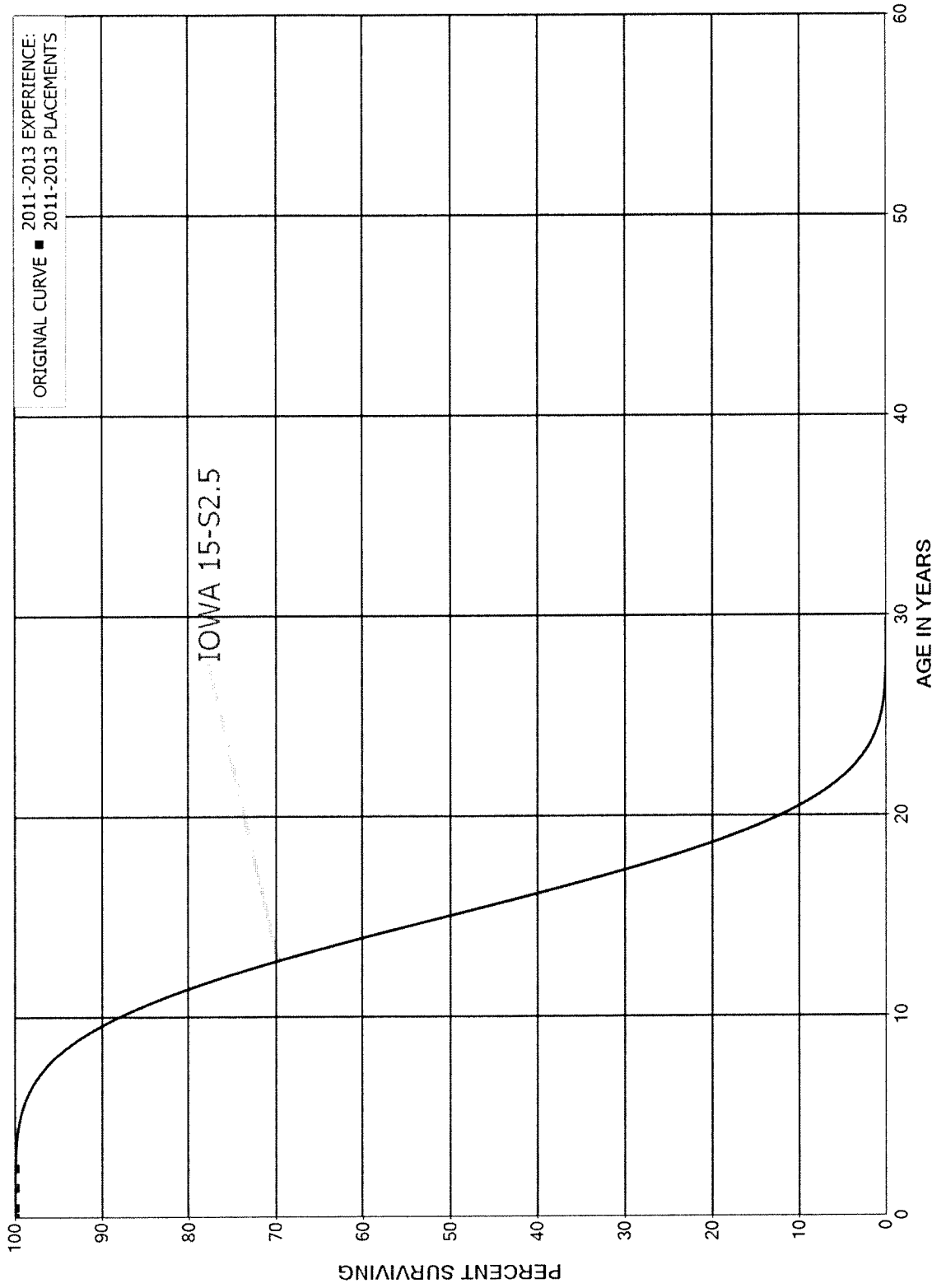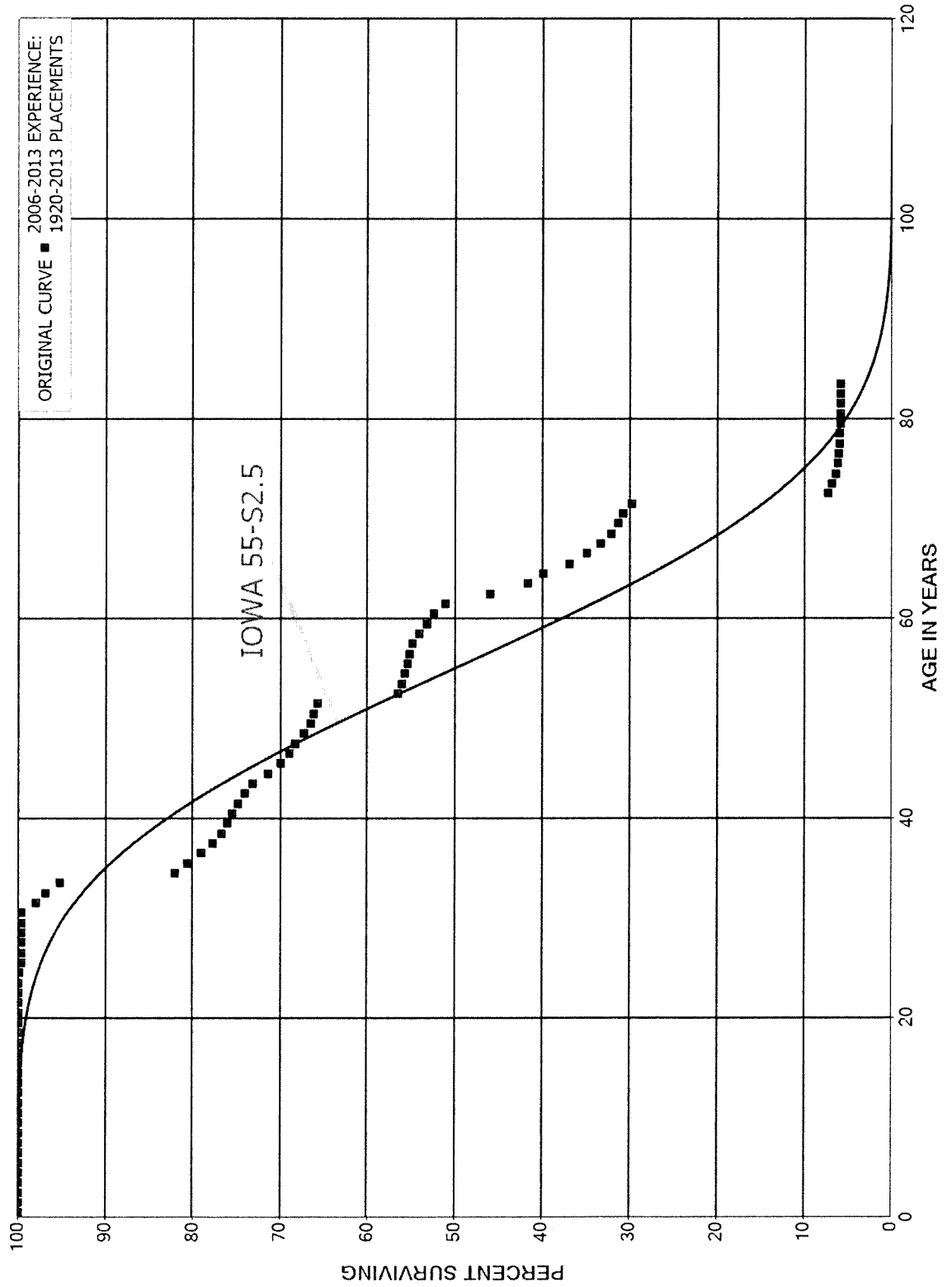
ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	6,431,274	3,467	0.0005	0.9995	100.00
0.5	6,585,683	18,278	0.0028	0.9972	99.95
1.5	6,776,071	20,620	0.0030	0.9970	99.67
2.5	7,004,339	20,752	0.0030	0.9970	99.37
3.5	7,031,310	14,494	0.0021	0.9979	99.07
4.5	6,885,651	16,626	0.0024	0.9976	98.87
5.5	6,650,264	24,129	0.0036	0.9964	98.63
6.5	5,865,301	6,660	0.0011	0.9989	98.27
7.5	5,641,090	85,369	0.0151	0.9849	98.16
8.5	4,707,207	87,261	0.0185	0.9815	96.67
9.5	3,855,406	73,617	0.0191	0.9809	94.88
10.5	3,047,026	46,465	0.0152	0.9848	93.07
11.5	2,304,688	36,922	0.0160	0.9840	91.65
12.5	1,685,567	9,231	0.0055	0.9945	90.18
13.5	1,123,802	1,277	0.0011	0.9989	89.69
14.5	837,468	126	0.0002	0.9998	89.59
15.5	527,458	96	0.0002	0.9998	89.57
16.5	510,809	158	0.0003	0.9997	89.56
17.5	442,155	1,118	0.0025	0.9975	89.53
18.5	456,694		0.0000	1.0000	89.30
19.5	461,810		0.0000	1.0000	89.30
20.5	457,714	54	0.0001	0.9999	89.30
21.5	436,020	108	0.0002	0.9998	89.29
22.5	433,968	101	0.0002	0.9998	89.27
23.5	436,945	47	0.0001	0.9999	89.25
24.5	437,097	47	0.0001	0.9999	89.24
25.5	427,962		0.0000	1.0000	89.23
26.5	406,431		0.0000	1.0000	89.23
27.5	382,888	47	0.0001	0.9999	89.23
28.5	371,257	214	0.0006	0.9994	89.22
29.5	352,595	353	0.0010	0.9990	89.17
30.5	336,233	7,190	0.0214	0.9786	89.08
31.5	299,871	3,728	0.0124	0.9876	87.17
32.5	268,760	5,687	0.0212	0.9788	86.09
33.5	229,008	5,798	0.0253	0.9747	84.27
34.5	217,106	5,007	0.0231	0.9769	82.13
35.5	308,899	10,038	0.0325	0.9675	80.24
36.5	285,741	13,221	0.0463	0.9537	77.63
37.5	258,535	9,970	0.0386	0.9614	74.04
38.5	226,349	8,585	0.0379	0.9621	71.18

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	210,533	6,694	0.0318	0.9682	68.48
40.5	228,191	7,923	0.0347	0.9653	66.31
41.5	210,069	18,110	0.0862	0.9138	64.01
42.5	184,609	3,573	0.0194	0.9806	58.49
43.5	76,525	2,606	0.0341	0.9659	57.36
44.5	67,790	2,028	0.0299	0.9701	55.40
45.5	78,753	1,061	0.0135	0.9865	53.74
46.5	70,930	9,485	0.1337	0.8663	53.02
47.5	51,300	814	0.0159	0.9841	45.93
48.5	55,539	822	0.0148	0.9852	45.20
49.5	54,870	650	0.0118	0.9882	44.53
50.5	54,581	707	0.0130	0.9870	44.01
51.5	53,428	10,212	0.1911	0.8089	43.44
52.5	45,651	892	0.0195	0.9805	35.13
53.5	37,852	600	0.0158	0.9842	34.45
54.5	37,324	26,312	0.7049	0.2951	33.90
55.5	11,816	542	0.0458	0.9542	10.00
56.5	8,390	368	0.0438	0.9562	9.54
57.5	7,545	120	0.0159	0.9841	9.13
58.5	6,971	123	0.0177	0.9823	8.98
59.5	6,395	100	0.0156	0.9844	8.82
60.5	3,626	168	0.0463	0.9537	8.68
61.5	1,997	1,046	0.5236	0.4764	8.28
62.5	1,376	511	0.3714	0.6286	3.95
63.5	847	95	0.1125	0.8875	2.48
64.5	756		0.0000	1.0000	2.20
65.5	6,533	33	0.0050	0.9950	2.20
66.5	6,500	68	0.0104	0.9896	2.19
67.5	6,432		0.0000	1.0000	2.17
68.5	6,432		0.0000	1.0000	2.17
69.5	6,432		0.0000	1.0000	2.17
70.5	5,777		0.0000	1.0000	2.17
71.5	6,011	5,777	0.9610	0.0390	2.17
72.5	235		0.0000	1.0000	0.08
73.5	235		0.0000	1.0000	0.08
74.5	496		0.0000	1.0000	0.08
75.5	1,627		0.0000	1.0000	0.08
76.5	4,272		0.0000	1.0000	0.08
77.5	4,434	52	0.0116	0.9884	0.08
78.5	4,382	76	0.0173	0.9827	0.08

BLACK HILLS KANSAS GAS

ACCOUNT 383.01 HOUSE REGULATORS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1920-2013   EXPERIENCE BAND 2006-2013

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	4,072	148	0.0364	0.9636	0.08
80.5	3,924	79	0.0201	0.9799	0.08
81.5	3,845	252	0.0655	0.9345	0.08
82.5	3,332	164	0.0491	0.9509	0.07
83.5	2,144	37	0.0174	0.9826	0.07
84.5					0.07
85.5	5,349		0.0000		
86.5	5,349		0.0000		
87.5	5,349		0.0000		
88.5	5,349		0.0000		
89.5	5,349		0.0000		
90.5	5,349		0.0000		
91.5	5,349	5,349	1.0000		
92.5					

BLACK HILLS KANSAS GAS

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 55-R3

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1937-2013 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1937-2013   EXPERIENCE BAND 2006-2013

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	777,473		0.0000	1.0000	100.00
0.5	891,095		0.0000	1.0000	100.00
1.5	893,199		0.0000	1.0000	100.00
2.5	995,538		0.0000	1.0000	100.00
3.5	834,201		0.0000	1.0000	100.00
4.5	801,857		0.0000	1.0000	100.00
5.5	770,348		0.0000	1.0000	100.00
6.5	752,350		0.0000	1.0000	100.00
7.5	688,063	1,614	0.0023	0.9977	100.00
8.5	705,926	2,780	0.0039	0.9961	99.77
9.5	851,372		0.0000	1.0000	99.37
10.5	838,425	578	0.0007	0.9993	99.37
11.5	875,942		0.0000	1.0000	99.30
12.5	914,145		0.0000	1.0000	99.30
13.5	875,665		0.0000	1.0000	99.30
14.5	833,517		0.0000	1.0000	99.30
15.5	899,705		0.0000	1.0000	99.30
16.5	788,280		0.0000	1.0000	99.30
17.5	648,982		0.0000	1.0000	99.30
18.5	651,172	1,531	0.0024	0.9976	99.30
19.5	638,368	2,205	0.0035	0.9965	99.07
20.5	623,642		0.0000	1.0000	98.73
21.5	572,578	3,135	0.0055	0.9945	98.73
22.5	648,351		0.0000	1.0000	98.19
23.5	706,280	12,931	0.0183	0.9817	98.19
24.5	723,007		0.0000	1.0000	96.39
25.5	705,194	8,069	0.0114	0.9886	96.39
26.5	608,033	4,438	0.0073	0.9927	95.29
27.5	577,249		0.0000	1.0000	94.59
28.5	549,089	1,609	0.0029	0.9971	94.59
29.5	538,597		0.0000	1.0000	94.31
30.5	354,457	1,133	0.0032	0.9968	94.31
31.5	260,542	5,448	0.0209	0.9791	94.01
32.5	182,889	834	0.0046	0.9954	92.05
33.5	190,341	1,096	0.0058	0.9942	91.63
34.5	206,247	1,555	0.0075	0.9925	91.10
35.5	267,481	4,265	0.0159	0.9841	90.41
36.5	292,305	2,466	0.0084	0.9916	88.97
37.5	309,371	19,923	0.0644	0.9356	88.22
38.5	317,146	4,932	0.0156	0.9844	82.54

BLACK HILLS KANSAS GAS

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1937-2013   EXPERIENCE BAND 2006-2013

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	293,224	7,280	0.0248	0.9752	81.26
40.5	262,869	11,063	0.0421	0.9579	79.24
41.5	222,895	382	0.0017	0.9983	75.90
42.5	188,196	375	0.0020	0.9980	75.77
43.5	129,325	4,512	0.0349	0.9651	75.62
44.5	87,387	298	0.0034	0.9966	72.98
45.5	67,444	217	0.0032	0.9968	72.74
46.5	40,538	41	0.0010	0.9990	72.50
47.5	44,466		0.0000	1.0000	72.43
48.5	41,778	29	0.0007	0.9993	72.43
49.5	40,179		0.0000	1.0000	72.38
50.5	39,283	327	0.0083	0.9917	72.38
51.5	36,123		0.0000	1.0000	71.77
52.5	23,122	57	0.0025	0.9975	71.77
53.5	21,688		0.0000	1.0000	71.60
54.5	21,357	51	0.0024	0.9976	71.60
55.5	8,730		0.0000	1.0000	71.43
56.5	7,926	327	0.0413	0.9587	71.43
57.5	6,543		0.0000	1.0000	68.48
58.5	4,688		0.0000	1.0000	68.48
59.5	3,984		0.0000	1.0000	68.48
60.5	1,706		0.0000	1.0000	68.48
61.5	1,706		0.0000	1.0000	68.48
62.5	810		0.0000	1.0000	68.48
63.5	464		0.0000	1.0000	68.48
64.5	521	15	0.0284	0.9716	68.48
65.5	620		0.0000	1.0000	66.54
66.5	538		0.0000	1.0000	66.54
67.5	422		0.0000	1.0000	66.54
68.5	437		0.0000	1.0000	66.54
69.5	437		0.0000	1.0000	66.54
70.5	437		0.0000	1.0000	66.54
71.5	437		0.0000	1.0000	66.54
72.5	274		0.0000	1.0000	66.54
73.5	15		0.0000	1.0000	66.54
74.5	15		0.0000	1.0000	66.54
75.5	15		0.0000	1.0000	66.54
76.5					66.54

BLACK HILLS KANSAS GAS

ACCOUNT 385.02 INDUSTRIAL METERS - LARGE

ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1999-2011 PLACEMENTS

IOWA 35-S1.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 385.02 INDUSTRIAL METERS - LARGE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1999-2011   EXPERIENCE BAND 2006-2013

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	2,226		0.0000	1.0000	100.00
0.5	2,226		0.0000	1.0000	100.00
1.5	2,226		0.0000	1.0000	100.00
2.5	1,103		0.0000	1.0000	100.00
3.5	203,801		0.0000	1.0000	100.00
4.5	206,522		0.0000	1.0000	100.00
5.5	208,775		0.0000	1.0000	100.00
6.5	209,092		0.0000	1.0000	100.00
7.5	209,092		0.0000	1.0000	100.00
8.5	209,092		0.0000	1.0000	100.00
9.5	209,092		0.0000	1.0000	100.00
10.5	207,989		0.0000	1.0000	100.00
11.5	5,291		0.0000	1.0000	100.00
12.5	2,570		0.0000	1.0000	100.00
13.5	317		0.0000	1.0000	100.00
14.5					100.00

BLACK HILLS KANSAS GAS
ACCOUNT 387 OTHER EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 28-L3

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1958-2013 PLACEMENTS
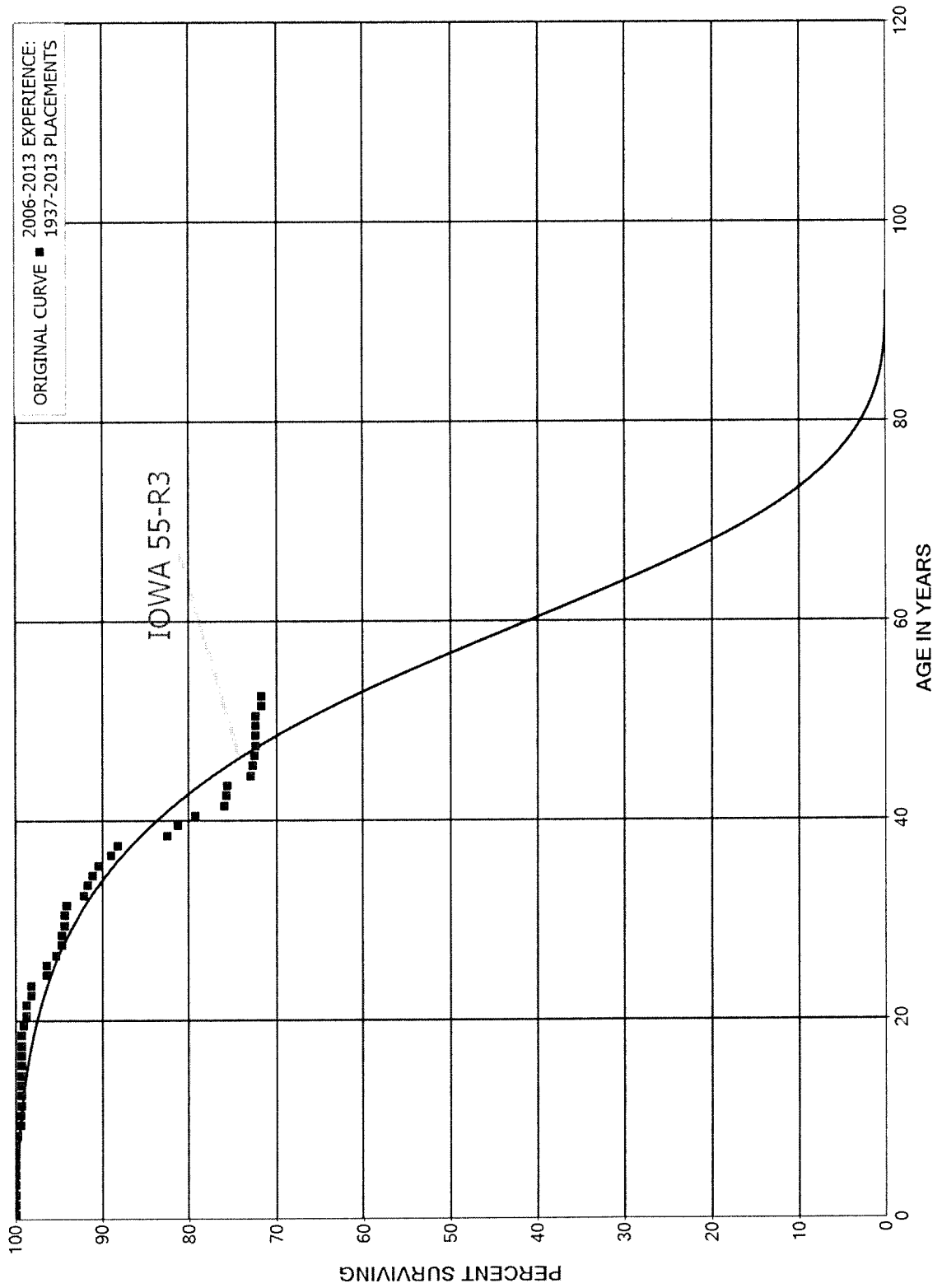
PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 387 OTHER EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1958-2013   EXPERIENCE BAND 2006-2013

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	188,719		0.0000	1.0000	100.00
0.5	224,186		0.0000	1.0000	100.00
1.5	178,197		0.0000	1.0000	100.00
2.5	101,827		0.0000	1.0000	100.00
3.5	47,701		0.0000	1.0000	100.00
4.5	36,262		0.0000	1.0000	100.00
5.5	37,186		0.0000	1.0000	100.00
6.5	37,186		0.0000	1.0000	100.00
7.5	53,103		0.0000	1.0000	100.00
8.5	19,287		0.0000	1.0000	100.00
9.5	21,855		0.0000	1.0000	100.00
10.5	32,036		0.0000	1.0000	100.00
11.5	34,947		0.0000	1.0000	100.00
12.5	40,405		0.0000	1.0000	100.00
13.5	55,261		0.0000	1.0000	100.00
14.5	92,692	2,446	0.0264	0.9736	100.00
15.5	80,357	2,567	0.0320	0.9680	97.36
16.5	129,113		0.0000	1.0000	94.25
17.5	135,447		0.0000	1.0000	94.25
18.5	126,085	1,276	0.0101	0.9899	94.25
19.5	121,898	7,540	0.0619	0.9381	93.30
20.5	111,050	20,861	0.1879	0.8121	87.53
21.5	84,866	3,310	0.0390	0.9610	71.08
22.5	65,734	32,119	0.4886	0.5114	68.31
23.5	32,661		0.0000	1.0000	34.93
24.5	14,144	418	0.0296	0.9704	34.93
25.5	14,919		0.0000	1.0000	33.90
26.5	37,323		0.0000	1.0000	33.90
27.5	107,948		0.0000	1.0000	33.90
28.5	107,074	18,349	0.1714	0.8286	33.90
29.5	88,580		0.0000	1.0000	28.09
30.5	89,688	686	0.0076	0.9924	28.09
31.5	87,238	492	0.0056	0.9944	27.88
32.5	88,879		0.0000	1.0000	27.72
33.5	81,351	23,555	0.2895	0.7105	27.72
34.5	34,992		0.0000	1.0000	19.69
35.5	6,270	93	0.0148	0.9852	19.69
36.5	6,177	1,365	0.2211	0.7789	19.40
37.5	2,788		0.0000	1.0000	15.11
38.5	8,873		0.0000	1.0000	15.11

ACCOUNT 387 OTHER EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1958-2013   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	8,873	2,355	0.2654	0.7346	15.11
40.5	4,385		0.0000	1.0000	11.10
41.5	4,385		0.0000	1.0000	11.10
42.5	11,625		0.0000	1.0000	11.10
43.5	11,625		0.0000	1.0000	11.10
44.5	11,708	1,525	0.1302	0.8698	11.10
45.5	9,529		0.0000	1.0000	9.66
46.5	7,323		0.0000	1.0000	9.66
47.5	7,464		0.0000	1.0000	9.66
48.5	7,464	7,241	0.9701	0.0299	9.66
49.5	223		0.0000	1.0000	0.29
50.5	223	83	0.3705	0.6295	0.29
51.5	140		0.0000	1.0000	0.18
52.5	140		0.0000	1.0000	0.18
53.5	140		0.0000	1.0000	0.18
54.5	140		0.0000	1.0000	0.18
55.5					0.18

BLACK HILLS KANSAS GAS
ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1929-2013 PLACEMENTS

IOWA 40-R3

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

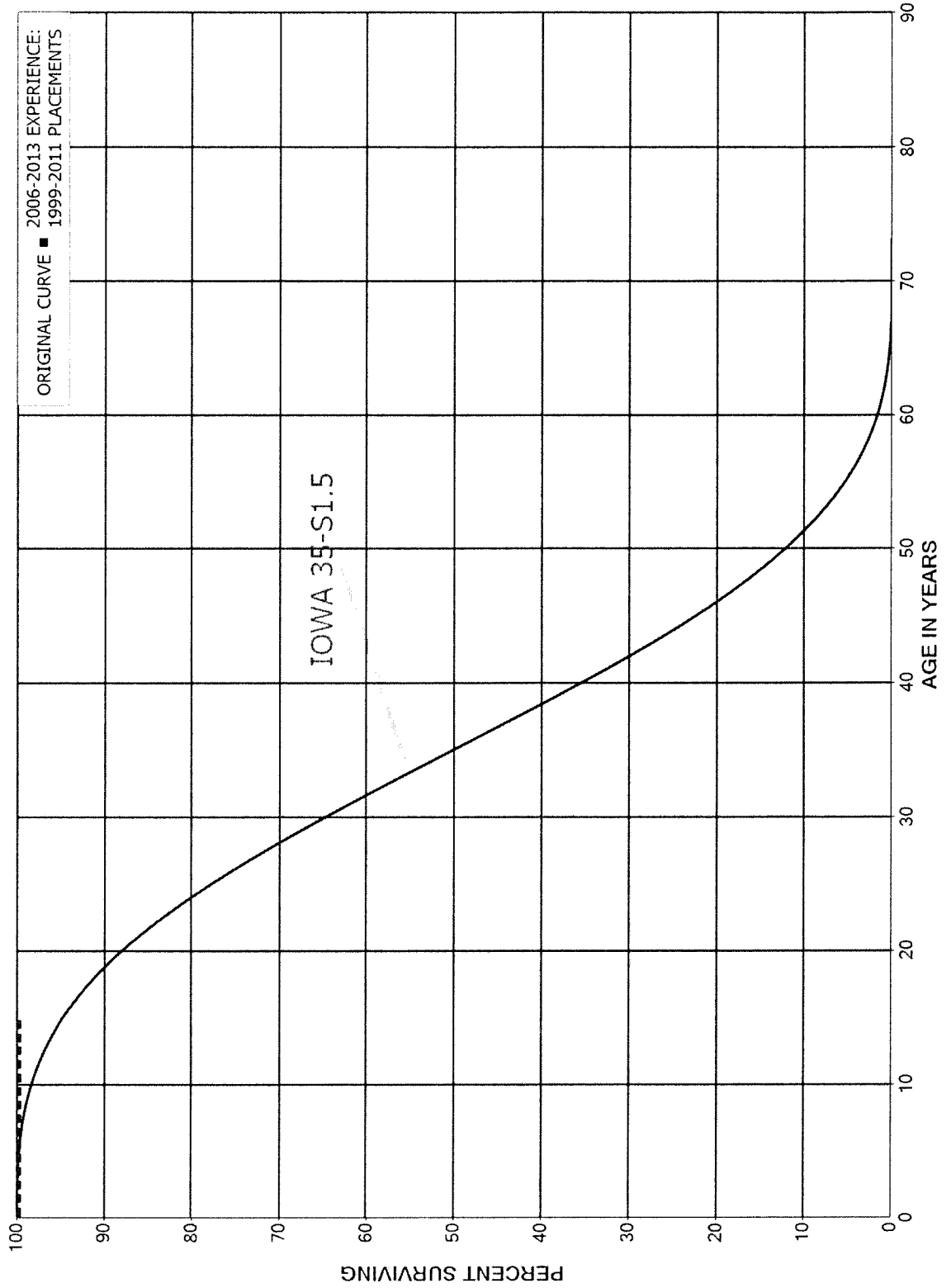ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	6,013,647		0.0000	1.0000	100.00
0.5	5,933,892		0.0000	1.0000	100.00
1.5	3,571,460	48,825	0.0137	0.9863	100.00
2.5	2,714,062		0.0000	1.0000	98.63
3.5	1,745,013		0.0000	1.0000	98.63
4.5	1,690,023		0.0000	1.0000	98.63
5.5	86,510		0.0000	1.0000	98.63
6.5	67,932		0.0000	1.0000	98.63
7.5	212,754		0.0000	1.0000	98.63
8.5	179,083		0.0000	1.0000	98.63
9.5	178,544		0.0000	1.0000	98.63
10.5	180,848		0.0000	1.0000	98.63
11.5	224,517	4,156	0.0185	0.9815	98.63
12.5	228,626		0.0000	1.0000	96.81
13.5	412,689		0.0000	1.0000	96.81
14.5	440,078		0.0000	1.0000	96.81
15.5	1,034,373	952	0.0009	0.9991	96.81
16.5	1,084,124	2,303	0.0021	0.9979	96.72
17.5	1,138,664	2,515	0.0022	0.9978	96.51
18.5	1,337,802	232	0.0002	0.9998	96.30
19.5	1,309,424	108,716	0.0830	0.9170	96.28
20.5	1,125,269		0.0000	1.0000	88.29
21.5	1,117,385	16,769	0.0150	0.9850	88.29
22.5	523,653	1,772	0.0034	0.9966	86.96
23.5	555,197	4,200	0.0076	0.9924	86.67
24.5	258,759		0.0000	1.0000	86.01
25.5	216,717	7,138	0.0329	0.9671	86.01
26.5	208,501	441	0.0021	0.9979	83.18
27.5	222,091		0.0000	1.0000	83.00
28.5	222,091		0.0000	1.0000	83.00
29.5	197,249		0.0000	1.0000	83.00
30.5	52,217		0.0000	1.0000	83.00
31.5	22,491		0.0000	1.0000	83.00
32.5	22,491		0.0000	1.0000	83.00
33.5	19,317		0.0000	1.0000	83.00
34.5	19,317		0.0000	1.0000	83.00
35.5	5,286	3,610	0.6830	0.3170	83.00
36.5	1,676	1,310	0.7817	0.2183	26.31
37.5	29,277	366	0.0125	0.9875	5.74
38.5	31,977		0.0000	1.0000	5.67

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED
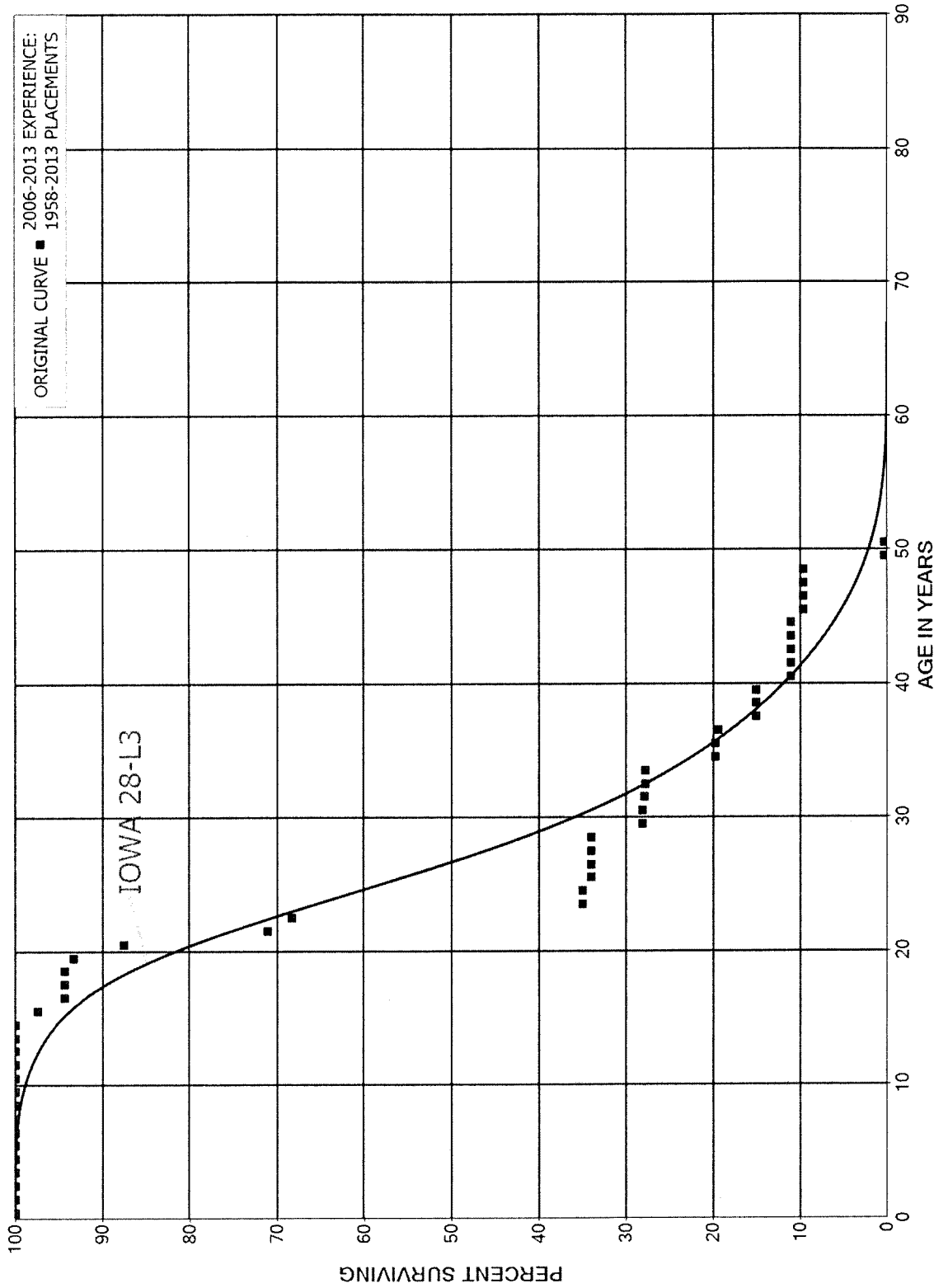
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	31,977		0.0000	1.0000	5.67
40.5	50,913		0.0000	1.0000	5.67
41.5	50,913		0.0000	1.0000	5.67
42.5	50,913		0.0000	1.0000	5.67
43.5	50,913		0.0000	1.0000	5.67
44.5	50,913	3,058	0.0601	0.9399	5.67
45.5	18,943		0.0000	1.0000	5.33
46.5	18,936	18,936	1.0000		5.33
47.5	327		0.0000	1.0000	
48.5	327		0.0000	1.0000	
49.5	62,723		0.0000	1.0000	
50.5	62,723		0.0000	1.0000	
51.5	327		0.0000	1.0000	
52.5	327		0.0000	1.0000	
53.5	327		0.0000	1.0000	
54.5	478		0.0000	1.0000	
55.5	151		0.0000	1.0000	
56.5	4,545		0.0000	1.0000	
57.5	4,545		0.0000	1.0000	
58.5	4,545		0.0000	1.0000	
59.5	4,545		0.0000	1.0000	
60.5	4,545	151	0.0333	0.9667	
61.5	4,393		0.0000	1.0000	
62.5	4,393	4,393	1.0000		
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5	225		0.0000		
76.5	5,119		0.0000		
77.5	4,894		0.0000		
78.5	4,894		0.0000		

BLACK HILLS KANSAS GAS

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE, CONT.

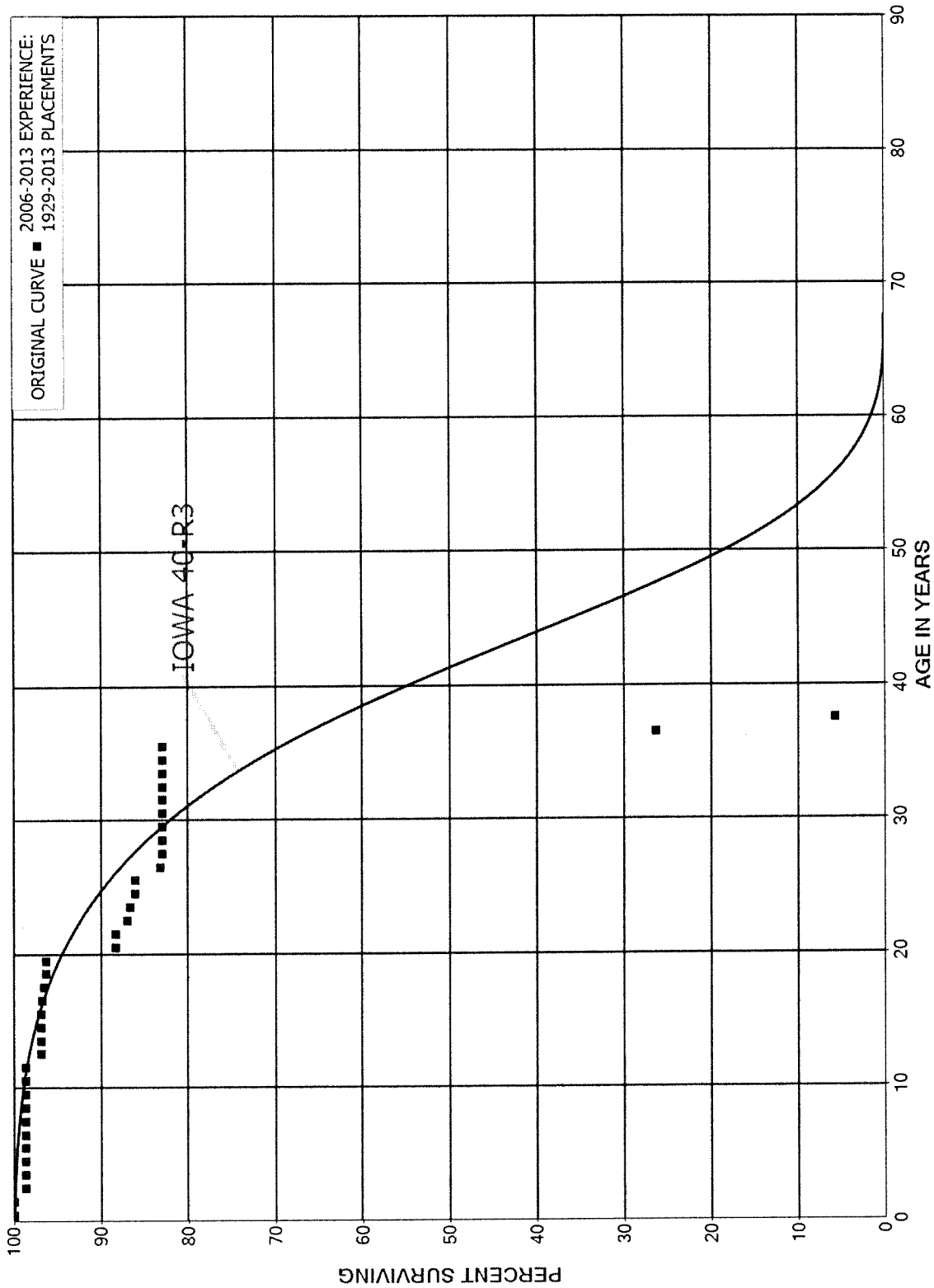PLACEMENT BAND 1929-2013   EXPERIENCE BAND 2006-2013

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	4,894		0.0000		
80.5	4,894		0.0000		
81.5	4,894		0.0000		
82.5	4,894	4,894	1.0000		
83.5					

BLACK HILLS KANSAS GAS

ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASED
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 20-S3

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1979-2011 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASED

ORIGINAL LIFE TABLE

PLACEMENT BAND 1979-2011   EXPERIENCE BAND 2006-2013

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	36,348		0.0000	1.0000	100.00
0.5	53,830		0.0000	1.0000	100.00
1.5	53,830		0.0000	1.0000	100.00
2.5	51,273		0.0000	1.0000	100.00
3.5	51,273		0.0000	1.0000	100.00
4.5	51,273		0.0000	1.0000	100.00
5.5	45,611		0.0000	1.0000	100.00
6.5	17,481		0.0000	1.0000	100.00
7.5	17,481		0.0000	1.0000	100.00
8.5					100.00
9.5	2,400		0.0000		
10.5	24,245		0.0000		
11.5	24,570		0.0000		
12.5	24,570		0.0000		
13.5	24,570		0.0000		
14.5	29,125		0.0000		
15.5	29,125	2,400	0.0824		
16.5	26,725	20,422	0.7642		
17.5	9,078		0.0000		
18.5	7,655		0.0000		
19.5	7,330		0.0000		
20.5	12,675	4,555	0.3594		
21.5	9,493		0.0000		
22.5	9,493		0.0000		
23.5	9,493	2,775	0.2923		
24.5	6,718		0.0000		
25.5	7,502		0.0000		
26.5	7,870	5,345	0.6792		
27.5	2,525	1,373	0.5438		
28.5	1,152		0.0000		
29.5	1,152		0.0000		
30.5	1,152		0.0000		
31.5	1,152		0.0000		
32.5	1,152	368	0.3199		
33.5					

BLACK HILLS KANSAS GAS
ACCOUNT 391.04 SOFTWARE
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 7-S4

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1988-2006 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 391.04 SOFTWARE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1988-2006   EXPERIENCE BAND 2006-2013

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	7,151		0.0000	1.0000	100.00
0.5	7,151		0.0000	1.0000	100.00
1.5	7,151		0.0000	1.0000	100.00
2.5	7,151		0.0000	1.0000	100.00
3.5	7,151		0.0000	1.0000	100.00
4.5	7,151		0.0000	1.0000	100.00
5.5	7,151		0.0000	1.0000	100.00
6.5	7,151		0.0000	1.0000	100.00
7.5	1,015	1,015	1.0000		100.00
8.5					

BLACK HILLS KANSAS GAS

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1986-2011 PLACEMENTS

IOWA 7-L4

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1986-2011   EXPERIENCE BAND 2006-2013

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	27,324		0.0000	1.0000	100.00
0.5	27,324		0.0000	1.0000	100.00
1.5	27,324		0.0000	1.0000	100.00
2.5					100.00

BLACK HILLS KANSAS GAS

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 4-L2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1986-2011 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1986-2011   EXPERIENCE BAND 2006-2013

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	256,785		0.0000	1.0000	100.00
0.5	256,785		0.0000	1.0000	100.00
1.5	256,785	26,600	0.1036	0.8964	100.00
2.5	111,842	69,038	0.6173	0.3827	89.64
3.5					34.31

BLACK HILLS KANSAS GAS

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1987-2013 PLACEMENTS

IOWA 6-L2

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

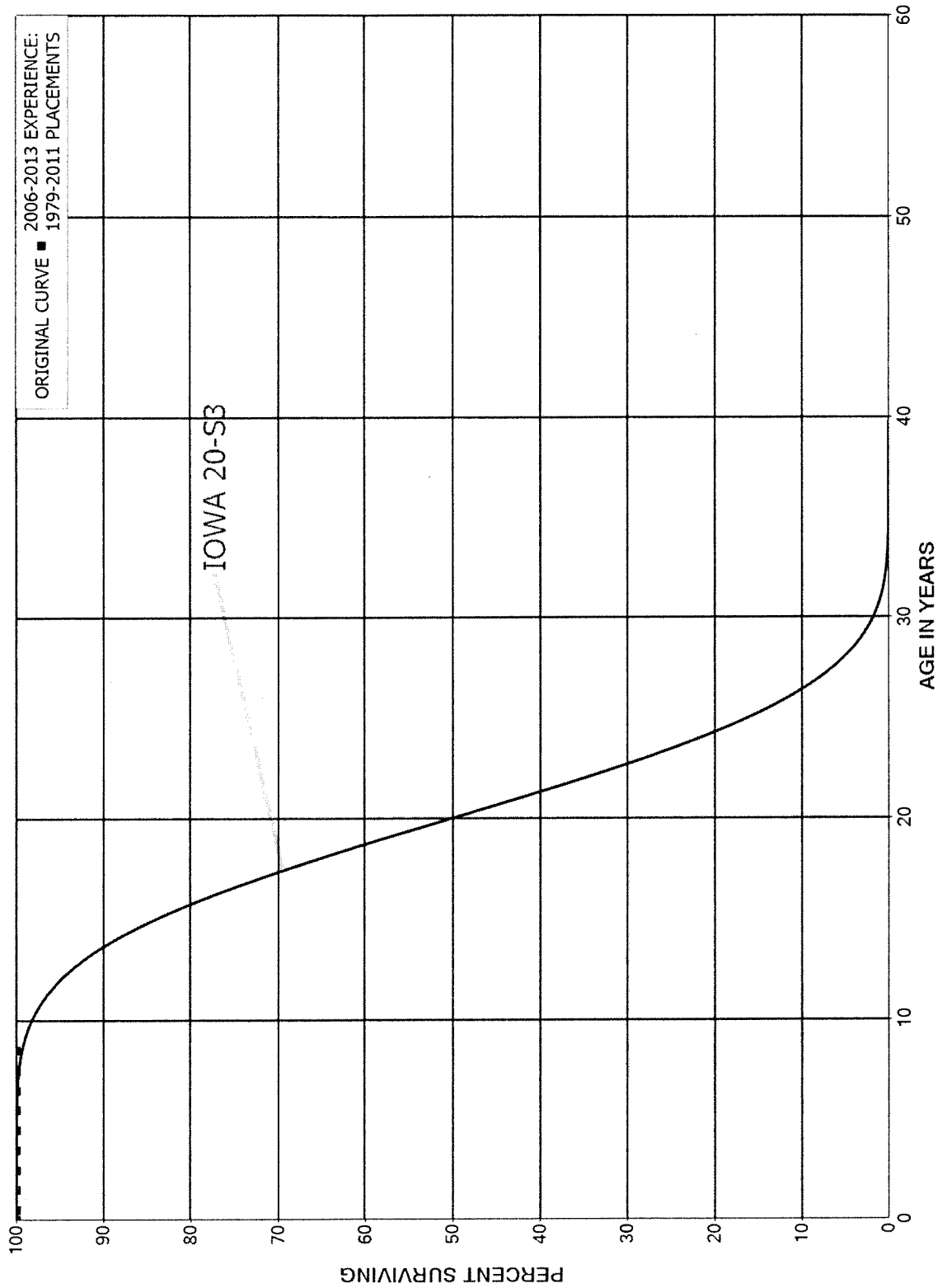ORIGINAL LIFE TABLE

PLACEMENT BAND 1987-2013   EXPERIENCE BAND 2006-2013

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	2,043,521		0.0000	1.0000	100.00
0.5	1,828,462	23,273	0.0127	0.9873	100.00
1.5	1,435,013	87,237	0.0608	0.9392	98.73
2.5	991,271	78,038	0.0787	0.9213	92.73
3.5	519,331	165,310	0.3183	0.6817	85.43
4.5	183,134	22,379	0.1222	0.8778	58.23
5.5	2,203		0.0000	1.0000	51.12
6.5	2,203		0.0000	1.0000	51.12
7.5	2,203		0.0000	1.0000	51.12
8.5	264		0.0000	1.0000	51.12
9.5	264		0.0000	1.0000	51.12
10.5	264		0.0000	1.0000	51.12
11.5	264	60	0.2266	0.7734	51.12
12.5	204	204	1.0000		39.53
13.5					

BLACK HILLS KANSAS GAS

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1976-2012 PLACEMENTS

IOWA 7-L2

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

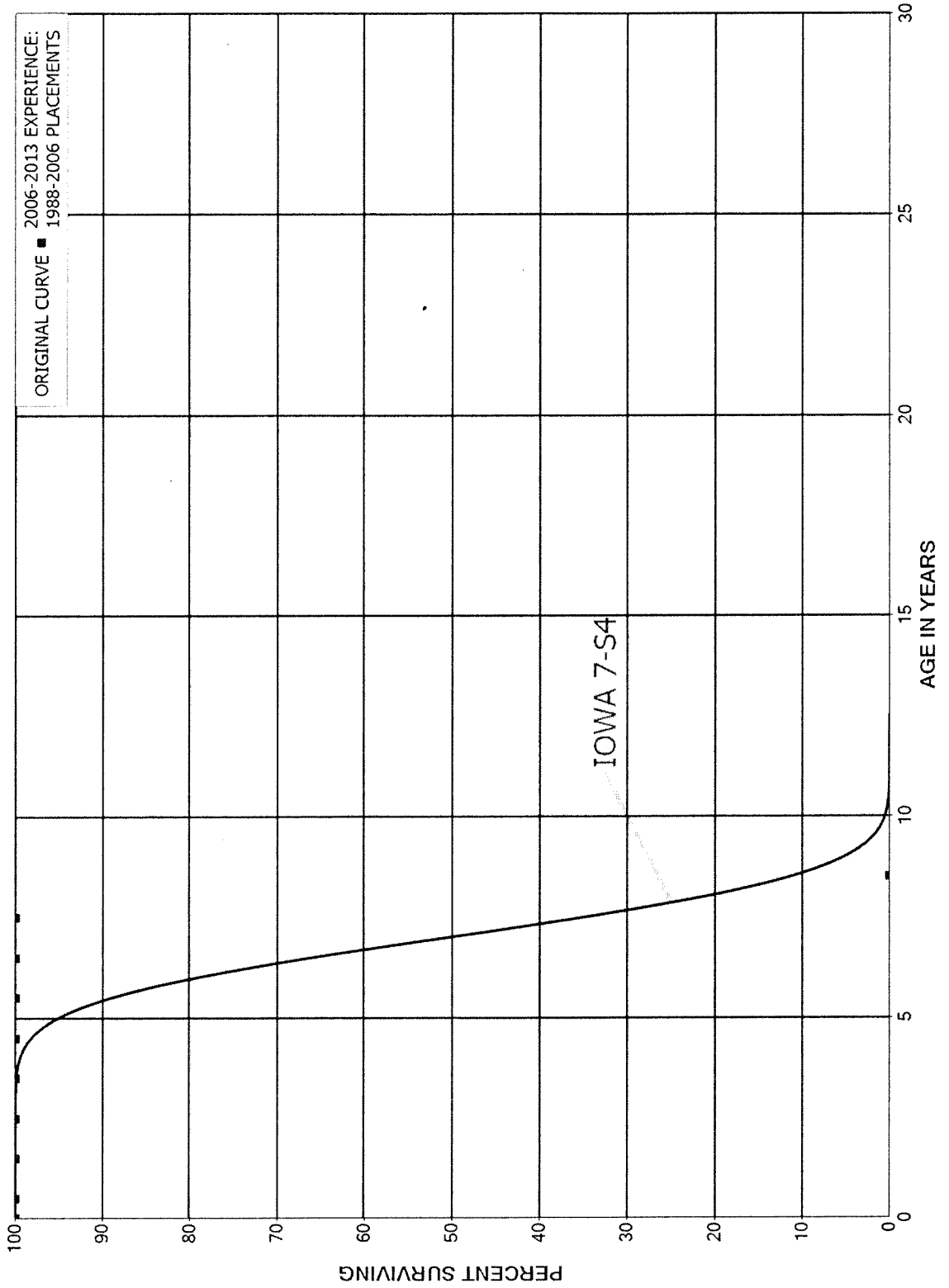ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2012   EXPERIENCE BAND 2006-2013

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	2,023,149		0.0000	1.0000	100.00
0.5	2,023,149	5,091	0.0025	0.9975	100.00
1.5	1,914,208	119,778	0.0626	0.9374	99.75
2.5	1,499,952	211,303	0.1409	0.8591	93.51
3.5	839,205	193,124	0.2301	0.7699	80.33
4.5	467,846		0.0000	1.0000	61.85
5.5	26,660	26,660	1.0000		61.85
6.5					
7.5					
8.5	207		0.0000		
9.5	207	207	1.0000		
10.5					

BLACK HILLS KANSAS GAS

ACCOUNT 392.05 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 10-L3

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1974-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

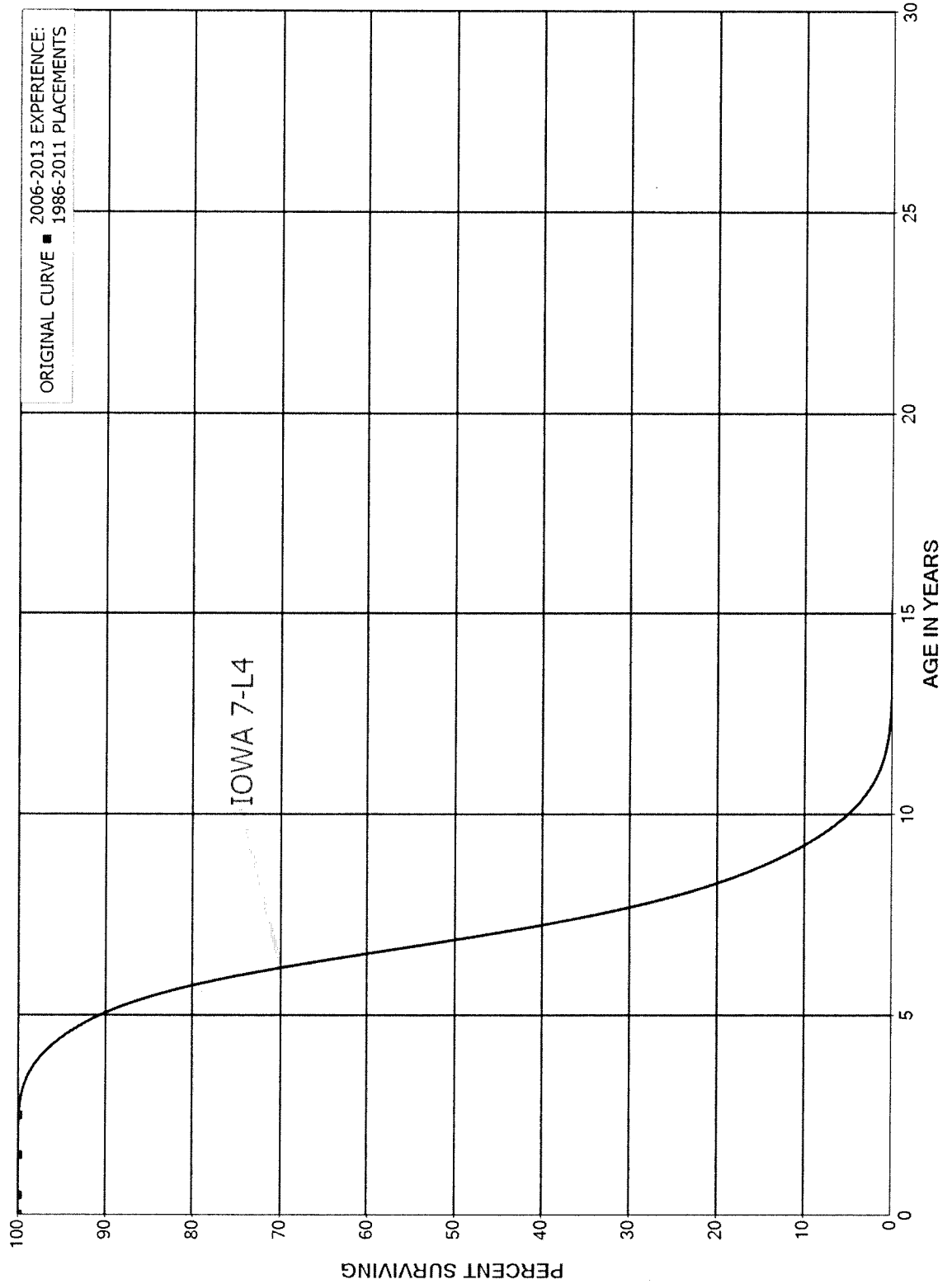ACCOUNT 392.05 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1974-2012   EXPERIENCE BAND 2006-2013

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	217,964		0.0000	1.0000	100.00
0.5	217,964		0.0000	1.0000	100.00
1.5	134,660		0.0000	1.0000	100.00
2.5	134,660		0.0000	1.0000	100.00
3.5	134,660		0.0000	1.0000	100.00
4.5	141,398		0.0000	1.0000	100.00
5.5	6,738		0.0000	1.0000	100.00
6.5	6,738		0.0000	1.0000	100.00
7.5	6,738		0.0000	1.0000	100.00
8.5	6,738		0.0000	1.0000	100.00
9.5	6,738		0.0000	1.0000	100.00
10.5	6,738		0.0000	1.0000	100.00
11.5	6,738		0.0000	1.0000	100.00
12.5					100.00

BLACK HILLS KANSAS GAS

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 19-R2

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
■ 1956-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS KANSAS GAS

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS
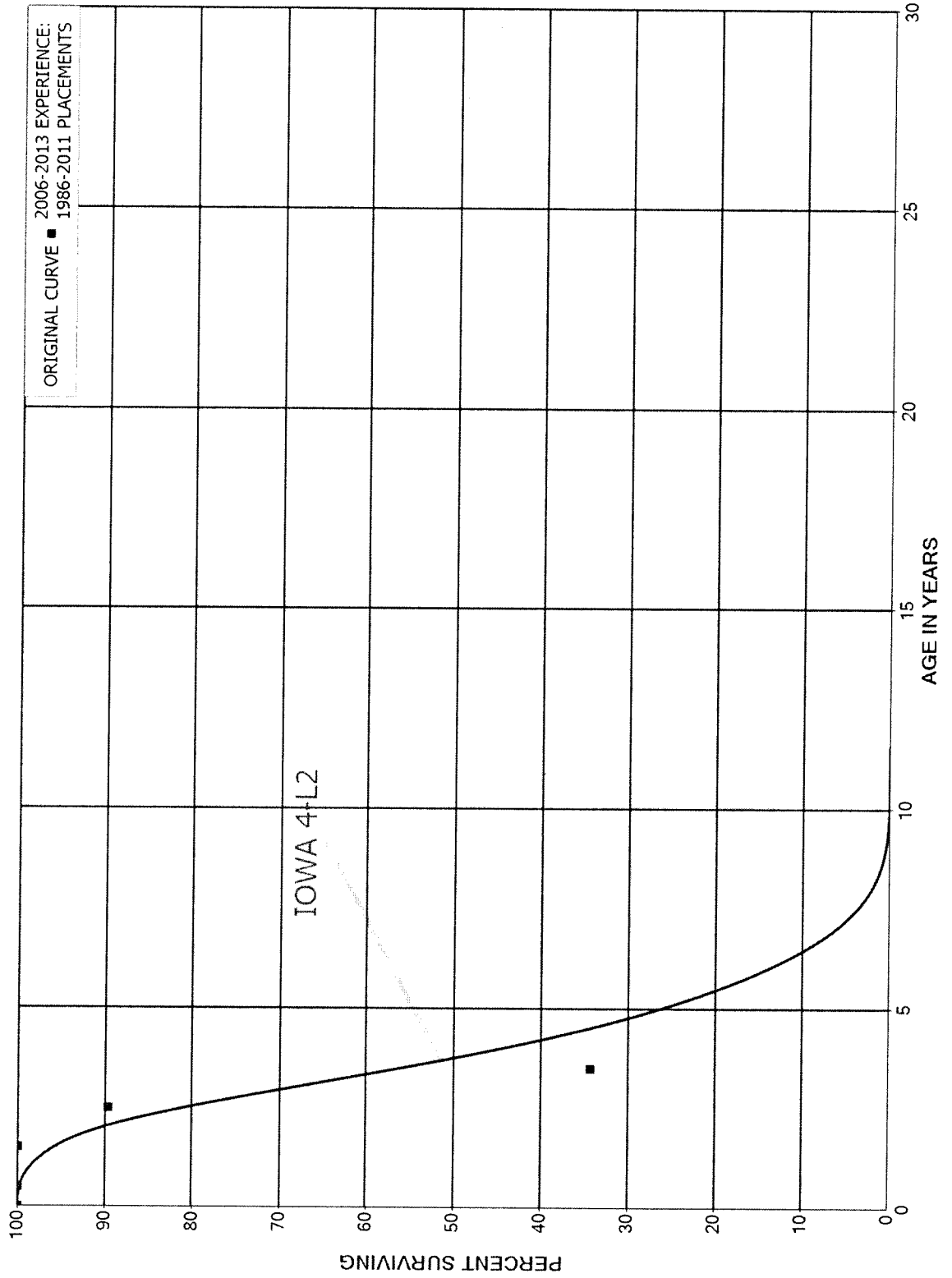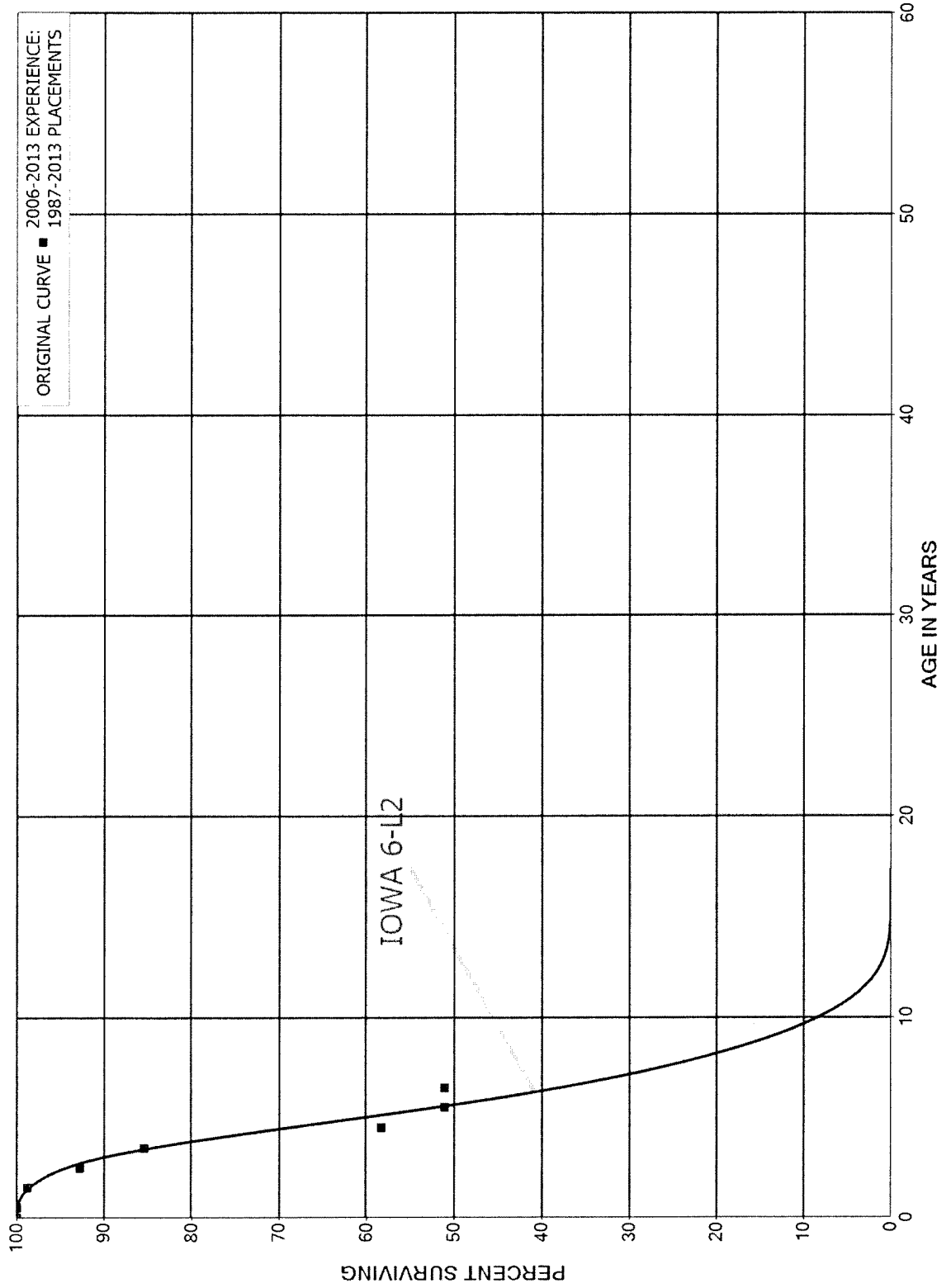
ORIGINAL LIFE TABLE

PLACEMENT BAND 1956-2012   EXPERIENCE BAND 2006-2013

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	71,380		0.0000	1.0000	100.00
0.5	71,380		0.0000	1.0000	100.00
1.5	57,691	2,186	0.0379	0.9621	100.00
2.5	44,552		0.0000	1.0000	96.21
3.5	12,708	1,428	0.1123	0.8877	96.21
4.5	7,221		0.0000	1.0000	85.40
5.5	4,759		0.0000	1.0000	85.40
6.5	18,098		0.0000	1.0000	85.40
7.5	16,440		0.0000	1.0000	85.40
8.5	27,751	10	0.0003	0.9997	85.40
9.5	49,237	23	0.0005	0.9995	85.37
10.5	49,214		0.0000	1.0000	85.33
11.5	56,307	70	0.0012	0.9988	85.33
12.5	56,237	6,108	0.1086	0.8914	85.23
13.5	95,920		0.0000	1.0000	75.97
14.5	96,470		0.0000	1.0000	75.97
15.5	98,527		0.0000	1.0000	75.97
16.5	108,035	11	0.0001	0.9999	75.97
17.5	86,539	11	0.0001	0.9999	75.96
18.5	86,527	2,270	0.0262	0.9738	75.95
19.5	77,164	44,599	0.5780	0.4220	73.96
20.5	32,565	2,058	0.0632	0.9368	31.21
21.5	27,057		0.0000	1.0000	29.24
22.5	14,643		0.0000	1.0000	29.24
23.5	14,643		0.0000	1.0000	29.24
24.5	2,561		0.0000	1.0000	29.24
25.5	2,561	2,561	1.0000		29.24
26.5					
27.5					
28.5					
29.5	1,526		0.0000		
30.5	2,459		0.0000		
31.5	2,459		0.0000		
32.5	2,459		0.0000		
33.5	2,459	7	0.0027		
34.5	2,452		0.0000		
35.5	2,452		0.0000		
36.5	2,452		0.0000		
37.5	927		0.0000		
38.5					

BLACK HILLS KANSAS GAS

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS
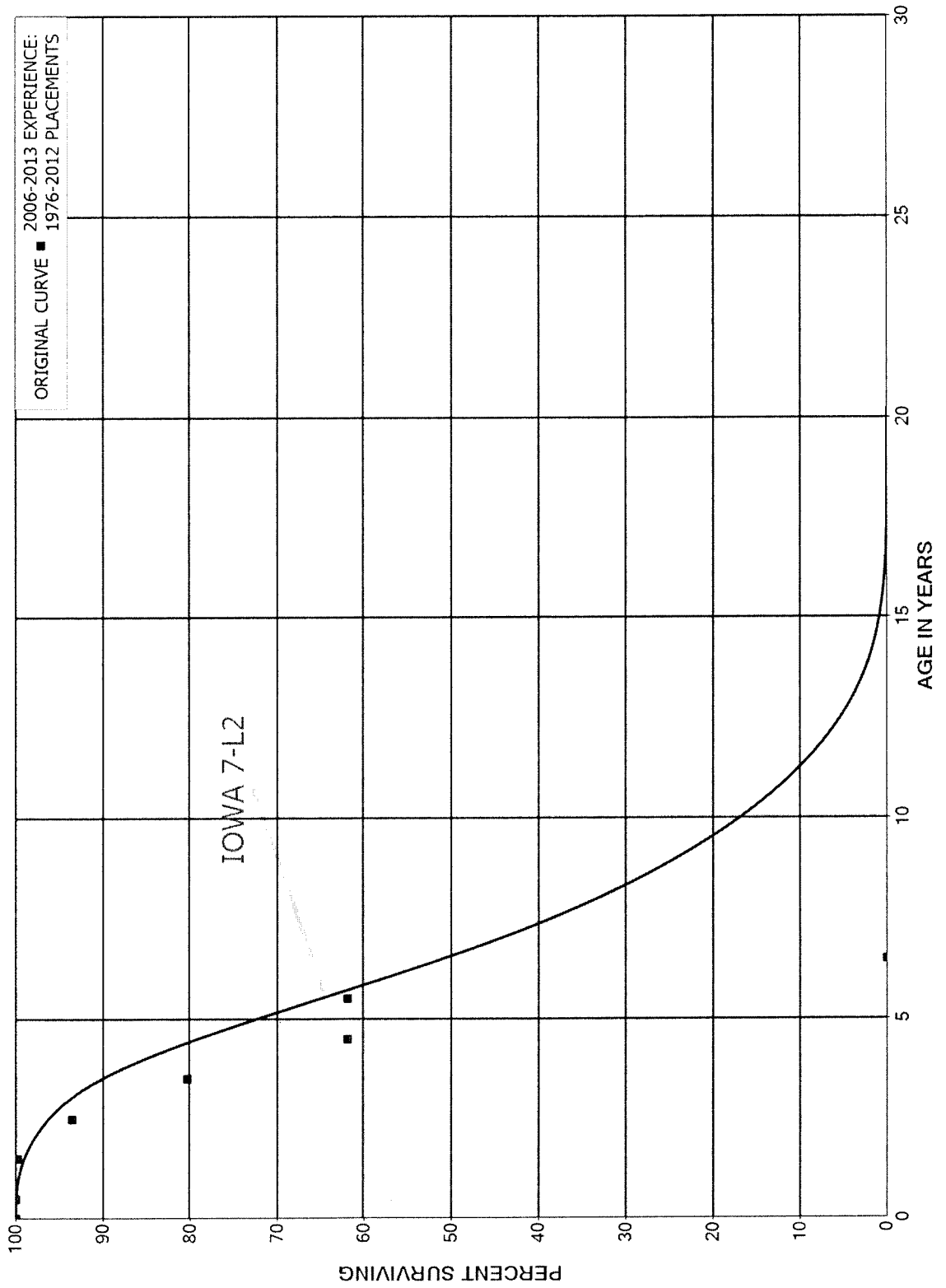
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1956-2012   EXPERIENCE BAND 2006-2013

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5	108		0.0000		
41.5	208		0.0000		
42.5	208		0.0000		
43.5	208	4	0.0188		
44.5	204		0.0000		
45.5	204	100	0.4904		
46.5	104		0.0000		
47.5	104		0.0000		
48.5	200		0.0000		
49.5	200		0.0000		
50.5	200		0.0000		
51.5	200		0.0000		
52.5	200	200	1.0000		
53.5					

BLACK HILLS KANSAS GAS

ACCOUNT 396.01 POWER OPERATED EQUIPMENT - SHORT LIFE
ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1952-2012 PLACEMENTS

IOWA 15-S1.5

PERCENT SURVIVING

AGE IN YEARS
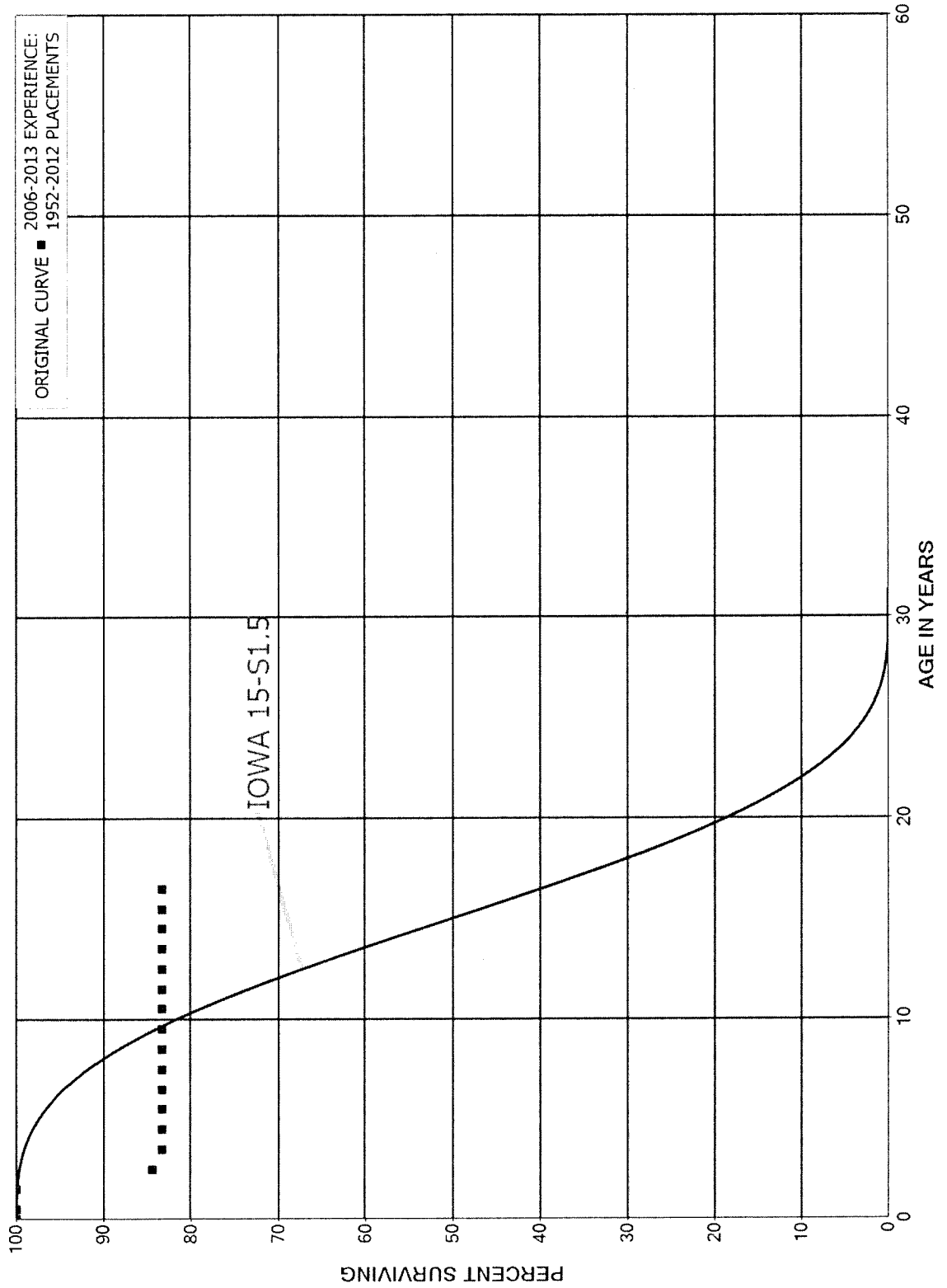
BLACK HILLS KANSAS GAS

ACCOUNT 396.01 POWER OPERATED EQUIPMENT - SHORT LIFE
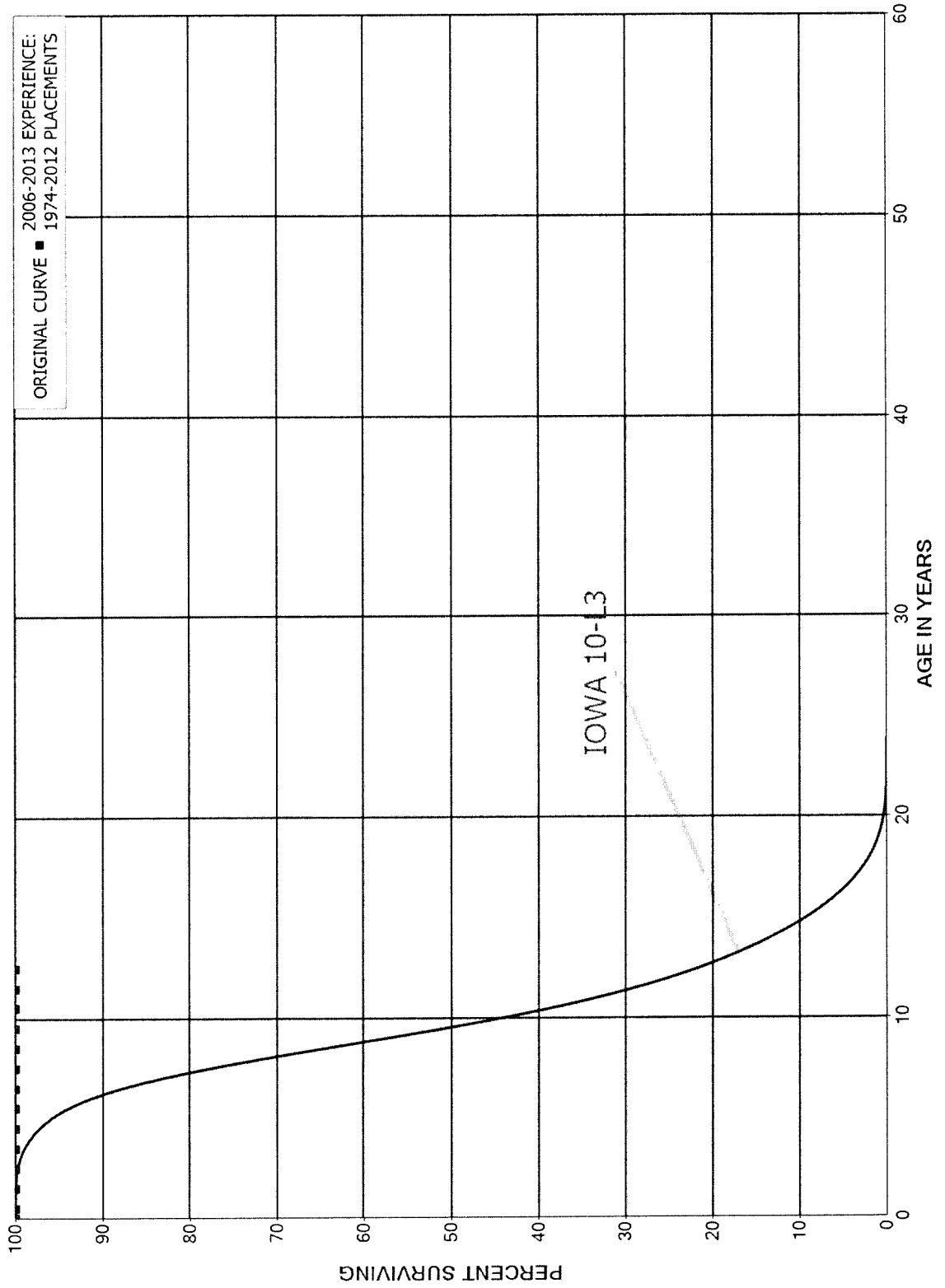
ORIGINAL LIFE TABLE

PLACEMENT BAND 1952-2012   EXPERIENCE BAND 2006-2013

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	166,060		0.0000	1.0000	100.00
0.5	166,060		0.0000	1.0000	100.00
1.5	147,939	23,029	0.1557	0.8443	100.00
2.5	118,835	1,618	0.0136	0.9864	84.43
3.5	108,548		0.0000	1.0000	83.28
4.5	66,578		0.0000	1.0000	83.28
5.5	5,710		0.0000	1.0000	83.28
6.5	5,710		0.0000	1.0000	83.28
7.5	5,710		0.0000	1.0000	83.28
8.5	64,732		0.0000	1.0000	83.28
9.5	64,732		0.0000	1.0000	83.28
10.5	64,732		0.0000	1.0000	83.28
11.5	64,732		0.0000	1.0000	83.28
12.5	59,022		0.0000	1.0000	83.28
13.5	59,022		0.0000	1.0000	83.28
14.5	59,022		0.0000	1.0000	83.28
15.5	59,022		0.0000	1.0000	83.28
16.5					83.28

BLACK HILLS KANSAS GAS

ACCOUNT 396.02 POWER OPERATED EQUIPMENT - LONG LIFE
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 20-S2.5

ORIGINAL CURVE ■ 2006-2013 EXPERIENCE:
1973-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS
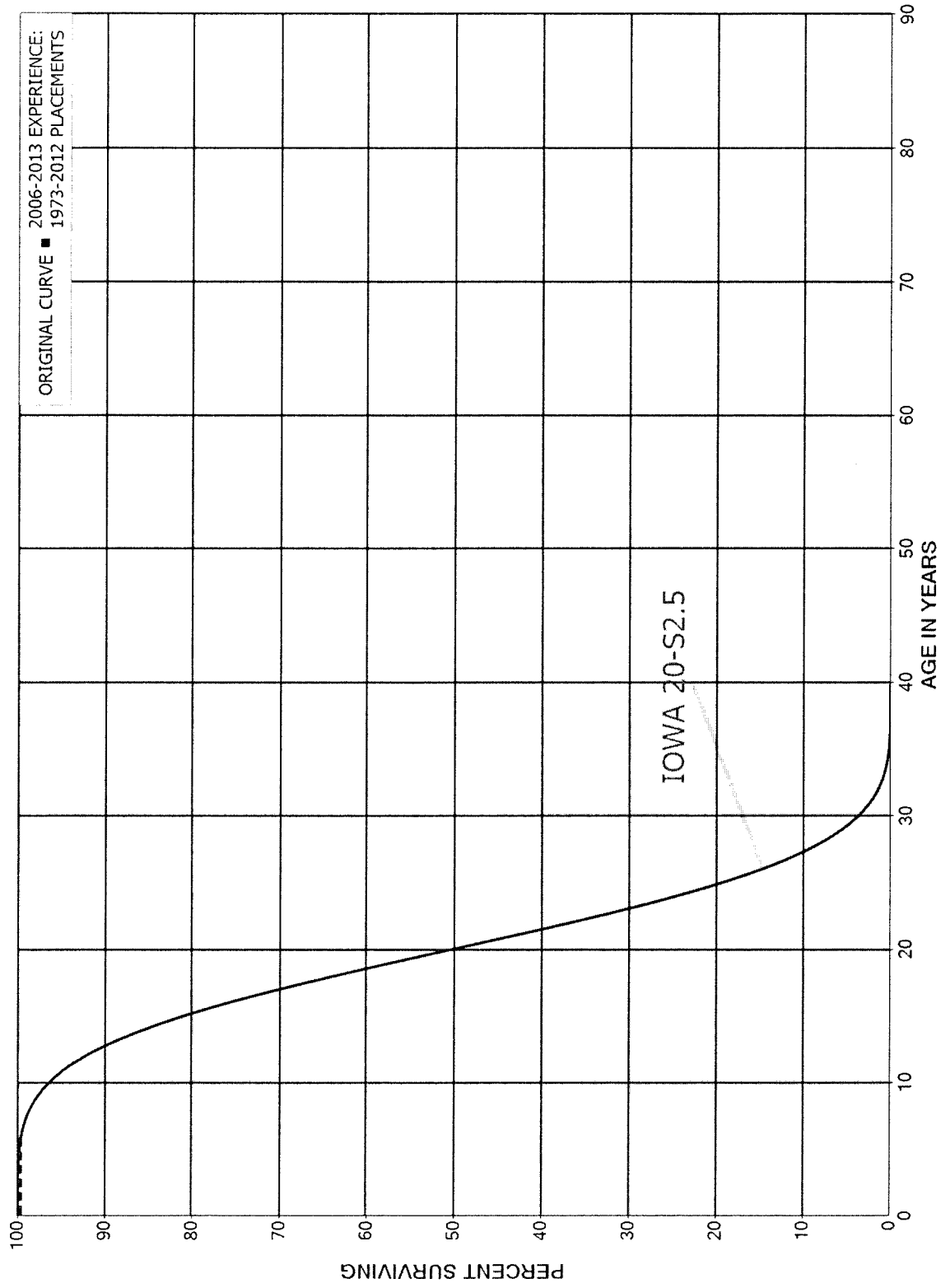
BLACK HILLS KANSAS GAS

ACCOUNT 396.02 POWER OPERATED EQUIPMENT - LONG LIFE
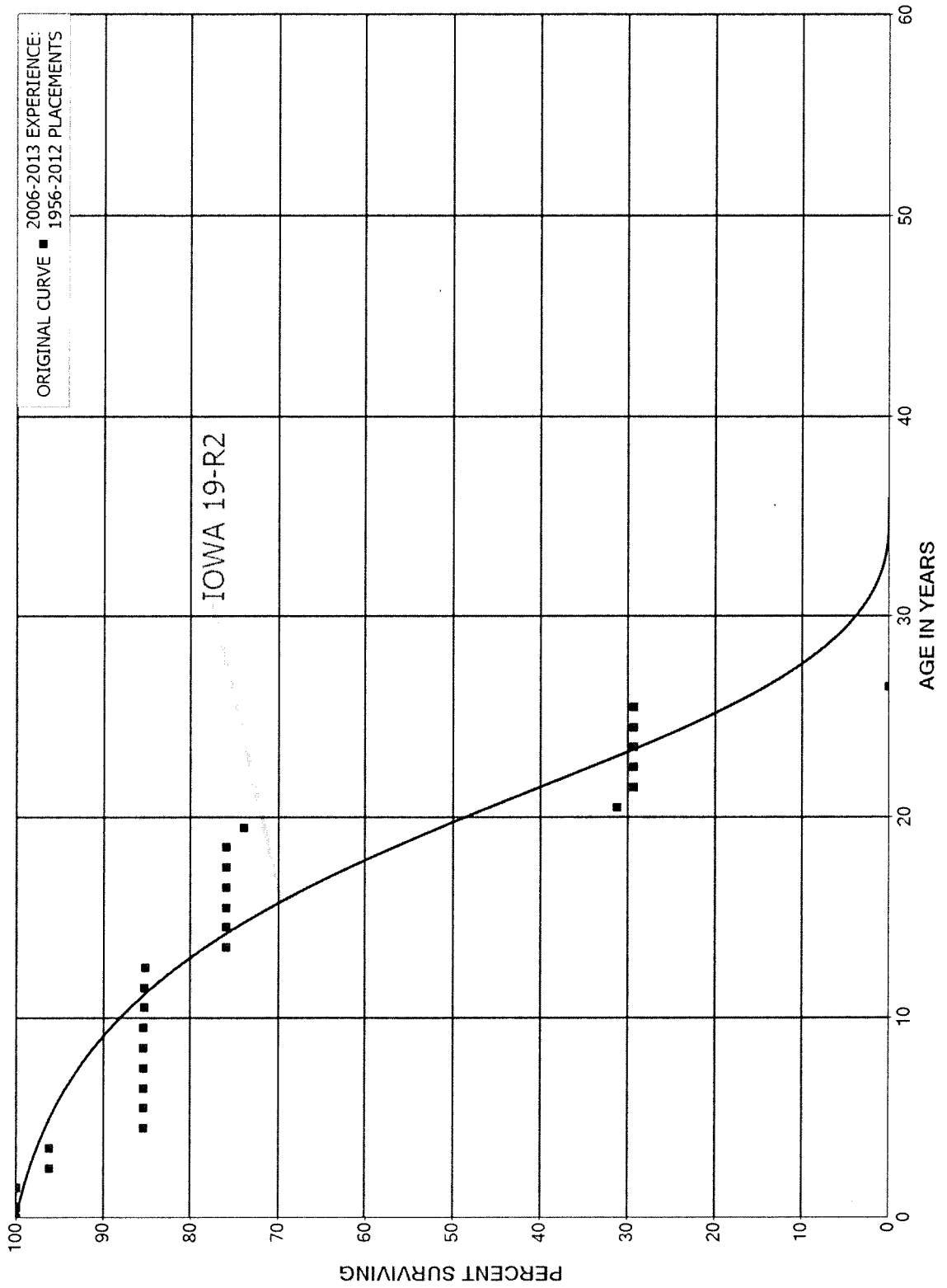
ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2012   EXPERIENCE BAND 2006-2013

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	319,922		0.0000	1.0000	100.00
0.5	319,922		0.0000	1.0000	100.00
1.5	319,946	25	0.0001	0.9999	100.00
2.5	231,767		0.0000	1.0000	99.99
3.5	99,551		0.0000	1.0000	99.99
4.5	99,551		0.0000	1.0000	99.99
5.5					99.99
6.5					
7.5					
8.5					
9.5	14,025		0.0000		
10.5	70,860	56,835	0.8021		
11.5	14,025		0.0000		
12.5	43,023		0.0000		
13.5	43,023		0.0000		
14.5	43,023		0.0000		
15.5	14,025		0.0000		
16.5	14,025		0.0000		
17.5	42,583		0.0000		
18.5	42,583		0.0000		
19.5	42,583		0.0000		
20.5	42,583		0.0000		
21.5	42,583		0.0000		
22.5	42,583		0.0000		
23.5	42,583		0.0000		
24.5	42,583		0.0000		
25.5					

PART VIII. NET SALVAGE STATISTICS

BLACK HILLS KANSAS GAS

ACCOUNTS 366.01 AND 366.71 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	669		0		0		0
2007							
2008							
2009							
2010							
2011							
2012	28,020		0		0		0
2013							
TOTAL	28,689		0		0		0

THREE-YEAR MOVING AVERAGES

06-08	223		0		0		0
07-09							
08-10							
09-11							
10-12	9,340		0		0		0
11-13	9,340		0		0		0

FIVE-YEAR AVERAGE

09-13	5,604		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNTS 367.01, 367.02, 367.03 AND 367.73 MAINS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	353,513	11,735	3		0	11,735-	3-
2007	36,647	1,751	5		0	1,751-	5-
2008	12,513	11,048	88		0	11,048-	88-
2009	28,319	20,758	73		0	20,758-	73-
2010	30,121	4,805	16		0	4,805-	16-
2011	33,647	583	2		0	583-	2-
2012	716,984	10,714	1		0	10,714-	1-
2013	4,935	352	7		0	352-	7-
TOTAL	1,216,678	61,747	5		0	61,747-	5-

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
06-08	134,224	8,178	6		0	8,178-	6-
07-09	25,826	11,186	43		0	11,186-	43-
08-10	23,651	12,204	52		0	12,204-	52-
09-11	30,696	8,715	28		0	8,715-	28-
10-12	260,251	5,367	2		0	5,367-	2-
11-13	251,855	3,883	2		0	3,883-	2-

FIVE-YEAR AVERAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
09-13	162,801	7,442	5		0	7,442-	5-

BLACK HILLS KANSAS GAS

ACCOUNT 368.04 COMPRESSOR STATION EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2010	3,290	58	2		0	58-	2-
2011							
2012	580,969		0		0		0
2013							
TOTAL	584,259	58	0		0	58-	0

THREE-YEAR MOVING AVERAGES

10-12	194,753	19	0		0	19-	0
11-13	193,656		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNTS 369.03 AND 369.73 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
2006	51,121	1,927	4		0	1,927-	4-
2007	17,087	830	5		0	830-	5-
2008	15,698	867	6		0	867-	6-
2009	53,741	204	0		0	204-	0
2010	20,857	289	1		0	289-	1-
2011	13,062	1,257	10		0	1,257-	10-
2012	293,189	101	0		0	101-	0
2013	1,526	506	33		0	506-	33-
TOTAL	466,280	5,981	1		0	5,981-	1-

THREE-YEAR MOVING AVERAGES

06-08	27,969	1,208	4		0	1,208-	4-
07-09	28,842	634	2		0	634-	2-
08-10	30,099	453	2		0	453-	2-
09-11	29,220	583	2		0	583-	2-
10-12	109,036	549	1		0	549-	1-
11-13	102,592	622	1		0	622-	1-

FIVE-YEAR AVERAGE

09-13	76,475	472	1		0	472-	1-

BLACK HILLS KANSAS GAS

ACCOUNT 371.01 OTHER EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2011	1,100	693	63		0	693-	63-
2012	162,613	92	0		0	92-	0
2013	1,444	130	9		0	130-	9-
TOTAL	165,158	915	1		0	915-	1-

THREE-YEAR MOVING AVERAGES

11-13	55,053	305	1		0	305-	1-

BLACK HILLS KANSAS GAS

ACCOUNT 375.01 STRUCTURES AND IMPROVEMENTS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2008	26,315	25,679	98		0	25,679-	98-
2009	452		0		0		0
2010							
2011							
2012	53,858		0		0		0
2013	76,346		0		0		0
TOTAL	156,970	25,679	16		0	25,679-	16-

THREE-YEAR MOVING AVERAGES

08-10	8,922	8,560	96		0	8,560-	96-
09-11	151		0		0		0
10-12	17,953		0		0		0
11-13	43,401		0		0		0

FIVE-YEAR AVERAGE

09-13	26,131		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNTS 376.03 MAINS - STEEL

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	33,691	26,999	80		0	26,999-	80-
2007	42,912	20,778	48		0	20,778-	48-
2008	119,952	37,082	31	4,365	4	32,716-	27-
2009	40,772	21,201	52		0	21,201-	52-
2010	38,170	27,924	73		0	27,924-	73-
2011	156,557	18,385	12		0	18,385-	12-
2012	1,069,132	5,914	1		0	5,914-	1-
2013	103,309		0		0		0
TOTAL	1,604,495	158,282	10	4,365	0	153,917-	10-

THREE-YEAR MOVING AVERAGES

06-08	65,518	28,286	43	1,455	2	26,831-	41-
07-09	67,879	26,353	39	1,455	2	24,898-	37-
08-10	66,298	28,735	43	1,455	2	27,280-	41-
09-11	78,500	22,503	29		0	22,503-	29-
10-12	421,286	17,408	4		0	17,408-	4-
11-13	442,999	8,100	2		0	8,100-	2-

FIVE-YEAR AVERAGE

09-13	281,588	14,685	5		0	14,685-	5-

BLACK HILLS KANSAS GAS

ACCOUNT 376.04 MAINS - PVC

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	610	173	28		0	173-	28-
2007	911	3,078	338		0	3,078-	338-
2008	32,015	790	2		0	790-	2-
2009	126,115	986	1		0	986-	1-
2010	12,619	1,211	10		0	1,211-	10-
2011	18,089		0		0		0
2012	869,528	1,175	0		0	1,175-	0
2013	11,678		0		0		0
TOTAL	1,071,564	7,412	1		0	7,412-	1-

THREE-YEAR MOVING AVERAGES

06-08	11,178	1,347	12		0	1,347-	12-
07-09	53,013	1,618	3		0	1,618-	3-
08-10	56,916	996	2		0	996-	2-
09-11	52,274	732	1		0	732-	1-
10-12	300,079	795	0		0	795-	0
11-13	299,765	392	0		0	392-	0

FIVE-YEAR AVERAGE

09-13	207,606	674	0		0	674-	0

BLACK HILLS KANSAS GAS

ACCOUNT 376.07 MAINS - OTHER EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2008				22		22	
2009	830	7	1		0	7-	1-
2010							
2011							
2012	3,786		0		0		0
2013	16,385	56	0		0	56-	0
TOTAL	21,001	63	0	22	0	40-	0

THREE-YEAR MOVING AVERAGES

08-10	277	2	1	7	3	5	2
09-11	277	2	1		0	2-	1-
10-12	1,262		0		0		0
11-13	6,724	19	0		0	19-	0

FIVE-YEAR AVERAGE

09-13	4,200	13	0		0	13-	0

BLACK HILLS KANSAS GAS

ACCOUNT 376.25 MAINS - PE / PLASTIC

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	22,102	16,653	75		0	16,653-	75-
2007	14,843	10,934	74		0	10,934-	74-
2008	15,641	19,587	125		0	19,587-	125-
2009	96,348	20,406	21	142	0	20,265-	21-
2010	29,896	10,901	36		0	10,901-	36-
2011	22,017	8,554	39		0	8,554-	39-
2012	28,498	1,240	4		0	1,240-	4-
2013	15,739		0		0		0
TOTAL	245,084	88,276	36	142	0	88,134-	36-

THREE-YEAR MOVING AVERAGES

06-08	17,529	15,725	90		0	15,725-	90-
07-09	42,277	16,976	40	47	0	16,928-	40-
08-10	47,295	16,965	36	47	0	16,918-	36-
09-11	49,420	13,287	27	47	0	13,240-	27-
10-12	26,804	6,899	26		0	6,899-	26-
11-13	22,085	3,265	15		0	3,265-	15-

FIVE-YEAR AVERAGE

09-13	38,500	8,220	21	28	0	8,192-	21-

BLACK HILLS KANSAS GAS

ACCOUNTS 378 AND 379 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
2006	1,634		0		0		0
2007	18,465	61	0		0	61-	0
2008	9,301	6,549	70		0	6,549-	70-
2009	16,324	2,931	18		0	2,931-	18-
2010	2,472	424	17		0	424-	17-
2011	39,053	6,601	17		0	6,601-	17-
2012	133,035	368	0		0	368-	0
2013	15,369		0		0		0
TOTAL	235,654	16,933	7		0	16,933-	7-

THREE-YEAR MOVING AVERAGES

06-08	9,800	2,203	22		0	2,203-	22-
07-09	14,697	3,180	22		0	3,180-	22-
08-10	9,366	3,301	35		0	3,301-	35-
09-11	19,283	3,319	17		0	3,319-	17-
10-12	58,187	2,464	4		0	2,464-	4-
11-13	62,486	2,323	4		0	2,323-	4-

FIVE-YEAR AVERAGE

09-13	41,251	2,065	5		0	2,065-	5-

BLACK HILLS KANSAS GAS

ACCOUNTS 380.03 SERVICES - STEEL

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	12,959	35,302	272		0	35,302-	272-
2007	19,804	32,889	166	180	1	32,709-	165-
2008	22,322	53,071	238		0	53,071-	238-
2009	21,325	32,302	151		0	32,302-	151-
2010	20,042	23,658	118		0	23,658-	118-
2011	66,770	26,351	39		0	26,351-	39-
2012	132,233	11,344	9		0	11,344-	9-
2013	83,984		0		0		0
TOTAL	379,438	214,916	57	180	0	214,737-	57-

THREE-YEAR MOVING AVERAGES

06-08	18,361	40,420	220	60	0	40,361-	220-
07-09	21,150	39,420	186	60	0	39,360-	186-
08-10	21,230	36,344	171		0	36,344-	171-
09-11	36,046	27,437	76		0	27,437-	76-
10-12	73,015	20,451	28		0	20,451-	28-
11-13	94,329	12,565	13		0	12,565-	13-

FIVE-YEAR AVERAGE

09-13	64,871	18,731	29		0	18,731-	29-

BLACK HILLS KANSAS GAS

ACCOUNT 380.04 SERVICES - PVC

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2007	911	562	62		0	562-	62-
2008	12,351		0		0		0
2009	3,075	184	6		0	184-	6-
2010	313	407	130		0	407-	130-
2011	234	1,127	483		0	1,127-	483-
2012	1,694	110	7		0	110-	7-
2013	1,047		0		0		0
TOTAL	19,624	2,390	12		0	2,390-	12-

THREE-YEAR MOVING AVERAGES

07-09	5,446	249	5		0	249-	5-
08-10	5,246	197	4		0	197-	4-
09-11	1,207	573	47		0	573-	47-
10-12	747	548	73		0	548-	73-
11-13	992	412	42		0	412-	42-

FIVE-YEAR AVERAGE

09-13	1,272	366	29		0	366-	29-

BLACK HILLS KANSAS GAS

ACCOUNT 380.25 SERVICES - PE / PLASTIC

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	6,372	14,111	221	34	1	14,077-	221-
2007	15,677	11,979	76	154	1	11,826-	75-
2008	5,948	28,391	477		0	28,391-	477-
2009	18,054	19,721	109		0	19,721-	109-
2010	20,464	20,570	101		0	20,570-	101-
2011	16,606	12,719	77		0	12,719-	77-
2012	587,669	6,606	1		0	6,606-	1-
2013	68,804	2,890	4		0	2,890-	4-
TOTAL	739,592	116,986	16	188	0	116,798-	16-

THREE-YEAR MOVING AVERAGES

	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
06-08	9,332	18,160	195	63	1	18,098-	194-
07-09	13,226	20,030	151	51	0	19,979-	151-
08-10	14,822	22,894	154		0	22,894-	154-
09-11	18,374	17,670	96		0	17,670-	96-
10-12	208,246	13,298	6		0	13,298-	6-
11-13	224,359	7,405	3		0	7,405-	3-

FIVE-YEAR AVERAGE

	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
09-13	142,319	12,501	9		0	12,501-	9-

BLACK HILLS KANSAS GAS

ACCOUNT 381.01 METERS - ERT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2012	4,640		0		0		0
2013	205		0		0		0
TOTAL	4,845		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNT 382.01 METER INSTALLATIONS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2008	2,196	1,402	64		0	1,402-	64-
2009	50		0		0		0
2010							
2011	160	3,687			0	3,687-	
2012	95,656		0		0		0
2013							
TOTAL	98,062	5,090	5		0	5,090-	5-

THREE-YEAR MOVING AVERAGES

08-10	749	467	62		0	467-	62-
09-11	70	1,229			0	1,229-	
10-12	31,939	1,229	4		0	1,229-	4-
11-13	31,939	1,229	4		0	1,229-	4-

FIVE-YEAR AVERAGE

09-13	19,173	737	4		0	737-	4-

BLACK HILLS KANSAS GAS

ACCOUNT 383.01 HOUSE REGULATORS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	93,479	11,573	12	2	0	11,572-	12-
2007	75,833	11,899	16	52	0	11,847-	16-
2008	32,795	16,061	49		0	16,061-	49-
2009	80,768	23,109	29		0	23,109-	29-
2010	65,735	13,109	20		0	13,109-	20-
2011	58,073	15,098	26		0	15,098-	26-
2012	219,241	4,540	2		0	4,540-	2-
2013	6,334	14	0		0	14-	0
TOTAL	632,257	95,403	15	54	0	95,349-	15-

THREE-YEAR MOVING AVERAGES

06-08	67,369	13,178	20	18	0	13,160-	20-
07-09	63,132	17,023	27	17	0	17,006-	27-
08-10	59,766	17,426	29		0	17,426-	29-
09-11	68,192	17,105	25		0	17,105-	25-
10-12	114,350	10,915	10		0	10,915-	10-
11-13	94,549	6,551	7		0	6,551-	7-

FIVE-YEAR AVERAGE

09-13	86,030	11,174	13		0	11,174-	13-

BLACK HILLS KANSAS GAS

ACCOUNT 385.01 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
2008	91,334	9,316	10		0	9,316-	10-
2009	1,816		0		0		0
2010	369		0		0		0
2011		674				674-	
2012	11,996		0		0		0
2013							
TOTAL	105,515	9,990	9		0	9,990-	9-

THREE-YEAR MOVING AVERAGES

08-10	31,173	3,105	10		0	3,105-	10-
09-11	728	225	31		0	225-	31-
10-12	4,122	225	5		0	225-	5-
11-13	3,999	225	6		0	225-	6-

FIVE-YEAR AVERAGE

09-13	2,836	135	5		0	135-	5-

BLACK HILLS KANSAS GAS

ACCOUNT 387 OTHER EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2007	21,196		0		0		0
2008							
2009							
2010							
2011							
2012	105,085		0		0		0
2013							
TOTAL	126,281		0		0		0

THREE-YEAR MOVING AVERAGES

07-09	7,065		0		0		0
08-10							
09-11							
10-12	35,028		0		0		0
11-13	35,028		0		0		0

FIVE-YEAR AVERAGE

09-13	21,017		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2007	91,981		0		0		0
2008	7,138		0		0		0
2009							
2010							
2011	242,807		0		0		0
2012	221,844		0		0		0
2013	5,756		0		0		0
TOTAL	569,525		0		0		0

THREE-YEAR MOVING AVERAGES

07-09	33,040		0		0		0
08-10	2,379		0		0		0
09-11	80,936		0		0		0
10-12	154,883		0		0		0
11-13	156,802		0		0		0

FIVE-YEAR AVERAGE

09-13	94,081		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASED

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2009	1,273-		0		0		0
2010							
2011							
2012	37,239		0		0		0
2013							
TOTAL	35,966		0		0		0

THREE-YEAR MOVING AVERAGES

09-11	424-		0		0		0
10-12	12,413		0		0		0
11-13	12,413		0		0		0

FIVE-YEAR AVERAGE

09-13	7,193		0		0		0

BLACK HILLS KANSAS GAS

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2010	26,600		0	7,495	28	7,495	28
2011	69,038		0	27,870	40	27,870	40
2012							
2013							
TOTAL	95,637		0	35,365	37	35,365	37

THREE-YEAR MOVING AVERAGES

10-12	31,879		0	11,788	37	11,788	37
11-13	23,012		0	9,290	40	9,290	40

BLACK HILLS KANSAS GAS

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2007	144		0	18,044		18,044	
2008							
2009	23,128		0	4,757	21	4,757	21
2010	87,441		0	51,395	59	51,395	59
2011	78,238		0	42,100	54	42,100	54
2012	137,323		0	42,426	31	42,426	31
2013	50,166		0	13,450	27	13,450	27
TOTAL	376,440		0	172,172	46	172,172	46

THREE-YEAR MOVING AVERAGES

07-09	7,758		0	7,600	98	7,600	98
08-10	36,856		0	18,717	51	18,717	51
09-11	62,936		0	32,751	52	32,751	52
10-12	101,000		0	45,307	45	45,307	45
11-13	88,575		0	32,659	37	32,659	37

FIVE-YEAR AVERAGE

09-13	75,259		0	30,826	41	30,826	41

BLACK HILLS KANSAS GAS

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	26,660		0	3,490	13	3,490	13
2007	379		0	3,778	996	3,778	996
2008							
2009	4,919		0	2,100	43	2,100	43
2010	119,778		0	49,668	41	49,668	41
2011	211,303		0	93,392	44	93,392	44
2012	193,124		0	60,684	31	60,684	31
2013							
TOTAL	556,163		0	213,112	38	213,112	38

THREE-YEAR MOVING AVERAGES

06-08	9,013		0	2,423	27	2,423	27
07-09	1,766		0	1,959	111	1,959	111
08-10	41,566		0	17,256	42	17,256	42
09-11	112,000		0	48,387	43	48,387	43
10-12	174,735		0	67,915	39	67,915	39
11-13	134,809		0	51,359	38	51,359	38

FIVE-YEAR AVERAGE

09-13	105,825		0	41,169	39	41,169	39

BLACK HILLS KANSAS GAS

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2007	2,561		0		0		0
2008							
2009							
2010	10,855		0	4,336	40	4,336	40
2011	2,058		0	1,414	69	1,414	69
2012	46,019	1,500-	3-	37,720	82	39,220	85
2013							
TOTAL	61,493	1,500-	2-	43,470	71	44,970	73

THREE-YEAR MOVING AVERAGES

07-09	854		0		0		0
08-10	3,618		0	1,445	40	1,445	40
09-11	4,304		0	1,916	45	1,916	45
10-12	19,644	500-	3-	14,490	74	14,990	76
11-13	16,025	500-	3-	13,045	81	13,545	85

FIVE-YEAR AVERAGE

09-13	11,786	300-	3-	8,694	74	8,994	76

BLACK HILLS KANSAS GAS

ACCOUNTS 396.01 AND 396.02 POWER OPERATED EQUIPMENT

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	43,155		0	2,426	6	2,426	6
2007	13,705		0		0		0
2008							
2009							
2010	23,029		0	14,943	65	14,943	65
2011	1,618		0	1,500	93	1,500	93
2012							
2013							
TOTAL	81,507		0	18,869	23	18,869	23

THREE-YEAR MOVING AVERAGES

	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
06-08	18,953		0	809	4	809	4
07-09	4,568		0		0		0
08-10	7,676		0	4,981	65	4,981	65
09-11	8,216		0	5,481	67	5,481	67
10-12	8,216		0	5,481	67	5,481	67
11-13	539		0	500	93	500	93

FIVE-YEAR AVERAGE

	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
09-13	4,929		0	3,289	67	3,289	67

PART IX. DETAILED DEPRECIATION

CALCULATIONS

BLACK HILLS KANSAS GAS

ACCOUNT 336.01 PURIFICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 30-S2						
NET SALVAGE PERCENT.. 0						
1999	18,718.78	8,349	8,359	10,360	16.62	623
	18,718.78	8,349	8,359	10,360		623

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.6   3.33

BLACK HILLS KANSAS GAS

ACCOUNT 366.01 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -5						
1933	150.00	158	158			
1954	375.00	357	391	3	3.75	1
1955	4,740.00	4,483	4,908	69	3.97	17
1957	375.00	350	383	11	4.42	2
1958	6,091.00	5,650	6,186	210	4.66	45
1961	398.96	362	396	23	5.39	4
1962	110.00	99	108	8	5.64	1
1964	91.83	82	90	6	6.19	1
1965	191.56	169	185	16	6.48	2
1967	695.00	600	657	73	7.10	10
1968	660.00	564	617	76	7.44	10
1969	3,910.00	3,305	3,618	488	7.80	63
1970	4,846.25	4,048	4,432	657	8.18	80
1971	6,378.00	5,260	5,759	938	8.58	109
1972	473.00	385	421	76	9.00	8
1976	8,833.94	6,748	7,388	1,888	10.90	173
1979	335.11	241	264	88	12.55	7
1980	1,419.58	1,001	1,096	395	13.14	30
1981	5,677.57	3,912	4,283	1,678	13.75	122
1982	30,600.40	20,588	22,539	9,591	14.37	667
1983	3,402.90	2,232	2,444	1,129	15.01	75
1984	6,682.07	4,268	4,672	2,344	15.67	150
1985	5,173.68	3,213	3,518	1,914	16.34	117
1986	6.22	4	4	3	17.03	
1987	4,246.35	2,482	2,717	1,742	17.73	98
1994	1,088.37	485	531	612	23.02	27
1996	6,129.47	2,473	2,707	3,729	24.63	151
1997	8,436.61	3,222	3,528	5,330	25.45	209
	111,517.87	76,741	84,000	33,094		2,179

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.2   1.95

BLACK HILLS KANSAS GAS

ACCOUNT 366.71 STRUCTURES AND IMPROVEMENTS - FARM TAP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -5						
1953	3,302.59	3,162	3,228	240	3.53	68
1956	4,775.08	4,487	4,580	434	4.20	103
2010	522.49	42	43	506	36.95	14
	8,600.16	7,691	7,851	1,179		185

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.4   2.15

BLACK HILLS KANSAS GAS

ACCOUNT 367.01 MAINS - IRON

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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.. -10						
2011	328,464.43	11,407	9,826	351,485	67.79	5,185
	328,464.43	11,407	9,826	351,485		5,185

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 67.8   1.58

BLACK HILLS KANSAS GAS

ACCOUNT 367.02 MAINS - PE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S2.5						
NET SALVAGE PERCENT.. -10						
1980	5,050.68	2,707	2,514	3,042	33.33	91
1981	5,517.95	2,880	2,674	3,396	34.16	99
1984	130,676.51	62,540	58,077	85,667	36.72	2,333
1991	1,660.00	616	572	1,254	43.08	29
1994	4,824.28	1,557	1,446	3,861	45.93	84
1995	468.00	143	133	382	46.89	8
1996	3,305.48	959	891	2,745	47.86	57
1998	22,420.26	5,760	5,349	19,313	49.82	388
1999	26,691.37	6,414	5,956	23,405	50.80	461
2000	21,525.59	4,812	4,469	19,209	51.79	371
2001	12,130.75	2,509	2,330	11,014	52.78	209
2003	1,329.44	230	214	1,248	54.76	23
2004	19,097.57	2,986	2,773	18,234	55.76	327
2005	15,914.31	2,222	2,063	15,443	56.75	272
2006	18,993.28	2,330	2,164	18,729	57.75	324
2007	71,148.32	7,525	6,988	71,275	58.75	1,213
2008	39,460.98	3,506	3,256	40,151	59.75	672
2012	426,809.54	9,028	8,383	461,107	63.75	7,233
2013	53,370.31	334	310	58,397	64.63	904
	880,394.62	119,058	110,562	857,872		15,098

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 56.8   1.71

ACCOUNT 367.03 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R1						
NET SALVAGE PERCENT.. -10						
1928	1,680.06	1,351	1,848			
1933	6,397.88	4,929	7,038			
1934	102,737.53	78,446	113,011			
1935	2,928.42	2,215	3,221			
1936	49,528.19	37,117	54,481			
1937	37,270.98	27,668	40,998			
1939	659.99	480	726			
1942	5,198.61	3,668	5,718			
1943	1,284.02	896	1,412			
1948	418,506.58	275,754	453,267	7,090	28.07	253
1951	2,170.00	1,377	2,263	124	29.62	4
1953	1,497.10	925	1,520	127	30.68	4
1954	30,772.34	18,753	30,825	3,025	31.22	97
1955	355,987.39	213,920	351,628	39,958	31.76	1,258
1956	20,486.04	12,133	19,943	2,592	32.31	80
1957	31,852.33	18,590	30,557	4,481	32.86	136
1958	7,771.58	4,469	7,346	1,203	33.41	36
1959	43.20	24	39	9	33.98	
1960	137,429.22	76,579	125,876	25,296	34.54	732
1961	973,664.32	533,834	877,482	193,549	35.11	5,513
1962	30,960.07	16,692	27,437	6,619	35.69	185
1963	301,093.84	159,594	262,330	68,873	36.27	1,899
1964	194,388.52	101,232	166,399	47,428	36.86	1,287
1965	236,983.92	121,217	199,249	61,433	37.45	1,640
1966	200,382.62	100,638	165,422	54,999	38.04	1,446
1967	153,538.44	75,664	124,372	44,520	38.64	1,152
1968	193,716.19	93,607	153,865	59,223	39.25	1,509
1969	53,204.86	25,199	41,420	17,105	39.86	429
1970	40,348.54	18,724	30,777	13,606	40.47	336
1971	153,509.21	69,739	114,632	54,228	41.09	1,320
1972	22,364.25	9,942	16,342	8,259	41.71	198
1973	151,010.92	65,638	107,891	58,221	42.34	1,375
1974	128,756.22	54,690	89,896	51,736	42.97	1,204
1975	206,099.62	85,501	140,541	86,169	43.60	1,976
1976	80,234.22	32,479	53,387	34,871	44.24	788
1977	126,619.37	49,982	82,157	57,124	44.88	1,273
1978	88,536.76	34,045	55,961	41,429	45.53	910
1979	443,971.28	166,255	273,279	215,089	46.17	4,659
1980	133,731.15	48,692	80,037	67,067	46.83	1,432
1981	662,364.91	234,398	385,288	343,313	47.48	7,231
1982	832,413.89	285,950	470,026	445,629	48.14	9,257
1983	483,894.39	161,207	264,982	267,302	48.80	5,478
1984	99,386.32	32,064	52,705	56,620	49.47	1,145
1985	123,277.07	38,493	63,272	72,333	50.13	1,443
1986	130,554.69	39,391	64,748	78,862	50.80	1,552

BLACK HILLS KANSAS GAS

ACCOUNT 367.03 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R1						
NET SALVAGE PERCENT.. -10						
1987	771,101.31	224,411	368,872	479,339	51.48	9,311
1988	547,325.78	153,525	252,355	349,703	52.15	6,706
1989	149,548.28	40,351	66,326	98,177	52.83	1,858
1990	279,644.14	72,463	119,110	188,499	53.51	3,523
1991	660,788.30	164,170	269,852	457,015	54.19	8,434
1992	141,294.04	33,593	55,218	100,205	54.87	1,826
1993	224,383.56	50,917	83,694	163,128	55.56	2,936
1994	384,590.57	83,100	136,594	286,456	56.25	5,093
1995	370,025.47	75,939	124,824	282,204	56.94	4,956
1996	164,679.58	32,011	52,618	128,530	57.63	2,230
1997	736,844.64	135,123	222,107	588,422	58.33	10,088
1998	1,640,301.77	283,028	465,223	1,339,109	59.02	22,689
1999	872,466.80	140,944	231,675	728,038	59.72	12,191
2000	253,871.38	38,219	62,822	216,437	60.42	3,582
2001	1,001,483.70	139,588	229,446	872,186	61.13	14,268
2002	126,384.30	16,206	26,638	112,385	61.84	1,817
2003	206,067.03	24,125	39,655	187,019	62.55	2,990
2004	319,219.15	33,811	55,576	295,565	63.26	4,672
2005	349,167.00	33,031	54,294	329,790	63.98	5,155
2006	537,022.25	44,812	73,659	517,065	64.69	7,993
2007	358,858.98	25,828	42,454	352,291	65.42	5,385
2008	133,763.99	8,113	13,336	133,804	66.14	2,023
2009	2,150,676.46	105,772	173,861	2,191,883	66.87	32,778
2010	999,508.16	37,700	61,969	1,037,490	67.60	15,347
2011	412,940.22	10,770	17,703	436,531	68.34	6,388
2012	960,143.76	14,036	23,072	1,033,086	69.07	14,957
	22,211,307.67	5,455,747	8,938,567	15,493,871		268,433

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 57.7   1.21

BLACK HILLS KANSAS GAS

ACCOUNT 367.73 MAINS - STEEL - FARM TAP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R1						
NET SALVAGE PERCENT.. -10						
1929	150,824.27	120,282	165,907			
1932	20,133.44	15,648	22,147			
1935	185.44	140	204			
1939	600.32	437	660			
1945	1,065.70	727	1,172			
1946	1,095.16	739	1,205			
1947	2,940.92	1,961	3,235			
1948	501.55	330	552			
1949	517.62	337	569			
1950	3,046.01	1,958	3,351			
1951	1,346.54	854	1,481			
1952	2,255.48	1,412	2,481			
1953	12,811.55	7,916	14,093			
1954	6,100.13	3,717	6,710			
1955	6,425.79	3,861	7,068			
1956	66,256.66	39,242	72,882			
1957	5,299.53	3,093	5,829			
1958	6,340.49	3,646	6,975			
1959	892.66	505	982			
1960	338.21	188	372			
1961	46.25	25	51			
1965	7,137.39	3,651	7,820	31	37.45	1
1966	1,068.69	537	1,150	26	38.04	1
1968	4,724.16	2,283	4,890	307	39.25	8
1969	6,142.99	2,909	6,231	526	39.86	13
1972	3,237.08	1,439	3,082	479	41.71	11
1974	46,109.63	19,585	41,950	8,771	42.97	204
1982	161,911.80	55,620	119,135	58,968	48.14	1,225
1984	75,932.45	24,497	52,471	31,055	49.47	628
1985	28,117.96	8,780	18,806	12,124	50.13	242
1989	158,791.87	42,845	91,772	82,899	52.83	1,569
1990	90,798.02	23,528	50,396	49,482	53.51	925
1991	932,761.96	231,741	496,377	529,661	54.19	9,774
1995	27,606.88	5,666	12,137	18,231	56.94	320
2000	907.78	137	293	706	60.42	12
	1,834,272.38	630,236	1,224,436	793,264		14,933

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 53.1   0.81

BLACK HILLS KANSAS GAS

ACCOUNT 368.04 COMPRESSOR STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S1.5						
NET SALVAGE PERCENT.. -5						
1963	2,428.86	2,179	949	1,601	5.10	314
1992	525.51	284	124	428	16.97	25
1995	892.20	430	187	750	18.95	40
1996	17,637.14	8,117	3,533	14,986	19.66	762
	21,483.71	11,010	4,793	17,765		1,141

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.6   5.31

BLACK HILLS KANSAS GAS

ACCOUNT 369.03 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 37-S0.5						
NET SALVAGE PERCENT.. -5						
1933	65.04	68	68			
1947	35.57	35	32	5	2.69	2
1948	107.39	104	94	19	3.02	6
1949	48.98	47	42	9	3.36	3
1950	124.83	118	107	24	3.69	7
1952	161.94	150	136	34	4.36	8
1953	990.30	908	821	219	4.70	47
1954	561.88	510	461	129	5.04	26
1955	4,218.80	3,787	3,423	1,007	5.37	188
1956	4,155.59	3,690	3,335	1,028	5.71	180
1957	5,644.53	4,956	4,480	1,447	6.06	239
1958	6,033.17	5,239	4,735	1,600	6.40	250
1959	3,578.00	3,073	2,778	979	6.74	145
1960	877.67	745	673	249	7.09	35
1961	5,579.87	4,681	4,231	1,628	7.44	219
1962	9,394.89	7,785	7,037	2,828	7.80	363
1963	34,292.03	28,066	25,369	10,638	8.16	1,304
1964	12,516.85	10,116	9,144	3,999	8.52	469
1965	4,427.50	3,533	3,193	1,456	8.88	164
1966	3,726.75	2,935	2,653	1,260	9.25	136
1967	7,554.77	5,870	5,306	2,627	9.62	273
1968	5,366.04	4,112	3,717	1,917	10.00	192
1969	2,318.12	1,751	1,583	851	10.38	82
1970	1,724.73	1,284	1,161	650	10.76	60
1971	3,682.33	2,701	2,441	1,425	11.15	128
1972	322.46	233	211	128	11.55	11
1973	2,482.87	1,765	1,595	1,012	11.95	85
1975	9,622.41	6,616	5,980	4,124	12.77	323
1976	7,778.87	5,256	4,751	3,417	13.19	259
1977	17,049.42	11,317	10,229	7,673	13.61	564
1978	4,158.80	2,709	2,449	1,918	14.05	137
1979	16,560.74	10,579	9,562	7,827	14.49	540
1980	6,535.22	4,093	3,700	3,162	14.93	212
1981	48,669.37	29,847	26,978	24,125	15.39	1,568
1982	207,632.53	124,621	112,644	105,370	15.85	6,648
1983	23,834.14	13,987	12,643	12,383	16.32	759
1984	108,316.23	62,092	56,124	57,608	16.80	3,429
1985	36,974.19	20,681	18,693	20,130	17.29	1,164
1986	18,177.31	9,909	8,957	10,129	17.79	569
1987	193,728.19	102,808	92,927	110,488	18.30	6,038
1988	19,527.99	10,075	9,107	11,397	18.82	606
1989	17,347.39	8,689	7,854	10,361	19.35	535
1990	50,217.04	24,383	22,040	30,688	19.89	1,543
1991	174,448.56	81,982	74,103	109,068	20.44	5,336
1992	34,664.55	15,730	14,218	22,180	21.01	1,056

ACCOUNT 369.03 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 37-S0.5						
NET SALVAGE PERCENT.. -5						
1993	31,476.31	13,765	12,442	20,608	21.59	955
1994	90,842.98	38,206	34,534	60,851	22.18	2,744
1995	136,719.51	55,171	49,869	93,686	22.78	4,113
1996	135,438.72	52,272	47,248	94,963	23.40	4,058
1997	220,031.79	80,924	73,146	157,887	24.04	6,568
1998	282,201.41	98,583	89,108	207,203	24.69	8,392
1999	5,547.08	1,834	1,658	4,166	25.35	164
2000	132,703.06	41,275	37,308	102,030	26.04	3,918
2001	24,044.83	7,001	6,328	18,919	26.74	708
2002	23,717.70	6,428	5,810	19,094	27.45	696
2003	7,420.92	1,855	1,677	6,115	28.19	217
2004	50,106.55	11,447	10,347	42,265	28.95	1,460
2005	16,071.78	3,320	3,001	13,874	29.72	467
2006	52,676.21	9,687	8,756	46,554	30.52	1,525
2007	37,833.95	6,077	5,493	34,233	31.34	1,092
2008	160,379.16	21,937	19,829	148,569	32.18	4,617
2009	186,499.02	20,906	18,897	176,927	33.05	5,353
2010	147,447.36	12,845	11,610	143,210	33.93	4,221
2011	94,076.92	5,767	5,213	93,568	34.84	2,686
2012	362,495.59	12,549	11,343	369,277	35.78	10,321
	3,312,966.70	1,145,485	1,035,402	2,443,213		100,183

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.4   3.02

BLACK HILLS KANSAS GAS

ACCOUNT 369.73 MEASURING AND REGULATING STATION EQUIPMENT - FARM TAP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 37-S0.5						
NET SALVAGE PERCENT.. -5						
1964	167.37	135	126	50	8.52	6
1991	51,304.00	24,110	22,494	31,375	20.44	1,535
	51,471.37	24,245	22,620	31,425		1,541

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.4   2.99

BLACK HILLS KANSAS GAS

ACCOUNT 371.01 OTHER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 23-L3						
NET SALVAGE PERCENT.. -1						
1961	320.91	316	187	137	0.56	137
1968	1,553.74	1,440	852	717	1.89	379
1971	231.46	208	123	111	2.51	44
1976	838.69	713	422	425	3.64	117
1982	462.47	362	214	253	5.16	49
1985	9,597.80	7,203	4,260	5,434	5.91	919
1988	26,952.34	19,505	11,536	15,686	6.52	2,406
1989	5,483.15	3,925	2,321	3,217	6.70	480
1990	2,114.97	1,499	887	1,249	6.86	182
1992	7,314.94	5,069	2,998	4,390	7.22	608
1994	3,439.55	2,311	1,367	2,107	7.70	274
2008	50,034.40	11,469	6,782	43,753	17.78	2,461
	108,344.42	54,020	31,949	77,479		8,056

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.6   7.44

BLACK HILLS KANSAS GAS

ACCOUNT 375.01 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-R2.5						
NET SALVAGE PERCENT.. -5						
1930	51.95	55	55			
1948	1,680.55	1,765	1,765			
1949	868.49	907	419	493	0.19	493
1950	1,522.03	1,578	730	868	0.45	868
1951	360.13	370	171	207	0.71	207
1953	3,494.47	3,539	1,637	2,032	1.24	1,639
1956	1,571.21	1,553	718	932	2.05	455
1957	829.20	813	376	495	2.30	215
1961	438.19	418	193	267	3.19	84
1963	629.40	592	274	387	3.63	107
1964	728.58	681	315	450	3.86	117
1967	599.98	548	253	377	4.58	82
1971	299.31	263	122	192	5.66	34
1972	2,654.00	2,312	1,069	1,718	5.96	288
1976	2,951.35	2,445	1,131	1,968	7.39	266
1978	2,710.14	2,175	1,006	1,840	8.25	223
1980	2,255.98	1,746	807	1,562	9.20	170
1982	8,865.92	6,580	3,043	6,266	10.26	611
1987	693.00	452	209	519	13.28	39
1988	12,081.28	7,633	3,530	9,155	13.94	657
1991	19,195.18	10,924	5,052	15,103	16.03	942
1998	7,917.93	3,226	1,492	6,822	21.42	318
2001	14,907.26	4,955	2,292	13,361	23.92	559
2003	4,158.05	1,166	539	3,827	25.65	149
2008	7,373.08	1,082	500	7,242	30.11	241
2009	10,506.84	1,251	579	10,453	31.03	337
2012	51,267.87	1,815	839	52,992	33.82	1,567
2013	768.85	8	4	803	34.65	23
	161,380.22	60,852	29,120	140,329		10,691

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.1   6.62

BLACK HILLS KANSAS GAS

ACCOUNT 376.03 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -10						
1928	3,697.84	3,631	4,068			
1929	9,979.67	9,759	10,978			
1930	6,510.77	6,338	7,162			
1931	837.56	812	921			
1932	442.78	427	487			
1933	56.03	54	62			
1934	484.59	463	533			
1935	3,431.04	3,264	3,774			
1936	898.65	851	989			
1937	480.62	453	529			
1938	149.94	140	165			
1939	421.42	393	464			
1940	57.72	53	63			
1941	2,719.92	2,506	2,992			
1942	3,306.14	3,027	3,637			
1943	889.62	809	979			
1944	1,098.00	992	1,208			
1946	1,508.53	1,344	1,659			
1947	11,117.58	9,834	12,229			
1948	68,883.13	60,453	75,771			
1949	37,575.66	32,708	41,333			
1950	37,280.55	32,178	41,009			
1951	56,149.96	48,033	61,765			
1952	20,938.66	17,747	23,033			
1953	63,560.04	53,346	69,916			
1954	45,897.42	38,126	50,487			
1955	72,441.93	59,552	79,686			
1956	131,466.06	106,893	144,613			
1957	124,432.31	100,011	136,876			
1958	62,530.24	49,662	68,783			
1959	73,427.36	57,603	80,770			
1960	68,426.67	52,990	75,269			
1961	699,181.80	534,271	769,100			
1962	102,914.83	77,546	113,206			
1963	115,628.31	85,896	125,615	1,576	19.48	81
1964	136,047.08	99,568	145,609	4,043	20.08	201
1965	274,173.07	197,542	288,888	12,702	20.70	614
1966	150,217.25	106,525	155,783	9,456	21.32	444
1967	411,842.06	287,296	420,145	32,881	21.95	1,498
1968	280,378.41	192,245	281,141	27,275	22.60	1,207
1969	443,277.54	298,575	436,640	50,965	23.26	2,191
1970	809,396.40	535,386	782,955	107,381	23.92	4,489
1971	446,355.31	289,685	423,639	67,352	24.60	2,738
1972	635,367.18	404,316	591,276	107,628	25.29	4,256
1973	414,797.01	258,709	378,339	77,938	25.98	3,000

ACCOUNT 376.03 MAINS - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -10						
1974	828,772.85	506,121	740,157	171,493	26.69	6,425
1975	988,118.47	590,388	863,390	223,540	27.41	8,155
1976	1,145,836.51	669,497	979,080	281,340	28.13	10,001
1977	630,420.01	359,907	526,332	167,130	28.86	5,791
1978	496,049.48	276,374	404,173	141,481	29.61	4,778
1979	958,647.45	521,108	762,075	292,437	30.35	9,635
1980	812,092.59	430,125	629,020	264,282	31.11	8,495
1981	756,561.59	390,035	570,392	261,826	31.88	8,213
1982	1,026,823.58	514,863	752,942	376,564	32.65	11,533
1983	474,909.89	231,251	338,184	184,217	33.44	5,509
1984	303,868.79	143,563	209,948	124,308	34.23	3,632
1985	422,390.59	193,439	282,887	181,743	35.02	5,190
1986	559,141.36	247,763	362,332	252,723	35.83	7,053
1987	436,764.98	187,050	273,544	206,897	36.64	5,647
1988	666,780.85	275,539	402,951	330,508	37.46	8,823
1989	225,317.69	89,722	131,211	116,638	38.28	3,047
1990	277,730.65	106,315	155,476	150,028	39.12	3,835
1991	424,109.43	155,897	227,986	238,534	39.95	5,971
1992	442,344.75	155,705	227,705	258,874	40.80	6,345
1993	147,935.44	49,767	72,780	89,949	41.65	2,160
1994	214,471.75	68,770	100,570	135,349	42.51	3,184
1995	383,004.06	116,773	170,770	250,534	43.37	5,777
1996	514,918.34	148,779	217,576	348,834	44.24	7,885
1997	502,363.55	137,045	200,416	352,184	45.12	7,805
1998	350,625.10	89,992	131,605	254,083	46.00	5,524
1999	738,391.12	177,472	259,537	552,693	46.89	11,787
2000	552,529.87	123,787	181,028	426,755	47.78	8,932
2001	412,173.44	85,541	125,096	328,295	48.68	6,744
2002	60,545.67	11,566	16,914	49,686	49.58	1,002
2003	246,692.96	43,057	62,967	208,395	50.48	4,128
2004	253,657.91	40,040	58,555	220,469	51.39	4,290
2005	45,046.63	6,351	9,288	40,263	52.31	770
2006	123,850.23	15,371	22,479	113,756	53.23	2,137
2007	152,796.89	16,387	23,965	144,112	54.15	2,661
2008	79,308.44	7,154	10,462	76,777	55.08	1,394
2009	435,959.60	31,890	46,636	432,920	56.01	7,729
2010	258,402.91	14,496	21,199	263,044	56.94	4,620
2011	559,146.50	21,730	31,778	583,283	57.88	10,077
2012	453,039.83	9,802	14,335	484,009	58.82	8,229
2013	345,673.41	2,217	3,242	376,999	59.65	6,320
	24,537,889.82	11,384,661	16,535,529	10,456,150		261,952

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.9   1.07

BLACK HILLS KANSAS GAS

ACCOUNT 376.04 MAINS - PVC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R4						
NET SALVAGE PERCENT.. -10						
1962	1.89	2	2			
1965	1,639.24	1,593	1,730	73	5.24	14
1967	261.59	249	270	18	6.03	3
1968	4,987.49	4,697	5,100	386	6.47	60
1969	126,806.88	117,945	128,064	11,424	6.95	1,644
1970	110,500.38	101,400	110,100	11,450	7.46	1,535
1971	15,068.19	13,628	14,797	1,778	8.00	222
1972	11,339.84	10,095	10,961	1,513	8.58	176
1973	10,932.20	9,567	10,388	1,637	9.20	178
1974	25,145.41	21,612	23,466	4,194	9.84	426
1975	24,176.61	20,389	22,138	4,456	10.50	424
1976	29,311.42	24,232	26,311	5,932	11.18	531
1977	7,852.21	6,359	6,905	1,732	11.87	146
1978	1,389.17	1,101	1,195	333	12.58	26
1979	711.80	551	598	185	13.31	14
1980	3,985.57	3,015	3,274	1,110	14.05	79
1981	111,289.53	82,129	89,177	33,241	14.81	2,244
1982	348.18	250	271	112	15.59	7
1983	695.89	487	529	236	16.38	14
1984	522.70	355	385	190	17.19	11
1990	11,298.73	6,253	6,790	5,639	22.36	252
	498,264.92	425,909	462,451	85,640		8,006

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.7   1.61

BLACK HILLS KANSAS GAS

ACCOUNT 376.07 MAINS - OTHER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S0.5						
NET SALVAGE PERCENT.. 0						
1936	137.07	137	137			
1947	93.26	93	93			
1996	5,281.17	2,285	788	4,493	17.02	264
1997	1,432.42	592	204	1,228	17.60	70
1998	799.27	314	108	691	18.20	38
1999	11,526.49	4,299	1,483	10,043	18.81	534
2000	16,556.62	5,828	2,011	14,546	19.44	748
2002	10,313.00	3,176	1,096	9,217	20.76	444
2003	22,589.83	6,438	2,221	20,369	21.45	950
2004	46,996.29	12,266	4,231	42,765	22.17	1,929
2005	30,918.04	7,317	2,524	28,394	22.90	1,240
2006	50,654.34	10,705	3,693	46,961	23.66	1,985
2007	42,533.47	7,869	2,715	39,818	24.45	1,629
2008	15,331.05	2,422	836	14,495	25.26	574
2009	54,990.50	7,149	2,466	52,524	26.10	2,012
2010	216,868.51	21,904	7,556	209,313	26.97	7,761
2011	38,253.43	2,729	941	37,312	27.86	1,339
2012	45,138.69	1,820	628	44,511	28.79	1,546
2013	24,437.38	301	104	24,333	29.63	821
	634,850.83	97,644	33,835	601,016		23,884

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.2   3.76

BLACK HILLS KANSAS GAS

ACCOUNT 376.25 MAINS - PE / PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S2						
NET SALVAGE PERCENT.. -25						
1961	4,190.18	3,804	4,842	396	15.06	26
1966	1,677.06	1,437	1,829	267	17.31	15
1971	4,552.38	3,638	4,631	1,059	19.84	53
1972	28,357.70	22,312	28,403	7,044	20.38	346
1973	37,463.23	29,000	36,917	9,912	20.94	473
1974	50,331.88	38,309	48,767	14,148	21.51	658
1975	73,418.44	54,897	69,883	21,890	22.10	990
1976	41,451.64	30,429	38,736	13,079	22.70	576
1977	98,848.43	71,171	90,600	32,961	23.32	1,413
1978	98,854.76	69,761	88,805	34,763	23.95	1,451
1979	80,369.14	55,528	70,686	29,775	24.60	1,210
1980	98,061.39	66,259	84,347	38,230	25.27	1,513
1981	155,071.02	102,382	130,331	63,508	25.95	2,447
1982	90,412.02	58,254	74,157	38,858	26.65	1,458
1983	297,871.69	187,119	238,200	134,140	27.36	4,903
1984	292,701.43	179,013	227,881	137,996	28.09	4,913
1985	222,634.91	132,368	168,503	109,791	28.84	3,807
1986	410,392.21	236,909	301,582	211,408	29.60	7,142
1987	445,132.71	249,074	317,068	239,348	30.38	7,878
1988	541,530.65	293,164	373,194	303,719	31.18	9,741
1989	1,160,234.42	606,745	772,379	677,914	31.99	21,191
1990	790,583.69	398,523	507,315	480,915	32.82	14,653
1991	1,915,733.60	929,131	1,182,773	1,211,894	33.66	36,004
1992	1,403,732.54	653,367	831,729	922,937	34.52	26,736
1993	1,381,308.62	615,304	783,275	943,361	35.40	26,649
1994	2,330,471.56	990,975	1,261,499	1,651,590	36.29	45,511
1995	1,340,684.94	542,676	690,820	985,036	37.19	26,487
1996	1,478,230.51	567,770	722,765	1,125,023	38.10	29,528
1997	1,628,114.23	590,924	752,239	1,282,904	39.03	32,870
1998	1,526,311.08	521,369	663,697	1,244,192	39.97	31,128
1999	1,474,242.71	471,758	600,542	1,242,261	40.92	30,358
2000	1,606,828.37	479,498	610,395	1,398,140	41.87	33,392
2001	1,278,888.11	353,437	449,921	1,148,689	42.84	26,813
2002	1,336,870.90	339,983	432,794	1,238,295	43.81	28,265
2003	1,604,652.96	372,360	474,010	1,531,806	44.79	34,200
2004	1,517,146.03	317,918	404,706	1,491,727	45.78	32,585
2005	1,961,621.60	366,921	467,086	1,984,941	46.77	42,440
2006	1,838,203.85	302,476	385,049	1,912,706	47.76	40,048
2007	1,749,464.26	248,096	315,823	1,871,007	48.76	38,372
2008	2,610,717.24	311,491	396,525	2,866,872	49.75	57,626
2009	2,645,715.99	255,543	325,303	2,981,842	50.75	58,756
2010	1,981,972.39	146,393	186,357	2,291,108	51.75	44,273

ACCOUNT 376.25 MAINS - PE / PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S2						
NET SALVAGE PERCENT.. -25						
2011	2,633,232.36	134,657	171,417	3,120,123	52.75	59,149
2012	3,023,794.78	85,914	109,367	3,670,376	53.75	68,286
2013	1,523,039.99	12,813	16,311	1,887,489	54.63	34,550
	46,815,119.60	12,500,870	15,913,459	42,605,440		970,883

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 43.9   2.07

BLACK HILLS KANSAS GAS

ACCOUNT 377 COMPRESSOR EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S1.5						
NET SALVAGE PERCENT.. -5						
2010	174,659.15	19,683	16,849	166,543	26.78	6,219
	174,659.15	19,683	16,849	166,543		6,219

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.8   3.56

BLACK HILLS KANSAS GAS

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -10						
1932	73.95	81	81			
1933	111.21	122	122			
1935	101.51	112	112			
1938	105.39	116	116			
1939	15.99	18	18			
1941	27.94	30	31			
1945	62.66	66	69			
1948	165.82	172	182			
1951	426.46	433	469			
1952	260.00	262	286			
1953	1,198.58	1,202	1,318			
1955	37.54	37	41			
1956	113.37	112	123	2	4.20	
1957	4,724.21	4,622	5,090	107	4.42	24
1960	500.00	479	527	23	5.14	4
1961	1,844.44	1,755	1,933	96	5.39	18
1963	844.40	792	872	57	5.91	10
1964	112.60	105	116	8	6.19	1
1965	1,245.00	1,148	1,264	106	6.48	16
1967	3,075.09	2,782	3,064	319	7.10	45
1968	1,020.00	913	1,005	117	7.44	16
1969	12,300.04	10,892	11,994	1,536	7.80	197
1970	832.16	728	802	113	8.18	14
1971	7,654.28	6,614	7,283	1,137	8.58	133
1972	16,095.85	13,722	15,111	2,594	9.00	288
1973	3,645.96	3,064	3,374	637	9.44	67
1974	15,014.36	12,424	13,681	2,835	9.91	286
1975	31,219.30	25,421	27,993	6,348	10.39	611
1976	58,039.34	46,446	51,146	12,697	10.90	1,165
1977	1,319.67	1,037	1,142	310	11.43	27
1978	27,932.08	21,523	23,701	7,024	11.98	586
1979	5,586.88	4,217	4,644	1,502	12.55	120
1980	63,034.38	46,560	51,271	18,067	13.14	1,375
1981	53,302.50	38,478	42,372	16,261	13.75	1,183
1982	81,977.35	57,780	63,627	26,548	14.37	1,847
1983	12,831.08	8,818	9,710	4,404	15.01	293
1984	29,031.13	19,424	21,389	10,545	15.67	673
1985	41,504.00	27,005	29,738	15,916	16.34	974
1986	15,773.08	9,963	10,971	6,379	17.03	375
1987	63,669.71	38,993	42,939	27,098	17.73	1,528
1988	24,388.38	14,453	15,915	10,912	18.45	591
1989	11,327.22	6,485	7,141	5,319	19.18	277

BLACK HILLS KANSAS GAS

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R2.5						
NET SALVAGE PERCENT.. -10						
1990	119,752.66	66,127	72,818	58,910	19.92	2,957
1991	230,466.49	122,447	134,837	118,676	20.68	5,739
1992	123,313.52	62,905	69,270	66,375	21.45	3,094
1993	105,257.84	51,437	56,642	59,142	22.23	2,660
1994	82,380.88	38,468	42,361	48,258	23.02	2,096
1995	121,585.81	54,100	59,574	74,170	23.82	3,114
1996	112,364.28	47,494	52,300	71,301	24.63	2,895
1997	43,740.70	17,502	19,273	28,842	25.45	1,133
1998	65,242.68	24,598	27,087	44,680	26.29	1,700
1999	63,572.11	22,500	24,777	45,152	27.13	1,664
2000	81,483.81	26,934	29,660	59,972	27.98	2,143
2001	45,772.52	14,048	15,469	34,881	28.84	1,209
2002	18,148.65	5,136	5,656	14,308	29.71	482
2003	35,413.46	9,164	10,091	28,864	30.59	944
2004	34,875.33	8,171	8,998	29,365	31.48	933
2005	41,884.85	8,777	9,665	36,408	32.38	1,124
2006	24,927.09	4,607	5,073	22,347	33.28	671
2007	16,785.55	2,682	2,953	15,511	34.19	454
2008	126,287.04	17,017	18,739	120,177	35.10	3,424
2009	173,907.85	19,034	20,960	170,339	36.02	4,729
2010	197,418.28	16,558	18,234	198,926	36.95	5,384
2011	166,808.75	9,725	10,709	172,781	37.88	4,561
2012	153,779.88	4,990	5,495	163,663	38.82	4,216
2013	75,578.68	727	801	82,336	39.65	2,077
	2,853,293.62	1,084,554	1,194,225	1,944,398		72,147

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.0   2.53

BLACK HILLS KANSAS GAS

ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-L2.5						
NET SALVAGE PERCENT.. -10						
1989	15,957.35	9,176	6,551	11,002	19.09	576
1991	46,741.28	25,284	18,051	33,364	20.33	1,641
1995	10,097.20	4,665	3,331	7,776	23.20	335
	72,795.83	39,125	27,933	52,142		2,552

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.4 3.51

BLACK HILLS KANSAS GAS

ACCOUNT 380.03 SERVICES - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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.. -40						
1930	32.04	45	45			
1933	23.72	33	33			
1950	91.59	116	102	26	4.06	6
1951	405.57	509	446	122	4.35	28
1952	251.37	313	274	78	4.64	17
1953	531.37	656	575	169	4.94	34
1954	200.33	246	215	65	5.23	12
1955	1,327.02	1,613	1,413	445	5.53	80
1956	827.34	997	873	285	5.83	49
1957	17,467.28	20,879	18,289	6,165	6.14	1,004
1958	6,731.52	7,975	6,986	2,438	6.46	377
1959	5,963.17	7,001	6,133	2,215	6.78	327
1960	10,637.45	12,371	10,836	4,056	7.11	570
1961	1,202.32	1,385	1,213	470	7.45	63
1962	10,031.02	11,435	10,017	4,026	7.80	516
1963	2,134.35	2,408	2,109	879	8.16	108
1964	3,846.67	4,292	3,760	1,625	8.53	191
1965	5,945.27	6,556	5,743	2,580	8.92	289
1966	8,685.16	9,464	8,290	3,869	9.31	416
1967	26,289.96	28,288	24,779	12,027	9.72	1,237
1968	20,191.54	21,437	18,778	9,490	10.15	935
1969	51,897.52	54,354	47,612	25,045	10.58	2,367
1970	87,953.06	90,797	79,534	43,600	11.03	3,953
1971	86,001.93	87,435	76,590	43,813	11.50	3,810
1972	102,427.64	102,496	89,782	53,617	11.98	4,476
1973	89,544.56	88,142	77,209	48,153	12.47	3,862
1974	143,972.81	139,269	121,994	79,568	12.98	6,130
1975	199,355.05	189,387	165,895	113,202	13.50	8,385
1976	134,550.02	125,400	109,845	78,525	14.04	5,593
1977	138,993.40	126,994	111,242	83,349	14.59	5,713
1978	185,814.66	166,305	145,676	114,465	15.15	7,555
1979	145,578.77	127,479	111,666	92,144	15.73	5,858
1980	210,430.48	180,129	157,786	136,817	16.32	8,383
1981	301,485.18	252,040	220,777	201,302	16.92	11,897
1982	213,186.27	173,818	152,258	146,203	17.54	8,335
1983	87,895.48	69,818	61,158	61,896	18.17	3,406
1984	85,986.59	66,467	58,222	62,159	18.81	3,305
1985	59,598.24	44,758	39,206	44,232	19.47	2,272
1986	54,219.74	39,526	34,623	41,285	20.13	2,051
1987	49,074.80	34,663	30,363	38,342	20.81	1,842
1988	48,873.25	33,397	29,254	39,169	21.50	1,822
1989	83,315.00	54,988	48,167	68,474	22.20	3,084
1990	108,111.83	68,795	60,262	91,095	22.91	3,976
1991	120,693.32	73,904	64,737	104,234	23.63	4,411
1992	128,369.82	75,438	66,081	113,637	24.37	4,663

ACCOUNT 380.03 SERVICES - STEEL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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.. -40						
1993	149,075.18	83,929	73,519	135,186	25.11	5,384
1994	112,525.51	60,539	53,030	104,506	25.86	4,041
1995	108,287.91	55,516	48,630	102,973	26.62	3,868
1996	108,124.19	52,657	46,125	105,249	27.39	3,843
1997	91,848.54	42,312	37,064	91,524	28.18	3,248
1998	50,753.79	22,044	19,310	51,745	28.97	1,786
1999	18,839.53	7,680	6,727	19,648	29.77	660
2000	91,724.94	34,947	30,612	97,803	30.57	3,199
2001	29,760.39	10,525	9,219	32,446	31.39	1,034
2002	32,429.28	10,583	9,270	36,131	32.21	1,122
2003	19,208.35	5,731	5,020	21,872	33.05	662
2004	3,088.49	835	731	3,593	33.89	106
2005	12,834.47	3,106	2,721	15,247	34.74	439
2006	233.34	50	44	283	35.59	8
2007	5,351.31	990	867	6,625	36.45	182
2008	75,871.54	11,836	10,368	95,852	37.32	2,568
2009	150,673.57	19,086	16,719	194,224	38.20	5,084
2010	8,108.12	789	691	10,660	39.08	273
2011	28,275.23	1,913	1,676	37,909	39.97	948
2012	157,612.08	5,936	5,200	215,457	40.87	5,272
2013	135,022.75	1,531	1,341	187,691	41.66	4,505
	4,429,793.99	3,036,353	2,659,732	3,541,980		171,640

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.6   3.87

BLACK HILLS KANSAS GAS

ACCOUNT 380.04 SERVICES - PVC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S2						
NET SALVAGE PERCENT.. -20						
1970	106.77	94	20	108	12.12	9
1972	94.34	81	18	95	12.97	7
1975	502.53	411	89	514	14.35	36
1976	4,314.78	3,470	751	4,427	14.84	298
1980	177.30	133	29	184	16.95	11
1984	89.29	61	13	94	19.34	5
1990	67,497.98	38,717	8,383	72,615	23.49	3,091
2003	1.95	1		2	34.83	
2009	3,770.59	427	93	4,432	40.75	109
	76,555.53	43,395	9,396	82,471		3,566

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 23.1   4.66

BLACK HILLS KANSAS GAS

ACCOUNT 380.25 SERVICES - PE / PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R4						
NET SALVAGE PERCENT.. -20						
1961	64,369.97	67,434	77,244			
1962	251.86	261	302			
1963	572.41	588	685	2	7.20	
1964	1,090.06	1,107	1,290	18	7.68	2
1965	2,995.14	3,006	3,502	92	8.18	11
1966	7,791.25	7,719	8,994	356	8.72	41
1967	32,983.22	32,226	37,548	2,032	9.29	219
1968	8,116.41	7,813	9,103	637	9.89	64
1969	19,500.03	18,477	21,528	1,872	10.52	178
1970	31,585.33	29,435	34,296	3,606	11.17	323
1971	52,685.07	48,251	56,219	7,003	11.84	591
1972	71,445.33	64,267	74,880	10,854	12.52	867
1973	4,038.24	3,566	4,155	691	13.21	52
1974	75,814.25	65,649	76,490	14,487	13.92	1,041
1975	70,802.39	60,069	69,989	14,974	14.65	1,022
1976	166,070.72	137,985	160,772	38,513	15.38	2,504
1977	224,535.47	182,467	212,599	56,844	16.14	3,522
1978	279,871.42	222,263	258,967	76,879	16.91	4,546
1979	308,690.84	239,371	278,900	91,529	17.69	5,174
1980	261,560.98	197,803	230,468	83,405	18.49	4,511
1981	283,843.49	209,136	243,672	96,940	19.30	5,023
1982	341,145.25	244,560	284,946	124,428	20.13	6,181
1983	341,040.71	237,610	276,849	132,400	20.97	6,314
1984	491,265.19	332,135	386,983	202,535	21.83	9,278
1985	536,497.56	351,513	409,561	234,236	22.70	10,319
1986	606,388.34	384,499	447,995	279,671	23.58	11,861
1987	528,945.69	324,096	377,617	257,118	24.47	10,507
1988	827,304.42	489,036	569,795	422,970	25.37	16,672
1989	1,414,814.41	805,086	938,037	759,740	26.29	28,898
1990	1,752,590.31	958,597	1,116,898	986,210	27.21	36,244
1991	1,835,190.52	962,814	1,121,812	1,080,417	28.14	38,394
1992	2,197,926.52	1,103,535	1,285,771	1,351,741	29.08	46,484
1993	1,990,146.79	953,838	1,111,354	1,276,822	30.03	42,518
1994	1,856,801.71	847,147	987,044	1,241,118	30.99	40,049
1995	1,663,942.33	720,820	839,855	1,156,876	31.95	36,209
1996	1,959,913.93	803,878	936,629	1,415,268	32.91	43,004
1997	1,734,348.79	670,569	781,306	1,299,913	33.89	38,357
1998	968,219.76	351,812	409,910	751,954	34.86	21,571
1999	1,295,259.00	440,181	512,872	1,041,439	35.84	29,058
2000	1,107,751.69	350,404	408,269	921,033	36.82	25,014
2001	955,879.54	279,652	325,833	821,222	37.81	21,720
2002	1,221,952.40	328,461	382,703	1,083,640	38.80	27,929
2003	1,243,043.00	304,595	354,895	1,136,757	39.79	28,569
2004	1,233,660.33	272,984	318,064	1,162,328	40.78	28,502
2005	1,346,699.85	266,000	309,927	1,306,113	41.77	31,269

BLACK HILLS KANSAS GAS

ACCOUNT 380.25 SERVICES - PE / PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R4						
NET SALVAGE PERCENT.. -20						
2006	1,393,813.44	241,855	281,795	1,390,781	42.77	32,518
2007	1,398,674.86	209,466	244,057	1,434,353	43.76	32,778
2008	1,264,685.73	159,047	185,312	1,332,311	44.76	29,766
2009	1,495,896.98	152,222	177,359	1,617,717	45.76	35,352
2010	1,573,180.85	122,708	142,972	1,744,845	46.75	37,323
2011	1,453,244.40	78,475	91,434	1,652,459	47.75	34,606
2012	1,486,549.53	44,596	51,961	1,731,898	48.75	35,526
2013	1,024,509.03	9,098	10,600	1,218,811	49.63	24,558
	42,509,896.74	15,400,182	17,942,018	33,069,858		927,039

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 35.7   2.18

BLACK HILLS KANSAS GAS

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-L2						
NET SALVAGE PERCENT.. 0						
2000	12,592.25	4,936	3,536	9,056	18.24	496
2009	16,170.16	2,248	1,610	14,560	25.83	564
2011	423,782.93	31,644	22,670	401,113	27.76	14,449
2012	35,882.93	1,495	1,071	34,812	28.75	1,211
2013	56,894.12	702	503	56,391	29.63	1,903
	545,322.39	41,025	29,390	515,932		18,623

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.7 3.42

BLACK HILLS KANSAS GAS

ACCOUNT 381.01 METERS - ERT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S2.5						
NET SALVAGE PERCENT.. 0						
2011	4,999,568.16	749,935	546,042	4,453,526	12.75	349,296
2012	2,620,798.16	218,391	159,015	2,461,783	13.75	179,039
	7,620,366.32	968,326	705,057	6,915,309		528,335

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.1   6.93

ACCOUNT 381.23 METERS - AMR / AMI

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S2.5						
NET SALVAGE PERCENT.. 0						
2011	293,843.26	44,076	76,516	217,327	12.75	17,045
2012	258,649.28	21,553	37,416	221,233	13.75	16,090
2013	130,296.10	3,214	5,579	124,717	14.63	8,525
	682,788.64	68,843	119,511	563,278		41,660

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.5   6.10

BLACK HILLS KANSAS GAS

ACCOUNT 382.01 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S2.5						
NET SALVAGE PERCENT.. -5						
1928	16.01	15	17			
1929	2,712.89	2,600	2,849			
1930	1,469.98	1,404	1,543			
1931	609.37	580	640			
1932	278.98	264	293			
1933	195.60	185	205			
1934	435.18	409	457			
1935	117.83	110	124			
1936	92.41	86	97			
1937	54.14	50	57			
1938	56.44	52	59			
1939	77.27	71	81			
1940	102.19	94	107			
1941	53.19	48	56			
1942	26.47	24	28			
1943	689.00	621	723			
1944	56.56	51	59			
1945	164.51	147	173			
1946	371.62	330	390			
1947	1,320.73	1,165	1,387			
1948	2,970.16	2,604	3,119			
1949	4,790.57	4,175	5,030			
1950	3,657.27	3,167	3,840			
1951	2,794.15	2,404	2,934			
1952	2,355.20	2,012	2,473			
1953	3,455.52	2,931	3,628			
1954	3,061.50	2,578	3,215			
1955	3,411.81	2,851	3,582			
1956	41,547.72	34,440	43,625			
1957	9,349.02	7,685	9,816			
1958	2,667.17	2,174	2,801			
1959	2,246.22	1,814	2,359			
1960	3,965.42	3,173	4,164			
1961	3,902.83	3,093	4,098			
1962	4,491.20	3,523	4,716			
1963	5,079.75	3,942	5,334			
1964	4,001.12	3,071	4,201			
1965	30,549.08	23,177	32,077			
1966	4,944.57	3,706	5,192			
1967	8,050.83	5,957	8,453			
1968	5,639.16	4,118	5,921			
1969	6,677.46	4,810	7,011			
1970	117,825.11	83,632	123,716			
1971	7,925.67	5,541	8,322			
1972	10,085.58	6,941	10,590			

BLACK HILLS KANSAS GAS

ACCOUNT 382.01 METER INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-S2.5						
NET SALVAGE PERCENT.. -5						
1973	6,865.68	4,647	7,209			
1974	9,493.67	6,314	9,968			
1975	27,274.25	17,808	28,638			
1976	14,149.12	9,063	14,857			
1977	18,612.94	11,687	19,544			
1978	14,476.67	8,899	15,201			
1979	36,052.92	21,681	37,856			
1980	57,701.59	33,895	60,587			
1981	47,157.95	27,036	49,516			
1982	73,868.25	41,277	76,529	1,033	25.73	40
1983	83,666.22	45,522	84,400	3,450	26.50	130
1984	69,527.51	36,768	68,169	4,835	27.30	177
1985	53,494.35	27,462	50,916	5,253	28.11	187
1986	61,095.81	30,407	56,376	7,775	28.93	269
1987	39,713.21	19,121	35,451	6,248	29.78	210
1988	75,166.91	34,971	64,837	14,088	30.63	460
1989	36,452.53	16,347	30,308	7,967	31.51	253
1990	50,610.66	21,846	40,503	12,638	32.39	390
1991	44,737.46	18,542	34,378	12,596	33.29	378
1992	62,893.66	24,974	46,303	19,735	34.20	577
1993	44,621.86	16,935	31,398	15,455	35.12	440
1994	64,708.17	23,410	43,403	24,541	36.05	681
1995	62,951.43	21,644	40,129	25,970	36.99	702
1996	137,882.75	44,907	83,259	61,518	37.94	1,621
1997	186,537.24	57,335	106,301	89,563	38.90	2,302
1999	1,588.34	429	795	873	40.84	21
2000	26,494.56	6,672	12,370	15,449	41.81	370
2001	15,540.33	3,620	6,712	9,605	42.80	224
2003	480.19	94	174	330	44.77	7
2005	26,816.84	4,219	7,822	20,336	46.76	435
2007	9,299.05	1,110	2,058	7,706	48.75	158
2008	18,665.01	1,871	3,469	16,129	49.75	324
2009	30,944.90	2,511	4,656	27,836	50.75	548
2010	53,200.38	3,301	6,120	49,740	51.75	961
2011	35,243.75	1,514	2,807	34,199	52.75	648
2012	61,018.85	1,456	2,700	61,370	53.75	1,142
2013	39,442.08	279	517	40,897	54.63	749
	2,002,791.55	881,399	1,505,798	597,133		14,404

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 41.5   0.72

ACCOUNT 383.01 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
NET SALVAGE PERCENT.. -15						
1929	2,107.01	2,423	2,423			
1930	1,024.33	1,172	983	195	0.22	195
1931	261.00	298	250	50	0.34	50
1934	234.50	263	221	49	1.12	44
1943	655.50	696	584	170	3.43	50
1950	17.83	18	15	6	4.98	1
1951	230.70	235	197	68	5.22	13
1952	1,460.97	1,477	1,239	441	5.45	81
1953	2,736.22	2,748	2,305	842	5.70	148
1954	485.65	485	407	151	5.94	25
1955	453.82	450	377	145	6.19	23
1956	569.16	561	470	185	6.46	29
1957	3,394.72	3,320	2,784	1,120	6.73	166
1958	260.71	253	212	88	7.01	13
1959	326.74	315	264	112	7.30	15
1960	8,471.03	8,096	6,790	2,952	7.60	388
1961	424.91	403	338	151	7.92	19
1962	1,051.65	987	828	381	8.26	46
1963	461.28	429	360	170	8.61	20
1964	957.39	881	739	362	8.98	40
1965	24,653.64	22,455	18,832	9,520	9.36	1,017
1966	11,005.40	9,908	8,309	4,347	9.77	445
1967	7,976.59	7,096	5,951	3,222	10.19	316
1968	5,691.88	4,998	4,192	2,354	10.64	221
1969	7,260.43	6,290	5,275	3,074	11.10	277
1970	106,212.62	90,685	76,053	46,092	11.59	3,977
1971	8,633.25	7,261	6,089	3,839	12.09	318
1972	12,281.00	10,166	8,526	5,597	12.61	444
1973	9,989.44	8,131	6,819	4,669	13.15	355
1974	19,526.78	15,614	13,095	9,361	13.71	683
1975	32,716.62	25,685	21,541	16,083	14.28	1,126
1976	22,775.32	17,537	14,707	11,485	14.87	772
1977	23,702.14	17,881	14,996	12,261	15.48	792
1978	26,868.39	19,837	16,636	14,263	16.11	885
1979	22,781.13	16,447	13,793	12,405	16.75	741
1980	57,450.56	40,522	33,984	32,084	17.40	1,844
1981	48,026.34	33,052	27,719	27,511	18.07	1,522
1982	61,875.80	41,508	34,811	36,346	18.75	1,938
1983	58,878.58	38,459	32,254	35,456	19.44	1,824
1984	47,280.42	30,026	25,181	29,191	20.15	1,449
1985	38,042.22	23,459	19,674	24,075	20.87	1,154
1986	55,663.95	33,287	27,916	36,098	21.60	1,671
1987	49,712.24	28,788	24,143	33,026	22.34	1,478
1988	70,232.24	39,307	32,965	47,802	23.10	2,069
1989	54,856.75	29,636	24,854	38,231	23.86	1,602

ACCOUNT 383.01 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
NET SALVAGE PERCENT.. -15						
1990	58,947.28	30,671	25,722	42,067	24.64	1,707
1991	61,122.92	30,584	25,649	44,642	25.42	1,756
1992	68,920.53	33,077	27,740	51,519	26.22	1,965
1993	42,137.87	19,362	16,238	32,221	27.02	1,192
1994	50,548.08	22,167	18,590	39,540	27.84	1,420
1995	34,055.12	14,221	11,926	27,237	28.66	950
1996	138,727.71	54,988	46,116	113,421	29.49	3,846
1997	71,410.22	26,754	22,437	59,685	30.34	1,967
1998	366,652.38	129,400	108,522	313,128	31.19	10,039
1999	346,179.68	114,655	96,156	301,951	32.04	9,424
2000	621,455.46	192,011	161,031	553,643	32.91	16,823
2001	624,336.19	178,858	150,000	567,987	33.79	16,809
2002	746,421.58	197,051	165,257	693,128	34.67	19,992
2003	769,896.39	185,735	155,767	729,614	35.56	20,518
2004	904,042.86	197,533	165,662	873,987	36.45	23,978
2005	922,698.75	180,388	151,283	909,821	37.35	24,359
2006	770,611.54	132,736	111,320	774,883	38.26	20,253
2007	1,224,159.32	182,392	152,964	1,254,819	39.17	32,035
2008	843,911.12	105,891	88,806	881,692	40.09	21,993
2009	775,755.45	78,899	66,169	825,950	41.02	20,135
2010	709,055.21	55,269	46,351	769,062	41.95	18,333
2011	533,044.15	28,878	24,219	588,782	42.88	13,731
2012	960,941.94	28,975	24,300	1,080,783	43.82	24,664
2013	785,994.64	7,032	5,897	897,997	44.65	20,112
	13,340,705.24	2,871,072	2,408,223	12,933,588		358,287

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 36.1   2.69

BLACK HILLS KANSAS GAS

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. -10						
1937	15.12	15	17			
1940	258.47	259	284			
1941	163.64	163	180			
1946	115.42	112	127			
1947	82.00	79	90			
1948	145.00	139	160			
1949	102.23	97	112			
1950	346.86	328	382			
1951	895.28	839	985			
1953	2,277.80	2,102	2,506			
1954	820.01	750	902			
1955	1,951.69	1,770	2,147			
1956	1,200.75	1,079	1,321			
1957	910.68	810	1,002			
1958	12,922.43	11,377	14,215			
1959	1,226.63	1,068	1,349			
1960	1,374.10	1,183	1,512			
1961	15,282.08	13,005	16,810			
1962	3,703.32	3,112	4,074			
1963	3,174.93	2,634	3,492			
1964	2,828.00	2,314	3,111			
1965	3,925.80	3,167	4,318			
1966	8,952.29	7,117	9,848			
1967	27,915.88	21,853	30,707			
1968	21,019.40	16,193	23,121			
1969	52,749.03	39,963	58,024			
1970	62,199.86	46,314	68,420			
1971	37,830.45	27,669	41,613			
1972	31,825.31	22,844	34,775	233	19.11	12
1973	27,374.97	19,272	29,338	774	19.80	39
1974	27,942.44	19,275	29,342	1,395	20.51	68
1975	11,399.99	7,702	11,725	815	21.22	38
1976	13,279.41	8,778	13,363	1,244	21.95	57
1977	27,466.10	17,748	27,018	3,195	22.69	141
1978	20,299.46	12,813	19,505	2,824	23.44	120
1979	23,025.70	14,184	21,592	3,736	24.20	154
1980	27,452.03	16,488	25,099	5,098	24.97	204
1981	101,066.53	59,124	90,004	21,169	25.75	822
1982	122,136.23	69,519	105,828	28,522	26.54	1,075
1983	195,808.59	108,322	164,897	50,492	27.34	1,847
1984	24,668.07	13,247	20,166	6,969	28.15	248
1985	55,626.09	28,959	44,084	17,105	28.97	590

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. -10						
1986	46,832.77	23,613	35,946	15,570	29.79	523
1987	114,559.88	55,836	84,998	41,018	30.63	1,339
1988	48,559.61	22,843	34,774	18,642	31.48	592
1989	77,088.71	34,952	53,207	31,591	32.33	977
1990	72,276.34	31,527	47,993	31,511	33.19	949
1991	116,900.61	48,958	74,528	54,063	34.06	1,587
1992	88,344.36	35,444	53,956	43,223	34.94	1,237
1993	68,465.51	26,250	39,960	35,352	35.83	987
1994	61,240.72	22,389	34,082	33,283	36.72	906
1995	112,369.85	39,060	59,460	64,147	37.62	1,705
1996	190,062.98	62,606	95,304	113,765	38.53	2,953
1997	190,044.50	59,142	90,031	119,018	39.44	3,018
1998	6,088.17	1,783	2,714	3,983	40.36	99
1999	159,048.70	43,611	66,388	108,566	41.29	2,629
2000	126,824.28	32,416	49,346	90,161	42.22	2,136
2001	30,262.62	7,166	10,909	22,380	43.16	519
2002	23,145.67	5,046	7,681	17,779	44.10	403
2003	125,316.92	24,938	37,963	99,886	45.05	2,217
2004	41,836.98	7,522	11,451	34,570	46.01	751
2005	170,407.86	27,401	41,712	145,737	46.96	3,103
2006	70,011.97	9,900	15,071	61,942	47.93	1,292
2007	180,564.79	22,065	33,589	165,032	48.89	3,376
2008	160,310.13	16,479	25,086	151,255	49.86	3,034
2009	62,309.01	5,197	7,911	60,629	50.83	1,193
2010	184,482.70	11,770	17,917	185,014	51.81	3,571
2011	22,982.49	1,016	1,547	23,734	52.79	450
2012	39,281.52	966	1,471	41,739	53.77	776
2013	56,786.00	420	639	61,826	54.63	1,132
	3,620,165.72	1,304,102	1,963,199	2,018,983		48,869

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 41.3   1.35

BLACK HILLS KANSAS GAS

ACCOUNT 385.02 INDUSTRIAL METERS - LARGE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S1.5						
NET SALVAGE PERCENT.. -5						
1999	316.92	124	100	233	21.92	11
2000	2,252.60	830	668	1,697	22.72	75
2001	2,721.54	936	753	2,105	23.54	89
2002	202,698.28	64,580	51,982	160,851	24.38	6,598
2003	1,102.57	323	260	898	25.24	36
2011	2,225.65	150	121	2,216	32.76	68
	211,317.56	66,943	53,884	167,999		6,877

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.4   3.25

ACCOUNT 387 OTHER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 28-L3						
NET SALVAGE PERCENT.. 0						
1958	140.46	129	140			
1967	2,205.77	1,873	2,206			
1968	654.36	550	654			
1973	2,133.26	1,698	2,133			
1976	2,678.07	2,057	2,678			
1978	28,721.70	21,552	28,722			
1979	22,805.01	16,925	22,805			
1980	7,528.01	5,525	7,528			
1982	1,764.11	1,270	1,764			
1983	749.04	534	749			
1984	2,917.00	2,063	2,917			
1985	873.67	613	874			
1987	401.44	276	401			
1988	6,333.94	4,316	6,334			
1989	19,203.27	12,921	19,203			
1990	2,717.91	1,803	2,718			
1991	16,570.91	10,795	16,571			
1992	8,240.26	5,256	8,240			
1993	4,181.70	2,602	4,182			
1994	2,911.17	1,758	2,911			
1995	10,181.52	5,942	10,182			
1998	15,916.29	8,106	15,916			
2000	924.69	417	925			
2005	36,261.74	10,542	23,881	12,381	19.86	623
2009	11,439.60	1,736	3,932	7,508	23.75	316
2010	54,126.04	6,282	14,231	39,895	24.75	1,612
2011	75,661.37	6,080	13,773	61,888	25.75	2,403
2012	45,989.02	2,053	4,650	41,339	26.75	1,545
2013	794.32	11	25	769	27.62	28
	385,025.65	135,685	221,245	163,781		6,527

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.1   1.70

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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-R3						
NET SALVAGE PERCENT.. -5						
1958	327.06	317	292	51	3.05	17
1967	7.26	7	6	2	5.58	
1968	28,911.48	25,864	23,864	6,493	5.92	1,097
1978	14,030.51	10,839	10,001	4,731	10.57	448
1982	33,266.30	23,525	21,706	13,224	13.06	1,013
1988	42,041.80	25,008	23,074	21,070	17.34	1,215
1989	36,431.74	20,934	19,315	18,938	18.11	1,046
1990	126,165.67	69,913	64,506	67,968	18.89	3,598
1991	7,842.01	4,183	3,860	4,374	19.68	222
1992	1,920.18	983	907	1,109	20.49	54
1993	479.09	235	217	286	21.31	13
1998	147,072.28	55,632	51,330	103,096	25.59	4,029
2000	5,611.65	1,859	1,715	4,177	27.38	153
2004	1,490.63	349	322	1,243	31.07	40
2006	2,249.73	416	384	1,978	32.96	60
2008	1,629,877.07	219,055	202,114	1,509,257	34.88	43,270
2009	59,146.77	6,459	5,960	56,144	35.84	1,567
2010	964,047.14	80,474	74,251	937,998	36.82	25,475
2011	633,913.47	36,775	33,931	631,678	37.79	16,715
2012	2,397,593.77	77,412	71,425	2,446,048	38.77	63,091
2013	79,755.04	775	715	83,028	39.63	2,095
	6,212,180.65	661,014	609,895	5,912,895		165,218

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 35.8   2.66

BLACK HILLS KANSAS GAS

ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 20-S3						
NET SALVAGE PERCENT.. 0						
1980	783.36	750	783			
1994	324.96	256	325			
1995	1,422.67	1,090	1,423			
2005	17,481.38	7,150	11,208	6,273	11.82	531
2007	28,129.81	8,777	13,759	14,371	13.76	1,044
2008	5,661.35	1,486	2,330	3,331	14.75	226
2011	2,557.23	288	451	2,106	17.75	119
	56,360.76	19,797	30,279	26,082		1,920

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.6   3.41

BLACK HILLS KANSAS GAS

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1980	2,341.45	2,341	2,341			
1981	966.33	966	966			
1983	21,788.72	21,789	21,789			
1986	3,155.88	3,156	3,156			
1987	1,131.47	1,131	1,131			
1988	20,872.66	20,873	20,873			
1989	4,046.42	4,046	4,046			
1990	34,773.29	34,773	34,773			
1991	10,317.28	10,317	10,317			
1992	14,131.75	14,132	14,132			
1993	39,031.12	39,031	39,031			
	152,556.37	152,555	152,556			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1994	7,514.58	7,233	106	7,408	0.75	7,408
1995	3,418.01	3,119	46	3,372	1.75	1,927
1996	10,633.23	9,171	135	10,498	2.75	3,817
1997	23,982.67	19,486	286	23,696	3.75	6,319
1998	56,311.83	42,938	631	55,681	4.75	11,722
1999	9,011.92	6,421	94	8,918	5.75	1,551
2000	3,035.15	2,011	30	3,006	6.75	445
2005	1,406.54	580	9	1,398	11.75	119
2006	1,902.21	690	10	1,892	12.75	148
2008	79,446.05	20,855	307	79,140	14.75	5,365
2009	47,656.82	10,127	149	47,508	15.75	3,016
2011	14,756.99	1,660	24	14,733	17.75	830
2013	233,784.12	4,442	65	233,719	19.62	11,912
	492,860.12	128,733	1,892	490,968		54,579
	645,416.49	281,288	154,448	490,968		54,579

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.0   8.46

BLACK HILLS KANSAS GAS

ACCOUNT 391.03 COMPUTER HARDWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
2000	26,529.23	26,529	26,529			
2001	1,594.54	1,595	1,595			
2002	1,167.01	1,167	1,167			
2003	17,024.71	17,025	17,025			
2005	98,720.67	98,721	98,721			
2006	20,327.31	20,327	20,327			
2007	303,076.72	303,077	303,077			
2008	44,835.84	44,836	44,836			
	513,276.03	513,277	513,276			

AMORTIZED
SURVIVOR CURVE.. 5-SQUARE
NET SALVAGE PERCENT.. 0

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
2009	144,287.95	122,645	1,636	142,652	0.75	142,652
2010	4,983.09	3,239	43	4,940	1.75	2,823
2011	200,652.94	90,294	1,205	199,448	2.75	72,527
2012	256,442.12	64,111	855	255,587	3.75	68,157
	606,366.10	280,289	3,739	602,627		286,159
	1,119,642.13	793,566	517,015	602,627		286,159

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.1   25.56

BLACK HILLS KANSAS GAS

ACCOUNT 391.04 SOFTWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 7-S4						
NET SALVAGE PERCENT.. 0						
2006	7,150.62	6,241	5,405	1,746	0.89	1,746
	7,150.62	6,241	5,405	1,746		1,746

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.0   24.42

BLACK HILLS KANSAS GAS

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 7-L4						
NET SALVAGE PERCENT.. +25						
2011	27,324.44	6,587	5,533	14,960	4.75	3,149
	27,324.44	6,587	5,533	14,960		3,149

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.8 11.52

BLACK HILLS KANSAS GAS

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 4-L2						
NET SALVAGE PERCENT.. +25						
2010	42,804.63	18,058	7,457	24,646	1.75	14,083
2011	118,343.06	41,494	17,135	71,622	2.13	33,625
	161,147.69	59,552	24,592	96,269		47,708

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.0   29.61

BLACK HILLS KANSAS GAS

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 6-L2						
NET SALVAGE PERCENT.. +30						
2005	2,203.04	1,085	851	691	1.78	388
2008	158,552.13	64,372	50,510	60,476	2.52	23,998
2009	170,887.63	63,399	49,747	69,874	2.82	24,778
2010	393,901.77	125,458	98,442	177,289	3.27	54,217
2011	356,505.42	85,265	66,904	182,650	3.95	46,241
2012	370,176.76	51,825	40,665	218,459	4.80	45,512
2013	217,261.87	9,379	7,359	144,724	5.63	25,706
	1,669,488.62	400,783	314,478	854,164		220,840

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.9   13.23

BLACK HILLS KANSAS GAS

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 7-L2						
NET SALVAGE PERCENT.. +30						
2008	467,846.40	178,251	124,371	203,121	3.19	63,674
2009	178,234.31	60,956	42,531	82,233	3.58	22,970
2010	449,444.69	128,091	89,374	225,237	4.15	54,274
2011	294,478.86	61,546	42,942	163,193	4.91	33,237
2012	103,849.03	12,566	8,768	63,926	5.79	11,041
	1,493,853.29	441,410	307,986	737,711		185,196

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.0   12.40

BLACK HILLS KANSAS GAS

ACCOUNT 392.05 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 10-L3						
NET SALVAGE PERCENT.. +30						
2001	6,738.28	3,500	2,375	2,342	2.58	908
2008	134,660.21	46,566	31,599	62,663	5.06	12,384
2012	83,303.80	7,289	4,946	53,367	8.75	6,099
	224,702.29	57,355	38,920	118,372		19,391

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.1   8.63

BLACK HILLS KANSAS GAS

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 19-R2						
NET SALVAGE PERCENT.. +20						
1965	103.90	83	83			
1975	926.86	741	741			
1976	1,525.59	1,220	1,220			
1989	14,642.64	9,766	7,345	4,369	3.16	1,383
1991	12,414.28	7,909	5,948	3,983	3.87	1,029
1992	3,450.92	2,142	1,611	1,150	4.26	270
1994	7,092.89	4,139	3,113	2,561	5.14	498
1996	21,486.14	11,634	8,749	8,440	6.14	1,375
1997	5,142.20	2,667	2,006	2,108	6.68	316
1999	14,145.86	6,635	4,990	6,327	7.86	805
2000	2,261.53	1,000	752	1,057	8.50	124
2006	1,657.55	431	324	1,002	12.83	78
2007	830.04	188	141	523	13.62	38
2008	4,733.75	909	684	3,103	14.44	215
2009	4,059.05	637	479	2,768	15.27	181
2010	31,844.45	3,848	2,894	22,582	16.13	1,400
2011	10,952.45	927	697	8,065	16.99	475
2012	13,689.15	646	486	10,465	17.88	585
	150,959.25	55,522	42,263	78,504		8,772

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.9   5.81

BLACK HILLS KANSAS GAS

ACCOUNT 393 STORES EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	21,462.60	13,092	16,160	5,302	9.75	544
2000	566.31	300	370	196	11.75	17
2001	1,174.83	576	711	464	12.75	36
2003	2,624.71	1,076	1,328	1,297	14.75	88
	25,828.45	15,044	18,570	7,258		685
	25,828.45	15,044	18,570	7,258		685

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.6   2.65

BLACK HILLS KANSAS GAS

ACCOUNT 394 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1961	21,774.74	21,775	21,775			
1962	856.13	856	856			
1963	10.84	11	11			
1964	506.19	506	506			
1965	2,196.80	2,197	2,197			
1966	904.05	904	904			
1967	367.67	368	368			
1968	469.63	470	470			
1969	2,936.69	2,937	2,937			
1970	367.09	367	367			
1971	636.96	637	637			
1972	6,508.67	6,509	6,509			
1973	2,609.68	2,610	2,610			
1974	7,203.35	7,203	7,203			
1975	17,259.54	17,260	17,260			
1976	3,690.25	3,690	3,690			
1977	6,795.01	6,795	6,795			
1978	425.48	425	425			
1979	1,001.54	1,002	1,002			
1980	429.52	430	430			
1981	4,932.15	4,932	4,932			
1982	11,935.62	11,936	11,936			
1983	30,351.30	30,351	30,351			
1984	15,374.51	15,375	15,375			
1985	27,669.74	27,670	27,670			
1986	57,037.91	57,038	57,038			
1987	7,287.49	7,287	7,287			
1988	15,277.90	15,278	15,277			
	246,816.45	246,819	246,816			
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1989	22,788.86	22,105	22,789			
1990	49,729.21	46,248	49,729			
1991	94,354.22	83,975	94,354			
1992	38,629.83	32,835	38,630			
1993	22,078.66	17,884	22,079			
1994	19,571.29	15,070	19,571			
1995	44,730.52	32,653	44,731			
1996	69,240.87	47,776	69,241			

BLACK HILLS KANSAS GAS

ACCOUNT 394 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	66,549.30	43,257	62,927	3,622	8.75	414
1998	8,574.54	5,230	7,608	966	9.75	99
1999	3,396.05	1,936	2,816	580	10.75	54
2000	125,515.80	66,523	96,773	28,743	11.75	2,446
2001	18,536.54	9,083	13,213	5,323	12.75	417
2003	30,262.25	12,408	18,050	12,212	14.75	828
2004	10,963.84	4,057	5,902	5,062	15.75	321
2005	19,414.80	6,407	9,320	10,094	16.75	603
2006	32,603.95	9,455	13,754	18,850	17.75	1,062
2007	1,623.17	406	591	1,033	18.75	55
2008	158,248.58	33,232	48,343	109,905	19.75	5,565
2009	50,955.78	8,662	12,601	38,355	20.75	1,848
2010	58,093.66	7,552	10,986	47,108	21.75	2,166
2011	221,063.09	19,896	28,943	192,120	22.75	8,445
2012	334,207.56	16,710	24,308	309,899	23.75	13,048
2013	96,394.31	1,465	2,131	94,263	24.62	3,829
	1,597,526.68	544,825	719,392	878,135		41,200
	1,844,343.13	791,644	966,208	878,135		41,200

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.3   2.23

BLACK HILLS KANSAS GAS

ACCOUNT 395 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1985	16,984.67	16,985	16,985			
	16,984.67	16,985	16,985			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1996	2,266.24	1,955	2,266			
1997	1,886.31	1,533	1,886			
1998	6,463.66	4,929	6,464			
2000	24,147.58	15,998	23,154	994	6.75	147
2008	1,323.32	347	502	821	14.75	56
2010	5,156.67	838	1,213	3,944	16.75	235
2012	5,234.24	327	473	4,761	18.75	254
2013	794.32	15	22	773	19.62	39
	47,272.34	25,942	35,980	11,292		731
	64,257.01	42,927	52,965	11,292		731

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.4   1.14

BLACK HILLS KANSAS GAS

ACCOUNT 396.01 POWER OPERATED EQUIPMENT - SHORT LIFE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S1.5						
NET SALVAGE PERCENT.. +25						
1997	59,022.18	32,964	44,267			
2001	5,709.57	2,706	4,282			
2008	60,868.03	14,943	27,687	17,964	10.09	1,780
2009	47,680.09	9,679	17,933	17,827	10.94	1,630
2010	8,669.39	1,370	2,538	3,964	11.84	335
2011	6,074.08	674	1,249	3,307	12.78	259
2012	18,120.91	1,124	2,083	11,508	13.76	836
	206,144.25	63,460	100,039	54,569		4,840

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.3   2.35

BLACK HILLS KANSAS GAS

ACCOUNT 396.02 POWER OPERATED EQUIPMENT - LONG LIFE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

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 20-S2.5						
NET SALVAGE PERCENT.. +25						
1988	42,583.00	27,306	31,937			
1996	14,025.43	7,526	10,519			
2008	99,550.68	19,487	29,089	45,574	14.78	3,083
2010	132,215.83	16,114	24,053	75,109	16.75	4,484
2011	88,155.07	7,438	11,103	55,013	17.75	3,099
	376,530.01	77,871	106,701	175,697		10,666

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.5   2.83

BLACK HILLS KANSAS GAS

ACCOUNT 397 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1997	6,650.00	6,650	6,650			
1998	158,664.52	158,665	158,665			
	165,314.52	165,315	165,315			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
1999	173,464.91	164,792	97,410	76,055	0.75	76,055
2001	37,943.31	30,987	18,317	19,627	2.75	7,137
2003	6,322.29	4,320	2,554	3,769	4.75	793
2004	8,644.55	5,331	3,151	5,493	5.75	955
2005	2,144.16	1,179	697	1,447	6.75	214
2006	7,136.34	3,449	2,039	5,098	7.75	658
2007	52,455.87	21,857	12,920	39,536	8.75	4,518
2008	105,796.43	37,029	21,888	83,908	9.75	8,606
2009	43,674.11	12,374	7,314	36,360	10.75	3,382
2010	22,666.85	4,911	2,903	19,764	11.75	1,682
2011	256,269.39	38,440	22,722	233,547	12.75	18,317
2012	174,273.71	14,522	8,584	165,690	13.75	12,050
2013	12,550.20	318	188	12,362	14.62	846
	903,342.12	339,509	200,687	702,655		135,213
	1,068,656.64	504,824	366,002	702,655		135,213

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.2   12.65

BLACK HILLS KANSAS GAS

ACCOUNT 398 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF SEPTEMBER 30, 2013

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1998	12,550.55	12,551	12,551			
	12,550.55	12,551	12,551			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
1999	1,319.21	1,253	787	532	0.75	532
2000	8,898.90	7,861	4,938	3,961	1.75	2,263
	10,218.11	9,114	5,725	4,493		2,795
	22,768.66	21,665	18,276	4,493		2,795

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.6   12.28

BLACK HILLS UTILITY HOLDINGS, INC.

Rapid City, South Dakota

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO ELECTRIC, GAS AND COMMON PLANT

AS OF DECEMBER 31, 2012

GANNETT FLEMING, INC. - VALUATION AND RATE DIVISION

Harrisburg, Pennsylvania

November 26, 2013

Black Hills Utility Holdings, Inc.
625 Ninth Street
Rapid City, SD 57701

ii

Attention Mr. Chris Kilpatrick
        Director of Rates

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the electric, gas and common plant of Black Hills Utility Holdings, Inc. The study results include annual depreciation rates as of December 31, 2012. The attached report presents a description of the methods used in the estimation of depreciation, summaries of annual and accrued depreciation, the statistical support for the life and net salvage estimates and the detailed tabulations of annual and accrued depreciation.

Respectfully submitted,

GANNETT FLEMING, INC.

John J. Spanos

JOHN J. SPANOS
Sr. Vice President
Valuation and Rate Division

JJS/krm

057076

CONTENTS

PART I. INTRODUCTION

PART II. METHODS USED IN THE
ESTIMATION OF DEPRECIATION

CONTENTS, cont.

PART III. RESULTS OF STUDY

PART I. INTRODUCTION

BLACK HILLS UTILITY HOLDINGS, INC.

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for Black Hills

Utility Holdings, Inc. (the Company) as applied to electric, gas and common plant in service

as of December 31, 2012. The report relates to the concepts, methods and basic

judgments which underlie recommended annual depreciation accrual rates and amounts

related to current electric and gas plant in service.

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 2012; a review of Company practice and outlook as they relate to plant

operation and retirement; and consideration of current practice in the electric and gas

industry, including knowledge of service life and salvage estimates used for other electric

and gas properties.

PLAN OF REPORT

Part I, Introduction, includes brief statements of the scope and basis of the study.

Part II presents descriptions of the methods used in the service life and net salvage studies

and the methods and procedures used in the calculation of depreciation. Part III presents

the results of the study, including summary tables, survivor curve charts and life tables

resulting from the retirement rate method of analysis, tabular results of the historical net

salvage analyses, and detailed tabulations of the calculated remaining lives and annual

accruals.

BASIS OF STUDY

Depreciation

For all 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 and common plant accounts, the annual depreciation was based on amortization accounting. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group.

Service Life Estimates

The average service life estimates were based on informed judgment which incorporated analyses of available historical service life data related to the property, a review of management's current plans and operating policies, and a general knowledge of service lives experienced and estimated in the electric and gas industries. The use of survivor curves to reflect the expected dispersion of retirements provides a consistent method of estimating depreciation for utility property. Iowa type survivor curves were used to depict the estimated survivor curves for the plant account property groups.

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

The Company's service life estimates used in the depreciation calculation incorporated historical data compiled through 2012 from the property records of the

Company. Such data included plant additions, retirements, transfers and other activity. Generally, retirement data for the years 1986 through 2012 were used in the actuarial life table computations which were the primary statistical support of the service life estimates.

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 retirement was obtained through discussions with operating and management personnel conducted during the course of the service life study. Information regarding plans for the future was incorporated in the interpretation and extrapolation of the statistical analyses.

Net Salvage Estimates

The estimates of net salvage were based in part on historical data compiled for the years 2005 through 2012. Gross salvage and cost of removal as recorded to the depreciation reserve account and related to experienced retirements were used. Percentages of the cost of plant retired were calculated for each component of net salvage, on both annual and three-year moving average bases. The most recent five-year average also was calculated for consideration. The estimates of net salvage are expressed as percentages of the cost of plant retired.

PART II. METHODS USED IN

THE ESTIMATION OF DEPRECIATION

PART II. METHODS USED IN
THE ESTIMATION OF DEPRECIATION

DEPRECIATION

Depreciation, in public utility regulation, is the loss in service value not restored by current repairs or covered by insurance.

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 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.

The calculation of annual depreciation based on the straight line method requires the estimation of average life and net salvage. These subjects are discussed in the sections which follow.

SERVICE LIFE AND NET SALVAGE ESTIMATION

Average Service Life

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. A discussion of the general concept of survivor curves is presented. Also, the Iowa type survivor curves are reviewed.

Survivor Curves

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 years 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 and is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

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

Figure 1. A Typical Survivor Curve and Derived Curves
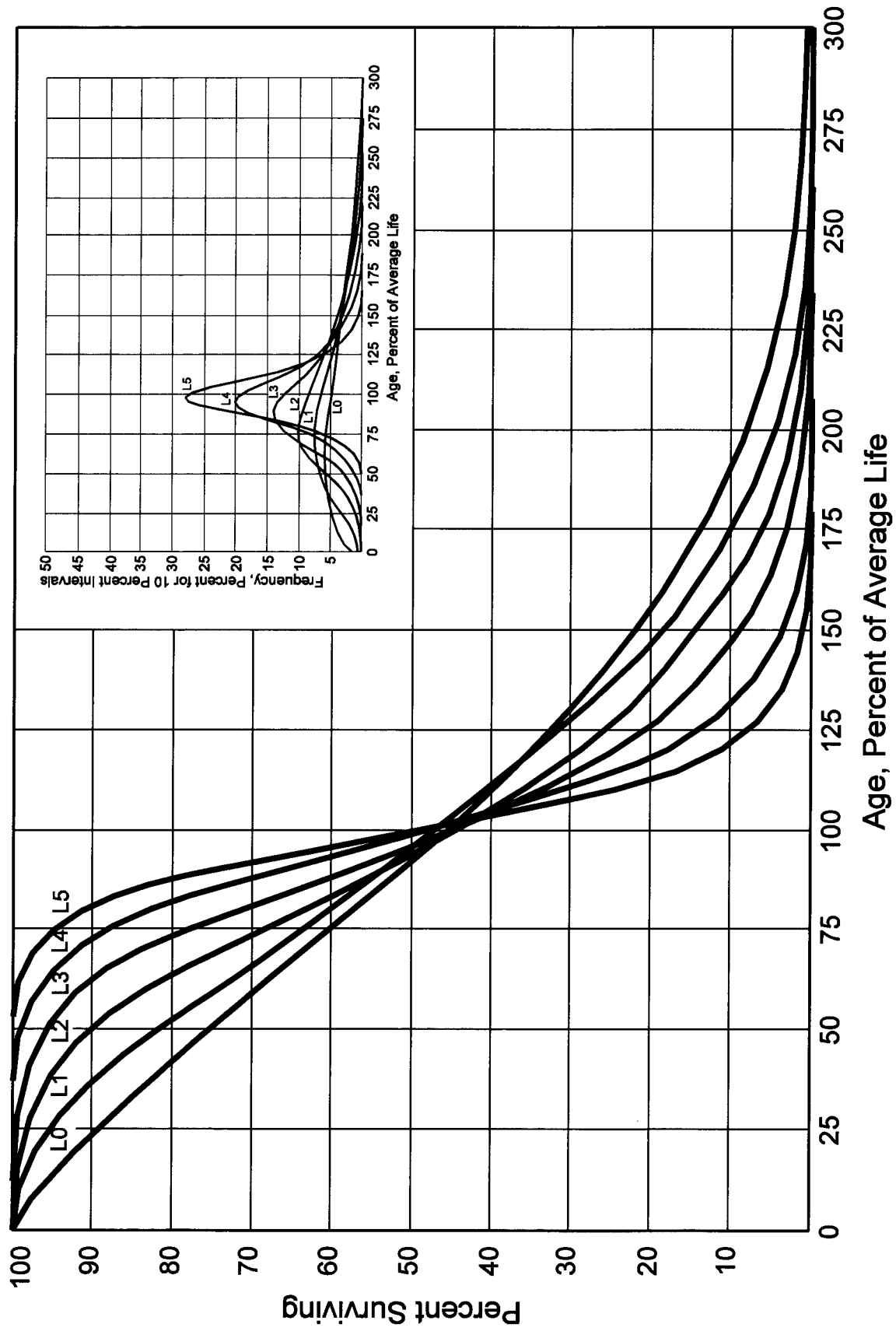
Figure 2. Left Modal or "L" Iowa Type Survivor Curves
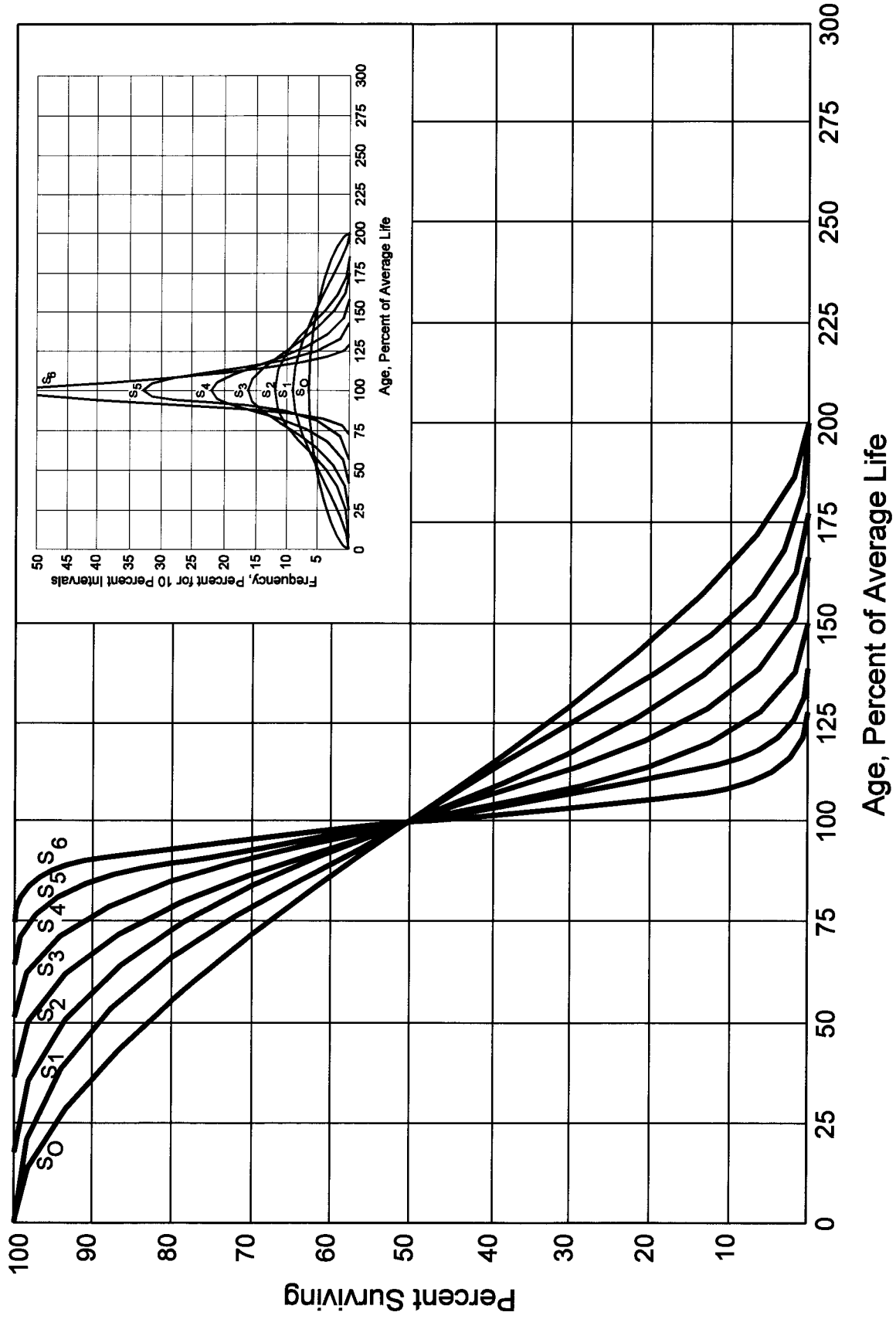
Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

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 numerical subscripts 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.[1] These type curves have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."[2] In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis[3] presenting his development of the fourth family consisting of the four O type survivor curves.

---

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

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

[3]Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.

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

Figure 5. Origin Modal or "O" Iowa 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 or for which aged accounting experience is developed by statistically aging unaged amounts 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,"[4] "Engineering Valuation and Depreciation,"[5] and "Depreciation Systems."[6]

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 beginnings 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.

---

[4]Winfrey, Robley, Supra Note 1.

[5]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

[6]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 2003-2012 during which there were placements during the years 1998-2012. 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-12 and II-13. 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 1998 were retired in 2003. 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 stairstep line drawn on the table beginning with the 2003 retirements of 1998 installations and ending with the 2012 retirements of the 2007installations. 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.

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

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2003-2012
SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

Year Placed (1)	Retirements, Thousands of Dollars During Year										Total During Age Interval (12)	Age Interval (13)
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	10	11	12	13	14	16	23	24	25	26	26	13½-14½
1999	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2000	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2001	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2002	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2003	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2004		5	11	12	13	14	15	16	18	20	113	7½-8½
2005			6	12	13	15	16	17	19	19	124	6½-7½
2006				6	13	15	16	17	19	19	131	5½-6½
2007					7	14	16	17	19	20	143	4½-5½
2008						8	18	20	22	23	146	3½-4½
2009							9	20	22	25	150	2½-3½
2010								11	23	25	151	1½-2½
2011									11	24	153	½-1½
2012										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2003-2012
SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

Year Placed (1)	Acquisitions, Transfers and Sales, Thousands of Dollars During Year										Total During Age Interval (12)	Age Interval (13)
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
1999	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2000	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2001	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2002	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2003	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2004		-	-	-	-	-	-	-	-	-	6	7½-8½
2005			-	-	-	-	-	-	-	-	-	6½-7½
2006				-	-	-	-	(12)[b]	-	-	-	5½-6½
2007					-	-	-	-	22[a]	-	-	4½-5½
2008						-	-	(19)[b]	-	-	10	3½-4½
2009							-	-	-	-	-	2½-3½
2010								-	-	(102)[c]	(121)	1½-2½
2011									-	-	-	½-1½
2012										-	-	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.

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-15.

The surviving plant at the beginning of each year from 2003 through 2012 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 2008 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

For the entire experience band 2003-2012, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2003-2012
SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

Year Placed (1)	Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year										Total at Beginning of Age Interval (12)	Age Interval (13)
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	255	245	234	222	209	195	239	216	192	167	167	13½-14½
1999	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2000	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2001	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2002	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2003	420ᵃ	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2004		460ᵃ	455	444	432	419	405	390	374	356	1,952	7½-8½
2005			510ᵃ	504	492	479	464	448	431	412	2,463	6½-7½
2006				580ᵃ	574	561	546	530	501	482	3,057	5½-6½
2007					660ᵃ	653	639	623	628	609	3,789	4½-5½
2008						750ᵃ	742	724	685	663	4,332	3½-4½
2009							850ᵃ	841	821	799	4,955	2½-3½
2010								960ᵃ	949	926	5,719	1½-2½
2011									1,080ᵃ	1,069	6,579	½-1½
2012										1,220ᵃ	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.

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-17, 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 2003-2012   Placement Band 1998-2012

(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 percent to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0. In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group, assuming no contrary relevant factors external to the analysis of historical data.

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE: 1998-2012 PLACEMENTS

IOWA 12-R_1
IOWA 12-S_0
IOWA 12-L_1

PERCENT SURVIVING

AGE IN YEARS

Service Life Considerations

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

For 4 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. 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 III-6.

Gas PLANT
  Distribution Plant
    381.00   Meters
    385.01   Industrial Measuring and Regulating Station Equipment
    385.02   Industrial Measuring and Regulating Station Equipment - Industrial Meters
    387.00   Other Equipment

Gas Plant Account 381.00 Meters, is used to illustrate the manner in which the study was conducted for the groups in the preceding list. Aged plant accounting data have been compiled for the years 1986 through 2012. These data have been coded in the course of the Company's normal record keeping according to account or property group, type of transaction, year in which the transaction took place, and year in which the gas plant was placed in service. The retirements, other plant transactions, and plant additions were analyzed by the retirement rate method.

The survivor curve estimate is based on the statistical indications for the period 1986 through 2012. The Iowa 33-R2 is a reasonable fit of the stub original survivor of

meters. The 33-year service life is within the typical service life range of 30 to 40 years for meters. The 33-year life reflects the Company's plans to continue to refurbish meters as well as upgrade with new technology.

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

Salvage Analysis

The estimates of net salvage by account were based in part on historical data compiled through 2012. 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 2005 through 2012 contributed significantly toward the net salvage estimates for some plant accounts, as follows:

GAS PLANT
   Distribution Plant
      381.00   Meters
      385.02I   Industrial Measuring and Regulating Equipment - Industrial
               Meters

Gas Plant Account 381.00, Meters, 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 2005 through 2012 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 2005-2007 through 2010-2012 periods were computed to smooth the annual amounts.

Cost of removal has been steady during the 8-year period. The primary cause of cost of removal was the effort needed to take out the meters. Cost of removal for the most recent five years averaged 1 percent.

Gross salvage has been relatively low throughout the period. The most recent five-year average of 1 percent gross salvage reflects the scrap value of meters.

The net salvage percent based on the overall period 2005 through 2012 is 1 percent negative net salvage and based on the most recent five-year period is zero percent. The range of estimates made by other companies for meters is positive 5 to negative 10 percent. The net salvage estimate for meters is negative 1 percent, is within the range of other estimates and reflects expectations of the future for negative net salvage.

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

CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

After the survivor curve and salvage are estimated, the annual depreciation accrual rate can be calculated. In the average service life procedure, the annual accrual rate is computed by the following equation:

$$Annual\ Accrual\ Rate,\ Percent = \frac{(100\%\quad Net\ Salvage,\ Percent)}{Average\ Service\ Life}.$$

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which will not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as a basis for straight line depreciation accounting.

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 the estimated survivor curve. The accrued depreciation ratios are calculated as follows:

$$Ratio = (1 - \frac{Average\ Remaining\ Life\ Expectancy}{Average\ Service\ Life})\ (1 - Net\ Salvage,\ Percent).$$

The application of these procedures is described for a single unit of property and a group of property units. Salvage is omitted from the description for ease of application.

Single Unit of Property

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

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

The accrued depreciation is:

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

Group Depreciation Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of 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.

Remaining Life Annual Accruals. For the purpose of calculating remaining life accruals as of December 31, 2012 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, 2012 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, as defined in the Uniform System of Accounts, 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 periods and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

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

Account		Amortization Period, Years
GAS PLANT		
391.00	Office Furniture and Equipment	
	Furniture	20
	Computers	5
	Computer Hardware	5
394.00	Tools, Shop and Garage Equipment	25
395.00	Laboratory Equipment	20
397.00	Communication Equipment	15

		Account	Amortization Period, Years
COMMON PLANT			
391.00		Office Furniture and Equipment	
		Furniture	20
		Computer Hardware	5
		System Development	10
394.00		Tools, Shop and Garage Equipment	25
397.00		Communication Equipment	15
398.00		Miscellaneous Equipment	20

For the purpose of calculating annual amortization amounts as of December 31, 2012, the book or ratemaking book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining 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 III. RESULTS OF STUDY

PART III. RESULTS OF STUDY

QUALIFICATION OF RESULTS

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

The annual depreciation accrual rates are applicable specifically to the electric, gas and common plant in service as of December 31, 2012. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2012, is reasonable for a period of three to five years.

DESCRIPTION OF STATISTICAL SUPPORT

The service life and salvage estimates were based on judgment which incorporated statistical analyses of retirement data, discussions with management and consideration of estimates made for other electric and gas utility companies. The results of the statistical analyses of service life are presented in the section titled "Service Life Statistics".

The estimated survivor curves for each account are presented in graphical form. The charts depict the estimated smooth survivor curve and original survivor curve(s), when applicable, related to each specific group. For groups where the original survivor curve was plotted, the calculation of the original life table is also presented.

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 the original cost retired.

DESCRIPTION OF DEPRECIATION TABULATIONS

Summaries of the results of the study, as applied to the original cost of electric, gas and common plant as of December 31, 2012, are presented on pages III-4 and III-5 of this report. The schedule sets forth the original cost, the book reserve, future accruals, the calculated annual depreciation rate and amount, and the composite remaining life related to electric and gas plant.

The tables of the calculated annual depreciation accruals are presented in account sequence in the section titled "Depreciation Calculations." The tables indicate the estimated survivor curve and 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.

SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND
CALCULATED ANNUAL DEPRECIATION RATES AS OF DECEMBER 31, 2012

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
ELECTRIC PLANT								
GENERAL PLANT								
391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE	10-L4	0	108,440.00	5,299	103,141	10,857	10.01	9.5
392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS	10-S2.5	10	54,214.84	19,897	28,896	4,412	8.14	6.5
TOTAL GENERAL PLANT			162,654.84	25,196	132,037	15,269	9.39	
TOTAL ELECTRIC PLANT			162,654.84	25,196	132,037	15,269	9.39	
GAS PLANT								
DISTRIBUTION PLANT								
378.00 MEASURING AND REGULATING STATION EQUIPMENT	35-S2.5	0	137,011.17	18,663	118,348	4,177	3.05	28.3
381.00 METERS	33-R2	(1)	40,955,204.28	9,947,852	31,416,904	1,600,607	3.91	19.6
381.01 METERS - ERTS	15-S2.5	0	1,493,427.46	78,988	1,414,439	99,616	6.67	14.2
385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	31-R1.5	(5)	9,246,076.14	1,644,934	8,063,446	425,162	4.60	19.0
385.02 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL METERS	17-S1	0	1,297,886.96	277,647	1,020,240	149,145	11.49	6.8
387.00 OTHER EQUIPMENT	16-S2.5	0	31,518.33	13,696	17,822	3,520	11.17	5.1
TOTAL DISTRIBUTION PLANT			53,161,124.34	11,981,780	42,051,199	2,282,227	4.29	
GENERAL PLANT								
390.01 STRUCTURES AND IMPROVEMENTS - OWNED	55-R3	0	7,452,812.35	1,307,830	6,144,982	123,402	1.66	49.8
391.01 OFFICE FURNITURE AND EQUIPMENT - FURNITURE								
FULLY ACCRUED	20-SQ	0	45,351.86	45,352	0	0	-	-
AMORTIZED	20-SQ	0	282,820.26	8,813	274,007	16,089	5.69	17.0
TOTAL FURNITURE			328,172.12	54,165	274,007	16,089	4.90	
391.02 OFFICE FURNITURE AND EQUIPMENT - COMPUTERS (PURPA)	5-SQ	0	9,823.86	0	9,824	2,183	22.22	4.5
391.03 OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE	5-SQ	0	54,654.68	1,654	53,001	11,778	21.55	4.5
TOTAL ACCOUNT 391			392,650.66	55,819	336,832	30,050	7.65	
392.01 TRANSPORTATION EQUIPMENT - SUBUNIT	7-L4	0	5.00	5	0	0	-	-
392.02 TRANSPORTATION EQUIPMENT - CARS	7-L4	10	50,014.91	19,890	25,123	6,804	13.60	3.7
392.06 TRANSPORTATION EQUIPMENT - TRAILERS	16-S1.5	10	47,167.33	9,688	32,763	2,800	5.94	11.7
TOTAL ACCOUNT 392			97,187.24	29,583	57,886	9,604	9.88	
394.00 TOOLS, SHOP AND GARAGE EQUIPMENT								
FULLY ACCRUED	25-SQ	0	268,653.39	268,653	0	0	-	-
AMORTIZED	25-SQ	0	553,279.49	238,892	314,387	43,320	7.83	7.3
TOTAL TOOLS, SHOP AND GARAGE EQUIPMENT			821,932.88	507,545	314,387	43,320	5.27	
395.00 LABORATORY EQUIPMENT	20-SQ	0	213,494.34	112,619	100,875	13,691	6.41	7.4
397.00 COMMUNICATION EQUIPMENT	15-SQ	0	300,643.59	147,387	153,257	14,860	4.94	10.3
TOTAL GENERAL PLANT			9,278,721.06	2,160,783	7,108,219	234,927	2.53	
TOTAL GAS PLANT			62,439,845.40	14,142,563	49,159,418	2,517,154	4.03	
COMMON PLANT								
GENERAL PLANT								
390.01 STRUCTURES AND IMPROVEMENTS - OWNED	50-R3	0	104,016.32	13,649	90,367	1,841	1.77	49.1
390.51 STRUCTURES AND IMPROVEMENTS - LEASED	25-S2.5	0	400,974.93	147,759	253,216	13,051	3.25	19.4
TOTAL ACCOUNT 390			504,991.25	161,408	343,583	14,892	2.95	

BLACK HILLS UTILITY HOLDINGS, INC.
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND
CALCULATED ANNUAL DEPRECIATION RATES AS OF DECEMBER 31, 2012

ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
391.01 OFFICE FURNITURE AND EQUIPMENT	20-SQ	0	1,631,501.48	857,241	774,260	75,782	4.64 *	10.2
391.03 OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE								
FULLY ACCRUED	5-SQ	0	462,827.74	462,828	0	0	-	-
AMORTIZED	5-SQ	0	2,985,558.71	1,461,893	1,523,666	435,198	14.58 *	3.5
TOTAL COMPUTER HARDWARE			3,448,386.45	1,924,721	1,523,666	435,198	12.62	
391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE	10-L4	0	72,726,633.70	63,472,350	9,254,284	1,203,694	1.66 **	7.7
391.05 OFFICE FURNITURE AND EQUIPMENT - SYSTEM DEVELOPMENT								
FULLY ACCRUED	10-SQ	0	4,223,108.01	4,223,108	0	0	-	-
AMORTIZED	10-SQ	0	1,055,187.60	2,878	1,052,310	138,570	13.13 *	7.6
TOTAL SYSTEM DEVELOPMENT			5,278,295.61	4,225,986	1,052,310	138,570	2.63	
TOTAL ACCOUNT 391			83,084,817.24	70,480,298.00	12,604,520.00	1,853,244.00	2.23	
392.01 TRANSPORTATION EQUIPMENT - SUBUNIT	7-L4	0	35,007.59	9,596	25,412	7,221	20.63	3.5
392.02 TRANSPORTATION EQUIPMENT - CARS	7-L4	10	121,320.08	25,124	84,064	17,899	14.75	4.7
392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS	10-S2.5	10	214,752.63	23,123	170,154	20,683	9.63	8.2
TOTAL ACCOUNT 392			371,080.30	57,843	279,630	45,803	12.34	
394.00 TOOLS, SHOP AND GARAGE EQUIPMENT	25-SQ	0	29,553.46	3,492	26,061	1,064	3.60 *	24.5
397.00 COMMUNICATION EQUIPMENT								
FULLY ACCRUED	15-SQ	0	13,353.01	13,353	0	0	-	-
AMORTIZED	15-SQ	0	1,339,993.56	770,030	569,964	73,963	5.52 *	7.7
TOTAL COMMUNICATION EQUIPMENT			1,353,346.57	783,383	569,964	73,963	5.47	
398.00 MISCELLANEOUS EQUIPMENT	20-SQ	0	2,675.13	1,462	1,213	90	3.36 *	13.5
TOTAL GENERAL PLANT			85,346,463.95	71,487,886	13,824,971	1,989,056	2.33	
TOTAL COMMON PLANT			85,346,463.95	71,487,886	13,824,971	1,989,056	2.33	
NONDEPRECIABLE PLANT								
GAS PLANT								
374.01 LAND			76,939.63	0				
389.01 LAND			643,635.09	0				
TOTAL GAS PLANT			720,574.72	0				
COMMON PLANT								
303.03 MISCELLANEOUS INTANGIBLE PLANT			30,000.00	0				
TOTAL COMMON PLANT			30,000.00	0				
TOTAL NONDEPRECIABLE PLANT			750,574.72	0				
TOTAL ELECTRIC PLANT			148,699,538.91	85,655,645	63,116,426	4,521,479		

* ADDITIONS AS OF JANUARY 1, 2013 WILL UTILIZE THE STANDARD AMORTIZATION RATE
** ADDITIONS IN ACCOUNT 391.06 (OFFICE FURNITURE AND EQUIPMENT - SOFTWARE) AS OF JANUARY 1, 2013 WILL UTILIZE A 10.53% DEPRECIATION RATE CONSISTENT WITH A 10-L4 SURVIVOR CURVE.
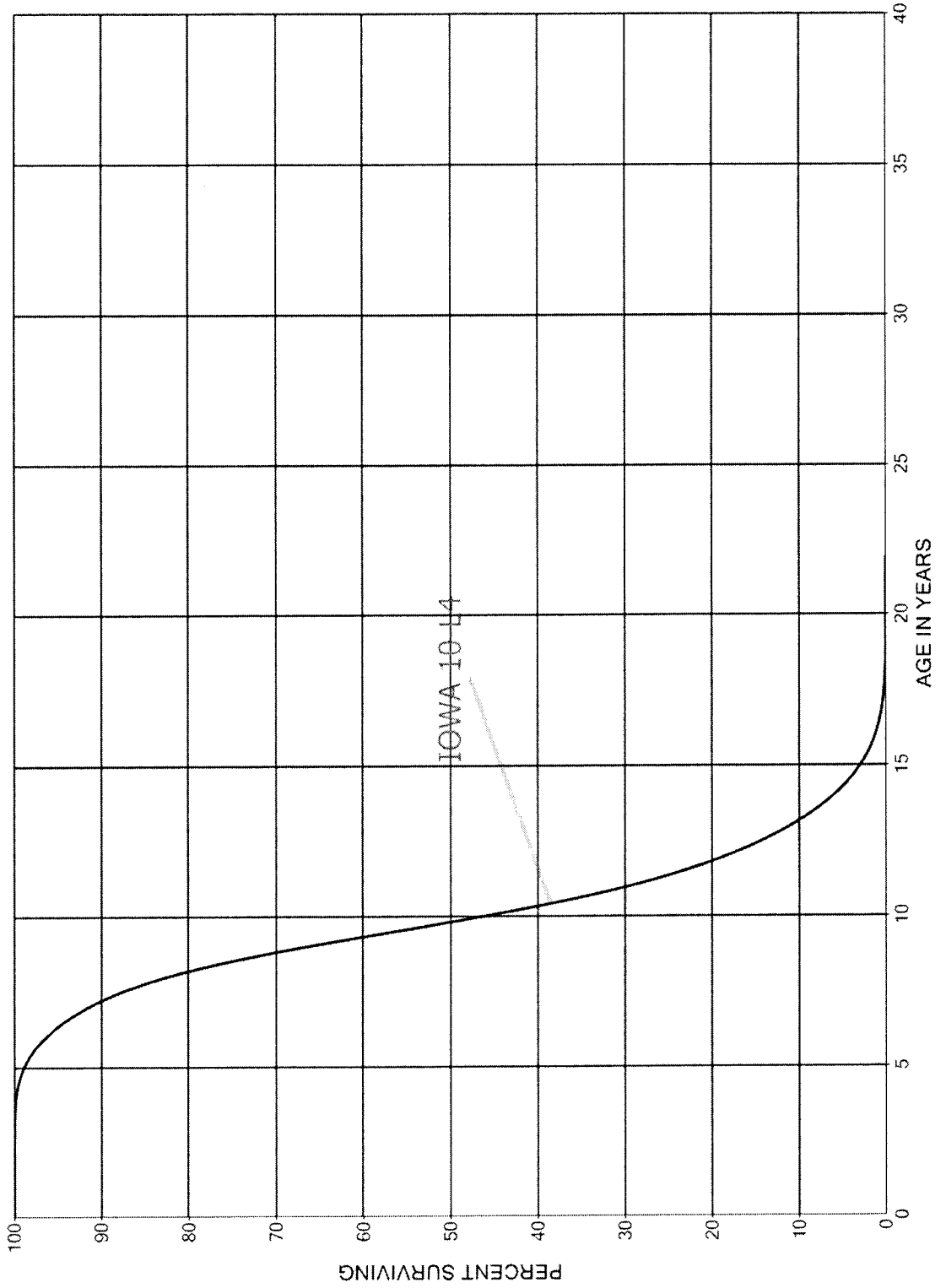
NOTE: NEW ADDITIONS AS OF JANUARY 1, 2013 IN THE ACCOUNTS BELOW WILL HAVE ACCRUAL RATES AS FOLLOWS

| Account	Rate
353.10	5.25%
362.10	5.25%
382.00	15.38%
383.00	13.33%
384.00	5.13%

SERVICE LIFE STATISTICS

ELECTRIC PLANT

BLACK HILLS UTILITY HOLDINGS, INC.

ELECTRIC PLANT

ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

SMOOTH SURVIVOR CURVE

BLACK HILLS UTILITY HOLDINGS, INC.
ELECTRIC PLANT

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES
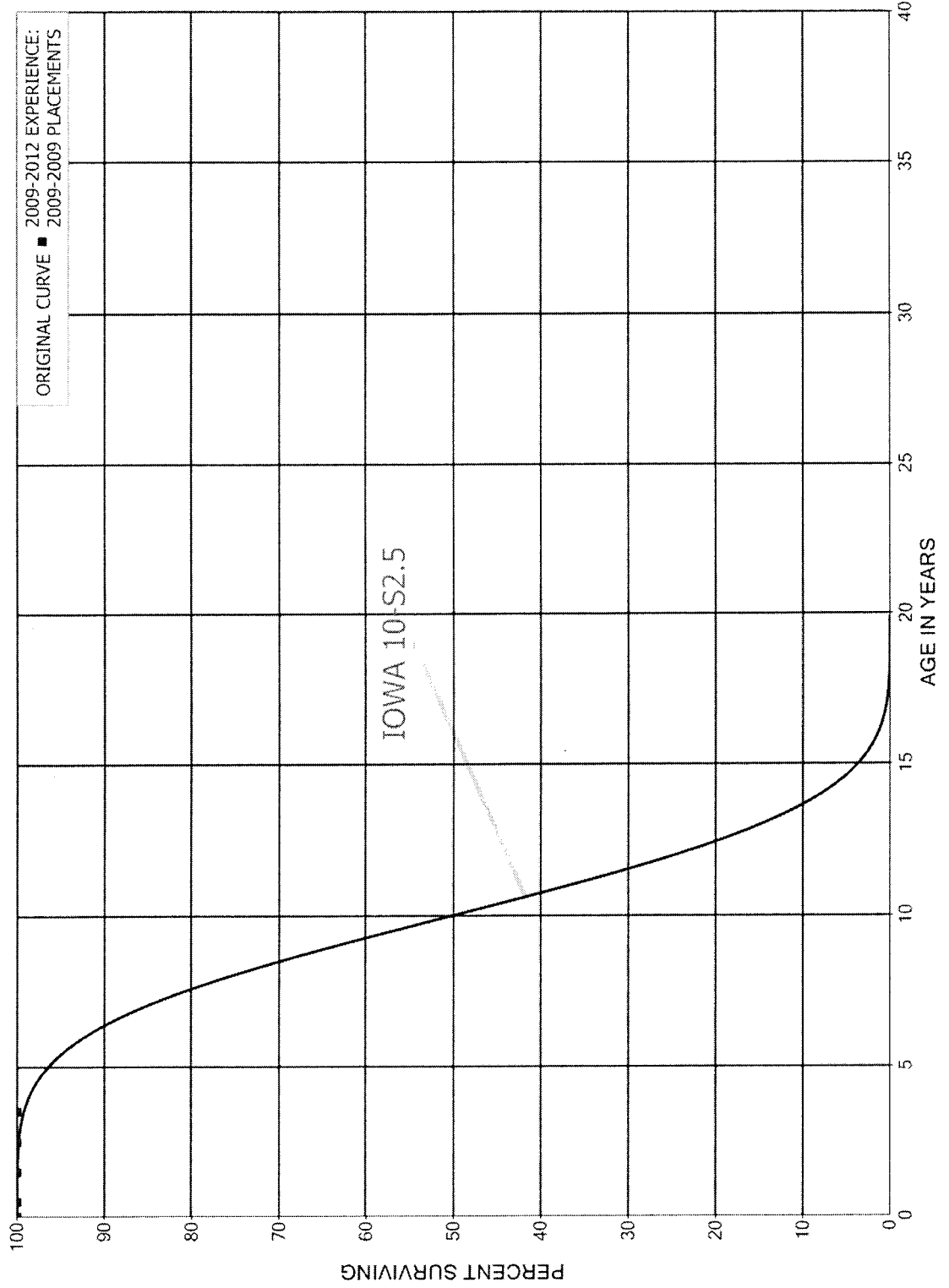
BLACK HILLS UTILITY HOLDINGS, INC.
ELECTRIC PLANT

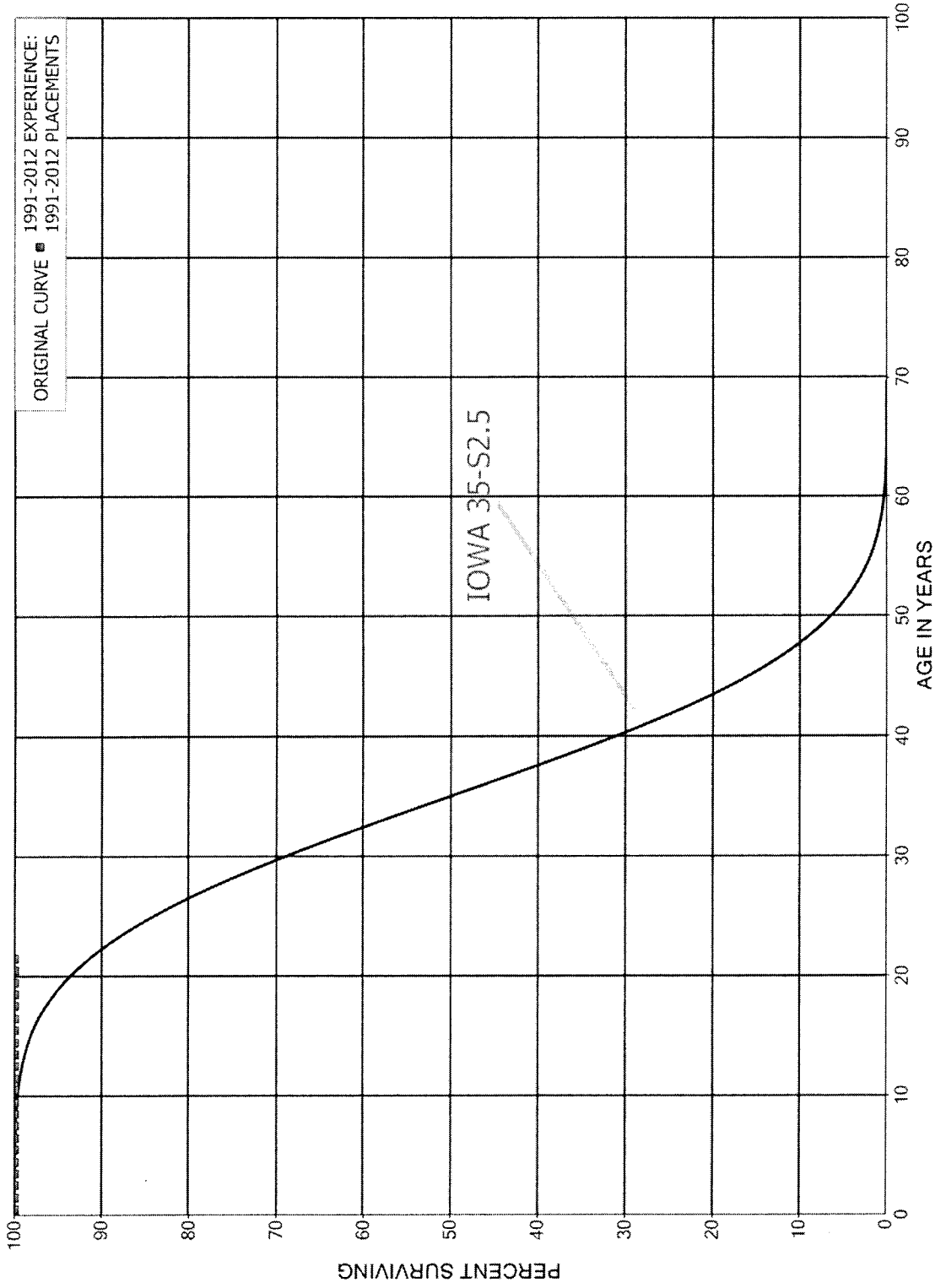ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2009-2009   EXPERIENCE BAND 2009-2012

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	36,229		0.0000	1.0000	100.00
0.5	36,229		0.0000	1.0000	100.00
1.5	36,229		0.0000	1.0000	100.00
2.5	54,215		0.0000	1.0000	100.00
3.5					100.00

GAS PLANT

BLACK HILLS UTILITY HOLDINGS, INC.

GAS PLANT

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 35-S2.5

ORIGINAL CURVE ■ 1991-2012 EXPERIENCE:
1991-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1991-2012   EXPERIENCE BAND 1991-2012

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	128,964		0.0000	1.0000	100.00
0.5	114,062		0.0000	1.0000	100.00
1.5	95,925		0.0000	1.0000	100.00
2.5	56,728		0.0000	1.0000	100.00
3.5	45,754		0.0000	1.0000	100.00
4.5	41,552		0.0000	1.0000	100.00
5.5	41,552		0.0000	1.0000	100.00
6.5	39,670		0.0000	1.0000	100.00
7.5	39,670		0.0000	1.0000	100.00
8.5	40,763		0.0000	1.0000	100.00
9.5	40,763		0.0000	1.0000	100.00
10.5	43,984		0.0000	1.0000	100.00
11.5	33,720		0.0000	1.0000	100.00
12.5	33,720		0.0000	1.0000	100.00
13.5	33,720		0.0000	1.0000	100.00
14.5	11,737		0.0000	1.0000	100.00
15.5	11,737		0.0000	1.0000	100.00
16.5	11,737		0.0000	1.0000	100.00
17.5	7,535		0.0000	1.0000	100.00
18.5	7,535		0.0000	1.0000	100.00
19.5	3,221		0.0000	1.0000	100.00
20.5	3,221		0.0000	1.0000	100.00
21.5					100.00

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT
ACCOUNT 381.00 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES
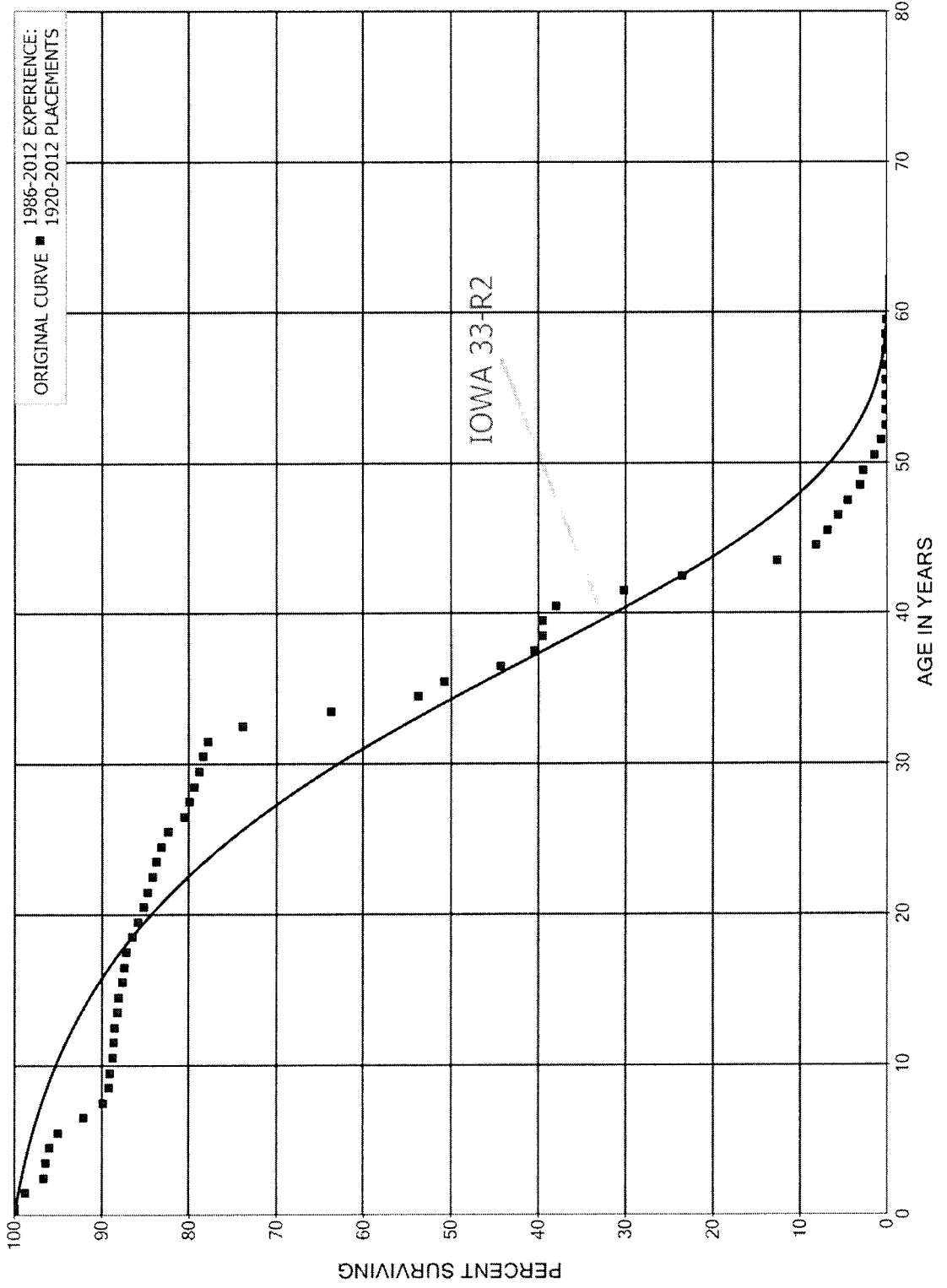
IOWA 33-R2

ORIGINAL CURVE ■ 1986-2012 EXPERIENCE:
■ 1920-2012 PLACEMENTS

PERCENT SURVIVING
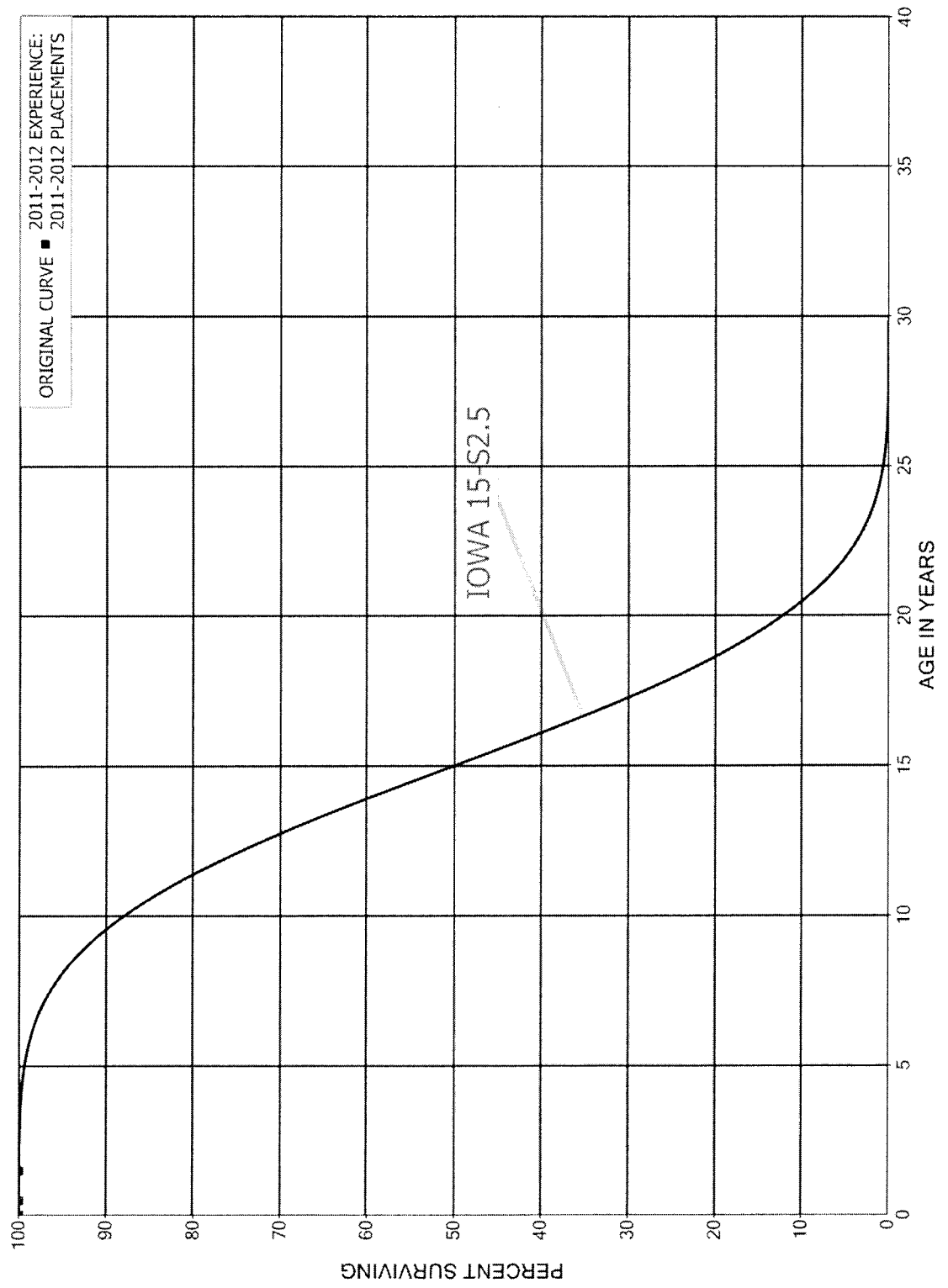
AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2012   EXPERIENCE BAND 1986-2012

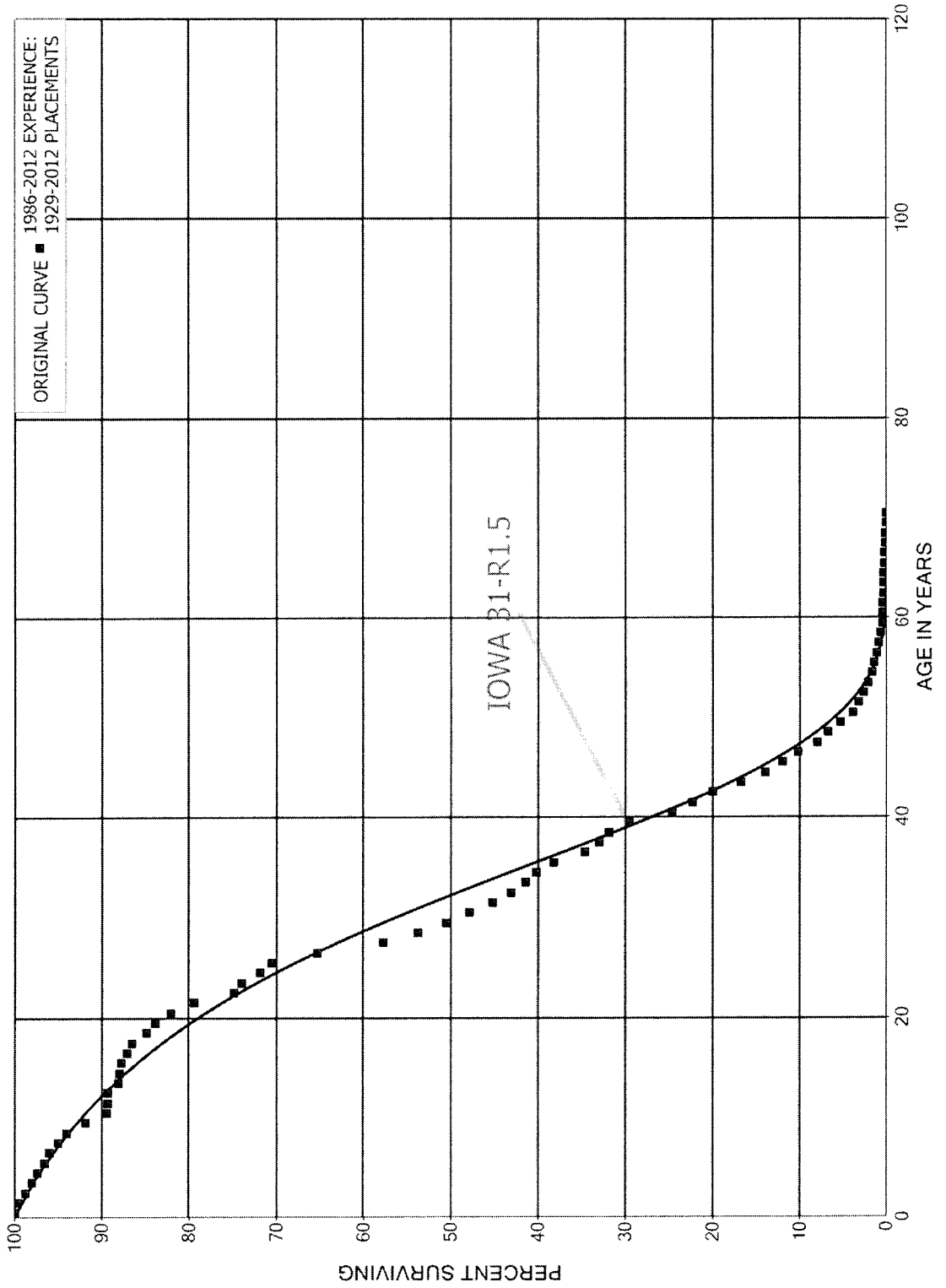| AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	46,462,897	7,099	0.0002	0.9998	100.00
0.5	45,630,497	563,817	0.0124	0.9876	99.98
1.5	44,088,481	928,745	0.0211	0.9789	98.75
2.5	40,927,187	131,489	0.0032	0.9968	96.67
3.5	38,090,732	148,810	0.0039	0.9961	96.36
4.5	36,667,562	376,526	0.0103	0.9897	95.98
5.5	33,881,093	1,049,579	0.0310	0.9690	95.00
6.5	32,241,130	779,457	0.0242	0.9758	92.05
7.5	31,189,514	222,944	0.0071	0.9929	89.83
8.5	30,253,871	37,702	0.0012	0.9988	89.19
9.5	29,937,314	116,844	0.0039	0.9961	89.07
10.5	28,065,072	26,478	0.0009	0.9991	88.73
11.5	28,661,271	58,042	0.0020	0.9980	88.64
12.5	28,320,142	100,786	0.0036	0.9964	88.46
13.5	27,747,530	31,667	0.0011	0.9989	88.15
14.5	27,130,949	117,256	0.0043	0.9957	88.05
15.5	26,874,505	68,285	0.0025	0.9975	87.67
16.5	26,222,464	74,968	0.0029	0.9971	87.45
17.5	26,687,350	197,554	0.0074	0.9926	87.20
18.5	25,412,143	221,167	0.0087	0.9913	86.55
19.5	24,548,084	169,205	0.0069	0.9931	85.80
20.5	23,718,178	140,302	0.0059	0.9941	85.21
21.5	22,847,266	146,728	0.0064	0.9936	84.70
22.5	22,194,811	115,612	0.0052	0.9948	84.16
23.5	22,027,901	148,650	0.0067	0.9933	83.72
24.5	22,001,905	202,911	0.0092	0.9908	83.15
25.5	21,200,300	472,076	0.0223	0.9777	82.39
26.5	19,572,125	156,607	0.0080	0.9920	80.55
27.5	18,568,731	130,482	0.0070	0.9930	79.91
28.5	17,949,957	104,088	0.0058	0.9942	79.35
29.5	17,619,357	115,449	0.0066	0.9934	78.89
30.5	15,999,790	113,262	0.0071	0.9929	78.37
31.5	14,701,553	755,687	0.0514	0.9486	77.81
32.5	12,802,976	1,746,991	0.1365	0.8635	73.81
33.5	9,294,547	1,461,809	0.1573	0.8427	63.74
34.5	7,799,125	436,269	0.0559	0.9441	53.72
35.5	7,250,352	911,910	0.1258	0.8742	50.71
36.5	6,121,079	550,756	0.0900	0.9100	44.33
37.5	5,349,244	106,836	0.0200	0.9800	40.35
38.5	4,710,970	4,752	0.0010	0.9990	39.54

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.00 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1920-2012   EXPERIENCE BAND 1986-2012

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	4,287,410	171,112	0.0399	0.9601	39.50
40.5	3,812,373	784,291	0.2057	0.7943	37.92
41.5	3,016,570	663,654	0.2200	0.7800	30.12
42.5	2,375,901	1,099,874	0.4629	0.5371	23.49
43.5	1,314,741	460,377	0.3502	0.6498	12.62
44.5	884,081	148,277	0.1677	0.8323	8.20
45.5	768,463	137,945	0.1795	0.8205	6.82
46.5	631,424	121,568	0.1925	0.8075	5.60
47.5	510,510	161,988	0.3173	0.6827	4.52
48.5	350,240	36,253	0.1035	0.8965	3.09
49.5	313,631	156,527	0.4991	0.5009	2.77
50.5	156,867	90,468	0.5767	0.4233	1.39
51.5	63,670	60,589	0.9516	0.0484	0.59
52.5	3,032	90	0.0297	0.9703	0.03
53.5	2,379	101	0.0426	0.9574	0.03
54.5	13,908		0.0000	1.0000	0.03
55.5	13,908		0.0000	1.0000	0.03
56.5	13,908	51	0.0036	0.9964	0.03
57.5	13,858		0.0000	1.0000	0.03
58.5	13,646	13,646	1.0000		0.03
59.5					
60.5					
61.5					
62.5	140		0.0000		
63.5	140		0.0000		
64.5	140		0.0000		
65.5	140		0.0000		
66.5	140		0.0000		
67.5	140	140	1.0000		
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5	58,336		0.0000		
75.5	58,336		0.0000		
76.5	58,336		0.0000		
77.5	58,336		0.0000		
78.5	58,336	58,336	1.0000		
79.5					

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT
ACCOUNT 381.01 METERS - ERTS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 15-S2.5

ORIGINAL CURVE ■ 2011-2012 EXPERIENCE:
2011-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.01 METERS - ERTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2011-2012   EXPERIENCE BAND 2011-2012

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,493,427		0.0000	1.0000	100.00
0.5	449,409		0.0000	1.0000	100.00
1.5					100.00

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT
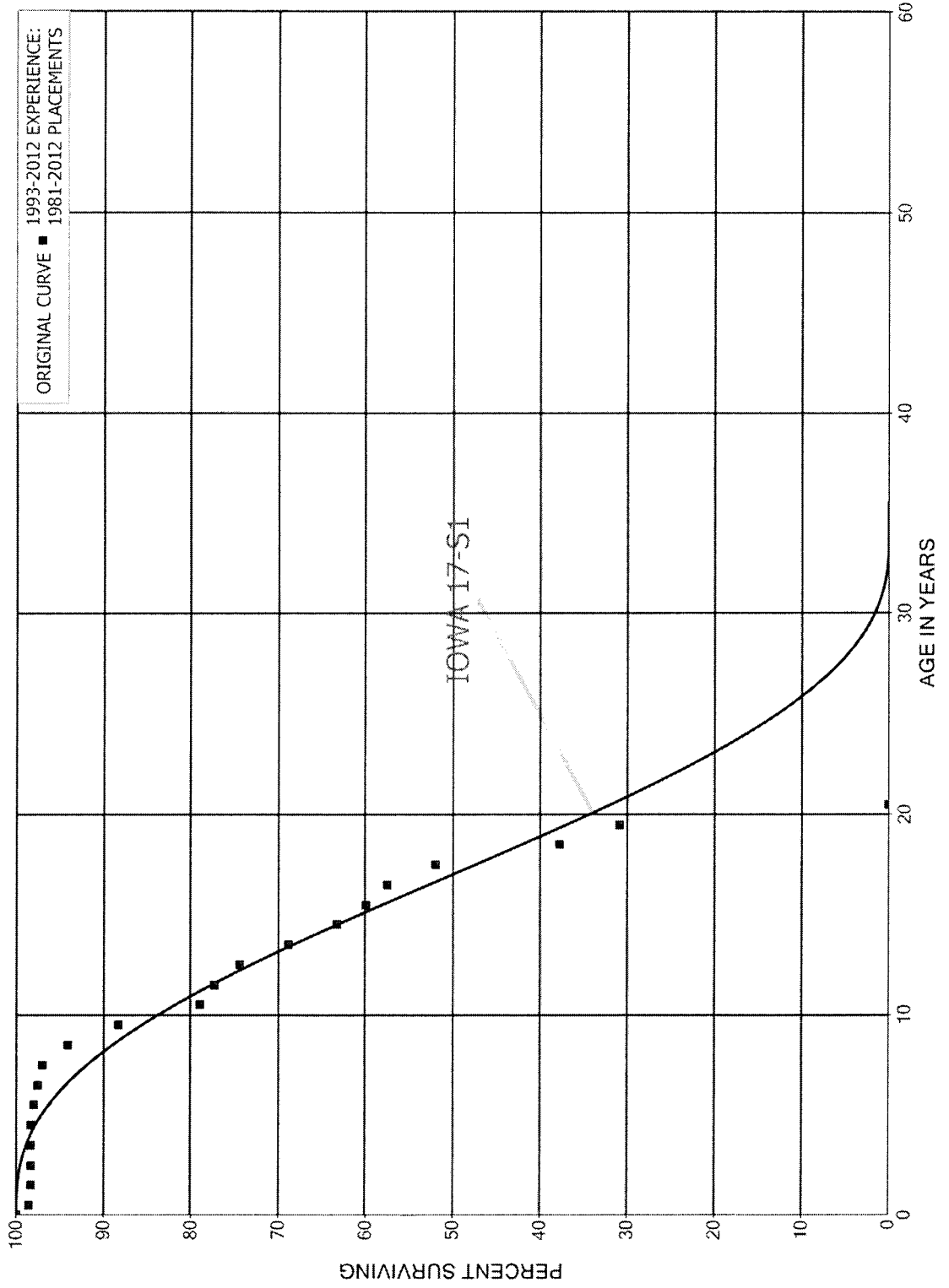ORIGINAL AND SMOOTH SURVIVOR CURVES

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT
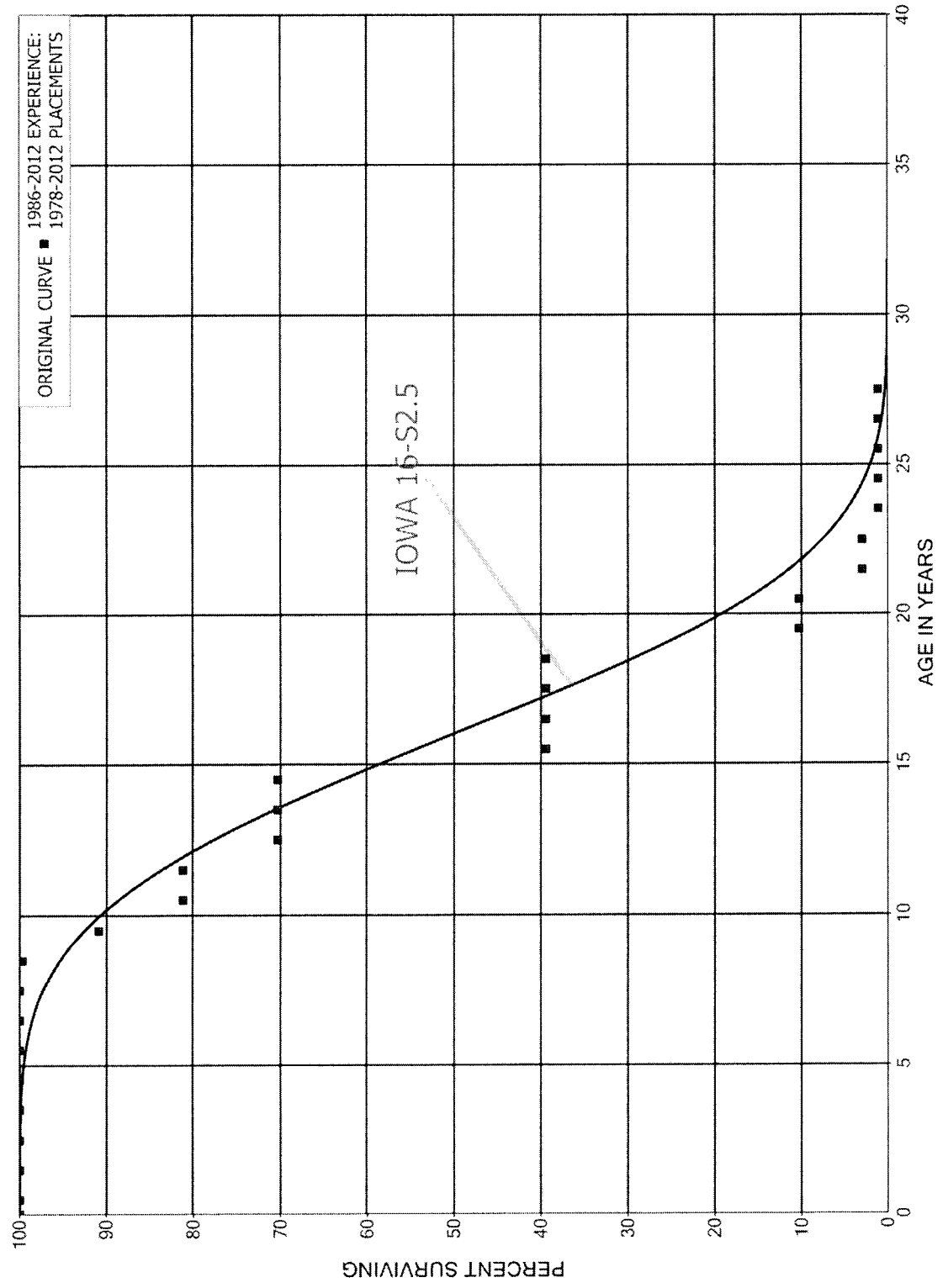
ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2012   EXPERIENCE BAND 1986-2012

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	11,820,358	2,238	0.0002	0.9998	100.00
0.5	11,534,561	39,492	0.0034	0.9966	99.98
1.5	11,005,469	101,164	0.0092	0.9908	99.64
2.5	10,238,195	79,026	0.0077	0.9923	98.72
3.5	9,980,432	63,736	0.0064	0.9936	97.96
4.5	9,695,909	79,858	0.0082	0.9918	97.34
5.5	9,223,787	58,416	0.0063	0.9937	96.53
6.5	9,153,535	96,502	0.0105	0.9895	95.92
7.5	8,834,890	84,418	0.0096	0.9904	94.91
8.5	8,373,459	190,730	0.0228	0.9772	94.00
9.5	8,173,678	224,270	0.0274	0.9726	91.86
10.5	7,955,209	4,085	0.0005	0.9995	89.34
11.5	8,077,949	5,914	0.0007	0.9993	89.30
12.5	8,013,749	108,284	0.0135	0.9865	89.23
13.5	7,881,477	1,516	0.0002	0.9998	88.03
14.5	7,708,183	21,541	0.0028	0.9972	88.01
15.5	7,545,302	60,790	0.0081	0.9919	87.76
16.5	7,410,212	45,885	0.0062	0.9938	87.06
17.5	7,323,044	138,265	0.0189	0.9811	86.52
18.5	7,045,151	88,867	0.0126	0.9874	84.88
19.5	6,958,321	145,730	0.0209	0.9791	83.81
20.5	6,513,368	208,279	0.0320	0.9680	82.06
21.5	6,102,063	352,943	0.0578	0.9422	79.43
22.5	5,694,467	64,433	0.0113	0.9887	74.84
23.5	5,304,998	150,688	0.0284	0.9716	73.99
24.5	4,967,665	94,292	0.0190	0.9810	71.89
25.5	4,602,912	339,092	0.0737	0.9263	70.53
26.5	4,116,829	476,105	0.1156	0.8844	65.33
27.5	3,515,363	248,452	0.0707	0.9293	57.77
28.5	3,224,622	189,275	0.0587	0.9413	53.69
29.5	2,990,760	162,285	0.0543	0.9457	50.54
30.5	2,735,720	149,094	0.0545	0.9455	47.80
31.5	2,387,968	110,551	0.0463	0.9537	45.19
32.5	2,130,816	83,626	0.0392	0.9608	43.10
33.5	1,926,645	59,664	0.0310	0.9690	41.41
34.5	1,811,904	87,179	0.0481	0.9519	40.13
35.5	1,689,357	156,771	0.0928	0.9072	38.20
36.5	1,515,974	76,802	0.0507	0.9493	34.65
37.5	1,313,793	42,282	0.0322	0.9678	32.90
38.5	1,166,893	86,719	0.0743	0.9257	31.84

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2012   EXPERIENCE BAND 1986-2012

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	1,047,458	171,624	0.1638	0.8362	29.47
40.5	862,360	82,915	0.0961	0.9039	24.64
41.5	776,671	82,514	0.1062	0.8938	22.27
42.5	682,786	110,042	0.1612	0.8388	19.91
43.5	556,911	90,801	0.1630	0.8370	16.70
44.5	469,635	67,337	0.1434	0.8566	13.98
45.5	406,379	61,601	0.1516	0.8484	11.97
46.5	323,459	69,983	0.2164	0.7836	10.16
47.5	242,789	39,005	0.1607	0.8393	7.96
48.5	203,207	41,088	0.2022	0.7978	6.68
49.5	155,633	43,244	0.2779	0.7221	5.33
50.5	110,346	20,345	0.1844	0.8156	3.85
51.5	86,740	13,609	0.1569	0.8431	3.14
52.5	69,701	14,890	0.2136	0.7864	2.65
53.5	44,718	10,539	0.2357	0.7643	2.08
54.5	35,510	3,280	0.0924	0.9076	1.59
55.5	33,186	8,160	0.2459	0.7541	1.44
56.5	22,136	6,213	0.2807	0.7193	1.09
57.5	15,923	2,927	0.1838	0.8162	0.78
58.5	12,388	4,332	0.3497	0.6503	0.64
59.5	8,056	287	0.0357	0.9643	0.42
60.5	7,769	1,086	0.1398	0.8602	0.40
61.5	6,682	739	0.1107	0.8893	0.34
62.5	6,207	137	0.0221	0.9779	0.31
63.5	6,070	1,190	0.1961	0.8039	0.30
64.5	4,879	529	0.1085	0.8915	0.24
65.5	4,350	1,696	0.3898	0.6102	0.21
66.5	2,655	853	0.3214	0.6786	0.13
67.5	1,801	458	0.2540	0.7460	0.09
68.5	1,344	1,272	0.9469	0.0531	0.07
69.5	71	71	1.0000		0.00
70.5					

BLACK HILLS UTILITY HOLDINGS, INC.

GAS PLANT

ACCOUNT 385.02 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT - INDUSTRIAL METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.02 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT -
INDUSTRIAL METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1981-2012   EXPERIENCE BAND 1993-2012

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	4,240,170	64,824	0.0153	0.9847	100.00
0.5	4,041,558	6,812	0.0017	0.9983	98.47
1.5	3,875,489		0.0000	1.0000	98.31
2.5	3,870,471	1,888	0.0005	0.9995	98.31
3.5	3,860,816		0.0000	1.0000	98.26
4.5	3,707,002	11,994	0.0032	0.9968	98.26
5.5	3,559,969	16,308	0.0046	0.9954	97.94
6.5	2,718,751	13,907	0.0051	0.9949	97.49
7.5	2,704,843	81,794	0.0302	0.9698	96.99
8.5	2,567,944	158,502	0.0617	0.9383	94.06
9.5	2,196,225	230,291	0.1049	0.8951	88.25
10.5	1,618,568	36,103	0.0223	0.9777	79.00
11.5	1,273,059	46,736	0.0367	0.9633	77.24
12.5	1,082,676	81,777	0.0755	0.9245	74.40
13.5	1,000,899	80,356	0.0803	0.9197	68.78
14.5	919,142	48,056	0.0523	0.9477	63.26
15.5	514,760	21,051	0.0409	0.9591	59.95
16.5	254,280	24,803	0.0975	0.9025	57.50
17.5	35,707	9,736	0.2727	0.7273	51.89
18.5	6,373	1,175	0.1844	0.8156	37.74
19.5	5,198	5,198	1.0000		30.78
20.5					

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT
ACCOUNT 387.00 OTHER EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 16-S2.5

ORIGINAL CURVE ■ 1986-2012 EXPERIENCE:
■ 1978-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 387.00 OTHER EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1978-2012   EXPERIENCE BAND 1986-2012

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	200,729		0.0000	1.0000	100.00
0.5	217,416		0.0000	1.0000	100.00
1.5	61,522		0.0000	1.0000	100.00
2.5	61,522		0.0000	1.0000	100.00
3.5	73,212		0.0000	1.0000	100.00
4.5	73,212		0.0000	1.0000	100.00
5.5	75,625		0.0000	1.0000	100.00
6.5	73,561		0.0000	1.0000	100.00
7.5	73,491	309	0.0042	0.9958	100.00
8.5	66,442	5,867	0.0883	0.9117	99.58
9.5	66,442	7,048	0.1061	0.8939	90.79
10.5	61,336		0.0000	1.0000	81.16
11.5	38,145	5,106	0.1339	0.8661	81.16
12.5	38,145		0.0000	1.0000	70.29
13.5	27,539		0.0000	1.0000	70.29
14.5	24,117	10,606	0.4398	0.5602	70.29
15.5	24,117		0.0000	1.0000	39.38
16.5	27,539		0.0000	1.0000	39.38
17.5	15,850		0.0000	1.0000	39.38
18.5	15,850	11,689	0.7375	0.2625	39.38
19.5	13,437		0.0000	1.0000	10.34
20.5	9,220	6,630	0.7192	0.2808	10.34
21.5	9,220		0.0000	1.0000	2.90
22.5	9,220	5,797	0.6288	0.3712	2.90
23.5	3,423		0.0000	1.0000	1.08
24.5	3,423		0.0000	1.0000	1.08
25.5	3,423		0.0000	1.0000	1.08
26.5	3,423		0.0000	1.0000	1.08
27.5					1.08

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT
ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 55-R3

ORIGINAL CURVE ■ 1986-2012 EXPERIENCE:
1964-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

III-26

BLACK HILLS UTILITY HOLDINGS, INC.
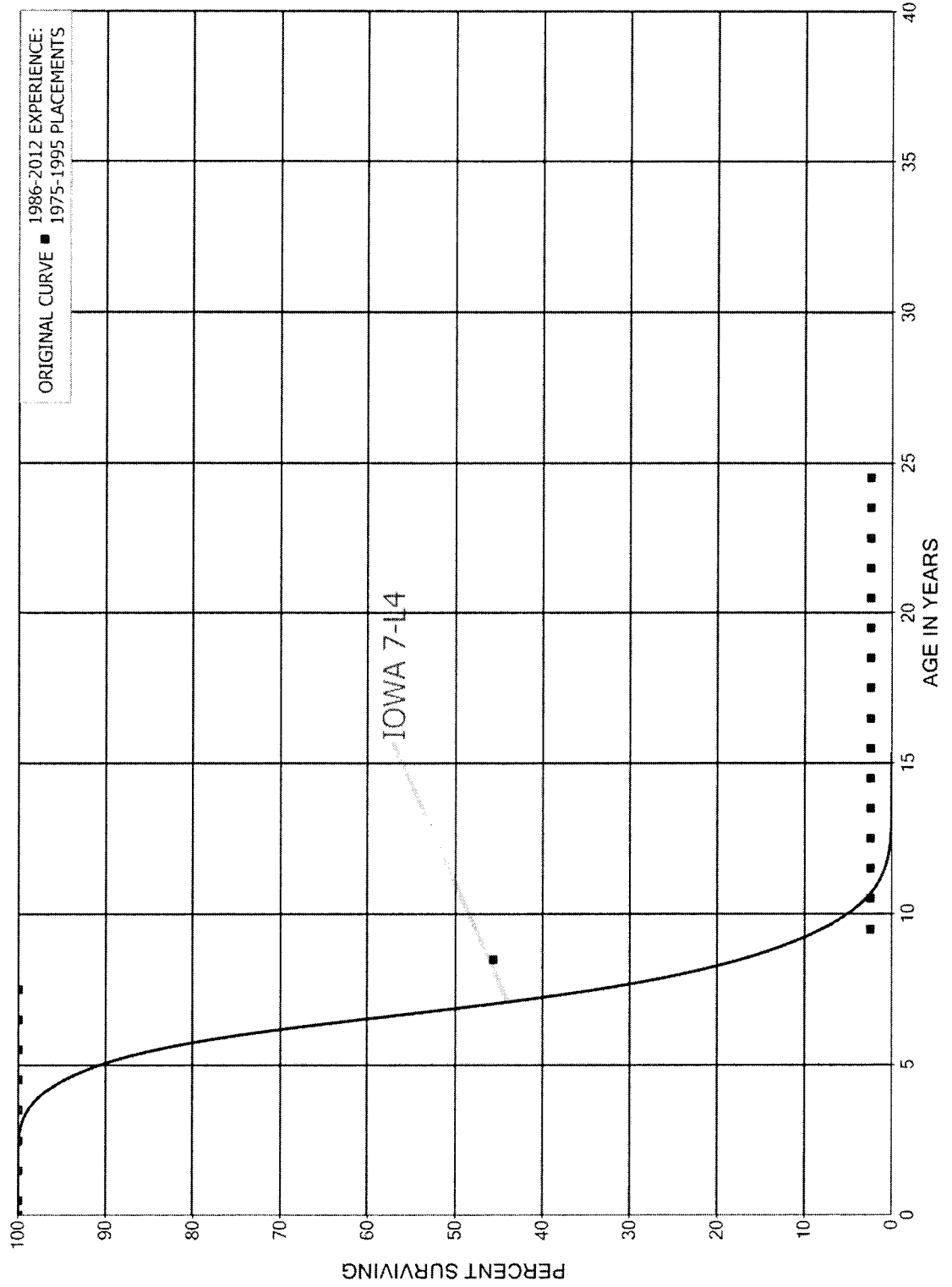GAS PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE

PLACEMENT BAND 1964-2012   EXPERIENCE BAND 1986-2012

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	6,241,529		0.0000	1.0000	100.00
0.5	6,230,465		0.0000	1.0000	100.00
1.5	534,430		0.0000	1.0000	100.00
2.5	550,333		0.0000	1.0000	100.00
3.5	1,630,107		0.0000	1.0000	100.00
4.5	1,615,849		0.0000	1.0000	100.00
5.5	1,551,527		0.0000	1.0000	100.00
6.5	1,539,935	14,980	0.0097	0.9903	100.00
7.5	1,517,555	17	0.0000	1.0000	99.03
8.5	1,526,964		0.0000	1.0000	99.03
9.5	1,539,239		0.0000	1.0000	99.03
10.5	1,540,352		0.0000	1.0000	99.03
11.5	1,441,333		0.0000	1.0000	99.03
12.5	1,455,684		0.0000	1.0000	99.03
13.5	1,306,105		0.0000	1.0000	99.03
14.5	1,307,540		0.0000	1.0000	99.03
15.5	1,536,857		0.0000	1.0000	99.03
16.5	1,519,860		0.0000	1.0000	99.03
17.5	427,033	1,804	0.0042	0.9958	99.03
18.5	438,327		0.0000	1.0000	98.61
19.5	1,537,664		0.0000	1.0000	98.61
20.5	1,561,473		0.0000	1.0000	98.61
21.5	1,556,928		0.0000	1.0000	98.61
22.5	1,548,500		0.0000	1.0000	98.61
23.5	1,537,589		0.0000	1.0000	98.61
24.5	1,423,458		0.0000	1.0000	98.61
25.5	1,422,023		0.0000	1.0000	98.61
26.5	1,194,320		0.0000	1.0000	98.61
27.5	1,194,320		0.0000	1.0000	98.61
28.5	1,180,193		0.0000	1.0000	98.61
29.5	1,167,095		0.0000	1.0000	98.61
30.5	62,762		0.0000	1.0000	98.61
31.5	62,762		0.0000	1.0000	98.61
32.5	62,908		0.0000	1.0000	98.61
33.5	58,348		0.0000	1.0000	98.61
34.5	17,391		0.0000	1.0000	98.61
35.5	21,622	108	0.0050	0.9950	98.61
36.5	57,597	329	0.0057	0.9943	98.12
37.5	40,681		0.0000	1.0000	97.56
38.5	40,681		0.0000	1.0000	97.56

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1964-2012   EXPERIENCE BAND 1986-2012

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	40,681		0.0000	1.0000	97.56
40.5	40,681		0.0000	1.0000	97.56
41.5	40,681		0.0000	1.0000	97.56
42.5	40,681	743	0.0183	0.9817	97.56
43.5	39,792		0.0000	1.0000	95.77
44.5	39,792		0.0000	1.0000	95.77
45.5	39,792		0.0000	1.0000	95.77
46.5	35,232		0.0000	1.0000	95.77
47.5					95.77

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT
ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT
ORIGINAL AND SMOOTH SURVIVOR CURVES


III-29

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT
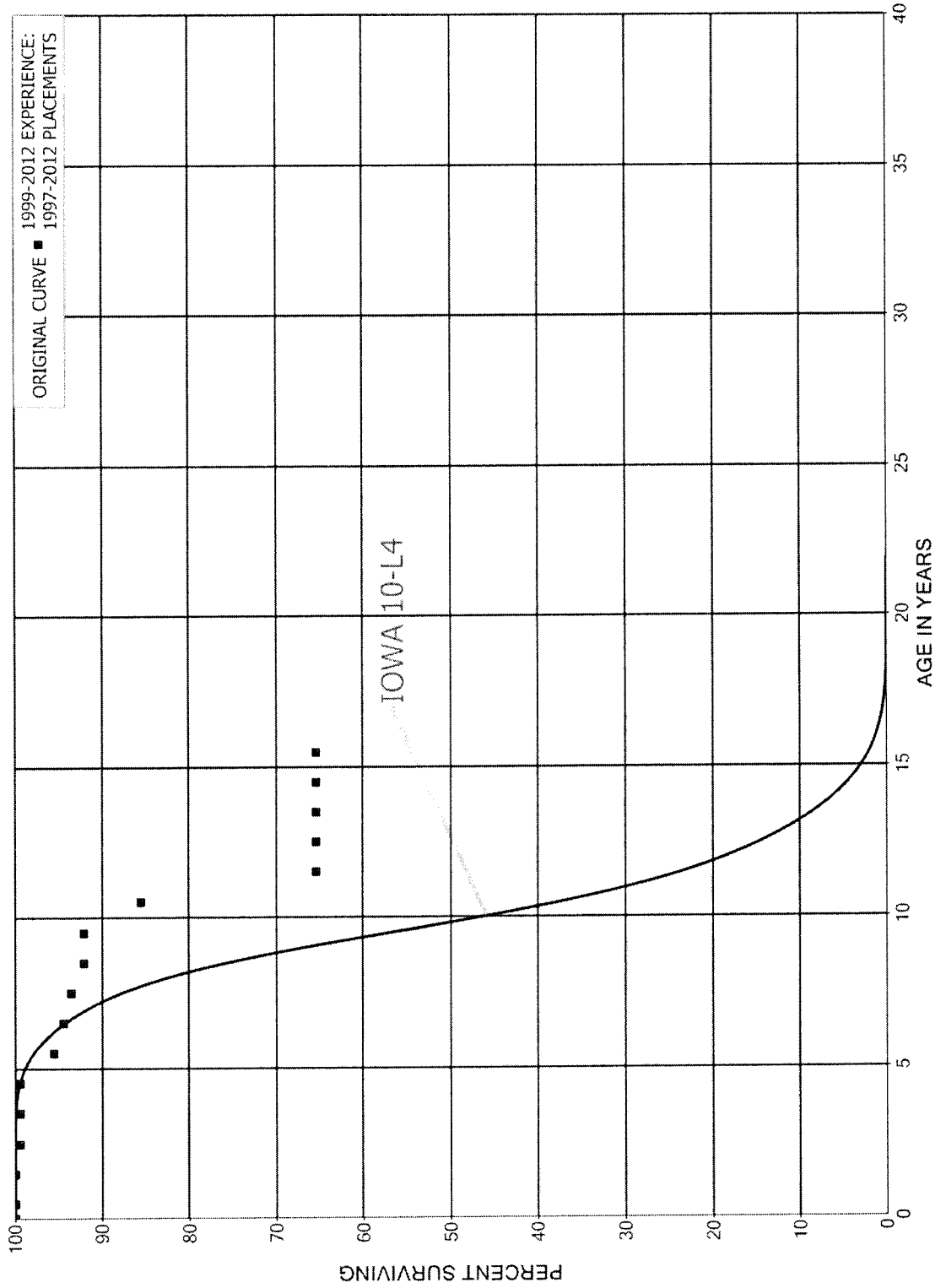
ORIGINAL LIFE TABLE

PLACEMENT BAND 1975-1995   EXPERIENCE BAND 1986-2012

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	84,263		0.0000	1.0000	100.00
0.5	84,263		0.0000	1.0000	100.00
1.5	84,263		0.0000	1.0000	100.00
2.5	84,263		0.0000	1.0000	100.00
3.5	84,263		0.0000	1.0000	100.00
4.5	50,444		0.0000	1.0000	100.00
5.5	50,444		0.0000	1.0000	100.00
6.5	65,857		0.0000	1.0000	100.00
7.5	33,819	18,407	0.5443	0.4557	100.00
8.5	33,819	32,038	0.9473	0.0527	45.57
9.5	2,491		0.0000	1.0000	2.40
10.5	4,483		0.0000	1.0000	2.40
11.5	4,483		0.0000	1.0000	2.40
12.5	4,483		0.0000	1.0000	2.40
13.5	4,483		0.0000	1.0000	2.40
14.5	4,483		0.0000	1.0000	2.40
15.5	4,483		0.0000	1.0000	2.40
16.5	4,483		0.0000	1.0000	2.40
17.5	4,483		0.0000	1.0000	2.40
18.5	4,483		0.0000	1.0000	2.40
19.5	4,483		0.0000	1.0000	2.40
20.5	4,483		0.0000	1.0000	2.40
21.5	4,483		0.0000	1.0000	2.40
22.5	4,483		0.0000	1.0000	2.40
23.5	1,992		0.0000	1.0000	2.40
24.5					2.40
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5	5		0.0000		
34.5	5		0.0000		
35.5	5		0.0000		
36.5	5		0.0000		
37.5					

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 7 L4

ORIGINAL CURVE ■ 2009-2012 EXPERIENCE:
■ 2008-2010 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS
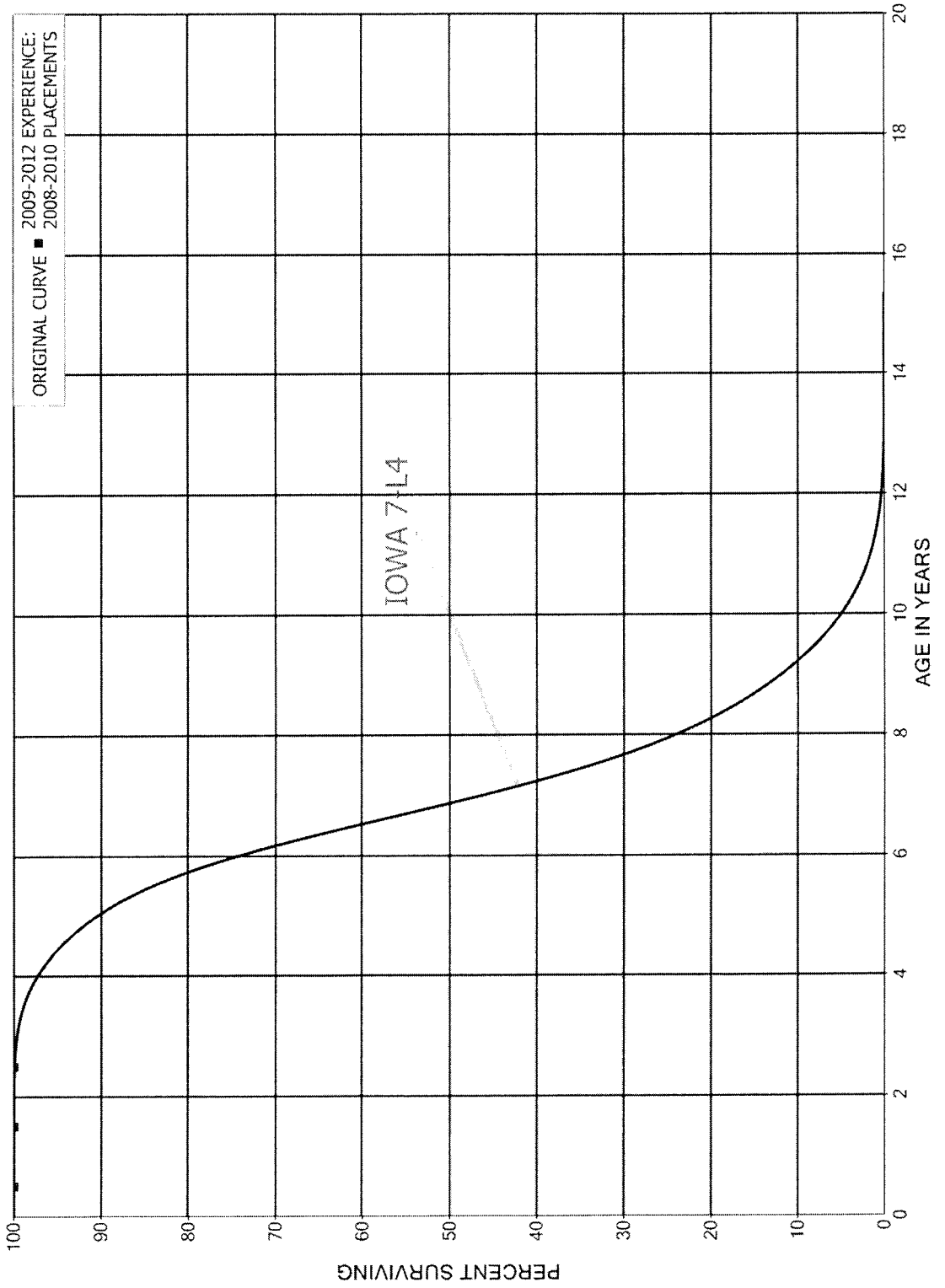
BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2008-2010   EXPERIENCE BAND 2009-2012

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	28,520		0.0000	1.0000	100.00
1.5	28,520		0.0000	1.0000	100.00
2.5					100.00
3.5	21,495		0.0000		
4.5					

III-32

BLACK HILLS UTILITY HOLDINGS, INC.

GAS PLANT

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL AND SMOOTH SURVIVOR CURVES

ORIGINAL CURVE ■ 2008-2012 EXPERIENCE:
2008-2008 PLACEMENTS

IOWA 16 S1.5

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2008-2008   EXPERIENCE BAND 2008-2012

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	42,990		0.0000	1.0000	100.00
0.5	42,990		0.0000	1.0000	100.00
1.5	42,990		0.0000	1.0000	100.00
2.5	42,990		0.0000	1.0000	100.00
3.5	47,167		0.0000	1.0000	100.00
4.5					100.00

COMMON PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT
ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED
ORIGINAL AND SMOOTH SURVIVOR CURVES
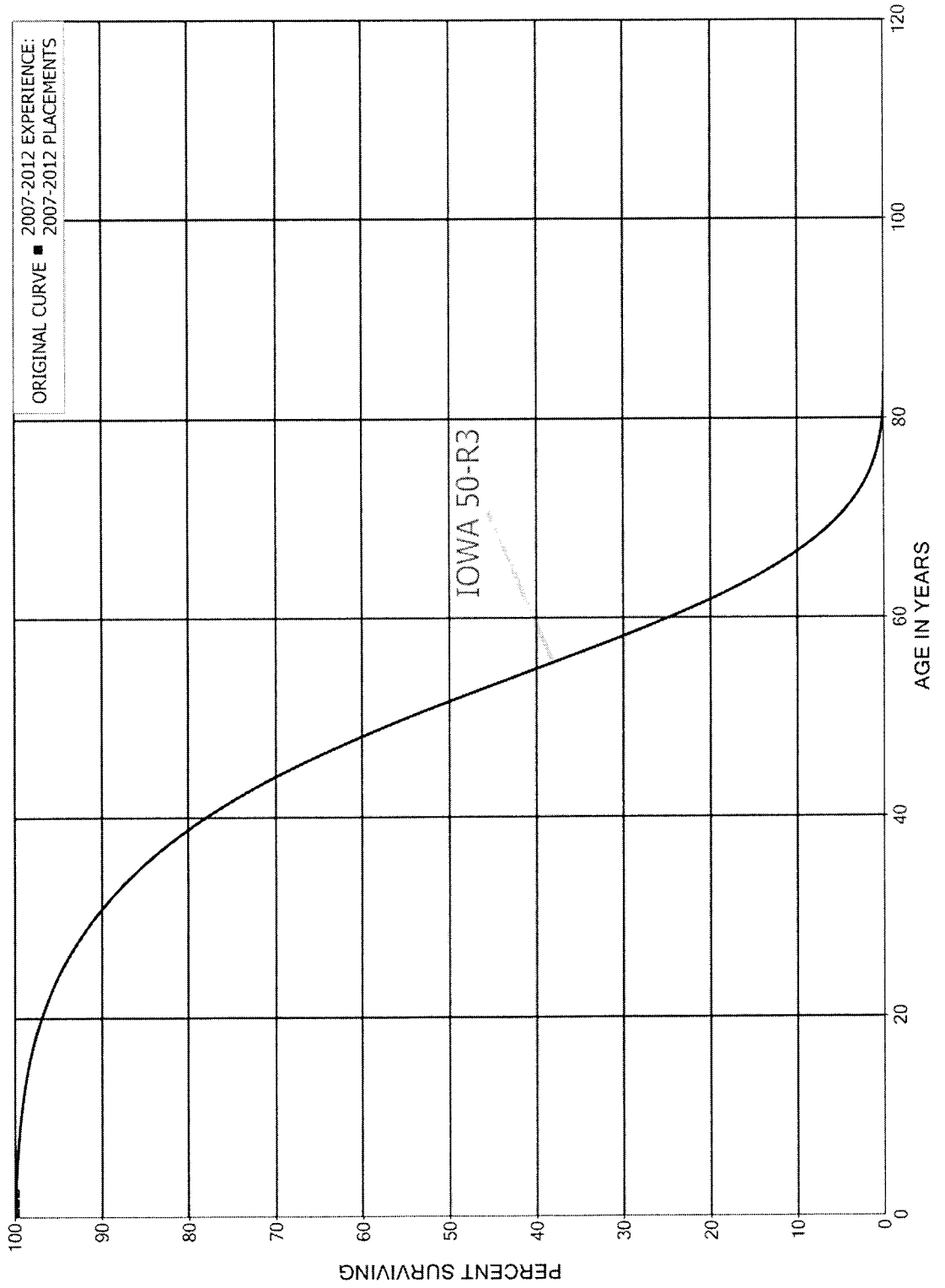
BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE

PLACEMENT BAND 2007-2012   EXPERIENCE BAND 2007-2012

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	124,384		0.0000	1.0000	100.00
0.5	58,755		0.0000	1.0000	100.00
1.5	11,076		0.0000	1.0000	100.00
2.5					100.00

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT
ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASE
SMOOTH SURVIVOR CURVE
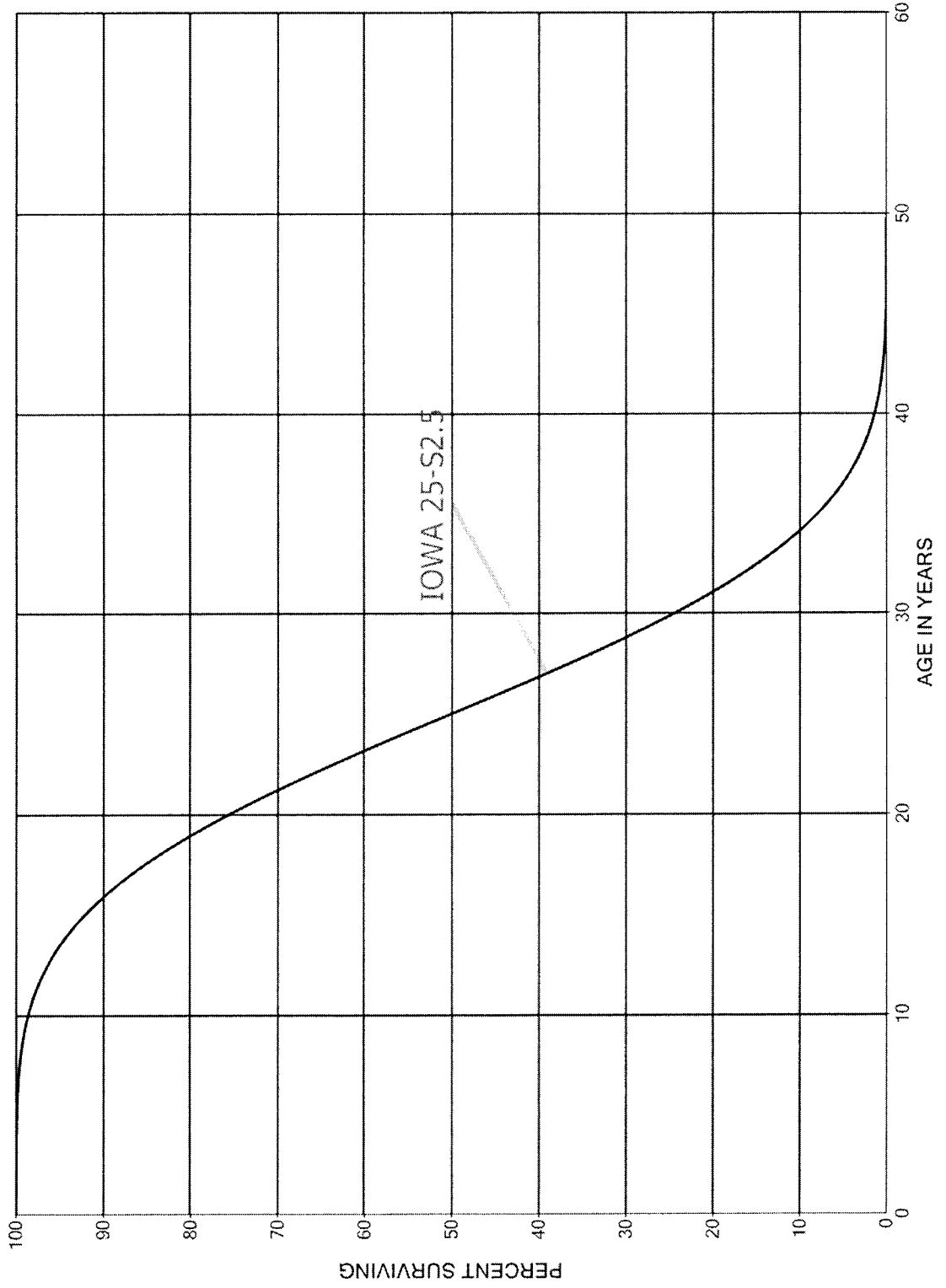
IOWA 25-S2.5

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT
ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 10-L4

ORIGINAL CURVE ■ 1999-2012 EXPERIENCE:
1997-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1997-2012   EXPERIENCE BAND 1999-2012

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	17,738,456		0.0000	1.0000	100.00
0.5	9,136,984		0.0000	1.0000	100.00
1.5	7,423,089	48,000	0.0065	0.9935	100.00
2.5	4,129,998		0.0000	1.0000	99.35
3.5	4,704,664		0.0000	1.0000	99.35
4.5	4,432,412	173,308	0.0391	0.9609	99.35
5.5	4,103,166	43,890	0.0107	0.9893	95.47
6.5	8,817,996	86,964	0.0099	0.9901	94.45
7.5	24,472,062	366,736	0.0150	0.9850	93.52
8.5	33,338,174		0.0000	1.0000	92.11
9.5	37,922,400	2,705,987	0.0714	0.9286	92.11
10.5	67,570,631	15,892,235	0.2352	0.7648	85.54
11.5	51,416,255	37,135	0.0007	0.9993	65.42
12.5	41,267,519	10,472	0.0003	0.9997	65.38
13.5	37,034,791		0.0000	1.0000	65.36
14.5	1,147,043		0.0000	1.0000	65.36
15.5					65.36

BLACK HILLS UTILITY HOLDINGS, INC.

COMMON PLANT

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

ORIGINAL AND SMOOTH SURVIVOR CURVES
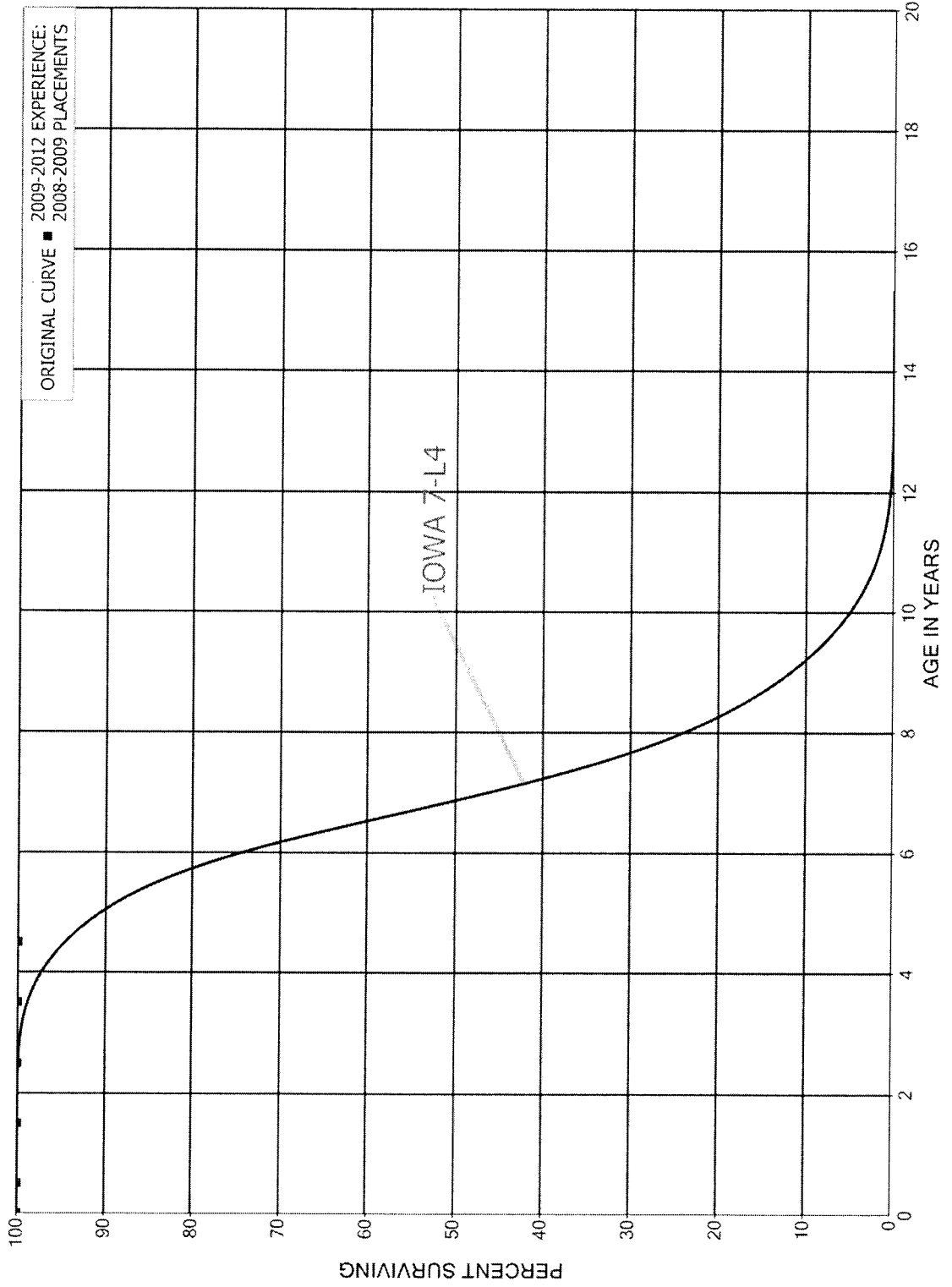
BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

ORIGINAL LIFE TABLE

PLACEMENT BAND 2008-2009   EXPERIENCE BAND 2009-2012

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	34,278		0.0000	1.0000	100.00
0.5	34,278		0.0000	1.0000	100.00
1.5	35,008		0.0000	1.0000	100.00
2.5	35,008		0.0000	1.0000	100.00
3.5	730		0.0000	1.0000	100.00
4.5					100.00

BLACK HILLS UTILITY HOLDINGS, INC.

COMMON PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 7-L4

ORIGINAL CURVE ■ 2010-2012 EXPERIENCE:
2010-2011 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS
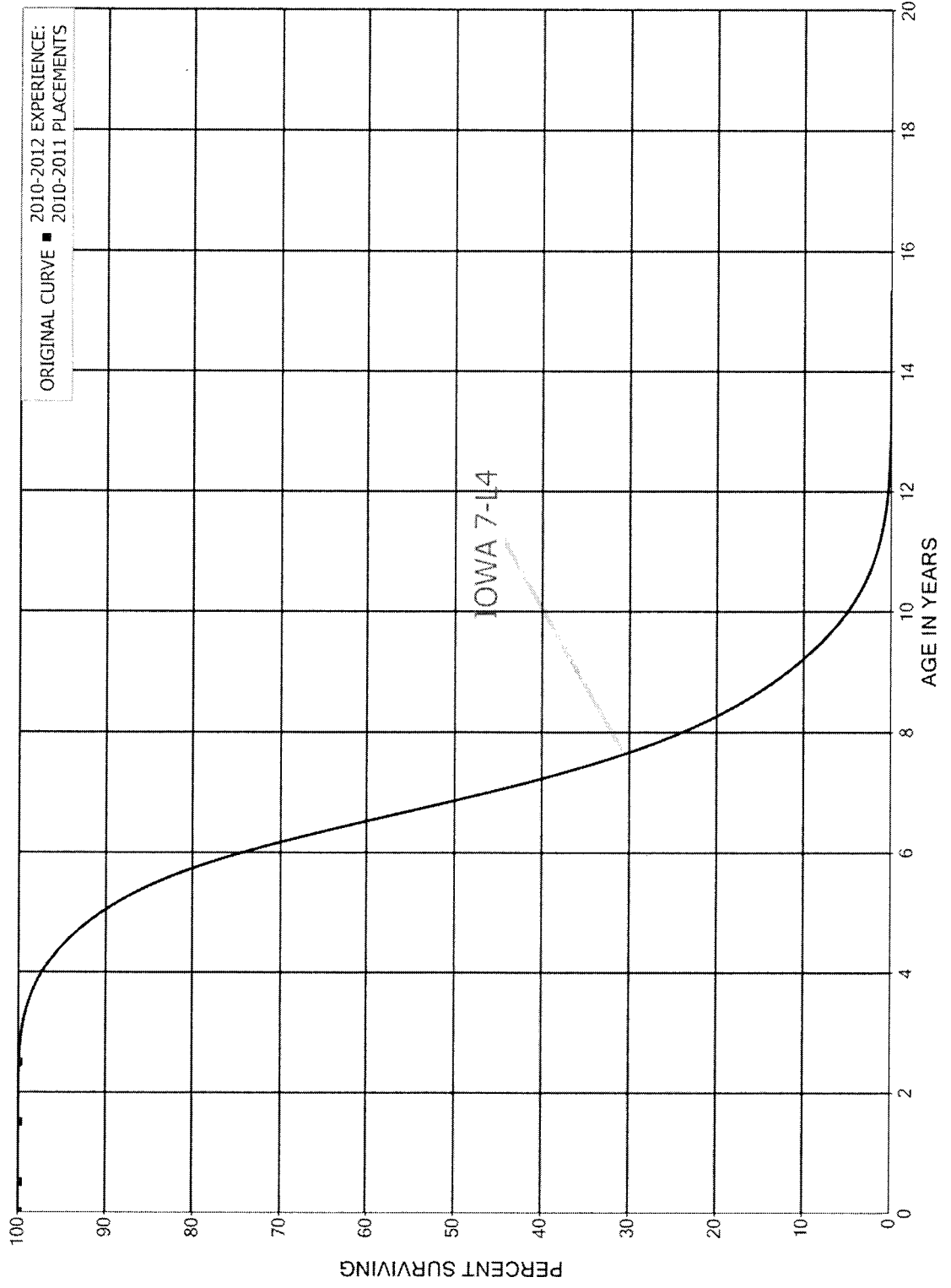
BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2010-2011   EXPERIENCE BAND 2010-2012

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	116,576		0.0000	1.0000	100.00
0.5	121,320		0.0000	1.0000	100.00
1.5	96,003		0.0000	1.0000	100.00
2.5					100.00

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT
ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 10-S2.5

| ORIGINAL CURVE ■ | 2008-2012 EXPERIENCE: 1998-2012 PLACEMENTS |

PERCENT SURVIVING

AGE IN YEARS
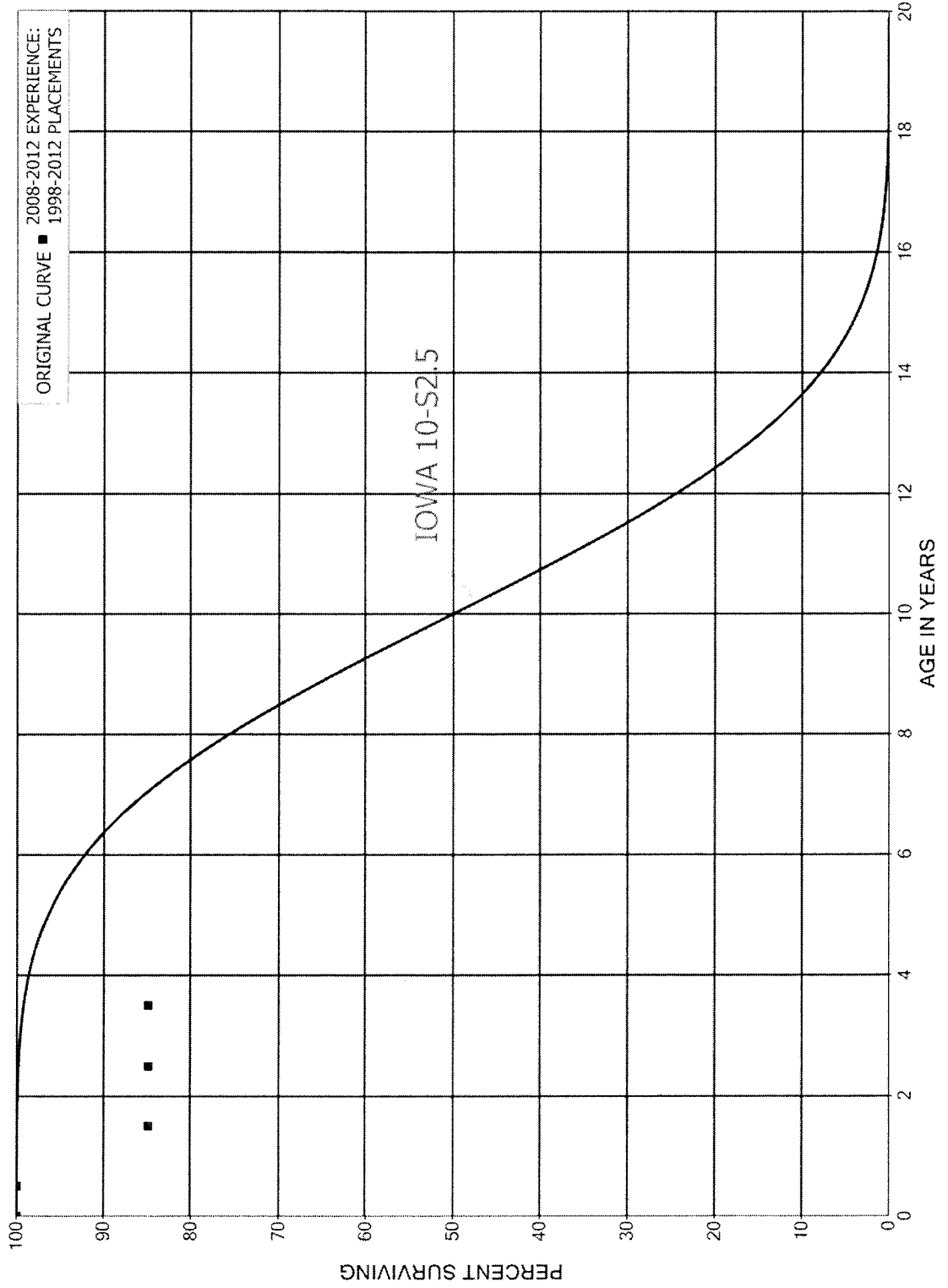
BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1998-2012   EXPERIENCE BAND 2008-2012

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	239,941		0.0000	1.0000	100.00
0.5	166,489	25,188	0.1513	0.8487	100.00
1.5	60,836		0.0000	1.0000	84.87
2.5	60,836		0.0000	1.0000	84.87
3.5					84.87
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5	22,243	22,243	1.0000		
14.5					

NET SALVAGE STATISTICS

GAS PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.00 METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2005	1,162,308	30,568	3		0	30,568-	3-
2006	1,735,263	40,683	2		0	40,683-	2-
2007	1,338,077	25,333	2	21,627	2	3,706-	0
2008	1,577,062	50,262	3	550	0	49,712-	3-
2009	1,404,297	21,967	2		0	21,967-	2-
2010	1,470,046	365	0		0	365-	0
2011	2,003,753	47,373	2	21,446	1	25,927-	1-
2012	2,029,962	2,786	0	66,940	3	64,154	3
TOTAL	12,720,768	219,337	2	110,563	1	108,773-	1-

THREE-YEAR MOVING AVERAGES

05-07	1,411,883	32,195	2	7,209	1	24,986-	2-
06-08	1,550,134	38,759	3	7,392	0	31,367-	2-
07-09	1,439,812	32,521	2	7,392	1	25,128-	2-
08-10	1,483,802	24,198	2	183	0	24,014-	2-
09-11	1,626,032	23,235	1	7,149	0	16,086-	1-
10-12	1,834,587	16,841	1	29,462	2	12,621	1

FIVE-YEAR AVERAGE

08-12	1,697,024	24,551	1	17,787	1	6,763-	0

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 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
2005	370,842		0		0		0
2006	383,009	2,089	1		0	2,089-	1-
2007	302,522	2,834	1	2,138	1	697-	0
2008	1,622,462	604	0		0	604-	0
2009	388,324	42-	0		0	42	0
2010	510,219	467	0		0	467-	0
2011	150,232	479	0	207	0	272-	0
2012	549,895	14	0	2,318	0	2,304	0
TOTAL	4,277,506	6,445	0	4,662	0	1,782-	0

THREE-YEAR MOVING AVERAGES

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
05-07	352,124	1,641	0	713	0	929-	0
06-08	769,331	1,843	0	713	0	1,130-	0
07-09	771,103	1,132	0	713	0	419-	0
08-10	840,335	343	0		0	343-	0
09-11	349,592	301	0	69	0	232-	0
10-12	403,449	320	0	841	0	522	0

FIVE-YEAR AVERAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
08-12	644,227	304	0	505	0	201	0

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.02 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT -
INDUSTRIAL METERS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2008	8,236		0		0		0
2009	379,542	90-	0		0	90	0
2010	296,120		0		0		0
2011	70,464		0		0		0
2012	120,810		0	67	0	67	0
TOTAL	875,173	90-	0	67	0	156	0

THREE-YEAR MOVING AVERAGES

08-10	227,966	30-	0		0	30	0
09-11	248,709	30-	0		0	30	0
10-12	162,465		0	22	0	22	0

FIVE-YEAR AVERAGE

08-12	175,035	18-	0	13	0	31	0

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2006	1,804		0		0		0
2007	13,246		0		0		0
2008	743		0		0		0
2009							
2010							
2011							
2012							
TOTAL	15,792		0		0		0

THREE-YEAR MOVING AVERAGES

06-08	5,264		0		0		0
07-09	4,663		0		0		0
08-10	248		0		0		0
09-11							
10-12							

FIVE-YEAR AVERAGE

08-12	149		0		0		0

COMMON PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2012	22,243		0	2,298	10	2,298	10
TOTAL	22,243		0	2,298	10	2,298	10

DEPRECIATION CALCULATIONS

ELECTRIC PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
ELECTRIC PLANT

ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 10-L4						
NET SALVAGE PERCENT.. 0						
2012	108,440.00	5,422	5,299	103,141	9.50	10,857
	108,440.00	5,422	5,299	103,141		10,857

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.5 10.01

BLACK HILLS UTILITY HOLDINGS, INC.
ELECTRIC PLANT

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 10-S2.5						
NET SALVAGE PERCENT.. +10						
2009	54,214.84	16,834	19,897	28,896	6.55	4,412
	54,214.84	16,834	19,897	28,896		4,412

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.5   8.14

GAS PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 378.00 MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 35-S2.5						
NET SALVAGE PERCENT.. 0						
1991	3,220.83	1,825	1,398	1,823	15.17	120
1993	4,314.00	2,259	1,731	2,583	16.67	155
1995	4,202.16	2,007	1,538	2,664	18.28	146
1998	21,983.42	8,869	6,796	15,187	20.88	727
2001	10,263.58	3,328	2,550	7,714	23.65	326
2006	6,084.50	1,128	864	5,220	28.51	183
2009	10,973.72	1,097	841	10,133	31.50	322
2010	39,197.16	2,800	2,146	37,051	32.50	1,140
2011	18,137.00	777	595	17,542	33.50	524
2012	18,634.80	266	204	18,431	34.50	534
	137,011.17	24,356	18,663	118,348		4,177

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.3   3.05

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.00 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 33-R2						
NET SALVAGE PERCENT.. -1						
1969	4,999.60	4,277	2,898	2,152	5.05	426
1970	35,604.46	30,109	20,404	15,557	5.37	2,897
1971	42,620.88	35,612	24,133	18,914	5.70	3,318
1972	62,148.28	51,262	34,738	28,032	6.05	4,633
1973	106,467.31	86,645	58,715	48,817	6.41	7,616
1974	262,124.07	210,353	142,547	122,198	6.78	18,023
1975	213,861.83	169,070	114,571	101,429	7.17	14,146
1976	170,137.84	132,421	89,736	82,103	7.57	10,846
1977	39,799.24	30,453	20,637	19,560	8.00	2,445
1978	19,256.69	14,475	9,809	9,640	8.44	1,142
1979	1,619,189.69	1,194,826	809,680	825,702	8.89	92,880
1980	930,895.71	673,243	456,227	483,978	9.37	51,652
1981	1,162,297.08	823,164	557,821	616,099	9.86	62,485
1982	1,438,287.50	996,183	675,068	777,602	10.37	74,986
1983	362,931.45	245,486	166,355	200,206	10.90	18,368
1984	482,790.47	318,429	215,785	271,833	11.45	23,741
1985	726,928.58	466,774	316,312	417,886	12.02	34,766
1986	991,439.17	619,017	419,480	581,874	12.60	46,180
1987	592,006.72	358,756	243,113	354,814	13.20	26,880
1988	704,248.35	413,630	280,298	430,993	13.81	31,209
1989	408,116.81	231,705	157,016	255,182	14.45	17,660
1990	696,860.79	381,989	258,857	444,972	15.09	29,488
1991	1,049,150.05	553,578	375,135	684,507	15.76	43,433
1992	921,656.10	467,131	316,554	614,319	16.44	37,367
1993	936,079.31	454,672	308,111	637,329	17.13	37,205
1994	1,292,647.59	599,768	406,436	899,138	17.84	50,400
1995	814,739.98	360,079	244,009	578,878	18.56	31,190
1996	841,189.30	352,967	239,190	610,411	19.29	31,644
1997	1,198,809.85	475,517	322,236	888,562	20.04	44,339
1998	832,964.14	311,279	210,940	630,354	20.79	30,320
1999	879,429.79	307,645	208,477	679,747	21.57	31,514
2000	906,037.80	295,330	200,132	714,966	22.35	31,990
2001	716,459.24	216,212	146,517	577,107	23.14	24,940
2002	2,154,601.33	596,787	404,416	1,771,731	23.95	73,976
2003	982,306.53	247,427	167,670	824,460	24.77	33,285
2004	1,515,332.43	343,671	232,890	1,297,596	25.59	50,707
2005	1,445,983.29	290,760	197,035	1,263,408	26.43	47,802
2006	1,465,257.55	256,513	173,827	1,306,083	27.28	47,877
2007	2,717,353.84	405,037	274,476	2,470,051	28.13	87,808
2008	2,091,587.31	256,057	173,518	1,938,985	29.00	66,862
2009	1,870,552.86	179,196	121,433	1,767,825	29.87	59,184

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.00 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 33-R2						
NET SALVAGE PERCENT.. -1						
2010	1,719,194.56	117,866	79,873	1,656,514	30.76	53,853
2011	2,025,978.39	83,712	56,728	1,989,510	31.65	62,860
2012	1,504,880.52	20,732	14,049	1,505,880	32.55	46,264
	40,955,204.28	14,679,815	9,947,852	31,416,904		1,600,607

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.6   3.91

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 381.01 METERS - ERTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-S2.5						
NET SALVAGE PERCENT.. 0						
2011	449,408.97	44,941	44,518	404,891	13.50	29,992
2012	1,044,018.49	34,797	34,470	1,009,548	14.50	69,624
	1,493,427.46	79,738	78,988	1,414,439		99,616

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.2   6.67

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 31-R1.5						
NET SALVAGE PERCENT.. -5						
1954	820.16	826	455	406	1.27	320
1956	2,359.33	2,325	1,280	1,197	1.91	627
1958	1,761.82	1,706	939	911	2.41	378
1959	11,554.54	11,099	6,112	6,020	2.64	2,280
1960	5,437.25	5,182	2,853	2,856	2.86	999
1961	6,518.53	6,162	3,393	3,451	3.09	1,117
1962	3,598.62	3,371	1,856	1,923	3.34	576
1963	6,944.24	6,447	3,550	3,741	3.59	1,042
1964	2,302.09	2,117	1,166	1,251	3.85	325
1965	15,607.42	14,210	7,825	8,563	4.12	2,078
1966	25,587.75	23,054	12,694	14,173	4.40	3,221
1968	11,247.22	9,912	5,458	6,352	4.98	1,276
1969	22,766.06	19,841	10,925	12,979	5.27	2,463
1970	23,838.55	20,525	11,302	13,728	5.58	2,460
1971	15,179.94	12,905	7,106	8,833	5.90	1,497
1972	20,043.74	16,823	9,263	11,783	6.22	1,894
1973	21,644.16	17,925	9,870	12,856	6.55	1,963
1974	39,754.32	32,451	17,869	23,873	6.90	3,460
1975	123,958.48	99,675	54,885	75,271	7.26	10,368
1976	12,465.83	9,867	5,433	7,656	7.63	1,003
1977	40,893.45	31,830	17,527	25,411	8.02	3,168
1978	87,250.03	66,730	36,744	54,869	8.42	6,517
1979	129,717.27	97,363	53,612	82,591	8.84	9,343
1980	158,482.43	116,593	64,200	102,207	9.28	11,014
1981	247,394.51	178,232	98,141	161,623	9.73	16,611
1982	177,578.20	125,107	68,889	117,568	10.20	11,526
1983	113,512.40	78,087	42,998	76,190	10.69	7,127
1984	139,024.79	93,283	51,365	94,611	11.19	8,455
1985	133,736.51	87,380	48,115	92,308	11.71	7,883
1986	133,369.10	84,700	46,639	93,399	12.25	7,624
1987	205,500.48	126,682	69,756	146,020	12.80	11,408
1988	229,288.99	136,919	75,393	165,360	13.37	12,368
1989	359,325.61	207,390	114,196	263,096	13.96	18,846
1990	51,862.00	28,879	15,902	38,553	14.56	2,648
1991	232,890.58	124,872	68,759	175,776	15.17	11,587
1992	264,872.72	136,366	75,088	203,028	15.80	12,850
1993	138,139.30	68,125	37,512	107,534	16.44	6,541
1994	133,876.87	63,031	34,707	105,864	17.10	6,191
1997	2,153.07	865	476	1,785	19.14	93
2000	25,512.08	8,399	4,625	22,163	21.28	1,041
2002	315,192.65	88,076	48,498	282,454	22.75	12,416

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.01 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 31-R1.5						
NET SALVAGE PERCENT.. -5						
2003	189,703.89	48,192	26,536	172,653	23.50	7,347
2004	604,462.09	137,993	75,984	558,701	24.26	23,030
2005	483,755.88	97,982	53,953	453,991	25.02	18,145
2006	486,741.88	85,892	47,295	463,784	25.79	17,983
2007	816,435.13	122,502	67,454	789,803	26.57	29,725
2008	858,240.90	105,813	58,265	842,888	27.36	30,807
2009	523,055.89	50,313	27,704	521,505	28.16	18,519
2010	646,998.67	44,708	24,618	654,731	28.96	22,608
2011	557,785.97	23,240	12,797	572,878	29.77	19,243
2012	385,932.75	5,361	2,952	402,277	30.59	13,151
	9,246,076.14	2,987,328	1,644,934	8,063,446		425,162

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.0   4.60

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 385.02 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT -
INDUSTRIAL METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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-S1						
NET SALVAGE PERCENT.. 0						
1994	19,596.98	14,006	5,332	14,265	4.85	2,941
1995	193,770.13	133,930	50,991	142,779	5.25	27,196
1996	239,429.58	159,573	60,754	178,676	5.67	31,513
1997	356,326.29	228,469	86,984	269,342	6.10	44,154
1998	1,401.21	861	328	1,073	6.56	164
2000	146,835.06	81,709	31,109	115,726	7.54	15,348
2001	82,561.92	43,369	16,512	66,050	8.07	8,185
2002	114,218.04	56,168	21,385	92,833	8.64	10,745
2011	120,413.04	10,483	3,991	116,422	15.52	7,501
2012	23,334.71	686	261	23,074	16.50	1,398
	1,297,886.96	729,254	277,647	1,020,240		149,145

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.8   11.49

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 387.00 OTHER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 16-S2.5						
NET SALVAGE PERCENT.. 0						
1985	3,422.66	3,245	2,367	1,056	0.83	1,056
2001	23,190.93	14,770	10,776	12,415	5.81	2,137
2006	1,658.37	657	479	1,179	9.66	122
2012	3,246.37	101	74	3,172	15.50	205
	31,518.33	18,773	13,696	17,822		3,520

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.1   11.17

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 55-R3						
NET SALVAGE PERCENT.. 0						
1965	35,232.27	25,559	35,193	39	15.10	3
1966	4,560.13	3,258	4,486	74	15.71	5
1969	146.35	99	136	10	17.61	1
1975	16,915.62	10,220	14,072	2,844	21.77	131
1978	4,873.75	2,746	3,781	1,093	24.01	46
1982	1,104,186.68	559,326	770,156	334,031	27.14	12,308
1983	13,098.12	6,444	8,873	4,225	27.94	151
1984	14,127.12	6,740	9,281	4,846	28.76	168
1986	245,948.86	109,917	151,349	94,600	30.42	3,110
1987	1,434.79	619	852	583	31.26	19
1988	97,215.31	40,459	55,709	41,506	32.11	1,293
1989	15,785.41	6,323	8,706	7,079	32.97	215
1990	8,428.04	3,243	4,465	3,963	33.84	117
1992	12,274.58	4,330	5,962	6,313	35.60	177
1993	9,409.29	3,167	4,361	5,048	36.49	138
1995	2,767.58	840	1,157	1,611	38.30	42
1996	4,045.00	1,161	1,599	2,446	39.21	62
1997	1,174.81	318	438	737	40.13	18
1999	3,979.16	941	1,296	2,683	41.99	64
2006	4,950.27	572	788	4,162	48.65	86
2007	68,366.22	6,688	9,209	59,157	49.62	1,192
2008	12,665.12	1,015	1,398	11,267	50.59	223
2009	20,367.90	1,270	1,749	18,619	51.57	361
2011	5,739,796.86	154,458	212,678	5,527,119	53.52	103,272
2012	11,063.11	99	136	10,927	54.51	200
	7,452,812.35	949,812	1,307,830	6,144,982		123,402

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.8   1.66

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1981	12,661.74	12,662	12,662			
1982	1,858.31	1,858	1,858			
1983	4,758.30	4,758	4,758			
1984	7,759.70	7,760	7,760			
1986	5,810.76	5,811	5,811			
1987	1,657.70	1,658	1,658			
1988	3,830.03	3,830	3,830			
1989	3,224.61	3,225	3,225			
1990	2,040.30	2,040	2,040			
1992	1,750.41	1,750	1,751			
	45,351.86	45,352	45,352			
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1993	868.07	846	265	603	0.50	603
1994	645.00	597	187	458	1.50	305
1998	746.74	541	169	577	5.50	105
2004	2,149.64	914	286	1,863	11.50	162
2007	17,716.83	4,872	1,526	16,191	14.50	1,117
2009	8,091.65	1,416	444	7,648	16.50	464
2011	252,602.33	18,945	5,935	246,667	18.50	13,333
	282,820.26	28,131	8,813	274,007		16,089
	328,172.12	73,483	54,165	274,007		16,089

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.0   4.90

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 391.02 OFFICE FURNITURE AND EQUIPMENT - COMPUTER (PURPA)

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	9,823.86	982		9,824	4.50	2,183
	9,823.86	982		9,824		2,183
	9,823.86	982		9,824		2,183

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.5   22.22

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 391.03 OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	54,654.68	5,465	1,654	53,001	4.50	11,778
	54,654.68	5,465	1,654	53,001		11,778
	54,654.68	5,465	1,654	53,001		11,778

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.5   21.55

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 7-L4						
NET SALVAGE PERCENT.. 0						
1975	5.00	5	5			
	5.00	5	5			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0   0.00

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 7-L4						
NET SALVAGE PERCENT.. +10						
2008	21,494.55	11,939	11,251	8,094	2.68	3,020
2010	28,520.36	9,167	8,639	17,029	4.50	3,784
	50,014.91	21,106	19,890	25,123		6,804

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.7   13.60

III-73

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 392.06 TRANSPORTATION EQUIPMENT - TRAILERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 16-S1.5						
NET SALVAGE PERCENT.. +10						
2008	47,167.33	11,409	9,688	32,763	11.70	2,800
	47,167.33	11,409	9,688	32,763		2,800

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.7   5.94

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 394.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1958	52.63	53	53			
1959	150.25	150	150			
1964	217.91	218	218			
1965	415.54	416	416			
1970	85.00	85	85			
1972	1,316.34	1,316	1,316			
1973	407.98	408	408			
1974	7,236.80	7,237	7,237			
1976	3,031.76	3,032	3,032			
1977	4,873.20	4,873	4,873			
1980	600.00	600	600			
1981	12,639.03	12,639	12,639			
1982	67,405.83	67,406	67,406			
1983	25,831.37	25,831	25,831			
1984	50,889.32	50,889	50,889			
1985	2,675.08	2,675	2,675			
1986	65,997.94	65,998	65,998			
1987	24,827.41	24,827	24,827			
	268,653.39	268,653	268,653			
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1988	98,407.24	96,439	78,594	19,813	0.50	19,813
1989	3,711.52	3,489	2,843	868	1.50	579
1990	7,667.87	6,901	5,624	2,044	2.50	818
1991	1,631.79	1,403	1,143	488	3.50	139
1992	904.33	742	605	300	4.50	67
1993	62,103.88	48,441	39,478	22,626	5.50	4,114
1994	29,092.40	21,528	17,544	11,548	6.50	1,777
1995	38,889.90	27,223	22,186	16,704	7.50	2,227
1996	17,885.49	11,804	9,620	8,266	8.50	972
1997	43,652.59	27,065	22,057	21,596	9.50	2,273
2000	8,854.56	4,427	3,608	5,247	12.50	420
2001	32,055.36	14,745	12,017	20,039	13.50	1,484
2002	21,199.76	8,904	7,256	13,943	14.50	962
2005	21,531.26	6,459	5,264	16,267	17.50	930
2008	42,956.19	7,732	6,301	36,655	20.50	1,788
2009	9,848.18	1,379	1,124	8,724	21.50	406

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 394.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	9,495.05	950	774	8,721	22.50	388
2011	35,856.16	2,151	1,753	34,103	23.50	1,451
2012	67,535.96	1,351	1,101	66,435	24.50	2,712
	553,279.49	293,133	238,892	314,387		43,320
	821,932.88	561,786	507,545	314,387		43,320

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.3   5.27

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACCOUNT 395.00 LABORARTORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	155,893.35	113,023	97,405	58,488	5.50	10,634
2006	40,005.73	13,002	11,205	28,800	13.50	2,133
2007	16,347.12	4,495	3,874	12,473	14.50	860
2010	1,248.14	156	134	1,114	17.50	64
	213,494.34	130,676	112,619	100,875		13,691
	213,494.34	130,676	112,619	100,875		13,691

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.4   6.41

BLACK HILLS UTILITY HOLDINGS, INC.
GAS PLANT

ACOCUNT 397.00 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2000	22,777.43	18,981	22,777			
2002	10,976.03	7,683	10,081	895	4.50	199
2003	8,695.32	5,507	7,226	1,470	5.50	267
2004	30,561.69	17,318	22,723	7,839	6.50	1,206
2005	13,996.10	6,998	9,182	4,814	7.50	642
2006	11,904.50	5,159	6,769	5,135	8.50	604
2007	33,995.12	12,465	16,355	17,640	9.50	1,857
2008	24,300.13	7,290	9,565	14,735	10.50	1,403
2009	135,470.89	31,609	41,474	93,997	11.50	8,174
2010	2,182.47	364	478	1,705	12.50	136
2011	5,783.91	578	758	5,026	13.50	372
	300,643.59	113,952	147,387	153,257		14,860
	300,643.59	113,952	147,387	153,257		14,860

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.3   4.94

COMMON PLANT

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - OWNED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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						
2010	11,076.25	545	3,727	7,349	47.54	155
2011	27,310.87	808	5,525	21,786	48.52	449
2012	65,629.20	643	4,397	61,232	49.51	1,237
	104,016.32	1,996	13,649	90,367		1,841

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.1   1.77

III-80

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 390.51 STRUCTURES AND IMPROVEMENTS - LEASED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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-S2.5						
NET SALVAGE PERCENT.. 0						
1998	12,979.63	7,025	10,934	2,046	11.47	178
2005	197,839.96	58,798	91,518	106,322	17.57	6,051
2007	59,004.73	12,934	20,131	38,874	19.52	1,991
2008	3,603.57	647	1,007	2,597	20.51	127
2009	98,434.44	13,781	21,450	76,984	21.50	3,581
2011	29,112.60	1,747	2,719	26,394	23.50	1,123
	400,974.93	94,932	147,759	253,216		13,051

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.4   3.25

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1993	30,931.16	30,158	30,931			
1995	3,696.13	3,234	3,369	327	2.50	131
1999	427,843.93	288,795	300,847	126,997	6.50	19,538
2000	43,411.91	27,132	28,264	15,148	7.50	2,020
2001	638,560.82	367,172	382,495	256,066	8.50	30,125
2002	113,344.68	59,506	61,989	51,355	9.50	5,406
2007	40,608.42	11,167	11,633	28,975	14.50	1,998
2008	75,103.50	16,898	17,603	57,500	15.50	3,710
2009	54,086.31	9,465	9,860	44,226	16.50	2,680
2010	19,044.57	2,381	2,480	16,564	17.50	947
2011	56,711.33	4,253	4,430	52,281	18.50	2,826
2012	128,158.72	3,204	3,338	124,821	19.50	6,401
	1,631,501.48	823,365	857,241	774,260		75,782
	1,631,501.48	823,365	857,241	774,260		75,782

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.2   4.64

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 391.03 OFFICE FURNITURE AND EQUIPMENT - COMPUTER HARDWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
2002	11,694.48	11,694	11,694			
2006	156,094.83	156,095	156,095			
2007	295,038.43	295,038	295,039			
	462,827.74	462,827	462,828			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	319,525.21	287,573	319,525			
2009	11,109.28	7,776	10,173	936	1.50	624
2010	1,245,882.89	622,941	814,987	430,896	2.50	172,358
2011	507,779.78	152,334	199,297	308,483	3.50	88,138
2012	901,261.55	90,126	117,911	783,351	4.50	174,078
	2,985,558.71	1,160,750	1,461,893	1,523,666		435,198
	3,448,386.45	1,623,577	1,924,721	1,523,666		435,198

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.5   12.62

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 10-L4
NET SALVAGE PERCENT.. 0
1997	1,147,042.70	1,039,221	1,147,043			
1998	35,887,748.49	31,868,321	35,887,748			
1999	4,222,255.79	3,660,696	4,222,256			
2000	10,111,602.24	8,544,304	10,111,602			
2001	1,409,183.50	1,162,576	1,409,184			
2002	3,533,530.67	2,865,693	3,533,531			
2003	1,176,083.64	932,634	1,176,084			
2004	915,889.64	694,244	907,475	8,415	2.42	3,477
2005	487,702.10	340,904	445,610	42,092	3.01	13,984
2006	1,032,494.69	643,244	840,811	191,684	3.77	50,845
2007	1,362,124.24	734,185	959,684	402,440	4.61	87,297
2008	1,548,283.38	692,083	904,650	643,633	5.53	116,389
2010	4,265,423.25	1,066,356	1,393,878	2,871,545	7.50	382,873
2011	1,262,383.89	189,358	247,518	1,014,866	8.50	119,396
2012	4,364,885.48	218,244	285,276	4,079,609	9.50	429,433
	72,726,633.70	54,652,063	63,472,350	9,254,284		1,203,694

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.7   1.66

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 391.05 OFFICE FURNITURE AND EQUIPMENT - SYSTEM DEVELOPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1997	4,223,108.01	4,223,108	4,223,108			
	4,223,108.01	4,223,108	4,223,108			
AMORTIZED						
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2010	993,206.95	248,302	2,843	990,364	7.50	132,049
2012	61,980.65	3,099	35	61,945	9.50	6,521
	1,055,187.60	251,401	2,878	1,052,310		138,570
	5,278,295.61	4,474,509	4,225,986	1,052,310		138,570

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.6   2.63

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.01 TRANSPORTATION EQUIPMENT - SUBUNIT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 7-L4						
NET SALVAGE PERCENT.. 0						
2008	730.09	451	249	481	2.68	179
2009	34,277.50	16,943	9,347	24,930	3.54	7,042
	35,007.59	17,394	9,596	25,412		7,221

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.5   20.63

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 7-L4						
NET SALVAGE PERCENT.. +10						
2010	96,003.17	30,858	21,692	64,711	4.50	14,380
2011	25,316.91	4,883	3,432	19,353	5.50	3,519
	121,320.08	35,741	25,124	84,064		17,899

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.7   14.75

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 10-S2.5						
NET SALVAGE PERCENT.. +10						
2009	60,836.49	18,890	13,213	41,540	6.55	6,342
2011	80,464.18	10,863	7,598	64,820	8.50	7,626
2012	73,451.96	3,305	2,312	63,795	9.50	6,715
	214,752.63	33,058	23,123	170,154		20,683

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.2   9.63

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 394.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
2012	29,553.46	591	3,492	26,061	24.50	1,064
	29,553.46	591	3,492	26,061		1,064
	29,553.46	591	3,492	26,061		1,064

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.5   3.60

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 397.00 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1997	13,353.01	13,353	13,353			
	13,353.01	13,353	13,353			
AMORTIZED						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2001	903,731.93	692,864	746,198	157,534	3.50	45,010
2008	19,779.43	5,934	6,391	13,389	10.50	1,275
2010	11,639.00	1,940	2,089	9,550	12.50	764
2011	11,415.95	1,142	1,230	10,186	13.50	755
2012	393,427.25	13,113	14,122	379,305	14.50	26,159
	1,339,993.56	714,993	770,030	569,964		73,963
	1,353,346.57	728,346	783,383	569,964		73,963

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.7   5.47

BLACK HILLS UTILITY HOLDINGS, INC.
COMMON PLANT

ACCOUNT 398.00 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2006	2,675.13	869	1,462	1,213	13.50	90
	2,675.13	869	1,462	1,213		90
	2,675.13	869	1,462	1,213		90

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.5   3.36

BLACK HILLS SERVICE COMPANY
Rapid City, South Dakota

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO UTILITY PLANT

AS OF DECEMBER 31, 2012

GANNETT FLEMING, INC. - VALUATION AND RATE DIVISION

Harrisburg, Pennsylvania

November 25, 2013

Black Hills Service Company
625 Ninth Street
Rapid City, SD 57701

Attention Mr. Chris Kilpatrick
             Director of Rates

Ladies and Gentlemen:

    Pursuant to your request, we have conducted a depreciation study related to utility plant of Black Hills Service Company assets as of December 31, 2012. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual and accrued depreciation and the detailed tabulations of annual and accrued depreciation.

                    Respectfully submitted,

                    GANNETT FLEMING, INC.

                    JOHN J. SPANOS
                    Sr. Vice President
                    Valuation and Rate Division

JJS:krm

057075

CONTENTS

PART I. INTRODUCTION

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

PART III. RESULTS OF STUDY

CONTENTS, cont.

PART III. RESULTS OF STUDY, cont.

PART I. INTRODUCTION

BLACK HILLS SERVICE COMPANY

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO UTILITY PLANT
AS OF DECEMBER 31, 2012

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for Black Hills

Service Company ("Company") as applied to utility plant in service as of December 31,

2012. It relates to the concepts, methods and basic judgments which underlie

recommended annual depreciation accrual rates related to current plant in service.

The service life estimates resulting from the study were based on informed judgment

which incorporated analyses of historical plant retirement data as recorded through 2012;

a review of Company practice and outlook as they relate to plant operation and retirement;

and consideration of current practice in the utility industry, including knowledge of service

life estimates used for other utility plant assets.

PLAN OF REPORT

Part I includes brief statements of the scope and basis of the study. Part II presents

descriptions of the methods used in the service life studies and the methods and

procedures used in the calculation of depreciation. Part III presents the results of the

study, including a summary table, survivor curve charts and life tables resulting from the

retirement rate method of analysis, and detailed tabulations of the calculated remaining

lives and annual accruals.

BASIS OF STUDY

Depreciation

For some accounts, the annual depreciation was calculated by the straight line method using the average service life procedure and the remaining life basis. For the remaining plant accounts, the annual depreciation was based on amortization accounting. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group.

Survivor Curve and Net Salvage Estimates

The procedure for estimating survivor curves, which define service lives and remaining lives, consisted of compiling historical service life data for the plant accounts or other depreciable groups, analyzing the historical data base through the use of accepted techniques, and forecasting the survivor characteristics for each depreciable account or group. These forecasts were based on interpretations of the historical data analyses and the expectations of future survivors. The combination of the historical data and the estimated future trend yields a complete pattern of life characteristics, i.e., a survivor curve, from which the average service life and remaining service life are derived.

The historical data analyzed for life estimation purposes were compiled through 2012 from the Company's fixed asset records. Such data included plant additions, retirements, transfers and other activity recorded by the Company for each of its plant accounts and subaccounts.

The estimates of net salvage by account incorporated a review of experienced costs of removal and salvage related to plant retirements, and consideration of trends exhibited by the historical data for other Black Hills companies.

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

Calculation of Depreciation

The depreciation accrual rates were calculated using the straight line method, the remaining life basis and the average service life depreciation procedure. The continuation of amortization accounting for certain accounts is recommended 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 on page II-26 of the report.

PART II. METHODS USED IN

THE ESTIMATION OF DEPRECIATION

PART II. METHODS USED IN
THE ESTIMATION OF DEPRECIATION

DEPRECIATION

Depreciation, as defined in the Uniform System of Accounts, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric and gas plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, requirements of public authorities, and, in the case of natural gas companies, the exhaustion of natural resources.

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 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.

The calculation of annual depreciation based on the straight line method requires the estimation of average life and salvage. These subjects are discussed in the sections which follow.

SERVICE LIFE AND NET SALVAGE ESTIMATION

Average Service Life

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. A discussion of the general concept of survivor curves is presented. Also, the Iowa type survivor curves are reviewed.

Survivor Curves

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 and is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

Figure 1. A Typical Survivor Curve and Derived Curves

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 or L 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 or S curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded or R 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 or O 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 numerical subscripts 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.[1]   These type curves have also been presented in subsequent Experiment Station

---

[1]Winfrey, Robley. Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.
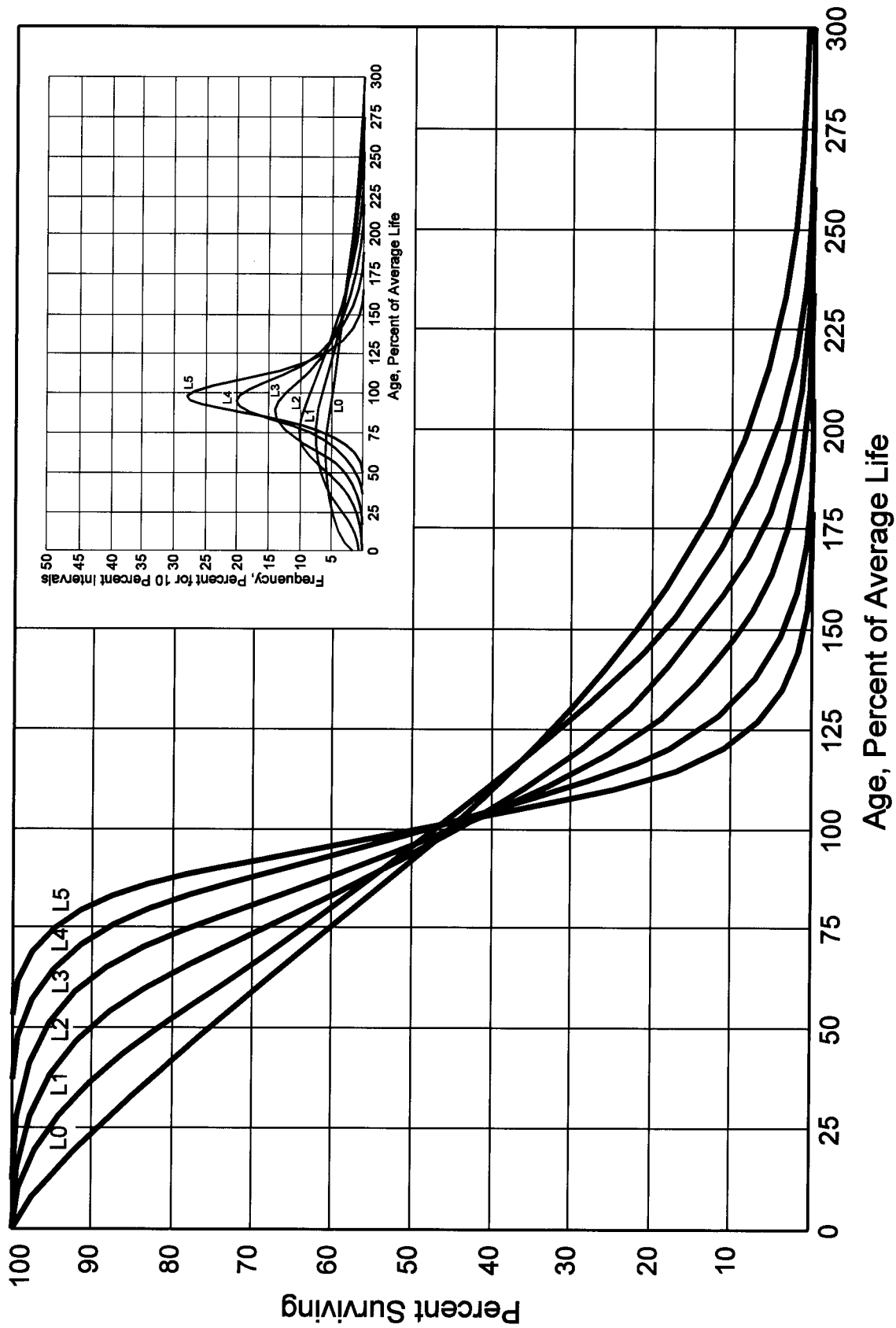
Figure 2. Left Modal or "L" Iowa Type Survivor Curves
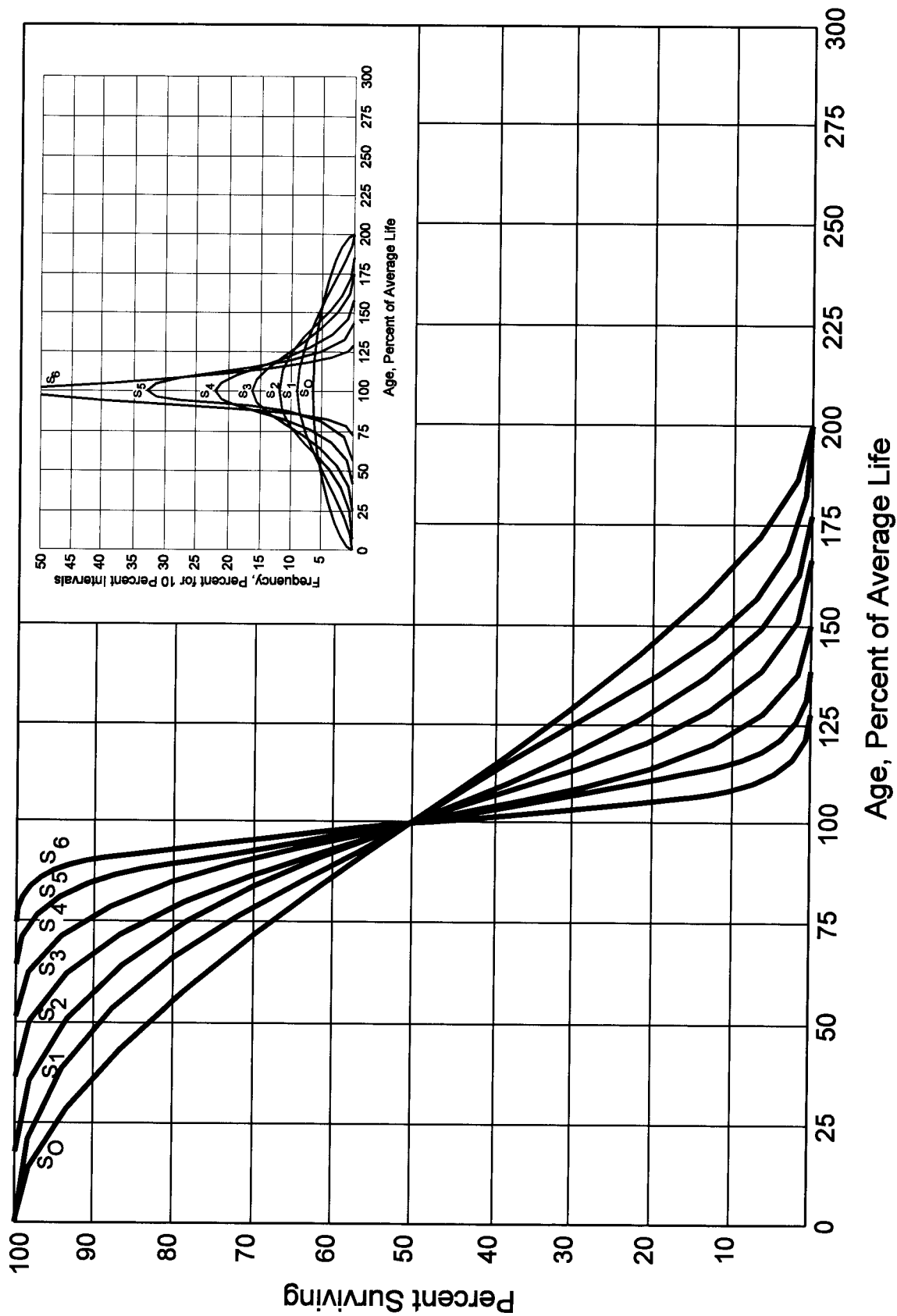
Figure 3. Symmetrical or "S" Iowa Type Survivor Curves
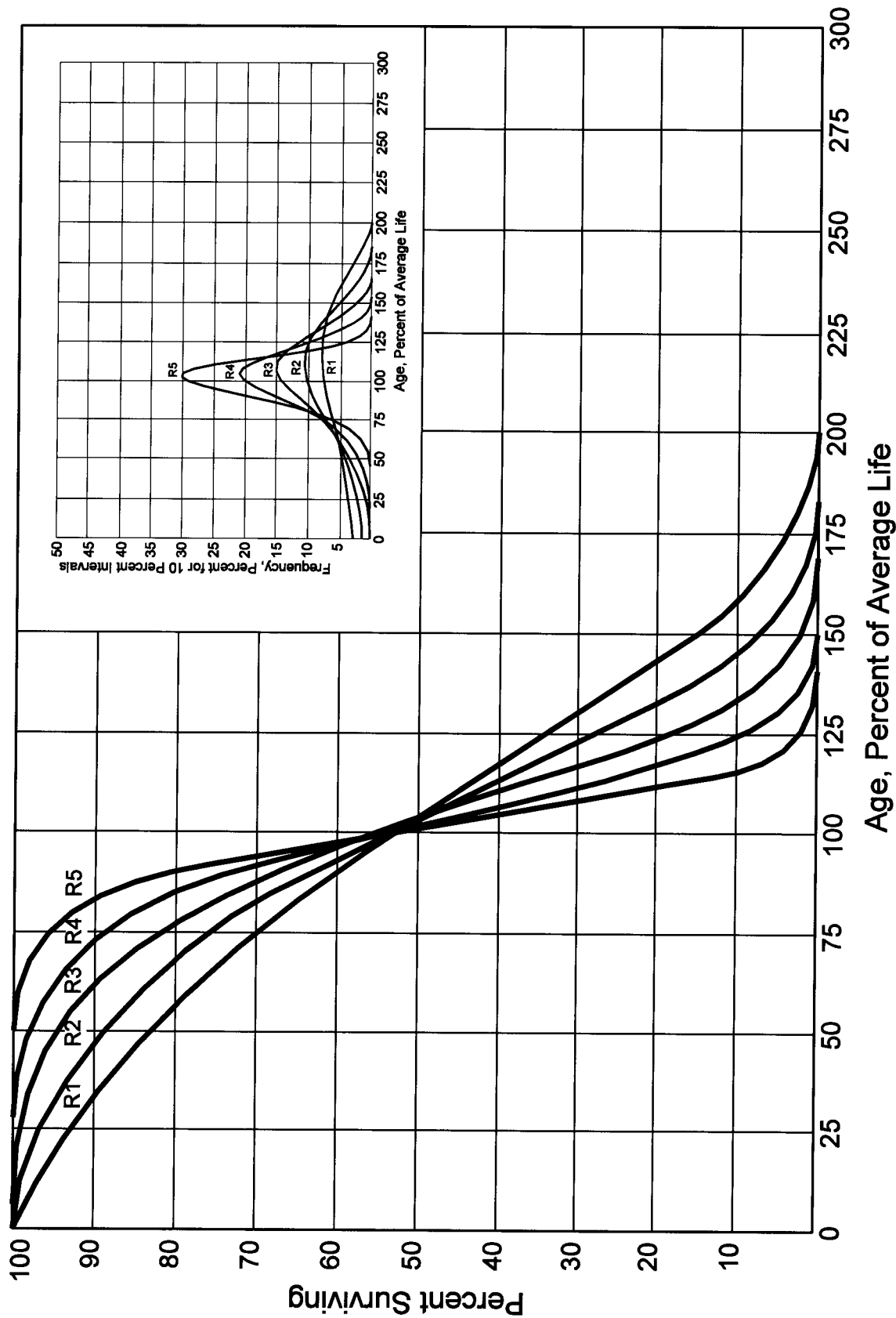
Figure 4. Right Modal or "R" Iowa Type Survivor Curves
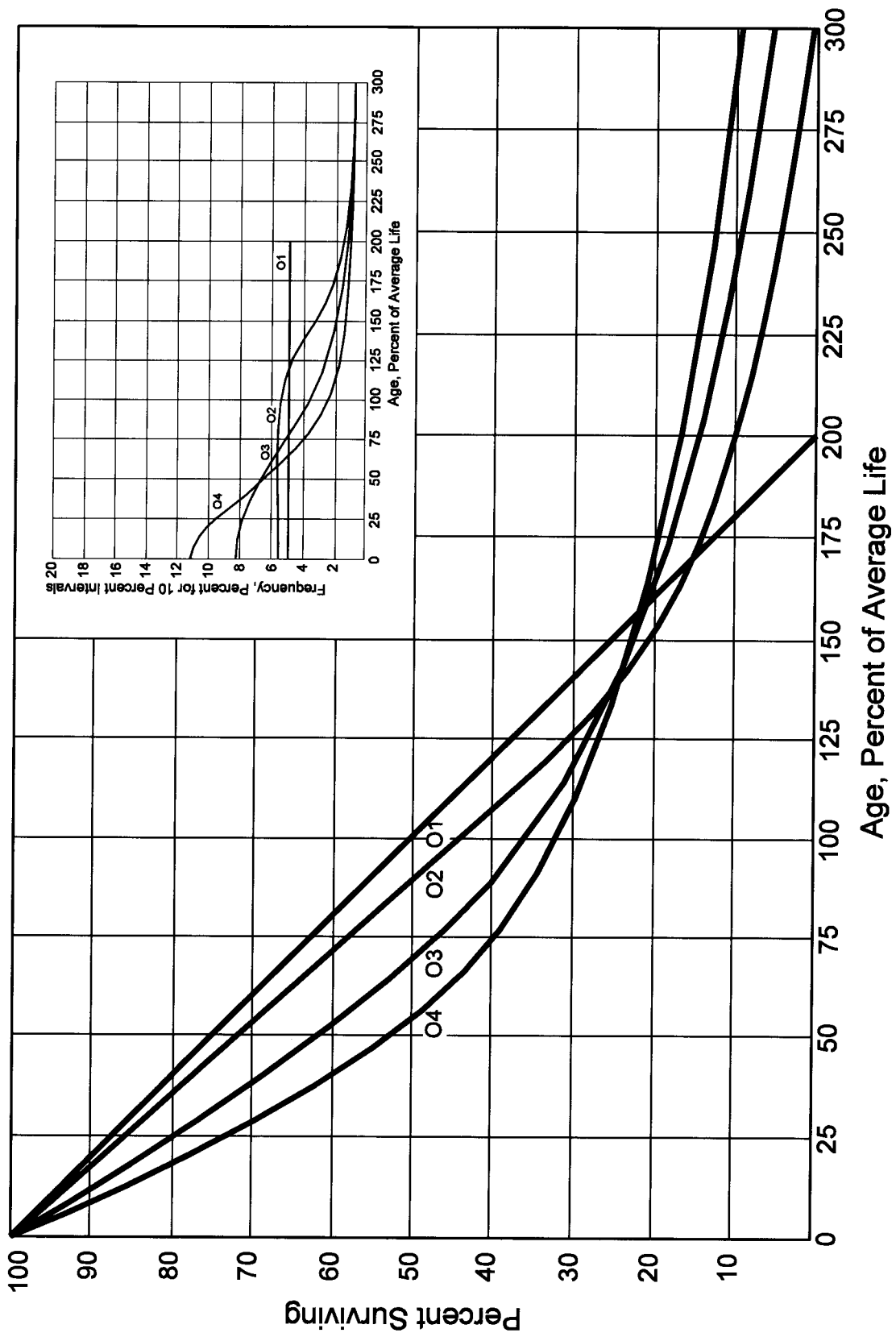
Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

bulletins and in the text, "Engineering Valuation and Depreciation."[2] In 1957, Frank V. B.Couch, Jr., an Iowa State College graduate student, submitted a thesis[3] 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 or for which aged accounting experience is developed by statistically aging unaged amounts 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,"[4] "Engineering Valuation and Depreciation,"[5] and "Depreciation Systems."[6]

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

---

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

[3]Couch, Frank V. B., Jr. "Classification of Type O Retirement Characteristics of Industrial Property." Unpublished M.S. thesis (Engineering Valuation). Library, Iowa State College, Ames, Iowa. 1957.

[4]Winfrey, Robley, Supra Note 1.

[5]Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

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

property exposed to retirement at the beginnings 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.

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2003-2012 during which there were placements during the years 1998-2012. 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-12 and II-13. 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 1998 were retired in 2003. 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

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2003-2012
SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

Year Placed (1)	Retirements, Thousands of Dollars During Year										Total During Age Interval (12)	Age Interval (13)
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	10	11	12	13	14	16	23	24	25	26	26	13½-14½
1999	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2000	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2001	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2002	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2003	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2004		5	11	12	13	14	15	16	18	20	113	7½-8½
2005			6	12	13	15	16	17	19	19	124	6½-7½
2006				6	13	15	16	17	19	19	131	5½-6½
2007					7	14	16	17	19	20	143	4½-5½
2008						8	18	20	22	23	146	3½-4½
2009							9	20	22	25	150	2½-3½
2010								11	23	25	151	1½-2½
2011									11	24	153	½-1½
2012	—									13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

II-12

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2003-2012 SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

Year Placed (1)	Acquisitions, Transfers and Sales, Thousands of Dollars During Year										Total During Age Interval (12)	Age Interval (13)
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
1999	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2000	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2001	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2002	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2003	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2004	-	-	-	-	-	-	-	-	-	-	6	7½-8½
2005		-	-	-	-	-	-	-	-	-	-	6½-7½
2006			-	-	-	-	-	(12)[b]	-	-	-	5½-6½
2007				-	-	-	-	-	22[a]	-	-	4½-5½
2008					-	-	-	(19)[b]	-	-	10	3½-4½
2009						-	-	-	-	-	-	2½-3½
2010							-	-	-	(102)[c]	(121)	1½-2½
2011								-	-	-	-	½-1½
2012	-	-	-	-	-	-	-	-	-	-	-	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.

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 stairstep line drawn on the table beginning with the 2003 retirements of 1998 installations and ending with the 2012 retirements of the 2007 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

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

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-15.

The surviving plant at the beginning of each year from 2003 through 2012 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.

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2003-2012
SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

| Year Placed (1) | Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year | | | | | | | | | | Total at Beginning of Age Interval (12) | Age Interval (13) |
	2003 (2)	2004 (3)	2005 (4)	2006 (5)	2007 (6)	2008 (7)	2009 (8)	2010 (9)	2011 (10)	2012 (11)		
1998	255	245	234	222	209	195	239	216	192	167	167	13½-14½
1999	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2000	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2001	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2002	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2003	420ᵃ	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2004		460ᵃ	455	444	432	419	405	390	374	356	1,952	7½-8½
2005			510ᵃ	504	492	479	464	448	431	412	2,463	6½-7½
2006				580ᵃ	574	561	546	530	501	482	3,057	5½-6½
2007					660ᵃ	653	639	623	628	609	3,789	4½-5½
2008						750ᵃ	742	724	685	663	4,332	3½-4½
2009							850ᵃ	841	821	799	4,955	2½-3½
2010								960ᵃ	949	926	5,719	1½-2½
2011									1,080ᵃ	1,069	6,579	½-1½
2012										1,220ᵃ	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.

II-15

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 2008 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
```

For the entire experience band 2003-2012, 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-17, 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

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

Experience Band 2003-2012   Placement Band 1998-2012

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval (1)	Exposures at Beginning of Age Interval (2)	Retirements During Age Interval (3)	Retirement Ratio (4)	Survivor Ratio (5)	Percent Surviving at Beginning of Age Interval (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.

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.

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

Smoothing the Original Survivor Curve. The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.
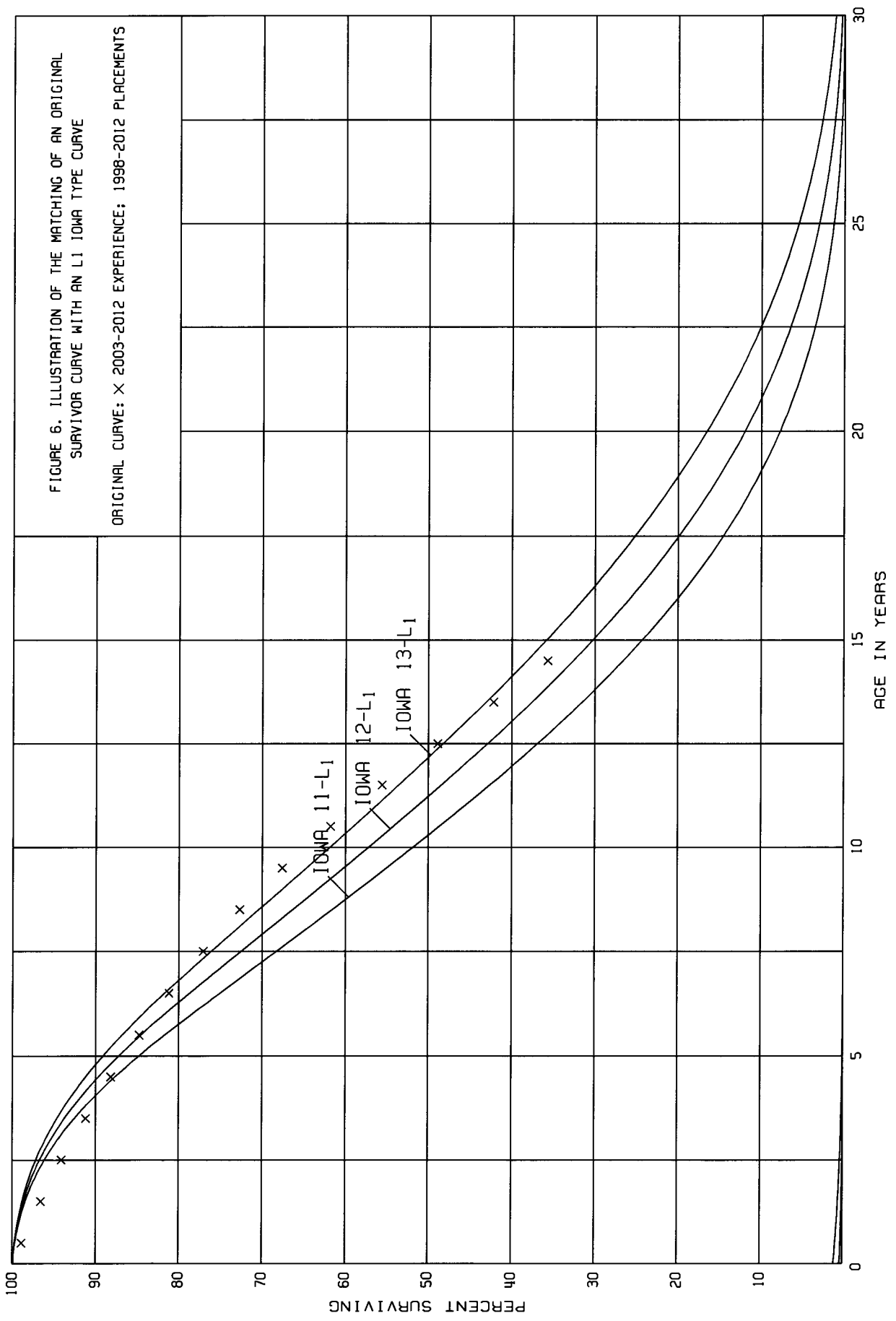
The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to
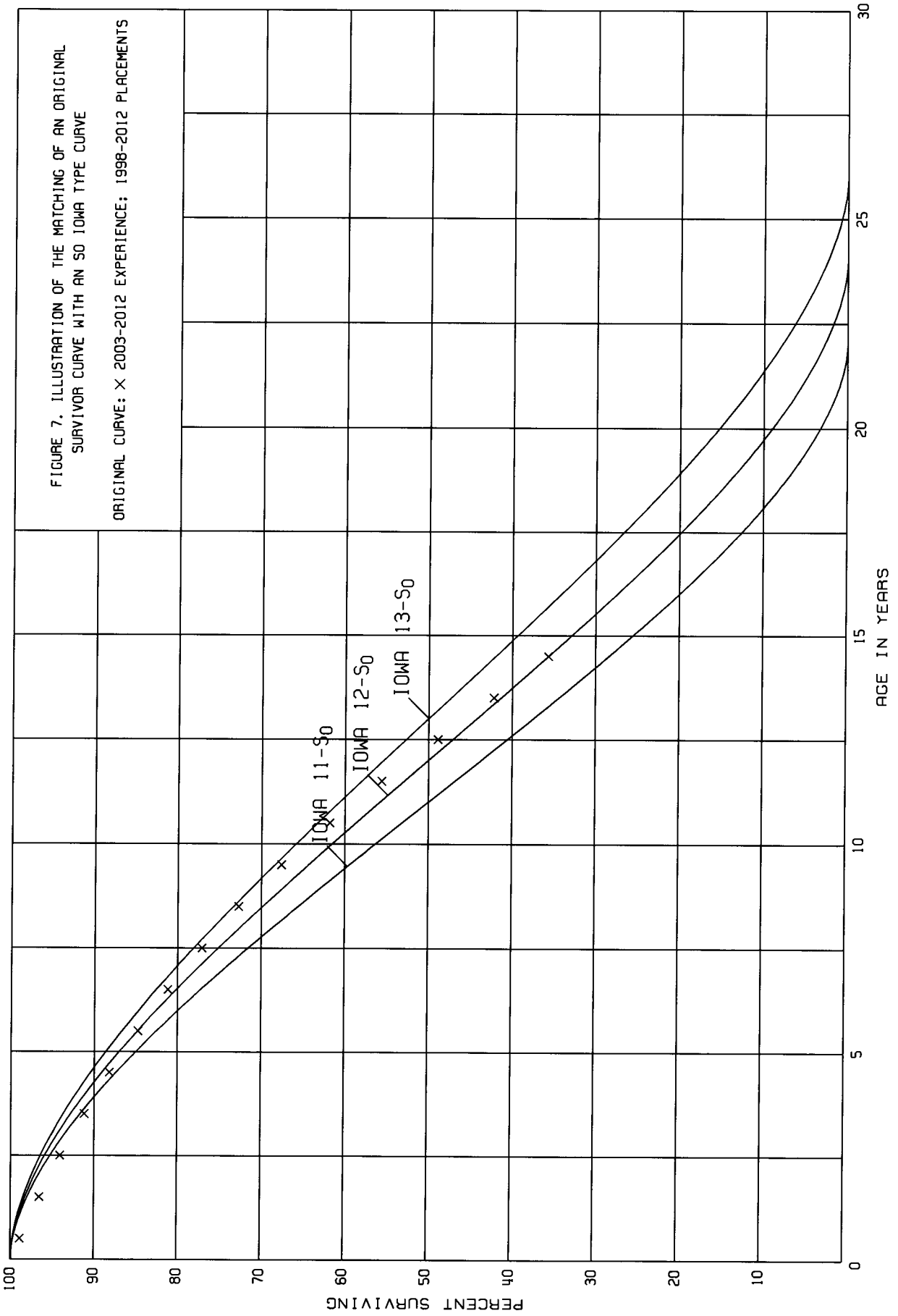
determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0. In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group, assuming no contrary relevant factors external to the analysis of historical data.
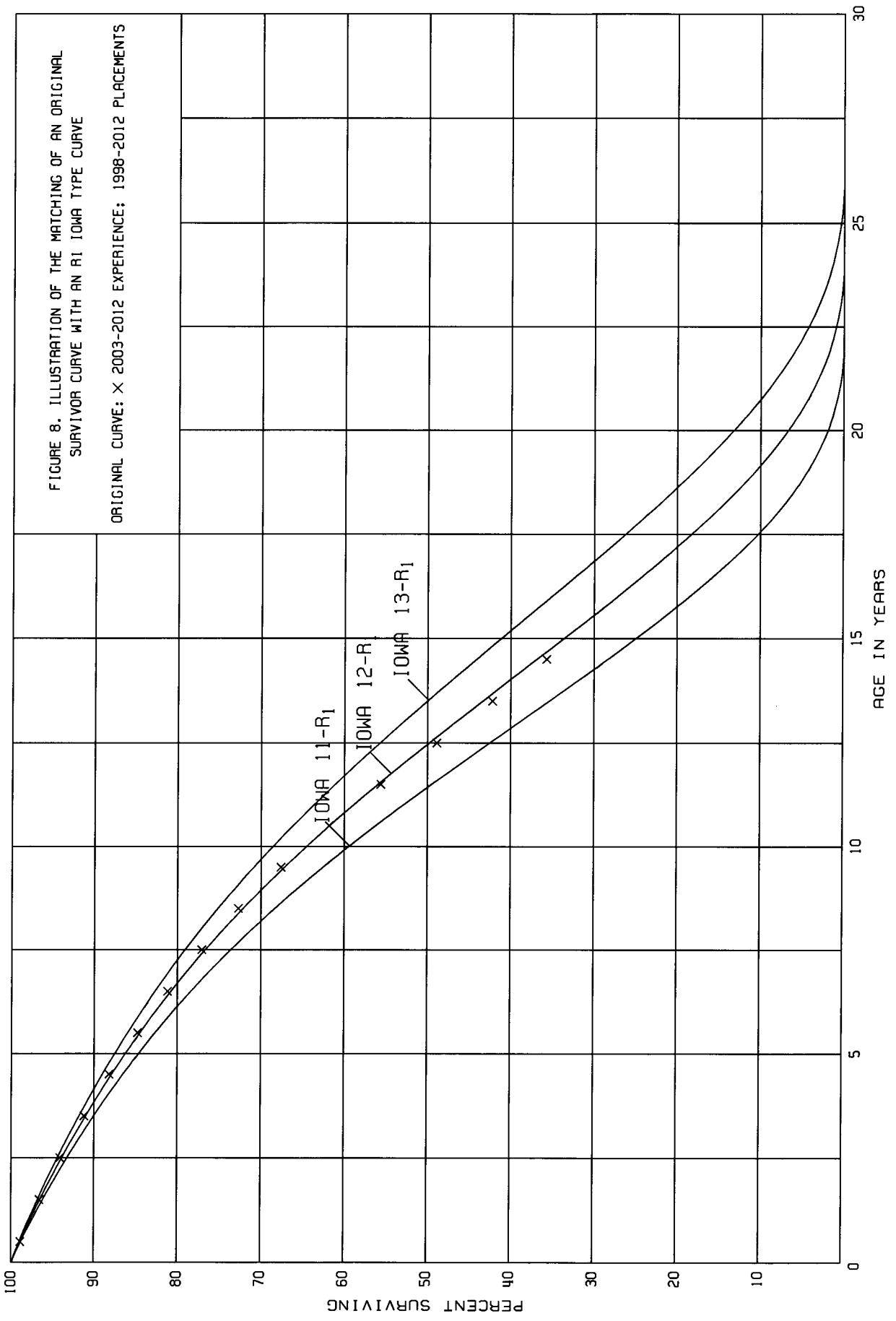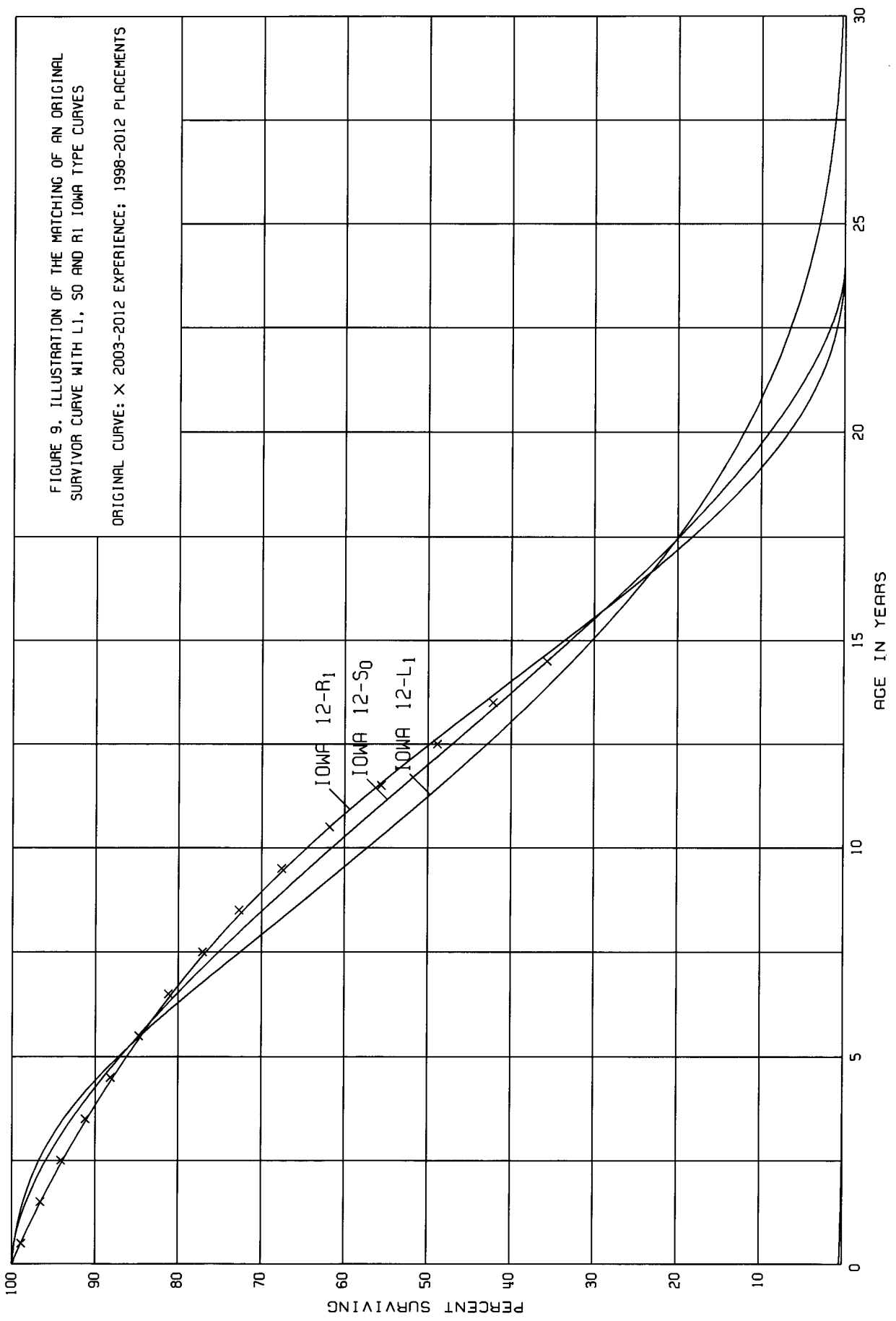
Service Life Considerations

The service life estimates were based on judgment which considered a number of factors. The primary factors were the current Company policies and outlook as determined during conversations with management and the survivor curve estimates from previous studies of both the holding company and the electric utility assets as well as other utility companies.

For the transportation equipment 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. 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 service life estimates is presented in the section beginning on page III-5.

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

IOWA 11-L_1

IOWA 12-L_1

IOWA 13-L_1

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

IOWA 11-S_0

IOWA 12-S_0

IOWA 13-S_0

II-21

FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL
SURVIVOR CURVE WITH AN RI IOWA TYPE CURVE

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

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

ORIGINAL CURVE: X 2003-2012 EXPERIENCE; 1998-2012 PLACEMENTS

IOWA 12-R_1

IOWA 12-S_0

IOWA 12-L_1

AGE IN YEARS

PERCENT SURVIVING

II-23

General Plant
    392.02   Transportation Equipment - Cars
    392.03   Transportation Equipment - Light Trucks
    392.04   Transportation Equipment - Medium Trucks

The estimates of the remaining accounts were based on judgment incorporating the nature of the assets or the established amortization period.

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 transportation and power operated equipment.

CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

After the survivor curve and salvage are estimated, the annual depreciation accrual rate can be calculated. In the average service life procedure, the annual accrual rate is computed by the following equation:

$$Annual\ Accrual\ Rate,\ Percent = \frac{(100\%\quad Net\ Salvage,\ Percent)}{Average\ Service\ Life}.$$

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which will not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as a basis for straight line depreciation accounting.

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 the estimated survivor curve. The accrued depreciation ratios are calculated as follows:

$$Ratio = (1 - \frac{Average\ Remaining\ Life\ Expectancy}{Average\ Service\ Life}) \ (1 - Net\ Salvage,\ Percent).$$

The application of these procedures is described for a single unit of property and a group of property units. Salvage is omitted from the description for ease of application.

<u>Single Unit of Property</u>

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

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

The accrued depreciation is:

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

<u>Group Depreciation Procedures</u>

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of 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.

<u>Remaining Life Annual Accruals</u>. For the purpose of calculating remaining life accruals as of December 31, 2012, 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, 2012, 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:

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

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

Amortization, as defined in the Uniform System of Accounts, 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 periods and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

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

Account		Amortization Period, Years
391.00	Office Furniture and Equipment	
	Hardware	5
	Equipment	10
	Furniture	20

For the purpose of calculating annual amortization amounts as of December 31, 2012, the book or ratemaking book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining 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 III. RESULTS OF STUDY

PART III. RESULTS OF STUDY

QUALIFICATION OF RESULTS

The calculated annual depreciation accrual rates 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 annual 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 utility plant in service as of December 31, 2012. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2012, is reasonable for a period of three to five years.

DESCRIPTION OF DEPRECIATION TABULATIONS

A summary of the results of the study, as applied to the original cost of utility plant at December 31, 2012, is presented on page III-4 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 utility plant.

The tables of the calculated annual depreciation accruals are presented in account sequence in the section titled "Depreciation Calculations." The tables indicate the estimated survivor curve and 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.

BLACK HILLS SERVICE COMPANY
SUMMARY OF ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND
CALCULATED ANNUAL DEPRECIATION RATES AS OF DECEMBER 31, 2012

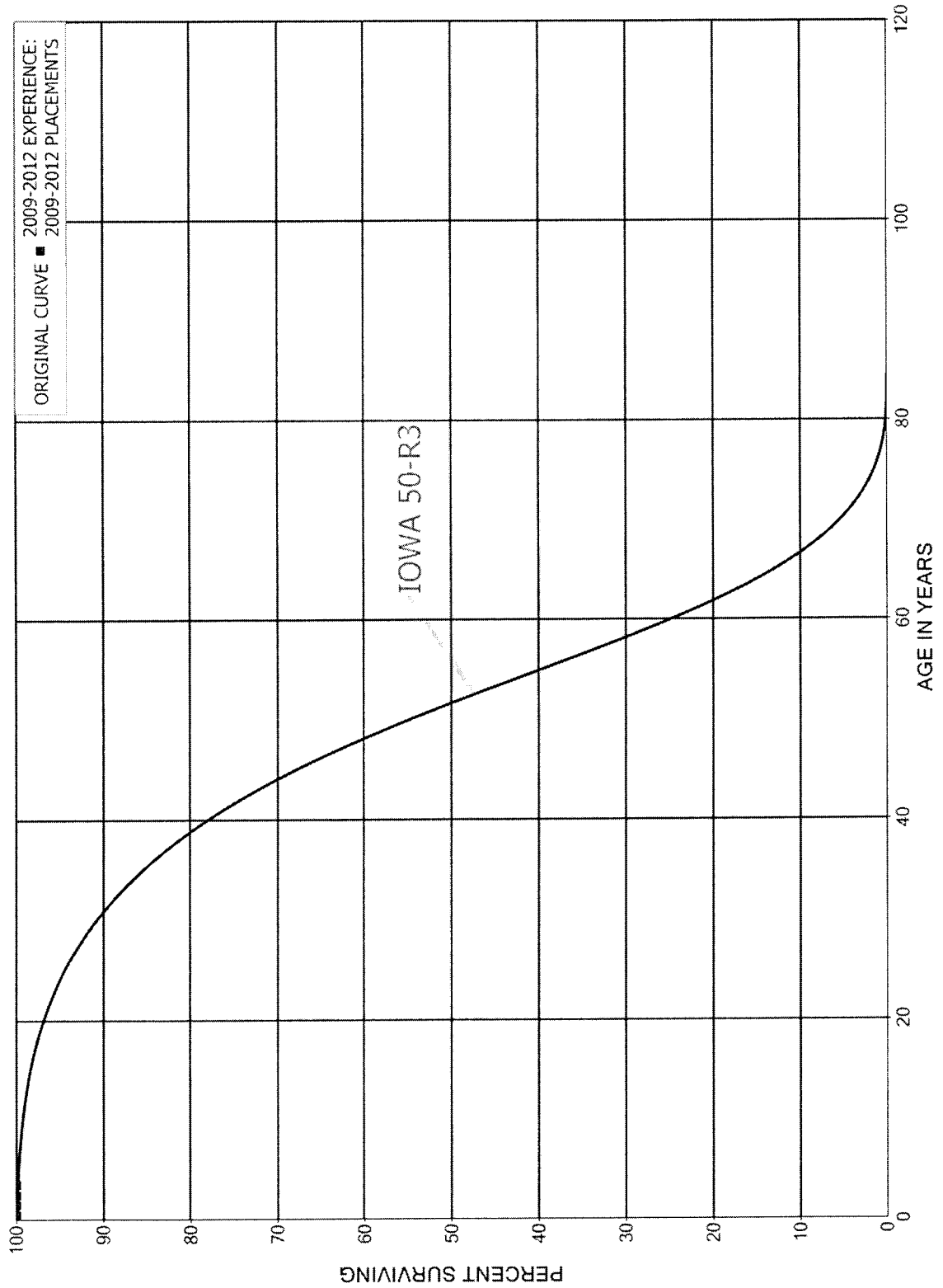|	ACCOUNT (1)	SURVIVOR CURVE (2)	NET SALVAGE PERCENT (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ACCRUAL AMOUNT (7)	CALCULATED ANNUAL ACCRUAL RATE (8)=(7)/(4)	COMPOSITE REMAINING LIFE (9)=(6)/(7)
	GENERAL PLANT								
390.30	STRUCTURES AND IMPROVEMENTS - OWNED	50-R3	0	3,414,921.57	334,337	3,080,585	65,821	1.93	46.8
391.01	OFFICE FURNITURE AND EQUIPMENT - SOFTWARE	6-S5	0	38,071,576.92	23,305,922	14,765,655	3,384,410	8.89 **	4.4
391.02	OFFICE FURNITURE AND EQUIPMENT - HARDWARE								
	FULLY ACCRUED	5-SQ	0	4,499,579.68	4,499,580	0	0	-	-
	AMORTIZED	5-SQ	0	4,725,254.69	3,473,072	1,252,183	352,257	7.45 *	3.6
	TOTAL HARDWARE			9,224,834.37	7,972,652	1,252,183	352,257	3.82	
391.03	OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT								
	FULLY ACCRUED	10-SQ	0	2,304.00	2,304	0	0	-	-
	AMORTIZED	10-SQ	0	1,802,711.48	670,530	1,132,181	162,737	9.03 *	7.0
	TOTAL EQUIPMENT			1,805,015.48	672,834	1,132,181	162,737	9.02	
391.04	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20-SQ	0	736,353.85	201,700	534,654	35,256	4.79 *	15.2
	TOTAL ACCOUNT 391			49,837,780.62	32,153,108	17,684,673	3,934,660	7.89	
392.02	TRANSPORTATION EQUIPMENT - CARS	7-L4	10	184,633.20	116,435	49,735	7,705	4.17 **	6.5
392.03	TRANSPORTATION EQUIPMENT - LIGHT TRUCKS	10-S2.5	10	593,848.19	434,494	99,969	11,761	1.98 **	8.5
392.04	TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS	11-L2.5	15	859,163.28	494,324	235,965	23,474	2.73 **	10.1
	TOTAL ACCOUNT 392			1,637,644.67	1,045,253	385,669	42,940	2.62	
	TOTAL GENERAL PLANT			54,890,346.86	33,532,698	21,150,927	4,043,421	7.37	
	NONDEPRECIABLE PLANT								
389.00	LAND			291,371.14	0				
	TOTAL NONDEPRECIABLE PLANT			291,371.14	0				
	TOTAL UTILITY PLANT			55,181,718.00	33,532,698	21,150,927	4,043,421		

* ADDITIONS AS OF JANUARY 1, 2013 WILL UTILIZE THE STANDARD AMORTIZATION RATE

** ACCRUAL RATES TO BE APPLIED TO ADDITIONS IN NEW SUBACCOUNTS AS OF JANUARY 1, 2013:
  ACCOUNT 391.06, OFFICE FURNITURE AND EQUIPMENT - SOFTWARE, WILL UTILIZE A 18.18% RATE CONSISTENT WITH A 6-S5 SURVIVOR CURVE AND 0% NET SALVAGE.
  ACCOUNT 392.05, TRANSPORTATION EQUIPMENT - CARS , WILL UTILIZE A 13.85% RATE CONSISTENT WITH A 7-L4 SURVIVOR CURVE AND 10% NET SALVAGE.
  ACCOUNT 392.06, TRANSPORTATION EQUIPMENT - LIGHT TRUCKS, WILL UTILIZE A 9.47% RATE CONSISTENT WITH A 10-S2.5 SURVIVOR CURVE AND 10% NET SALVAGE.
  ACCOUNT 392.07, TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS, WILL UTILIZE A 8.10% RATE CONSISTENT WITH A 11-L2.5 SURVIVOR CURVE AND 15% NET SALVAGE.

SERVICE LIFE STATISTICS

BLACK HILLS SERVICE COMPANY

ACCOUNT 390.30 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 50-R3

ORIGINAL CURVE ■ 2009-2012 EXPERIENCE:
2009-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS

BLACK HILLS SERVICE COMPANY

ACCOUNT 390.30 STRUCTURES AND IMPROVEMENTS - OWNED

ORIGINAL LIFE TABLE

PLACEMENT BAND 2009-2012   EXPERIENCE BAND 2009-2012

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	3,414,922		0.0000	1.0000	100.00
0.5	3,405,259		0.0000	1.0000	100.00
1.5	3,247,418		0.0000	1.0000	100.00
2.5	2,788,064		0.0000	1.0000	100.00
3.5					100.00

BLACK HILLS SERVICE COMPANY

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 6-S5

ORIGINAL CURVE ■ 2005-2012 EXPERIENCE:
1997-2012 PLACEMENTS

PERCENT SURVIVING

AGE IN YEARS
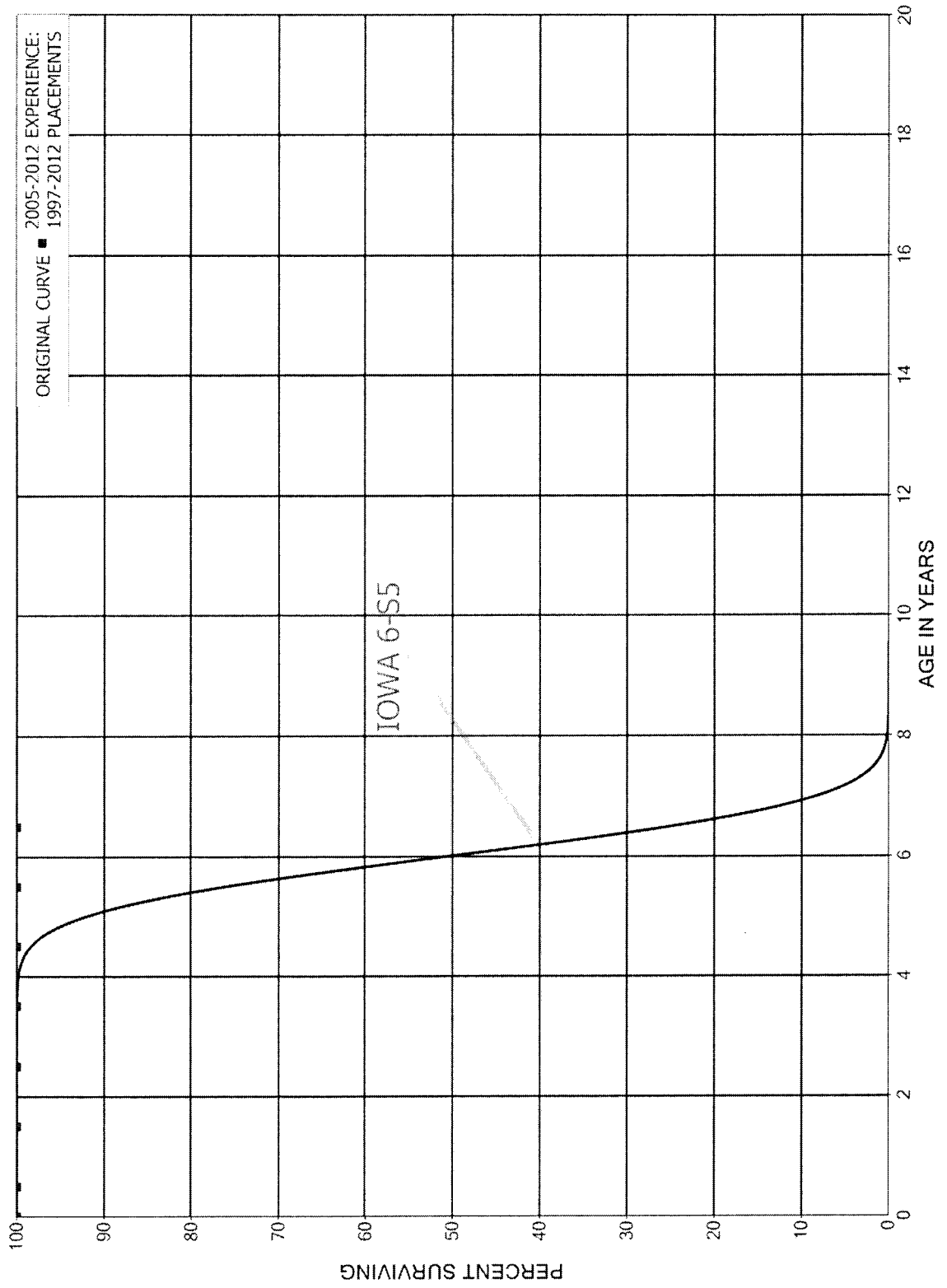
BLACK HILLS SERVICE COMPANY

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1997-2012   EXPERIENCE BAND 2005-2012

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	38,070,670		0.0000	1.0000	100.00
0.5	30,860,658		0.0000	1.0000	100.00
1.5	24,664,420		0.0000	1.0000	100.00
2.5	16,741,111		0.0000	1.0000	100.00
3.5	12,988,531		0.0000	1.0000	100.00
4.5	4,847,897		0.0000	1.0000	100.00
5.5	1,836,124		0.0000	1.0000	100.00
6.5	193,254		0.0000	1.0000	100.00
7.5	907		0.0000	1.0000	100.00
8.5	907		0.0000	1.0000	100.00
9.5	907		0.0000	1.0000	100.00
10.5	907		0.0000	1.0000	100.00
11.5	907		0.0000	1.0000	100.00
12.5	907		0.0000	1.0000	100.00
13.5	907		0.0000	1.0000	100.00
14.5	907		0.0000	1.0000	100.00
15.5					100.00

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

ORIGINAL AND SMOOTH SURVIVOR CURVES

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS
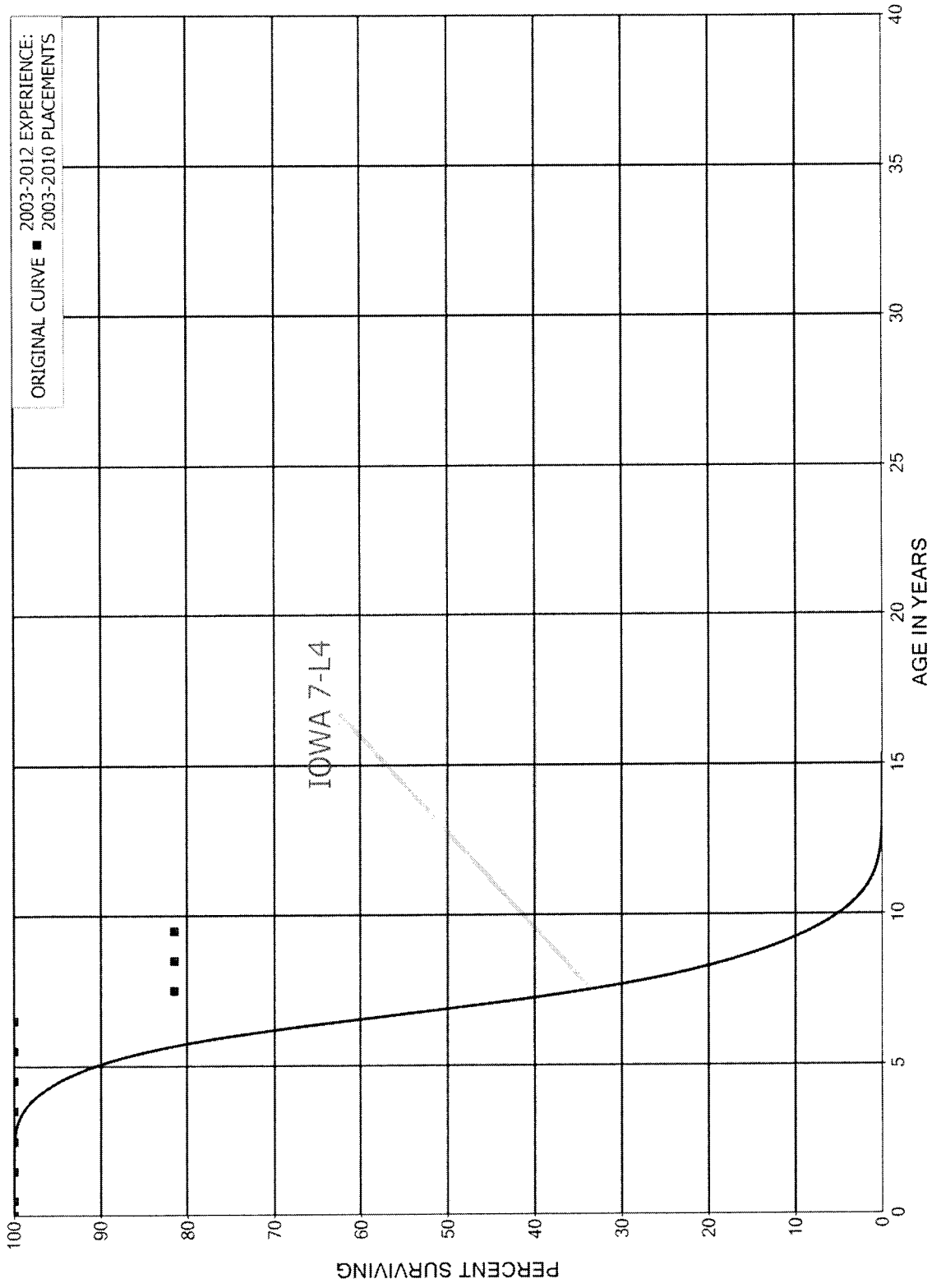
ORIGINAL LIFE TABLE

PLACEMENT BAND 2003-2010   EXPERIENCE BAND 2003-2012

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	107,982		0.0000	1.0000	100.00
0.5	107,982		0.0000	1.0000	100.00
1.5	107,982		0.0000	1.0000	100.00
2.5	62,588		0.0000	1.0000	100.00
3.5	83,146		0.0000	1.0000	100.00
4.5	62,588		0.0000	1.0000	100.00
5.5	62,588		0.0000	1.0000	100.00
6.5	62,588	11,575	0.1849	0.8151	100.00
7.5	25,102		0.0000	1.0000	81.51
8.5	25,102		0.0000	1.0000	81.51
9.5					81.51

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

ORIGINAL AND SMOOTH SURVIVOR CURVES

IOWA 10-S2.5

ORIGINAL CURVE ■ 2003-2012 EXPERIENCE:
■ 2003-2011 PLACEMENTS

PERCENT SURVIVING

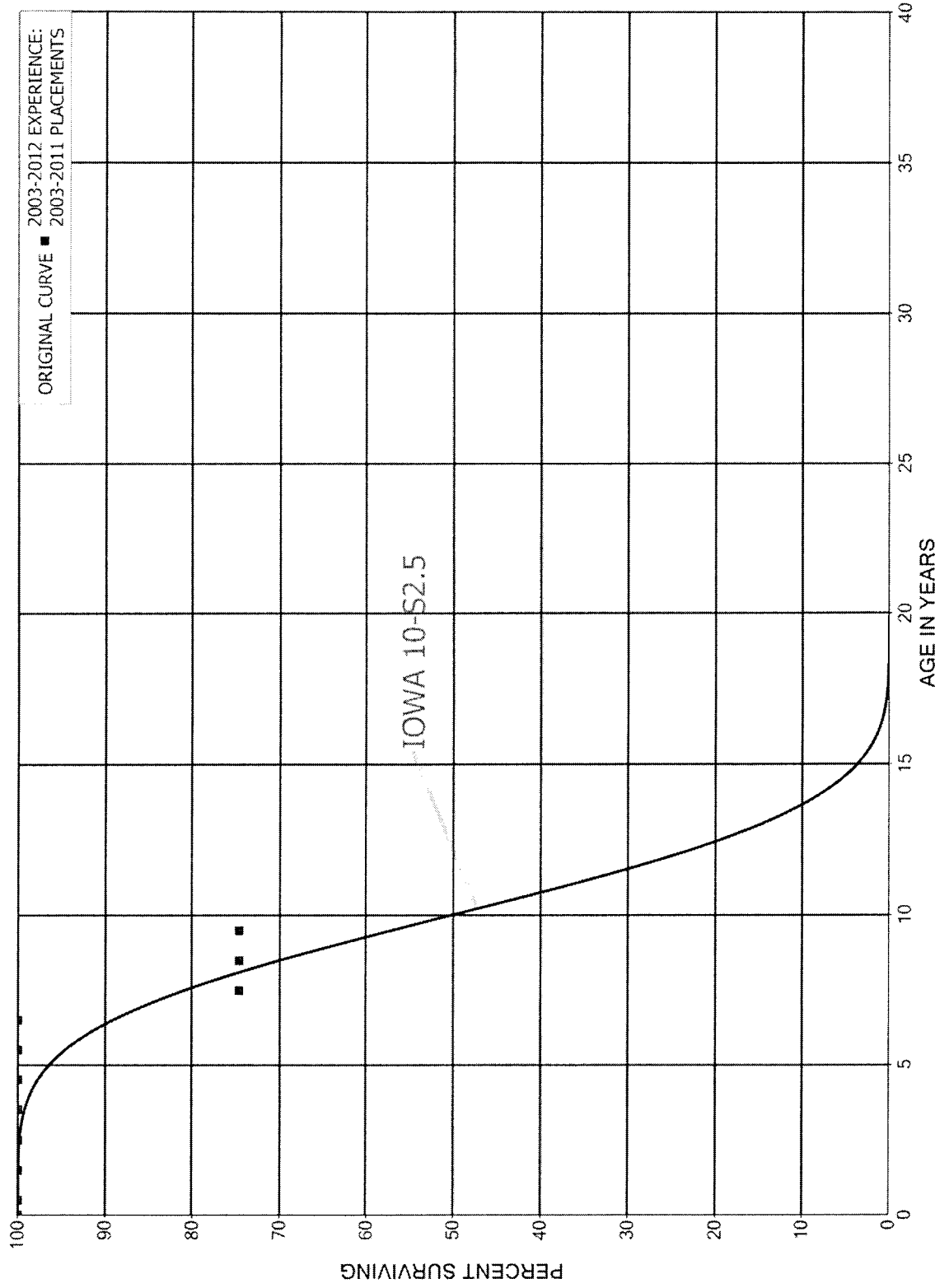AGE IN YEARS

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2003-2011   EXPERIENCE BAND 2003-2012

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	607,571		0.0000	1.0000	100.00
0.5	607,571		0.0000	1.0000	100.00
1.5	395,326		0.0000	1.0000	100.00
2.5	395,326		0.0000	1.0000	100.00
3.5	348,616		0.0000	1.0000	100.00
4.5	148,911		0.0000	1.0000	100.00
5.5	84,106		0.0000	1.0000	100.00
6.5	55,262	14,000	0.2533	0.7467	100.00
7.5	41,262		0.0000	1.0000	74.67
8.5	41,262		0.0000	1.0000	74.67
9.5					74.67

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

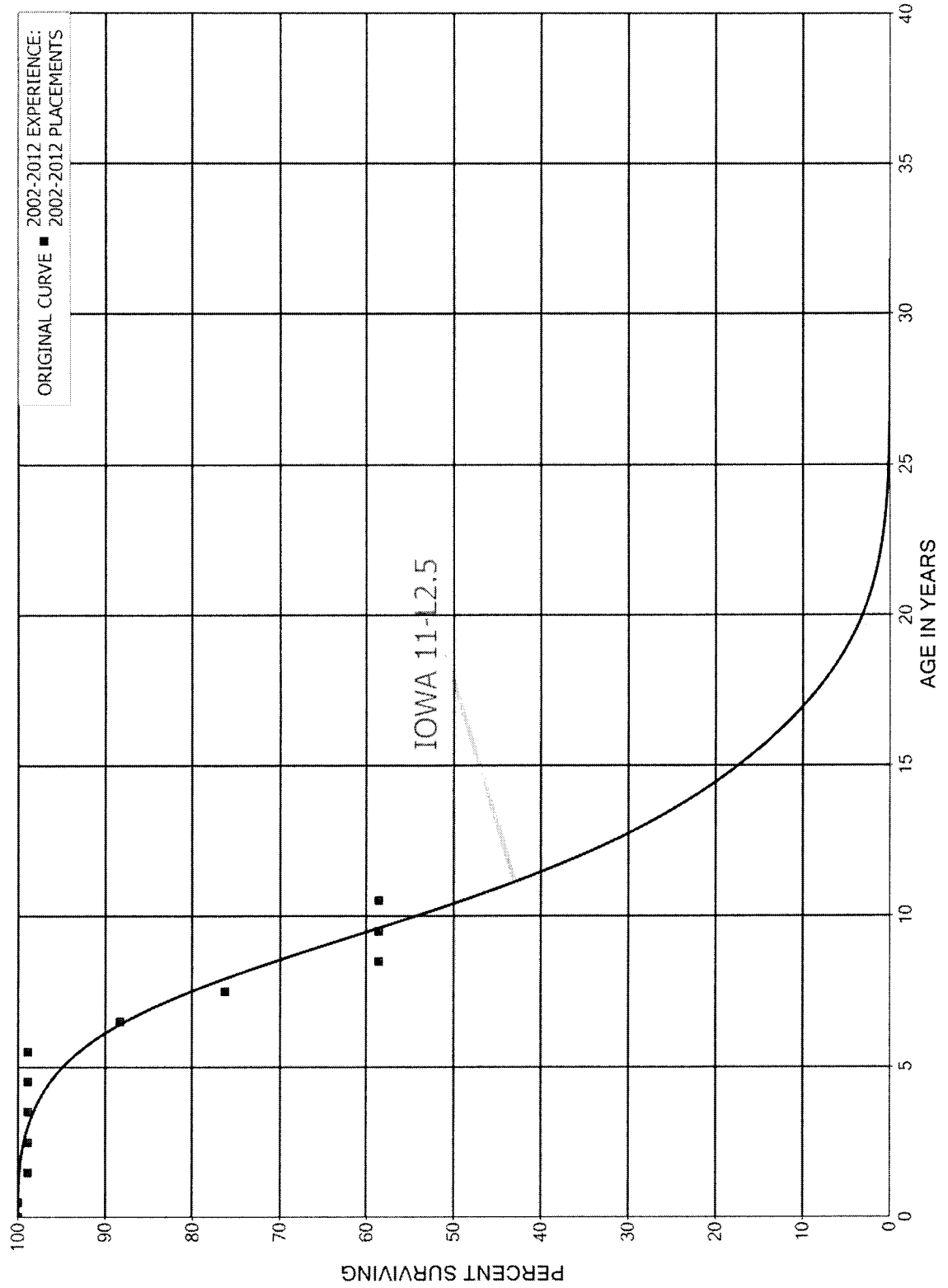ORIGINAL AND SMOOTH SURVIVOR CURVES

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 2002-2012   EXPERIENCE BAND 2002-2012

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	994,764		0.0000	1.0000	100.00
0.5	732,103	8,147	0.0111	0.9889	100.00
1.5	693,239		0.0000	1.0000	98.89
2.5	693,239		0.0000	1.0000	98.89
3.5	551,926		0.0000	1.0000	98.89
4.5	427,073		0.0000	1.0000	98.89
5.5	344,848	36,863	0.1069	0.8931	98.89
6.5	270,866	36,993	0.1366	0.8634	88.32
7.5	144,235	33,388	0.2315	0.7685	76.25
8.5	75,157		0.0000	1.0000	58.60
9.5	36,226		0.0000	1.0000	58.60
10.5					58.60

NET SALVAGE STATISTICS

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2012	11,575		0	1,845	16	1,845	16
TOTAL	11,575		0	1,845	16	1,845	16

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2012	14,000		0	675	5	675	5
TOTAL	14,000		0	675	5	675	5

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

SUMMARY OF BOOK SALVAGE

YEAR	REGULAR RETIREMENTS	COST OF REMOVAL AMOUNT	PCT	GROSS SALVAGE AMOUNT	PCT	NET SALVAGE AMOUNT	PCT
2011	33,388		0	4,464	13	4,464	13
2012	82,003		0	56,261	69	56,261	69
TOTAL	115,392		0	60,725	53	60,725	53

DEPRECIATION CALCULATIONS

BLACK HILLS SERVICE COMPANY

ACCOUNT 390.30 STRUCTURES AND IMPROVEMENTS - OWNED

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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						
2009	2,788,063.90	191,261	292,486	2,495,578	46.57	53,588
2010	459,354.34	22,600	34,561	424,793	47.54	8,935
2011	157,840.33	4,672	7,145	150,695	48.52	3,106
2012	9,663.00	95	145	9,518	49.51	192
	3,414,921.57	218,628	334,337	3,080,585		65,821

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.8   1.93

BLACK HILLS SERVICE COMPANY

ACCOUNT 391.01 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 6-S5						
NET SALVAGE PERCENT.. 0						
1997	907.00	907	907			
2005	193,254.40	185,847	193,254			
2006	1,642,869.88	1,530,613	1,642,870			
2007	3,011,772.36	2,615,212	3,011,772			
2008	8,140,634.69	6,064,773	8,140,635			
2009	3,752,580.07	2,188,993	2,955,749	796,831	2.50	318,732
2010	7,923,308.76	3,301,405	4,457,814	3,465,495	3.50	990,141
2011	6,196,237.87	1,549,059	2,091,660	4,104,578	4.50	912,128
2012	7,210,011.89	600,810	811,261	6,398,751	5.50	1,163,409
	38,071,576.92	18,037,619	23,305,922	14,765,655		3,384,410

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.4   8.89

BLACK HILLS SERVICE COMPANY

ACCOUNT 391.02 OFFICE FURNITURE AND EQUIPMENT - HARDWARE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
2001	27,641.00	27,641	27,641			
2005	119,152.16	119,152	119,152			
2006	738,866.98	738,867	738,867			
2007	3,613,919.54	3,613,920	3,613,920			
	4,499,579.68	4,499,580	4,499,580			
AMORTIZED						
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	1,718,553.96	1,546,699	1,718,554			
2009	842,238.52	589,567	824,146	18,092	1.50	12,061
2010	832,784.69	416,392	582,068	250,717	2.50	100,287
2011	579,987.70	173,996	243,226	336,761	3.50	96,217
2012	751,689.82	75,169	105,078	646,612	4.50	143,692
	4,725,254.69	2,801,823	3,473,072	1,252,183		352,257
	9,224,834.37	7,301,403	7,972,652	1,252,183		352,257

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.6   3.82

BLACK HILLS SERVICE COMPANY

ACCOUNT 391.03 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
NET SALVAGE PERCENT.. 0						
1997	647.00	647	647			
2002	1,657.00	1,657	1,657			
	2,304.00	2,304	2,304			
AMORTIZED						
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2003	3,708.94	3,523	3,709			
2004	161,332.85	137,133	149,819	11,514	1.50	7,676
2005	10,992.60	8,244	9,007	1,986	2.50	794
2006	165,994.54	107,896	117,877	48,117	3.50	13,748
2007	119,456.56	65,701	71,779	47,678	4.50	10,595
2008	298,265.36	134,219	146,635	151,630	5.50	27,569
2009	116,763.28	40,867	44,647	72,116	6.50	11,095
2010	349,942.95	87,486	95,579	254,364	7.50	33,915
2012	576,254.40	28,813	31,478	544,776	9.50	57,345
	1,802,711.48	613,882	670,530	1,132,181		162,737
	1,805,015.48	616,186	672,834	1,132,181		162,737

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.0   9.02

BLACK HILLS SERVICE COMPANY

ACCOUNT 391.04 OFFICE FURNITURE AND EQUIPMENT - FURNITURE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AMORTIZED						
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1997	1,966.00	1,524	1,664	302	4.50	67
1998	1,746.00	1,266	1,382	364	5.50	66
1999	54,132.00	36,539	39,898	14,234	6.50	2,190
2000	2,461.00	1,538	1,679	782	7.50	104
2001	23,624.00	13,584	14,833	8,791	8.50	1,034
2002	22,762.35	11,950	13,049	9,714	9.50	1,023
2003	6,668.03	3,167	3,458	3,210	10.50	306
2004	4,587.78	1,950	2,129	2,459	11.50	214
2005	28,534.13	10,700	11,684	16,850	12.50	1,348
2006	11,215.47	3,645	3,980	7,235	13.50	536
2007	14,789.02	4,067	4,441	10,348	14.50	714
2008	254,408.68	57,242	62,505	191,904	15.50	12,381
2009	106,842.30	18,697	20,416	86,426	16.50	5,238
2010	73,049.94	9,131	9,970	63,079	17.50	3,605
2011	129,567.15	9,718	10,611	118,956	18.50	6,430
	736,353.85	184,718	201,700	534,654		35,256
	736,353.85	184,718	201,700	534,654		35,256

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.2   4.79

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.02 TRANSPORTATION EQUIPMENT - CARS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 7-L4						
NET SALVAGE PERCENT.. +10						
2003	25,101.69	19,622	22,592			
2005	25,911.00	18,956	23,320			
2008	20,558.46	11,419	18,503			
2010	45,394.03	14,591	40,073	782	4.50	174
2012	67,668.02	4,350	11,947	48,954	6.50	7,531
	184,633.20	68,938	116,435	49,735		7,705

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.5   4.17

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.03 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 10-S2.5						
NET SALVAGE PERCENT.. +10						
2003	41,262.36	28,038	37,136			
2006	29,121.03	15,516	26,209			
2007	64,805.00	30,212	58,324			
2008	199,704.78	78,184	179,734			
2009	46,709.54	14,503	42,039			
2011	212,245.48	28,653	91,052	99,969	8.50	11,761
	593,848.19	195,106	434,494	99,969		11,761

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.5   1.98

BLACK HILLS SERVICE COMPANY

ACCOUNT 392.04 TRANSPORTATION EQUIPMENT - MEDIUM TRUCKS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2012

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 11-L2.5						
NET SALVAGE PERCENT.. +15						
2003	38,931.14	20,727	33,091			
2004	35,690.00	18,202	30,336			
2005	89,637.38	42,875	76,192			
2006	37,119.00	16,206	31,551			
2007	82,224.90	31,642	69,891			
2008	124,852.60	40,617	106,125			
2009	157,329.59	40,728	110,134	23,596	7.65	3,084
2011	30,717.93	3,537	9,565	16,545	9.51	1,740
2012	262,660.74	10,147	27,439	195,823	10.50	18,650
	859,163.28	224,681	494,324	235,965		23,474

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.1   2.73