

BOOK VII

PNG Exhibit C (Future)
Witness: J. F. Wiedmayer

UGI PENN NATURAL GAS, INC.

DOCKET NO. R-2016-2580030

2017 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO GAS PLANT
AS OF SEPTEMBER 30, 2017

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

UGI PENN NATURAL GAS, INC.

Docket No. R-2016-2580030

2017 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO GAS PLANT
AS OF SEPTEMBER 30, 2017

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC
Valley Forge, Pennsylvania



*Excellence Delivered **As Promised***

January 6, 2017

Ms. Megan Mattern
Controller and Principal Accounting Officer
UGI Penn Natural Gas, Inc.
2525 N. 12th Street, Suite 360
Reading, PA 19605-2771

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to gas plant in service. The results of our study as of September 30, 2017 are presented in the attached report.

The results of our study as of September 30, 2016 are presented in our report titled "2016 Depreciation Study - Calculated Annual Depreciation Accruals Related to Gas Plant as of September 30, 2016". This report is identified for purposes of this filing as Exhibit C (Historic). The results of our study as of September 30, 2018 are presented in our report titled "2018 Depreciation Study - Calculated Annual Depreciation Accruals Related to Gas Plant as of September 30, 2018". This report is identified for purposes of this filing as Exhibit C (Fully Projected Future). The same methods, procedures and estimates are used in all three studies.

The attached report sets forth a description of the methods and procedures upon which the studies were based, the estimates of survivor curves and the calculated annual depreciation rates as of September 30, 2017.

Respectfully submitted,
GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink that reads "John F. Wiedmayer".

JOHN F. WIEDMAYER, C.D.P.
Project Manager, Depreciation Studies

JFW:mlw

062009.000

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PART I. INTRODUCTION

**UGI PENN NATURAL GAS, INC.
DEPRECIATION STUDY**

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study conducted for UGI Penn Natural Gas, Inc. to determine the annual depreciation accrual rates and amounts for ratemaking purposes applicable to the original cost of gas plant as of September 30, 2017.

The depreciation accrual rates and amounts presented herein are based on estimated survivor curves and on methods and procedures set forth in previous orders approved by the Pennsylvania Public Utility Commission. The estimated survivor curves presented herein were based on the results of a service life study incorporating statistical analyses of data through 2015.

BASIS OF STUDY

Depreciation and Amortization

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 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, and requirements of public authorities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs 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 and accrued depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. These subjects are discussed in the sections which follow. For most plant accounts, depreciation accruals and accrued depreciation were calculated using the straight line method, the remaining life basis, the average service life (ASL) procedure for plant installed prior to 1992 and the equal life group (ELG) procedure for 1992 and subsequent vintages. The calculations were based on the attained ages and estimated service life characteristics for each depreciable group of gas property. For certain general plant accounts, the amortization amounts, annual and accrued, were based on the age of the vintage and the selected amortization period.

Survivor curves were used to reflect the expected dispersion of retirements, thus providing a consistent method of estimating service lives and depreciation for mass property. Iowa type curves were used to depict the estimated survivor curves. For life span groups, the estimate of life characteristics is consistent because the calculated lives of the units within a group are obtained by employing a single probable retirement date for the entire group.

Service Life Estimates

The method of estimating service life consisted of compiling the service life history of the plant accounts, subaccounts or depreciable groups, reducing this history to trends through the use of acceptable actuarial techniques, and forecasting the trend of survivors for each depreciable group on the basis of interpretations of past trends and consideration of Company plans for the future. The combination of the historical trend and the estimated future trend yielded a complete pattern of life characteristics from which the average service life was derived.

The Company's service life estimates used in the depreciation calculation incorporated historical data compiled through 2015 from the property records of the Company. Such data included plant additions, retirements, transfers and other activity. Generally, retirement data for the years 1954 through 2015 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 field trips conducted during the course of the service life study. Discussions with operating and management personnel also provided information regarding plans for the future which was incorporated in the interpretation and extrapolation of the statistical analyses.

AMORTIZATION OF NET SALVAGE

Inasmuch as this report relates primarily to Pennsylvania rate regulation practices, under which experienced costs of negative net salvage are amortized after their occurrence, no adjustments for expected salvage were made to either the annual

depreciation accrual or the calculated accrued depreciation for the individual accounts. The annual provision for recovering negative net salvage is based on the amortization of experienced and estimated net salvage recorded October 1, 2012 through September 30, 2017 over a five-year period.

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

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 use of survivor curves, which reflect experienced and expected dispersion of service lives, is a systematic and rational means of estimating average service lives to be used to calculate depreciation for utility property. A discussion of the general concept of survivor curves and the Iowa type survivor curves is presented.

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 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 0) 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

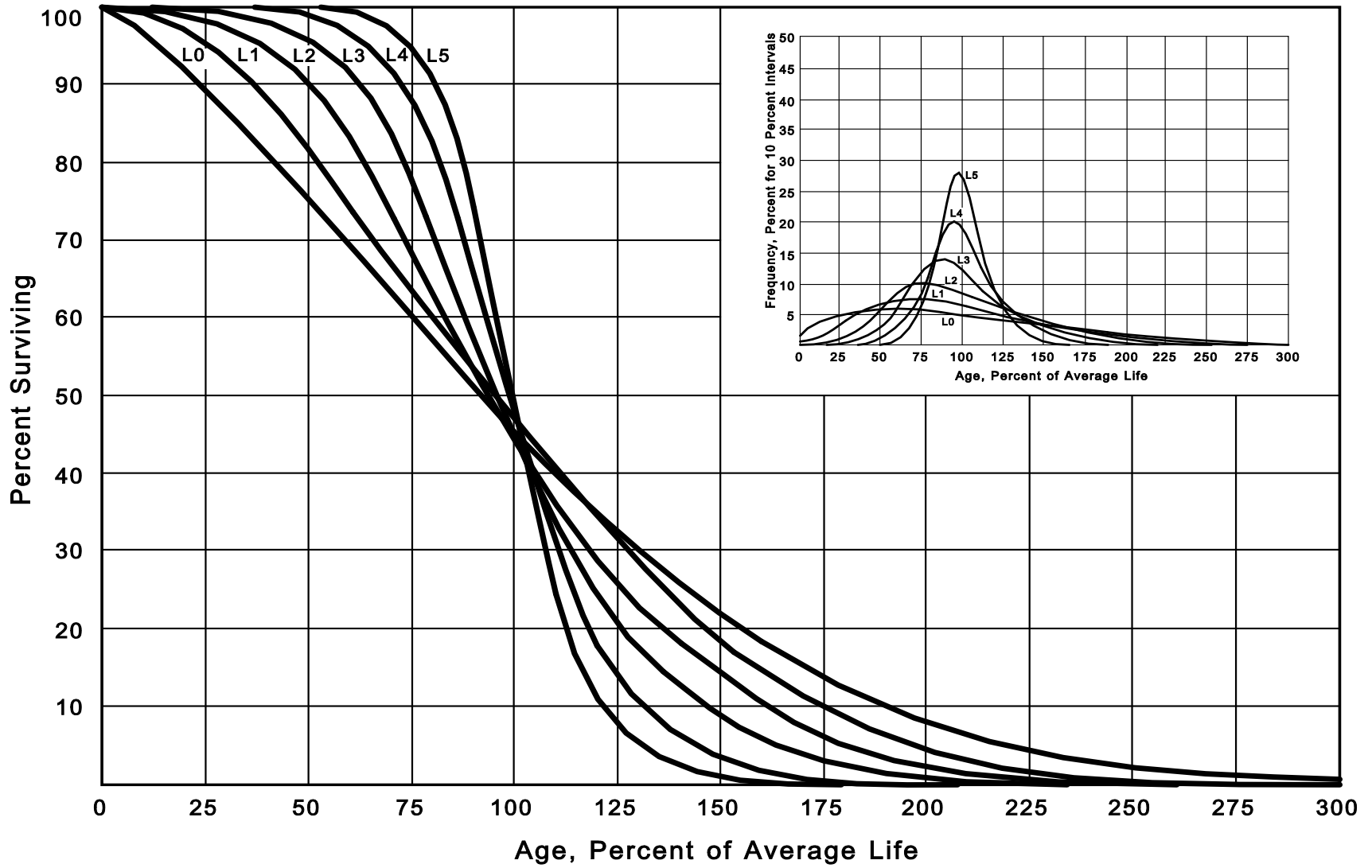


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

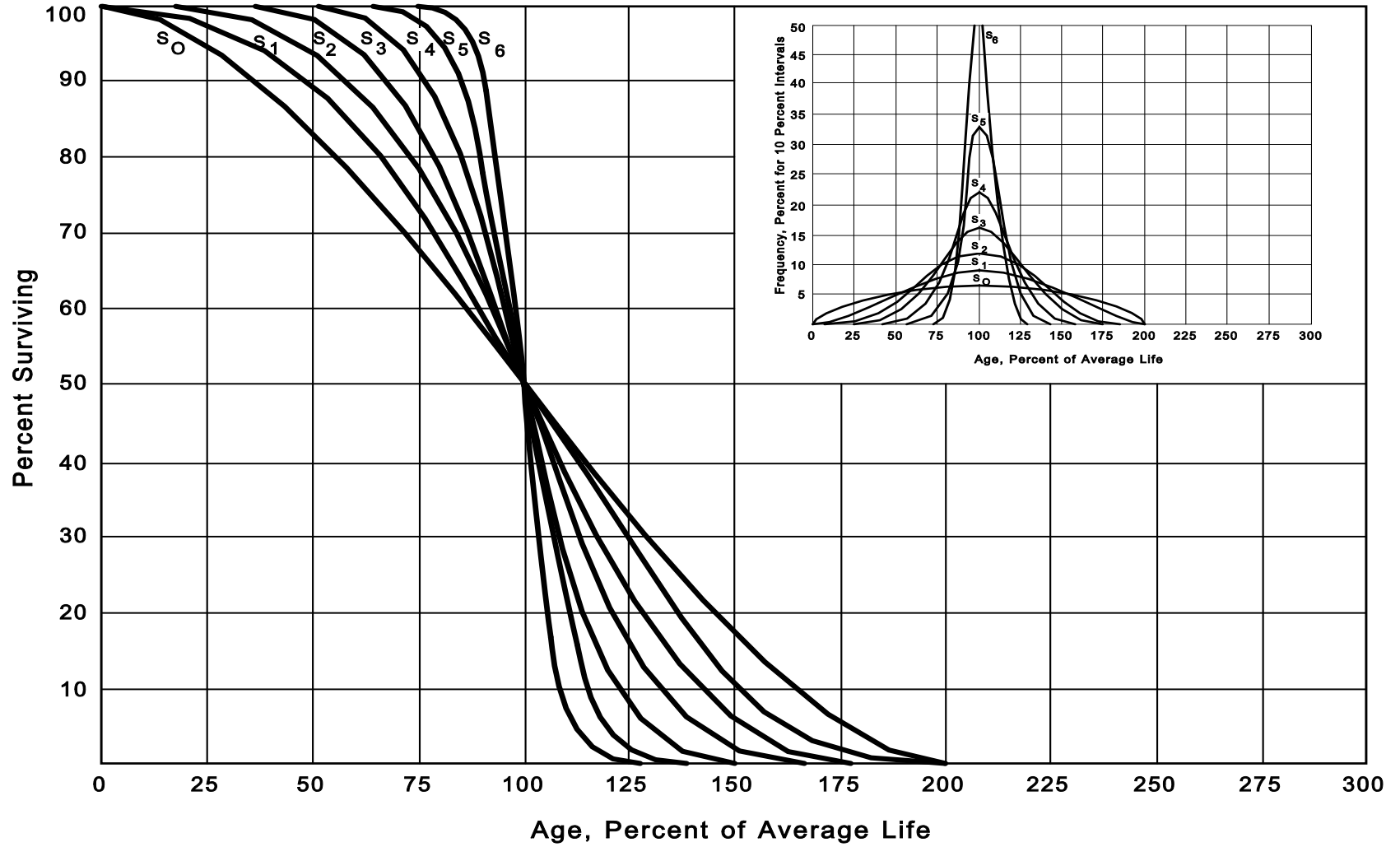


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

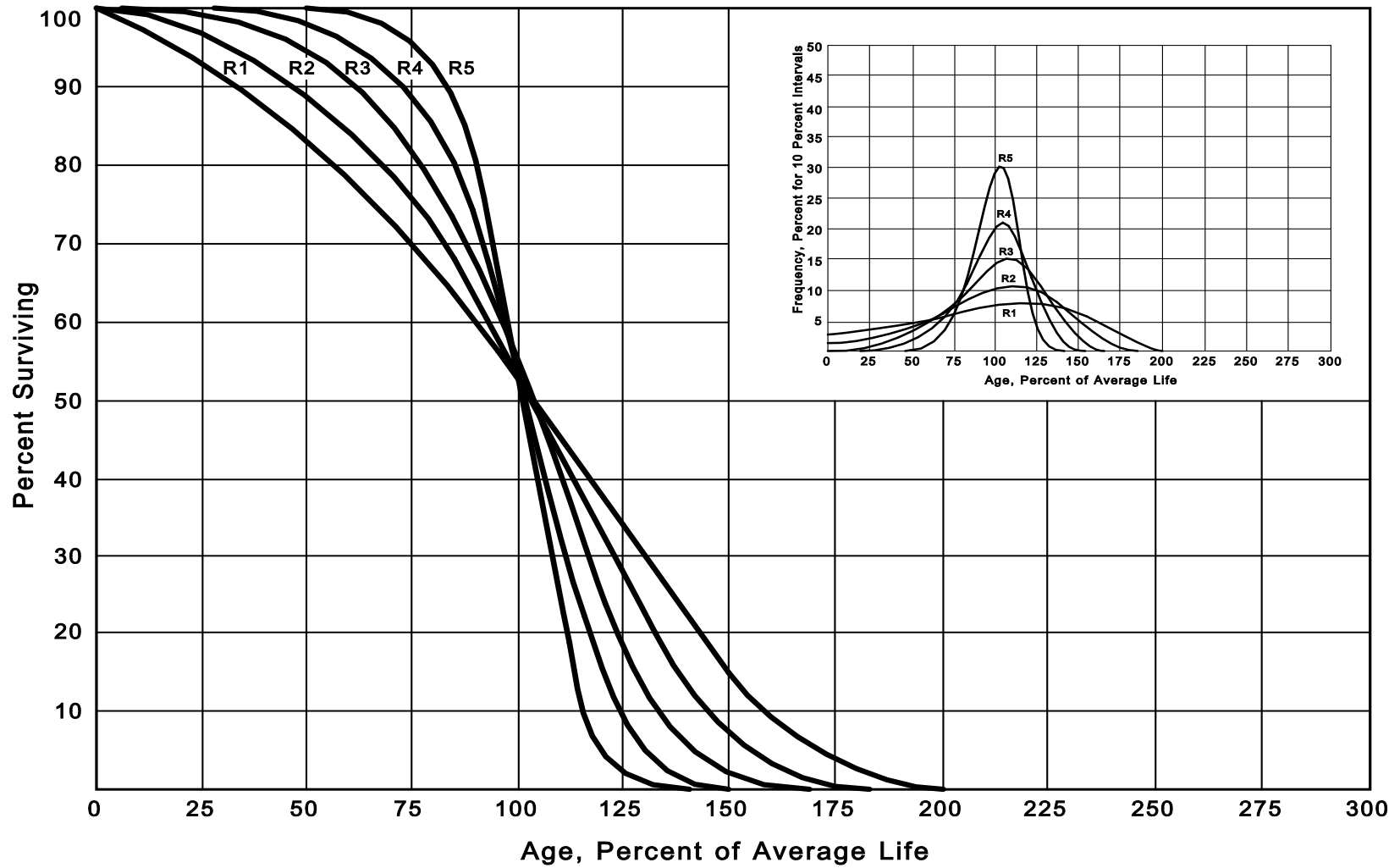


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

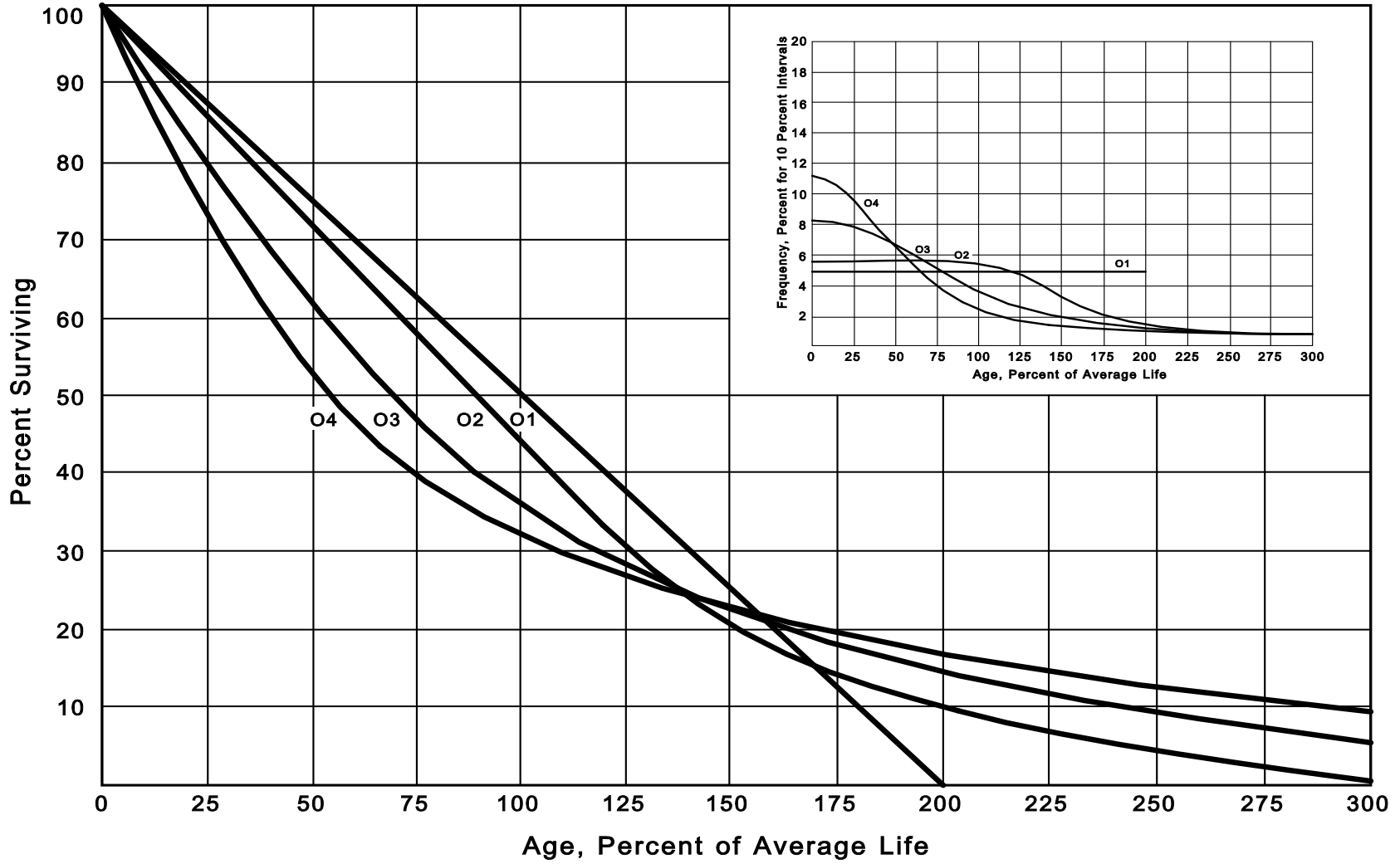


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

Experiment Station's Bulletin 125.¹ These curve types 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 presenting his development of the fourth family consisting of the four O type survivor curves.

Survivor curves for groups in which all property is expected to be retired concurrently, such as power plants, are obtained by truncating smooth survivor curves at an age before zero percent surviving is reached. Such groups to which truncated survivor curves are applicable are designated as life span groups. In life span groups of one or more vintages, future retirements of all property included in the group are anticipated to occur at a specific date or over a restricted range of future dates which are represented by an estimated probable retirement date. Survivor curves for life span groups can be developed using both available historical experience and known or forecasted retirement dates. The life span of both the original installation and a subsequent addition is the number of years which elapse between its installation and the final retirement of the group. During the life of the group as a whole, interim retirements normally occur between age zero and the maximum age to produce a survivor pattern which is referred to as an "interim survivor curve".

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

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

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

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,"³ "Engineering Valuation and Depreciation,"⁴ and "Depreciation Systems."⁵

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

Schedules of Annual Transactions in Plant Records.

The property group used to illustrate the retirement rate method is observed for the experience band 2007-2016 during which there were placements during the years 2002-2016. In order to illustrate the summation of the aged data by age interval, the data

³Winfrey, Robley, Supra Note 1.

⁴Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 2.

⁵Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

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 2002 were retired in 2007. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

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

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

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

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Retirements, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
(1)	2006 (2)	2007 (3)	2008 (4)	2009 (5)	2010 (6)	2011 (7)	2012 (8)	2013 (9)	2014 (10)	2015 (11)	(12)	(13)
2001	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2002	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2003	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2004	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2005	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2006	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2007		5	11	12	13	14	15	16	18	20	113	7½-8½
2008			6	12	13	15	16	17	19	19	124	6½-7½
2009				6	13	15	16	17	19	19	131	5½-6½
2010					7	14	16	17	19	20	143	4½-5½
2011						8	18	20	22	23	146	3½-4½
2012							9	20	22	25	150	2½-3½
2013								11	23	25	151	1½-2½
2014									11	24	153	½-1½
2015										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

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

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval	Age Interval	
	During Year												
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
2001	-	-	-	-	-	-	60 ^a	-	-	-	-	-	13½-14½
2002	-	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2003	-	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2004	-	-	-	-	-	-	-	(5) ^b	-	-	60	-	10½-11½
2005	-	-	-	-	-	-	-	6 ^a	-	-	-	-	9½-10½
2006	-	-	-	-	-	-	-	-	-	-	(5)	-	8½-9½
2007	-	-	-	-	-	-	-	-	-	-	6	-	7½-8½
2008	-	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2009	-	-	-	-	-	-	-	(12) ^b	-	-	-	-	5½-6½
2010	-	-	-	-	-	-	-	-	22 ^a	-	-	-	4½-5½
2011	-	-	-	-	-	-	-	(19) ^b	-	-	10	-	3½-4½
2012	-	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2013	-	-	-	-	-	-	-	-	-	(102) ^c	(121)	-	1½-2½
2014	-	-	-	-	-	-	-	-	-	-	-	-	½-1½
2015	-	-	-	-	-	-	-	-	-	-	-	-	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.

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

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

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



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

Experience Band 2007-2016

Placement Band 2002-2016

Year Placed	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year											
(1)	2006 (2)	2007 (3)	2008 (4)	2009 (5)	2010 (6)	2011 (7)	2012 (8)	2013 (9)	2014 (10)	2015 (11)	(12)	(13)
2001	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2002	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2003	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2004	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2005	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2006	420 ^a	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2007		460 ^a	455	444	432	419	405	390	374	356	1,952	7½-8½
2008			510 ^a	504	492	479	464	448	431	412	2,463	6½-7½
2009				580 ^a	574	561	546	530	501	482	3,057	5½-6½
2010					660 ^a	653	639	623	628	609	3,789	4½-5½
2011						750 ^a	742	724	685	663	4,332	3½-4½
2012							850 ^a	841	821	799	4,955	2½-3½
2013								960 ^a	949	926	5,719	1½-2½
2014									1,080 ^a	1,069	6,579	½-1½
2015										1,220 ^a	7,490	0-½
Total	<u>1,975</u>	<u>2,382</u>	<u>2,824</u>	<u>3,318</u>	<u>3,872</u>	<u>4,494</u>	<u>5,247</u>	<u>6,017</u>	<u>6,852</u>	<u>7,799</u>	<u>44,780</u>	

^aAdditions during the year

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	=	$\frac{143,000}{3,789,000}$	= 0.0377
Survivor Ratio	=	$1.000 - 0.0377$	= 0.9623
Percent surviving at age 5½	=	$(88.15) \times (0.9623)$	= 84.83

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

Experience Band 2007-2016

Placement Band 2002-2016

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of <u>Interval</u> (1)	Exposures at Beginning of <u>Age Interval</u> (2)	Retirements During Age <u>Interval</u> (3)	Retirement <u>Ratio</u> (4)	Survivor <u>Ratio</u> (5)	Percent Surviving at Beginning of <u>Age Interval</u> (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	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					35.66
Total	<u>44,780</u>	<u>1,606</u>			

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

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

Column 4 = Column 3 divided by Column 2.

Column 5 = 1.0000 minus Column 4.

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

The 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.

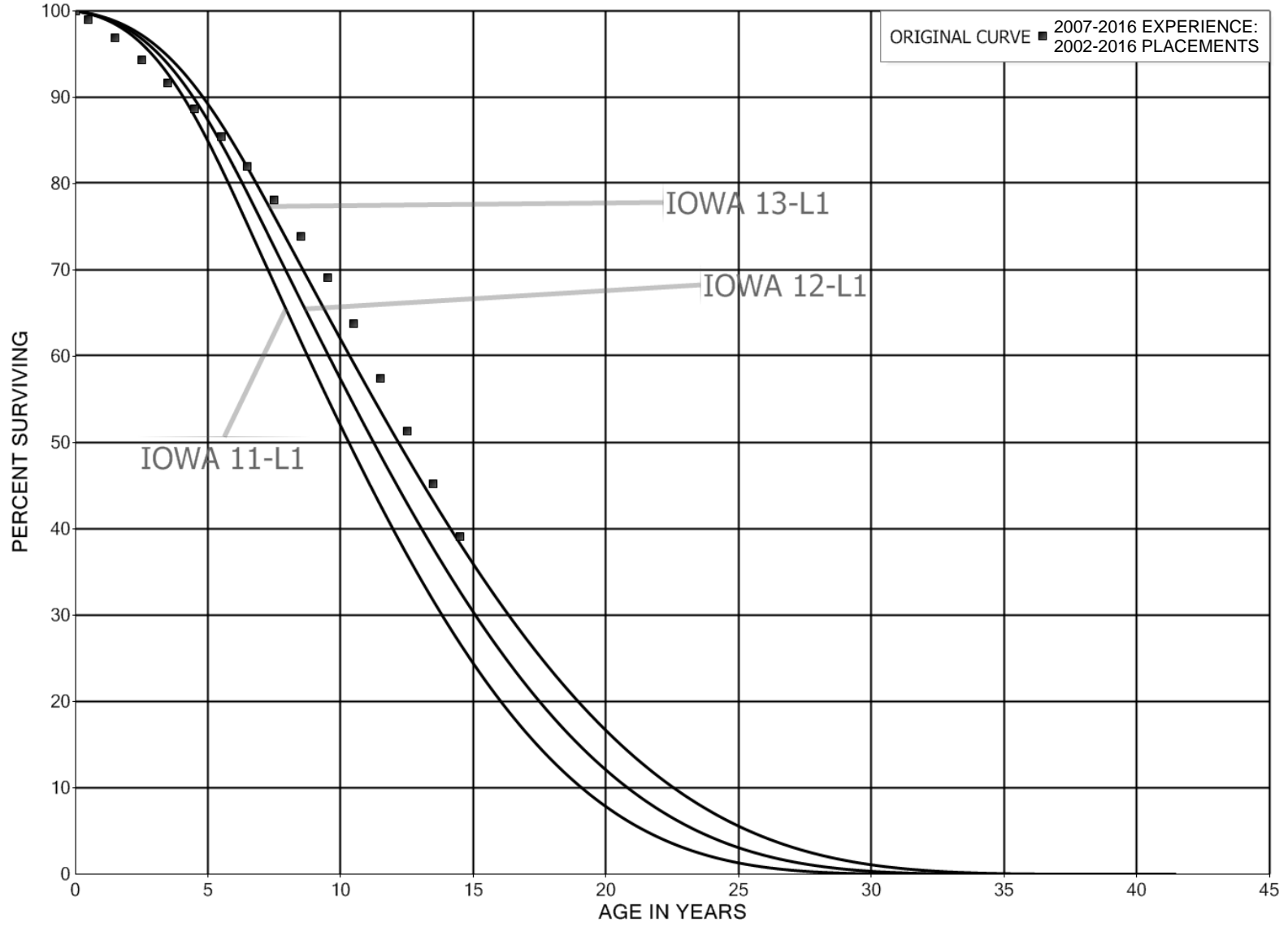
The original survivor curve is plotted from the original life table (Column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

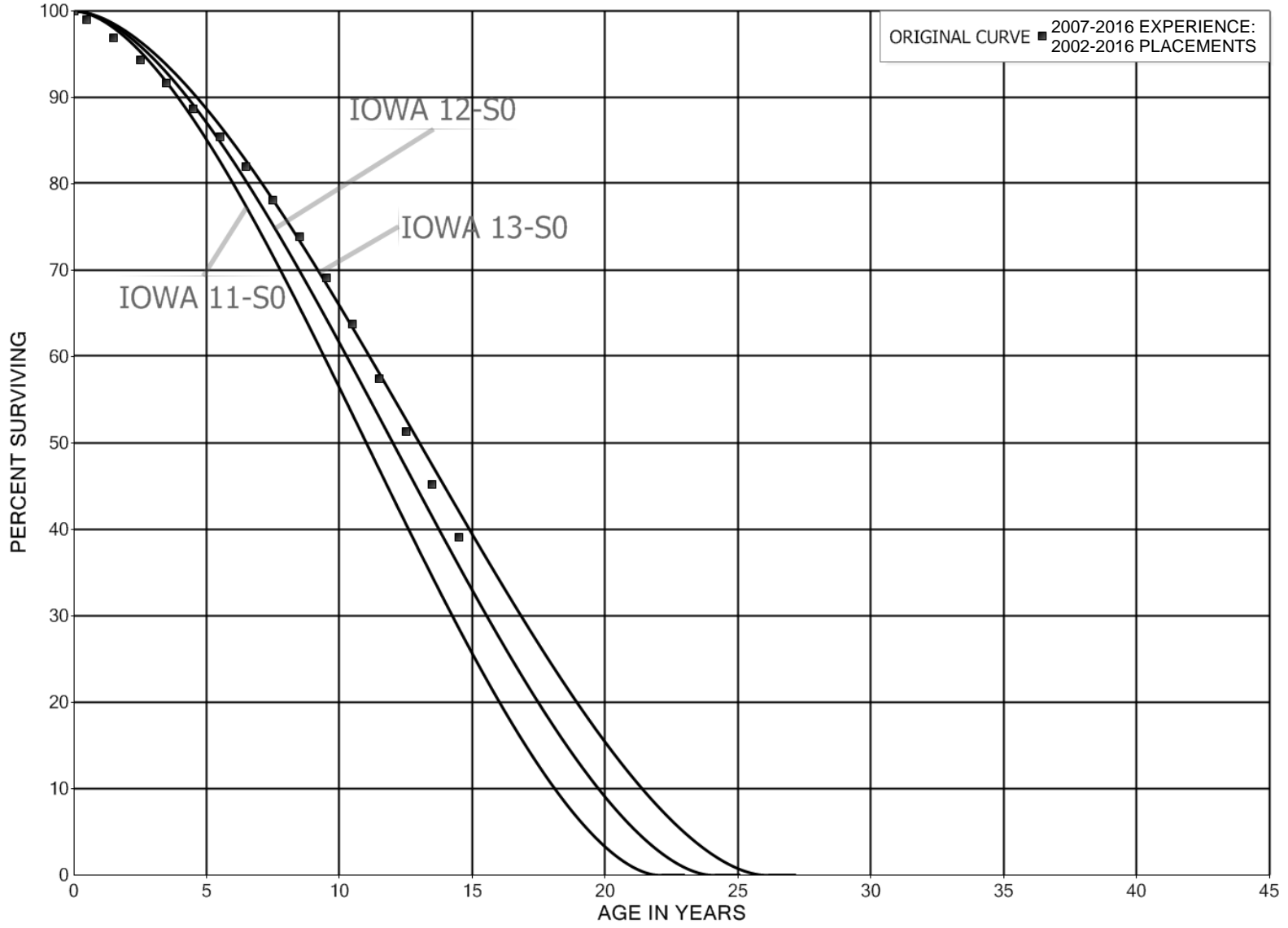
Smoothing the Original Survivor Curve

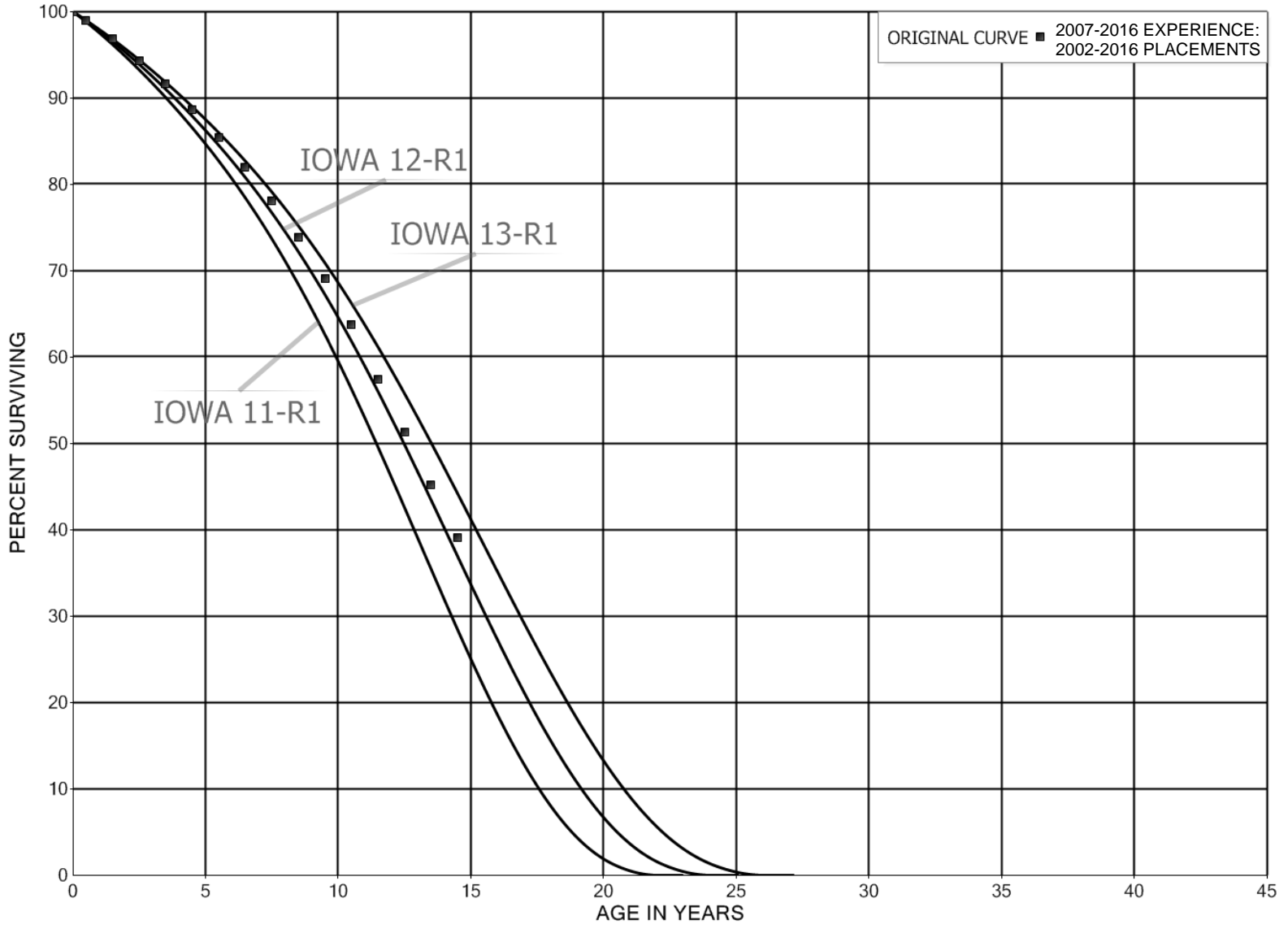
The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, 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.

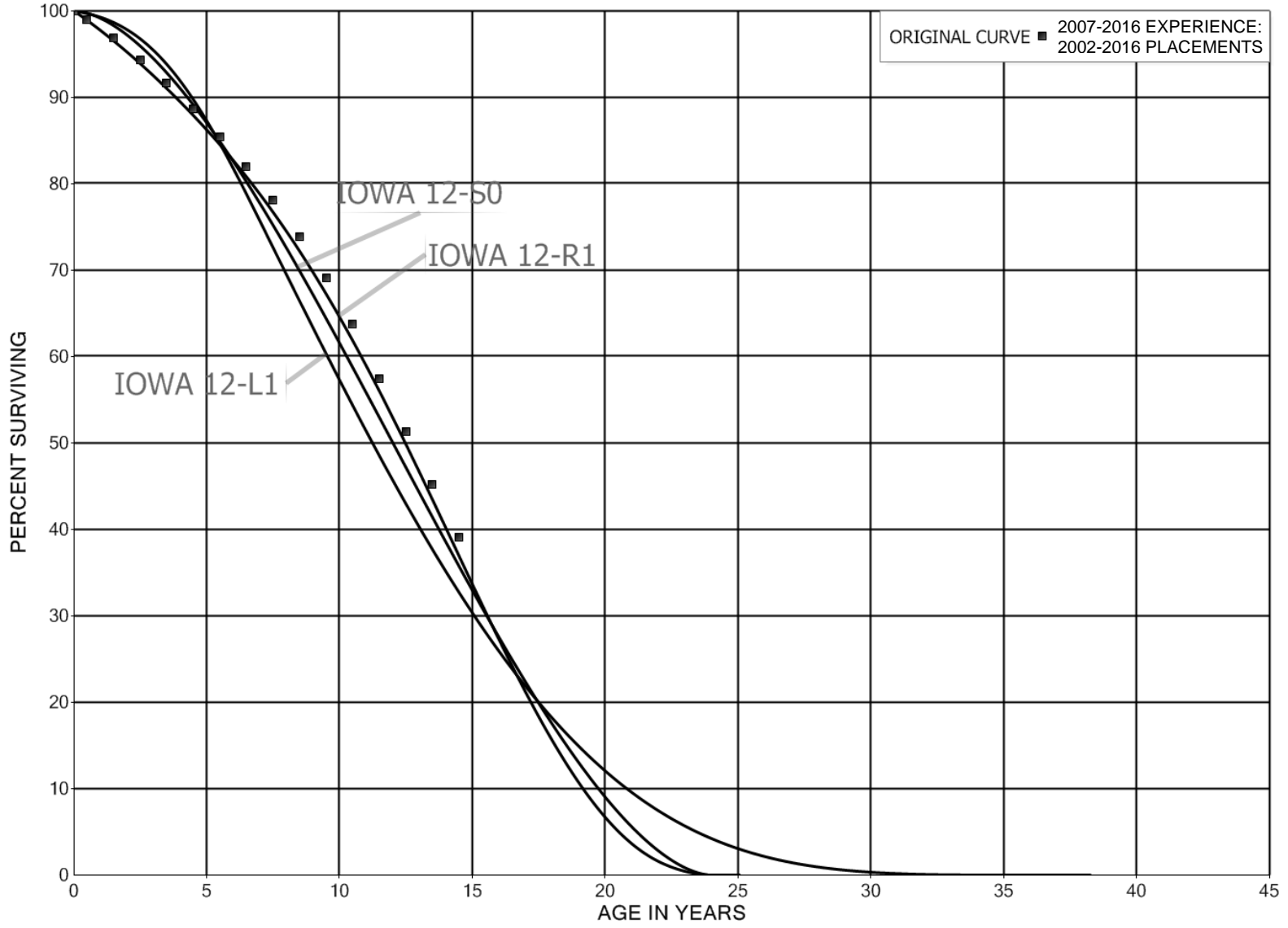
The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 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 SO 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 SO. In Figure 9, the three fittings, 12-L1, 12-SO, 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.









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, field trips have been conducted periodically. 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 these field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

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

January 29, 2016

Empire Yard – Office and Service Center
Empire Yard District Regulating Station
Wyoming Avenue City Gate Station
Saylor Avenue City Gate Station
Archbald Service Center
Honesdale Service Center
Honesdale City Gate Station
Honesdale District Regulating Station
Watts Hill District Regulating Station

Judgment

The survivor curve 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 the field trips and other conversations with management; and the survivor curve estimates from previous studies of this company and other gas companies.

The current service life study is based on data through 2015. For a majority of the mass plant accounts and subaccounts for which survivor curves were estimated, the

statistical analyses resulted in reasonable 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 following accounts:

375	Structures and Improvements
376.2	Mains – Other than Plastic
378	Measuring and Regulating Station Equipment - General
379	Measuring and Regulating Station Equipment - City Gate
380.1	Services – Plastic
380.2	Services – Other
381	Meters
385	Industrial Measuring and Regulating Station Equipment
387	Other Equipment
390	Structures and Improvements
392	Transportation Equipment
396	Power Operated Equipment

Account 376.2, Mains – Other than Plastic is one of the largest plant accounts and is used to illustrate the manner in which the study was conducted for the groups in the preceding list. Aged retirement and other plant accounting data were compiled for the years 1954 through 2015. These data were coded in the course of the Companies' 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 VI-9 and the life tables for the experience band plotted on the chart follows it.

The estimated Iowa 72-R2.5 is a good fit of the more significant portion of the observed data, i.e., through approximately age 85. The range of service life estimates for mains in other gas companies is 50 to 70 years. The estimate resulting from the previous service life study was the 70-R2. The 72-R2.5 estimate is based on the statistical analysis for the period 1954-2015. More recent experience for the period 1996-

2015 was also considered, which showed a higher mode curve than the overall experience band. The Company plans to replace all of its bare steel and cast iron mains by 2041 and 2027, respectively. This represents an acceleration in the rate of replacement compared with periods prior to 2011. These plans should result in higher retirement ratios for older assets than had occurred in the past, which is consistent with the expectation of a higher mode curve than was used in the past. Discussions with company management indicated no reason to deviate further from the statistical indications. Management also confirmed the result of the life analyses by stating that the increased use of cathodically protected steel mains as a percent of the total population in this account were the likely causes for the increase in the service life estimate. Based on all of these considerations, the 72-R2.5 estimate is most representative of future experience for this account.

Similar studies were performed for the remaining significant mass plant accounts. The results of the statistical analyses are presented in account sequence in Part VI of the report.

The major structures included in Account 390, Structures and Improvements were separated from the smaller structures consistent with the prior study. The major structures group consists of structures or complexes of significant size and of a nature that the life span procedure is appropriate. The life spans assigned to the major structures were typically 40 to 60 years from the date of major installation and varied within this range based on individual circumstances, such as size, condition, type of construction, location, age and management's plans. Long-term continued use is planned for most of the major structures.

The Iowa 70-R1 interim survivor curve was judged appropriate for the major structures within Account 390. The statistical analysis for major structures was based on the 1954-2015 interim retirement experience and a review of the interim survivor curves derived for similar structures of other gas companies. The interim survivor curve for Account 390, Structures and Improvements describes the survivor characteristics of the property units that will be replaced during the life of the facility such as roofs, windows, doors, flooring, HVAC, plumbing and electrical systems, etc.

Amortization accounting is being used for certain General Plant accounts. The accounts for which amortization accounting is being used comprises less than 2 percent of the total depreciable gas plant in service.

Generally, the survivor curve estimates for the remainder of the accounts were based on judgments which considered the nature of the plant and equipment, reviews of available historical retirement data, and a general knowledge of the service lives for similar equipment in other gas companies.

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

PART IV. 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.

In the equal life group procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. This procedure eliminates the need to base depreciation on average lives, inasmuch as each group is equivalent to a unit having a single life. The full costs of short-lived units are accrued during their lives, leaving no deferral of accruals required to be added to the annual costs associated with long-lived units. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life group.

Remaining Life Annual Accruals

For the purpose of calculating remaining life accrual rates as of September 30, 2017, the estimated book 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 for the vintages calculated by the average service life procedure and for the vintages calculated by the equal life group procedure follow. The detailed calculations 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 whole life depreciation accruals if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account, based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

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

Equal Life Group Procedure

In the equal life group procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the composite remaining life for the surviving original cost of that vintage. The composite remaining life is derived by compositing the individual equal life group remaining lives in accordance with the following equation:

$$\text{Composite Remaining Life} = \frac{\left(\frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life} \right)}{\frac{\text{Book Cost}}{\text{Life}}}$$

The book costs and lives of the several equal life groups which are summed in the foregoing equation are defined by the estimated future survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$\text{Composite Remaining Life} = \frac{\sum \text{Whole Life Future Accruals}}{\sum \text{Whole Life Annual Accruals}}$$

or

$$\text{Composite Remaining Life} = \frac{\sum \text{Book Cost} - \text{Calc. Reserve}}{\sum \text{Whole Life Annual Accrual}}$$

The annual accrual rate for each account is equal to the sum of the remaining life annual accruals for all vintages divided by the account's total original cost. The account's "composite remaining life" is calculated by dividing the sum of the future book accruals for all vintages by the sum of the remaining life annual accruals for all vintages.

The calculated accrued depreciation in the equal life group procedure also represents that portion of depreciable cost which will not be allocated to expense through

future accruals. However, the calculation is based at the equal life group level rather than the vintage group level, and does not require the use of averages. The equal life group accrued depreciation ratio is calculated as follows:

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

Inasmuch as service life minus remaining life equals age, when averages are not employed, the foregoing equation reduces to:

$$Ratio = \frac{Age}{Service\ Life}$$

The table on the following page illustrates the procedure for calculating straight line equal life group accrued depreciation, using an Iowa 14-L3 survivor curve and a September 30, 2017 calculation date.

In the table, each equal life group is defined by the age interval shown in columns 1 and 2, which identify the ages at which the first and last retirement of each group occur. The group's designated life, shown in column 3, is the midpoint of the interval. In the calculation, the equal life groups of each vintage are arranged such that the midpoint of each one-year age interval coincides with the calculation date, e.g., September 30 in this case. This enables the calculation of annual accruals which are centered on, or as of, the same date as the calculation of accrued depreciation.

The retirement during each age interval, shown in column 4, is the size of each equal life group. It is derived from the Iowa 14-L3 survivor curve and is the difference between the percents surviving (not shown) at the beginning and end of the age interval.

DETAILED COMPUTATION OF ANNUAL AND ACCRUED FACTORS USING THE EQUAL LIFE GROUP PROCEDURE

INPUT PARAMETERS:
 CALCULATION DATE... 9-30-2017
 SURVIVOR CURVE.... 14-L3

AGE INTERVAL		RETIREMENTS		GROUP	YEAR	SUMMATION	AVERAGE	ANNUAL	ACCRUED
BEG	END	LIFE	DURING	ANNUAL		OF ANNUAL	PERCENT		
(1)	(2)	(3)	(4)	(5)=(4) / (3)	(6)	(7)	(8)	(9)	(10)
0.000	0.750	0.375	0.00000	0.00000000000	2017	7.07705950339	87.500000	0.0809	0.0303
0.750	1.750	1.250	0.00376	0.00300800000	2016	8.08656400387	99.998120	0.0809	0.1011
1.750	2.750	2.250	0.06925	0.03077777778	2015	8.06967111498	99.961614	0.0807	0.1816
2.750	3.750	3.250	0.26287	0.08088307692	2014	8.01384068763	99.795555	0.0803	0.2610
3.750	4.750	4.250	0.58776	0.13829647059	2013	7.90425091387	99.370240	0.0795	0.3379
4.750	5.750	5.250	1.03540	0.19721904762	2012	7.73649315477	98.558661	0.0785	0.4121
5.750	6.750	6.250	1.66347	0.26615520000	2011	7.50480603096	97.209229	0.0772	0.4825
6.750	7.750	7.250	2.65693	0.36647310345	2010	7.18849187923	95.049026	0.0756	0.5481
7.750	8.750	8.250	4.20016	0.50911030303	2009	6.75070017599	91.620476	0.0737	0.6080
8.750	9.750	9.250	6.20077	0.67035351351	2008	6.16096826772	86.420012	0.0713	0.6595
9.750	10.750	10.250	8.19706	0.79971317073	2007	5.42593492560	79.221100	0.0685	0.7021
10.750	11.750	11.250	9.59382	0.85278400000	2006	4.59968634024	70.325658	0.0654	0.7358
11.750	12.750	12.250	10.01500	0.81755102041	2005	3.76451883003	60.521247	0.0622	0.7620
12.750	13.750	13.250	9.48839	0.71610490566	2004	2.99769086700	50.769554	0.0590	0.7818
13.750	14.750	14.250	8.34960	0.58593684211	2003	2.34666999311	41.850562	0.0561	0.7994
14.750	15.750	15.250	7.01456	0.45997114754	2002	1.82371599829	34.168482	0.0534	0.8144
15.750	16.750	16.250	5.78659	0.35609784615	2001	1.41568150144	27.767905	0.0510	0.8288
16.750	17.750	17.250	4.79463	0.27794956522	2000	1.09865779576	22.477295	0.0489	0.8435
17.750	18.750	18.250	4.03188	0.22092493151	1999	0.84922054739	18.064042	0.0470	0.8578
18.750	19.750	19.250	3.42930	0.17814545455	1998	0.64968535436	14.333452	0.0453	0.8720
19.750	20.750	20.250	2.91932	0.14416395062	1997	0.48853065178	11.159139	0.0438	0.8870
20.750	21.750	21.250	2.45572	0.11556329412	1996	0.35866702941	8.471620	0.0423	0.8989
21.750	22.750	22.250	2.01990	0.09078202247	1995	0.25549437111	6.233811	0.0410	0.9123
22.750	23.750	23.250	1.61125	0.06930107527	1994	0.17545282224	4.418236	0.0397	0.9230
23.750	24.750	24.250	1.23736	0.05102515464	1993	0.11528970729	2.993929	0.0385	0.9336
24.750	25.750	25.250	0.90746	0.03593900990	1992	0.07180762502	1.921518	0.0374	0.9444
25.750	26.750	26.250	0.62856	0.02394514286	1991	0.04186554864	1.153513	0.0363	0.9529
26.750	27.750	27.250	0.40553	0.01488183486	1990	0.02245205978	0.636469	0.0353	0.9619
27.750	28.750	28.250	0.23845	0.00844070796	1989	0.01079078837	0.314477	0.0343	0.9690
28.750	29.750	29.250	0.12326	0.00421401709	1988	0.00446342584	0.133619	0.0334	0.9770
29.750	30.750	30.250	0.05265	0.00174049587	1987	0.00148616936	0.045663	0.0325	0.9831
30.750	31.750	31.250	0.01644	0.00052608000	1986	0.00035288143	0.011121	0.0317	0.9906
31.750	32.750	32.250	0.00279	0.00008651163	1985	0.00004658561	0.001503	0.0310	0.9998
32.750	33.320	33.035	0.00011	0.00000332980	1984	0.00000094899	0.000031	0.0306	1.0000
TOTAL		100.00000							

Each equal life group's whole life annual accrual, shown in column 5, equals the group's size (column 4) divided by its life (column 3), except that for the first age interval, the annual accrual is set equal to the group's size.

Columns 6 through 10 show the derivation of the whole life annual factor and accrued factor for each vintage based on the data developed in the first five columns. The year installed is shown in column 6. For all vintages other than the first and last year (2017

and 1984), the summation of annual accruals for each year installed, shown in column 7, is calculated by adding one-half of the group annual accrual (column 5) for that vintage's current age interval plus the group annual accruals for all succeeding age intervals. For example, the figure 8.08656400387 for 2016 equals one-half of 0.00300800000 plus all of the succeeding figures in column 5. Only one-half of the annual accrual for the vintage's current age interval group is included in the summation because the equal life group for that interval expires at the midpoint of the current year.

The summation of annual accruals (column 7) for installations during 2017 is calculated on the basis of an in-service date at the midpoint of the first nine months, i.e., four and one-half months prior to September 30. Inasmuch as the overall calculation is centered on September 30, 2017, the accrual for 2017 installations (during the first nine months) represents only 0.875 of one year, 0.375 of a year prior to September 30 plus one-half year following September 30. For this reason, the first figure in column 7, for vintage 2017, equals the group annual accrual for 2017 plus 0.875 of the group annual accruals for each of the subsequent years.

The average percent surviving, derived from the Iowa 14-L3 survivor curve, is shown in column 8 for each age interval. The annual factor, shown in column 9, is the result of dividing the summation of annual accruals (column 7) by the average percent surviving (column 8).

The accrued depreciation factor, shown in column 10, equals the annual factor multiplied by the age of the group as of September 30, 2017.

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

	<u>Account</u>	<u>Amortization Period, Years</u>
391,	Office Furniture and Equipment	
	Furniture	20
	Equipment	10
	Computer Equipment	5
	Computer Software – General	5
	Computer Software – Oracle	10
393,	Stores Equipment	20
394,	Tools, Shop and Garage Equipment	20
397,	Communication Equipment	10
397.1,	Telephone Systems	10
398,	Miscellaneous Equipment	15

For the purpose of calculating annual amortization amounts as of September 30, 2017, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

AMORTIZATION OF NET SALVAGE

Experienced salvage is incorporated in the results of the study, as it was reported on the Company's books and records for the period October 1, 2012 through September 30, 2016, and as estimated for the twelve months ended September 30, 2017. The five-year amortization calculations are shown in Table 4.

Net salvage experienced during the five-year period is presented in this manner to determine the amount of negative net salvage to be amortized for book purposes. In developing the amount to be amortized, the data for the accounts which experienced positive net salvage have been netted with those for accounts which experienced negative net salvage.

In order to be consistent with this manner of recognizing salvage, no adjustments for salvage were made to the annual accruals and accrued depreciation calculated for each individual account. Also, there were no exclusions from the 2013 through 2017

experienced and estimated net salvage amounts that were used to determine the five-year net salvage amortization amount for each account.

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Tables 1 through 4 presented on pages V-4 through V-10 summarize the results of the depreciation study as of September 30, 2017. Table 1 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of September 30, 2017, future book accruals, and calculated annual accrual amount and rate. Table 2 presents the bringforward of the book reserve to September 30, 2017. Table 3 sets forth the calculation of the depreciation accruals for the twelve months ended September 30, 2017. Table 4 presents the annual amortization of experienced and estimated net salvage based on the period 2013 through 2017.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves, the annual depreciation calculations, and salvage and cost of removal for the years 2013-2017 are presented in three sections.

The section beginning on page VI-2 sets forth, 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. A cumulative summary, by year installed, for gas plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-2. The tabulations of experienced and estimated net salvage by year by account for the five-year period, 2013-2017, are presented in the section beginning on page VIII-2.

In Part VI, 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 type curve designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. In cases where only a segment of the estimated curve is used in the depreciation calculation, the numeral used for identification purposes is not a designation of the average life of the group. The titles of the charts indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which the 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 tables of the calculated annual depreciation related to original cost are presented in Part VII and indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, allocated book reserve, future book accruals, remaining life expectancy and the calculated annual accrual.

Detailed tabulations setting forth the cost of removal and salvage amounts, by plant account for each year, are presented beginning on page VIII-2. The total salvage and removal costs, by year, were used to calculate the five-year net salvage amortization presented in Table 4 in Part V on page V-10.

UGI PENN NATURAL GAS, INC.
**TABLE 1. ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT SEPTEMBER 30, 2017**

ACCOUNT (1)	SURVIVOR CURVE (2)	ORIGINAL COST (3)	BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL RATE (6)	AMOUNT (7)
<u>GAS PLANT</u>						
DISTRIBUTION PLANT						
375	STRUCTURES AND IMPROVEMENTS	50 - S0.5	2,771,930	1,172,658	1,599,272	1.89 52,267
376.1	MAINS - PLASTIC	65 - R3	213,834,349	59,501,981	154,332,368	1.58 3,385,360
376.2	MAINS - OTHER	72 - R2.5	232,098,751	45,649,126	186,449,625	1.71 3,965,586
378	MEASURING AND REGULATING EQUIPMENT - GENERAL	42 - S0	20,291,531	7,208,411	13,083,120	2.75 558,501
379	MEASURING AND REGULATING EQUIPMENT - CITY GATE	40 - R2	18,791,406	4,031,278	14,760,128	3.08 578,206
380.1	SERVICES - PLASTIC	47 - R3	238,145,725	91,758,619	146,387,106	1.99 4,737,997
380.2	SERVICES - OTHER	48 - R1	19,181,298	9,829,584	9,351,714	2.14 410,554
381	METERS	36 - R2.5	49,083,519	24,681,856	24,401,663	2.55 1,252,184
381.1	METERS - AMR	20 - S2	11,009,063	8,531,767	2,477,296	2.74 301,825
383	HOUSE REGULATORS	47 - R3	2,815,101	1,793,303	1,021,798	1.37 38,662
384	HOUSE REGULATOR INSTALLATIONS	47 - R3	3,622,774	2,205,620	1,417,154	1.31 47,613
385	INDUSTRIAL MEASURING AND REGULATING EQUIPMENT	45 - R2.5	11,151,619	4,499,066	6,652,553	1.91 213,285
387	OTHER DISTRIBUTION EQUIPMENT	26 - L2	117,316	70,886	46,430	3.16 3,702
TOTAL DISTRIBUTION PLANT			822,914,382	260,934,155	561,980,227	1.89 15,545,742
GENERAL PLANT						
390	STRUCTURES AND IMPROVEMENTS	VARIOUS*	22,264,424	9,253,893	13,010,531	2.67 594,340
391.1	OFFICE FURNITURE	20 - SQ	866,884	441,503	425,381	5.64 48,885
391.2	OFFICE EQUIPMENT	10 - SQ	83,138	27,512	55,626	13.16 10,937
391.3	COMPUTER EQUIPMENT	5 - SQ	181,683	87,118	94,565	21.01 38,165
391.41	COMPUTER SOFTWARE - GENERAL	5 - SQ	111,550	14,075	97,475	19.42 21,661
392	TRANSPORTATION EQUIPMENT	10 - L3	5,588,675	2,436,079	3,152,596	7.48 418,069
393	STORES EQUIPMENT	20 - SQ	1,768	1,212	556	4.86 86
394	TOOLS, SHOP AND GARAGE EQUIPMENT	20 - SQ	6,279,865	2,513,889	3,765,976	5.17 324,659
396	POWER OPERATED EQUIPMENT	14 - L3	1,518,009	1,446,687	71,322	1.16 17,571
397	COMMUNICATION EQUIPMENT	10 - SQ	10,967	9,138	1,829	6.28 689
397.1	TELEPHONE SYSTEMS	10 - SQ	155,862	133,910	21,952	9.39 14,635
398	MISCELLANEOUS EQUIPMENT	15 - SQ	814,269	359,450	454,819	6.89 56,065
TOTAL GENERAL PLANT			37,877,094	16,724,466	21,152,628	4.08 1,545,762
TOTAL DEPRECIABLE GAS PLANT			860,791,476	277,658,621	583,132,855	1.99 17,091,504
NONDEPRECIABLE PLANT						
301	ORGANIZATION		86,238			
302	FRANCHISE AND CONSENTS		9,422			
374.1	LAND		276,467			
374.2	LAND RIGHTS		3,109,045			
389.1	LAND		770,030			
TOTAL NONDEPRECIABLE PLANT			4,251,202			
TOTAL GAS PLANT			865,042,678			

UGI PENN NATURAL GAS, INC.

TABLE 1. ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT SEPTEMBER 30, 2017

ACCOUNT (1)	SURVIVOR CURVE (2)	ORIGINAL COST (3)	BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL RATE (6)	AMOUNT (7)	
OTHER UTILITY PLANT ALLOCATED TO PNG							
COMMON PLANT							
301	ORGANIZATION (NONDEPRECIABLE)	138,964					
390.2	STRUCTURES AND IMPROVEMENTS - LEASED PROPERTY	SQUARE	163,268	88,483	74,785	30.54	49,856
391	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20 - SQ	840,391	160,524	679,867	7.18	60,307
391.1	OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	5 - SQ	170,853	125,862	44,991	17.97	30,707
392.1	TRANSPORTATION EQUIPMENT - CARS	7 - L2.5	71,637	62,349	9,288	4.42	3,165
TOTAL COMMON PLANT			1,385,113	437,218	808,931	11.56	144,035
TOTAL COMMON PLANT ALLOCATED TO PNG - 14.34%			198,625	62,697	116,001		20,655
INFORMATION SERVICES (IS)							
391	OFFICE FURNITURE AND EQUIPMENT - FURNITURE	20 - SQ	71,395	59,221	12,174	4.14	2,957
391.1	OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	5 - SQ	3,661,076	1,972,572	1,688,504	20.05	734,024
391.3	OFFICE FURNITURE AND EQUIPMENT - SYSTEM DEV. COSTS - 10 YEARS	10 - SQ	7,518,294	4,137,197	3,381,097	7.89	593,007
391.4	OFFICE FURNITURE & EQUIPMENT - SYSTEM DEV. COSTS - 15 YEARS	15 - SQ	98,914,058	6,652,094	92,261,964	6.67	6,598,673
TOTAL INFORMATION SERVICES			110,164,823	12,821,084	97,343,739	7.20	7,928,661
TOTAL INFORMATION SERVICES ALLOCATED TO PNG - 28.17%			31,033,431	3,611,699	27,421,731		2,233,504
READING SERVICE CENTER							
390	STRUCTURES AND IMPROVEMENTS	100 - R1	1,960,014	1,106,990	853,024	3.53	69,259
TOTAL READING SERVICE CENTER ALLOCATED TO PNG - 27.49%			538,808	304,312	234,496		19,039
LESS EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION							
390	STRUCTURES AND IMPROVEMENTS		13,141,075	5,487,605	7,653,470	2.52	330,548
TOTAL EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION - 13.04%			1,713,596	715,584	998,012		43,103
TOTAL OTHER PLANT ALLOCATED TO PNG			30,057,268	3,263,124	26,774,216	7.42	2,230,095
TOTAL PLANT IN SERVICE			895,099,946	280,921,745	609,907,071		19,321,599
AMORTIZATION OF NEGATIVE NET SALVAGE						2,306,714	
GRAND TOTAL			895,099,946	280,921,745	609,907,071		21,628,313

* SURVIVOR CURVES FOR ACCOUNT 390 ARE INTERIM SURVIVOR CURVES. INDIVIDUAL BUILDINGS ARE LIFE SPANNED.

** UGI PLANS TO REPLACE THEIR CUSTOMER INFORMATION SYSTEM (CIS) IN ACCOUNT 391.3 IN 2017.



UGI PENN NATURAL GAS, INC.

TABLE 2. BOOK RESERVE AT SEPTEMBER 30, 2016 PROJECTED TO SEPTEMBER 30, 2017

ACCOUNT	BOOK RESERVE AT BEGINNING OF YEAR	ANNUAL ACCRUAL	AMORTIZATION OF NET SALVAGE	RETIREMENTS	GROSS SALVAGE	COST OF REMOVAL	TRANSFERS AND ADJUSTMENTS	BOOK RESERVE AT END OF YEAR	BOOK RESERVE AS A PERCENT OF ORIGINAL COST
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
GAS PLANT									
375 STRUCTURES AND IMPROVEMENTS	1,145,980	49,379	0	(22,701)	0	0	0	1,172,658	42.30
376.1 MAINS - PLASTIC	56,429,813	3,227,291	26,903	(132,889)	0	(49,137)	0	59,501,981	27.83
376.2 MAINS - OTHER	45,254,829	3,244,339	529,319	(1,198,156)	0	(2,181,205)	0	45,649,126	19.67
378 MEASURING AND REGULATING EQUIPMENT - GENERAL	6,834,201	539,754	93,081	(146,066)	25,840	(138,399)	0	7,208,411	35.52
379 MEASURING AND REGULATING EQUIPMENT - CITY GATE	3,489,249	584,625	24,080	(61,218)	0	(5,458)	0	4,031,278	21.45
380.1 SERVICES - PLASTIC	87,741,973	4,567,051	812,000	(437,608)	0	(924,797)	0	91,758,619	38.53
380.2 SERVICES - OTHER	9,753,649	393,366	437,875	(146,058)	0	(609,248)	0	9,829,584	51.25
381 METERS	23,620,903	1,240,651	0	(179,698)	0	0	0	24,681,856	50.29
381.1 METERS - AMR	8,210,985	319,106	2,875	(1,199)	0	0	0	8,531,767	77.50
383 HOUSE REGULATORS	1,750,528	39,130	3,645	0	0	0	0	1,793,303	63.70
384 HOUSE REGULATOR INSTALLATIONS	2,157,799	47,821	0	0	0	0	0	2,205,620	60.88
385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT	4,332,615	213,145	5,090	(26,590)	0	(25,194)	0	4,499,066	40.34
387 OTHER DISTRIBUTION EQUIPMENT	67,050	3,836	0	0	0	0	0	70,886	60.42
390 STRUCTURES AND IMPROVEMENTS	8,827,953	551,317	14,463	(121,600)	0	(18,240)	0	9,253,893	41.56
391.1 OFFICE FURNITURE	598,596	55,003	0	(212,096)	0	0	0	441,503	50.93
391.2 OFFICE EQUIPMENT	87,387	16,944	0	(76,819)	0	0	0	27,512	33.09
391.3 COMPUTER EQUIPMENT	219,819	29,456	0	(162,157)	0	0	0	87,118	47.95
391.41 COMPUTER SOFTWARE - GENERAL	2,920	11,155	0	0	0	0	0	14,075	12.62
391.42 COMPUTER SOFTWARE - ORACLE	3,295,776	0	0	(3,295,776)	0	0	0	0	0.00
392 TRANSPORTATION EQUIPMENT	3,452,551	139,976	(95,399)	(1,250,000)	188,951	0	0	2,436,079	43.59
393 STORES EQUIPMENT	1,126	86	0	0	0	0	0	1,212	68.55
394 TOOLS, SHOP AND GARAGE EQUIPMENT	2,461,824	319,106	0	(267,041)	0	0	0	2,513,889	40.03
396 POWER OPERATED EQUIPMENT	1,426,779	21,252	(1,344)	0	0	0	0	1,446,687	95.30
397 COMMUNICATION EQUIPMENT	361,380	281	0	(352,523)	0	0	0	9,138	83.32
397.1 TELEPHONE SYSTEMS	898,148	6,658	0	(770,896)	0	0	0	133,910	85.92
398 MISCELLANEOUS EQUIPMENT	378,987	55,997	0	(75,534)	0	0	0	359,450	44.14
TOTAL DEPRECIABLE GAS PLANT	272,802,820	15,676,725	1,852,588	(8,936,625)	214,791	(3,951,678)	0	277,658,621	32.26
OTHER UTILITY PLANT ALLOCATED TO PNG									
COMMON PLANT									
390.2 STRUCTURES AND IMPROVEMENTS - LEASED PROPERTY	38,621	49,862	0	0	0	0	0	88,483	54.19
391 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	109,095	74,635	0	(23,206)	0	0	0	160,524	19.10
391.1 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	81,991	50,307	0	(6,436)	0	0	0	125,862	73.67
392.1 TRANSPORTATION EQUIPMENT - CARS	58,516	3,833	0	0	0	0	0	62,349	87.03
TOTAL COMMON PLANT	288,223	178,637	0	(29,642)	0	0	0	437,218	35.09
TOTAL COMMON PLANT ALLOCATED TO PNG - 14.34%	41,331	25,617	0	(4,251)	0	0	0	62,697	
INFORMATION SERVICES (IS)									
391 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	55,651	3,570	0	0	0	0	0	59,221	82.95
391.1 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	2,209,892	728,367	0	(965,687)	0	0	0	1,972,572	53.88
391.3 OFFICE FURNITURE AND EQUIPMENT - SYSTEM DEV. COSTS - 10 YEARS	19,721,081	867,211	0	(16,451,095)	0	0	0	4,137,197	55.03
391.4 OFFICE FURNITURE & EQUIPMENT - SYSTEM DEV. COSTS - 15 YEARS	5,924,654	727,440	0	0	0	0	0	6,652,094	6.73
TOTAL INFORMATION SERVICES	27,911,278	2,326,588	0	(17,416,782)	0	0	0	12,821,084	11.64
TOTAL INFORMATION SERVICES ALLOCATED TO PNG - 28.17%	7,862,607	655,400	0	(4,906,307)	0	0	0	3,611,699	



UGI PENN NATURAL GAS, INC.

TABLE 2. BOOK RESERVE AT SEPTEMBER 30, 2016 PROJECTED TO SEPTEMBER 30, 2017

ACCOUNT (1)	BOOK RESERVE AT BEGINNING OF YEAR (2)	ANNUAL ACCRUAL (3)	AMORTIZATION OF NET SALVAGE (4)	RETIREMENTS (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	TRANSFERS AND ADJUSTMENTS (8)	BOOK RESERVE AT END OF YEAR (9)	BOOK RESERVE AS A PERCENT OF ORIGINAL COST (10)
READING SERVICE CENTER									
390 STRUCTURES AND IMPROVEMENTS	1,037,018	69,972	0	0	0	0	0	1,106,990	
TOTAL READING SERVICE CENTER ALLOCATED TO PNG - 27.49%	285,076	19,235	0	0	0	0	0	304,312	
LESS EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION									
390 STRUCTURES AND IMPROVEMENTS	5,256,016	304,217	0	(63,155)	0	(9,473)	0	5,487,605	
TOTAL EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION - 13.04%	685,384	38,435	0	(8,235)	0	0	0	715,584	
TOTAL OTHER PLANT ALLOCATED TO PNG	7,503,630	661,817	0	(4,902,323)	0	0	0	3,263,124	
TOTAL PLANT IN SERVICE	280,306,450	16,338,542	1,852,588	(13,838,948)	214,791	(3,951,678)	0	280,921,745	

UGI PENN NATURAL GAS, INC.
TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2017

ACCOUNT (1)	BEGINNING OF YEAR BALANCE (2)	ADDITIONS (3)	RETIREMENTS (4)	END OF YEAR BALANCE (5)	AVERAGE BALANCE (6)	ANNUAL ACCRUAL RATE (7)	ANNUAL ACCRUAL AMOUNT (8)=(6)*(7)
<u>GAS PLANT</u>							
375 STRUCTURES AND IMPROVEMENTS	2,624,631	170,000	(22,701)	2,771,930	2,698,281	1.83	49,379
376.1 MAINS - PLASTIC	197,285,568	16,681,670	(132,889)	213,834,349	205,559,959	1.57	3,227,291
376.2 MAINS - OTHER	168,436,907	64,860,000	(1,198,156)	232,098,751	200,267,829	1.62	3,244,339
378 MEASURING AND REGULATING EQUIPMENT - GENERAL	19,106,597	1,331,000	(146,066)	20,291,531	19,699,064	2.74	539,754
379 MEASURING AND REGULATING EQUIPMENT - CITY GATE	18,327,624	525,000	(61,218)	18,791,406	18,559,515	3.15	584,625
380.1 SERVICES - PLASTIC	225,514,317	13,069,016	(437,608)	238,145,725	231,830,021	1.97	4,567,051
380.2 SERVICES - OTHER	18,642,356	685,000	(146,058)	19,181,298	18,911,827	2.08	393,366
381 METERS	47,465,166	1,798,051	(179,698)	49,083,519	48,274,343	2.57	1,240,651
381.1 METERS - AMR	10,998,262	12,000	(1,199)	11,009,063	11,003,663	2.90	319,106
383 HOUSE REGULATORS	2,815,101	0	0	2,815,101	2,815,101	1.39	39,130
384 HOUSE REGULATOR INSTALLATIONS	3,622,774	0	0	3,622,774	3,622,774	1.32	47,821
385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT	10,935,909	242,300	(26,590)	11,151,619	11,043,764	1.93	213,145
387 OTHER DISTRIBUTION EQUIPMENT	117,316	0	0	117,316	117,316	3.27	3,836
390 STRUCTURES AND IMPROVEMENTS	21,170,024	1,216,000	(121,600)	22,264,424	21,717,224	2.54	551,317
391.1 OFFICE FURNITURE	1,003,979	75,000	(212,096)	866,884	935,432	5.88	55,003
391.2 OFFICE EQUIPMENT	159,958	0	(76,819)	83,138	121,548	13.94	16,944
391.3 COMPUTER EQUIPMENT	343,841	0	(162,157)	181,683	262,762	11.21	29,456
391.41 COMPUTER SOFTWARE - GENERAL	0	111,550	0	111,550	55,775	20.00	11,155
391.42 COMPUTER SOFTWARE - ORACLE	3,295,776	0	(3,295,776)	0	1,647,888	0.00	0
392 TRANSPORTATION EQUIPMENT	4,338,675	2,500,000	(1,250,000)	5,588,675	4,963,675	2.82	139,976
393 STORES EQUIPMENT	1,768	0	0	1,768	1,768	4.86	86
394 TOOLS, SHOP AND GARAGE EQUIPMENT	5,876,556	670,350	(267,041)	6,279,865	6,078,211	5.25	319,106
396 POWER OPERATED EQUIPMENT	1,518,009	0	0	1,518,009	1,518,009	1.40	21,252
397 COMMUNICATION EQUIPMENT	363,490	0	(352,523)	10,967	187,229	0.15	281
397.1 TELEPHONE SYSTEMS	926,758	0	(770,896)	155,862	541,310	1.23	6,658
398 MISCELLANEOUS EQUIPMENT	864,803	25,000	(75,534)	814,269	839,536	6.67	55,997
TOTAL DEPRECIABLE GAS PLANT	<u>765,756,165</u>	<u>103,971,937</u>	<u>(8,936,625)</u>	<u>860,791,476</u>	<u>813,273,820</u>		<u>15,676,725</u>
<u>OTHER UTILITY PLANT ALLOCATED TO PNG</u>							
COMMON PLANT							
390.2 STRUCTURES AND IMPROVEMENTS - LEASED PROPERTY	163,268	0	0	163,268	163,268	30.54	49,862
391 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	863,597	0	(23,206)	840,391	851,994	8.76	74,635
391.1 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	177,289	0	(6,436)	170,853	174,071	28.90	50,307
392.1 TRANSPORTATION EQUIPMENT - CARS	71,637	0	0	71,637	71,637	5.35	3,833
TOTAL COMMON PLANT	<u>1,275,791</u>	<u>0</u>	<u>(29,642)</u>	<u>1,246,149</u>	<u>1,260,970</u>		<u>178,637</u>
TOTAL COMMON PLANT ALLOCATED TO PNG - 14.34%	<u>182,948</u>	<u>0</u>	<u>(4,251)</u>	<u>178,698</u>	<u>180,823</u>		<u>25,617</u>

UGI PENN NATURAL GAS, INC.
TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED SEPTEMBER 30, 2017

ACCOUNT (1)	BEGINNING OF YEAR BALANCE (2)	ADDITIONS (3)	RETIREMENTS (4)	END OF YEAR BALANCE (5)	AVERAGE BALANCE (6)	ANNUAL ACCRUAL RATE (7)	ANNUAL ACCRUAL AMOUNT (8)=(6)*(7)
INFORMATION SERVICES (IS)							
391 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	71,395	0	0	71,395	71,395	5.00	3,570
391.1 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	4,351,763	275,000	(965,687)	3,661,076	4,006,420	18.18	728,367
391.3 OFFICE FURNITURE AND EQUIPMENT - SYSTEM DEV. COSTS - 10 YEAR:	23,969,389	0	(16,451,095)	7,518,294	17,153,295	5.06	867,211
391.4 OFFICE FURNITURE & EQUIPMENT - SYSTEM DEV. COSTS - 15 YEARS	10,841,134	88,072,924	0	98,914,058	10,841,134	6.71	727,440
TOTAL INFORMATION SERVICES	39,233,681	88,347,924	(17,416,782)	110,164,823	32,072,244		2,326,588
TOTAL INFORMATION SERVICES ALLOCATED TO PNG - 28.17%	11,052,128	24,887,610	(4,906,307)	31,033,431	9,034,751		655,400
READING SERVICE CENTER							
390 STRUCTURES AND IMPROVEMENTS	1,960,014	0	0	1,960,014	1,960,014	3.57	69,972
TOTAL READING SERVICE CENTER ALLOCATED TO PNG - 27.49%	538,808	0	0	538,808	538,808		19,235
LESS EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION							
390 STRUCTURES AND IMPROVEMENTS	12,572,680	631,550	(63,155)	13,141,075	12,856,878	2.37	304,217
TOTAL EMPIRE BUILDING ALLOCATED TO ELECTRIC DIVISION - 13.04%	1,639,477	82,354	(8,235)	1,713,596	1,676,537		38,435
TOTAL OTHER PLANT ALLOCATED TO PNG	10,134,407	24,805,256	(4,902,323)	30,037,341	8,077,845		661,817
TOTAL PLANT IN SERVICE	775,890,572	128,777,193	(13,838,948)	890,828,817	821,351,665		16,338,542

UGI PENN NATURAL GAS, INC.

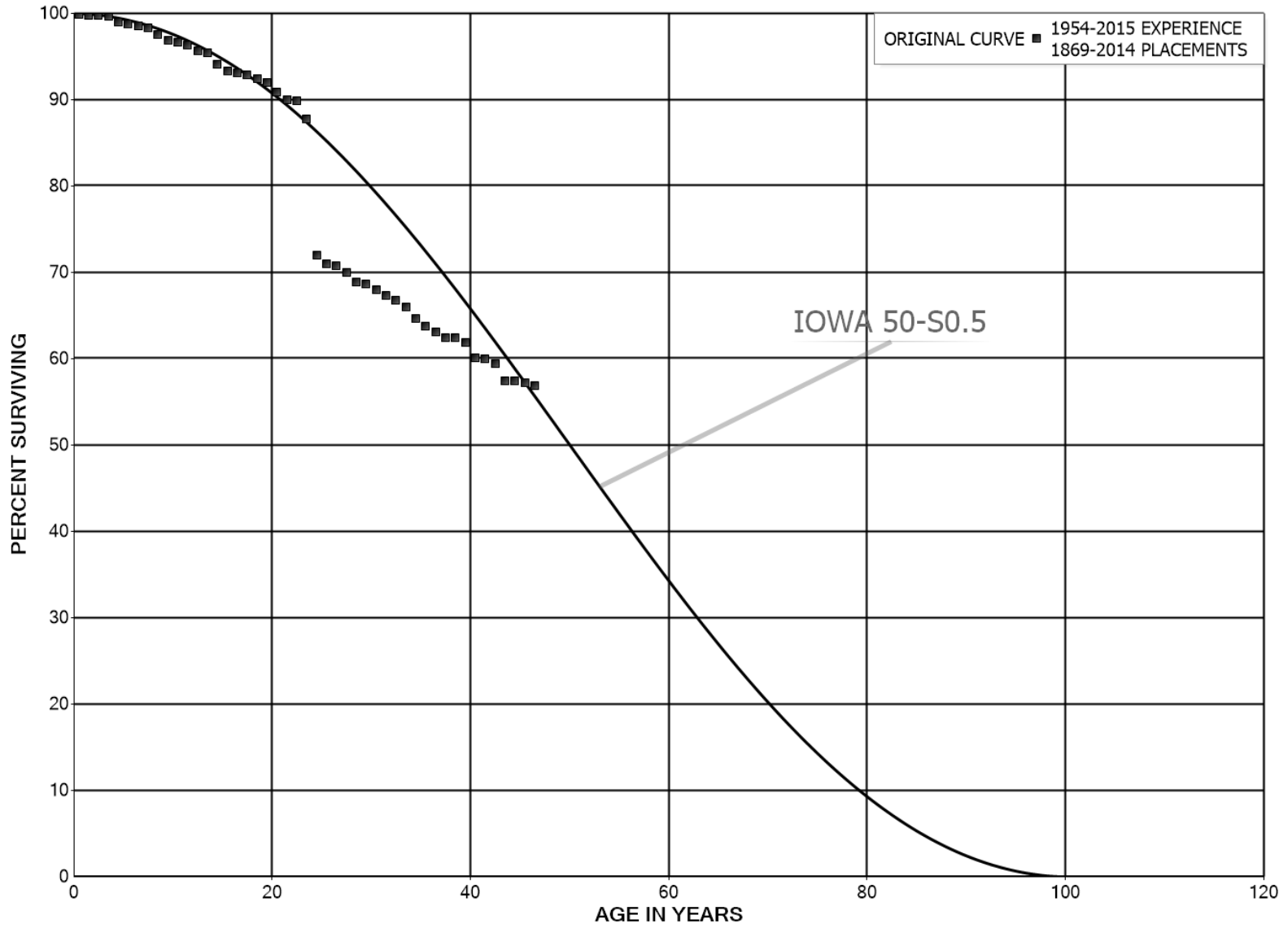
TABLE 4. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2013		2014		2015		2016		2017		FIVE YEAR NET SALVAGE TOTAL (12)	NET SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
GAS PLANT												
305	0	0	0	0	0	0	0	0	0	0	0	0
375	0	0	0	0	0	0	0	0	0	0	0	0
376.1	0	27,114	0	39,822	0	21,434	0	29,424	0	49,137	166,931	33,386
376.2	0	473,858	0	503,492	0	473,248	0	652,718	0	2,181,205	4,284,521	856,904
378	(18,702)	17,516	(26,430)	55,867	(30,014)	408,083	(13,547)	42,702	(25,840)	138,399	548,034	109,607
379	0	3,763	0	9,789	0	48,565	0	0	0	5,458	67,575	13,515
380.1	0	788,886	0	697,767	0	967,010	0	989,383	0	924,797	4,367,843	873,569
380.2	0	262,167	0	679,163	0	447,702	0	642,032	0	609,248	2,640,312	528,062
381	0	0	0	0	0	0	0	0	0	0	0	0
381.1	0	398	0	0	0	0	0	0	0	0	398	80
383	0	0	0	0	0	0	0	0	0	0	0	0
384	0	0	0	0	0	0	0	0	0	0	0	0
385	0	145	0	0	0	10,200	0	4,524	0	25,194	40,063	8,013
387	0	0	0	0	0	0	0	0	0	0	0	0
390	0	0	0	13,283	0	51,086	0	7,947	0	18,240	90,556	18,111
391	0	0	0	0	0	0	0	0	0	0	0	0
391	0	0	0	0	0	0	0	0	0	0	0	0
391	0	0	0	0	0	0	0	0	0	0	0	0
391.41	0	0	0	0	0	0	0	0	0	0	0	0
391.42	0	0	0	0	0	0	0	0	0	0	0	0
392	(234,012)	0	(155,933)	0	(60,474)	0	(33,800)	7,224	(188,951)	0	(665,946)	(133,189)
393	0	0	0	0	0	0	0	0	0	0	0	0
394	0	0	0	0	0	0	0	0	0	0	0	0
396	0	0	0	0	0	0	(8,550)	1,832	0	0	(6,718)	(1,344)
397	0	0	0	0	0	0	0	0	0	0	0	0
397.1	0	0	0	0	0	0	0	0	0	0	0	0
398	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	(252,714)	1,573,846	(182,363)	1,999,183	(90,488)	2,427,328	(55,897)	2,377,786	(214,791)	3,951,678	11,533,568	2,306,714
OTHER UTILITY PLANT ALLOCATED TO PNG												
COMMON PLANT												
390.2	0	0	0	0	0	0	0	0	0	0	0	0
391	0	0	0	0	0	0	0	0	0	0	0	0
391.1	0	0	0	0	0	0	0	0	0	0	0	0
392.1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
INFORMATION SERVICES												
391	0	0	0	0	0	0	0	0	0	0	0	0
391.1	0	0	0	0	0	0	0	0	0	0	0	0
391.2	0	0	0	0	0	0	0	0	0	0	0	0
391.3	0	0	0	0	0	0	0	0	0	0	0	0
391.4	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	(252,714)	1,573,846	(182,363)	1,999,183	(90,488)	2,427,328	(55,897)	2,377,786	(214,791)	3,951,678	11,533,568	2,306,714

PART VI. SERVICE LIFE STATISTICS



UGI PENN NATURAL GAS, INC.
ACCOUNT 375 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 375 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1869-2014

EXPERIENCE BAND 1954-2015

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	3,078,555	3,693	0.0012	0.9988	100.00
0.5	3,076,279	3,737	0.0012	0.9988	99.88
1.5	1,955,405		0.0000	1.0000	99.76
2.5	1,938,548	3,422	0.0018	0.9982	99.76
3.5	1,953,076	11,328	0.0058	0.9942	99.58
4.5	2,120,635	6,229	0.0029	0.9971	99.01
5.5	2,004,415	5,268	0.0026	0.9974	98.71
6.5	2,001,142	2,524	0.0013	0.9987	98.45
7.5	2,145,476	18,210	0.0085	0.9915	98.33
8.5	1,916,638	12,641	0.0066	0.9934	97.50
9.5	2,182,501	4,453	0.0020	0.9980	96.85
10.5	1,909,821	7,857	0.0041	0.9959	96.66
11.5	1,895,703	12,250	0.0065	0.9935	96.26
12.5	1,849,268	3,821	0.0021	0.9979	95.64
13.5	1,779,280	26,467	0.0149	0.9851	95.44
14.5	1,725,363	13,112	0.0076	0.9924	94.02
15.5	1,690,366	3,465	0.0021	0.9979	93.30
16.5	1,660,014	4,704	0.0028	0.9972	93.11
17.5	1,567,454	8,518	0.0054	0.9946	92.85
18.5	1,477,008	7,183	0.0049	0.9951	92.34
19.5	1,407,329	15,983	0.0114	0.9886	91.90
20.5	1,378,017	14,365	0.0104	0.9896	90.85
21.5	1,326,537	1,717	0.0013	0.9987	89.90
22.5	1,316,824	30,701	0.0233	0.9767	89.79
23.5	1,315,376	235,918	0.1794	0.8206	87.69
24.5	1,074,270	14,307	0.0133	0.9867	71.97
25.5	1,050,705	4,882	0.0046	0.9954	71.01
26.5	1,032,799	10,134	0.0098	0.9902	70.68
27.5	1,013,215	16,010	0.0158	0.9842	69.98
28.5	986,536	3,945	0.0040	0.9960	68.88
29.5	982,221	9,381	0.0096	0.9904	68.60
30.5	963,930	8,920	0.0093	0.9907	67.95
31.5	954,038	8,205	0.0086	0.9914	67.32
32.5	920,594	10,962	0.0119	0.9881	66.74
33.5	867,061	17,042	0.0197	0.9803	65.95
34.5	798,804	10,986	0.0138	0.9862	64.65
35.5	782,874	8,139	0.0104	0.9896	63.76
36.5	774,740	8,098	0.0105	0.9895	63.10
37.5	767,689	1,092	0.0014	0.9986	62.44
38.5	777,221	7,073	0.0091	0.9909	62.35

UGI PENN NATURAL GAS, INC.

ACCOUNT 375 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1869-2014			EXPERIENCE BAND 1954-2015		
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	770,115	20,730	0.0269	0.9731	61.78
40.5	747,834	1,774	0.0024	0.9976	60.12
41.5	746,574	6,825	0.0091	0.9909	59.98
42.5	696,384	23,360	0.0335	0.9665	59.43
43.5	665,200	929	0.0014	0.9986	57.43
44.5	628,469	1,728	0.0027	0.9973	57.35
45.5	519,636	3,738	0.0072	0.9928	57.20
46.5	486,768		0.0000	1.0000	56.78
47.5	458,880	4,132	0.0090	0.9910	56.78
48.5	556,070	7,222	0.0130	0.9870	56.27
49.5	532,745	77	0.0001	0.9999	55.54
50.5	508,138	183	0.0004	0.9996	55.53
51.5	447,972	14,640	0.0327	0.9673	55.51
52.5	372,293	845	0.0023	0.9977	53.70
53.5	327,197		0.0000	1.0000	53.58
54.5	309,450	391	0.0013	0.9987	53.58
55.5	304,200	14,689	0.0483	0.9517	53.51
56.5	287,771	229	0.0008	0.9992	50.93
57.5	283,279		0.0000	1.0000	50.89
58.5	216,894	658	0.0030	0.9970	50.89
59.5	210,461	287	0.0014	0.9986	50.73
60.5	213,315	3,907	0.0183	0.9817	50.66
61.5	209,408	4,055	0.0194	0.9806	49.74
62.5	205,353	3,986	0.0194	0.9806	48.77
63.5	192,057	754	0.0039	0.9961	47.83
64.5	191,304		0.0000	1.0000	47.64
65.5	189,469	3,201	0.0169	0.9831	47.64
66.5	186,317	19	0.0001	0.9999	46.83
67.5	186,298	9,119	0.0489	0.9511	46.83
68.5	177,179	6,304	0.0356	0.9644	44.54
69.5	171,502	595	0.0035	0.9965	42.95
70.5	170,907	5	0.0000	1.0000	42.80
71.5	170,765		0.0000	1.0000	42.80
72.5	170,065		0.0000	1.0000	42.80
73.5	170,065		0.0000	1.0000	42.80
74.5	169,921		0.0000	1.0000	42.80
75.5	169,921	162	0.0010	0.9990	42.80
76.5	169,759	168	0.0010	0.9990	42.76
77.5	169,559	10	0.0001	0.9999	42.72
78.5	169,549		0.0000	1.0000	42.72

UGI PENN NATURAL GAS, INC.

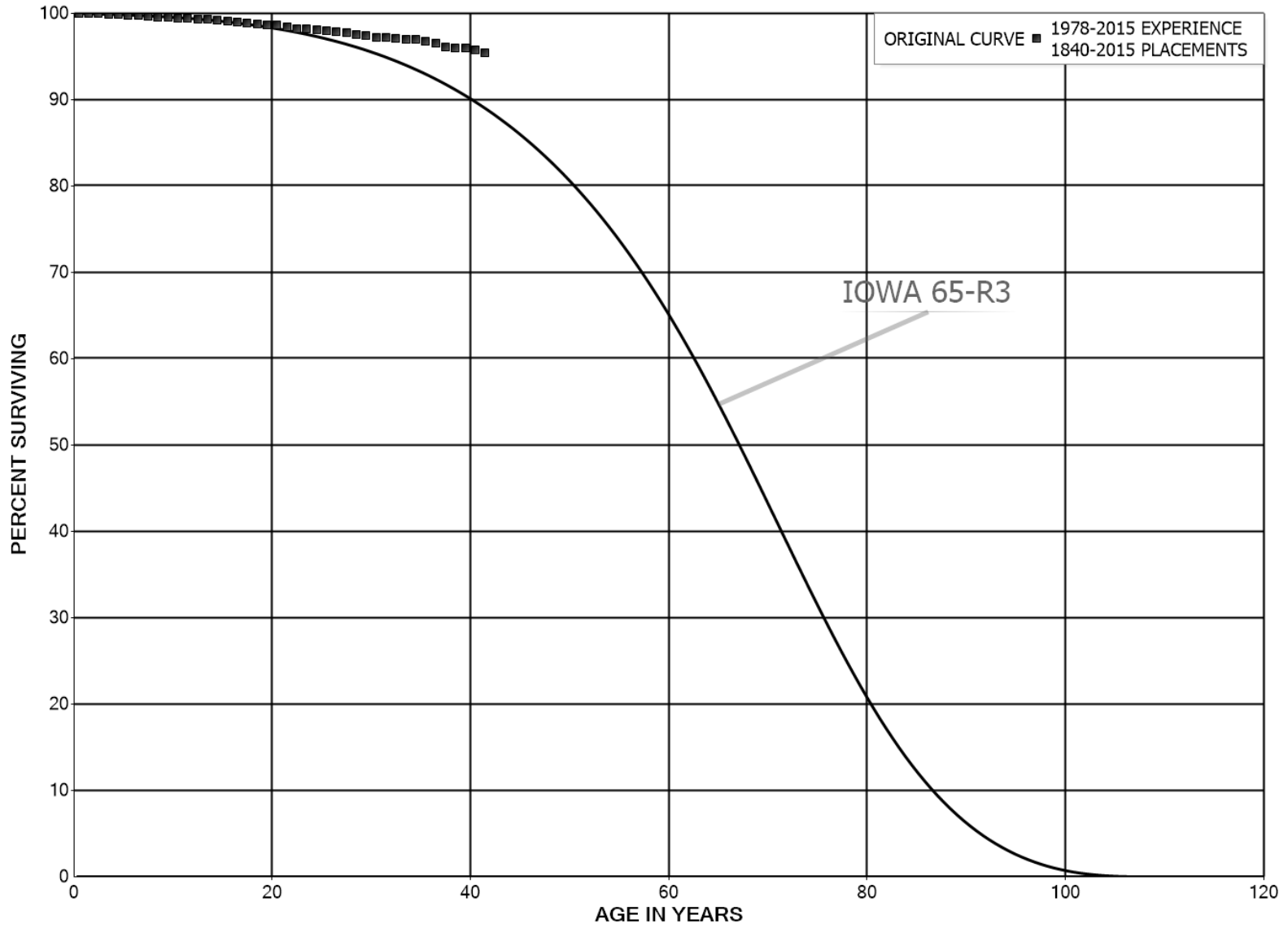
ACCOUNT 375 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1869-2014			EXPERIENCE BAND 1954-2015		
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	169,847		0.0000	1.0000	42.72
80.5	169,847		0.0000	1.0000	42.72
81.5	169,847		0.0000	1.0000	42.72
82.5	168,999		0.0000	1.0000	42.72
83.5	168,999		0.0000	1.0000	42.72
84.5	168,999		0.0000	1.0000	42.72
85.5	168,810	200	0.0012	0.9988	42.72
86.5	170,171		0.0000	1.0000	42.66
87.5	174,846		0.0000	1.0000	42.66
88.5	172,126		0.0000	1.0000	42.66
89.5	170,565		0.0000	1.0000	42.66
90.5	155,033	882	0.0057	0.9943	42.66
91.5	154,054		0.0000	1.0000	42.42
92.5	154,054		0.0000	1.0000	42.42
93.5	149,911		0.0000	1.0000	42.42
94.5	149,911		0.0000	1.0000	42.42
95.5	149,911		0.0000	1.0000	42.42
96.5	149,911		0.0000	1.0000	42.42
97.5	149,911		0.0000	1.0000	42.42
98.5	149,911		0.0000	1.0000	42.42
99.5	149,911		0.0000	1.0000	42.42
100.5	149,911		0.0000	1.0000	42.42
101.5	149,864		0.0000	1.0000	42.42
102.5	148,864		0.0000	1.0000	42.42
103.5	148,864		0.0000	1.0000	42.42
104.5	148,864		0.0000	1.0000	42.42
105.5	148,707		0.0000	1.0000	42.42
106.5	148,707		0.0000	1.0000	42.42
107.5	3,906		0.0000	1.0000	42.42
108.5	3,906		0.0000	1.0000	42.42
109.5	3,906		0.0000	1.0000	42.42
110.5	3,906		0.0000	1.0000	42.42
111.5	3,504		0.0000	1.0000	42.42
112.5	3,504		0.0000	1.0000	42.42
113.5	3,504		0.0000	1.0000	42.42
114.5	3,069		0.0000	1.0000	42.42
115.5	3,069		0.0000	1.0000	42.42
116.5	2,560		0.0000	1.0000	42.42
117.5	2,560		0.0000	1.0000	42.42
118.5	2,560		0.0000	1.0000	42.42
119.5	2,560		0.0000	1.0000	42.42
120.5					42.42



UGI PENN NATURAL GAS, INC.
ACCOUNT 376.1 MAINS - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 376.1 MAINS - PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1840-2015

EXPERIENCE BAND 1978-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	180,463,300	576	0.0000	1.0000	100.00
0.5	171,990,439	33,546	0.0002	0.9998	100.00
1.5	165,625,003	94,456	0.0006	0.9994	99.98
2.5	161,500,789	120,443	0.0007	0.9993	99.92
3.5	153,710,256	90,194	0.0006	0.9994	99.85
4.5	148,115,236	52,038	0.0004	0.9996	99.79
5.5	143,960,284	82,515	0.0006	0.9994	99.75
6.5	138,211,736	163,880	0.0012	0.9988	99.70
7.5	132,924,590	73,608	0.0006	0.9994	99.58
8.5	127,295,515	76,075	0.0006	0.9994	99.52
9.5	123,010,980	63,423	0.0005	0.9995	99.46
10.5	116,231,697	65,804	0.0006	0.9994	99.41
11.5	107,321,975	84,273	0.0008	0.9992	99.36
12.5	102,825,190	48,082	0.0005	0.9995	99.28
13.5	99,453,906	51,225	0.0005	0.9995	99.23
14.5	92,152,969	117,943	0.0013	0.9987	99.18
15.5	87,895,906	125,983	0.0014	0.9986	99.05
16.5	82,497,407	101,166	0.0012	0.9988	98.91
17.5	74,800,251	62,827	0.0008	0.9992	98.79
18.5	64,684,065	51,794	0.0008	0.9992	98.71
19.5	57,902,488	26,899	0.0005	0.9995	98.63
20.5	52,106,735	105,112	0.0020	0.9980	98.58
21.5	46,505,924	78,892	0.0017	0.9983	98.38
22.5	43,754,783	21,628	0.0005	0.9995	98.22
23.5	40,991,476	61,107	0.0015	0.9985	98.17
24.5	38,651,986	35,645	0.0009	0.9991	98.02
25.5	33,761,873	36,952	0.0011	0.9989	97.93
26.5	29,355,790	20,201	0.0007	0.9993	97.83
27.5	23,468,050	60,562	0.0026	0.9974	97.76
28.5	20,076,505	19,367	0.0010	0.9990	97.51
29.5	18,010,107	34,002	0.0019	0.9981	97.41
30.5	16,568,939	9,593	0.0006	0.9994	97.23
31.5	15,451,182	22,206	0.0014	0.9986	97.17
32.5	14,596,539	7,186	0.0005	0.9995	97.03
33.5	13,015,966	5,860	0.0005	0.9995	96.98
34.5	11,373,428	22,153	0.0019	0.9981	96.94
35.5	9,198,277	22,794	0.0025	0.9975	96.75
36.5	7,192,323	32,973	0.0046	0.9954	96.51
37.5	5,376,245	5,550	0.0010	0.9990	96.07
38.5	3,985,369	1,984	0.0005	0.9995	95.97

UGI PENN NATURAL GAS, INC.

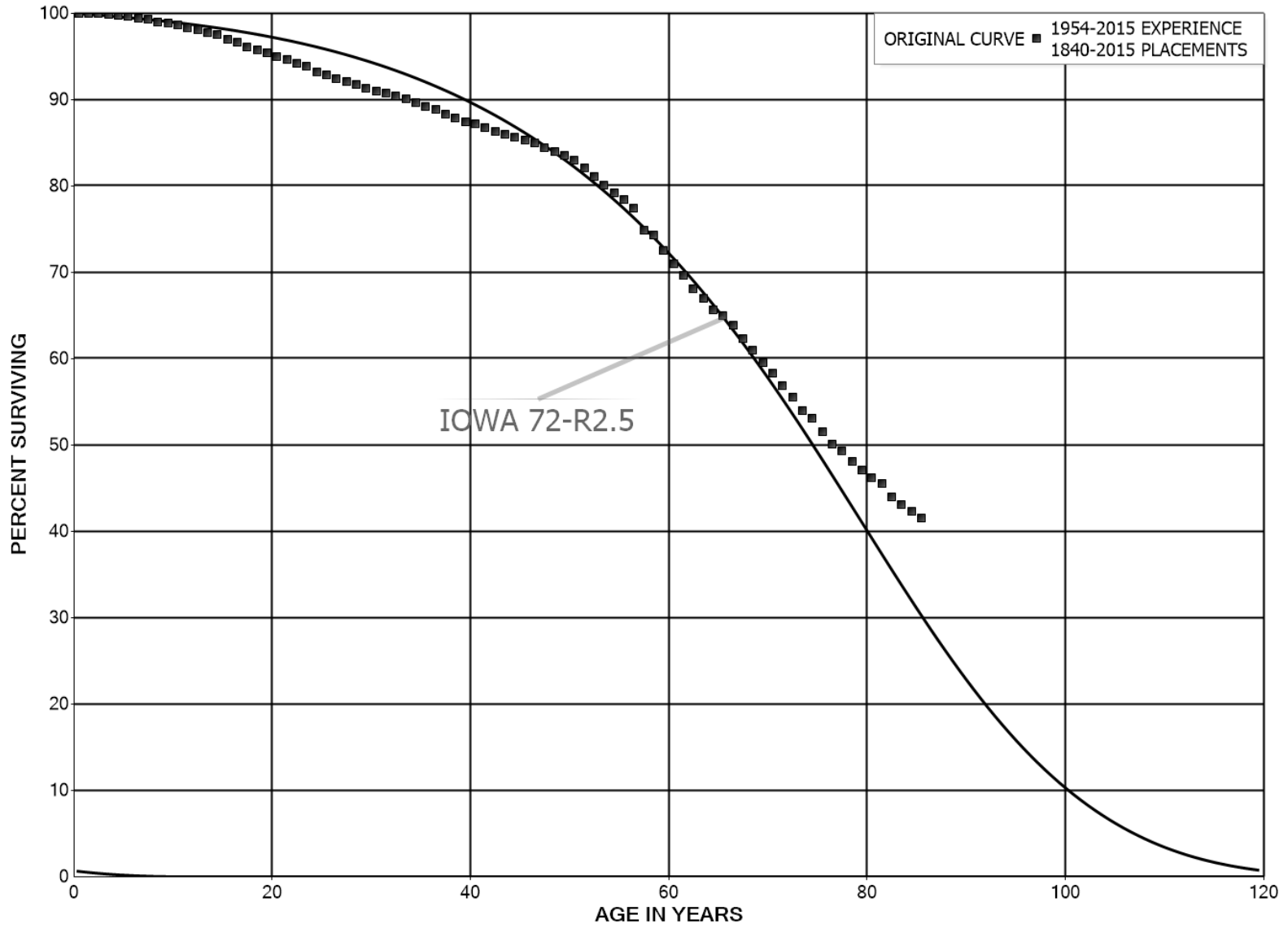
ACCOUNT 376.1 MAINS - PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1840-2015			EXPERIENCE BAND 1978-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	2,828,452	4,719	0.0017	0.9983	95.92	
40.5	1,176,072	5,183	0.0044	0.9956	95.76	
41.5	531,861		0.0000	1.0000	95.34	
42.5	11,476		0.0000	1.0000	95.34	
43.5	11,209		0.0000	1.0000	95.34	
44.5	2,846		0.0000	1.0000	95.34	
45.5					95.34	



UGI PENN NATURAL GAS, INC.
ACCOUNT 376.2 MAINS - OTHER
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1840-2015

EXPERIENCE BAND 1954-2015

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	166,638,367	41,143	0.0002	0.9998	100.00
0.5	154,175,400	48,692	0.0003	0.9997	99.98
1.5	140,575,502	53,444	0.0004	0.9996	99.94
2.5	135,884,475	93,821	0.0007	0.9993	99.91
3.5	133,156,198	161,011	0.0012	0.9988	99.84
4.5	131,981,626	203,556	0.0015	0.9985	99.72
5.5	129,307,788	214,194	0.0017	0.9983	99.56
6.5	128,536,134	180,077	0.0014	0.9986	99.40
7.5	125,646,602	392,938	0.0031	0.9969	99.26
8.5	124,307,001	170,326	0.0014	0.9986	98.95
9.5	122,988,588	272,451	0.0022	0.9978	98.81
10.5	119,995,031	414,008	0.0035	0.9965	98.59
11.5	117,572,206	241,757	0.0021	0.9979	98.25
12.5	115,609,989	334,904	0.0029	0.9971	98.05
13.5	110,257,022	345,179	0.0031	0.9969	97.77
14.5	107,770,551	530,813	0.0049	0.9951	97.46
15.5	99,167,791	355,275	0.0036	0.9964	96.98
16.5	98,397,255	588,133	0.0060	0.9940	96.63
17.5	94,277,348	286,813	0.0030	0.9970	96.06
18.5	86,239,215	363,004	0.0042	0.9958	95.76
19.5	76,922,874	310,053	0.0040	0.9960	95.36
20.5	75,390,314	263,018	0.0035	0.9965	94.98
21.5	73,636,123	401,224	0.0054	0.9946	94.64
22.5	72,700,497	221,184	0.0030	0.9970	94.13
23.5	69,982,852	460,016	0.0066	0.9934	93.84
24.5	68,751,605	288,569	0.0042	0.9958	93.23
25.5	67,335,163	281,662	0.0042	0.9958	92.83
26.5	65,704,459	282,124	0.0043	0.9957	92.45
27.5	63,544,392	226,267	0.0036	0.9964	92.05
28.5	61,456,376	271,602	0.0044	0.9956	91.72
29.5	59,619,315	252,656	0.0042	0.9958	91.32
30.5	57,668,805	160,623	0.0028	0.9972	90.93
31.5	55,704,476	190,893	0.0034	0.9966	90.68
32.5	54,768,082	206,752	0.0038	0.9962	90.37
33.5	49,758,668	254,194	0.0051	0.9949	90.02
34.5	46,504,120	174,518	0.0038	0.9962	89.56
35.5	45,262,368	223,346	0.0049	0.9951	89.23
36.5	44,061,173	238,176	0.0054	0.9946	88.79
37.5	43,372,919	241,510	0.0056	0.9944	88.31
38.5	42,576,297	219,142	0.0051	0.9949	87.82

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1840-2015

EXPERIENCE BAND 1954-2015

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	41,991,415	108,394	0.0026	0.9974	87.36
40.5	41,270,618	173,932	0.0042	0.9958	87.14
41.5	40,597,675	208,128	0.0051	0.9949	86.77
42.5	39,155,792	175,645	0.0045	0.9955	86.33
43.5	35,513,647	145,224	0.0041	0.9959	85.94
44.5	33,066,674	98,477	0.0030	0.9970	85.59
45.5	30,099,460	144,362	0.0048	0.9952	85.33
46.5	26,757,205	177,407	0.0066	0.9934	84.92
47.5	23,238,378	102,590	0.0044	0.9956	84.36
48.5	20,834,794	120,304	0.0058	0.9942	83.99
49.5	18,562,717	136,011	0.0073	0.9927	83.50
50.5	16,085,737	161,567	0.0100	0.9900	82.89
51.5	12,840,089	163,228	0.0127	0.9873	82.06
52.5	10,784,037	125,545	0.0116	0.9884	81.02
53.5	9,623,396	112,337	0.0117	0.9883	80.07
54.5	8,089,688	77,445	0.0096	0.9904	79.14
55.5	7,311,103	93,695	0.0128	0.9872	78.38
56.5	6,045,192	199,113	0.0329	0.9671	77.38
57.5	5,647,398	42,914	0.0076	0.9924	74.83
58.5	3,933,052	91,597	0.0233	0.9767	74.26
59.5	3,227,579	68,597	0.0213	0.9787	72.53
60.5	3,045,004	56,961	0.0187	0.9813	70.99
61.5	3,005,708	69,400	0.0231	0.9769	69.66
62.5	2,468,546	41,002	0.0166	0.9834	68.05
63.5	2,144,197	40,933	0.0191	0.9809	66.92
64.5	2,087,260	20,679	0.0099	0.9901	65.64
65.5	2,054,412	37,306	0.0182	0.9818	64.99
66.5	2,011,044	46,962	0.0234	0.9766	63.81
67.5	1,973,473	43,612	0.0221	0.9779	62.32
68.5	1,917,365	46,631	0.0243	0.9757	60.95
69.5	1,813,139	37,028	0.0204	0.9796	59.46
70.5	1,775,194	44,100	0.0248	0.9752	58.25
71.5	1,750,494	41,437	0.0237	0.9763	56.80
72.5	1,733,691	47,158	0.0272	0.9728	55.46
73.5	1,685,768	26,840	0.0159	0.9841	53.95
74.5	1,652,011	48,048	0.0291	0.9709	53.09
75.5	1,590,130	46,733	0.0294	0.9706	51.55
76.5	1,541,196	23,727	0.0154	0.9846	50.03
77.5	1,514,148	35,869	0.0237	0.9763	49.26
78.5	1,478,040	33,058	0.0224	0.9776	48.09

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1840-2015			EXPERIENCE BAND 1954-2015		
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	1,422,172	24,945	0.0175	0.9825	47.02
80.5	1,393,837	21,218	0.0152	0.9848	46.19
81.5	1,374,314	46,982	0.0342	0.9658	45.49
82.5	1,314,562	24,857	0.0189	0.9811	43.94
83.5	1,284,148	23,803	0.0185	0.9815	43.10
84.5	1,018,904	19,405	0.0190	0.9810	42.31
85.5	876,339	24,122	0.0275	0.9725	41.50
86.5	849,234	17,712	0.0209	0.9791	40.36
87.5	819,050	16,800	0.0205	0.9795	39.52
88.5	760,111	23,215	0.0305	0.9695	38.71
89.5	719,191	13,035	0.0181	0.9819	37.52
90.5	645,265	16,291	0.0252	0.9748	36.84
91.5	576,458	23,780	0.0413	0.9587	35.91
92.5	508,668	11,655	0.0229	0.9771	34.43
93.5	468,574	14,478	0.0309	0.9691	33.64
94.5	409,177	18,764	0.0459	0.9541	32.60
95.5	380,717	13,957	0.0367	0.9633	31.11
96.5	364,124	9,810	0.0269	0.9731	29.97
97.5	353,420	8,288	0.0235	0.9765	29.16
98.5	340,848	11,562	0.0339	0.9661	28.48
99.5	330,864	18,997	0.0574	0.9426	27.51
100.5	305,787	8,162	0.0267	0.9733	25.93
101.5	296,034	9,709	0.0328	0.9672	25.24
102.5	280,561	11,479	0.0409	0.9591	24.41
103.5	249,604	14,120	0.0566	0.9434	23.41
104.5	203,835	14,342	0.0704	0.9296	22.09
105.5	172,097	7,878	0.0458	0.9542	20.53
106.5	161,381	6,815	0.0422	0.9578	19.59
107.5	128,306	4,140	0.0323	0.9677	18.77
108.5	111,699	3,725	0.0333	0.9667	18.16
109.5	93,310	5,978	0.0641	0.9359	17.55
110.5	81,250	7,838	0.0965	0.9035	16.43
111.5	68,404	4,932	0.0721	0.9279	14.85
112.5	60,355	2,524	0.0418	0.9582	13.77
113.5	55,793	1,914	0.0343	0.9657	13.20
114.5	48,558	4,629	0.0953	0.9047	12.75
115.5	41,725	2,505	0.0600	0.9400	11.53
116.5	36,641	10,752	0.2935	0.7065	10.84
117.5	26,598	3,757	0.1413	0.8587	7.66
118.5	20,130	1,566	0.0778	0.9222	6.58

UGI PENN NATURAL GAS, INC.

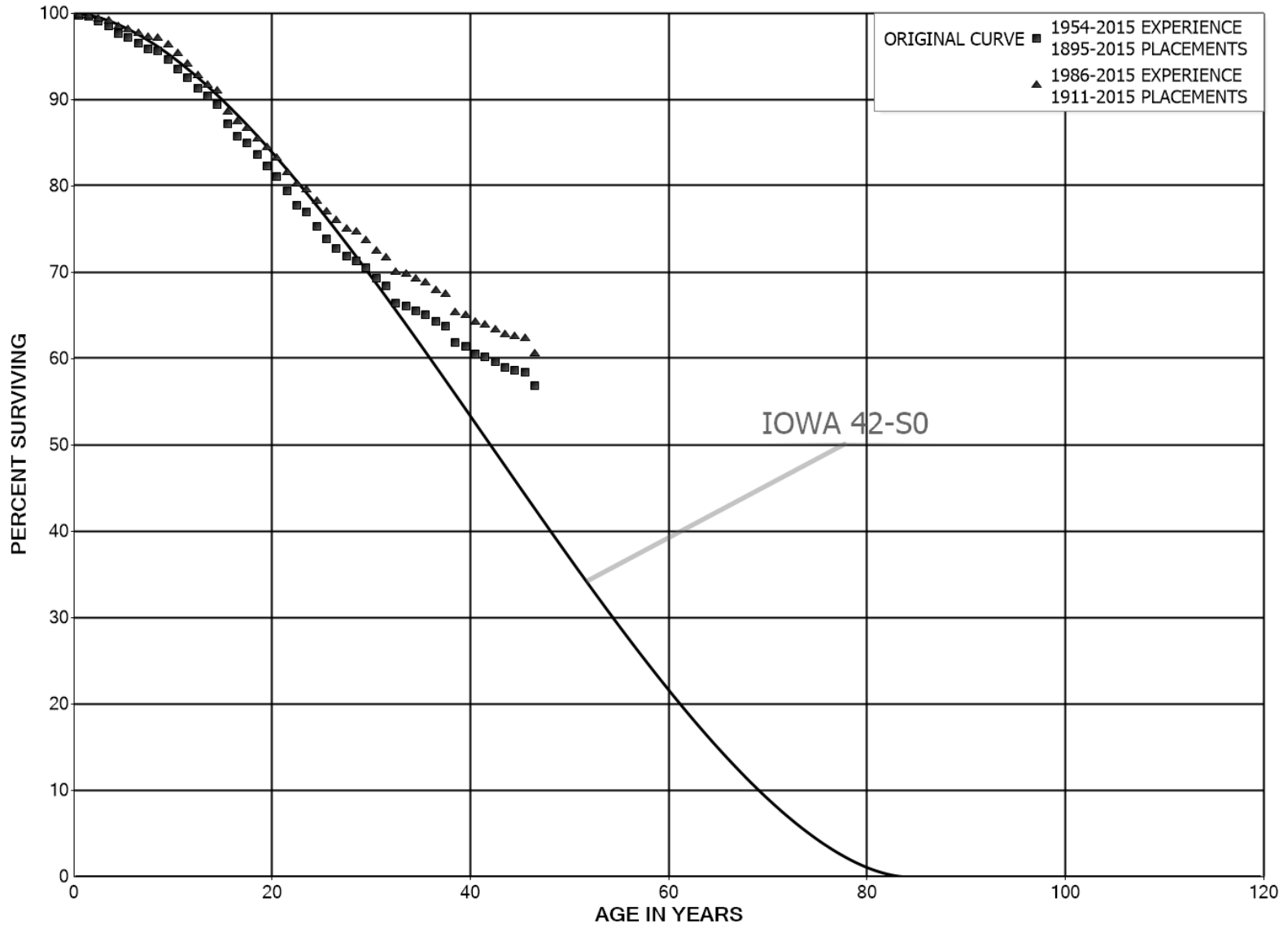
ACCOUNT 376.2 MAINS - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1840-2015			EXPERIENCE BAND 1954-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
119.5	17,629	1,972	0.1118	0.8882	6.06	
120.5	15,580	6,227	0.3997	0.6003	5.39	
121.5	8,045	1,273	0.1582	0.8418	3.23	
122.5	6,772	2,748	0.4058	0.5942	2.72	
123.5	3,467	2,326	0.6709	0.3291	1.62	
124.5	1,141	51	0.0444	0.9556	0.53	
125.5	1,090	2	0.0014	0.9986	0.51	
126.5	1,089		0.0000	1.0000	0.51	
127.5	1,089	361	0.3315	0.6685	0.51	
128.5	728	200	0.2747	0.7253	0.34	
129.5	138		0.0000	1.0000	0.25	
130.5	136		0.0000	1.0000	0.25	
131.5	136	29	0.2139	0.7861	0.25	
132.5	107	8	0.0786	0.9214	0.19	
133.5	98		0.0000	1.0000	0.18	
134.5	98		0.0000	1.0000	0.18	
135.5	98		0.0000	1.0000	0.18	
136.5	98	28	0.2857	0.7143	0.18	
137.5	70		0.0000	1.0000	0.13	
138.5	70		0.0000	1.0000	0.13	
139.5	70		0.0000	1.0000	0.13	
140.5	70		0.0000	1.0000	0.13	
141.5	70		0.0000	1.0000	0.13	
142.5	70		0.0000	1.0000	0.13	
143.5	17		0.0000	1.0000	0.13	
144.5	17		0.0000	1.0000	0.13	
145.5	17		0.0000	1.0000	0.13	
146.5	17		0.0000	1.0000	0.13	
147.5					0.13	



UGI PENN NATURAL GAS, INC.
ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1895-2015

EXPERIENCE BAND 1954-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	22,396,353	62,521	0.0028	0.9972	100.00
0.5	20,971,029	19,643	0.0009	0.9991	99.72
1.5	17,671,043	96,291	0.0054	0.9946	99.63
2.5	17,512,786	106,509	0.0061	0.9939	99.08
3.5	16,933,567	143,538	0.0085	0.9915	98.48
4.5	15,334,586	81,832	0.0053	0.9947	97.65
5.5	15,088,765	97,992	0.0065	0.9935	97.13
6.5	14,781,135	105,272	0.0071	0.9929	96.50
7.5	14,234,597	33,896	0.0024	0.9976	95.81
8.5	13,277,473	126,538	0.0095	0.9905	95.58
9.5	13,002,817	155,142	0.0119	0.9881	94.67
10.5	12,538,359	139,370	0.0111	0.9889	93.54
11.5	11,894,500	152,591	0.0128	0.9872	92.50
12.5	11,559,164	110,672	0.0096	0.9904	91.31
13.5	11,344,161	136,479	0.0120	0.9880	90.44
14.5	10,447,872	257,291	0.0246	0.9754	89.35
15.5	9,696,124	157,451	0.0162	0.9838	87.15
16.5	9,395,321	88,531	0.0094	0.9906	85.74
17.5	8,820,263	137,948	0.0156	0.9844	84.93
18.5	7,954,065	129,449	0.0163	0.9837	83.60
19.5	7,624,450	112,905	0.0148	0.9852	82.24
20.5	7,218,708	145,066	0.0201	0.9799	81.02
21.5	6,619,591	139,579	0.0211	0.9789	79.39
22.5	6,279,067	64,478	0.0103	0.9897	77.72
23.5	6,079,308	130,276	0.0214	0.9786	76.92
24.5	5,875,746	111,046	0.0189	0.9811	75.27
25.5	5,617,678	85,095	0.0151	0.9849	73.85
26.5	5,242,083	66,984	0.0128	0.9872	72.73
27.5	5,056,718	33,791	0.0067	0.9933	71.80
28.5	4,755,685	57,493	0.0121	0.9879	71.32
29.5	4,560,756	76,095	0.0167	0.9833	70.46
30.5	4,337,290	55,147	0.0127	0.9873	69.28
31.5	4,224,265	124,533	0.0295	0.9705	68.40
32.5	3,873,155	16,710	0.0043	0.9957	66.39
33.5	3,536,489	30,055	0.0085	0.9915	66.10
34.5	3,052,876	19,655	0.0064	0.9936	65.54
35.5	2,905,806	39,191	0.0135	0.9865	65.12
36.5	2,824,592	23,292	0.0082	0.9918	64.24
37.5	2,794,274	84,421	0.0302	0.9698	63.71
38.5	2,493,685	15,785	0.0063	0.9937	61.78

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1895-2015			EXPERIENCE BAND 1954-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,396,122	33,915	0.0142	0.9858	61.39
40.5	2,334,013	14,923	0.0064	0.9936	60.52
41.5	2,258,546	21,575	0.0096	0.9904	60.14
42.5	2,067,844	22,574	0.0109	0.9891	59.56
43.5	1,982,876	8,194	0.0041	0.9959	58.91
44.5	1,796,117	8,011	0.0045	0.9955	58.67
45.5	1,428,580	39,008	0.0273	0.9727	58.41
46.5	956,847	1,289	0.0013	0.9987	56.81
47.5	793,988	10,050	0.0127	0.9873	56.74
48.5	673,510	35,086	0.0521	0.9479	56.02
49.5	547,422	1,172	0.0021	0.9979	53.10
50.5	429,546	3,071	0.0071	0.9929	52.99
51.5	367,517	1,515	0.0041	0.9959	52.61
52.5	300,597	32,530	0.1082	0.8918	52.39
53.5	240,665	5,037	0.0209	0.9791	46.72
54.5	211,804	3,420	0.0161	0.9839	45.74
55.5	175,761	551	0.0031	0.9969	45.00
56.5	162,377	88	0.0005	0.9995	44.86
57.5	105,435	1,750	0.0166	0.9834	44.84
58.5	29,683		0.0000	1.0000	44.09
59.5	29,194	50	0.0017	0.9983	44.09
60.5	20,123	713	0.0354	0.9646	44.02
61.5	18,225	533	0.0293	0.9707	42.46
62.5	16,531	200	0.0121	0.9879	41.22
63.5	14,001	2,078	0.1484	0.8516	40.72
64.5	11,923	474	0.0398	0.9602	34.67
65.5	11,449	2,428	0.2121	0.7879	33.29
66.5	9,021	809	0.0897	0.9103	26.23
67.5	8,212		0.0000	1.0000	23.88
68.5	8,212	853	0.1039	0.8961	23.88
69.5	7,359	93	0.0126	0.9874	21.40
70.5	7,266	817	0.1125	0.8875	21.13
71.5	6,448		0.0000	1.0000	18.75
72.5	6,448	208	0.0322	0.9678	18.75
73.5	6,241		0.0000	1.0000	18.15
74.5	6,241	575	0.0921	0.9079	18.15
75.5	5,666	2,058	0.3633	0.6367	16.48
76.5	3,608	112	0.0310	0.9690	10.49
77.5	3,496	217	0.0621	0.9379	10.17
78.5	3,279		0.0000	1.0000	9.53

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1895-2015			EXPERIENCE BAND 1954-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	3,279		0.0000	1.0000	9.53
80.5	3,279		0.0000	1.0000	9.53
81.5	3,279		0.0000	1.0000	9.53
82.5	3,279		0.0000	1.0000	9.53
83.5	3,080		0.0000	1.0000	9.53
84.5	3,080		0.0000	1.0000	9.53
85.5	2,969		0.0000	1.0000	9.53
86.5	2,907		0.0000	1.0000	9.53
87.5	2,907		0.0000	1.0000	9.53
88.5					9.53

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1911-2015

EXPERIENCE BAND 1986-2015

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	15,838,654	47,732	0.0030	0.9970	100.00
0.5	14,641,738	5,860	0.0004	0.9996	99.70
1.5	11,502,770	45,505	0.0040	0.9960	99.66
2.5	11,685,545	26,562	0.0023	0.9977	99.26
3.5	11,527,053	78,258	0.0068	0.9932	99.04
4.5	10,424,359	30,595	0.0029	0.9971	98.37
5.5	10,406,312	47,905	0.0046	0.9954	98.08
6.5	10,255,392	51,543	0.0050	0.9950	97.63
7.5	9,799,202	5,754	0.0006	0.9994	97.14
8.5	9,244,611	77,602	0.0084	0.9916	97.08
9.5	9,191,437	96,074	0.0105	0.9895	96.26
10.5	8,853,370	106,989	0.0121	0.9879	95.26
11.5	8,338,472	118,940	0.0143	0.9857	94.11
12.5	8,251,174	105,136	0.0127	0.9873	92.76
13.5	8,147,016	59,095	0.0073	0.9927	91.58
14.5	7,564,912	198,520	0.0262	0.9738	90.92
15.5	7,287,830	97,696	0.0134	0.9866	88.53
16.5	7,613,068	63,267	0.0083	0.9917	87.35
17.5	7,383,155	100,921	0.0137	0.9863	86.62
18.5	6,734,837	80,961	0.0120	0.9880	85.44
19.5	6,631,060	98,401	0.0148	0.9852	84.41
20.5	6,442,138	124,449	0.0193	0.9807	83.16
21.5	5,960,595	101,907	0.0171	0.9829	81.55
22.5	5,730,778	45,514	0.0079	0.9921	80.15
23.5	5,570,993	91,859	0.0165	0.9835	79.52
24.5	5,440,195	83,690	0.0154	0.9846	78.21
25.5	5,251,293	75,162	0.0143	0.9857	77.00
26.5	4,902,915	60,307	0.0123	0.9877	75.90
27.5	4,790,372	24,993	0.0052	0.9948	74.97
28.5	4,622,025	56,935	0.0123	0.9877	74.58
29.5	4,442,617	73,223	0.0165	0.9835	73.66
30.5	4,235,996	50,310	0.0119	0.9881	72.44
31.5	4,132,233	91,018	0.0220	0.9780	71.58
32.5	3,819,245	14,370	0.0038	0.9962	70.01
33.5	3,478,385	28,224	0.0081	0.9919	69.74
34.5	2,995,013	18,504	0.0062	0.9938	69.18
35.5	2,845,898	36,106	0.0127	0.9873	68.75
36.5	2,764,049	19,581	0.0071	0.9929	67.88
37.5	2,737,237	84,132	0.0307	0.9693	67.40
38.5	2,435,797	15,215	0.0062	0.9938	65.33

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1986-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	2,338,508	27,355	0.0117	0.9883	64.92
40.5	2,283,082	12,399	0.0054	0.9946	64.16
41.5	2,210,140	19,339	0.0088	0.9912	63.81
42.5	2,020,865	17,518	0.0087	0.9913	63.25
43.5	1,940,216	5,898	0.0030	0.9970	62.70
44.5	1,755,765	6,979	0.0040	0.9960	62.51
45.5	1,389,259	38,902	0.0280	0.9720	62.26
46.5	916,432	661	0.0007	0.9993	60.52
47.5	754,201	8,358	0.0111	0.9889	60.48
48.5	633,356	30,889	0.0488	0.9512	59.81
49.5	508,798	82	0.0002	0.9998	56.89
50.5	392,011	904	0.0023	0.9977	56.88
51.5	332,149	1,515	0.0046	0.9954	56.75
52.5	264,209	22,034	0.0834	0.9166	56.49
53.5	215,274	371	0.0017	0.9983	51.78
54.5	191,096		0.0000	1.0000	51.69
55.5	158,583		0.0000	1.0000	51.69
56.5	145,813		0.0000	1.0000	51.69
57.5	89,884	18	0.0002	0.9998	51.69
58.5	19,313		0.0000	1.0000	51.68
59.5	18,824		0.0000	1.0000	51.68
60.5	9,864	713	0.0723	0.9277	51.68
61.5	8,634	533	0.0618	0.9382	47.94
62.5	7,654		0.0000	1.0000	44.98
63.5	5,324	61	0.0115	0.9885	44.98
64.5	5,263	274	0.0521	0.9479	44.47
65.5	4,988	521	0.1045	0.8955	42.15
66.5	4,467	785	0.1757	0.8243	37.75
67.5	3,682		0.0000	1.0000	31.11
68.5	3,682		0.0000	1.0000	31.11
69.5	3,682		0.0000	1.0000	31.11
70.5	3,801	211	0.0555	0.9445	31.11
71.5	3,590		0.0000	1.0000	29.39
72.5	3,628	157	0.0433	0.9567	29.39
73.5	3,472		0.0000	1.0000	28.12
74.5	3,689	193	0.0523	0.9477	28.12
75.5	3,496		0.0000	1.0000	26.65
76.5	3,496		0.0000	1.0000	26.65
77.5	3,496	217	0.0621	0.9379	26.65
78.5	3,279		0.0000	1.0000	24.99

UGI PENN NATURAL GAS, INC.

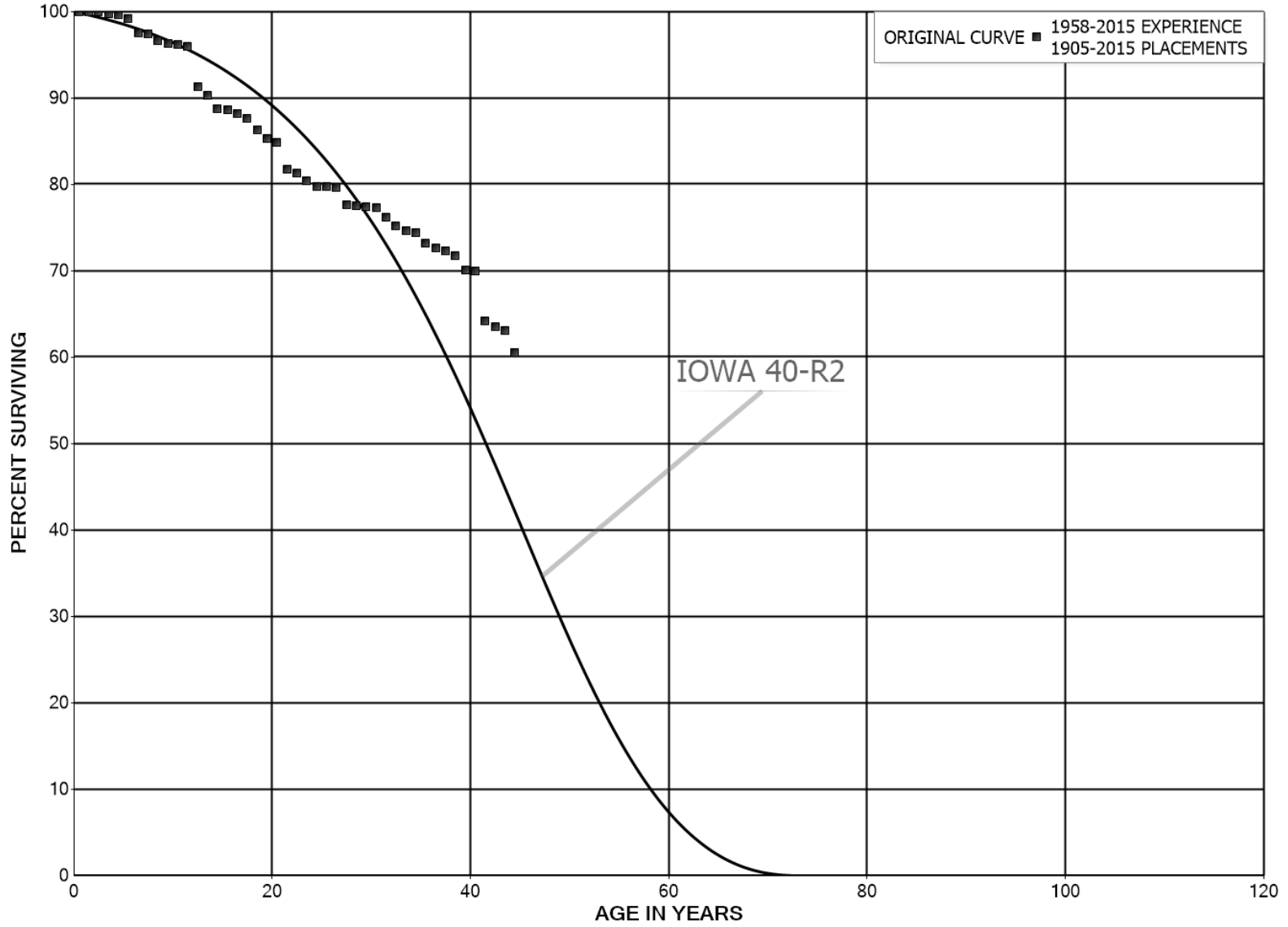
ACCOUNT 378 MEASURING AND REGULATING STATION EQUIPMENT - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-2015			EXPERIENCE BAND 1986-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	3,279		0.0000	1.0000	24.99
80.5	3,279		0.0000	1.0000	24.99
81.5	3,279		0.0000	1.0000	24.99
82.5	3,279		0.0000	1.0000	24.99
83.5	3,080		0.0000	1.0000	24.99
84.5	3,080		0.0000	1.0000	24.99
85.5	2,969		0.0000	1.0000	24.99
86.5	2,907		0.0000	1.0000	24.99
87.5	2,907		0.0000	1.0000	24.99
88.5					24.99



UGI PENN NATURAL GAS, INC.
ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1905-2015

EXPERIENCE BAND 1958-2015

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	19,571,162	1,443	0.0001	0.9999	100.00
0.5	19,151,075	561	0.0000	1.0000	99.99
1.5	9,994,278	4,935	0.0005	0.9995	99.99
2.5	9,594,031	20,315	0.0021	0.9979	99.94
3.5	8,378,423	10,312	0.0012	0.9988	99.73
4.5	6,952,791	27,636	0.0040	0.9960	99.61
5.5	6,659,346	115,238	0.0173	0.9827	99.21
6.5	6,490,111	8,177	0.0013	0.9987	97.49
7.5	5,471,779	42,710	0.0078	0.9922	97.37
8.5	5,418,462	19,336	0.0036	0.9964	96.61
9.5	5,236,393	7,126	0.0014	0.9986	96.27
10.5	5,178,385	6,909	0.0013	0.9987	96.13
11.5	5,095,520	250,677	0.0492	0.9508	96.01
12.5	4,669,111	52,845	0.0113	0.9887	91.28
13.5	4,406,275	72,514	0.0165	0.9835	90.25
14.5	3,968,213	5,699	0.0014	0.9986	88.76
15.5	3,860,241	21,232	0.0055	0.9945	88.64
16.5	3,780,462	23,937	0.0063	0.9937	88.15
17.5	3,372,755	50,505	0.0150	0.9850	87.59
18.5	2,789,916	30,477	0.0109	0.9891	86.28
19.5	2,327,024	13,967	0.0060	0.9940	85.34
20.5	2,258,759	82,365	0.0365	0.9635	84.83
21.5	2,094,016	11,040	0.0053	0.9947	81.73
22.5	2,031,497	21,960	0.0108	0.9892	81.30
23.5	2,008,244	16,535	0.0082	0.9918	80.42
24.5	1,976,556	923	0.0005	0.9995	79.76
25.5	1,965,862	1,733	0.0009	0.9991	79.72
26.5	1,938,268	49,046	0.0253	0.9747	79.65
27.5	1,660,510	3,155	0.0019	0.9981	77.64
28.5	1,656,454	1,379	0.0008	0.9992	77.49
29.5	1,654,278	1,974	0.0012	0.9988	77.43
30.5	1,619,070	24,684	0.0152	0.9848	77.33
31.5	1,589,030	20,747	0.0131	0.9869	76.15
32.5	1,561,745	10,495	0.0067	0.9933	75.16
33.5	1,437,214	5,122	0.0036	0.9964	74.65
34.5	729,892	11,728	0.0161	0.9839	74.39
35.5	671,153	5,431	0.0081	0.9919	73.19
36.5	664,369	2,540	0.0038	0.9962	72.60
37.5	658,895	5,869	0.0089	0.9911	72.32
38.5	650,235	15,043	0.0231	0.9769	71.68

UGI PENN NATURAL GAS, INC.

ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2015			EXPERIENCE BAND 1958-2015			
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	635,192	338	0.0005	0.9995	70.02	
40.5	597,817	49,170	0.0822	0.9178	69.98	
41.5	527,339	5,688	0.0108	0.9892	64.23	
42.5	521,651	4,001	0.0077	0.9923	63.53	
43.5	515,301	20,760	0.0403	0.9597	63.05	
44.5	481,077	772	0.0016	0.9984	60.51	
45.5	461,552	618	0.0013	0.9987	60.41	
46.5	344,467		0.0000	1.0000	60.33	
47.5	218,277	762	0.0035	0.9965	60.33	
48.5	213,231	614	0.0029	0.9971	60.12	
49.5	98,227	1,814	0.0185	0.9815	59.95	
50.5	81,078		0.0000	1.0000	58.84	
51.5	79,467		0.0000	1.0000	58.84	
52.5	894,487	611	0.0007	0.9993	58.84	
53.5	864,566		0.0000	1.0000	58.80	
54.5	864,566	4,048	0.0047	0.9953	58.80	
55.5	843,737		0.0000	1.0000	58.52	
56.5	843,737		0.0000	1.0000	58.52	
57.5	843,737		0.0000	1.0000	58.52	
58.5	843,737		0.0000	1.0000	58.52	
59.5	843,737		0.0000	1.0000	58.52	
60.5	843,737		0.0000	1.0000	58.52	
61.5	843,737		0.0000	1.0000	58.52	
62.5	843,737		0.0000	1.0000	58.52	
63.5	843,737		0.0000	1.0000	58.52	
64.5	843,737		0.0000	1.0000	58.52	
65.5	843,737		0.0000	1.0000	58.52	
66.5	843,737		0.0000	1.0000	58.52	
67.5	843,737		0.0000	1.0000	58.52	
68.5	843,737		0.0000	1.0000	58.52	
69.5	843,737		0.0000	1.0000	58.52	
70.5	843,737		0.0000	1.0000	58.52	
71.5	843,737		0.0000	1.0000	58.52	
72.5	843,737		0.0000	1.0000	58.52	
73.5	843,737		0.0000	1.0000	58.52	
74.5	843,737		0.0000	1.0000	58.52	
75.5	843,737		0.0000	1.0000	58.52	
76.5	843,737		0.0000	1.0000	58.52	
77.5	843,737		0.0000	1.0000	58.52	
78.5	843,737		0.0000	1.0000	58.52	

UGI PENN NATURAL GAS, INC.

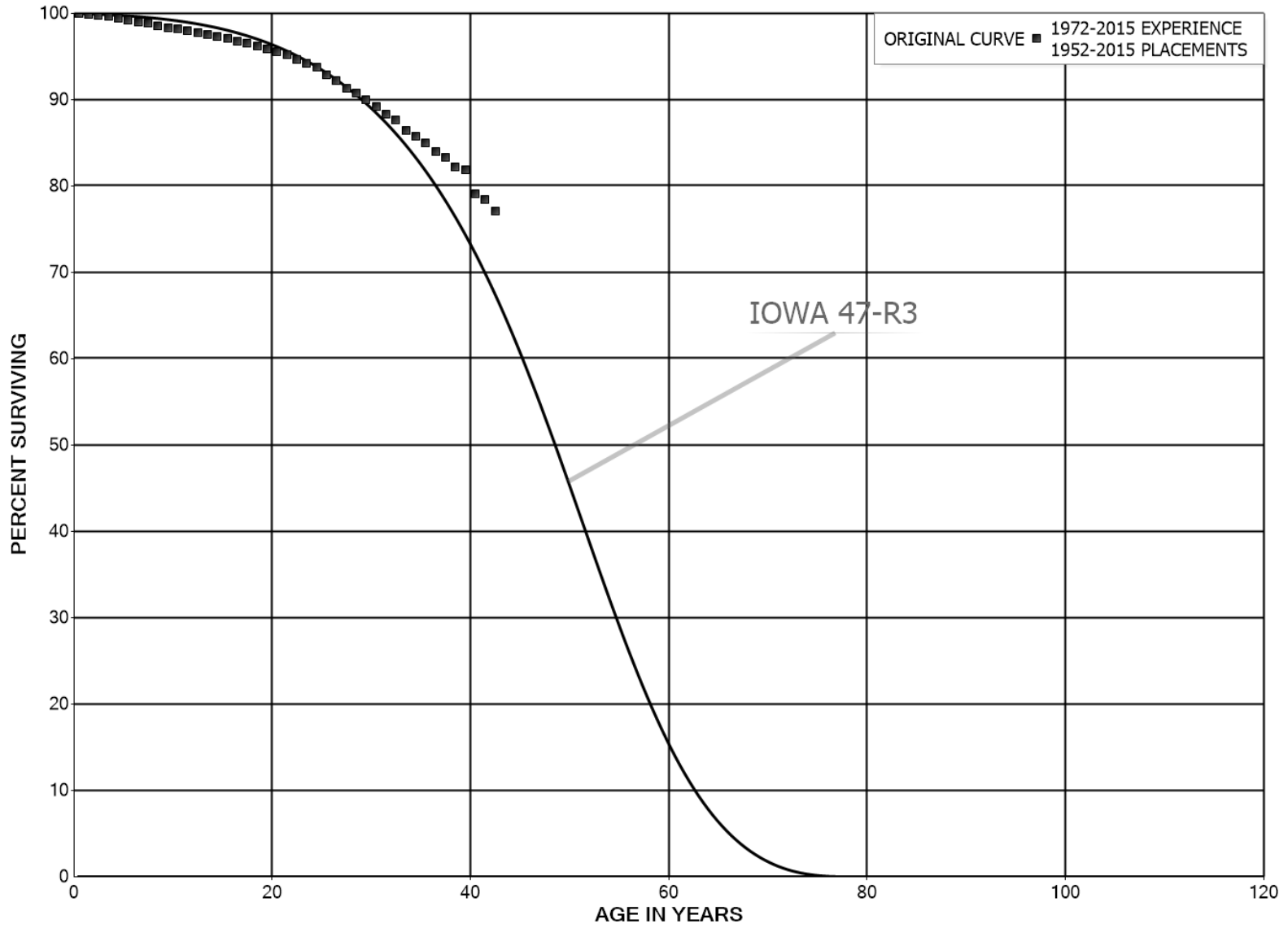
ACCOUNT 379 MEASURING AND REGULATING STATION EQUIPMENT - CITY GATE

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2015			EXPERIENCE BAND 1958-2015		
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	843,737		0.0000	1.0000	58.52
80.5	843,737		0.0000	1.0000	58.52
81.5	843,737		0.0000	1.0000	58.52
82.5	843,737		0.0000	1.0000	58.52
83.5	843,737		0.0000	1.0000	58.52
84.5	843,737		0.0000	1.0000	58.52
85.5	843,737		0.0000	1.0000	58.52
86.5	843,737		0.0000	1.0000	58.52
87.5	843,737		0.0000	1.0000	58.52
88.5	843,737		0.0000	1.0000	58.52
89.5	843,737		0.0000	1.0000	58.52
90.5	843,737		0.0000	1.0000	58.52
91.5	843,737		0.0000	1.0000	58.52
92.5	843,737		0.0000	1.0000	58.52
93.5	843,737		0.0000	1.0000	58.52
94.5	843,737		0.0000	1.0000	58.52
95.5	843,737		0.0000	1.0000	58.52
96.5	843,737		0.0000	1.0000	58.52
97.5	843,737		0.0000	1.0000	58.52
98.5	843,737		0.0000	1.0000	58.52
99.5	843,737	2,279	0.0027	0.9973	58.52
100.5	841,458		0.0000	1.0000	58.36
101.5	841,458		0.0000	1.0000	58.36
102.5	841,458		0.0000	1.0000	58.36
103.5	841,458		0.0000	1.0000	58.36
104.5	841,458		0.0000	1.0000	58.36
105.5	841,458		0.0000	1.0000	58.36
106.5	841,458		0.0000	1.0000	58.36
107.5					58.36



UGI PENN NATURAL GAS, INC.
ACCOUNT 380.1 SERVICES - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 380.1 SERVICES - PLASTIC

ORIGINAL LIFE TABLE

PLACEMENT BAND 1952-2015

EXPERIENCE BAND 1972-2015

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	219,473,055	83,922	0.0004	0.9996	100.00
0.5	207,331,641	191,689	0.0009	0.9991	99.96
1.5	197,303,944	233,488	0.0012	0.9988	99.87
2.5	187,832,203	345,709	0.0018	0.9982	99.75
3.5	177,983,634	286,710	0.0016	0.9984	99.57
4.5	169,881,693	305,528	0.0018	0.9982	99.41
5.5	165,055,789	371,635	0.0023	0.9977	99.23
6.5	157,709,985	340,927	0.0022	0.9978	99.00
7.5	150,618,775	396,610	0.0026	0.9974	98.79
8.5	143,840,921	300,417	0.0021	0.9979	98.53
9.5	138,638,288	268,188	0.0019	0.9981	98.33
10.5	130,297,797	259,392	0.0020	0.9980	98.13
11.5	118,049,032	280,716	0.0024	0.9976	97.94
12.5	111,961,857	253,302	0.0023	0.9977	97.71
13.5	106,651,282	271,079	0.0025	0.9975	97.49
14.5	100,182,004	225,187	0.0022	0.9978	97.24
15.5	96,290,827	263,972	0.0027	0.9973	97.02
16.5	91,762,239	280,833	0.0031	0.9969	96.75
17.5	85,423,247	240,470	0.0028	0.9972	96.46
18.5	78,859,114	261,786	0.0033	0.9967	96.19
19.5	73,074,809	293,971	0.0040	0.9960	95.87
20.5	67,423,097	251,316	0.0037	0.9963	95.48
21.5	62,382,542	330,336	0.0053	0.9947	95.12
22.5	57,478,126	242,843	0.0042	0.9958	94.62
23.5	52,913,309	304,804	0.0058	0.9942	94.22
24.5	48,901,210	433,013	0.0089	0.9911	93.68
25.5	43,487,912	306,562	0.0070	0.9930	92.85
26.5	38,623,662	358,949	0.0093	0.9907	92.19
27.5	33,401,947	238,876	0.0072	0.9928	91.34
28.5	29,446,486	254,023	0.0086	0.9914	90.68
29.5	26,455,105	202,638	0.0077	0.9923	89.90
30.5	24,155,167	253,983	0.0105	0.9895	89.21
31.5	22,009,550	168,994	0.0077	0.9923	88.28
32.5	20,384,105	268,217	0.0132	0.9868	87.60
33.5	18,123,125	155,371	0.0086	0.9914	86.45
34.5	15,517,668	133,072	0.0086	0.9914	85.70
35.5	12,462,847	149,322	0.0120	0.9880	84.97
36.5	10,142,282	79,116	0.0078	0.9922	83.95
37.5	8,600,134	117,864	0.0137	0.9863	83.30
38.5	6,660,263	26,170	0.0039	0.9961	82.15

UGI PENN NATURAL GAS, INC.

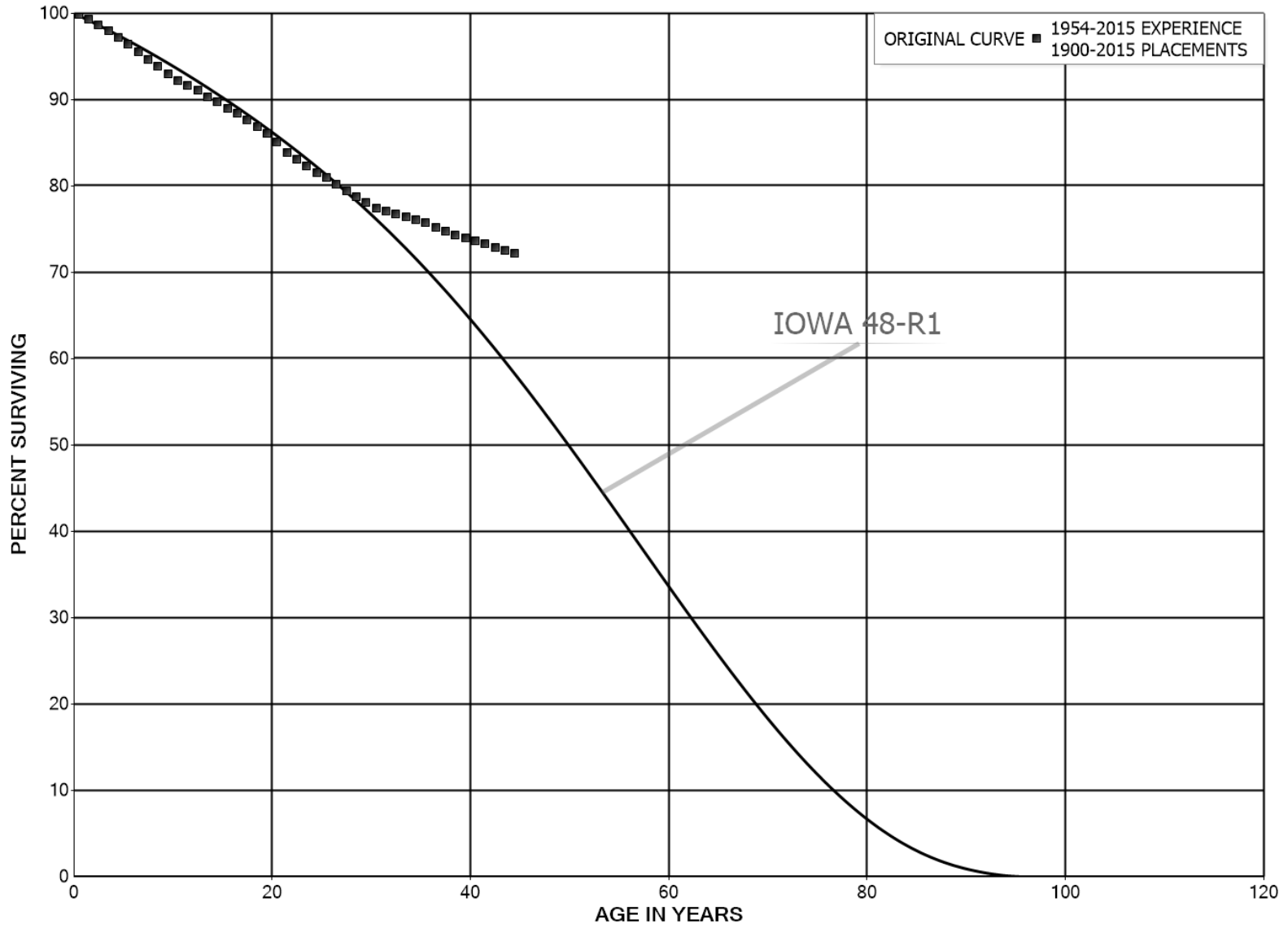
ACCOUNT 380.1 SERVICES - PLASTIC

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1952-2015			EXPERIENCE BAND 1972-2015		
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	5,167,668	176,004	0.0341	0.9659	81.83
40.5	3,841,722	30,585	0.0080	0.9920	79.04
41.5	2,393,783	42,368	0.0177	0.9823	78.42
42.5	987,593	8,456	0.0086	0.9914	77.03
43.5	209		0.0000	1.0000	76.37
44.5	209		0.0000	1.0000	76.37
45.5	209		0.0000	1.0000	76.37
46.5	209		0.0000	1.0000	76.37
47.5	209		0.0000	1.0000	76.37
48.5	209		0.0000	1.0000	76.37
49.5	209	209	1.0000		76.37
50.5					



UGI PENN NATURAL GAS, INC.
ACCOUNT 380.2 SERVICES - OTHER
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 380.2 SERVICES - OTHER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2015

EXPERIENCE BAND 1954-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	21,593,864	27,928	0.0013	0.9987	100.00
0.5	21,071,404	132,054	0.0063	0.9937	99.87
1.5	21,174,887	144,008	0.0068	0.9932	99.24
2.5	20,511,468	130,685	0.0064	0.9936	98.57
3.5	20,046,386	163,264	0.0081	0.9919	97.94
4.5	19,826,675	150,725	0.0076	0.9924	97.14
5.5	19,589,593	173,795	0.0089	0.9911	96.41
6.5	19,287,338	181,643	0.0094	0.9906	95.55
7.5	18,980,734	167,306	0.0088	0.9912	94.65
8.5	18,661,789	162,985	0.0087	0.9913	93.82
9.5	18,372,814	155,426	0.0085	0.9915	93.00
10.5	18,063,032	116,270	0.0064	0.9936	92.21
11.5	17,751,240	108,235	0.0061	0.9939	91.62
12.5	17,434,117	144,530	0.0083	0.9917	91.06
13.5	17,144,138	108,338	0.0063	0.9937	90.30
14.5	16,797,222	148,751	0.0089	0.9911	89.73
15.5	16,569,853	102,890	0.0062	0.9938	88.94
16.5	16,266,081	140,292	0.0086	0.9914	88.39
17.5	15,880,530	141,520	0.0089	0.9911	87.62
18.5	15,436,174	147,560	0.0096	0.9904	86.84
19.5	15,068,450	171,911	0.0114	0.9886	86.01
20.5	14,555,624	197,515	0.0136	0.9864	85.03
21.5	14,170,907	133,090	0.0094	0.9906	83.88
22.5	13,698,132	128,299	0.0094	0.9906	83.09
23.5	13,326,325	134,298	0.0101	0.9899	82.31
24.5	13,076,878	91,101	0.0070	0.9930	81.48
25.5	12,790,408	113,446	0.0089	0.9911	80.91
26.5	12,471,950	122,418	0.0098	0.9902	80.20
27.5	12,104,802	106,886	0.0088	0.9912	79.41
28.5	11,832,388	98,039	0.0083	0.9917	78.71
29.5	11,537,611	93,256	0.0081	0.9919	78.06
30.5	11,289,413	51,607	0.0046	0.9954	77.42
31.5	11,228,246	47,307	0.0042	0.9958	77.07
32.5	11,149,588	45,413	0.0041	0.9959	76.75
33.5	11,091,190	54,105	0.0049	0.9951	76.43
34.5	11,019,313	53,969	0.0049	0.9951	76.06
35.5	10,941,939	66,776	0.0061	0.9939	75.69
36.5	10,886,511	69,009	0.0063	0.9937	75.23
37.5	10,817,283	65,055	0.0060	0.9940	74.75
38.5	10,766,806	46,183	0.0043	0.9957	74.30

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.2 SERVICES - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2015			EXPERIENCE BAND 1954-2015		
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	10,729,040	50,442	0.0047	0.9953	73.98
40.5	10,676,384	48,310	0.0045	0.9955	73.63
41.5	10,629,433	66,793	0.0063	0.9937	73.30
42.5	10,504,927	49,618	0.0047	0.9953	72.84
43.5	10,004,894	51,806	0.0052	0.9948	72.50
44.5	9,479,396	55,676	0.0059	0.9941	72.12
45.5	8,112,741	46,737	0.0058	0.9942	71.70
46.5	6,932,528	34,897	0.0050	0.9950	71.28
47.5	5,827,810	44,296	0.0076	0.9924	70.92
48.5	4,947,836	37,747	0.0076	0.9924	70.39
49.5	4,157,758	32,224	0.0078	0.9922	69.85
50.5	3,488,871	24,577	0.0070	0.9930	69.31
51.5	2,931,318	20,121	0.0069	0.9931	68.82
52.5	2,519,108	22,136	0.0088	0.9912	68.35
53.5	2,185,614	33,697	0.0154	0.9846	67.75
54.5	1,966,655	45,076	0.0229	0.9771	66.70
55.5	1,776,871	65,476	0.0368	0.9632	65.17
56.5	1,511,122	42,628	0.0282	0.9718	62.77
57.5	1,366,452	25,181	0.0184	0.9816	61.00
58.5	1,266,171	9,560	0.0076	0.9924	59.88
59.5	1,208,218	9,739	0.0081	0.9919	59.42
60.5	1,154,757	9,913	0.0086	0.9914	58.95
61.5	1,119,151	18,783	0.0168	0.9832	58.44
62.5	1,082,338	13,124	0.0121	0.9879	57.46
63.5	602,651	12,953	0.0215	0.9785	56.76
64.5	566,123	16,210	0.0286	0.9714	55.54
65.5	519,254	11,726	0.0226	0.9774	53.95
66.5	485,544	19,044	0.0392	0.9608	52.73
67.5	443,004	13,672	0.0309	0.9691	50.66
68.5	408,808	13,723	0.0336	0.9664	49.10
69.5	376,253	5,299	0.0141	0.9859	47.45
70.5	360,202	5,403	0.0150	0.9850	46.78
71.5	348,106	5,989	0.0172	0.9828	46.08
72.5	414,035	31,067	0.0750	0.9250	45.29
73.5	387,284	22,751	0.0587	0.9413	41.89
74.5	364,738	12,790	0.0351	0.9649	39.43
75.5	340,581	4,634	0.0136	0.9864	38.05
76.5	322,832	5,564	0.0172	0.9828	37.53
77.5	309,165	7,231	0.0234	0.9766	36.88
78.5	291,617	5,261	0.0180	0.9820	36.02

UGI PENN NATURAL GAS, INC.

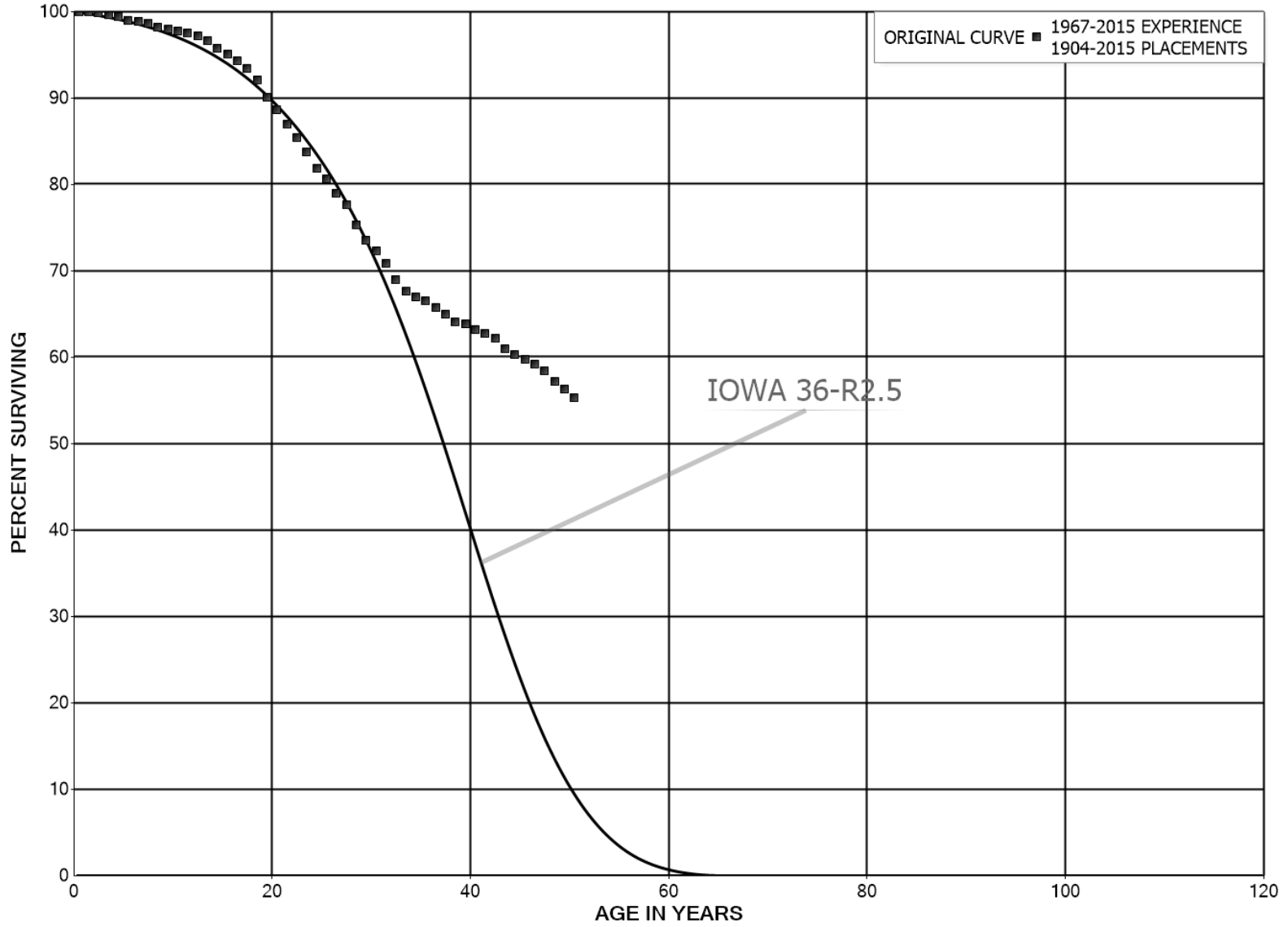
ACCOUNT 380.2 SERVICES - OTHER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2015			EXPERIENCE BAND 1954-2015			
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	276,706	3,596	0.0130	0.9870	35.37	
80.5	265,696	3,817	0.0144	0.9856	34.91	
81.5	251,622	2,347	0.0093	0.9907	34.41	
82.5	241,001	3,443	0.0143	0.9857	34.09	
83.5	224,996	2,685	0.0119	0.9881	33.60	
84.5	208,925	3,082	0.0148	0.9852	33.20	
85.5	192,238	4,776	0.0248	0.9752	32.71	
86.5	173,849	987	0.0057	0.9943	31.90	
87.5	158,288	963	0.0061	0.9939	31.72	
88.5	141,234	750	0.0053	0.9947	31.52	
89.5	121,766	468	0.0038	0.9962	31.36	
90.5	96,160	1,044	0.0109	0.9891	31.24	
91.5	73,757	947	0.0128	0.9872	30.90	
92.5	60,542	253	0.0042	0.9958	30.50	
93.5	49,740	1,054	0.0212	0.9788	30.37	
94.5	44,807	241	0.0054	0.9946	29.73	
95.5	40,136	1,243	0.0310	0.9690	29.57	
96.5	35,379	7,531	0.2129	0.7871	28.65	
97.5	25,625	6,857	0.2676	0.7324	22.55	
98.5	13,416	4,392	0.3274	0.6726	16.52	
99.5	9,024	2,677	0.2967	0.7033	11.11	
100.5	6,340	2,804	0.4423	0.5577	7.81	
101.5	3,536	1,288	0.3643	0.6357	4.36	
102.5	2,248	903	0.4015	0.5985	2.77	
103.5	1,030	616	0.5985	0.4015	1.66	
104.5	413	20	0.0472	0.9528	0.67	
105.5	394	11	0.0275	0.9725	0.63	
106.5	383	81	0.2114	0.7886	0.62	
107.5	302	214	0.7080	0.2920	0.49	
108.5	88	88	1.0000		0.14	
109.5						



UGI PENN NATURAL GAS, INC.
ACCOUNT 381 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1904-2015

EXPERIENCE BAND 1967-2015

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	50,698,642	158	0.0000	1.0000	100.00
0.5	49,697,238	41,863	0.0008	0.9992	100.00
1.5	48,656,651	39,653	0.0008	0.9992	99.92
2.5	47,518,615	127,799	0.0027	0.9973	99.83
3.5	46,304,858	85,907	0.0019	0.9981	99.57
4.5	44,381,463	168,840	0.0038	0.9962	99.38
5.5	43,604,376	76,611	0.0018	0.9982	99.00
6.5	42,139,096	114,265	0.0027	0.9973	98.83
7.5	40,686,874	149,698	0.0037	0.9963	98.56
8.5	38,807,010	101,113	0.0026	0.9974	98.20
9.5	37,401,242	102,617	0.0027	0.9973	97.94
10.5	36,093,725	72,524	0.0020	0.9980	97.67
11.5	34,125,406	106,720	0.0031	0.9969	97.48
12.5	33,385,566	199,330	0.0060	0.9940	97.17
13.5	32,037,013	270,732	0.0085	0.9915	96.59
14.5	30,624,975	212,183	0.0069	0.9931	95.78
15.5	29,627,428	274,127	0.0093	0.9907	95.11
16.5	28,583,719	268,578	0.0094	0.9906	94.23
17.5	26,735,279	366,118	0.0137	0.9863	93.35
18.5	25,158,289	557,807	0.0222	0.9778	92.07
19.5	23,327,425	362,621	0.0155	0.9845	90.03
20.5	22,416,815	438,000	0.0195	0.9805	88.63
21.5	19,584,513	326,775	0.0167	0.9833	86.90
22.5	17,717,403	350,695	0.0198	0.9802	85.45
23.5	16,033,013	372,539	0.0232	0.9768	83.76
24.5	14,482,340	217,086	0.0150	0.9850	81.81
25.5	13,261,015	265,817	0.0200	0.9800	80.58
26.5	12,103,384	206,180	0.0170	0.9830	78.97
27.5	11,088,620	334,356	0.0302	0.9698	77.62
28.5	10,043,478	242,898	0.0242	0.9758	75.28
29.5	9,193,116	141,689	0.0154	0.9846	73.46
30.5	8,454,672	175,411	0.0207	0.9793	72.33
31.5	7,992,894	216,210	0.0271	0.9729	70.83
32.5	7,671,524	149,295	0.0195	0.9805	68.91
33.5	7,433,650	67,693	0.0091	0.9909	67.57
34.5	5,922,245	41,780	0.0071	0.9929	66.96
35.5	4,833,046	52,259	0.0108	0.9892	66.48
36.5	4,617,544	55,727	0.0121	0.9879	65.76
37.5	4,539,715	60,301	0.0133	0.9867	64.97
38.5	4,431,223	22,339	0.0050	0.9950	64.11

UGI PENN NATURAL GAS, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1904-2015			EXPERIENCE BAND 1967-2015		
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	4,385,835	41,216	0.0094	0.9906	63.78
40.5	4,315,078	28,702	0.0067	0.9933	63.19
41.5	4,279,763	41,442	0.0097	0.9903	62.76
42.5	4,126,997	83,160	0.0202	0.9798	62.16
43.5	3,722,260	35,834	0.0096	0.9904	60.90
44.5	3,409,153	31,246	0.0092	0.9908	60.32
45.5	2,875,025	27,498	0.0096	0.9904	59.77
46.5	2,307,258	29,285	0.0127	0.9873	59.19
47.5	1,909,735	42,133	0.0221	0.9779	58.44
48.5	1,542,131	23,537	0.0153	0.9847	57.15
49.5	1,134,886	20,911	0.0184	0.9816	56.28
50.5	705,232	13,876	0.0197	0.9803	55.24
51.5	349,757	11,371	0.0325	0.9675	54.16
52.5	212,408	13,951	0.0657	0.9343	52.40
53.5	135,644	11,301	0.0833	0.9167	48.95
54.5	82,216	9,995	0.1216	0.8784	44.88
55.5	58,712	10,231	0.1743	0.8257	39.42
56.5	51,873	11,851	0.2285	0.7715	32.55
57.5	32,262	2,749	0.0852	0.9148	25.11
58.5	27,817	3,607	0.1297	0.8703	22.97
59.5	19,608	1,601	0.0817	0.9183	20.00
60.5	15,805	530	0.0335	0.9665	18.36
61.5	14,834	1,367	0.0922	0.9078	17.75
62.5	13,291	247	0.0186	0.9814	16.11
63.5	439		0.0000	1.0000	15.81
64.5	330		0.0000	1.0000	15.81
65.5	330		0.0000	1.0000	15.81
66.5	330		0.0000	1.0000	15.81
67.5	330	32	0.0969	0.9031	15.81
68.5	298		0.0000	1.0000	14.28
69.5	298		0.0000	1.0000	14.28
70.5	35		0.0000	1.0000	14.28
71.5	35		0.0000	1.0000	14.28
72.5	35		0.0000	1.0000	14.28
73.5	35		0.0000	1.0000	14.28
74.5	35		0.0000	1.0000	14.28
75.5	35		0.0000	1.0000	14.28
76.5	35		0.0000	1.0000	14.28
77.5	35		0.0000	1.0000	14.28
78.5	35		0.0000	1.0000	14.28

UGI PENN NATURAL GAS, INC.

ACCOUNT 381 METERS

ORIGINAL LIFE TABLE, CONT.

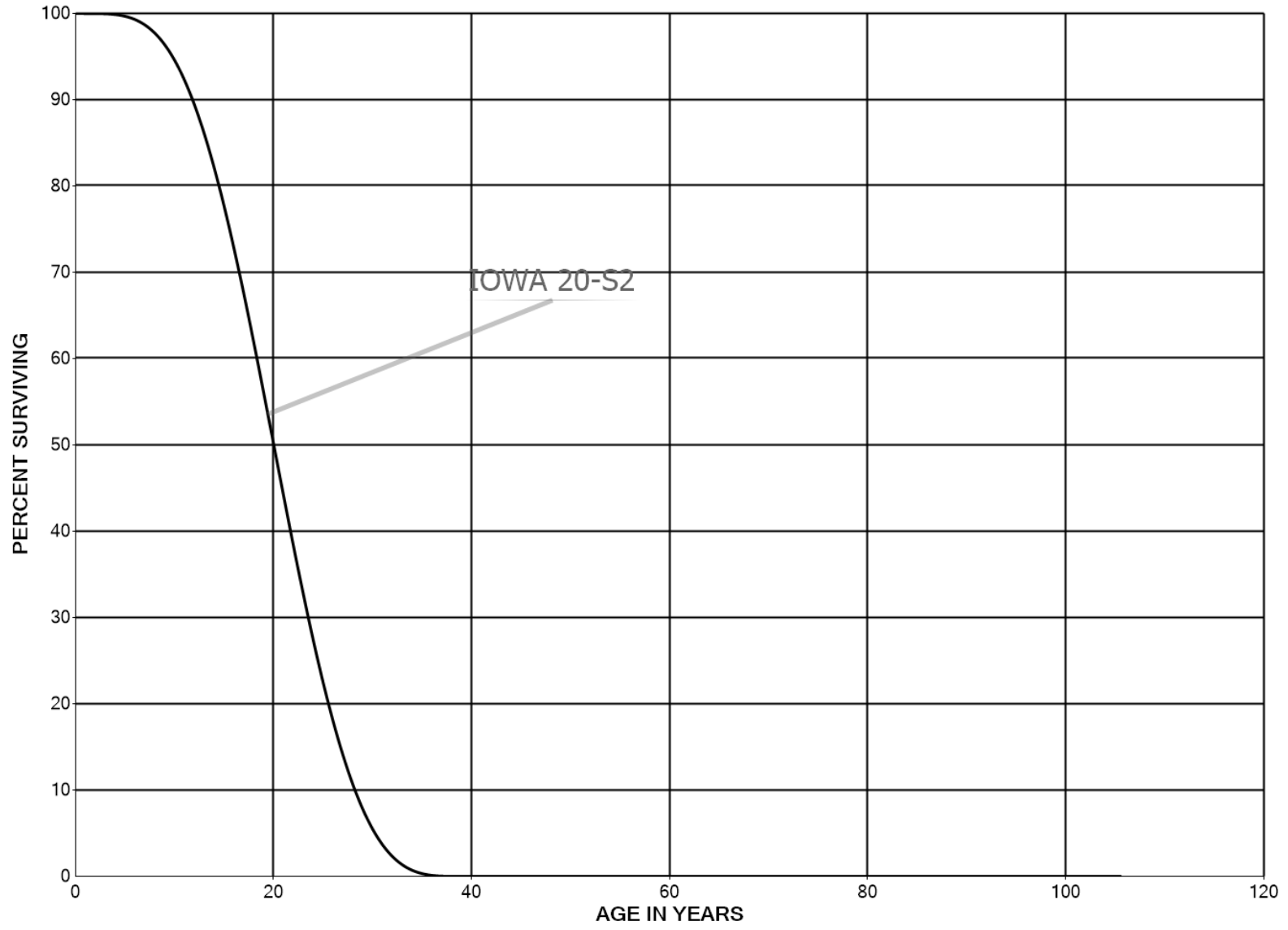
PLACEMENT BAND 1904-2015

EXPERIENCE BAND 1967-2015

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	35		0.0000	1.0000	14.28
80.5	35		0.0000	1.0000	14.28
81.5	35		0.0000	1.0000	14.28
82.5	35		0.0000	1.0000	14.28
83.5					14.28

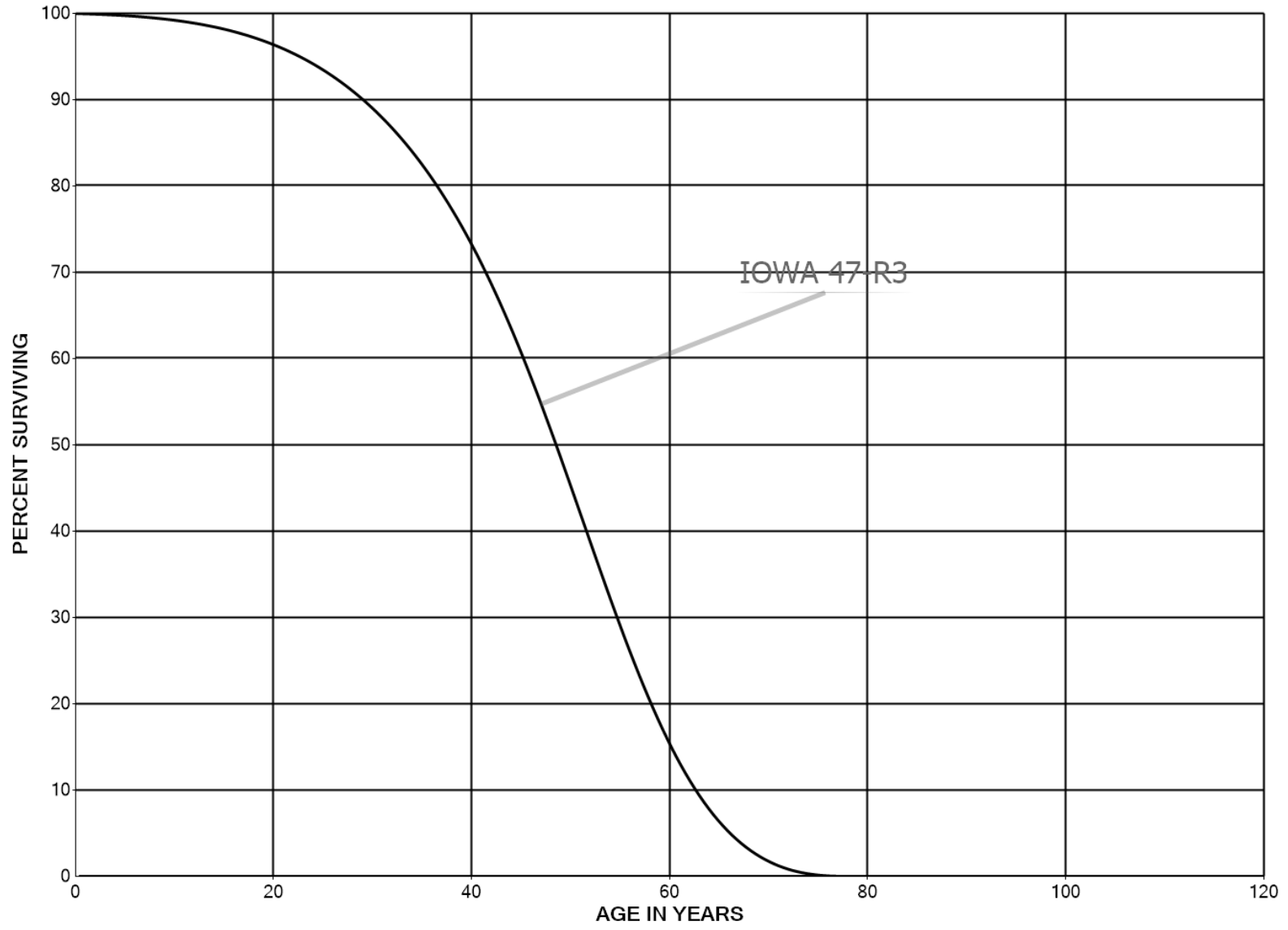


UGI PENN NATURAL GAS, INC.
ACCOUNT 381.1 METERS - AMR
SMOOTH SURVIVOR CURVE



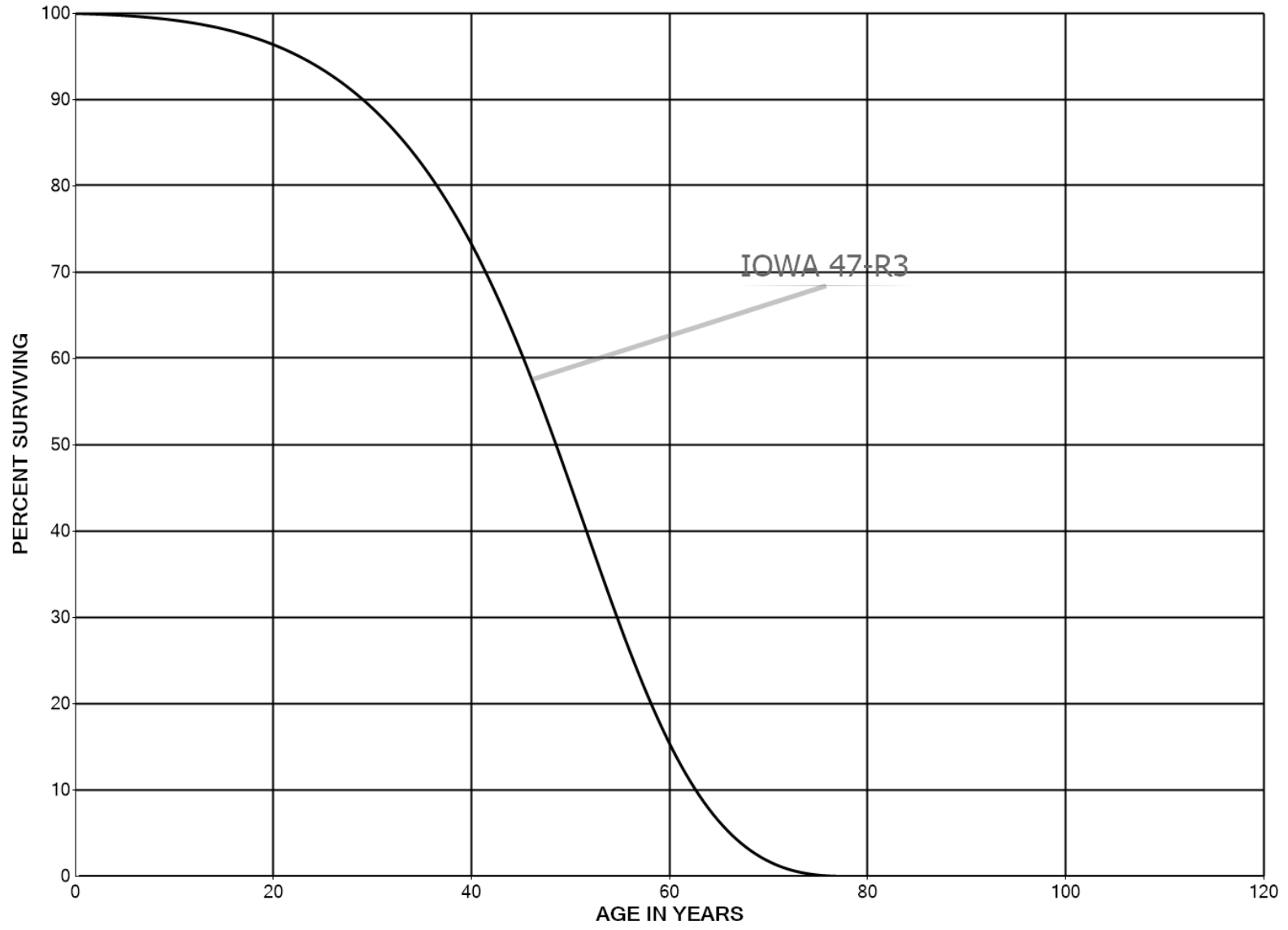


UGI PENN NATURAL GAS, INC.
ACCOUNT 383 HOUSE REGULATORS
SMOOTH SURVIVOR CURVE



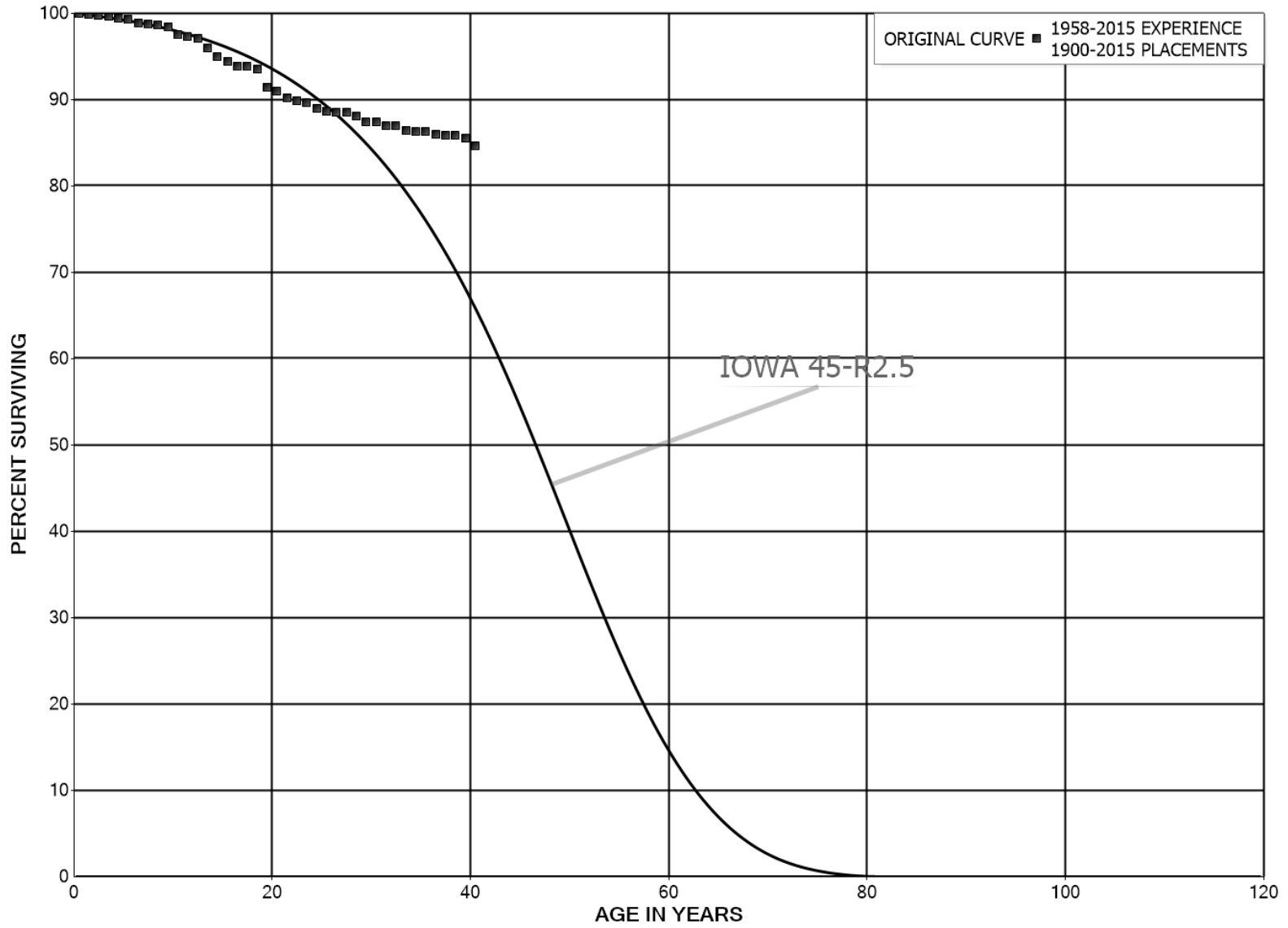


UGI PENN NATURAL GAS, INC.
ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS
SMOOTH SURVIVOR CURVE





UGI PENN NATURAL GAS, INC.
ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2015

EXPERIENCE BAND 1958-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	9,551,455	6,458	0.0007	0.9993	100.00
0.5	6,146,103	5,414	0.0009	0.9991	99.93
1.5	6,097,833	6,235	0.0010	0.9990	99.84
2.5	6,114,144	5,904	0.0010	0.9990	99.74
3.5	5,969,177	12,694	0.0021	0.9979	99.65
4.5	5,557,967	7,975	0.0014	0.9986	99.43
5.5	5,483,792	26,379	0.0048	0.9952	99.29
6.5	5,389,108	5,620	0.0010	0.9990	98.81
7.5	5,349,728	6,657	0.0012	0.9988	98.71
8.5	5,316,980	12,253	0.0023	0.9977	98.59
9.5	5,296,159	44,938	0.0085	0.9915	98.36
10.5	5,243,375	14,315	0.0027	0.9973	97.53
11.5	5,218,480	10,731	0.0021	0.9979	97.26
12.5	5,201,177	62,061	0.0119	0.9881	97.06
13.5	5,114,362	53,218	0.0104	0.9896	95.90
14.5	4,978,152	26,171	0.0053	0.9947	94.90
15.5	4,863,623	30,727	0.0063	0.9937	94.40
16.5	4,661,441	1,277	0.0003	0.9997	93.81
17.5	4,581,811	16,252	0.0035	0.9965	93.78
18.5	4,417,879	97,599	0.0221	0.9779	93.45
19.5	4,281,092	19,916	0.0047	0.9953	91.39
20.5	4,228,839	37,156	0.0088	0.9912	90.96
21.5	4,165,089	14,654	0.0035	0.9965	90.16
22.5	4,120,521	11,155	0.0027	0.9973	89.84
23.5	4,065,170	27,049	0.0067	0.9933	89.60
24.5	3,915,480	15,866	0.0041	0.9959	89.00
25.5	3,790,865	4,284	0.0011	0.9989	88.64
26.5	3,759,391		0.0000	1.0000	88.54
27.5	3,605,566	21,274	0.0059	0.9941	88.54
28.5	3,477,626	23,086	0.0066	0.9934	88.02
29.5	3,412,576	561	0.0002	0.9998	87.44
30.5	3,341,878	16,749	0.0050	0.9950	87.42
31.5	3,280,112	1,253	0.0004	0.9996	86.98
32.5	3,238,822	20,420	0.0063	0.9937	86.95
33.5	3,137,662	4,889	0.0016	0.9984	86.40
34.5	2,903,178		0.0000	1.0000	86.27
35.5	2,412,168	7,771	0.0032	0.9968	86.27
36.5	2,312,263	3,720	0.0016	0.9984	85.99
37.5	2,257,805	1,648	0.0007	0.9993	85.85
38.5	2,226,354	6,146	0.0028	0.9972	85.79

UGI PENN NATURAL GAS, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2015			EXPERIENCE BAND 1958-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	2,167,113	24,189	0.0112	0.9888	85.55	
40.5	2,089,944		0.0000	1.0000	84.60	
41.5	1,999,190	289	0.0001	0.9999	84.60	
42.5	1,888,880	782	0.0004	0.9996	84.59	
43.5	1,630,798	614	0.0004	0.9996	84.55	
44.5	1,400,420	5,706	0.0041	0.9959	84.52	
45.5	1,122,806	613	0.0005	0.9995	84.17	
46.5	928,586		0.0000	1.0000	84.13	
47.5	695,007		0.0000	1.0000	84.13	
48.5	486,921		0.0000	1.0000	84.13	
49.5	362,881		0.0000	1.0000	84.13	
50.5	230,941		0.0000	1.0000	84.13	
51.5	151,833		0.0000	1.0000	84.13	
52.5	128,258		0.0000	1.0000	84.13	
53.5	105,391		0.0000	1.0000	84.13	
54.5	94,785		0.0000	1.0000	84.13	
55.5	62,060		0.0000	1.0000	84.13	
56.5	61,371		0.0000	1.0000	84.13	
57.5	58,266		0.0000	1.0000	84.13	
58.5	47,073		0.0000	1.0000	84.13	
59.5	40,019		0.0000	1.0000	84.13	
60.5	40,019		0.0000	1.0000	84.13	
61.5	39,159		0.0000	1.0000	84.13	
62.5	39,159		0.0000	1.0000	84.13	
63.5	39,159		0.0000	1.0000	84.13	
64.5	39,159		0.0000	1.0000	84.13	
65.5	39,159		0.0000	1.0000	84.13	
66.5	39,159		0.0000	1.0000	84.13	
67.5	39,159		0.0000	1.0000	84.13	
68.5	39,159		0.0000	1.0000	84.13	
69.5	39,159		0.0000	1.0000	84.13	
70.5	39,159		0.0000	1.0000	84.13	
71.5	39,159	1,946	0.0497	0.9503	84.13	
72.5	37,213		0.0000	1.0000	79.95	
73.5	37,213		0.0000	1.0000	79.95	
74.5	37,213		0.0000	1.0000	79.95	
75.5	37,213		0.0000	1.0000	79.95	
76.5	37,213		0.0000	1.0000	79.95	
77.5	37,213		0.0000	1.0000	79.95	
78.5	37,213		0.0000	1.0000	79.95	

UGI PENN NATURAL GAS, INC.

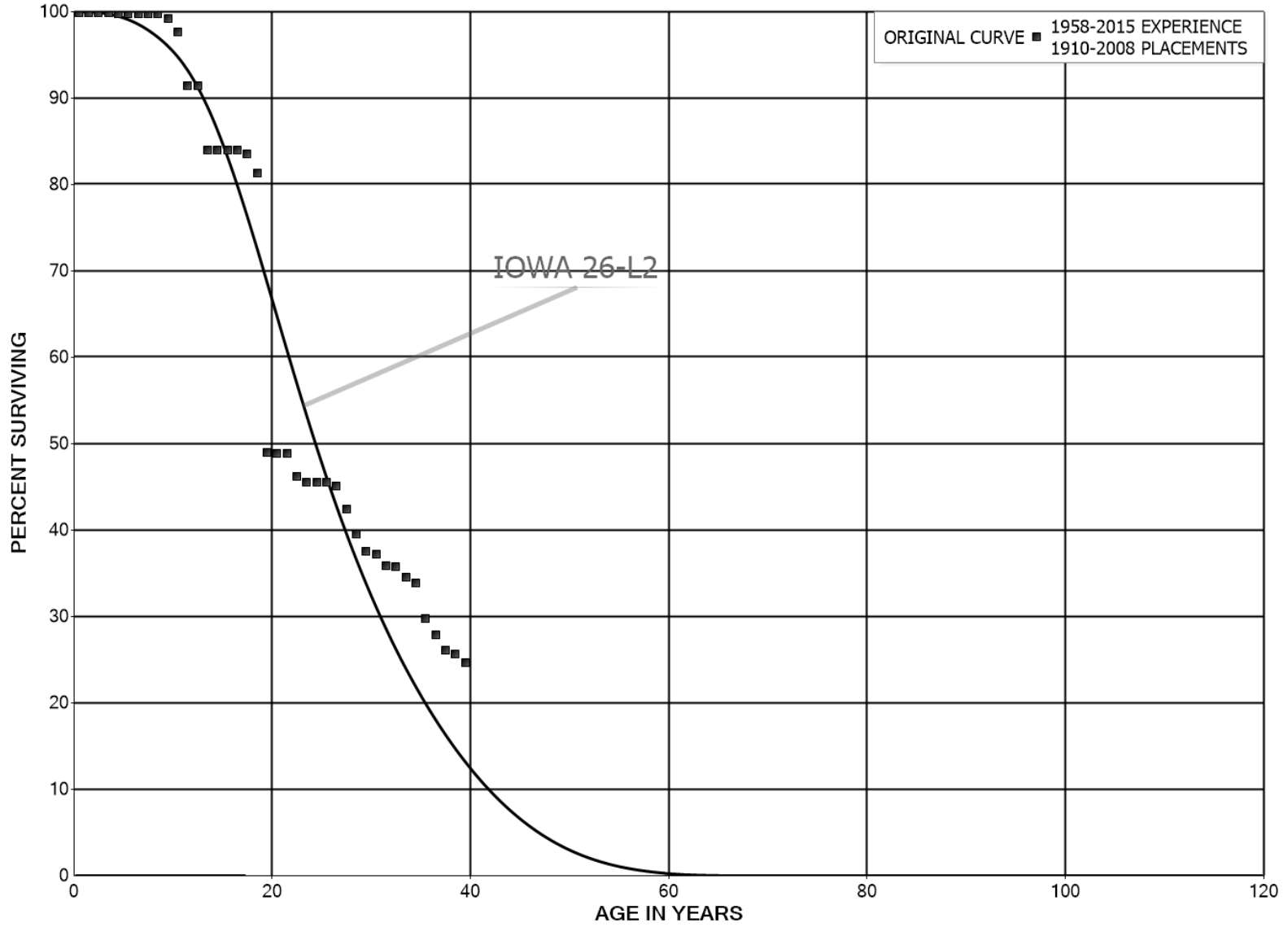
ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2015			EXPERIENCE BAND 1958-2015		
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	37,213		0.0000	1.0000	79.95
80.5	37,213		0.0000	1.0000	79.95
81.5	37,213		0.0000	1.0000	79.95
82.5	37,213		0.0000	1.0000	79.95
83.5	37,213		0.0000	1.0000	79.95
84.5	37,213		0.0000	1.0000	79.95
85.5	37,213		0.0000	1.0000	79.95
86.5	37,213		0.0000	1.0000	79.95
87.5	37,213		0.0000	1.0000	79.95
88.5	37,213		0.0000	1.0000	79.95
89.5	37,213		0.0000	1.0000	79.95
90.5	37,213		0.0000	1.0000	79.95
91.5	37,213		0.0000	1.0000	79.95
92.5	37,213		0.0000	1.0000	79.95
93.5	37,213		0.0000	1.0000	79.95
94.5	37,213		0.0000	1.0000	79.95
95.5	37,213		0.0000	1.0000	79.95
96.5	37,213		0.0000	1.0000	79.95
97.5	37,213		0.0000	1.0000	79.95
98.5	37,213		0.0000	1.0000	79.95
99.5	37,213	37,213	1.0000		79.95
100.5					



UGI PENN NATURAL GAS, INC.
ACCOUNT 387 OTHER DISTRIBUTION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 387 OTHER DISTRIBUTION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1910-2008

EXPERIENCE BAND 1958-2015

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	158,374	236	0.0015	0.9985	100.00
0.5	158,229		0.0000	1.0000	99.85
1.5	158,343		0.0000	1.0000	99.85
2.5	158,799		0.0000	1.0000	99.85
3.5	159,591	163	0.0010	0.9990	99.85
4.5	159,969		0.0000	1.0000	99.75
5.5	162,461		0.0000	1.0000	99.75
6.5	162,700		0.0000	1.0000	99.75
7.5	77,665		0.0000	1.0000	99.75
8.5	77,727	426	0.0055	0.9945	99.75
9.5	78,364	1,238	0.0158	0.9842	99.20
10.5	77,195	4,914	0.0637	0.9363	97.64
11.5	72,281		0.0000	1.0000	91.42
12.5	72,992	5,951	0.0815	0.9185	91.42
13.5	67,041	43	0.0006	0.9994	83.97
14.5	67,783		0.0000	1.0000	83.91
15.5	68,141		0.0000	1.0000	83.91
16.5	68,141	294	0.0043	0.9957	83.91
17.5	68,207	1,873	0.0275	0.9725	83.55
18.5	64,630	25,701	0.3977	0.6023	81.26
19.5	38,973	91	0.0023	0.9977	48.94
20.5	60,646		0.0000	1.0000	48.83
21.5	61,501	3,303	0.0537	0.9463	48.83
22.5	58,660	960	0.0164	0.9836	46.21
23.5	57,711		0.0000	1.0000	45.45
24.5	57,892		0.0000	1.0000	45.45
25.5	57,892	448	0.0077	0.9923	45.45
26.5	57,820	3,422	0.0592	0.9408	45.10
27.5	52,096	3,570	0.0685	0.9315	42.43
28.5	43,056	2,231	0.0518	0.9482	39.52
29.5	40,895	368	0.0090	0.9910	37.47
30.5	40,560	1,417	0.0349	0.9651	37.14
31.5	38,552	145	0.0038	0.9962	35.84
32.5	38,532	1,314	0.0341	0.9659	35.70
33.5	37,218	673	0.0181	0.9819	34.49
34.5	37,006	4,500	0.1216	0.8784	33.86
35.5	32,527	2,047	0.0629	0.9371	29.74
36.5	30,542	1,936	0.0634	0.9366	27.87
37.5	28,717	591	0.0206	0.9794	26.11
38.5	28,125	1,101	0.0391	0.9609	25.57

UGI PENN NATURAL GAS, INC.

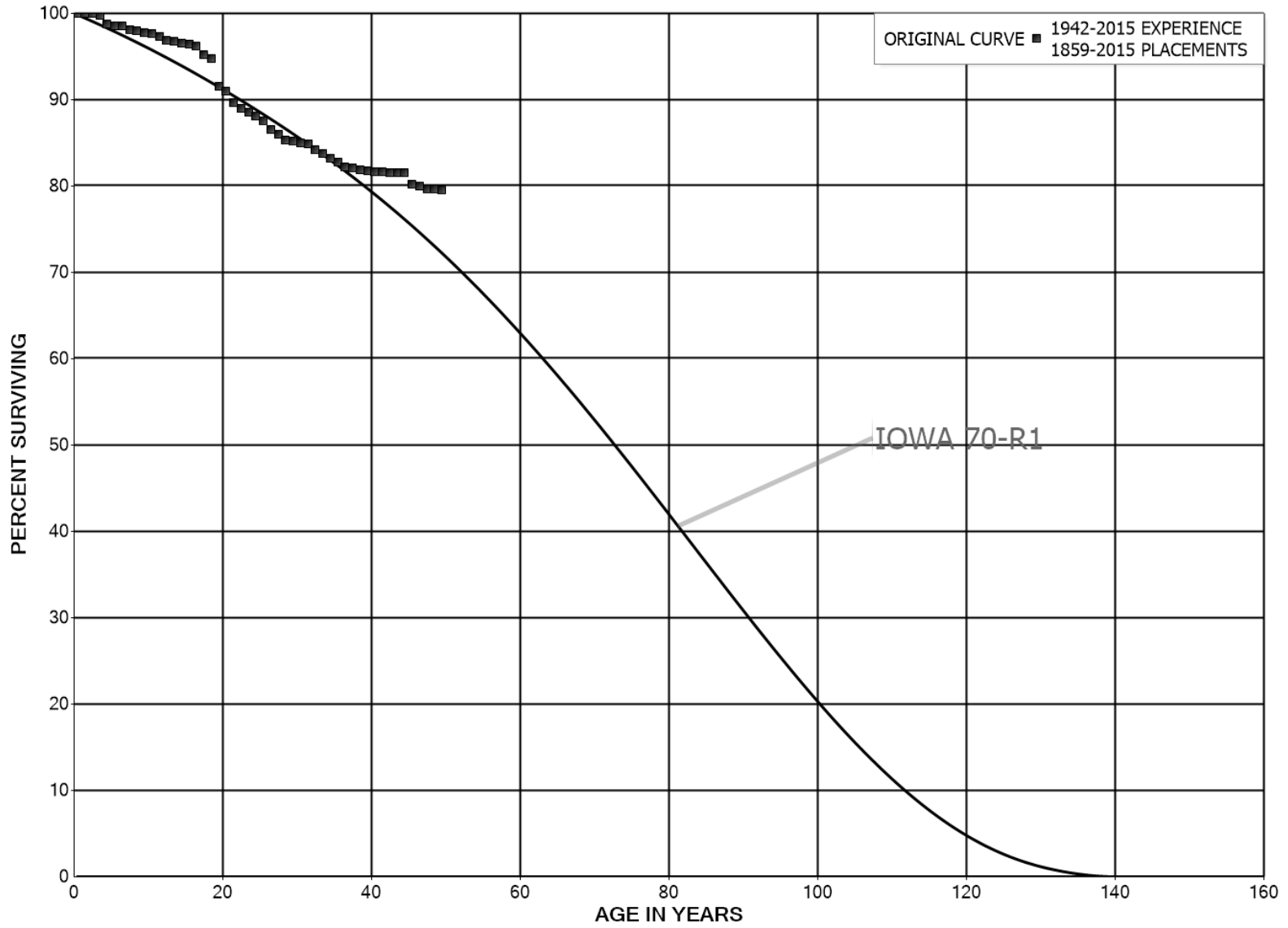
ACCOUNT 387 OTHER DISTRIBUTION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1910-2008			EXPERIENCE BAND 1958-2015			
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	5,524	239	0.0432	0.9568	24.57	
40.5	5,285	425	0.0804	0.9196	23.51	
41.5	4,861	62	0.0128	0.9872	21.62	
42.5	4,798	44	0.0091	0.9909	21.34	
43.5	4,754	263	0.0554	0.9446	21.14	
44.5	4,508	361	0.0801	0.9199	19.97	
45.5	4,147	610	0.1471	0.8529	18.37	
46.5	3,537	695	0.1965	0.8035	15.67	
47.5	2,856	112	0.0392	0.9608	12.59	
48.5	2,744	147	0.0537	0.9463	12.10	
49.5	2,597		0.0000	1.0000	11.45	
50.5	2,597	19	0.0074	0.9926	11.45	
51.5	2,577	12	0.0047	0.9953	11.36	
52.5	2,565		0.0000	1.0000	11.31	
53.5	2,105	65	0.0308	0.9692	11.31	
54.5	2,040	1,299	0.6369	0.3631	10.96	
55.5	741	28	0.0383	0.9617	3.98	
56.5	712	97	0.1358	0.8642	3.83	
57.5	615	44	0.0718	0.9282	3.31	
58.5	571		0.0000	1.0000	3.07	
59.5	571	44	0.0774	0.9226	3.07	
60.5	527		0.0000	1.0000	2.83	
61.5	527	27	0.0517	0.9483	2.83	
62.5	500	19	0.0372	0.9628	2.69	
63.5	481	33	0.0694	0.9306	2.59	
64.5	448	305	0.6818	0.3182	2.41	
65.5	143	59	0.4171	0.5829	0.77	
66.5	83		0.0000	1.0000	0.45	
67.5	83		0.0000	1.0000	0.45	
68.5	83	22	0.2629	0.7371	0.45	
69.5	61	61	1.0000		0.33	
70.5						



UGI PENN NATURAL GAS, INC.
ACCOUNT 390 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1859-2015

EXPERIENCE BAND 1942-2015

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	24,691,913	4,160	0.0002	0.9998	100.00
0.5	24,622,720	2,588	0.0001	0.9999	99.98
1.5	23,415,349	14,446	0.0006	0.9994	99.97
2.5	23,087,727	30,475	0.0013	0.9987	99.91
3.5	22,951,275	246,920	0.0108	0.9892	99.78
4.5	21,330,460	35,969	0.0017	0.9983	98.71
5.5	20,726,408	14,215	0.0007	0.9993	98.54
6.5	20,604,514	84,736	0.0041	0.9959	98.47
7.5	20,328,259	21,346	0.0011	0.9989	98.07
8.5	19,099,683	38,023	0.0020	0.9980	97.96
9.5	18,766,702	33,406	0.0018	0.9982	97.77
10.5	18,462,552	55,194	0.0030	0.9970	97.59
11.5	17,826,011	88,026	0.0049	0.9951	97.30
12.5	17,371,648	23,408	0.0013	0.9987	96.82
13.5	13,086,816	25,295	0.0019	0.9981	96.69
14.5	12,237,557	15,028	0.0012	0.9988	96.50
15.5	11,582,073	30,438	0.0026	0.9974	96.39
16.5	11,414,718	114,213	0.0100	0.9900	96.13
17.5	10,851,616	54,975	0.0051	0.9949	95.17
18.5	6,131,083	204,425	0.0333	0.9667	94.69
19.5	6,299,040	36,038	0.0057	0.9943	91.53
20.5	6,469,512	100,228	0.0155	0.9845	91.01
21.5	6,246,271	48,598	0.0078	0.9922	89.60
22.5	5,521,019	22,854	0.0041	0.9959	88.90
23.5	5,307,880	31,178	0.0059	0.9941	88.53
24.5	4,823,881	25,353	0.0053	0.9947	88.01
25.5	4,695,249	56,836	0.0121	0.9879	87.55
26.5	4,434,908	26,316	0.0059	0.9941	86.49
27.5	4,137,309	32,321	0.0078	0.9922	85.98
28.5	3,922,626	8,025	0.0020	0.9980	85.31
29.5	3,732,596	5,991	0.0016	0.9984	85.13
30.5	3,511,369	6,033	0.0017	0.9983	84.99
31.5	3,431,853	26,320	0.0077	0.9923	84.85
32.5	3,379,901	17,118	0.0051	0.9949	84.20
33.5	3,355,317	24,228	0.0072	0.9928	83.77
34.5	3,220,741	18,511	0.0057	0.9943	83.17
35.5	3,131,418	21,289	0.0068	0.9932	82.69
36.5	3,078,438	3,297	0.0011	0.9989	82.13
37.5	2,984,576	8,355	0.0028	0.9972	82.04
38.5	2,644,313	1,421	0.0005	0.9995	81.81

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1859-2015			EXPERIENCE BAND 1942-2015			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5	2,101,187	2,867	0.0014	0.9986	81.76	
40.5	1,941,642	1,831	0.0009	0.9991	81.65	
41.5	1,940,747	1,761	0.0009	0.9991	81.58	
42.5	1,866,846	742	0.0004	0.9996	81.50	
43.5	1,851,986	347	0.0002	0.9998	81.47	
44.5	1,487,986	23,769	0.0160	0.9840	81.45	
45.5	1,476,172	3,359	0.0023	0.9977	80.15	
46.5	1,472,522	6,136	0.0042	0.9958	79.97	
47.5	1,455,368	250	0.0002	0.9998	79.64	
48.5	1,452,792	2,433	0.0017	0.9983	79.62	
49.5	1,414,213	443	0.0003	0.9997	79.49	
50.5	1,412,363	2,400	0.0017	0.9983	79.47	
51.5	1,376,504	10,940	0.0079	0.9921	79.33	
52.5	1,245,270		0.0000	1.0000	78.70	
53.5	1,091,578		0.0000	1.0000	78.70	
54.5	997,013	695	0.0007	0.9993	78.70	
55.5	867,994	50	0.0001	0.9999	78.65	
56.5	867,716	350	0.0004	0.9996	78.64	
57.5	863,177		0.0000	1.0000	78.61	
58.5	871,412	100	0.0001	0.9999	78.61	
59.5	870,368	1,235	0.0014	0.9986	78.60	
60.5	868,563		0.0000	1.0000	78.49	
61.5	839,554		0.0000	1.0000	78.49	
62.5	838,707	2,194	0.0026	0.9974	78.49	
63.5	836,510	177	0.0002	0.9998	78.28	
64.5	836,176	170	0.0002	0.9998	78.27	
65.5	830,189	207	0.0002	0.9998	78.25	
66.5	823,283	88	0.0001	0.9999	78.23	
67.5	816,034	408	0.0005	0.9995	78.22	
68.5	819,112	6,541	0.0080	0.9920	78.18	
69.5	812,438	700	0.0009	0.9991	77.56	
70.5	811,719	15	0.0000	1.0000	77.49	
71.5	811,612	2,398	0.0030	0.9970	77.49	
72.5	786,296	1,296	0.0016	0.9984	77.26	
73.5	271,917	558	0.0021	0.9979	77.14	
74.5	271,210	522	0.0019	0.9981	76.98	
75.5	270,638	4,424	0.0163	0.9837	76.83	
76.5	265,425	4,891	0.0184	0.9816	75.57	
77.5	249,647	1,000	0.0040	0.9960	74.18	
78.5	248,538	123	0.0005	0.9995	73.88	

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1859-2015			EXPERIENCE BAND 1942-2015			
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	247,733	200	0.0008	0.9992	73.85	
80.5	241,729		0.0000	1.0000	73.79	
81.5	239,447	925	0.0039	0.9961	73.79	
82.5	237,093	480	0.0020	0.9980	73.50	
83.5	155,416	5,349	0.0344	0.9656	73.35	
84.5	139,593	2	0.0000	1.0000	70.83	
85.5	112,002		0.0000	1.0000	70.83	
86.5	112,002		0.0000	1.0000	70.83	
87.5	86,808		0.0000	1.0000	70.83	
88.5	86,361		0.0000	1.0000	70.83	
89.5	86,361		0.0000	1.0000	70.83	
90.5	85,990		0.0000	1.0000	70.83	
91.5	84,775	300	0.0035	0.9965	70.83	
92.5	84,475	189	0.0022	0.9978	70.58	
93.5	84,286	1,500	0.0178	0.9822	70.42	
94.5	82,718		0.0000	1.0000	69.17	
95.5	82,718		0.0000	1.0000	69.17	
96.5	82,718		0.0000	1.0000	69.17	
97.5	82,718		0.0000	1.0000	69.17	
98.5	79,988		0.0000	1.0000	69.17	
99.5	79,988	200	0.0025	0.9975	69.17	
100.5	75,825		0.0000	1.0000	68.99	
101.5	73,530		0.0000	1.0000	68.99	
102.5	53,068	561	0.0106	0.9894	68.99	
103.5	52,005	100	0.0019	0.9981	68.26	
104.5	51,905		0.0000	1.0000	68.13	
105.5	51,769		0.0000	1.0000	68.13	
106.5	51,711		0.0000	1.0000	68.13	
107.5	51,711		0.0000	1.0000	68.13	
108.5	51,698		0.0000	1.0000	68.13	
109.5	50,698		0.0000	1.0000	68.13	
110.5	50,698		0.0000	1.0000	68.13	
111.5	50,698		0.0000	1.0000	68.13	
112.5	46,562		0.0000	1.0000	68.13	
113.5	46,562		0.0000	1.0000	68.13	
114.5	37,764		0.0000	1.0000	68.13	
115.5	37,764		0.0000	1.0000	68.13	
116.5	37,764		0.0000	1.0000	68.13	
117.5	37,764		0.0000	1.0000	68.13	
118.5	37,764		0.0000	1.0000	68.13	

UGI PENN NATURAL GAS, INC.

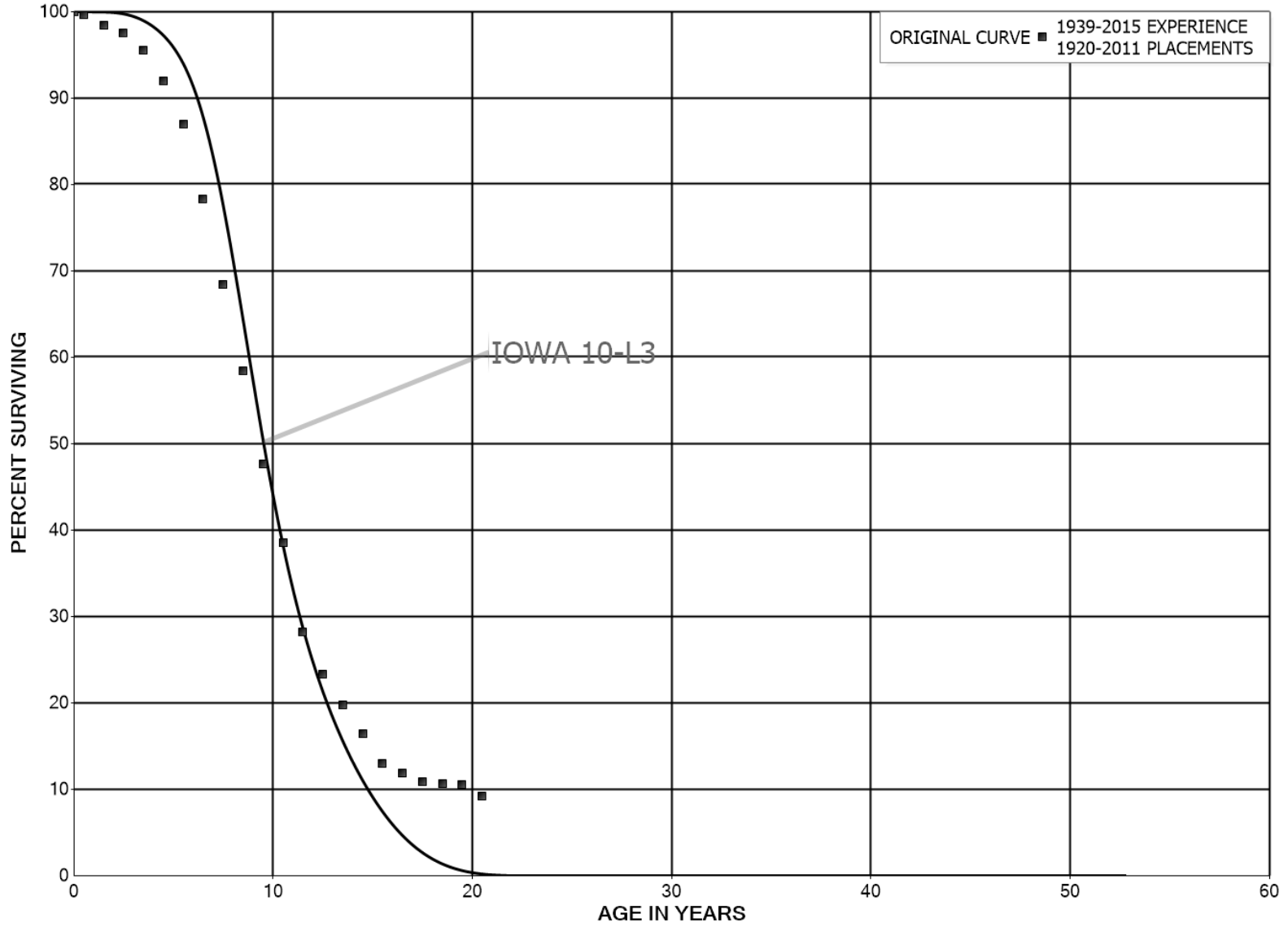
ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1859-2015			EXPERIENCE BAND 1942-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5	19,033		0.0000	1.0000	68.13
120.5	19,033		0.0000	1.0000	68.13
121.5	19,033		0.0000	1.0000	68.13
122.5	19,033		0.0000	1.0000	68.13
123.5	19,033		0.0000	1.0000	68.13
124.5	15,171		0.0000	1.0000	68.13
125.5	15,171		0.0000	1.0000	68.13
126.5	13,997		0.0000	1.0000	68.13
127.5	13,997		0.0000	1.0000	68.13
128.5	13,997		0.0000	1.0000	68.13
129.5	13,997		0.0000	1.0000	68.13
130.5	13,997		0.0000	1.0000	68.13
131.5	13,997		0.0000	1.0000	68.13
132.5	5,652		0.0000	1.0000	68.13
133.5	5,438		0.0000	1.0000	68.13
134.5	5,121		0.0000	1.0000	68.13
135.5	5,121		0.0000	1.0000	68.13
136.5	5,121		0.0000	1.0000	68.13
137.5	5,121		0.0000	1.0000	68.13
138.5	5,121		0.0000	1.0000	68.13
139.5	5,121		0.0000	1.0000	68.13
140.5	5,121		0.0000	1.0000	68.13
141.5	5,121		0.0000	1.0000	68.13
142.5	5,121		0.0000	1.0000	68.13
143.5					68.13



UGI PENN NATURAL GAS, INC.
ACCOUNT 392 TRANSPORTATION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 392 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2011

EXPERIENCE BAND 1939-2015

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	27,817,885	101,551	0.0037	0.9963	100.00
0.5	27,696,988	347,174	0.0125	0.9875	99.63
1.5	26,961,209	247,111	0.0092	0.9908	98.39
2.5	26,264,884	541,445	0.0206	0.9794	97.48
3.5	25,259,312	946,511	0.0375	0.9625	95.47
4.5	23,749,946	1,282,304	0.0540	0.9460	91.90
5.5	22,441,361	2,246,737	0.1001	0.8999	86.94
6.5	20,173,483	2,531,937	0.1255	0.8745	78.23
7.5	17,385,119	2,555,029	0.1470	0.8530	68.41
8.5	14,510,315	2,664,541	0.1836	0.8164	58.36
9.5	11,276,668	2,174,574	0.1928	0.8072	47.64
10.5	8,609,254	2,305,992	0.2679	0.7321	38.45
11.5	5,576,295	957,816	0.1718	0.8282	28.15
12.5	4,200,530	645,046	0.1536	0.8464	23.32
13.5	3,457,225	594,092	0.1718	0.8282	19.74
14.5	2,727,209	568,736	0.2085	0.7915	16.35
15.5	1,871,763	155,669	0.0832	0.9168	12.94
16.5	1,369,493	118,735	0.0867	0.9133	11.86
17.5	897,707	15,468	0.0172	0.9828	10.83
18.5	692,160	11,263	0.0163	0.9837	10.65
19.5	545,032	65,242	0.1197	0.8803	10.47
20.5	450,906	14,299	0.0317	0.9683	9.22
21.5	277,655	6,550	0.0236	0.9764	8.93
22.5	187,266	11,593	0.0619	0.9381	8.72
23.5	158,722	4,963	0.0313	0.9687	8.18
24.5	107,128		0.0000	1.0000	7.92
25.5	98,763		0.0000	1.0000	7.92
26.5	59,699		0.0000	1.0000	7.92
27.5	41,353	861	0.0208	0.9792	7.92
28.5	40,492		0.0000	1.0000	7.76
29.5	36,739	321	0.0087	0.9913	7.76
30.5	30,918		0.0000	1.0000	7.69
31.5	29,820	434	0.0146	0.9854	7.69
32.5	23,777	485	0.0204	0.9796	7.58
33.5	23,293	3,579	0.1537	0.8463	7.42
34.5	19,713	158	0.0080	0.9920	6.28
35.5	29,984	4,032	0.1345	0.8655	6.23
36.5	25,952		0.0000	1.0000	5.39
37.5	25,952	12,698	0.4893	0.5107	5.39
38.5	13,254		0.0000	1.0000	2.75

UGI PENN NATURAL GAS, INC.

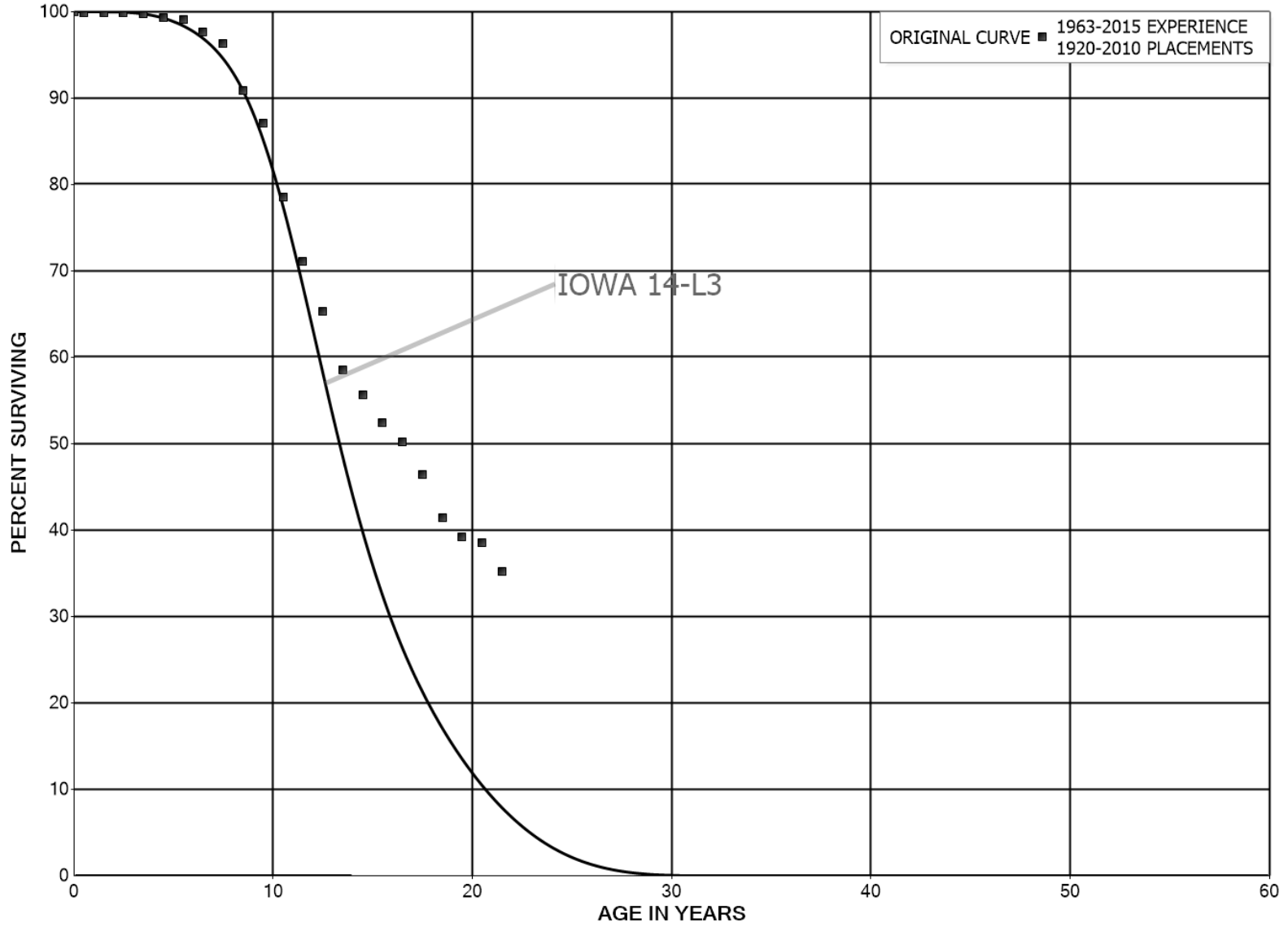
ACCOUNT 392 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1920-2011			EXPERIENCE BAND 1939-2015		
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	13,254		0.0000	1.0000	2.75
40.5	13,254		0.0000	1.0000	2.75
41.5	13,254	254	0.0191	0.9809	2.75
42.5	13,000	3,846	0.2959	0.7041	2.70
43.5	9,154		0.0000	1.0000	1.90
44.5	9,154		0.0000	1.0000	1.90
45.5	9,154		0.0000	1.0000	1.90
46.5	9,154		0.0000	1.0000	1.90
47.5	9,154		0.0000	1.0000	1.90
48.5	9,154	138	0.0151	0.9849	1.90
49.5	9,016	664	0.0737	0.9263	1.87
50.5	8,351		0.0000	1.0000	1.74
51.5	118	68	0.5778	0.4222	1.74
52.5	50		0.0000	1.0000	0.73
53.5	50	50	1.0000		0.73
54.5					



UGI PENN NATURAL GAS, INC.
ACCOUNT 396 POWER OPERATED EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



UGI PENN NATURAL GAS, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1920-2010

EXPERIENCE BAND 1963-2015

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	4,321,218	6,630	0.0015	0.9985	100.00
0.5	4,385,858		0.0000	1.0000	99.85
1.5	4,347,845	92	0.0000	1.0000	99.85
2.5	4,317,315	6,099	0.0014	0.9986	99.84
3.5	4,394,612	17,599	0.0040	0.9960	99.70
4.5	4,322,288	10,937	0.0025	0.9975	99.30
5.5	4,303,387	63,504	0.0148	0.9852	99.05
6.5	4,153,659	55,940	0.0135	0.9865	97.59
7.5	4,015,543	228,801	0.0570	0.9430	96.28
8.5	3,651,882	148,887	0.0408	0.9592	90.79
9.5	3,455,933	339,812	0.0983	0.9017	87.09
10.5	2,873,259	271,717	0.0946	0.9054	78.53
11.5	2,218,239	181,963	0.0820	0.9180	71.10
12.5	1,943,674	200,769	0.1033	0.8967	65.27
13.5	1,521,834	75,579	0.0497	0.9503	58.53
14.5	1,431,278	82,997	0.0580	0.9420	55.62
15.5	1,342,683	58,115	0.0433	0.9567	52.39
16.5	1,268,684	95,746	0.0755	0.9245	50.13
17.5	954,388	102,508	0.1074	0.8926	46.34
18.5	796,286	41,912	0.0526	0.9474	41.37
19.5	658,897	10,665	0.0162	0.9838	39.19
20.5	571,663	50,179	0.0878	0.9122	38.55
21.5	489,990	30,750	0.0628	0.9372	35.17
22.5	429,724	1,741	0.0041	0.9959	32.96
23.5	387,530	12,954	0.0334	0.9666	32.83
24.5	374,577	76,401	0.2040	0.7960	31.73
25.5	300,324	6,300	0.0210	0.9790	25.26
26.5	303,853	3,361	0.0111	0.9889	24.73
27.5	266,126	2,416	0.0091	0.9909	24.46
28.5	240,759	15,960	0.0663	0.9337	24.23
29.5	218,809		0.0000	1.0000	22.63
30.5	218,809	0	0.0000	1.0000	22.63
31.5	190,350	223	0.0012	0.9988	22.63
32.5	154,783		0.0000	1.0000	22.60
33.5	130,927	891	0.0068	0.9932	22.60
34.5	113,240	15,344	0.1355	0.8645	22.45
35.5	95,695	7,784	0.0813	0.9187	19.41
36.5	86,988	8,426	0.0969	0.9031	17.83
37.5	78,562	2,679	0.0341	0.9659	16.10
38.5	75,872	14,233	0.1876	0.8124	15.55

UGI PENN NATURAL GAS, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1920-2010			EXPERIENCE BAND 1963-2015		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	60,736		0.0000	1.0000	12.63
40.5	45,093	3,223	0.0715	0.9285	12.63
41.5	32,020	282	0.0088	0.9912	11.73
42.5	24,602		0.0000	1.0000	11.63
43.5	24,602	13,805	0.5611	0.4389	11.63
44.5	10,797	685	0.0634	0.9366	5.10
45.5	10,112		0.0000	1.0000	4.78
46.5	10,112		0.0000	1.0000	4.78
47.5	10,112	6,606	0.6532	0.3468	4.78
48.5	3,507		0.0000	1.0000	1.66
49.5	3,507		0.0000	1.0000	1.66
50.5	3,507		0.0000	1.0000	1.66
51.5	3,507		0.0000	1.0000	1.66
52.5	3,507		0.0000	1.0000	1.66
53.5	3,507		0.0000	1.0000	1.66
54.5	3,507		0.0000	1.0000	1.66
55.5	3,507		0.0000	1.0000	1.66
56.5	3,507	1,358	0.3873	0.6127	1.66
57.5	2,149		0.0000	1.0000	1.02
58.5	2,149		0.0000	1.0000	1.02
59.5	2,149		0.0000	1.0000	1.02
60.5	2,149		0.0000	1.0000	1.02
61.5	2,149	2,149	1.0000		1.02
62.5					

**PART VII. DETAILED DEPRECIATION
CALCULATIONS**

CUMULATIVE DEPRECIATED ORIGINAL COST

GAS PLANT

UGI PENN NATURAL GAS, INC.

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1883	8,345	8,345			0.0
1891	3,862	3,862			0.0
1895	957	957			0.0
1899	371	371			0.0
1901	9,677	9,587	90	90	0.0
1902	776	644	132	222	0.0
1903	1,294	1,069	225	447	0.0
1904	3,032	2,557	475	922	0.0
1905	3,014	2,474	540	1,462	0.0
1906	9,635	7,882	1,753	3,215	0.0
1907	8,680	7,078	1,602	4,817	0.0
1908	18,951	15,399	3,552	8,369	0.0
1909	908	741	167	8,536	0.0
1910	10,342	8,389	1,953	10,489	0.0
1911	24,825	19,974	4,851	15,340	0.0
1912	15,394	12,498	2,896	18,236	0.0
1913	4,356	3,663	693	18,929	0.0
1914	1,013	815	198	19,127	0.0
1915	7,418	6,133	1,285	20,412	0.0
1916	880	696	184	20,596	0.0
1917	9,302	9,002	300	20,896	0.0
1918	2,943	2,772	171	21,067	0.0
1919	6,698	5,977	721	21,788	0.0
1920	11,592	9,977	1,615	23,403	0.0
1921	43,346	34,490	8,856	32,259	0.0
1922	38,978	33,329	5,649	37,908	0.0
1923	49,020	40,472	8,548	46,456	0.0
1924	66,714	56,005	10,709	57,165	0.0
1925	91,127	78,805	12,322	69,487	0.0
1926	35,170	31,453	3,717	73,204	0.0
1927	58,564	49,420	9,144	82,348	0.0
1928	25,528	22,732	2,796	85,144	0.0
1929	15,913	15,265	648	85,792	0.0
1930	151,801	118,201	33,600	119,392	0.0
1931	231,542	175,205	56,337	175,729	0.0
1932	18,981	17,084	1,897	177,626	0.0
1933	20,457	17,210	3,247	180,873	0.0
1934	12,636	11,643	993	181,866	0.0
1935	10,199	9,157	1,042	182,908	0.0
1936	30,615	24,568	6,047	188,955	0.0
1937	14,302	12,619	1,683	190,638	0.0
1938	11,558	10,086	1,472	192,110	0.0
1939	15,482	13,904	1,578	193,688	0.0
1940	24,123	19,517	4,606	198,294	0.0
1941	17,761	14,686	3,075	201,369	0.0
1942	11,107	9,026	2,081	203,450	0.0

UGI PENN NATURAL GAS, INC.

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT		DEPRECIATED ORIGINAL COST	
			(2)	(3)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1943	8,844	7,206		1,638	205,088	0.0
1944	9,050	7,657		1,393	206,481	0.0
1945	13,149	11,367		1,782	208,263	0.0
1946	89,431	64,087		25,344	233,607	0.0
1947	35,369	27,846		7,523	241,130	0.0
1948	32,523	26,558		5,965	247,095	0.0
1949	38,139	29,481		8,658	255,753	0.0
1950	44,791	37,225		7,566	263,319	0.0
1951	39,980	30,466		9,514	272,833	0.0
1952	786,088	609,142		176,946	449,779	0.1
1953	476,906	304,783		172,123	621,902	0.1
1954	41,721	33,164		8,557	630,459	0.1
1955	172,836	117,895		54,941	685,400	0.1
1956	684,448	432,987		251,461	936,861	0.2
1957	1,882,498	1,194,159		688,339	1,625,200	0.3
1958	370,268	259,812		110,456	1,735,656	0.3
1959	1,376,341	852,037		524,304	2,259,960	0.4
1960	1,057,468	700,561		356,907	2,616,867	0.4
1961	1,836,019	1,164,567		671,452	3,288,319	0.6
1962	1,748,536	1,152,033		596,503	3,884,822	0.7
1963	2,729,667	1,768,981		960,686	4,845,508	0.8
1964	4,135,178	2,591,488	1,543,690		6,389,198	1.1
1965	3,699,075	2,413,212	1,285,863		7,675,061	1.3
1966	3,654,317	2,374,898	1,279,419		8,954,480	1.5
1967	3,873,772	2,473,432	1,400,340		10,354,820	1.8
1968	5,379,786	3,316,719	2,063,067		12,417,887	2.1
1969	5,699,909	3,565,554	2,134,355		14,552,242	2.5
1970	5,101,507	3,247,950	1,853,557		16,405,799	2.8
1971	3,896,507	2,377,107	1,519,400		17,925,199	3.1
1972	5,615,404	3,516,655	2,098,749		20,023,948	3.4
1973	3,817,799	2,754,766	1,063,033		21,086,981	3.6
1974	3,056,156	2,385,171	670,985		21,757,966	3.7
1975	3,924,097	2,864,112	1,059,985		22,817,951	3.9
1976	3,913,076	2,951,279	961,797		23,779,748	4.1
1977	4,665,338	3,385,754	1,279,584		25,059,332	4.3
1978	4,148,632	2,906,532	1,242,100		26,301,432	4.5
1979	5,622,718	3,855,768	1,766,950		28,068,382	4.8
1980	8,171,181	5,796,839	2,374,342		30,442,724	5.2
1981	10,301,437	6,519,719	3,781,718		34,224,442	5.9
1982	9,127,940	4,829,600	4,298,340		38,522,782	6.6
1983	3,651,984	2,252,152	1,399,832		39,922,614	6.8
1984	5,427,986	3,112,777	2,315,209		42,237,823	7.2
1985	6,572,824	3,784,733	2,788,091		45,025,914	7.7
1986	7,786,467	4,458,369	3,328,098		48,354,012	8.3
1987	10,600,339	5,932,797	4,667,542		53,021,554	9.1
1988	14,674,662	8,052,913	6,621,749		59,643,303	10.2

UGI PENN NATURAL GAS, INC.

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1989	12,352,940	6,702,073	5,650,867	65,294,170	11.2
1990	12,896,691	6,901,490	5,995,201	71,289,371	12.2
1991	8,416,668	4,533,301	3,883,367	75,172,738	12.9
1992	11,952,685	6,488,502	5,464,183	80,636,921	13.8
1993	10,713,585	6,097,699	4,615,886	85,252,807	14.6
1994	15,318,817	8,140,179	7,178,638	92,431,445	15.9
1995	14,023,851	6,986,813	7,037,038	99,468,483	17.1
1996	23,742,481	9,983,639	13,758,842	113,227,325	19.4
1997	32,248,438	13,709,715	18,538,723	131,766,048	22.6
1998	21,733,866	9,781,353	11,952,513	143,718,561	24.6
1999	12,229,514	5,549,508	6,680,006	150,398,567	25.8
2000	18,762,113	6,986,783	11,775,330	162,173,897	27.8
2001	20,226,163	8,359,534	11,866,629	174,040,526	29.8
2002	21,315,137	8,597,657	12,717,480	186,758,006	32.0
2003	15,046,256	5,922,094	9,124,162	195,882,168	33.6
2004	30,222,351	11,927,091	18,295,260	214,177,428	36.7
2005	20,975,832	6,769,637	14,206,195	228,383,623	39.2
2006	13,974,945	4,652,615	9,322,330	237,705,953	40.8
2007	19,296,194	5,954,615	13,341,579	251,047,532	43.1
2008	18,417,127	4,603,665	13,813,462	264,860,994	45.4
2009	16,330,843	3,796,222	12,534,621	277,395,615	47.6
2010	14,475,404	2,967,065	11,508,339	288,903,954	49.5
2011	21,747,556	4,023,363	17,724,193	306,628,147	52.6
2012	25,262,930	3,510,641	21,752,289	328,380,436	56.3
2013	22,730,372	2,550,697	20,179,675	348,560,111	59.8
2014	51,099,169	4,485,285	46,613,884	395,173,995	67.8
2015	53,858,656	3,343,583	50,515,073	445,689,068	76.4
2016	36,334,041	1,584,711	34,749,330	480,438,398	82.4
2017	103,935,503	1,241,041	102,694,462	583,132,860	100.0
TOTAL	860,791,480	277,658,620	583,132,860		

COMMON PLANT

UGI UTILITIES, INC. - COMMON PLANT

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT		DEPRECIATED ORIGINAL COST	
			(2)	(3)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
2001	25,355	9,774	15,581		15,581	1.9
2003	7,183	2,433	4,750		20,331	2.5
2004	38,772	30,628	8,144		28,475	3.5
2005	39,966	11,671	28,295		56,770	7.0
2006	2,469	663	1,806		58,576	7.2
2007	878	215	663		59,239	7.3
2008	23,109	22,099	1,010		60,249	7.4
2009	161,661	86,741	74,920		135,169	16.7
2010	750,306	132,546	617,760		752,929	93.1
2013	126,305	105,327	20,978		773,907	95.7
2014	37,350	23,311	14,039		787,946	97.4
2015	13,740	6,366	7,374		795,320	98.3
2016	19,057	5,444	13,613		808,933	100.0
TOTAL	1,246,151	437,218	808,933			

INFORMATION SERVICES

UGI UTILITIES, INC. - INFORMATION SERVICES

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT		DEPRECIATED ORIGINAL COST	PCT OF
			(2)	(3)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
1998	24,630	24,013		617	617	0.0
1999	6,159	5,696		463	1,080	0.0
2001	3,769	3,110		659	1,739	0.0
2002	6,694	5,187		1,507	3,246	0.0
2003	22,684	16,444		6,240	9,486	0.0
2004	5,699	3,847		1,852	11,338	0.0
2005	867,789	721,078		146,711	158,049	0.2
2006	1,660,898	1,269,703		391,195	549,244	0.6
2007	3,044,412	2,124,665		919,747	1,468,991	1.5
2008	3,168,505	2,096,572		1,071,933	2,540,924	2.6
2009	775,538	743,982		31,556	2,572,480	2.6
2010	324,586	274,747		49,839	2,622,319	2.7
2011	481,464	215,349		266,115	2,888,434	3.0
2012	3,424,888	1,989,714		1,435,174	4,323,608	4.4
2013	1,580,779	909,537		671,242	4,994,850	5.1
2014	2,497,719	1,183,131		1,314,588	6,309,438	6.5
2015	2,389,492	914,111		1,475,381	7,784,819	8.0
2016	1,531,194	294,018		1,237,176	9,021,995	9.3
2017	88,347,924	26,180		88,321,744	97,343,739	100.0
TOTAL	110,164,823	12,821,084		97,343,739		

READING SERVICE CENTER – INFORMATION SERVICES

UGI UTILITIES, INC. - INFORMATION SERVICES
READING SERVICE CENTER

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT		CUMULATIVE AMOUNT (5)	DEPRECIATED ORIGINAL COST PCT OF COL 4 TOTAL (6)
			(2)	(3)		
1974	574,898	428,142	146,756		146,756	17.2
1975	7,159	5,304	1,855		148,611	17.4
1976	1,630	1,201	429		149,040	17.5
1977	2,106	1,542	564		149,604	17.5
1978	554	404	150		149,754	17.6
1979	6,707	4,853	1,854		151,608	17.8
1980	28,234	20,297	7,937		159,545	18.7
1981	44,870	32,030	12,840		172,385	20.2
1982	428	312	116		172,501	20.2
1983	1,273	922	351		172,852	20.3
1984	1,922	1,376	546		173,398	20.3
1985	15,545	11,038	4,507		177,905	20.9
1986	1,123	789	334		178,239	20.9
1987	100	70	30		178,269	20.9
1989	40,014	27,335	12,679		190,948	22.4
1990	23,330	15,809	7,521		198,469	23.3
1992	95,013	62,722	32,291		230,760	27.1
1993	1,840	1,199	641		231,401	27.1
1994	27,142	17,490	9,652		241,053	28.3
1995	4,582	2,908	1,674		242,727	28.5
1996	248	155	93		242,820	28.5
1998	684	412	272		243,092	28.5
2000	72,144	41,569	30,575		273,667	32.1
2001	73,339	41,277	32,062		305,729	35.8
2002	5,527	3,023	2,504		308,233	36.1
2003	201	107	94		308,327	36.1
2004	1,509	775	734		309,061	36.2
2005	4,812	2,383	2,429		311,490	36.5
2006	458	217	241		311,731	36.5
2007	379,291	171,459	207,832		519,563	60.9
2008	444,898	190,270	254,628		774,191	90.8
2009	14,015	5,621	8,394		782,585	91.7
2010	2,629	979	1,650		784,235	91.9
2011	3,560	1,210	2,350		786,585	92.2
2012	295	89	206		786,791	92.2
2014	5,428	1,190	4,238		791,029	92.7
2015	44,230	7,425	36,805		827,834	97.0
2016	28,275	3,086	25,189		853,023	100.0
TOTAL	1,960,013	1,106,990	853,023			

UTILITY PLANT IN SERVICE

GAS PLANT

UGI PENN NATURAL GAS, INC.

ACCOUNT 375 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-S0.5						
1895	957.04	957	957			
1899	371.18	371	371			
1901	342.93	343	343			
1904	337.86	338	338			
1910	140.61	141	141			
1913	906.59	907	907			
1914	43.25	43	43			
1922	3,874.12	3,743	3,874			
1924	91.76	87	92			
1925	14,624.22	13,832	14,624			
1926	1,472.92	1,383	1,473			
1927	2,571.06	2,397	2,571			
1930	179.83	164	180			
1933	808.95	722	809			
1936	521.58	455	522			
1938	31.53	27	32			
1941	126.43	106	126			
1943	619.95	511	620			
1952	9,052.12	6,883	9,052			
1956	5,631.10	4,114	5,548	83	13.47	6
1957	67,463.07	48,776	65,781	1,682	13.85	121
1958	4,162.77	2,978	4,016	147	14.23	10
1959	1,700.06	1,203	1,622	78	14.62	5
1960	10,593.10	7,413	9,997	596	15.01	40
1961	14,994.13	10,373	13,989	1,005	15.41	65
1962	43,463.28	29,729	40,093	3,370	15.80	213
1963	60,298.83	40,750	54,957	5,342	16.21	330
1964	33,815.54	22,582	30,455	3,361	16.61	202
1965	24,046.54	15,861	21,391	2,656	17.02	156
1966	16,188.91	10,542	14,217	1,972	17.44	113
1967	42,995.56	27,638	37,273	5,723	17.86	320
1968	27,440.48	17,403	23,470	3,970	18.29	217
1969	32,822.08	20,533	27,691	5,131	18.72	274
1970	107,594.48	66,386	89,530	18,064	19.15	943
1971	35,260.54	21,445	28,921	6,340	19.59	324
1972	14,686.47	8,800	11,868	2,818	20.04	141
1973	42,704.23	25,204	33,991	8,713	20.49	425
1974	6,576.81	3,821	5,153	1,424	20.95	68
1975	3,895.87	2,228	3,005	891	21.41	42
1976	321.06	181	244	77	21.88	4
1977	306.08	169	228	78	22.36	3
1978	5,277.68	2,867	3,867	1,411	22.84	62
1980	6,199.13	3,245	4,376	1,823	23.83	77
1981	50,585.70	25,971	35,025	15,561	24.33	640

UGI PENN NATURAL GAS, INC.

ACCOUNT 375 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-S0.5						
1982	54,900.08	27,626	37,257	17,643	24.84	710
1983	28,530.42	14,060	18,962	9,568	25.36	377
1984	5,742.08	2,769	3,734	2,008	25.89	78
1985	10,276.97	4,845	6,534	3,743	26.43	142
1986	10,057.90	4,633	6,248	3,810	26.97	141
1987	21,951.88	9,870	13,311	8,641	27.52	314
1988	9,409.67	4,123	5,560	3,850	28.09	137
1989	21,565.82	9,204	12,413	9,153	28.66	319
1990	17,542.01	7,283	9,822	7,720	29.24	264
1991	2,506.35	1,011	1,363	1,143	29.83	38
1992	772.47	392	529	243	24.50	10
1993	14,077.72	6,930	9,346	4,732	25.01	189
1994	30,481.80	14,601	19,692	10,790	25.29	427
1995	14,419.90	6,705	9,043	5,377	25.60	210
1996	64,190.98	28,783	38,818	25,373	26.14	971
1997	89,654.92	38,856	52,403	37,252	26.48	1,407
1998	89,926.27	37,562	50,657	39,269	26.83	1,464
1999	26,835.58	10,823	14,596	12,240	27.12	451
2000	22,124.77	8,638	11,650	10,475	27.46	381
2001	27,654.11	10,376	13,993	13,661	27.89	490
2002	74,357.78	26,583	35,851	38,507	28.30	1,361
2003	35,568.88	12,118	16,343	19,226	28.54	674
2004	12,549.90	3,981	5,369	7,181	29.06	247
2005	1,090.24	319	430	660	29.59	22
2006	2,267.52	624	842	1,426	29.95	48
2007	53,791.63	13,835	18,658	35,134	30.32	1,159
2008	4,367.71	1,029	1,388	2,980	30.82	97
2009	6,495.54	1,391	1,876	4,620	31.18	148
2010	2,019.27	388	523	1,496	31.56	47
2014	1,150,717.25	110,009	148,363	1,002,354	33.13	30,255
2017	169,985.49	2,448	3,301	166,684	34.10	4,888
	2,771,930.34	875,437	1,172,658	1,599,272		52,267

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.6 1.89

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.1 MAINS - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
1970	2,813.35	1,791	2,090	723	23.63	31
1971	8,338.23	5,217	6,088	2,250	24.33	92
1972	266.25	164	191	75	25.05	3
1973	515,370.99	310,965	362,900	152,471	25.78	5,914
1974	636,937.61	377,163	440,154	196,784	26.51	7,423
1975	1,643,671.44	954,349	1,113,739	529,932	27.26	19,440
1976	1,152,269.68	655,734	765,251	387,019	28.01	13,817
1977	1,382,117.91	770,365	899,027	483,091	28.77	16,791
1978	1,778,007.58	969,974	1,131,973	646,035	29.54	21,870
1979	1,978,668.38	1,055,699	1,232,015	746,653	30.32	24,626
1980	2,154,063.37	1,123,086	1,310,657	843,406	31.11	27,110
1981	1,625,683.61	827,603	965,824	659,860	31.91	20,679
1982	1,572,222.72	781,033	911,476	660,747	32.71	20,200
1983	833,253.03	403,553	470,952	362,301	33.52	10,809
1984	1,103,931.75	520,714	607,680	496,252	34.34	14,451
1985	1,405,475.88	645,001	752,725	652,751	35.17	18,560
1986	2,035,938.04	908,028	1,059,681	976,257	36.01	27,111
1987	3,325,844.00	1,440,357	1,680,917	1,644,927	36.85	44,638
1988	5,857,611.21	2,460,197	2,871,084	2,986,527	37.70	79,218
1989	4,363,493.34	1,774,938	2,071,377	2,292,116	38.56	59,443
1990	4,846,975.61	1,907,479	2,226,055	2,620,921	39.42	66,487
1991	2,276,053.38	865,242	1,009,749	1,266,304	40.29	31,430
1992	2,739,039.15	1,120,267	1,307,367	1,431,672	36.48	39,245
1993	2,669,827.39	1,055,383	1,231,647	1,438,180	37.10	38,765
1994	5,491,019.61	2,093,726	2,443,408	3,047,612	37.73	80,774
1995	5,751,069.22	2,098,565	2,449,055	3,302,014	38.73	85,257
1996	6,715,271.72	2,354,374	2,747,587	3,967,685	39.36	100,805
1997	10,045,400.62	3,377,264	3,941,314	6,104,087	39.99	152,640
1998	7,584,735.02	2,424,081	2,828,936	4,755,799	40.99	116,023
1999	5,293,706.79	1,620,933	1,891,651	3,402,056	41.54	81,898
2000	4,118,544.91	1,209,205	1,411,159	2,707,386	42.30	64,004
2001	7,248,697.47	2,039,783	2,380,455	4,868,242	42.77	113,824
2002	3,278,756.45	867,559	1,012,454	2,266,302	43.77	51,778
2003	4,385,781.87	1,093,375	1,275,984	3,109,798	44.42	70,009
2004	8,801,141.26	2,019,862	2,357,207	6,443,934	45.32	142,187
2005	6,644,467.16	1,392,016	1,624,502	5,019,965	46.23	108,587
2006	4,094,693.31	796,418	929,431	3,165,262	47.11	67,189
2007	5,812,654.64	1,049,765	1,225,091	4,587,564	47.64	96,296
2008	4,676,130.95	764,080	891,692	3,784,439	48.64	77,805
2009	5,682,337.53	835,304	974,811	4,707,527	49.31	95,468
2010	4,111,870.37	533,721	622,860	3,489,010	50.30	69,364
2011	5,593,871.39	632,667	738,331	4,855,540	50.97	95,263
2012	9,004,979.10	866,279	1,010,960	7,994,019	51.65	154,773
2013	5,778,413.36	457,650	534,084	5,244,329	52.32	100,236

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.1 MAINS - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
2014	7,861,700.35	487,425	568,832	7,292,868	52.99	137,627
2015	14,842,822.51	660,506	770,820	14,072,003	53.68	262,146
2016	8,428,075.26	225,872	263,596	8,164,479	54.37	150,165
2017	16,680,334.30	151,791	177,142	16,503,192	54.45	303,089
	213,834,349.07	50,986,523	59,501,981	154,332,368		3,385,360
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						45.6 1.58

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 72-R2.5						
1901	536.37	502	446	90	4.60	20
1902	776.43	724	644	132	4.84	27
1903	1,294.50	1,203	1,069	226	5.07	45
1904	2,693.95	2,496	2,219	475	5.30	90
1905	3,014.17	2,783	2,474	540	5.53	98
1906	9,634.57	8,867	7,882	1,753	5.74	305
1907	8,670.90	7,953	7,069	1,602	5.96	269
1908	18,950.51	17,324	15,399	3,552	6.18	575
1909	856.22	780	693	163	6.40	25
1910	10,078.02	9,151	8,134	1,944	6.62	294
1911	24,824.87	22,470	19,974	4,851	6.83	710
1912	14,601.14	13,169	11,706	2,895	7.06	410
1913	3,449.86	3,101	2,756	694	7.28	95
1914	969.32	868	772	197	7.50	26
1915	4,947.51	4,416	3,925	1,023	7.73	132
1916	879.96	783	696	184	7.96	23
1917	1,411.50	1,251	1,112	300	8.19	37
1918	798.02	705	627	171	8.43	20
1919	3,303.44	2,906	2,583	720	8.66	83
1920	7,308.38	6,404	5,693	1,615	8.91	181
1921	39,523.83	34,501	30,668	8,856	9.15	968
1922	24,885.07	21,640	19,236	5,649	9.39	602
1923	37,126.14	32,150	28,578	8,548	9.65	886
1924	45,896.15	39,585	35,187	10,709	9.90	1,082
1925	52,090.47	44,740	39,769	12,321	10.16	1,213
1926	15,505.41	13,261	11,788	3,717	10.42	357
1927	37,622.49	32,037	28,478	9,144	10.69	855
1928	11,342.25	9,614	8,546	2,796	10.97	255
1929	2,593.96	2,189	1,946	648	11.25	58
1930	113,905.83	95,649	85,022	28,884	11.54	2,503
1931	218,484.99	182,557	162,275	56,210	11.84	4,747
1932	6,510.75	5,412	4,811	1,700	12.15	140
1933	11,526.76	9,532	8,473	3,054	12.46	245
1934	2,536.07	2,086	1,854	682	12.79	53
1935	2,845.97	2,327	2,068	778	13.12	59
1936	20,350.44	16,543	14,705	5,645	13.47	419
1937	4,201.67	3,395	3,018	1,184	13.83	86
1938	3,588.49	2,881	2,561	1,027	14.19	72
1939	2,628.16	2,096	1,863	765	14.57	53
1940	12,927.50	10,241	9,103	3,824	14.96	256
1941	7,664.64	6,030	5,360	2,305	15.36	150
1942	5,168.55	4,036	3,588	1,581	15.78	100
1943	4,026.33	3,120	2,773	1,253	16.20	77
1944	2,231.45	1,716	1,525	706	16.64	42

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 72-R2.5						
1945	1,896.09	1,446	1,285	611	17.09	36
1946	70,865.41	53,592	47,638	23,227	17.55	1,323
1947	15,176.63	11,376	10,112	5,065	18.03	281
1948	8,315.05	6,177	5,491	2,824	18.51	153
1949	16,389.37	12,062	10,722	5,667	19.01	298
1950	8,950.65	6,524	5,799	3,152	19.52	161
1951	16,504.37	11,911	10,588	5,916	20.04	295
1952	279,706.37	199,758	177,565	102,141	20.58	4,963
1953	454,368.26	321,088	285,415	168,953	21.12	8,000
1954	10,186.74	7,119	6,328	3,859	21.68	178
1955	118,504.55	81,900	72,801	45,704	22.24	2,055
1956	615,057.64	420,121	373,446	241,612	22.82	10,588
1957	1,651,908.46	1,114,807	990,953	660,955	23.41	28,234
1958	196,270.30	130,820	116,286	79,984	24.01	3,331
1959	1,151,283.60	757,614	673,444	477,840	24.62	19,409
1960	662,179.64	430,046	382,268	279,912	25.24	11,090
1961	1,380,971.73	884,775	786,477	594,495	25.87	22,980
1962	1,045,529.49	660,712	587,307	458,222	26.50	17,291
1963	1,865,385.02	1,161,986	1,032,890	832,495	27.15	30,663
1964	3,032,925.11	1,861,458	1,654,651	1,378,274	27.81	49,560
1965	2,308,062.41	1,395,408	1,240,379	1,067,683	28.47	37,502
1966	2,152,872.79	1,281,261	1,138,914	1,013,959	29.15	34,784
1967	2,299,586.47	1,346,845	1,197,212	1,102,374	29.83	36,955
1968	3,358,877.92	1,935,083	1,720,097	1,638,781	30.52	53,695
1969	3,206,686.81	1,816,235	1,614,453	1,592,234	31.22	51,000
1970	2,493,739.02	1,388,190	1,233,963	1,259,776	31.92	39,467
1971	2,301,538.76	1,258,182	1,118,399	1,183,140	32.64	36,248
1972	3,481,580.95	1,868,460	1,660,875	1,820,706	33.36	54,578
1973	1,316,105.23	692,969	615,981	700,124	34.09	20,538
1974	574,830.57	296,837	263,859	310,972	34.82	8,931
1975	642,827.05	325,341	289,196	353,631	35.56	9,945
1976	425,162.08	210,749	187,335	237,827	36.31	6,550
1977	607,493.40	294,719	261,976	345,517	37.07	9,321
1978	589,691.49	279,856	248,764	340,927	37.83	9,012
1979	1,007,259.96	467,258	415,346	591,914	38.60	15,335
1980	1,090,363.80	494,000	439,117	651,247	39.38	16,538
1981	3,034,596.60	1,341,959	1,192,868	1,841,729	40.16	45,860
1982	4,802,640.44	2,071,139	1,841,037	2,961,603	40.95	72,322
1983	852,732.26	358,267	318,464	534,268	41.75	12,797
1984	1,899,642.11	777,011	690,686	1,208,956	42.55	28,413
1985	1,841,741.45	732,608	651,216	1,190,525	43.36	27,457
1986	1,663,277.81	642,907	571,480	1,091,798	44.17	24,718
1987	2,014,053.79	755,552	671,611	1,342,443	44.99	29,839
1988	1,964,733.02	714,397	635,028	1,329,705	45.82	29,020

UGI PENN NATURAL GAS, INC.

ACCOUNT 376.2 MAINS - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 72-R2.5						
1989	1,595,583.34	561,773	499,360	1,096,223	46.65	23,499
1990	1,295,314.83	441,132	392,123	903,192	47.48	19,023
1991	832,693.07	273,748	243,335	589,358	48.33	12,194
1992	2,811,915.13	1,050,813	934,068	1,877,847	42.32	44,373
1993	864,753.10	312,435	277,724	587,029	42.87	13,693
1994	1,543,260.43	538,289	478,485	1,064,775	43.41	24,528
1995	1,260,183.20	423,422	376,380	883,803	43.97	20,100
1996	8,950,564.54	2,891,032	2,569,840	6,380,725	44.54	143,258
1997	7,789,659.54	2,397,657	2,131,279	5,658,381	45.54	124,251
1998	3,542,469.79	1,043,257	927,352	2,615,118	46.11	56,715
1999	443,597.18	125,227	111,314	332,283	46.60	7,131
2000	8,073,293.66	2,199,973	1,955,558	6,117,736	46.94	130,331
2001	2,164,532.91	561,913	499,485	1,665,048	47.77	34,856
2002	5,036,369.32	1,237,436	1,099,958	3,936,411	48.35	81,415
2003	1,740,291.81	403,052	358,273	1,382,019	48.94	28,239
2004	2,009,563.06	428,640	381,018	1,628,545	49.79	32,708
2005	2,721,378.82	530,125	471,228	2,250,151	50.64	44,434
2006	1,215,210.80	221,168	196,596	1,018,615	51.12	19,926
2007	912,835.80	154,269	137,130	775,706	51.61	15,030
2008	2,760,464.14	424,835	377,636	2,382,828	52.23	45,622
2009	645,505.76	89,467	79,527	565,979	52.85	10,709
2010	2,395,157.04	296,520	263,577	2,131,580	53.10	40,143
2011	1,322,759.41	142,726	126,869	1,195,890	53.74	22,253
2012	2,653,730.72	245,205	217,963	2,435,768	54.02	45,090
2013	4,729,139.37	361,779	321,586	4,407,553	54.32	81,141
2014	15,611,161.23	939,792	835,382	14,775,779	54.64	270,421
2015	15,713,124.99	688,235	611,773	15,101,352	54.64	276,379
2016	7,295,785.05	195,527	173,804	7,121,981	54.37	130,991
2017	64,831,798.87	609,419	541,713	64,290,086	52.41	1,226,676
	232,098,750.59	51,354,585	45,649,126	186,449,625		3,965,586

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 47.0 1.71

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-S0						
1927	2,719.86	2,720	2,720			
1929	58.86	59	59			
1930	104.67	105	105			
1932	188.69	189	189			
1952	2,263.99	1,884	2,049	215	7.05	30
1953	1,129.21	929	1,010	119	7.44	16
1954	1,152.81	938	1,020	133	7.83	17
1955	8,783.68	7,065	7,685	1,099	8.22	134
1956	477.14	379	412	65	8.62	8
1957	71,518.26	56,159	61,085	10,433	9.02	1,157
1958	55,466.19	43,026	46,800	8,666	9.42	920
1959	12,526.81	9,598	10,440	2,087	9.82	213
1960	31,863.69	24,110	26,225	5,639	10.22	552
1961	23,282.95	17,390	18,915	4,368	10.63	411
1962	26,825.25	19,774	21,508	5,317	11.04	482
1963	56,357.31	40,993	44,589	11,768	11.45	1,028
1964	57,240.33	41,077	44,680	12,560	11.86	1,059
1965	113,766.95	80,504	87,565	26,202	12.28	2,134
1966	91,775.66	64,025	69,641	22,135	12.70	1,743
1967	109,251.57	75,124	81,713	27,539	13.12	2,099
1968	156,183.61	105,833	115,116	41,068	13.54	3,033
1969	425,715.42	284,114	309,035	116,680	13.97	8,352
1970	352,904.52	231,908	252,250	100,655	14.40	6,990
1971	175,352.12	113,435	123,385	51,967	14.83	3,504
1972	62,187.94	39,593	43,066	19,122	15.26	1,253
1973	165,499.67	103,634	112,724	52,776	15.70	3,362
1974	59,529.20	36,653	39,868	19,661	16.14	1,218
1975	27,770.45	16,801	18,275	9,495	16.59	572
1976	74,725.91	44,409	48,304	26,422	17.04	1,551
1977	211,850.60	123,630	134,474	77,377	17.49	4,424
1978	8,275.86	4,741	5,157	3,119	17.94	174
1979	45,814.68	25,743	28,001	17,814	18.40	968
1980	128,719.43	70,918	77,139	51,580	18.86	2,735
1981	449,930.05	242,854	264,156	185,774	19.33	9,611
1982	325,272.92	171,930	187,011	138,262	19.80	6,983
1983	222,049.97	114,831	124,903	97,147	20.28	4,790
1984	56,961.67	28,806	31,333	25,629	20.76	1,235
1985	150,889.38	74,547	81,086	69,803	21.25	3,285
1986	137,070.13	66,120	71,920	65,150	21.74	2,997
1987	266,130.56	125,270	136,258	129,873	22.23	5,842
1988	118,765.09	54,491	59,271	59,494	22.73	2,617
1989	297,683.90	132,966	144,629	153,055	23.24	6,586
1990	133,627.88	58,033	63,123	70,505	23.76	2,967
1991	79,096.64	33,390	36,319	42,778	24.27	1,763

UGI PENN NATURAL GAS, INC.

ACCOUNT 378 MEASURING AND REGULATING EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 42-S0						
1992	146,481.71	81,371	88,508	57,974	20.20	2,870
1993	193,350.33	104,564	113,736	79,614	20.59	3,867
1994	450,867.25	237,968	258,841	192,026	20.80	9,232
1995	293,000.66	149,958	163,111	129,890	21.23	6,118
1996	207,238.28	103,039	112,077	95,161	21.49	4,428
1997	727,108.37	350,466	381,207	345,901	21.76	15,896
1998	475,061.02	221,283	240,693	234,368	22.07	10,619
1999	142,488.47	64,262	69,899	72,589	22.32	3,252
2000	491,121.74	215,013	233,872	257,250	22.58	11,393
2001	756,343.36	320,538	348,653	407,690	22.77	17,905
2002	108,801.79	44,217	48,095	60,707	23.01	2,638
2003	183,868.26	71,322	77,578	106,290	23.27	4,568
2004	502,068.80	182,351	198,346	303,723	23.67	12,832
2005	301,620.21	101,978	110,923	190,697	23.98	7,952
2006	149,006.73	47,623	51,800	97,207	24.21	4,015
2007	896,378.05	270,168	293,865	602,513	24.34	24,754
2008	852,077.73	237,218	258,025	594,053	24.63	24,119
2009	205,375.63	52,371	56,965	148,411	24.83	5,977
2010	166,403.58	38,306	41,666	124,738	25.07	4,976
2011	1,498,132.34	306,818	333,730	1,164,402	25.24	46,133
2012	482,851.23	86,044	93,591	389,260	25.36	15,349
2013	22,484.31	3,368	3,663	18,821	25.53	737
2014	3,090,822.82	370,899	403,433	2,687,390	25.66	104,731
2015	1,490,322.38	131,894	143,463	1,346,859	25.75	52,305
2016	328,734.68	18,080	19,666	309,069	25.75	12,003
2017	1,330,759.57	25,551	27,792	1,302,968	25.54	51,017
	20,291,530.78	6,627,368	7,208,411	13,083,120		558,501

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 23.4 2.75

UGI PENN NATURAL GAS, INC.

ACCOUNT 379 MEASURING AND REGULATING EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2						
1960	16,300.23	14,369	13,440	2,860	4.74	603
1962	28,556.87	24,745	23,145	5,412	5.34	1,013
1963	28,014.78	24,065	22,509	5,506	5.64	976
1964	1,573.17	1,339	1,252	321	5.95	54
1965	14,994.70	12,644	11,826	3,169	6.27	505
1966	111,970.11	93,523	87,475	24,495	6.59	3,717
1967	4,198.45	3,471	3,247	951	6.93	137
1968	123,766.26	101,272	94,723	29,043	7.27	3,995
1969	114,337.53	92,528	86,545	27,793	7.63	3,643
1970	18,426.58	14,741	13,788	4,639	8.00	580
1971	13,240.84	10,467	9,790	3,451	8.38	412
1972	2,312.23	1,805	1,688	624	8.77	71
1974	21,003.16	15,962	14,930	6,073	9.60	633
1975	36,530.16	27,370	25,600	10,930	10.03	1,090
1977	2,755.93	2,001	1,872	884	10.95	81
1978	2,899.76	2,071	1,937	963	11.43	84
1979	1,338.06	939	878	460	11.92	39
1980	46,507.57	32,055	29,982	16,526	12.43	1,330
1981	695,035.38	470,018	439,625	255,410	12.95	19,723
1982	112,929.76	74,844	70,004	42,926	13.49	3,182
1983	6,478.08	4,203	3,931	2,547	14.05	181
1984	5,308.34	3,369	3,151	2,157	14.61	148
1985	32,776.18	20,321	19,007	13,769	15.20	906
1986	790.44	478	447	343	15.79	22
1987	894.07	528	494	400	16.40	24
1988	227,054.22	130,386	121,955	105,099	17.03	6,171
1989	25,682.04	14,343	13,416	12,266	17.66	695
1990	9,707.32	5,264	4,924	4,783	18.31	261
1991	15,058.11	7,917	7,405	7,653	18.97	403
1992	1,284.97	766	716	569	17.12	33
1993	48,890.63	28,337	26,505	22,386	17.59	1,273
1994	81,933.54	45,907	42,938	38,996	18.24	2,138
1995	54,019.62	29,327	27,431	26,589	18.73	1,420
1996	430,304.46	225,867	211,261	219,043	19.23	11,391
1997	529,858.75	268,214	250,870	278,989	19.75	14,126
1998	382,076.22	185,345	173,360	208,716	20.43	10,216
1999	58,302.59	27,256	25,493	32,810	20.88	1,571
2000	101,864.36	46,033	43,056	58,808	21.33	2,757
2001	364,162.74	158,593	148,338	215,825	21.71	9,941
2002	209,236.93	86,666	81,062	128,175	22.27	5,756
2003	175,132.56	68,722	64,278	110,855	22.84	4,854
2004	75,710.12	27,596	25,812	49,898	23.54	2,120
2005	50,724.84	17,023	15,922	34,803	24.25	1,435
2006	162,259.29	51,128	47,822	114,437	24.73	4,627

UGI PENN NATURAL GAS, INC.

ACCOUNT 379 MEASURING AND REGULATING EQUIPMENT - CITY GATE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2						
2007	9,435.53	2,774	2,595	6,841	25.21	271
2008	588,514.80	158,781	148,513	440,002	25.71	17,114
2009	53,863.09	13,186	12,333	41,530	26.22	1,584
2010	265,184.97	58,076	54,321	210,864	26.75	7,883
2011	1,345,215.49	259,627	242,838	1,102,377	27.17	40,573
2012	1,192,787.26	198,122	185,311	1,007,476	27.61	36,490
2013	415,664.78	57,611	53,886	361,779	27.97	12,935
2014	9,193,607.34	1,016,813	951,060	8,242,547	28.15	292,808
2015	756,350.82	61,416	57,445	698,906	28.27	24,723
2017	524,579.94	9,757	9,126	515,454	26.45	19,488
	18,791,405.97	4,309,981	4,031,278	14,760,128		578,206
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						25.5 3.08

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.1 SERVICES - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
1972	968,348.07	755,311	913,942	54,406	10.34	5,262
1973	1,350,017.59	1,038,366	1,256,445	93,573	10.85	8,624
1974	1,403,879.64	1,063,663	1,287,054	116,826	11.39	10,257
1975	1,139,691.96	850,165	1,028,717	110,975	11.94	9,294
1976	1,454,130.98	1,066,780	1,290,826	163,305	12.52	13,044
1977	1,807,713.28	1,303,470	1,577,226	230,487	13.11	17,581
1978	1,451,141.27	1,027,539	1,243,344	207,797	13.72	15,146
1979	2,156,265.96	1,497,915	1,812,508	343,758	14.35	23,955
1980	2,902,755.22	1,976,950	2,392,151	510,604	14.99	34,063
1981	2,435,249.14	1,623,848	1,964,890	470,359	15.66	30,036
1982	1,979,902.46	1,291,985	1,563,329	416,573	16.33	25,510
1983	1,448,715.44	923,788	1,117,803	330,912	17.03	19,431
1984	1,882,204.64	1,172,181	1,418,363	463,842	17.73	26,161
1985	2,087,558.85	1,268,088	1,534,413	553,146	18.45	29,981
1986	2,725,467.74	1,612,659	1,951,351	774,117	19.19	40,340
1987	3,701,547.60	2,131,943	2,579,696	1,121,852	19.93	56,290
1988	4,844,435.02	2,711,866	3,281,414	1,563,021	20.69	75,545
1989	4,541,688.25	2,467,953	2,986,275	1,555,413	21.46	72,480
1990	4,964,067.22	2,614,078	3,163,089	1,800,978	22.25	80,943
1991	3,696,056.77	1,884,213	2,279,937	1,416,120	23.04	61,464
1992	4,312,656.89	2,341,341	2,833,071	1,479,586	21.26	69,595
1993	4,562,171.58	2,389,665	2,891,545	1,670,627	22.05	75,765
1994	4,777,787.82	2,421,383	2,929,924	1,847,864	22.62	81,692
1995	5,343,077.94	2,603,682	3,150,510	2,192,568	23.41	93,659
1996	5,514,524.92	2,589,621	3,133,495	2,381,030	24.00	99,210
1997	6,309,866.91	2,836,916	3,432,728	2,877,139	24.79	116,060
1998	6,046,708.70	2,595,852	3,141,035	2,905,674	25.59	113,547
1999	4,259,218.65	1,749,261	2,116,642	2,142,577	26.31	81,436
2000	3,660,420.30	1,448,062	1,752,185	1,908,235	26.86	71,044
2001	6,190,010.27	2,343,538	2,835,730	3,354,280	27.50	121,974
2002	5,051,010.76	1,813,818	2,194,758	2,856,253	28.11	101,610
2003	5,799,351.18	1,959,021	2,370,456	3,428,895	28.92	118,565
2004	11,974,235.40	3,718,000	4,498,858	7,475,377	29.98	249,345
2005	8,058,687.97	2,290,279	2,771,285	5,287,403	30.85	171,391
2006	4,889,735.44	1,295,780	1,567,921	3,321,814	31.55	105,287
2007	6,376,950.28	1,566,817	1,895,881	4,481,069	32.24	138,991
2008	6,751,253.20	1,506,880	1,823,356	4,927,897	33.06	149,059
2009	6,981,020.38	1,400,393	1,694,505	5,286,515	33.87	156,083
2010	4,516,884.33	803,102	971,770	3,545,114	34.69	102,194
2011	7,808,577.91	1,213,453	1,468,304	6,340,274	35.34	179,408
2012	9,498,854.42	1,253,849	1,517,183	7,981,671	36.17	220,671
2013	9,232,020.12	1,000,751	1,210,930	8,021,090	37.00	216,786
2014	9,994,769.74	849,555	1,027,979	8,966,791	37.65	238,162

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.1 SERVICES - PLASTIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
2015	14,615,411.80	891,540	1,078,782	13,536,630	38.48	351,784
2016	13,612,216.28	502,291	607,783	13,004,433	39.15	332,169
2017	13,067,464.32	164,650	199,230	12,868,234	39.34	327,103
	238,145,724.61	75,832,261	91,758,619	146,387,106		4,737,997
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						30.9 1.99

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.2 SERVICES - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-R1						
1912	292.91	293	293			
1917	5,160.03	5,160	5,160			
1918	2,144.66	2,145	2,145			
1919	3,394.31	3,394	3,394			
1920	4,283.71	4,284	4,284			
1921	3,754.04	3,745	3,754			
1922	10,218.53	10,129	10,219			
1923	11,893.87	11,710	11,894			
1924	20,726.40	20,264	20,726			
1925	24,411.98	23,700	24,412			
1926	18,191.95	17,532	18,192			
1927	15,650.91	14,973	15,651			
1928	14,185.84	13,474	14,186			
1929	13,260.08	12,506	13,260			
1930	13,277.95	12,437	13,239	39	3.04	13
1931	13,057.24	12,146	12,930	127	3.35	38
1932	12,271.21	11,341	12,073	198	3.64	54
1933	8,081.22	7,418	7,897	184	3.94	47
1934	10,033.72	9,147	9,737	297	4.24	70
1935	7,352.95	6,659	7,089	264	4.53	58
1936	9,441.94	8,492	9,040	402	4.83	83
1937	10,100.10	9,019	9,601	499	5.14	97
1938	7,938.15	7,039	7,493	445	5.44	82
1939	12,853.94	11,311	12,041	813	5.76	141
1940	11,145.82	9,736	10,364	782	6.07	129
1941	9,969.62	8,642	9,200	770	6.39	121
1942	5,938.49	5,108	5,438	500	6.71	75
1943	4,197.39	3,582	3,813	384	7.04	55
1944	6,749.42	5,713	6,082	667	7.37	91
1945	11,002.88	9,236	9,832	1,171	7.71	152
1946	18,565.76	15,452	16,449	2,117	8.05	263
1947	20,192.34	16,659	17,734	2,458	8.40	293
1948	24,207.85	19,790	21,067	3,141	8.76	359
1949	21,749.54	17,622	18,759	2,991	9.11	328
1950	30,291.45	24,309	25,877	4,414	9.48	466
1951	23,371.28	18,575	19,773	3,598	9.85	365
1952	460,015.95	362,069	385,427	74,589	10.22	7,298
1953	17,882.24	13,933	14,832	3,050	10.60	288
1954	25,474.58	19,642	20,909	4,566	10.99	415
1955	43,320.18	33,050	35,182	8,138	11.38	715
1956	49,365.21	37,260	39,664	9,701	11.77	824
1957	74,258.76	55,416	58,991	15,268	12.18	1,254
1958	100,877.98	74,419	79,220	21,658	12.59	1,720
1959	197,956.71	144,344	153,656	44,301	13.00	3,408

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.2 SERVICES - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-R1						
1960	143,129.63	103,113	109,765	33,365	13.42	2,486
1961	183,317.81	130,423	138,837	44,481	13.85	3,212
1962	310,321.34	218,001	232,065	78,256	14.28	5,480
1963	388,041.93	269,041	286,398	101,644	14.72	6,905
1964	527,459.25	360,761	384,035	143,424	15.17	9,454
1965	630,246.21	425,151	452,579	177,667	15.62	11,374
1966	705,758.57	469,181	499,450	206,309	16.09	12,822
1967	834,936.08	547,058	582,351	252,585	16.55	15,262
1968	1,065,632.91	687,557	731,914	333,719	17.03	19,596
1969	1,129,683.99	717,587	763,881	365,803	17.51	20,891
1970	1,306,530.71	816,856	869,554	436,977	17.99	24,290
1971	479,274.00	294,653	313,662	165,612	18.49	8,957
1972	462,157.58	279,319	297,339	164,819	18.99	8,679
1973	71,369.15	42,375	45,109	26,260	19.50	1,347
1974	12,739.81	7,426	7,905	4,835	20.02	242
1975	18,427.57	10,542	11,222	7,206	20.54	351
1976	6,398.08	3,590	3,822	2,576	21.07	122
1977	407.56	224	238	170	21.61	8
1978	15,545.99	8,369	8,909	6,637	22.16	300
1979	10,116.38	5,330	5,674	4,442	22.71	196
1980	29,330.61	15,111	16,086	13,245	23.27	569
1981	28,738.34	14,465	15,398	13,340	23.84	560
1982	28,495.06	14,004	14,907	13,588	24.41	557
1983	45,808.63	21,960	23,377	22,432	24.99	898
1984	30,689.02	14,334	15,259	15,430	25.58	603
1985	185,680.45	84,407	89,852	95,828	26.18	3,660
1986	247,526.02	109,426	116,485	131,041	26.78	4,893
1987	241,952.43	103,890	110,592	131,360	27.39	4,796
1988	294,984.68	122,911	130,840	164,145	28.00	5,862
1989	257,791.39	104,083	110,798	146,993	28.62	5,136
1990	256,270.74	100,104	106,562	149,709	29.25	5,118
1991	156,922.80	59,238	63,060	93,863	29.88	3,141
1992	301,597.48	150,799	160,528	141,069	25.25	5,587
1993	377,455.31	183,972	195,841	181,614	25.50	7,122
1994	226,535.06	106,925	113,823	112,712	26.01	4,333
1995	370,280.19	169,736	180,686	189,594	26.29	7,212
1996	244,344.25	108,000	114,968	129,376	26.83	4,822
1997	318,958.71	136,291	145,084	173,875	27.14	6,407
1998	266,616.40	109,846	116,933	149,683	27.48	5,447
1999	223,410.25	88,873	94,606	128,804	27.75	4,642
2000	97,577.41	37,577	40,001	57,576	28.08	2,050
2001	266,290.84	99,007	105,394	160,897	28.30	5,685
2002	166,364.81	58,960	62,764	103,601	28.69	3,611
2003	231,832.68	78,313	83,365	148,468	28.92	5,134

UGI PENN NATURAL GAS, INC.

ACCOUNT 380.2 SERVICES - OTHER

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 48-R1						
2004	208,717.11	65,934	70,188	138,529	29.24	4,738
2005	163,097.43	47,755	50,836	112,261	29.59	3,794
2006	140,982.77	38,968	41,482	99,501	29.78	3,341
2007	176,384.52	45,931	48,894	127,491	29.82	4,275
2008	164,207.10	39,475	42,022	122,185	30.02	4,070
2009	176,998.90	38,975	41,489	135,510	30.11	4,500
2010	141,921.60	28,313	30,140	111,782	30.09	3,715
2011	103,920.37	18,508	19,702	84,218	30.00	2,807
2012	399,448.80	62,154	66,164	333,285	29.84	11,169
2013	576,354.95	76,252	81,171	495,184	29.51	16,780
2014	735,789.29	79,318	84,435	651,354	28.97	22,484
2015	446,577.76	36,396	38,744	407,834	28.17	14,478
2016	457,615.22	24,345	25,915	431,700	26.67	16,187
2017	683,823.01	14,565	15,505	668,318	22.97	29,095
	19,181,298.03	9,238,553	9,829,584	9,351,714		410,554
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.8 2.14

UGI PENN NATURAL GAS, INC.

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 36-R2.5						
1932	10.53	11	11			
1945	250.29	250	250			
1951	104.66	104	105			
1952	12,177.28	12,035	12,177			
1953	201.46	198	201			
1954	427.17	416	427			
1955	2,227.14	2,153	2,227			
1956	4,653.62	4,464	4,654			
1957	1,822.30	1,734	1,822			
1958	7,969.02	7,522	7,969			
1959	6,868.58	6,435	6,869			
1960	18,268.83	16,995	18,269			
1961	49,955.53	46,167	49,956			
1962	74,205.04	68,125	74,188	17	2.95	6
1963	132,546.83	120,875	131,632	915	3.17	289
1964	333,629.71	302,212	329,107	4,523	3.39	1,334
1965	408,306.44	367,361	400,054	8,252	3.61	2,286
1966	384,676.79	343,643	374,225	10,452	3.84	2,722
1967	318,640.76	282,615	307,766	10,875	4.07	2,672
1968	364,897.26	321,314	349,909	14,988	4.30	3,486
1969	539,369.41	471,350	513,298	26,071	4.54	5,743
1970	504,895.30	437,714	476,668	28,227	4.79	5,893
1971	284,761.35	244,815	266,602	18,159	5.05	3,596
1972	325,226.86	277,256	301,930	23,297	5.31	4,387
1973	123,975.45	104,725	114,045	9,930	5.59	1,776
1974	52,189.15	43,665	47,551	4,638	5.88	789
1975	66,439.16	55,016	59,912	6,527	6.19	1,054
1976	53,391.77	43,722	47,613	5,779	6.52	886
1977	55,928.57	45,256	49,284	6,645	6.87	967
1978	47,355.89	37,832	41,199	6,157	7.24	850
1979	169,998.87	133,969	145,892	24,107	7.63	3,160
1980	1,045,784.80	811,937	884,195	161,590	8.05	20,073
1981	1,437,714.43	1,098,658	1,196,433	241,281	8.49	28,419
1982	106,634.69	80,124	87,255	19,380	8.95	2,165
1983	116,366.20	85,853	93,493	22,873	9.44	2,423
1984	293,699.43	212,442	231,348	62,351	9.96	6,260
1985	604,832.93	428,591	466,733	138,100	10.49	13,165
1986	631,045.21	437,352	476,274	154,771	11.05	14,006
1987	714,007.38	483,340	526,355	187,652	11.63	16,135
1988	816,029.99	538,808	586,759	229,271	12.23	18,747
1989	890,946.53	572,932	623,920	267,027	12.85	20,780
1990	1,001,255.15	626,065	681,782	319,473	13.49	23,682
1991	1,175,605.39	713,522	777,022	398,583	14.15	28,168
1992	1,332,405.01	874,724	952,570	379,835	13.21	28,754

UGI PENN NATURAL GAS, INC.

ACCOUNT 381 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 36-R2.5						
1993	1,545,724.64	985,863	1,073,600	472,125	13.77	34,286
1994	2,399,172.74	1,483,648	1,615,685	783,488	14.35	54,598
1995	572,865.04	342,860	373,373	199,492	14.93	13,362
1996	1,299,197.38	750,936	817,766	481,431	15.51	31,040
1997	1,257,237.70	700,156	762,466	494,772	16.11	30,712
1998	1,582,886.40	847,161	922,554	660,332	16.72	39,494
1999	836,267.40	429,256	467,458	368,809	17.38	21,220
2000	882,646.07	437,616	476,562	406,084	17.88	22,712
2001	1,112,096.44	530,915	578,164	533,932	18.34	29,113
2002	1,169,764.12	530,605	577,826	591,938	18.97	31,204
2003	628,351.34	269,688	293,689	334,662	19.62	17,057
2004	1,909,300.61	757,801	825,241	1,084,060	20.51	52,855
2005	1,260,944.34	460,245	501,205	759,739	21.31	35,652
2006	1,346,565.96	461,064	502,096	844,470	21.85	38,649
2007	1,845,708.83	587,305	639,572	1,206,137	22.50	53,606
2008	1,448,330.48	422,333	459,919	988,411	23.07	42,844
2009	1,485,933.21	391,543	426,388	1,059,545	23.76	44,594
2010	998,349.77	235,111	256,035	742,315	24.35	30,485
2011	1,959,478.24	403,653	439,576	1,519,902	25.05	60,675
2012	1,413,180.14	249,568	271,778	1,141,402	25.65	44,499
2013	1,412,115.52	207,157	225,593	1,186,523	26.17	45,339
2014	1,620,705.01	187,678	204,380	1,416,325	26.71	53,026
2015	1,628,468.79	137,117	149,320	1,479,149	27.18	54,420
2016	1,159,240.39	60,281	65,646	1,093,594	27.32	40,029
2017	1,797,289.85	33,070	36,013	1,761,277	26.67	66,040
	49,083,518.57	22,666,927	24,681,856	24,401,663		1,252,184

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.5 2.55

UGI PENN NATURAL GAS, INC.

ACCOUNT 381.1 METERS - AMR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 20-S2						
1999	68,543.09	53,532	66,999	1,544	5.14	300
2000	110,357.47	84,214	105,400	4,957	5.46	908
2001	719,394.45	535,014	669,611	49,783	5.77	8,628
2002	1,586,018.81	1,139,079	1,425,645	160,374	6.18	25,950
2003	887,028.34	613,646	768,025	119,003	6.57	18,113
2004	2,657,083.57	1,736,138	2,172,910	484,174	7.16	67,622
2005	1,150,582.49	703,351	880,298	270,284	7.79	34,696
2006	1,163,829.45	673,857	843,383	320,446	8.27	38,748
2007	1,417,073.96	770,747	964,649	452,425	8.81	51,354
2008	490,485.52	246,518	308,536	181,950	9.40	19,356
2009	57,246.96	26,179	32,765	24,482	10.09	2,426
2010	228,360.08	93,513	117,039	111,321	10.82	10,288
2011	246,328.87	88,531	110,803	135,526	11.58	11,703
2012	96,860.53	29,775	37,266	59,595	12.39	4,810
2013	68,490.03	17,355	21,721	46,769	13.26	3,527
2014	7,274.22	1,439	1,801	5,473	14.20	385
2016	42,104.73	3,587	4,489	37,616	16.11	2,335
2017	12,000.00	341	427	11,573	17.11	676
	11,009,062.57	6,816,816	8,531,767	2,477,296		301,825

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.2 2.74

UGI PENN NATURAL GAS, INC.

ACCOUNT 383 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
1950	211.54	198	212			
1952	22,872.17	21,169	22,872			
1953	3,324.65	3,059	3,325			
1954	3,638.77	3,328	3,639			
1956	2,288.98	2,068	2,289			
1957	4,312.96	3,872	4,313			
1958	523.27	467	523			
1959	5,076.98	4,498	5,077			
1960	13,576.34	11,944	13,576			
1961	9,266.15	8,093	9,266			
1962	28,692.16	24,871	28,692			
1963	14,471.10	12,442	14,471			
1964	37,803.93	32,230	37,804			
1965	38,378.73	32,426	38,379			
1966	31,246.60	26,147	31,247			
1967	24,202.13	20,052	24,202			
1968	19,889.94	16,301	19,890			
1969	19,954.10	16,171	19,954			
1970	22,762.73	18,225	22,763			
1971	20,289.92	16,042	20,290			
1972	17,294.88	13,490	17,295			
1973	11,492.55	8,839	11,493			
1974	24,418.58	18,501	24,093	326	11.39	29
1975	16,319.18	12,173	15,852	467	11.94	39
1976	25,023.29	18,358	23,906	1,117	12.52	89
1977	43,118.59	31,091	40,488	2,631	13.11	201
1978	25,979.99	18,396	23,956	2,024	13.72	148
1979	50,315.47	34,953	45,517	4,798	14.35	334
1980	157,640.32	107,363	139,811	17,829	14.99	1,189
1981	85,258.09	56,851	74,033	11,225	15.66	717
1984	251.00	156	203	48	17.73	3
1985	76,948.28	46,742	60,869	16,079	18.45	871
1986	6,297.30	3,726	4,852	1,445	19.19	75
1987	4,517.67	2,602	3,388	1,130	19.93	57
1988	436.80	245	319	118	20.69	6
1989	61,414.76	33,373	43,459	17,956	21.46	837
1990	113,229.49	59,627	77,648	35,581	22.25	1,599
1991	3,009.98	1,534	1,998	1,012	23.04	44
1992	70,156.42	38,088	49,599	20,557	21.26	967
1993	67,108.70	35,152	45,776	21,333	22.05	967
1994	82,593.19	41,858	54,509	28,084	22.62	1,242
1995	26,780.69	13,050	16,994	9,787	23.41	418
1996	1,225.32	575	749	476	24.00	20
1997	216,693.86	97,426	126,871	89,823	24.79	3,623

UGI PENN NATURAL GAS, INC.

ACCOUNT 383 HOUSE REGULATORS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
1998	256,742.97	110,220	143,532	113,211	25.59	4,424
1999	8,429.94	3,462	4,508	3,922	26.31	149
2000	84,587.64	33,463	43,577	41,011	26.86	1,527
2001	118,361.21	44,812	58,356	60,005	27.50	2,182
2002	169,552.53	60,886	79,288	90,265	28.11	3,211
2003	148,288.73	50,092	65,231	83,058	28.92	2,872
2004	220,104.20	68,342	88,997	131,107	29.98	4,373
2007	122,142.22	30,010	39,080	83,062	32.24	2,576
2009	114,064.35	22,881	29,796	84,268	33.87	2,488
2010	62,519.49	11,116	14,476	48,043	34.69	1,385
	2,815,100.83	1,403,056	1,793,303	1,021,798		38,662

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.4 1.37

UGI PENN NATURAL GAS, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
1959	245.76	218	246			
1960	2,151.30	1,893	2,151			
1961	75,690.37	66,108	75,690			
1962	16,927.20	14,673	16,927			
1963	22,943.49	19,727	22,943			
1964	28,400.21	24,213	28,400			
1965	29,395.47	24,836	29,395			
1966	36,408.56	30,467	36,409			
1967	32,174.73	26,657	32,175			
1968	26,931.71	22,072	26,932			
1969	37,722.84	30,572	37,723			
1970	19,650.04	15,733	19,650			
1971	9,667.21	7,643	9,667			
1972	13,313.98	10,385	13,314			
1973	38,836.17	29,871	38,836			
1974	144,406.45	109,411	143,285	1,121	11.39	98
1975	99,258.76	74,043	96,967	2,292	11.94	192
1976	162,178.02	118,977	155,812	6,366	12.52	508
1977	227,638.93	164,141	214,959	12,680	13.11	967
1978	126,268.54	89,409	117,090	9,179	13.72	669
1979	78,656.93	54,641	71,558	7,099	14.35	495
1980	57,030.55	38,841	50,866	6,165	14.99	411
1981	109,907.92	73,288	95,978	13,930	15.66	890
1985	24,654.43	14,976	19,613	5,041	18.45	273
1986	27,447.15	16,240	21,268	6,179	19.19	322
1988	68,000.86	38,066	49,851	18,150	20.69	877
1989	58,448.77	31,761	41,594	16,855	21.46	785
1990	51,140.66	26,931	35,269	15,872	22.25	713
1991	39,011.61	19,888	26,045	12,967	23.04	563
1992	35,854.73	19,466	25,493	10,362	21.26	487
1993	51,676.44	27,068	35,448	16,228	22.05	736
1994	71,235.62	36,102	47,279	23,957	22.62	1,059
1995	49,500.84	24,122	31,590	17,911	23.41	765
1996	45,909.70	21,559	28,234	17,676	24.00	736
1997	34,534.58	15,527	20,334	14,201	24.79	573
1998	49,970.37	21,452	28,094	21,876	25.59	855
1999	46,832.83	19,234	25,189	21,644	26.31	823
2000	39,699.21	15,705	20,567	19,132	26.86	712
2001	45,124.99	17,084	22,373	22,752	27.50	827
2002	66,517.98	23,887	31,283	35,235	28.11	1,253
2003	78,667.19	26,574	34,801	43,866	28.92	1,517
2004	165,793.01	51,479	67,417	98,376	29.98	3,281
2005	119,365.27	33,924	44,427	74,938	30.85	2,429
2006	70,424.87	18,663	24,441	45,984	31.55	1,457

UGI PENN NATURAL GAS, INC.

ACCOUNT 384 HOUSE REGULATOR INSTALLATIONS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 47-R3						
2007	93,502.87	22,974	30,087	63,416	32.24	1,967
2008	109,845.80	24,518	32,109	77,737	33.06	2,351
2009	119,208.92	23,913	31,317	87,892	33.87	2,595
2010	90,572.74	16,104	21,090	69,483	34.69	2,003
2011	78,430.71	12,188	15,962	62,469	35.34	1,768
2012	113,394.32	14,968	19,602	93,792	36.17	2,593
2013	103,879.46	11,261	14,748	89,131	37.00	2,409
2014	114,396.21	9,724	12,734	101,662	37.65	2,700
2015	78,109.97	4,765	6,240	71,870	38.48	1,868
2016	85,816.55	3,167	4,148	81,669	39.15	2,086
	3,622,773.80	1,711,109	2,205,620	1,417,154		47,613

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.8 1.31

UGI PENN NATURAL GAS, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
1954	841.36	748	841			
1956	6,973.95	6,129	6,974			
1957	11,070.55	9,668	11,071			
1958	4,998.19	4,338	4,998			
1959	682.71	589	683			
1960	32,412.12	27,759	32,412			
1961	10,508.56	8,937	10,509			
1962	22,666.58	19,136	22,667			
1963	60,275.74	50,498	60,276			
1964	78,471.61	65,219	78,472			
1965	130,924.67	107,882	130,925			
1966	123,124.71	100,524	123,125			
1967	206,612.50	167,081	206,612			
1968	231,994.57	185,698	231,995			
1969	192,962.17	152,826	192,551	411	9.36	44
1970	269,609.92	211,075	265,941	3,669	9.77	376
1971	228,395.96	176,678	222,603	5,793	10.19	568
1972	256,490.74	195,846	246,754	9,737	10.64	915
1973	108,761.12	81,933	103,231	5,530	11.10	498
1974	90,279.87	67,027	84,450	5,830	11.59	503
1975	52,714.62	38,552	48,573	4,142	12.09	343
1976	52,839.15	38,033	47,919	4,920	12.61	390
1977	29,666.79	20,998	26,456	3,211	13.15	244
1978	50,515.69	35,125	44,255	6,261	13.71	457
1979	91,746.81	62,633	78,914	12,833	14.28	899
1980	489,034.63	327,438	412,552	76,483	14.87	5,143
1981	229,938.90	150,840	190,049	39,890	15.48	2,577
1982	80,678.84	51,796	65,260	15,419	16.11	957
1983	41,911.79	26,311	33,150	8,762	16.75	523
1984	46,355.30	28,431	35,821	10,534	17.40	605
1985	71,989.99	43,082	54,281	17,709	18.07	980
1986	43,721.89	25,504	32,133	11,589	18.75	618
1987	107,582.08	61,107	76,991	30,591	19.44	1,574
1988	160,176.53	88,453	111,445	48,732	20.15	2,418
1989	30,343.64	16,271	20,500	9,844	20.87	472
1990	108,473.29	56,406	71,068	37,405	21.60	1,732
1991	126,920.96	63,912	80,525	46,396	22.34	2,077
1992	44,244.58	24,578	30,967	13,278	20.20	657
1993	29,852.00	16,072	20,250	9,602	20.79	462
1994	29,611.81	15,422	19,431	10,181	21.39	476
1995	34,843.36	17,443	21,977	12,866	22.20	580
1996	42,507.47	20,506	25,836	16,671	22.80	731
1997	147,409.43	68,354	86,122	61,287	23.42	2,617
1998	87,120.40	38,742	48,813	38,307	24.04	1,593

UGI PENN NATURAL GAS, INC.

ACCOUNT 385 INDUSTRIAL MEASURING AND REGULATING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
1999	171,545.92	73,284	92,333	79,213	24.58	3,223
2000	88,218.00	36,293	45,727	42,491	25.15	1,690
2001	82,866.98	32,757	41,272	41,595	25.62	1,624
2002	24,717.95	9,264	11,672	13,046	26.27	497
2003	6,563.56	2,324	2,928	3,636	26.92	135
2004	11,156.85	3,645	4,592	6,565	27.82	236
2005	8,144.97	2,444	3,079	5,066	28.57	177
2006	8,557.55	2,394	3,016	5,542	29.28	189
2007	26,046.08	6,782	8,545	17,501	29.82	587
2008	31,770.21	7,574	9,543	22,227	30.34	733
2009	68,151.34	14,653	18,462	49,689	31.03	1,601
2010	60,161.10	11,503	14,493	45,668	31.72	1,440
2011	489,003.99	82,006	103,323	385,681	32.26	11,955
2012	154,715.81	22,217	27,992	126,724	32.81	3,862
2013	5,903.33	701	883	5,020	33.38	150
2014	69,780.76	6,545	8,246	61,535	33.81	1,820
2015	2,950,547.07	201,227	253,535	2,697,012	34.13	79,022
2016	2,353,292.29	98,838	124,530	2,228,762	34.21	65,149
2017	242,217.36	3,585	4,517	237,700	33.17	7,166
	11,151,618.67	3,593,636	4,499,066	6,652,553		213,285

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 31.2 1.91

UGI PENN NATURAL GAS, INC.

ACCOUNT 387 OTHER DISTRIBUTION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 26-L2						
1962	460.81	401	461			
1976	21,500.00	16,232	19,611	1,889	6.37	297
1984	1,544.96	1,049	1,267	278	8.35	33
1987	5,496.89	3,575	4,319	1,178	9.09	130
1988	2,425.60	1,554	1,878	548	9.34	59
1997	821.60	561	678	144	9.42	15
2008	85,066.24	35,320	42,672	42,394	13.38	3,168
	117,316.10	58,692	70,886	46,430		3,702
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					12.5	3.16

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EMPIRE YARD - MAJOR STRUCTURES						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2047						
1960	99,618.40	63,620	69,022	30,596	23.12	1,323
1961	85,781.56	54,389	59,007	26,774	23.29	1,150
1962	139,413.16	87,758	95,210	44,203	23.45	1,885
1963	9,367.86	5,855	6,352	3,016	23.60	128
1964	3,646.42	2,261	2,453	1,193	23.76	50
1965	473.61	291	316	158	23.91	7
1966	294.13	180	195	99	24.06	4
1967	851.18	515	559	292	24.20	12
1968	3,533.22	2,122	2,302	1,231	24.34	51
1969	654.57	390	423	231	24.48	9
1970	2,302.12	1,359	1,474	828	24.62	34
1971	74,116.44	43,343	47,023	27,093	24.75	1,095
1972	5,229.94	3,030	3,287	1,943	24.88	78
1973	5,809.88	3,333	3,616	2,194	25.01	88
1974	1,067.95	607	659	409	25.14	16
1975	19,937.72	11,208	12,160	7,778	25.26	308
1976	97,564.88	54,260	58,867	38,697	25.38	1,525
1977	260,350.03	143,245	155,408	104,942	25.49	4,117
1978	14,743.31	8,018	8,699	6,044	25.61	236
1979	31,070.40	16,698	18,116	12,955	25.72	504
1980	49,868.04	26,478	28,726	21,142	25.82	819
1981	48,596.43	25,471	27,634	20,963	25.93	808
1982	15,980.08	8,266	8,968	7,012	26.03	269
1983	15,805.33	8,063	8,748	7,058	26.13	270
1984	47,271.20	23,761	25,779	21,493	26.23	819
1985	68,278.99	33,812	36,683	31,596	26.32	1,200
1986	218,896.32	106,708	115,769	103,127	26.41	3,905
1987	95,098.51	45,597	49,469	45,630	26.50	1,722
1988	78,433.97	36,955	40,093	38,341	26.59	1,442
1989	132,991.31	61,554	66,781	66,211	26.67	2,483
1990	1,465.36	665	721	744	26.75	28
1991	12,679.54	5,642	6,121	6,558	26.83	244
1992	107,648.73	53,824	58,394	49,254	25.25	1,951
1993	237,600.41	115,806	125,639	111,961	25.50	4,391
1994	9,175.97	4,373	4,744	4,432	25.53	174
1995	132,366.14	61,550	66,776	65,590	25.60	2,562
1996	77,195.97	35,109	38,090	39,106	25.48	1,535
1997	4,599,851.89	2,030,375	2,202,781	2,397,071	25.62	93,562
1998	279,135.26	119,833	130,008	149,127	25.59	5,828
1999	84,431.84	35,293	38,290	46,142	25.53	1,807
2000	89,285.67	36,268	39,348	49,938	25.71	1,942
2001	721,772.85	285,317	309,544	412,229	25.62	16,090

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EMPIRE YARD - MAJOR STRUCTURES						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2047						
2002	42,060.65	16,034	17,395	24,665	25.57	965
2003	179,912.90	65,812	71,400	108,513	25.57	4,244
2004	145,471.36	50,275	54,544	90,927	25.56	3,557
2005	166,249.83	53,765	58,330	107,919	25.63	4,211
2006	139,382.56	42,972	46,621	92,762	25.52	3,635
2007	873,258.65	254,904	276,549	596,710	25.47	23,428
2008	78,955.95	21,452	23,274	55,682	25.47	2,186
2009	53,901.40	13,518	14,666	39,236	25.40	1,545
2010	195,429.54	44,714	48,511	146,919	25.29	5,809
2011	313,707.70	64,436	69,907	243,800	25.15	9,694
2012	49,225.70	8,880	9,634	39,592	24.99	1,584
2013	122,205.40	18,746	20,338	101,868	24.83	4,103
2014	163,363.50	20,420	22,154	141,210	24.51	5,761
2015	94,553.92	8,907	9,663	84,891	24.03	3,533
2016	634,450.18	38,448	41,713	592,737	23.25	25,494
2017	630,415.29	14,500	15,731	614,684	21.19	29,008
	11,862,201.12	4,400,985	4,774,687	7,087,514		285,228

EMPIRE YARD - MINOR STRUCTURES
INTERIM SURVIVOR CURVE.. IOWA 70-R1
PROBABLE RETIREMENT YEAR.. 12-2030

1960	27,374.98	21,602	23,436	3,939	11.95	330
1961	2,250.14	1,770	1,920	330	11.99	28
1962	11,395.40	8,932	9,690	1,705	12.02	142
1964	212.41	165	179	33	12.08	3
1965	479.69	372	404	76	12.11	6
1972	4,846.95	3,646	3,956	891	12.30	72
1973	59,338.04	44,407	48,178	11,160	12.33	905
1976	674.99	497	539	136	12.40	11
1977	9,114.69	6,670	7,236	1,878	12.42	151
1978	24,124.85	17,546	19,036	5,089	12.44	409
1979	540.75	391	424	117	12.46	9
1980	8,726.53	6,263	6,795	1,932	12.48	155
1981	52,430.77	37,361	40,533	11,897	12.50	952
1982	22,292.87	15,767	17,106	5,187	12.52	414
1984	11,417.15	7,947	8,622	2,795	12.55	223
1986	31,130.64	21,286	23,093	8,037	12.58	639
1987	11,362.33	7,693	8,346	3,016	12.60	239
1988	15,773.37	10,573	11,471	4,303	12.61	341

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EMPIRE YARD - MINOR STRUCTURES						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2030						
1989	8,654.63	5,737	6,224	2,430	12.63	192
1990	94,337.02	61,828	67,078	27,259	12.64	2,157
1992	6,049.58	4,048	4,392	1,658	12.49	133
1993	1,598.34	1,054	1,143	455	12.51	36
1994	38,859.45	25,298	27,446	11,413	12.46	916
1995	4,586.75	2,939	3,189	1,398	12.47	112
1996	1,532.27	964	1,046	486	12.53	39
1997	1,129.92	698	757	373	12.54	30
1998	3,483.10	2,105	2,284	1,199	12.60	95
2001	6,551.41	3,742	4,060	2,492	12.57	198
2002	8,685.69	4,829	5,239	3,447	12.58	274
2003	26,975.97	14,562	15,799	11,177	12.57	889
2004	262,708.52	136,188	147,752	114,956	12.54	9,167
2005	28,203.02	13,924	15,106	13,097	12.56	1,043
2008	29,302.79	12,638	13,711	15,592	12.53	1,244
2010	189,349.18	71,006	77,035	112,314	12.50	8,985
2011	217,404.63	74,331	80,643	136,762	12.51	10,932
2014	19,697.18	4,343	4,712	14,985	12.37	1,211
2016	36,278.26	3,998	4,337	31,941	12.11	2,638
	1,278,874.26	657,120	712,918	565,956		45,320

ARCHIBALD

INTERIM SURVIVOR CURVE.. IOWA 70-R1
PROBABLE RETIREMENT YEAR.. 12-2052

2001	6,611.97	2,437	2,644	3,968	28.70	138
2002	3,774,482.37	1,337,677	1,451,263	2,323,219	28.69	80,977
2003	87,591.75	29,711	32,234	55,358	28.73	1,927
2004	115,956.65	37,106	40,257	75,700	28.69	2,639
2005	21,273.83	6,359	6,899	14,375	28.73	500
2006	70,344.11	20,006	21,705	48,639	28.62	1,699
2007	23,856.59	6,413	6,958	16,899	28.56	592
2008	36,004.40	8,994	9,758	26,247	28.52	920
2009	2,435.09	561	609	1,826	28.40	64
2010	44,093.47	9,260	10,046	34,047	28.21	1,207
2011	22,775.14	4,277	4,640	18,135	28.10	645
2012	5,689.07	939	1,019	4,670	27.83	168
2013	10,898.63	1,530	1,660	9,239	27.55	335
2014	82,416.48	9,404	10,203	72,214	27.17	2,658

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ARCHIBALD						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2052						
2015	2,296.35	197	214	2,083	26.65	78
2016	41,281.45	2,279	2,473	38,809	25.67	1,512
2017	101,999.70	2,162	2,346	99,654	23.14	4,307
	4,450,007.05	1,479,312	1,604,925	2,845,082		100,366
WILLIAMSPORT						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2032						
1971	266,271.69	194,187	210,676	55,596	13.95	3,985
1972	1,461.01	1,060	1,150	311	13.98	22
1973	1,382.79	997	1,082	301	14.01	21
1975	2,477.16	1,765	1,915	562	14.08	40
1976	499.12	353	383	116	14.11	8
1978	1,727.13	1,207	1,309	418	14.16	30
1986	1,478.98	965	1,047	432	14.36	30
1987	55,735.94	35,966	39,020	16,716	14.38	1,162
1988	7,244.76	4,622	5,014	2,230	14.40	155
1989	14,652.63	9,238	10,022	4,630	14.42	321
1990	3,241.84	2,019	2,190	1,051	14.43	73
1992	904.89	578	627	278	14.28	19
1994	5,044.54	3,132	3,398	1,647	14.20	116
1995	470.76	287	311	159	14.25	11
1996	673.05	403	437	236	14.21	17
1997	2,039.56	1,198	1,300	740	14.23	52
1998	8,130.65	4,664	5,060	3,071	14.31	215
1999	4,960.38	2,792	3,029	1,931	14.24	136
2000	73,333.10	40,487	43,925	29,408	14.26	2,062
2001	9,676.04	5,219	5,662	4,014	14.30	281
2002	27,941.30	14,655	15,899	12,042	14.28	843
2003	6,266.96	3,180	3,450	2,817	14.32	197
2004	3,750.53	1,823	1,978	1,773	14.28	124
2005	4,966.43	2,293	2,488	2,479	14.28	174
2007	39,421.91	16,683	18,100	21,322	14.31	1,490
2008	2,266.52	907	984	1,283	14.25	90
2010	34,741.87	11,986	13,004	21,738	14.24	1,527
2011	215,880.17	67,786	73,542	142,338	14.20	10,024
2012	8,029.39	2,243	2,433	5,596	14.19	394
2014	58,721.09	11,715	12,710	46,011	14.04	3,277

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILLIAMSPORT						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2032						
2015	115,215.15	17,536	19,025	96,190	13.92	6,910
2016	3,363.97	332	360	3,004	13.68	220
2017	226,346.06	8,375	9,086	217,260	13.00	16,712
	1,208,317.37	470,653	510,618	697,699		50,738
BLOOMSBURG						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2059						
1907	9.18	8	9	1	9.62	
1909	51.95	44	48	4	10.28	
1910	123.61	105	114	10	10.61	1
1912	14.27	12	13	1	11.28	
1915	2,470.16	2,035	2,208	262	12.32	21
1930	24,333.03	18,117	19,655	4,678	17.87	262
1933	39.88	29	31	8	18.99	
1934	66.14	48	52	14	19.36	1
1944	69.23	46	50	19	22.96	1
1968	637.82	342	371	267	30.28	9
1974	832.63	415	450	382	31.76	12
1976	102,488.32	49,696	53,916	48,573	32.22	1,508
1977	20,765.34	9,928	10,771	9,994	32.44	308
1978	82.54	39	42	40	32.66	1
1980	1,530.00	699	758	772	33.08	23
1981	975.27	439	476	499	33.29	15
1983	3,252.26	1,415	1,535	1,717	33.68	51
1984	4,137.83	1,768	1,918	2,220	33.87	66
1987	1,501.59	606	657	844	34.42	25
1988	13,379.24	5,286	5,735	7,644	34.59	221
1991	1,053.33	389	422	631	35.09	18
1996	6,963.78	2,767	3,002	3,962	32.22	123
1998	26,307.02	9,823	10,657	15,650	32.30	485
2000	16,031.84	5,638	6,117	9,915	32.42	306
2001	5,471.47	1,860	2,018	3,454	32.51	106
2003	14,166.17	4,430	4,806	9,360	32.42	289
2007	20,516.80	5,041	5,469	15,048	32.24	467
2008	5,603.03	1,277	1,385	4,218	32.17	131
2010	18,944.77	3,609	3,915	15,029	31.87	472
2011	186,329.64	31,732	34,426	151,903	31.67	4,796
2014	776,794.73	80,165	86,972	689,823	30.40	22,692

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
BLOOMSBURG						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2059						
2015	32,069.19	2,495	2,707	29,362	29.65	990
2016	12,846.28	644	699	12,148	28.44	427
2017	81,515.42	1,573	1,707	79,809	25.41	3,141
	1,381,373.76	242,520	263,113	1,118,261		36,968
HONESDALE						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2026						
1974	13,644.37	11,006	11,941	1,704	8.82	193
1976	280,106.74	224,099	243,128	36,978	8.84	4,183
1989	2,369.68	1,751	1,900	470	8.95	53
2000	9,689.97	6,423	6,968	2,722	8.94	304
2001	635.56	414	449	186	8.96	21
2002	41,268.81	26,325	28,560	12,708	8.94	1,421
2003	7,884.62	4,907	5,324	2,561	8.95	286
2004	36,956.91	22,252	24,142	12,815	8.92	1,437
2010	12,186.01	5,567	6,040	6,146	8.92	689
2014	34,126.69	9,651	10,471	23,656	8.88	2,664
2015	30,585.13	6,744	7,317	23,268	8.84	2,632
2017	50,936.95	2,832	3,072	47,864	8.49	5,638
	520,391.44	321,971	349,311	171,080		19,521
MILFORD						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2038						
1988	148,423.55	82,823	89,856	58,568	19.54	2,997
2012	75,842.86	17,103	18,555	57,288	18.89	3,033
2017	20,371.39	591	641	19,730	16.74	1,179
	244,637.80	100,517	109,052	135,586		7,209
SOUTHPOINT						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2025						
1975	138,492.67	113,683	123,336	15,157	7.92	1,914
1983	1,736.32	1,374	1,491	246	7.98	31

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SOUTHPOINT						
INTERIM SURVIVOR CURVE.. IOWA 70-R1						
PROBABLE RETIREMENT YEAR.. 12-2025						
1984	8,304.99	6,534	7,089	1,216	7.99	152
1987	7,939.02	6,129	6,649	1,290	8.00	161
1988	11,885.02	9,108	9,881	2,004	8.01	250
1989	1,288.22	980	1,063	225	8.02	28
1990	42.57	32	35	8	8.02	1
1994	3,435.27	2,556	2,773	662	8.00	83
1996	1,909.22	1,388	1,506	403	7.99	50
1997	21,097.96	15,123	16,407	4,691	8.00	586
1998	12,502.11	8,833	9,583	2,919	8.00	365
2000	12,714.69	8,741	9,483	3,231	7.99	404
2001	5,439.17	3,681	3,994	1,446	8.00	181
2005	3,919.95	2,367	2,568	1,352	8.03	168
2007	23,299.82	13,211	14,333	8,967	8.02	1,118
2009	9,214.95	4,747	5,150	4,065	8.00	508
2010	18,983.20	9,184	9,964	9,019	8.00	1,127
2011	160,198.14	71,849	77,950	82,248	7.99	10,294
2014	20,740.83	6,330	6,867	13,873	7.97	1,741
2015	37,343.51	8,955	9,715	27,628	7.93	3,484
2016	64,391.35	10,303	11,178	53,214	7.87	6,762
2017	101,765.13	6,238	6,768	94,997	7.66	12,402
	666,644.11	311,346	337,783	328,861		41,810

LEASEHOLD IMPROVEMENTS
INTERIM SURVIVOR CURVE.. IOWA 70-R1
PROBABLE RETIREMENT YEAR.. 12-2019

2000	315,000.00	279,720	303,472	11,528	2.22	5,193
	315,000.00	279,720	303,472	11,528		5,193

BRIDGE STREET
FULLY ACCRUED

1883	8,344.74	8,345	8,345			
1891	3,862.10	3,862	3,862			
1901	8,797.90	8,798	8,798			
1912	486.10	486	486			
1917	2,730.00	2,730	2,730			
1921	68.14	68	68			
1936	301.44	301	301			

UGI PENN NATURAL GAS, INC.

ACCOUNT 390 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
BRIDGE STREET FULLY ACCRUED						
1940	49.80	50	50			
1950	5,337.36	5,337	5,337			
1957	143.48	143	143			
1962	79.33	79	79			
1963	91,963.79	91,964	91,964			
1967	322.70	323	323			
1970	278.25	278	278			
1974	3,969.79	3,970	3,970			
1976	2,899.25	2,899	2,899			
1977	6,110.00	6,110	6,110			
1978	6,994.63	6,995	6,995			
1980	3,627.06	3,627	3,627			
1982	2,134.65	2,135	2,135			
1984	2,395.18	2,395	2,395			
1985	11,720.54	11,721	11,721			
1987	1,437.18	1,437	1,437			
1988	1,091.39	1,091	1,091			
1989	48,342.22	48,342	48,342			
1992	535.23	535	535			
1994	505.00	505	505			
1995	6,815.71	6,816	6,816			
1996	1,097.33	1,097	1,097			
1997	2,660.96	2,661	2,661			
1998	44.63	45	45			
2003	4,394.97	4,395	4,395			
	229,540.85	229,540	229,541			
OTHER STRUCTURES SURVIVOR CURVE.. IOWA 40-R2						
2002	61,566.69	25,501	41,498	20,068	22.27	901
2005	11,064.18	3,713	6,042	5,022	24.25	207
2011	34,806.56	6,718	10,932	23,874	27.17	879
	107,437.43	35,932	58,473	48,964		1,987
	22,264,425.19	8,529,616	9,253,893	13,010,531		594,340
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						21.9 2.67

UGI PENN NATURAL GAS, INC.

ACCOUNT 391.1 OFFICE FURNITURE

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
1998	290,105.02	279,226	271,371	18,734	0.75	18,734
1999	19,160.18	17,564	17,070	2,090	1.67	1,251
2000	47,086.84	41,397	40,233	6,854	2.42	2,832
2001	12,167.72	10,190	9,903	2,265	3.25	697
2002	57,421.92	45,220	43,948	13,474	4.25	3,170
2003	12,589.63	9,285	9,024	3,566	5.25	679
2004	826.89	558	542	285	6.50	44
2005	1,086.91	666	647	440	7.75	57
2006	1,234.22	702	682	552	8.62	64
2007	1,312.22	689	670	642	9.50	68
2008	24,417.03	11,598	11,272	13,145	10.50	1,252
2010	2,239.24	840	816	1,423	12.50	114
2011	20,678.25	6,720	6,531	14,147	13.50	1,048
2014	33,759.66	5,908	5,742	28,018	16.50	1,698
2015	35,177.20	4,397	4,273	30,904	17.50	1,766
2016	232,620.68	17,447	16,957	215,664	18.50	11,658
2017	75,000.00	1,875	1,822	73,178	19.50	3,753
	866,883.61	454,282	441,503	425,381		48,885

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.7 5.64

UGI PENN NATURAL GAS, INC.

ACCOUNT 391.2 OFFICE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
2010	33,244.94	24,934	19,379	13,866	2.50	5,546
2011	5,097.89	3,314	2,576	2,522	3.50	721
2015	4,313.90	1,078	838	3,476	7.50	463
2016	40,481.61	6,072	4,719	35,763	8.50	4,207
	83,138.34	35,398	27,512	55,626		10,937
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						5.1 13.16

UGI PENN NATURAL GAS, INC.

ACCOUNT 391.3 COMPUTER EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
2013	7,392.33	6,653	6,237	1,155	0.50	1,155
2015	169,976.77	84,988	79,668	90,309	2.50	36,124
2016	4,313.94	1,294	1,213	3,101	3.50	886
	181,683.04	92,935	87,118	94,565		38,165

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.5 21.01

UGI PENN NATURAL GAS, INC.

ACCOUNT 391.41 COMPUTER SOFTWARE - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
2017	111,550.00	11,155	14,075	97,475	4.50	21,661
	111,550.00	11,155	14,075	97,475		21,661
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					4.5	19.42

UGI PENN NATURAL GAS, INC.

ACCOUNT 392 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 10-L3						
1993	12,846.09	12,846	12,846			
1994	45,803.66	45,579	45,804			
1995	15,719.25	15,634	15,719			
1996	59,228.54	58,275	59,229			
1997	98,858.86	96,091	98,859			
1998	209,647.45	201,387	209,647			
1999	220,650.97	209,552	220,651			
2000	195,438.63	183,517	195,439			
2001	97,214.47	90,050	97,214			
2002	63,489.50	57,801	62,813	676	1.55	436
2003	226,954.90	202,852	220,441	6,514	1.75	3,722
2004	515,494.01	447,449	486,247	29,247	2.05	14,267
2005	151,688.04	127,843	138,928	12,760	2.28	5,596
2006	248,379.39	205,112	222,897	25,482	2.40	10,618
2011	47,068.84	30,689	33,350	13,719	3.47	3,954
2016	880,192.75	149,281	162,225	717,968	7.34	97,816
2017	2,500,000.00	141,500	153,770	2,346,230	8.33	281,660
	5,588,675.35	2,275,458	2,436,079	3,152,596		418,069

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.5 7.48

UGI PENN NATURAL GAS, INC.

ACCOUNT 393 STORES EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
2004	1,768.11	1,193	1,212	556	6.50	86
	1,768.11	1,193	1,212	556		86
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					6.5	4.86

UGI PENN NATURAL GAS, INC.

ACCOUNT 394 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
1998	351,950.52	338,752	332,492	19,459	0.75	19,459
1999	312,670.88	286,616	281,319	31,352	1.67	18,774
2000	222,340.24	195,475	191,862	30,478	2.42	12,594
2001	237,021.51	198,506	194,838	42,184	3.25	12,980
2002	75,121.24	59,158	58,065	17,056	4.25	4,013
2003	110,682.26	81,628	80,119	30,563	5.25	5,822
2004	270,994.91	182,922	179,541	91,454	6.50	14,070
2005	107,276.26	65,707	64,493	42,783	7.75	5,520
2006	272,070.63	154,740	151,880	120,191	8.62	13,943
2007	397,958.98	208,928	205,067	192,892	9.50	20,304
2008	194,881.81	92,569	90,858	104,024	10.50	9,907
2009	386,652.36	164,327	161,290	225,362	11.50	19,597
2010	528,508.75	198,191	194,529	333,980	12.50	26,718
2011	46,412.17	15,084	14,805	31,607	13.50	2,341
2012	106,370.79	29,252	28,711	77,660	14.50	5,356
2013	245,409.98	55,217	54,197	191,213	15.50	12,336
2014	458,824.63	80,294	78,810	380,015	16.50	23,031
2015	815,389.03	101,924	100,041	715,348	17.50	40,877
2016	468,977.66	35,173	34,523	434,455	18.50	23,484
2017	670,350.00	16,759	16,449	653,901	19.50	33,533
	6,279,864.61	2,561,222	2,513,889	3,765,976		324,659

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.6 5.17

UGI PENN NATURAL GAS, INC.

ACCOUNT 396 POWER OPERATED EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 14-L3						
1973	7,136.00	7,136	7,136			
1974	9,850.32	9,850	9,850			
1975	15,643.00	15,643	15,643			
1976	902.80	903	903			
1979	925.16	925	925			
1981	16,796.10	16,796	16,796			
1982	23,855.60	23,856	23,856			
1983	35,344.05	35,344	35,344			
1984	28,128.87	28,048	28,129			
1986	6,321.00	6,122	6,321			
1987	23,286.13	22,255	23,286			
1988	34,367.53	32,379	34,368			
1992	41,137.70	38,850	41,138			
1993	36,651.84	34,218	36,652			
1994	31,493.91	29,069	31,494			
1995	93,851.50	85,611	93,852			
1996	78,601.40	70,655	78,601			
1997	55,593.65	49,312	55,594			
1998	188,247.06	164,151	188,247			
1999	8,460.90	7,275	8,461			
2000	10,736.50	9,099	10,622	114	3.16	36
2001	28,064.94	23,457	27,384	681	3.29	207
2002	221,629.95	181,870	212,319	9,311	3.44	2,707
2003	68,109.74	54,951	64,151	3,959	3.53	1,122
2004	320,999.56	252,627	294,922	26,078	3.65	7,145
2007	36,594.89	26,012	30,367	6,228	4.27	1,459
2008	35,075.31	23,525	27,463	7,612	4.66	1,633
2009	48,114.46	29,898	34,904	13,210	5.18	2,550
2010	12,089.03	6,818	7,959	4,130	5.80	712
	1,518,008.90	1,286,655	1,446,687	71,322		17,571

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.1 1.16

UGI PENN NATURAL GAS, INC.

ACCOUNT 397 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
2009	6,162.16	5,238	5,725	437	1.50	291
2011	4,804.92	3,123	3,413	1,392	3.50	398
	10,967.08	8,361	9,138	1,829		689
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						2.7 6.28

UGI PENN NATURAL GAS, INC.

ACCOUNT 397.1 TELEPHONE SYSTEMS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
2009	155,862.14	132,483	133,910	21,952	1.50	14,635
	155,862.14	132,483	133,910	21,952		14,635
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					1.5	9.39

UGI PENN NATURAL GAS, INC.

ACCOUNT 398 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
2007	137,069.69	95,949	93,056	44,014	4.50	9,781
2008	48,106.71	30,467	29,549	18,558	5.50	3,374
2009	72,298.45	40,969	39,734	32,564	6.50	5,010
2010	346,189.25	173,095	167,877	178,312	7.50	23,775
2011	26,672.91	11,558	11,209	15,464	8.50	1,819
2012	6,969.59	2,556	2,479	4,491	9.50	473
2016	151,962.74	15,196	14,738	137,225	13.50	10,165
2017	25,000.00	833	808	24,192	14.50	1,668
	814,269.34	370,623	359,450	454,819		56,065

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.1 6.89

COMMON PLANT

UGI UTILITIES, INC. - COMMON PLANT

ACCOUNT 390.2 STRUCTURES AND IMPROVEMENTS - LEASED PROPERTY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 3-2019						
NET SALVAGE PERCENT.. 0						
2009	156,908.12	133,372	85,797	71,111	1.50	47,407
2010	2,987.32	2,489	1,601	1,386	1.50	924
2016	3,372.91	1,686	1,085	2,288	1.50	1,525
	163,268.35	137,547	88,483	74,785		49,856
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						1.5 30.54

UGI UTILITIES, INC. - COMMON PLANT

ACCOUNT 391 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2001	25,355.20	20,918	9,774	15,581	3.50	4,452
2003	7,182.75	5,207	2,433	4,750	5.50	864
2004	11,896.38	8,030	3,752	8,144	6.50	1,253
2005	39,965.68	24,979	11,671	28,295	7.50	3,773
2006	2,468.81	1,420	663	1,806	8.50	212
2007	878.14	461	215	663	9.50	70
2008	572.40	272	127	445	10.50	42
2009	4,753.12	2,020	944	3,809	11.50	331
2010	747,318.56	280,244	130,945	616,374	12.50	49,310
	840,391.04	343,551	160,524	679,867		60,307

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.3 7.18

UGI UTILITIES, INC. - COMMON PLANT

ACCOUNT 391.1 OFFICE FURNITURE AND EQUIPMENT - ELECTRONIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2013	126,304.80	113,674	105,327	20,978	0.50	20,978
2014	15,124.84	10,587	9,810	5,315	1.50	3,543
2015	13,739.84	6,870	6,366	7,374	2.50	2,950
2016	15,683.71	4,705	4,359	11,325	3.50	3,236
	170,853.19	135,836	125,862	44,991		30,707
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						1.5 17.97

UGI UTILITIES, INC. - COMMON PLANT

ACCOUNT 392 TRANSPORTATION EQUIPMENT - CARS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 7-L2.5						
NET SALVAGE PERCENT.. 0						
2004	26,875.84	25,180	26,876			
2008	22,536.44	19,206	21,972	564	1.65	342
2014	22,224.80	11,801	13,501	8,724	3.09	2,823
	71,637.08	56,187	62,349	9,288		3,165
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					2.9	4.42

INFORMATION SERVICES

UGI UTILITIES, INC. - INFORMATION SERVICES

ACCOUNT 391 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
1998	24,630.46	24,015	24,013	617	0.50	617
1999	6,158.53	5,697	5,696	463	1.50	309
2001	3,769.21	3,110	3,110	659	3.50	188
2002	6,694.08	5,188	5,187	1,507	4.50	335
2003	22,684.22	16,446	16,444	6,240	5.50	1,135
2004	5,698.56	3,847	3,847	1,852	6.50	285
2007	1,760.05	924	924	836	9.50	88
	71,395.11	59,227	59,221	12,174		2,957
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.1 4.14

UGI UTILITIES, INC. - INFORMATION SERVICES

ACCOUNT 391.1 OFFICE FURNITURE AND EQUIPMENT - ELECTRONIC

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 5-SQUARE						
NET SALVAGE PERCENT.. 0						
2013	621,616.37	559,455	532,601	89,015	0.50	89,015
2014	1,020,522.82	714,366	680,077	340,446	1.50	226,964
2015	1,237,638.55	618,819	589,116	648,523	2.50	259,409
2016	506,298.30	151,889	144,598	361,700	3.50	103,343
2017	275,000.00	27,500	26,180	248,820	4.50	55,293
	3,661,076.04	2,072,029	1,972,572	1,688,504		734,024
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						2.3 20.05

UGI UTILITIES, INC. - INFORMATION SERVICES

ACCOUNT 391.3 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE - 10 YRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2008	259,506.50	246,531	259,506			
2009	775,538.10	659,207	743,982	31,556	1.50	21,037
2010	324,586.33	243,440	274,747	49,839	2.50	19,936
2011	24,265.04	15,772	17,800	6,465	3.50	1,847
2012	2,890,937.57	1,590,016	1,794,493	1,096,445	4.50	243,654
2013	431,236.80	194,057	219,013	212,224	5.50	38,586
2014	981,639.65	343,574	387,758	593,882	6.50	91,366
2015	1,151,853.19	287,963	324,995	826,858	7.50	110,248
2016	678,731.17	101,810	114,903	563,828	8.50	66,333
	7,518,294.35	3,682,370	4,137,197	3,381,097		593,007

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.7 7.89

UGI UTILITIES, INC. - INFORMATION SERVICES

ACCOUNT 391.4 OFFICE FURNITURE AND EQUIPMENT - SOFTWARE - 15 YRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NEW CIS SOFTWARE						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2017	88,072,924.00			88,072,924	15.00	5,871,528
	88,072,924.00			88,072,924		5,871,528
ALL OTHER						
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2005	867,789.26	723,155	721,078	146,711	2.50	58,684
2006	1,660,897.57	1,273,360	1,269,703	391,194	3.50	111,770
2007	3,042,652.35	2,129,857	2,123,741	918,911	4.50	204,202
2008	2,908,998.47	1,842,356	1,837,066	1,071,933	5.50	194,897
2011	457,198.79	198,118	197,549	259,650	8.50	30,547
2012	533,950.04	195,783	195,221	338,729	9.50	35,656
2013	527,925.94	158,378	157,923	370,003	10.50	35,238
2014	495,556.48	115,628	115,296	380,261	11.50	33,066
2016	346,164.83	34,616	34,517	311,648	13.50	23,085
	10,841,133.73	6,671,251	6,652,094	4,189,040		727,145
	98,914,057.73	6,671,251	6,652,094	92,261,964		6,598,673
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.0						6.67

READING SERVICE CENTER – INFORMATION SERVICES

UGI UTILITIES, INC. - INFORMATION SERVICES
READING SERVICE CENTER

ACCOUNT 390.1 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 100-R1						
PROBABLE RETIREMENT YEAR.. 6-2030						
NET SALVAGE PERCENT.. 0						
1974	574,897.52	435,577	428,142	146,756	12.34	11,893
1975	7,158.54	5,396	5,304	1,855	12.34	150
1976	1,629.59	1,222	1,201	429	12.35	35
1977	2,106.01	1,569	1,542	564	12.36	46
1978	554.20	411	404	150	12.36	12
1979	6,707.24	4,937	4,853	1,854	12.37	150
1980	28,233.56	20,649	20,297	7,937	12.37	642
1981	44,870.26	32,586	32,030	12,840	12.38	1,037
1982	427.88	317	312	116	12.37	9
1983	1,273.20	938	922	351	12.26	29
1984	1,922.47	1,400	1,376	546	12.41	44
1985	15,545.14	11,230	11,038	4,507	12.39	364
1986	1,122.78	803	789	334	12.42	27
1987	100.24	71	70	30	12.30	2
1989	40,014.11	27,810	27,335	12,679	12.40	1,022
1990	23,330.17	16,084	15,809	7,521	12.28	612
1992	95,013.29	63,811	62,722	32,291	12.35	2,615
1993	1,839.65	1,220	1,199	641	12.39	52
1994	27,141.96	17,794	17,490	9,652	12.34	782
1995	4,582.00	2,959	2,908	1,674	12.34	136
1996	248.50	158	155	94	12.40	8
1998	683.50	419	412	272	12.35	22
2000	72,144.40	42,291	41,569	30,575	12.35	2,476
2001	73,338.56	41,994	41,277	32,062	12.32	2,602
2002	5,526.75	3,075	3,023	2,504	12.36	203
2003	201.42	109	107	94	12.38	8
2004	1,508.64	788	775	734	12.34	59
2005	4,812.03	2,424	2,383	2,429	12.31	197
2006	458.13	221	217	241	12.37	19
2007	379,291.04	174,436	171,459	207,832	12.33	16,856
2008	444,898.44	193,575	190,270	254,628	12.33	20,651
2009	14,014.85	5,718	5,621	8,394	12.33	681
2010	2,629.36	996	979	1,650	12.30	134
2011	3,560.30	1,231	1,210	2,350	12.30	191
2012	294.73	91	89	206	12.26	17

UGI UTILITIES, INC. - INFORMATION SERVICES
 READING SERVICE CENTER

ACCOUNT 390.1 STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
 RELATED TO ORIGINAL COST AT SEPTEMBER 30, 2017

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. IOWA 100-R1						
PROBABLE RETIREMENT YEAR.. 6-2030						
NET SALVAGE PERCENT.. 0						
2014	5,428.44	1,211	1,190	4,238	12.20	347
2015	44,230.06	7,554	7,425	36,805	12.14	3,032
2016	28,275.09	3,139	3,086	25,189	12.01	2,097
	1,960,014.05	1,126,214	1,106,990	853,024		69,259
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.3 3.53

**PART VIII. EXPERIENCED AND ESTIMATED
NET SALVAGE**

GAS PLANT

UGI PENN NATURAL GAS, INC.

EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2013 TRANSACTION YEAR				
375.00	9,865.00			
376.10	68,750.00	27,113.75		27,113.75-
376.20	170,968.00	473,857.82		473,857.82-
378.00	20,615.00	17,516.04	18,701.63	1,185.59
379.00	3,810.00	3,762.67		3,762.67-
380.10	289,919.00	788,886.08		788,886.08-
380.20	155,734.00	262,166.58		262,166.58-
381.00	72,276.00			
381.10		398.04		398.04-
385.00		144.83		144.83-
390.00	81,845.00			
391.10	74,588.00			
391.30	129,457.00			
392.00	1,478,880.00		234,012.42	234,012.42
393.00	3,984.00			
394.00	161,710.00			
396.00	94,238.00			
398.00	45,603.00			
	2,862,242.00	1,573,845.81	252,714.05	1,321,131.76-
2014 TRANSACTION YEAR				
376.10	85,331.00	39,822.00		39,822.00-
376.20	368,662.00	503,492.00		503,492.00-
378.00	130,133.00	55,867.00	26,430.00	29,437.00-
379.00	126,097.00	9,789.00		9,789.00-
380.10	357,902.00	697,767.00		697,767.00-
380.20	127,124.00	679,163.00		679,163.00-
381.00	61,990.00			
390.00	24,930.00	13,283.00		13,283.00-
391.10	17,373.00			
391.30	205,711.00			
391.41	781.00			
392.00	792,857.00		155,933.00	155,933.00
394.00	201,293.00			
396.00	65,289.00			
	2,565,473.00	1,999,183.00	182,363.00	1,816,820.00-

UGI PENN NATURAL GAS, INC.

EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2015 TRANSACTION YEAR				
376.10	22,186.00	21,434.00		21,434.00-
376.20	350,496.00	473,248.00		473,248.00-
378.00	309,454.00	408,083.00	30,014.00	378,069.00-
379.00	189,515.00	48,565.00		48,565.00-
380.10	240,288.00	967,010.00		967,010.00-
380.20	26,556.00	447,702.00		447,702.00-
381.00	47,846.00			
385.00		10,200.00		10,200.00-
390.00		51,086.00		51,086.00-
391.10	30,325.00			
391.30	92,192.00			
391.41	109,266.00			
392.00	431,347.00		60,474.00	60,474.00
394.00	303,529.00			
	2,153,000.00	2,427,328.00	90,488.00	2,336,840.00-
2016 TRANSACTION YEAR				
376.10	91,388.00	29,424.00		29,424.00-
376.20	212,789.00	652,718.00		652,718.00-
378.00	71,410.00	42,702.00	13,547.00	29,155.00-
380.10	61,603.00	989,383.00		989,383.00-
380.20	92,337.00	642,032.00		642,032.00-
381.00	231,735.00			
385.00		4,524.00		4,524.00-
390.00	95,721.00	7,947.00		7,947.00-
391.30	496,053.00			
391.41	29,163.00			
392.00	345,220.00	7,224.00	33,800.00	26,576.00
394.00	150,570.00			
396.00	30,304.00	1,832.00	8,550.00	6,718.00
	1,908,293.00	2,377,786.00	55,897.00	2,321,889.00-

UGI PENN NATURAL GAS, INC.

EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2017 TRANSACTION YEAR				
375.00	22,701.00			
376.10	132,889.00	49,137.00		49,137.00-
376.20	1,198,156.00	2,181,205.00		2,181,205.00-
378.00	146,066.00	138,399.00	25,840.00	112,559.00-
379.00	61,218.00	5,458.00		5,458.00-
380.10	437,608.00	924,797.00		924,797.00-
380.20	146,058.00	609,248.00		609,248.00-
381.00	179,698.00			
381.10	1,199.00			
385.00	26,590.00	25,194.00		25,194.00-
390.00	121,600.00	18,240.00		18,240.00-
391.10	212,096.00			
391.20	76,819.00			
391.30	162,157.00			
391.42	3,295,776.00			
392.00	1,250,000.00		188,951.00	188,951.00
394.00	267,041.00			
397.00	352,523.00			
397.10	770,896.00			
398.00	75,534.00			
	8,936,625.00	3,951,678.00	214,791.00	3,736,887.00-
TOTAL	18,425,633.00	12,329,820.81	796,253.05	11,533,567.76-

COMMON PLANT

UGI UTILITIES, INC. - COMMON PLANT
 EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
 COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2013 TRANSACTION YEAR				
391.10	23,992.00			
	23,992.00			
2014 TRANSACTION YEAR				
391.00	4,540.00			
391.10	12,429.00			
	16,969.00			
2015 TRANSACTION YEAR				
390.20	1,448,677.00			
391.00	812,862.00			
391.10	93,647.00			
	2,355,186.00			
2016 TRANSACTION YEAR				
391.00	22,767.00			
391.10	653,875.00			
	676,642.00			
2017 TRANSACTION YEAR				
391.00	23,206.00			
391.10	6,436.00			
	29,642.00			
TOTAL	3,102,431.00			

INFORMATION SERVICES

UGI UTILITIES, INC. - INFORMATION SERVICES
 EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
 COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2013 TRANSACTION YEAR				
391.00	22,224.00			
391.10	1,692,864.00			
	1,715,088.00			
2014 TRANSACTION YEAR				
391.00	4,810.00			
391.10	781,032.00			
	785,842.00			
2015 TRANSACTION YEAR				
391.00	36,527.00			
391.10	925,747.00			
	962,274.00			
2016 TRANSACTION YEAR				
391.00	13,272.00			
391.10	1,428,497.00			
	1,441,769.00			
2017 TRANSACTION YEAR				
391.10	965,687.00			
391.30	16,451,095.00			
	17,416,782.00			
TOTAL	22,321,755.00			



*Excellence Delivered **As Promised***

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