#### PENNSYLVANIA-AMERICAN WATER COMPANY

#### 2017 GENERAL BASE RATE CASE R-2017-2595853

**EXHIBIT NO. 11-B - DEPRECIATION STUDY** 

WATER OPERATIONS AS OF DECEMBER 31, 2017

Exhibit No. 11-B Witness: J. J. Spanos

#### PENNSYLVANIA-AMERICAN WATER COMPANY

HERSHEY, PENNSYLVANIA

#### 2017 DEPRECIATION STUDY

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

Prepared by:



Excellence Delivered As Promised

Exhibit No. 11-B Witness: J. J. Spanos

## PENNSYLVANIA-AMERICAN WATER COMPANY Hershey, Pennsylvania

## 2017 DEPRECIATION STUDY CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2017

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



#### Excellence Delivered As Promised

April 25, 2017

Pennsylvania-American Water Company 800 West Hersheypark Drive Hershey, PA 17033

Attention Mr. John R. Cox

Manager of Rates and Regulations

#### Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to water plant. The results of our study as of December 31, 2017, are presented in the attached report. The results of our study as of December 31, 2016, are presented in our report, "2016 Depreciation Study - Calculated Annual Depreciation Accruals Related to Water Plant as of December 31, 2016." The same methods, procedures and estimates are used in both 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 as of December 31, 2017.

Respectfully submitted,

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

JOHN J. SPANOS Senior Vice President

John J. Apanos

JJS:mlw

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PART I. INTRODUCTION



#### PENNSYLVANIA-AMERICAN WATER COMPANY

#### **DEPRECIATION STUDY**

#### PART I. INTRODUCTION

#### SCOPE

This report presents the results of the depreciation study prepared for Pennsylvania-American Water Company (the Company) as applied to water plant in service as of December 31, 2017. The study results include annual depreciation rates and amounts for regulatory reporting. The regulatory rates and amounts are based on the straight line remaining life method of depreciation. The report also describes the concepts, methods and basic judgments which underlie recommended annual depreciation accrual rates and amounts related to current water plant in service.

#### **PLAN OF REPORT**

Part I, Introduction, contains statements with respect to the plan of the report, and the basis of the study. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and the methods used in the service life and net salvage studies. Part III, Service Life Considerations, presents the factors and judgment utilized in the average service life analysis. Part IV, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part V, Results of Study, presents a summary by depreciable group of annual depreciation accrual rates and amounts. Part VI, Service Life Statistics presents the statistical analysis of service life estimates; Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation; and Part VIII, Experienced and Estimated Net Salvage presents the cost of removal and gross salvage recorded for the period 2013-2017.

#### **BASIS OF THE STUDY**

#### **Depreciation**

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

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

For most accounts, the annual depreciation was calculated by the straight line remaining life method using the equal life group procedure. For certain General Plant accounts, the annual depreciation is based on amortization accounting. Both types of calculations were based on original cost, attained ages of plant in service and the estimated service life characteristics of each depreciable group.

#### Service Life Estimates

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

policies and outlook, a general knowledge of the water utility industry, and comparisons of the service life estimates from our studies of other water utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for water plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

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

The Company's service life estimates used in the depreciation calculation incorporated historical data compiled through December 2011 from the property records of the Company. This represents the last service life study approved. Such data included plant additions, retirements, transfers and other activity. Generally, retirement data for the years through 2011 were used in the actuarial life table computations which were the primary statistical support of the service life estimates.

A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirement was obtained through discussions with operating and management personnel conducted during the course of the service life study. Information regarding plans for the future was incorporated in the interpretation and extrapolation of the statistical analyses.

#### DEVELOPMENT OF NET ORIGINAL COST

The original cost data used in this study were obtained from the Company's continuing property records and work order system which show in detail the original cost of the property including descriptions, locations and years of installation of property units. The net original cost was developed from the original cost data by deducting customer advances, contributions in aid of construction and excluded property.

The excluded property consists of: (1) a portion of the cost of the White Deer filter plant excluded pursuant to the Commission's Order at R-832511 adopted July 20, 1984 in the amount of \$942,914; (2) the cost of utility plant in the Berwick District excluded in compliance with recommendations made by the Commission Bureau of Audits in a continuing property records audit completed in 1989 in the amount of \$180,764; and (3) an exclusion to reflect the removal of contractor retention balances from amounts on which an Allowance for Funds Used During Construction was calculated in the amount of \$434,336 pursuant to the Commission's Order at R-932670 adopted July 21, 1994.

The development of net original cost by plant account is set forth in Table 1 on pages V-5 and V-6.

## PART II. ESTIMATION OF SURVIVOR CURVES

#### PART II. ESTIMATION OF SURVIVOR CURVES

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

#### **SURVIVOR CURVES**

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

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

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

#### **Iowa Type Curves**

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

The lowa curves were developed at the lowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves,



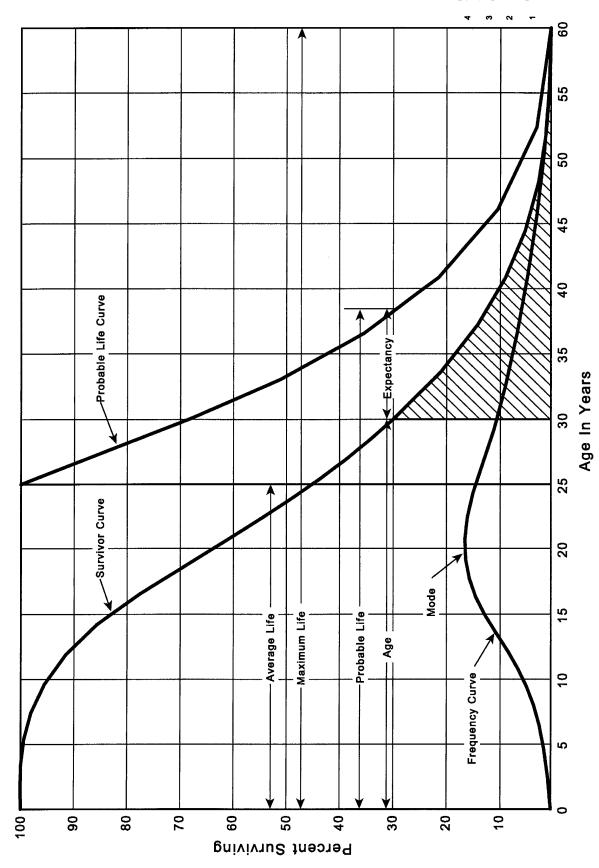


Figure 1. A Typical Survivor Curve and Derived Curves

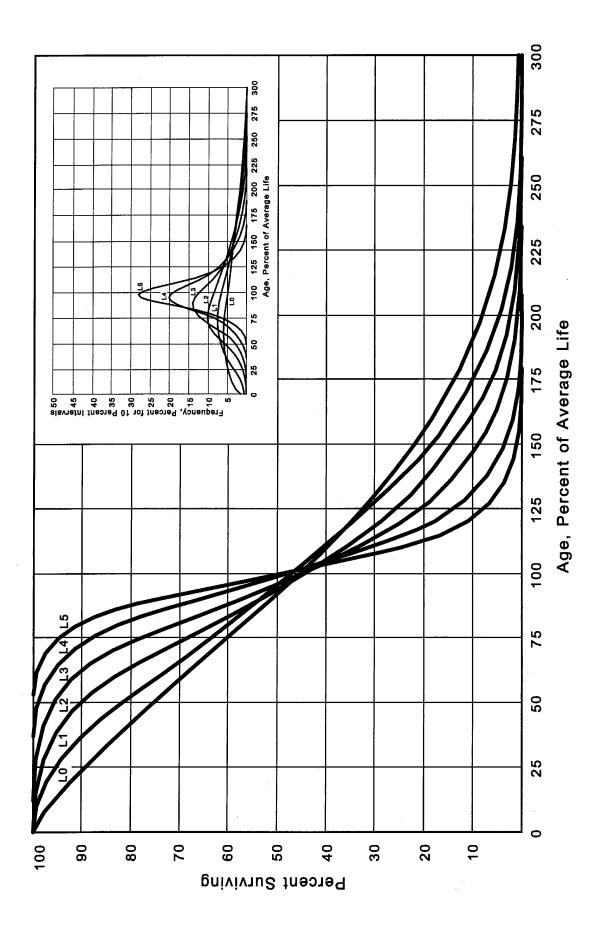
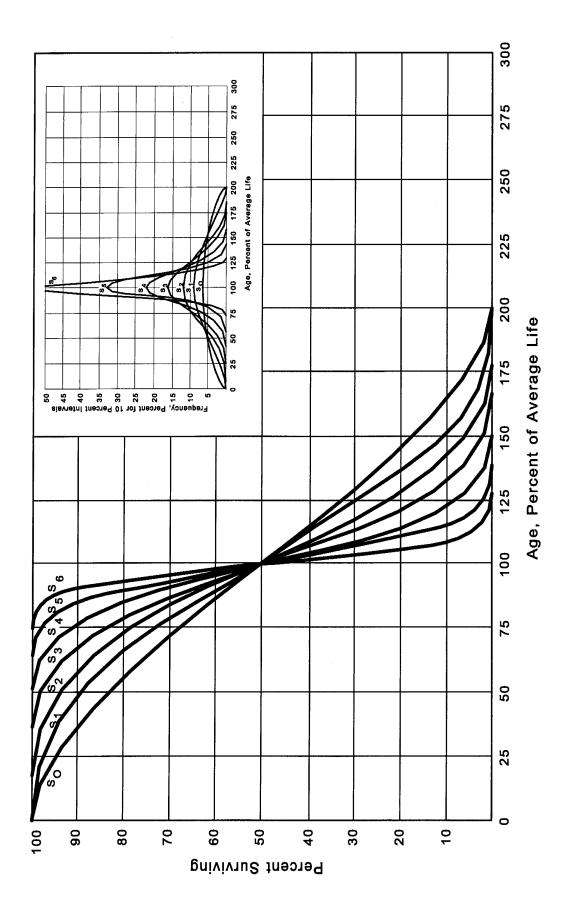


Figure 2. Left Modal or "L" lowa Type Survivor Curves



Symmetrical or "S" lowa Type Survivor Curves

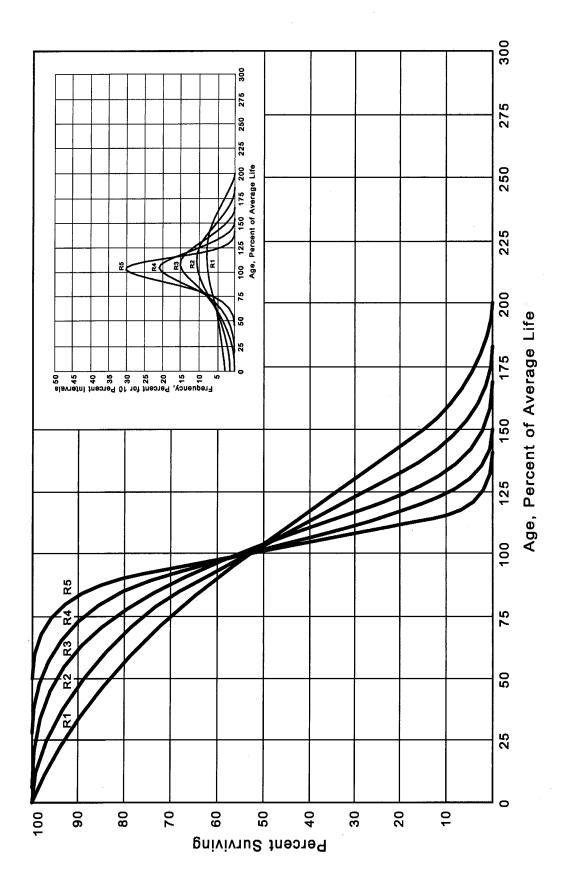
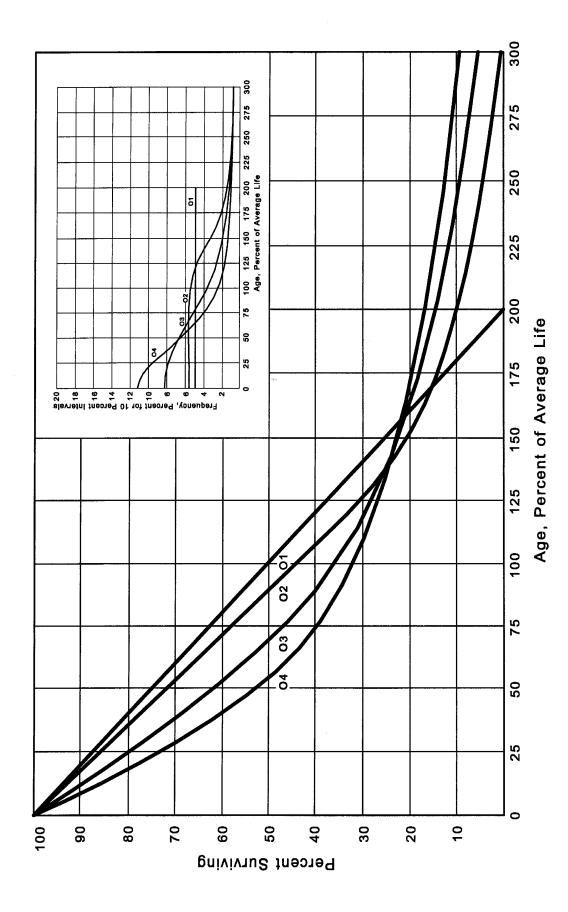


Figure 4. Right Modal or "R" lowa Type Survivor Curves



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

which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125. These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation." In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

#### **Retirement Rate Method of Analysis**

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

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

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



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

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

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

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

#### <u>Schedules of Annual Transactions in Plant Records</u>

A hypothetical property group is used to illustrate the retirement rate method. This property group is observed for the experience band 2007-2016 during which there were placements (or installations) during the years 2002-2016. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, 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  $4\frac{1}{2}$ - $5\frac{1}{2}$  is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2007 retirements of 2002 installations and ending with the 2016 retirements of the 2011 installations. Thus, the total amount of 143 for age interval  $4\frac{1}{2}$ - $5\frac{1}{2}$  equals the sum of:

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



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

Placement Band 2002-2016

	Age	Interval	(13)	13½-14½	12½-13½	111/2-121/2	10½-11½	91/2-101/2	81/2-91/2	71/2-81/2	61/2-71/2	5%-6%	41/2-51/2	31/2-41/2	21/2-31/2	11/2-21/2	12-11/2	0-1/2	
	Total During	Age Interval	(12)	26	4	64	83	93	105	113	124	131	143	146	150	151	153	80	1,606
		2016	(11)	26	19	18	17	20	20	20	9	9	20	23	25	25	24	13	308
		2015	(10)	25	22	22	16	19	16	8	9	19	19	52	22	23	Ξ		273
		2014	(6)	24	21	21	15	17	15	16	17	17	17	70	70	7			231
ments, Thousands of Dollars		<u>2013</u>	(8)	23	20	19	4	16	14	15	16	16	16	9	တ				196
	During Year	2012	(-)	16	18	17	13	14	13	14	15	15	14	∞					157
	During	2011	(9)	4	16	16	Ξ	13	12	13	13	13	7						128
Retiren		2010	(2)	13	15	<u>†</u>	11	12	7	12	12	9							106
		2009	(4)	12	13	13	10	7	9	7	9								86
		2008	(3)	7	12	12	တ	10	တ	5									68
		2007	(2)	10	7	7	∞	တ	4										53
;	Year	Placed	Ð	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total

Experience Band 2007-2016

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

Experience Band 2007-2016

Placement Band 2002-2016

	Age Interval (13)	13%-14%	111/2-12/2	101/2-111/2	912-1012	81/2-91/2	71/2-81/2	61/2-71/2	5%-6%	41/2-51/2	31/2-41/2	21/2-31/2	11/2-21/2	12-112	0-1/2	
	Total During Age Interval (12)	ı	, 1	09	1	(5)	ၑ	ı		1	10		(121)	ı	•	(50)
	<u>2016</u> (11)	1	1 1	ı	ı	1	1		ı	1	1	,	$(102)^{\circ}$			(102)
	<u>2015</u> (10)	ı	ı ı	1	ı	ı	ı	ı	ı	$22^a$	ı	1	1	ı		22
f Dollars	(9)	ı	1 1	(5) <sub>p</sub>	6 <sub>a</sub>	1	,	ı	(12) <sup>b</sup>	•	(19) <sup>b</sup>	1	1			(30)
Acquisitions, Transfers and Sales, Thousands of Dollars During Year	<u>2013</u> (8)	<sub>e</sub> 09	1 1	r	ı		1	ı	1	1,	1	ı		-		09
	<u>2012</u> (7)	ı	1 1		1	1	,		ı	ı	1					ı
	2011	ı	1 1	ı	ı	t	ı	1	1	ı						ı
ons, Trans	<u>2010</u> (5)	ı	1 1	ı	1	ı	1		ı							1
Acquisition	(4)	ı	1 1	1	•	ı	1	,								
	(3)		1 1	1	1	,										1
	(2)	, ,	1 1	1		ı										ı
1	Year <u>Placed</u> (1)	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total "

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

Parentheses Denote Credit Amount.

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

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

#### Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 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 $2\frac{1}{2}$ = \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½ = \$685.000 - \$22.000	= \$663.000

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

					SUMMA	RIZEU BY	SUMMARIZED BY AGE INTERVAL	KVAL				
Expe	Experience Band 2007-2016	2007-2016									Placement Band 2002-2016	2002-2016
				Expos	Exposures, Thousands of Dollars	sands of D	ollars				Total at	
Year			4	Annual Surviv		Beginning	ors at the Beginning of the Year	ar.			Beginning of	Age
Placed	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Age Interval	Interval
Ξ	(2)	(3)	<u>4</u>	(2)	(9)	(-)	(8)	(6)	(10)	(11)	(12)	(13)
2002	255	245	234	222	209	195	239	216	192	167	167	131/2-141/2
2003		268	256	243	228	212	194	174	153	131	323	121/2-131/2
2004	307	296	284	271	257	241	224	205	184	162	531	111/2-121/2
2005		330	321	311	300	289	276	262	242	226	823	10%-11%
2006		367	357	346	334	321	307	297	280	261	1,097	91/2-101/2
2007	420a	416	407	397	386	374	361	347	332	316	1,503	81/2-91/2
2008		460a	455	444	432	419	405	390	374	356	1,952	71/2-81/2
2009			510a	504	492	479	464	448	431	412	2,463	61/2-71/2
2010				580a	574	561	546	530	501	482	3,057	51/2-61/2
2011					e60a	653	639	623	628	609	3,789	41/2-51/2
2012						750a	742	724	685	663	4,332	31/2-41/2
2013							850a	841	821	799	4,955	21/2-31/2
2014								960a	949	926	5,719	11/2-21/2
2015									1,080a	1,069	6,579	1/2-11/2
, 2016										1,220a	7,490	0-1/2
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	
	<sup>a</sup> Additions during the year	ring the year	·									

For the entire experience band 2007-2016, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval  $4\frac{1}{2}$ - $5\frac{1}{2}$ , is obtained by summing:

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

#### **Original Life Table**

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

Percent surviving at age  $4\frac{1}{2}$  = 88.15 Exposures at age  $4\frac{1}{2}$  = 3,789,000 Retirements from age  $4\frac{1}{2}$  to  $5\frac{1}{2}$  = 143,000 Retirement Ratio = 143,000 ÷ 3,789,000 = 0.0377 Survivor Patio

Survivor Ratio = 1.000 - 0.0377 = 0.9623Percent surviving at age 5½ =  $(88.15) \times (0.9623) = 84.83$ 

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



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

Experience Band 2007-2016

Placement Band 2002-2016

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at	Exposures at	Retirements			Percent Surviving at
Beginning of	Beginning of	During Age	Retirement	Survivor	Beginning of
Interval	Age Interval	Interval	Ratio	Ratio	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
	7.400	00	0.0407	0.0000	400.00
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
14.5					35.66
Total	<u>44,780</u>	<u>1,606</u>			



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

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

Column 4 = Column 3 Divided by Column 2.

Column 5 = 1.0000 Minus Column 4.

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

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

#### **Smoothing the Original Survivor Curve**

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

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

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

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

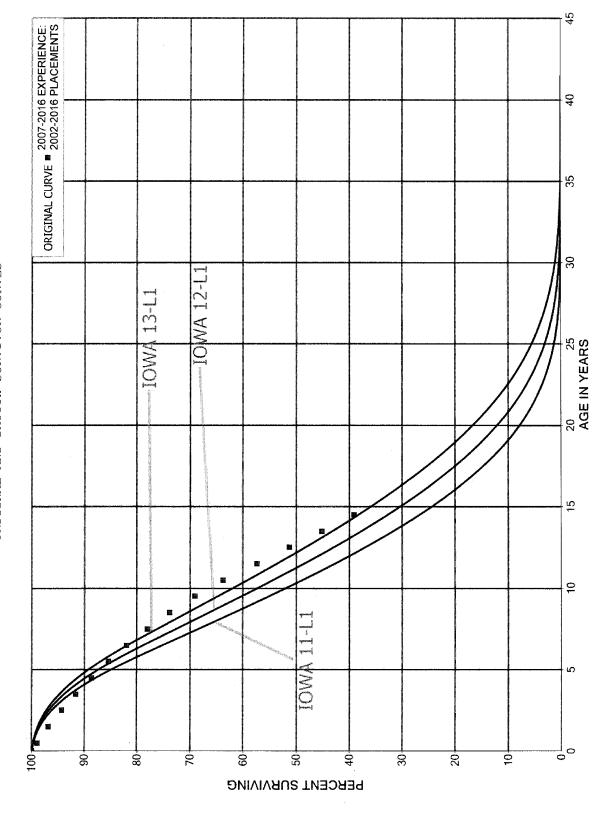
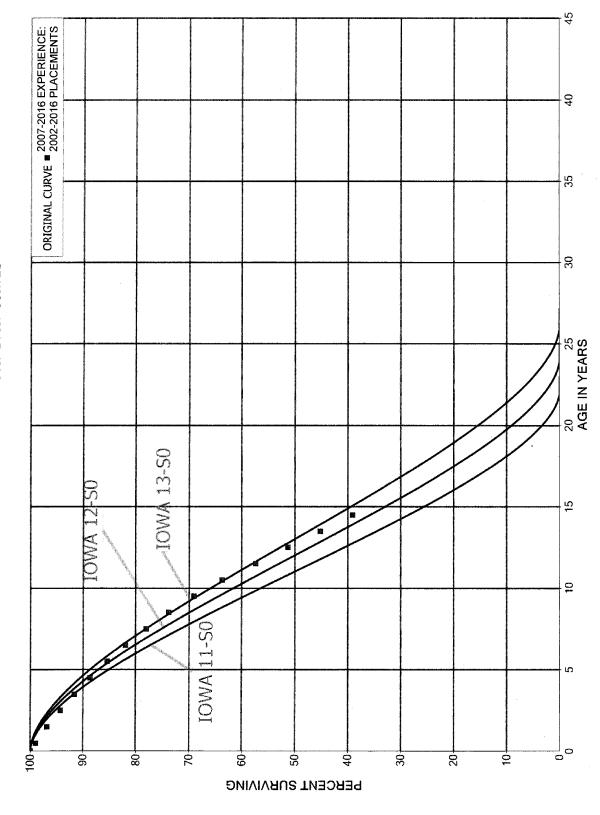


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN SO IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES



II-19

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

45 ORIGINAL CURVE 

2007-2016 EXPERIENCE: 2002-2016 PLACEMENTS 40 35 30 20 25 AGE IN YEARS IOWA 13-RI 5 OWA 12-RI 9 100 8 Ś 70 9 50 40 30 20 10 РЕВСЕИТ SURVIVING

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

45 ORIGINAL CURVE # 2007-2016 EXPERIENCE: 2002-2016 PLACEMENTS 40 35 39 20 25 AGE IN YEARS 5 2 IOWA ار م 80 29 8 70 8 30 0 РЕВСЕИТ SURVIVING

#### 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 are conducted for each service life study. A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements are obtained during field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

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

#### August 22, 2012

Capital Operations Center (Mechanicsburg)
Slate Hill Road Tank
Slate Hill Road Booster Station
Westport Booster Station
Silver Springs Water Treatment Plant
Hershey Corporate Office
Hershey Water Treatment Plant (G. C. Smith)
Swatara Creek Raw Water Pump Station
Westford Crossing Booster Station and Tank

#### August 20, 2012

Scranton Water Treatment Plant Williams Bridge Standpipe Oakmont Booster Station Mill Street Pump Station Nesbitt Dam Nesbitt Water Treatment Plant Watres Water Treatment Plant Mill Creek Standpipes Gardner Creek Pump Station

July 28, 2008
Claysville Water Treatment Plant
Jack Clutter Dam
Jack Clutter Pump Station
Saw Mill Pump House
School Street Dam
Claysville Tank



#### December 20, 2006

West Shore Regional Treatment Plant

#### August 19, 2002

Brownsville Treatment Plant
E. H. Aldrich Treatment Plant
Shire Oaks Relay Station and Standpipe
Hays Mine Treatment Plant
Beck's Run Raw Water Plant
New Castle Treatment Plant
Butler Treatment Plant

#### August 20, 2002

Huntsville Treatment Plant Huntsville Raw Water Plant Brownell Treatment Plant Scranton Treatment Plant Nesbitt Treatment Plant

#### July 12-13, 2001

Norristown Raw Water Plant Norristown Treatment Plant Swatara Creek Raw Water Plant Hershey Treatment Plant

#### January 14, 1997

Norristown District Office
Dekalb Standpipes and Pump Station
Norristown Treatment Plant
Forest Avenue Booster Station
Providence Road Booster Station
West Norriton Standpipe
Church Road Tank
Yardley Operations Center
Yardley Treatment Plant

#### December 3, 1996

Capital Operations and Customer Service Center Yellow Breeches Treatment Plant Evergreen Road Booster Station Enola Standpipe Silver Springs Treatment Plant New Kingston Booster Station Slate Hill Standpipe Old Hershey Treatment Plant New Hershey Treatment Plant North Hills Reservoir



Mt. Alem Reservoir

Scranton Treatment Plant Chinchilla Treatment Plant Williams Bridge Reservoir Edella Road Pump Station Griffin Reservoir Brownell Treatment Plant Route 106 Booster Station Fallbrook Treatment Plant

#### December 4, 1996

Nesbitt Treatment Plant Ceasetown Treatment Plant Hillside Treatment Plant Crystal Lake Treatment Plant

#### December 10, 1996

Lawrence Operations Center
New Castle Treatment Plant
McQuisten Standpipe and Booster Station
Neshannock Standpipe
Shenango Booster Station
Butler Treatment Plant
North Butler Booster Station
Lick Hill Standpipe
Indiana Treatment Plant
Pleasant Hills Standpipe and Booster Station
Whitewoods Booster Station
West End Standpipe

#### December 11, 1996

Cook Lane Distribution Center
Hays Mine Treatment Plant
Beck's Run Raw Water Plant
Mt. Washington Booster Station
E. H. Aldrich Treatment Plant
Shire Oaks Relay Station and Standpipe
Rocky Ridge Standpipes and Booster Station
Bethel Park Distribution Center
Castle Shannon Standpipe



### SERVICE LIFE CONSIDERATIONS

The service life estimates were based on judgment which considered a number of factors. The primary factors were the statistical analyses of data, current Company policies and outlook as determined during field reviews of the property and other conversations with management, and the survivor curve estimates from other water companies.

For depreciable groups which consist of numerous similar items of property, the distribution of the lives of the units in the group was judged on the basis of an average survival pattern for the entire group. The judgments for a life span group were made by estimating the life of the major facility in the group and assigning lives to the related items of property which terminate at the probable retirement date of the major facility.

The life span estimates for structures and equipment in Accounts 303, 304, 305, 306, 320 and 330 were based on the type of construction, attained age and specific plans of management. The following tabulation sets forth the estimated life span for each life span group.

<u>Life Span Group</u>	<u>Life Span</u>
Account 303.14, Water Rights	
Hibernia Dam	25
Account 303.35, Waste Handling and Treatment Land	
Sanitary Landfill	25
Account 304.2, Power and Pumping Structures	
Booster Stations	50
Account 304.3, Purification Buildings	
Filter Plants	55-75
Tank Painting	10
Waste Handling and Treatment Structures	50

Life Span Group	<u>Life Span</u>
Account 304.61, Office Buildings	
Regional Offices	45
Corporate Center	65
Account 304.62, Stores, Shop and Garage Structu	ires
Distribution Centers	45, 50
Account 305.00, Collecting and Impounding Reserv	<u>oirs</u>
Large Reservoirs	100, 120, 150
Account 306.00, Lake, River and Other Intakes	:
Intakes	80
Account 320.1, Purification System - Large Structu	<u>ires</u>
Filters and Related Structures	55-75
Painting	10
Account 330.00, Distribution Reservoirs and Standp	<u>pipes</u>
Tank Painting	10

The life span estimates for several groups were based primarily on the attained age. The age of these groups is approximately equal to or greater than the estimate typically made for the property group. For capitalized painting, the expectation is that there will be very minor retirements prior to the final retirement of the group. A square survivor curve, that is, no dispersion of retirements, was estimated for these groups. For the reservoirs, intakes, structures and filters, the expectation is that there will be retirements prior to the final retirement of the plant. Interim survivor curves were estimated for the plant based on prior studies and judgment. The interim survivor curves are as follows:

Account		Interim Survivor <u>Group</u>
303.35	Waste Handling and Treatment Land	100-R2
304.2	Power and Pumping Structures	70-R2.5
304.3	Purification Buildings	60-R2.5
304.36	Waste Handling and Treatment Structure	60-R2.5
304.61	Office Buildings	50-R1.5
304.62	Stores, Shop and Garage Structures	75-R2
305	Collecting and Impounding Reservoirs	125-R2.5
306	Lake, River and Other Intake	65-S1.5
320.1	Purification System - Large Structures	70-R2

The average survivor curves estimated for depreciable groups with numerous similar items were based on statistical analyses, Company policies, and previous estimates made for this and other companies. For 25 of the mass plant accounts and subaccounts for which survivor curves were estimated, the statistical analysis resulted in good indications of the survivor patterns experienced. Generally, the statistical analyses were the primary bases for the estimates for the following accounts:

	Property Group	Survivor Curve
304.15	Other Water Service Structures	60-R3
310	Oil Engine Pumping Equipment	40-R2
311.2 thru 311.54	Electric Pumping Equipment	50-R1
320.20	Purification System – Chemical Treatment	32-R1
320.30	Granular Activated Carbon	6-L2.5
330.00 thru 330.40	Distribution Reservoirs and Standpipes	65-R2
331	Mains and Accessories	110-R2
333	Services	70-R2
334	Meters	19-L1.5
335	Fire Hydrants	68-R2
341 thru 341.30	Transportation Equipment	6-L3
344	Laboratory Equipment	20-01
345	Power Operated Equipment	10 <b>-</b> S2

The estimated survivor curves for most property accounts are based on statistical analyses of plant accounting data and the range of lives and type curves used for other companies in the water industry. Account 331, Mains and Accessories, is one of the largest plant accounts and is used to illustrate the manner in which the study was conducted for the groups using the retirement rate method. Aged retirement and other plant accounting data were compiled for the years 1948 through 2011. These data were coded in the course of the Company's normal recordkeeping according to plant account or property group, type of transaction, year in which the transaction took place, and year in which the plant was placed in service. The data were analyzed by the retirement rate method of life analysis. The survivor curve chart for the account is presented on page VII-89 and the life table for the experience band is plotted on the chart that follows.

As the stub survivor curve chart illustrates, the experience band represents similar life characteristics and supports the 110-R2 survivor curve. The 110-year average life is within the range of lives used by others in the industry. Most other water companies estimate lives between 80 and 110 years.

The average survivor curve estimated for Account 307, Wells and Springs, is the 55-R2 and lives of approximately 45-55 years are typical for wells and appurtenances. The average survivor curve estimate for Account 334, Meters, is the 19-L1.5 which reflects the Company policy that retirements of installations will be based on the retirement of the meter.

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

The amortization periods selected for general plant Accounts 340, 342, 343, 346, 347 and 348 are discussed in the section, "Calculation of Annual and Accrued Amortization."

## PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

## PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

### **BOOK RESERVE**

The book reserve as of December 31, 2016, is the result of a bringforward of the book reserves established by the Commission for each of the companies that were merged to become Pennsylvania-American Water Company in the following rate orders:

<u>Company</u>	Order Entered	Docket No.
Keystone Water Company	March 29, 1985	R-842755
Riverton Consolidated Water Company	March 21, 1985	R-842675
Western Pennsylvania Water Company	January 24, 1985	R-842621

The book reserve activity subsequent to those dates consists of accruals, retirements, cost of removal, salvage and other debits and credits recorded to the book reserve through December 31, 2016. The actual reserve as recorded on the books of Pennsylvania Gas & Water and previously used for ratemaking purposes, was recorded as a credit to the Company's book reserve at the date of acquisition. The projected book reserve as of December 31, 2017, is a bringforward of the December 31, 2016 book reserve based on projected accruals, retirements, cost of removal, salvage and other credits.

### CALCULATION OF DEPRECIATION

The annual depreciation accruals as of December 31, 2017, are based on the straight line remaining life method and the equal life group procedure. For the purpose of calculating the remaining life accruals as of December 31, 2017, the book reserve is



allocated among vintages in proportion to the calculated accrued depreciation as of December 31, 2017.

<u>Group Depreciation Procedures</u>. 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.

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 December 31, 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 based on the equal life group procedure follow. The detailed calculations are set forth in the Results of Study section of the report.

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:

Composite Remaining Life = 
$$\frac{\sum (\frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life})}{\sum \frac{\text{Book Cost}}{\text{Life}}}.$$

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

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

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

or

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

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:

$$Ratio = 1 - \left(\frac{Remaining\ Life}{Service\ Life}\right)$$

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

$$Ratio = \left(\frac{Age}{Service\ Life}\right)$$

### CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most

of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is appropriate for certain General Plant accounts that represent numerous units of property, but a very small portion of depreciable water plant in service. The accounts and their amortization periods are as follows:

	Amortization Period,
Account	Years
340, Office Furniture and Equipment	
Office Furniture	20
Computers and Peripheral Equipment	5
Computer Software – 5-Year	5
Computer Software – 10-Year	10
Other Office Equipment	10
342, Stores Equipment	20
343, Tools and Work Equipment	20
346, Communication Equipment	
Equipment	15
Non-Telephone	15
Remote Control and Instrumentation	10
Telephone	10
347, Miscellaneous Equipment	25
348, Other Tangible Equipment	25

The annual amortization amount is determined by dividing the original cost for vintages whose age is less than the amortization period by the period of amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period.

### **NET SALVAGE**

Experienced net salvage is incorporated in the results of the study as it was reported on the Company's books and records for the period January 1, 2013 through December 31, 2016, and estimated for the period January 1, 2017 through December 31, 2017. The calculation of the amortization is shown in Table 5 on page V-12. The amounts

of salvage and removal cost by account for each year are set forth in the section beginning on page VIII-2.

Net salvage is presented in this manner to determine the amount of net salvage to be amortized to the cost of service for ratemaking purposes. In order to be consistent with this manner of recognizing net salvage, no adjustments for net salvage were made to the annual depreciation calculated for the individual accounts.

PART V. RESULTS OF STUDY



### PART V. RESULTS OF STUDY

### QUALIFICATION OF RESULTS

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

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

### **DESCRIPTION OF DETAILED TABULATIONS**

Table 1 presents the development of the net original cost used in the study. The results of the depreciation study are summarized in Table 2 which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to net original cost and the annual amortization of net salvage. Table 3 presents the bringforward to December 31, 2017 of the book reserve as of December 31, 2016. Table 4 sets forth the calculation of estimated depreciation accruals for the twelve months ended December 31, 2017. Table 5 presents the amortization of experienced

and estimated net salvage, by account, based on the five-year period, 2013-2017. The total amortization amount is incorporated in the total annual accrual in Table 2.

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 plotted on the chart. A cumulative summary, by year installed, for utility plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-3. The tabulations of experienced and estimated net salvage, by year and account for the five-year period 2013-2017, are presented in the section beginning on page VIII-2.

In the first section, 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 net original cost are presented in account sequence in the second section 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, remaining life expectancy, and the calculated annual accrual.

Detailed tabulations setting forth the cost of removal, gross salvage and net salvage amounts, by account and year, are presented in the third section. The net salvage amounts, by account and year, are carried forward to Table 5, which presents the five-year amortization of net salvage.

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2017

NET ORIGINAL COST AS OF DECMEBER 31, 2017 (6)	774,398.06 2,404,599.20 15,569.16	3,194,566.42	3,576,428.03 15,412.25 3,508,140.83 2,389,882.77 1,762,423.06 5,288,947.81 4,035,102.99	20,576,337.74		1,942,822.51 155,025.17 9,576,726.11 34,442,969.90 93,905,163.70 242,935,375.32 11,733,221.74 65,958.42 134,806.79 17,094,819.62 32,773,506.14 3,533,813.39 104,994,473.90 17,500,498.35 11,170,283.16 16,166,661.81 10,510,938.14 16,34,152.00 8,509,617.14 47,432,222.90
EXCLUDED PROPERTY (5) =		0.00		0.00		41,310.00 230,375.00 12,834.00 126,561.00 116,716.00
CONTRIBUTIONS IN AID OF CONSTRUCTION (4)		0.00	215,927.20	215,927.20		1,289,607.60 169,605.01 60,000.00 576.00 3,575.00 41,551.00 71,610.27 118,273.00 1,954,569.05
CUSTOMER ADVANCES (3)		0.00		0.00		
ORIGINAL COST AS OF DECEMBER 31, 2017 (2)	774,398.06 2,404,599.20 15,569.16	3,194,566.42	3,576,428.03 15,412.25 3,724,068.03 2,389,882.77 1,762,423.06 5,288,947.81 4,035,102.99	20,792,264.94		1,942,822.51 155,025.17 9,576,726.11 34,442,969.90 95,236,081.30 243,335,355.33 11,733,221.74 65,958.42 134,806.79 17,167,653.62 32,774,082.14 3,533,821.39 104,998,048.90 17,542,049.35 11,241,893.43 16,311,495.81 16,341,152.00 8,599,617.14 47,432,222.90 7,077,025.14
DEPRCIABLE GROUP  (1)	301.00 ORGANIZATION 302.00 FRANCHISES AND CONSENTS 303.00 MISCELLANEOUS INTANGIBLE PLANT	TOTAL INTANGIBLE PLANT NONDEPRECIABLE PLANT	303.20 POWER AND PUMPING LAND 303.30 PURIFICATION LAND 303.40 TRANS. AND DISTR. LAND AND RIGHTS OF WAY 303.50 DISTRIBUTION RESERVOIRS AND STANDPIPE LAND 303.51 TRANSMISSION AND DISTRIBUTION - LAND 303.52 TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY 303.61 OFFICE LAND	TOTAL NONDEPRECIABLE PLANT	DEPRECIABLE PLANT	303.14 WATER RIGHTS - HIBERNIA 303.35 WASTE HANDLING AND TREATMENT LAND 303.99 COMPREHENSIVE PLANNING STUDIES 304.15 OTHER WATER SOURCE STRUCTURES 304.20 POWER AND PUMPING STRUCTURES 304.30 PURIFICATION BUILDINGS 304.31 WASTE HANDLING & TREATMENT STRUCTURE 304.39 PURIFICATION BUILDINGS - TANK PAINTING 304.61 OFFICE BUILDINGS 304.63 STORES, SHOP AND GARAGE BUILDINGS 304.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS 305.00 COLLECTING AND IMPOUNDING RESERVOIRS 306.00 OTHER POWER PRODUCTION EQUIPMENT 311.20 ELECTRIC PUMPING EQUIPMENT 311.51 SOURCE OF SUPPLY 311.53 WATER TREATMENT



TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2017

DEPRCIABLE GROUP		ORIGINAL COST AS OF DECEMBER 31, 2017	CUSTOMER ADVANCES	CONTRIBUTIONS IN AID OF CONSTRUCTION	EXCLUDED PROPERTY	NET ORIGINAL COST AS OF DECMEBER 31, 2017
(1)		(2)	(3)	- (4)	(5)	(9) =
PURIFICATION SYSTEM - LARGE STRUCTURES PURIFICATION SYSTEM - LARGE STRUCTURES PAINT PUBLICATION SYSTEM - LARGE STRUCTURES PAINT	71	173,848,920.78 103,245.73		27,162.27	627,852.00	173,193,906.51 103,245.73
	3, 72,	3,770,702.48 72,714,077.30		42,367.00		3,770,702.48 72,671,710.30
PUKIFICATION SYSTEM - CHEM. TREATMENT PAINT GRANULAR ACTIVATED CARBON	00	8,167.87				8,167.87
- EQUIPMENT	7	16,075,077.23				16,075,077.23
DISTRIBUTION RESERVOIRS AND STANDPIPES  ELEVATED TANKS AND STANDPIDES	<b>8</b> 6 <b>+</b>	99,910,936.09		2,905,114.51		97,005,821.58
	<u> </u>	15,219,939.77				13,919,959.77
DE FACILITIES		818,744.06				818,744.06
	12	12,769,078.14				12,769,078.14
DISTR. RESERVOIRS AND STANDPIPES - PAINTING 2, DISTR. PESTRYOIRS AND STANDPIPES - PAINTING	2, 2,	2,375,281.44				2,375,281.44
	2 520	31,639,166.41 2 520 836 551 44	70 002 608 14	174 472 690 79	00 996 003	31,859,186.41
	555,	555,317,578.41	1,753,981.88	9,002,408.46	302,300.00	544.561.188.07
	192	192,909,606.13	305,369.35	1,653,080.42		190,951,156.36
	10	101,496,000.52		4,275,268.25		97,220,732.27
	=	17,390,701.43				17,390,701.43
QUIPMENT	21	21,824,142.17				21,824,142.17
	0.0	26,373,567.42				26,373,567.42
YEAK	٥	62,548,894.51		1		62,548,894.51
OTHER OFFICE EQUIPMENT		50,413.74		354.00		50,059.74
	•	10,002.14				10,002.14
	·	10,526,201.47				16,528,201.47
ALITON		4 273 721 37				75 157 575 7
OTHER		5 175 536 43				4,213,121.31 5 175 536 43
STORES EQUIPMENT		400,072.70				400 072 70
QUIPMENT	2	24,418,520.37		61.00		24,418,459.37
	(,)	3,323,028.15				3,323,028.15
ERATED EQUIPMENT	2	2,571,357.61				2,571,357.61
	2,	2,299,528.30				2,299,528.30
		919,288.58				919,288.58
REMOTE CONTROL AND INSTRUMENTATION	ີ່ດີ	5,390,781.98				5,390,781.98
OLIS EQLIDMENT	4	972,312.43		4 085 00		9/2,912,43 16 642 716 36
		735,410.29				735,410.29
TOTAL DEPRECIABLE PLANT	4,72	4,725,300,574.93	81,141,959.37	196,092,948.62	1,558,014.00	4,446,507,652.94
TOTAL WATER PLANT IN SERVICE 4,74:	4,74	4,749,287,406.29	81,141,959.37	196,308,875.82	1,558,014.00	4,470,278,557.10

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2017

INTANGIBI 301.00 O 302.00 F 303.00 F 7 7 NONDEPR 303.20 P 303.20 P	INTANGIBLE PLANT  (1)  (1)  (1)  301.00 ORGANIZATION 302.00 FRANCHISES AND CONSENTS 303.00 MISCELLANEOUS INTANGIBLE PLANT  TOTAL INTANGIBLE PLANT  NONDEPRECIABLE PLANT 303.30 POWER AND PUMPING LAND 303.30 TRANSMISSION AND DISTRIBUTION I AND AND RIGHTS OF WAY	SURVIVOR CURVE (2) (2) NONDEPR. NONDEPR. NONDEPR. NONDEPR.	NET ORIGINAL COST  AS OF  DECEMBER 31, 2017  (3)  774,388.06 2,404,589.20 15,589.16 3,194,566.42 15,472.25 3,576,428.03 15,472.25	୍   ଜୁନ୍ଦ୍ର ମ ଅନ୍ତ	BOOK RESERVE (4)	FUTURE ACCRUALS (5)	ANNUAL ACCRUAL AMOUNT (6)	ANNUAL ACCRUAL RATE, PERCENT (7)	COMPOSITE REMAINING LIFE (8)
303.50 D 303.51 T 303.52 T 303.61 O PEPRECIA 303.14 W 303.35 W	303.50 DISTRIBUTION RESERVORS AND STANDPIPES LAND 303.51 TRANSMISSION AND DISTRIBUTION - LAND 303.52 TRANSMISSION AND DISTRIBUTION - RIGHTS OF WAY 303.61 OFFICE LAND  TOTAL NONDEPRECIABLE PLANT  DEPRECIABLE PLANT 303.14 WATER RIGHTS - HIBERNIA 303.35 WASTE HANDLING AND TREATMENT LAND 303.99 COMPREHENSIVE PLANNING STUDIES	NONDEPR. NONDEPR. NONDEPR. NONDEPR. 100-125-SQ 100-425-SQ 5-SQ 5-SQ 5-SQ 5-SQ 5-SQ	2,389,882,77 1,762,423.06 5,288,947,81 4,035,102,99 20,576,337,74 1,942,822,51 155,025,17 9,576,726,11	882.77 223.06 427.81 102.99 537.74 525.51 225.17	1,643,499 155,025 5,352,539	299,324 0 4,224,187	119,730 0 1,291,525	6.16	
304.15 O 304.20 P 7 Ti	OTHER WATER SOURCE STRUCTURES POWER AND PUWING STRUCTURES LARGE STRUCTURES OTHER STRUCTURES TOTAL ACCOUNT 304.2 PURFICATION BUILDINGS LARGE STRUCTURES OTHER STRUCTURES OTHER STRUCTURES	60-R3 70-R2.5 55-R3 60-R2.5 55-R3	34,442,969,90 53,316,256,38 40,588,907,32 93,905,163,70 196,533,541,93 46,401,833,39 242,935,375,32		6,909,235 6,650,281 8,383,570 15,033,851 17,431,599 85,165,103	27,533,735 46,665,337 32,205,337 78,871,312 128,800,036 28,970,234 157,770,270	629,833 1,267,342 1,012,188 2,279,525 4,133,285 828,242 4,961,527	2.38 2.49 2.43 2.43 1.78 2.04	43.7 36.8 31.8 34.6 31.2 35.0
304.36 W 304.38 W 304.39 PP 304.61 O	WASTE HANDLING AND TREATMENT STRUCTURES WASTE HANDLING AND TREATMENT STRUCTURES PAINTING PURIFICATION BUILDINGS - TANK PAINTING OFFICE BUILDINGS LARGE STRUCTURES OTHER OTHER STRUCTURES	60-R2.5 10-SQ 10-SQ 50-R1.5 45-R3	11,733,221,74 66,958,42 134,806,79 10,190,975,29 6,903,844,33 17,094,819,62	733,221,74 65,958.42 134,806.79 190,975.29 903,844.33	5,115,719 50,676 114,519 5,090,135 3,182,511 8,272,646	6,617,503 15,282 20,288 5,100,840 3,721,333 8,822,173	321,210 2,038 2,705 2,705 283,789 154,927 438,716	2.74 3.09 2.01 2.78 2.24 2.57	20.6 7.5 7.5 7.5 18.0 24.0 20.1
304.62 S	STORES, SHOP AND GARAGE BUILDINGS LARGE STRUCTURES OTHER OTHER STRUCTURES TOTAL ACCOUNT 304.62	75-R2 45-R3	25,386,080,53 7,387,425,61 32,773,506,14	80.53 25.61 06.14	5,056,449 3,297,382 8,353,831	20,329,631 4,090,044 24,419,675	644,328 150,761 795,089	2.54 2.04 2.43	31.6 27.1 30.7

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2017

COMPOSITE REMAINING	(8)	35.4	32.3	60.9 18.4	54.8	35.4 31.8	34.4	32.3 27.6	30.0 30.6 29.9 27.9 30.7	28.9	28.9 31.3	29.1	1.9 16.8	23.8	1.9 13.0	21.3	39.2 45.5 45.1 45.2 45.8 7.5 6.5	7.72
ANNUAL ACCRUAL RATE, PEDCENT	(2)	2.36	2.18	1.45 3.70	1.59	1.96 2.17	2.01	1.96	2.62 2.45 2.85 1.78 2.37	2.09	2.04	2.01	0.57 3.50	2.42	6.87 3.07	2.60	1.71 1.93 2.05 2.00 2.00 1.95 0.84	2.38
ANNUAL ACCRUAL AMOUNT	(9)	83,253	9,513,896	1,424,530	1,665,234	252,843 99,638	352,481	218,764 452,437	275,545 40,097 242,401 845,391 167,613	1,571,047	3,224,035 264,034	3,488,069	21,417 2,543,042 0	6,052,528	576,781 492,869	7,122,178	1,658,909 268,671 333,947 16,374 248,739 19,840 1,613,711	4,160,191
FUTURE ACCRITALS	(5)	2,946,429	307,016,667	86,804,162 4,429,424	91,233,586	8,948,212 3,165,077	12,113,289	7,062,059 12,506,285	8,259,030 1,226,212 7,235,818 23,620,325 5,139,831	45,481,216	93,123,330 8,271,351	101,394,681	0 40,152 42,749,114 0	144,183,947	1,110,538 6,431,383	151,725,868	65,033,251 12,235,835 15,052,836 740,176 11,387,282 148,798 10,510,160	115,108,338
BOOK	(4)	587,392	129,602,972	11,685,749 2,075,139	13,760,888	3,964,281 1,422,928	5,387,209	4,108,224 3,660,377	2,251,908 407,940 1,273,799 23,811,898 1,937,194	29,682,739	64,774,500 7,024,724	71,799,224	103,246 3,730,550 29,922,596 8,168	105,563,784	7,281,524 9,643,694	122,489,002	31,972,571 1,684,125 1,235,269 7,8568 1,381,796 2,226,483 21,349,026	59,927,838
NET ORIGINAL COST AS OF DECEMBER 31, 2017	(9)	3,533,821.39	436,619,643.02	98,489,910.42 6,504,563,48	104,994,473.90	12,912,493.76 4,588,004.59	17,500,498.35	11,170,283.16 16,166,661.81	10,510,938,14 1,654,152.00 8,509,617,14 47,422,222.90 7,077,025,14	75,163,955.32	157,897,831.72 15,296,074.79	173,193,906.51	103,245.73 3,770,702,48 72,671,710.30 8,167.87	249,747,732.89	8,392,061.87 16,075,077.23	274,214,871.99	97,005,821.58 13,919,969.77 16,288,105.48 818,744.06 12,769,078.14 2,375,281.44 31,859,186.41	175,036,176.88
SURVIVOR CURVE	(2)	50-R2.5		125-R2.5 • 75-R3		65-S1.5 60-S1		55-R2 40-R2.5	50-R1 50-R1 50-R1 50-R1		70-R2 55-R3		10-5Q 10-5Q 32-R1 FULLY ACCRUED		6-L2.5 25-R3		65-R2 65-R2 65-R2 65-R2 65-R2 10-S0	
DEPRECIABLE GROUP	(1)	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	TOTAL ACCOUNT 304	COLLECTING AND IMPOUNDING RESERVOIRS LARGE RESERVOIRS OTHER RESERVOIRS	TOTAL ACCOUNT 305	LAKE, RIVER AND OTHER INTAKES LARGE RESERVOIRS OTHER RESERVOIRS	TOTAL ACCOUNT 306	WELLS AND SPRINGS POWER GENERATION EQUIPMENT	PUMPING EQUIPMENT ELECTRIC PUMPING EQUIPMENT OTHER SOURCE OF SUPPLY WATER TREATMENT TRANSMISSION AND DISTRIBUTION	TOTAL ACCOUNT 311	PURIFICATION SYSTEM PURIFICATION STRUCTURES LARGE STRUCTURES OTHER OTHER STRUCTURES	TOTAL ACCOUNT 320.1	LARGE STRUCTURES PAINT LARGE STRUCTURES PAINT CHEMICAL TREATMENT CHEMICAL TREATMENT PAINT	TOTAL PURIFICATION SYSTEM	GRANULAR ACTIVATED CARBON WASTE HANDLING AND TREATMENT - EQUIPMENT	TOTAL ACCOUNT 320	DISTRIBUTION RESERVOIRS AND STANDPIPES ELEVATED TANKS AND STANDPIPES GROUND LEVEL FACILITIES BELOW GRADE FACILITIES CLEAWELL DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING	TOTAL ACCOUNT 330
		304.63		305.00		306.00		307.00 310.00	311.20 311.50 311.52 311.53		320.10		320.18 320.20 320.20		320.30 320.37		330.00 330.10 330.20 330.20 330.40 330.58 330.58	

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2017

COMPOSITE REMAINING LIFE (8)	73.5 44.5 10.1 46.8	7.2.2.2.4.4.0.1.0.1.0.1.0.1.0.1.0.1.0.1.0.1.0.1		2. 2. 4. 6. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	ଧ୍ରିପ୍ପ୍ର ପ୍ରମ୍ୟ ପ୍ର	12.4 14.4	
ANNUAL ACCRUAL RATE, PERCENT	1.18 1.71 5.65 1.69	6.53 22.40 22.20 11.35 18.11	13.74 14.34 9.70 13.61	5.47 6.57 5.47 4.99 5.56	7.70 6.78 10.33 10.33	4.55 4.06 <b>2.30</b>	
ANNUAL ACCRUAL AMOUNT (6)	26,673,408 9,310,348 10,783,688 1,640,521	1,135,011 4,899,644 5,853,895 7,099,825 9,068	0 2,271,445 1,806,774 414,482 704,165	26,302 1,334,808 165,898 142,841	177,080 62,333 556,968 100,449 896,830	757,757 29,847 102,414,040	10,387,955
FUTURE ACCRUALS (5)	1,959,526,842 414,076,799 108,949,143 76,807,717	8,429,890 12,738,615 16,524,786 36,182,168 9,068	0 6,462,789 5,543,369 995,024 2,101,985	251,116 18,623,667 1,537,377 358,552	687,699 642,953 3,067,446 351,344 4,749,442	9,431,808 429,224 3,430,500,200	3,430,500,200
BOOK RESERVE (4)	307,251,055 130,484,389 82,002,013 20,413,015	8,960,811 9,085,527 9,848,781 26,366,727 40,992	16,002 10,065,412 7,058,190 3,278,697 3,073,551	148,957 148,957 5,794,792 1,785,651 2,212,806	1,611,829 276,336 2,323,336 621,168 4,832,669	7,210,908 306,186	1,016,007,443
NET ORIGINAL COST AS OF DECEMBER 31, 2017	2.266,777,896,52 544,561,188,07 190,951,156,36 97,220,732,27	17,390,701,43° 21,824,142.17 26,373,567,42 62,548,894,51 50,059.74	16,002.14 16,528,201.47 12,601,559.03 4,273,77 5,115,536.43	24,418,459.70 24,418,459.37 3,323,028.15 2,571,357.61	2,299,528,30 919,288,58 6,390,781,98 972,512.45	16,642,716.36 735,410.29 4,446,507,652.94	4,470,278,557.10
SURVIVOR CURVE (2)	110-R2 70-R2 19-L1.5 72-R2	20-50 5-80 5-80 10-80 10-80	6-13 6-13 6-13 6-13 6-13	20-SQ 20-SQ 20-R0:5 10-S2	15-SQ 15-SQ 10-SQ 10-SQ	25-SQ 25-SQ	
DEPRECIABLE GROUP (1)	MAINS AND ACCESSORIES SERVICES METERS AND METER INSTALLATIONS FIRE HYDRANTS	OFFICE FURNITURE AND EQUIPMENT FURNITURE COMPUTES AND PERIPHERAL EQUIPMENT COMPUTES SOFTWARE - 5 YEAR COMPUTER SOFTWARE - 10YEAR OTHER OFFICE EQUIPMENT TOTAL ACCOUNT 340	TRANSPORATION EQUIPMENT NOT CLASSIFIED LIGHT DUTY TRUCKS EQUIPMENT AUTOS OTHER		COMUNICATION EQUIPMENT EQUIPMENT NON-TELEPHONE REMOTE CONTROL AND INSTRUMENTATION TELEPHONE TOTAL ACCOUNT 346	MISCELLANEOUS EQUIPMENT OTHER TANGIBLE EQUIPMENT TOTAL DEPRECIABLE PLANT	AMORTIZATION OF NET SALVAGE TOTAL WATER PLANT IN SERVICE
	331.00 333.00 334.00 335.00	340.00	341.00	342.00 343.00 344.00 345.00	346.00	347.00	

\* Life Span Procedure was used. Curve shown is Interim Survivor Curve.

PENNSYLVANIA-AMERICAN WATER COMPANY

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2017, OF BOOK RESERVE AS OF DECEMBER 31, 2016

PROJECTED BOOK RESERVE BALANCE AS OF	12/31/2017	(8)	1,643,499	155,025	5,352,539	6,909,235	15,033,851	85,330,298	5,115,719	8,272,646	8,353,831	587,392	13,760,888	5,387,209	4,108,224	3,660,377	29,682,739	105,563,784	7,281,524	9,643,694	59,927,838	307,251,055	130,484,389	82,002,013	20,413,015	54,302,838	23,491,852	148,957	5,794,792	1,785,651	2,212,806	4,832,669	7,210,908	306,186	1,016,007,443
	ACQUISITIONS	(7)																		-															0
PROJECTED	SALVAGE	+ (9) +						5,300														22,724	34,443	184,502	2,655										249,624
PROJECTED COST OF	REMOVAL	(5)						24,380			14,400	8,250	59,314					91,944			475,306	4,726,592	1,274,406	1,599,021	246,915		11,060								8,531,588
PROJECTED	RETIREMENTS	- (4)						106,000			80,000	25,000	211,836					766,200			086'869	2,272,400	688,868	6,150,079	132,750	3,921,936	1,106,000	2,240	1,434,963			3,634,340	421,776		21,653,368
PROJECTED DEPRECIATION	ACCRUALS	- (3)	119,673	35,306	1,268,770	667,927	2,360,389	6,282,951	321,490	483,470	834,590	296'88	1,743,802	351,353	234,082	481,038	1,773,872	6,318,079	1,271,178	825,165	6,902,268	30,847,912	10,176,394	10,946,360	1,740,832	18,528,982	5,654,189	26,198	1,324,236	197,525	453,190	761,338	753,924	30,306	113,805,756
BOOK RESERVE BALANCE AS OF	12/31/2016	(2)	1,523,826	119,719	4,083,769	6,241,308	12,673,462	79,172,427	4,794,229	7,789,176	7,613,641	531,675	12,288,236	5,035,856	3,874,142	3,179,339	27,908,867	100,103,849	6,010,346	8,818,529	54,199,856	283,379,411	122,236,826	78,620,251	19,049,193	39,695,792	18,954,723	124,999	5,905,519	1,588,126	1,759,616	7,705,670	6,878,760	275,880	932,137,015
	Account	<del>(</del> )	303.14	303.35	303.99	304.15	304.20	304.30	304.36	304.61	304.62	304.63	305.00	306.00	307.00	310.00	311.00	320.00	320.30	320.37	330.00	331.00	333.00	334.00	335.00	340.00	341.00	342.00	343.00	344.00	345.00	346.00	347.00	348.00	TOTAL

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2017

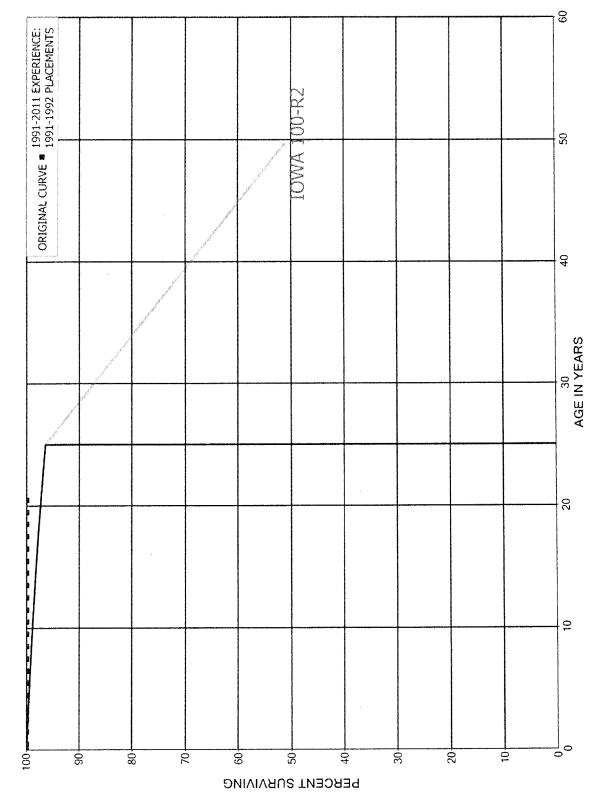
NET ORIGINAL COST AS OF 12/31/2016 (2)
1,942,822.51
155,025.17
9,5/6,726.11
34,442,969.90
93,905,163.70 243,436,400,53
11,733,22
17,094,819.62
32,773,506.14
3,533,821.39
104,994,473.90
17,500,498.35
11,170,283.16
16,166,661.81
75,163,955.32
249,747,732.89
8,392,061.87
15,075,077,23
2,266,777,896.52
544,561,188.07
190,951,156.36
97,220,732.27
128,187,365.27
38,595,020.44
400,072.70
24,418,459.37
3,323,02
2,571,35
9,582,111.31
16,642,716.36
735,410.29
4,446,507,652.94

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

5 - YEAR	AMORT.	(2)	(5)	€ ←	33.733	28.074	274.546	28,538	36,299	15,940	132,996	1,773	8,105	18,264	106,387	534,544	40,689	39,866	1,033,400	5,999,065	780,556	1,084,889	143,747	12,785	5,479	126	13,526	2,442	888	3,943	7,359	10,387,955
	2017	(5)	0	0	0	0	(19,080)	0	(14,400)	(8,250)	(59,314)	0	0	0	0	(91,944)	0	0	(475,306)	(4,703,868)	(1,239,963)	(1,414,519)	(244,260)	0	(11,060)	0	0	0	0	0	0	(8,281,964)
NET SALVAGE	2016	(5)	26	0	(40,089)	(26,237)	(191,035)	(70,936)	(48,019)	(11,676)	(84,116)	(6,542)	(1,054)	(45,776)	(103,119)	(101,953)	(16,457)	(192,597)	(1,370,181)	(11,564,326)	(987,614)	(770,084)	(276,615)	(41,508)	(1,158)	0	(18,941)	(5,015)	(472)	(777)	(4,547)	(16,010,818)
EXPERIENCED AND ESTIMATED NET SALVAGE	2015	(4)	0	0	(46,243)	(56,757)	(476,945)	0	(3,615)	(9,776)	(46,348)	(324)	(16,118)	(8,915)	(159,509)	(182,337)	(78,144)	0	(1,024,942)	(7,578,550)	(606,667)	(1,258,131)	81,394	(20,871)	(13,623)	(020)	(19,321)	(3,939)	(3,680)	(7,472)	(21,448)	(11,612,910)
EXPERIENCE	2014	(3)	0	(4)	(46,636)	(53,488)	319,920	(65,824)	(80,107)	0	(317,805)	(2,002)	(13,938)	0	(162,341)	(93,583)	(27,730)	(6,734)	(631,746)	(3,496,437)	(446,624)	(764,036)	(146,091)	1,941	(1,555)	0	(9,640)	(683)	(201)	(1,029)	(9,534)	(6,056,209)
	2013	(2)	0	0	(5,694)	(3,890)	(1,005,590)	(5,931)	(35,356)	0	(157,400)	0	(9,413)	(36,629)	(106,966)	(2,202,903)	(81,115)	0	(1,664,824)	(2,652,144)	(621,910)	(1,217,676)	(133,162)	(3,485)	0	0	(19,725)	(2,275)	(98)	(10,436)	(1,265)	(9,977,877)
	Account	Ē		303.35	304.15	304.20	304.30	304.61	304.62	304.63	305.00	306.00	307.00	310.00	311.00	320.00	320.30	320.37	330.00	331.00	333.00	334.00	335.00	340.00	341.00	342.00	343.00	344.00	345.00	346.00	347.00	TOTAL

**PART VI. SERVICE LIFE STATISTICS** 

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 303.35 WASTE HANDLING AND TREATMENT LAND ORIGINAL AND SMOOTH SURVIVOR CURVES

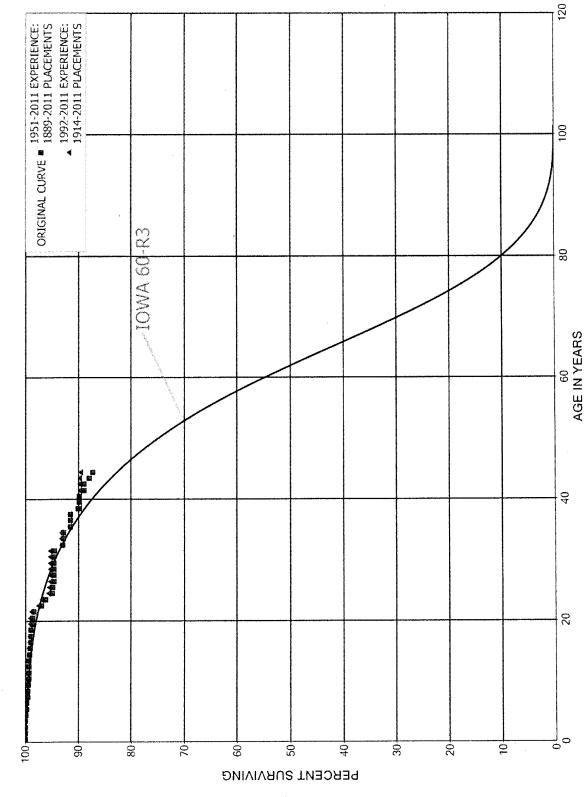


### ACCOUNT 303.35 WASTE HANDLING AND TREATMENT LAND

### ORIGINAL LIFE TABLE

PLACEMENT :	BAND 1991-1992		EXPER	RIENCE BAN	D 1991-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	155,025		0.0000	1.0000	100.00
0.5	155,025		0.0000	1.0000	100.00
1.5	155,025		0.0000	1.0000	100.00
2.5	155,025		0.0000	1.0000	100.00
3.5	155,025		0.0000	1.0000	100.00
4.5	155,025		0.0000	1.0000	100.00
5.5	155,025		0.0000	1.0000	100.00
6.5	155,025		0.0000	1.0000	100.00
7.5	155,025		0.0000	1.0000	100.00
8.5	155,025		0.0000	1.0000	100.00
9.5	155,025		0.0000	1.0000	100.00
10.5	155,025		0.0000	1.0000	100.00
11.5	155,025		0.0000	1.0000	100.00
12.5	155,025		0.0000	1.0000	100.00
13.5	155,025		0.0000	1.0000	100.00
14.5	155,025		0.0000	1.0000	100.00
15.5	155,025		0.0000	1.0000	100.00
16.5	155,025		0.0000	1.0000	100.00
17.5	155,025		0.0000	1.0000	100.00
18.5	155,025		0.0000	1.0000	100.00
19.5	70,430		0.0000	1.0000	100.00
20.5					100.00

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1889-2011		EXPER	RIENCE BAN	0 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	22,571,455	200	0.0000	1.0000	100.00
0.5	22,441,800	12,470	0.0006	0.9994	100.00
1.5	11,932,068	2,656	0.0002	0.9998	99.94
2.5	10,857,183		0.0000	1.0000	99.92
3.5	9,643,400	9,550	0.0010	0.9990	99.92
4.5	7,773,638	6,211	0.0008	0.9992	99.82
5.5	7,378,993		0.0000	1.0000	99.74
6.5	5,931,667	15,845	0.0027	0.9973	99.74
7.5	6,899,484	368	0.0001	0.9999	99.48
8.5	4,629,076	4,345	0.0009	0.9991	99.47
9.5	3,781,955	2,774	0.0007	0.9993	99.38
10.5	4,276,398	1,333	0.0003	0.9997	99.30
11.5	4,057,229		0.000	1.0000	99.27
12.5	4,051,687	1,563	0.0004	0.9996	99.27
13.5	3,751,988	4,200	0.0011	0.9989	99.24
14.5	3,752,007	688	0.0002	0.9998	99.12
15.5	3,332,492	4,248	0.0013	0.9987	99.11
16.5	3,163,920	1,592	0.0005	0.9995	98.98
17.5	1,829,677	568	0.0003	0.9997	98.93
18.5	1,681,940	2,737	0.0016	0.9984	98.90
19.5	1,329,784	1,129	0.0008	0.9992	98.74
20.5	948,218	1,994	0.0021	0.9979	98.65
21.5	919,615	13,852	0.0151	0.9849	98.45
22.5	763,853	6,203	0.0081	0.9919	96.96
23.5	755,393	9,485	0.0126	0.9874	96.18
24.5	810,600	1,217	0.0015	0.9985	94.97
25.5	707,353	1,291	0.0018	0.9982	94.83
26.5	600,674		0.0000	1.0000	94.65
27.5	595,820		0.0000	1.0000	94.65
28.5	572,381	150	0.0003	0.9997	94.65
29.5	590,628	122	0.0002	0.9998	94.63
30.5	358,251	235	0.0007	0.9993	94.61
31.5	175,122	2,962	0.0169	0.9831	94.55
32.5	93,503	153	0.0016	0.9984	92.95
33.5	107,669		0.0000	1.0000	92.80
34.5	120,508	1,648	0.0137	0.9863	92.80
35.5	116,122	75	0.0006	0.9994	91.53
36.5	111,698		0.0000	1.0000	91.47
37.5	98,725	1,501	0.0152	0.9848	91.47
38.5	96,862	242	0.0025	0.9975	90.08



### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1889-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	105,970	•	0.0000	1.0000	89.85
40.5	98,702	1,019	0.0103	0.9897	89.85
41.5	107,576		0.0000	1.0000	88.92
42.5	105,665	1,131	0.0107	0.9893	88.92
43.5	90,011	686	0.0076	0.9924	87.97
44.5	78,029		0.0000	1.0000	87.30
45.5	51,921	121	0.0023	0.9977	87.30
46.5	43,553		0.0000	1.0000	87.10
47.5	43,662	75	0.0017	0.9983	87.10
48.5	43,587		0.0000	1.0000	86.95
49.5	38,531		0.0000	1.0000	86.95
50.5	38,107		0.0000	1.0000	86.95
51.5	38,107		0.0000	1.0000	86.95
52.5	38,107		0.0000	1.0000	86.95
53.5	38,107		0.0000	1.0000	86.95
54.5	38,311		0.0000	1.0000	86.95
55.5	40,672		0.0000	1.0000	86.95
56.5	40,729		0.0000	1.0000	86.95
57.5	40,729		0.0000	1.0000	86.95
58.5	40,729		0.0000	1.0000	86.95
59.5	40,729		0.0000	1.0000	86.95
60.5	40,729	2,498	0.0613	0.9387	86.95
61.5	41,671	232	0.0056	0.9944	81.62
62.5	41,439	2,808	0.0678	0.9322	81.16
63.5	38,344	2,900	0.0756	0.9244	75.66
64.5	35,444	495	0.0140	0.9860	69.94
65.5	32,820	3,440	0.1048	0.8952	68.96
66.5	28,639		0.0000	1.0000	61.74
67.5	27,493	259	0.0094	0.9906	61.74
68.5	27,234		0.0000	1.0000	61.15
69.5	27,234	398	0.0146	0.9854	61.15
70.5	26,836		0.0000	1.0000	60.26
71.5	22,855		0.0000	1.0000	60.26
72.5	22,855		0.0000	1.0000	60.26
73.5	23,540		0.0000	1.0000	60.26
74.5	23,540		0.0000	1.0000	60.26
75.5	23,540		0.0000	1.0000	60.26
76.5	24,660	4,305	0.1746	0.8254	60.26
77.5	20,355		0.0000	1.0000	49.74
78.5	20,355		0.0000	1.0000	49.74



### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1889-2011 EXPERIENCE BAND 1951-2011										
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV					
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF					
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL					
79.5	20,753		0.0000	1.0000	49.74					
80.5	20,753		0.0000	1.0000	49.74					
81.5	20,394		0.0000	1.0000	49.74					
82.5	20,394		0.0000	1.0000	49.74					
83.5	20,394		0.0000	1.0000	49.74					
84.5	20,394		0.0000	1.0000	49.74					
85.5	20,394		0.0000	1.0000	49.74					
86.5	19,274		0.0000	1.0000	49.74					
87.5	19,274	270	0.0140	0.9860	49.74					
88.5	19,004		0.0000	1.0000	49.04					
89.5	19,004		0.0000	1.0000	49.04					
90.5	828		0.0000	1.0000	49.04					
91.5	398		0.0000	1.0000	49.04					
92.5	398		0.0000	1.0000	49.04					
93.5	398		0.0000	1.0000	49.04					
94.5	398		0.0000	1.0000	49.04					
95.5					49.04					

### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

### ORIGINAL LIFE TABLE

PLACEMENT E	BAND 1914-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5	22,111,708 22,002,171 11,685,958 10,693,776 9,492,253 7,628,531 7,285,805	12,000 2,656 6,800 6,211	0.0000 0.0005 0.0002 0.0000 0.0007 0.0008 0.0000	1.0000 0.9995 0.9998 1.0000 0.9993 0.9992 1.0000	100.00 100.00 99.95 99.92 99.92 99.85 99.77
6.5 7.5 8.5	5,898,436 6,865,440 4,592,614	15,254 4,182	0.0026 0.0000 0.0009	0.9974 1.0000 0.9991	99.77 99.51 99.51
9.5 10.5 11.5	3,754,302 4,248,588 4,031,396	2,767	0.0007 0.0000 0.0000	0.9993 1.0000 1.0000	99.42 99.35 99.35
12.5 13.5 14.5	4,026,442 3,726,621 3,726,080	1,563 4,200 688	0.0004 0.0011 0.0002	0.9996 0.9989 0.9998	99.35 99.31 99.20
15.5 16.5 17.5 18.5	3,306,565 3,138,116 1,804,114 1,656,375	4,126 1,266 368 825	0.0012 0.0004 0.0002 0.0005	0.9988 0.9996 0.9998 0.9995	99.18 99.06 99.02 99.00
19.5 20.5 21.5 22.5 23.5 24.5 25.5 26.5 27.5	1,307,449 930,715 902,488 748,299 741,785 798,313 695,065 588,048 583,193	1,618 12,628 4,732 9,428 1,217 1,291	0.0000 0.0017 0.0140 0.0063 0.0127 0.0015 0.0019 0.0000	1.0000 0.9983 0.9860 0.9937 0.9873 0.9985 0.9981 1.0000	98.95 98.95 98.77 97.39 96.78 95.55 95.40 95.22
28.5 29.5	559,754 553,973	122	0.0000	1.0000	95.22 95.22
30.5 31.5 32.5 33.5	320,508 136,825 55,206 69,926	81 2,962	0.0003 0.0216 0.0000 0.0000	0.9997 0.9784 1.0000 1.0000	95.20 95.18 93.12 93.12 93.12
34.5 35.5 36.5 37.5 38.5	78,357 74,225 69,354 58,753 57,710	1,394	0.0178 0.0000 0.0000 0.0207 0.0000	0.9822 1.0000 1.0000 0.9793 1.0000	91.46 91.46 91.46 91.46 89.57



### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

### ORIGINAL LIFE TABLE, CONT.

AGE AT BEGIN OF BEGINNING OF INTERVAL BEGIN OF INTERVAL BEGIN OF INTERVAL BEGINNING BEGI	PLACEMENT 1	BAND 1914-2011		EXPER	RIENCE BAN	D 1992-2011
NTERVAL   AGE   INTERVAL   INTERVAL   RATIO   RATIO	AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
39.5       67,362       0.0000       1.0000       89.57         40.5       61,355       0.0000       1.0000       89.57         41.5       72,308       0.0000       1.0000       89.57         42.5       70,396       0.0000       1.0000       89.57         43.5       55,873       116       0.0021       0.9979       89.57         44.5       42,449       0.0000       1.0000       89.39         46.5       6,076       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2.648       0.0000       1.0000       89.39         56.5       2.705       0.0000       1.0000       89.39	BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
40.5       61,355       0.0000       1.0000       89.57         41.5       72,308       0.0000       1.0000       89.57         42.5       70,396       0.0000       1.0000       89.57         43.5       55,873       116       0.0021       0.9979       89.57         44.5       42,449       0.0000       1.0000       89.39         45.5       17,424       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39 <t< td=""><td>INTERVAL</td><td>AGE INTERVAL</td><td>INTERVAL</td><td>RATIO</td><td>RATIO</td><td>INTERVAL</td></t<>	INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
41.5       72,308       0.0000       1.0000       89.57         42.5       70,396       0.0000       1.0000       89.57         43.5       55,873       116       0.0021       0.9979       89.57         44.5       42,449       0.0000       1.0000       89.39         45.5       17,424       0.0000       1.0000       89.39         46.5       6,076       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         6	39.5	67,362		0.0000	1.0000	89.57
42.5       70,396       0.0000       1.0000       89.57         43.5       55,873       116       0.0021       0.9979       89.57         44.5       42,449       0.0000       1.0000       89.39         45.5       17,424       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61	40.5	61,355		0.0000	1.0000	89.57
43.5       55,873       116       0.0021       0.9979       89.57         44.5       42,449       0.0000       1.0000       89.39         46.5       6,076       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5	41.5	72,308			1.0000	89.57
44.5       42,449       0.0000       1.0000       89.39         45.5       17,424       0.0000       1.0000       89.39         46.5       6,076       0.0000       1.0000       89.39         47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         66.5       2,705       0.0000       1.0000       89.39         61.5       2,4	42.5	70,396		0.0000	1.0000	89.57
45.5	43.5	55,873	116	0.0021	0.9979	89.57
46.5 6,076 0.0000 1.0000 89.39 47.5 6,363 0.0000 1.0000 89.39 48.5 6,363 0.0000 1.0000 89.39 49.5 1,306 0.0000 1.0000 89.39 50.5 883 0.0000 1.0000 89.39 51.5 883 0.0000 1.0000 89.39 52.5 883 0.0000 1.0000 89.39 53.5 287 0.0000 1.0000 89.39 55.5 2,648 0.0000 1.0000 89.39 56.5 2,705 0.0000 1.0000 89.39 57.5 2,705 0.0000 1.0000 89.39 58.5 2,705 0.0000 1.0000 89.39 59.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 50.5 2,705 0.0000 1.0000 89.39 60.5 2,705 0.0000 1.0000 89.39 61.5 2,705 0.0000 1.0000 89.39 62.5 2,473 0.0000 1.0000 89.39 62.5 2,473 0.0000 1.0000 81.72 63.5 2,186 0.0000 1.0000 81.72 64.5 2,186 0.0000 1.0000 81.72 65.5 57 0.0000 1.0000 81.72 66.5 2,186 0.0000 1.0000 81.72 67.5 68.5 69.5 70.5 21,597 0.0000 72.5 21,597 0.0000 73.5 22,282 0.0000 74.5 22,282 0.0000 75.5 22,282 0.0000 76.5 23,402 4,105 0.1754 77.5 19,655 0.0000	44.5	42,449		0.0000	1.0000	89.39
47.5       6,363       0.0000       1.0000       89.39         48.5       6,363       0.0000       1.0000       89.39         49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         64.5       2,1	45.5	17,424		0.0000	1.0000	89.39
48.5       6,363       0.0000       1.0000       89.39         49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       89.39         62.5       2,186       0.0000       1.0000       81.72         66.5       57 <td>46.5</td> <td>6,076</td> <td></td> <td>0.0000</td> <td>1.0000</td> <td>89.39</td>	46.5	6,076		0.0000	1.0000	89.39
49.5       1,306       0.0000       1.0000       89.39         50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       5	47.5	6,363		0.0000	1.0000	89.39
50.5       883       0.0000       1.0000       89.39         51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       21,597	48.5	6,363		0.0000	1.0000	89.39
51.5       883       0.0000       1.0000       89.39         52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,705       0.0000       1.0000       89.39         62.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       21,597 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
52.5       883       0.0000       1.0000       89.39         53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       5       0.0000       1.0000       81.72         66.5       0.0000       0.0000       1.0000       81.72         67.5       21,597<						
53.5       883       0.0000       1.0000       89.39         54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       69.5       70.5       21,597       0.0000       1.0000       81.72         72.5       21,597       0.0000       0.0000       73.5       22,282       0.0000       74.5       22,282       0.0000       75.5       22,282       0.0000       75.5       22,282       0.0000       76.5						
54.5       287       0.0000       1.0000       89.39         55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         61.5       2,705       0.0000       1.0000       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       21,597       0.0000       0.0000       1.0000       81.72         75.5       22,282       0.0000       0.0000       0.0000       0.0000						
55.5       2,648       0.0000       1.0000       89.39         56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       232       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       21,597       0.0000       1.0000       81.72         72.5       21,597       0.0000       0.0000         73.5       22,282       0.0000       0.0000         75.5       22,282       0.0000       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000       0.0000 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
56.5       2,705       0.0000       1.0000       89.39         57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       232       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       8.5       81.72         67.5       68.5       81.72         67.5       21,597       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
57.5       2,705       0.0000       1.0000       89.39         58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       232       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         67.5       68.5       81.72         69.5       0.0000       1.0000       81.72         81.72       0.0000       1.0000       81.72         67.5       0.0000       0.0000       1.0000       81.72         72.5       21,597       0.0000       0.0000         74.5       22,282       0.0000       0.0000         75.5       22,282       0.0000       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
58.5       2,705       0.0000       1.0000       89.39         59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       232       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       88.5       81.72         69.5       0.0000       1.0000       81.72         67.5       0.0000       0.0000       81.72         67.5       0.0000       0.0000       81.72         67.5       0.0000       0.0000       0.0000         73.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
59.5       2,705       0.0000       1.0000       89.39         60.5       2,705       0.0000       1.0000       89.39         61.5       2,705       232       0.0858       0.9142       89.39         62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       57       0.0000       1.0000       81.72         67.5       68.5       81.72         69.5       0.0000       1.0000       81.72         67.5       0.0000       0.0000       81.72         67.5       0.0000       0.0000       0.0000         72.5       21,597       0.0000       0.0000         73.5       22,282       0.0000       0.0000         75.5       22,282       0.0000       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000       0.0000						
60.5	58.5	2,705		0.0000	1.0000	89.39
61.5	59.5	2,705		0.0000		
62.5       2,473       0.0000       1.0000       81.72         63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       81.72         67.5       81.72         68.5       0.0000       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	60.5					
63.5       2,186       0.0000       1.0000       81.72         64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       81.72         67.5       68.5       81.72         69.5       0.0000       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	61.5	2,705	232			
64.5       2,186       0.0000       1.0000       81.72         65.5       57       0.0000       1.0000       81.72         66.5       81.72         67.5       68.5       81.72         69.5       0.0000       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	62.5					
65.5       57       0.0000 1.0000 81.72         66.5       81.72         67.5       88.5         69.5       0.0000         70.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	63.5	2,186				
66.5       81.72         67.5       68.5         69.5       0.0000         70.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	64.5	2,186		0.0000	1.0000	81.72
67.5 68.5  69.5  70.5 21,597 0.0000 71.5 21,597 0.0000 72.5 21,597 0.0000 73.5 22,282 0.0000 74.5 22,282 0.0000 75.5 22,282 0.0000 76.5 23,402 4,105 0.1754 77.5	65.5	57		0.0000	1.0000	81.72
68.5  69.5  70.5  21,597  0.0000  71.5  21,597  0.0000  72.5  21,597  0.0000  73.5  22,282  0.0000  74.5  22,282  0.0000  75.5  22,282  0.0000  76.5  23,402  4,105  0.1754  77.5	66.5					81.72
69.5         70.5       21,597       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	67.5					
70.5       21,597       0.0000         71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000	68.5	*				
71.5       21,597       0.0000         72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
72.5       21,597       0.0000         73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
73.5       22,282       0.0000         74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
74.5       22,282       0.0000         75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
75.5       22,282       0.0000         76.5       23,402       4,105       0.1754         77.5       19,655       0.0000						
76.5 23,402 4,105 0.1754 77.5 19,655 0.0000						
77.5 19,655 0.0000						
	76.5	•	4,105			
78.5 19,655 0.0000	77.5					
	78.5	19,655		0.0000		

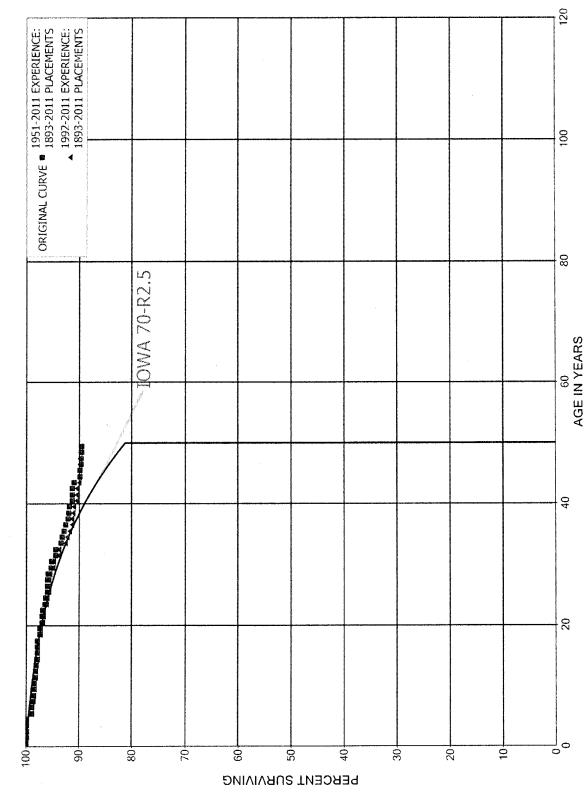


### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

### ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1914-2011		EXPER	ENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL		RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5 86.5 87.5	20,053 20,053 19,694 19,694 19,694 19,694 18,574 18,574		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000		
89.5 90.5 91.5 92.5 93.5 94.5 95.5	18,574 398 398 398 398 398		0.0000 0.0000 0.0000 0.0000 0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 304.2 POWER AND PUMPING STRUCTURES ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

### ORIGINAL LIFE TABLE

PLACEMENT	BAND 1893-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
114111144111	11013 11(11111)		1011110	141114	22123311112
0.0	47,912,886		0.0000	1.0000	100.00
0.5	49,257,761	65,859	0.0013	0.9987	100.00
1.5	50,042,175	603	0.0000	1.0000	99.87
2.5	50,467,141	15,776	0.0003	0.9997	99.87
3.5	48,643,489		0.0000	1.0000	99.83
4.5	44,390,237	429,150	0.0097	0.9903	99.83
5.5	40,949,063	6,697	0.0002	0.9998	98.87
6.5	40,498,048	83,355	0.0021	0.9979	98.85
7.5	39,823,095	41,999	0.0011	0.9989	98.65
8.5	33,744,992	61,926	0.0018	0.9982	98.55
9.5	33,625,769	923	0.0000	1.0000	98.36
10.5	32,742,756	56,140	0.0017	0.9983	98.36
11.5	30,852,155	17,012	0.0006	0.9994	98.19
12.5	25,723,673	28,200	0.0011	0.9989	98.14
13.5	24,995,867	28,792	0.0012	0.9988	98.03
14.5	19,788,507	5,948	0.0003	0.9997	97.92
15.5	18,801,189	1,079	0.0001	0.9999	97.89
16.5	16,447,508	1,044	0.0001	0.9999	97.88
17.5	16,115,803	79,589	0.0049	0.9951	97.88
18.5	13,367,561	6,693	0.0005	0.9995	97.39
10 5	11 506 406	41,584	0.0036	0.9964	97.34
19.5 20.5	11,586,496 11,331,250	9,497	0.0036	0.9992	97.34
		3,164	0.0008	0.9996	96.91
21.5	8,085,963	33,826	0.0004	0.9954	96.88
22.5	7,360,314		0.0048	0.9979	96.43
23.5 24.5	6,693,378 5,385,621	13,863 16,247	0.0021	0.9979	96.23
25.5	4,827,348	10,247	0.0000	1.0000	95.94
26.5	3,670,702	454	0.0000	0.9999	95.94
27.5	3,682,743	5,136	0.0001	0.9986	95.93
28.5	3,656,495	19,675	0.0014	0.9946	95.80
29.5	3,264,398	3,487	0.0011	0.9989	95.28
30.5	3,002,039	23,011	0.0077	0.9923	95.18
31.5	2,859,676	1,309	0.0005	0.9995	94.45
32.5	2,820,051	28,809	0.0102	0.9898	94.41
33.5	2,701,677	8,190	0.0030	0.9970	93.44
34.5	2,657,287	10,113	0.0038	0.9962	93.16
35.5	2,624,865	9,926	0.0038	0.9962	92.80
36.5	2,529,578	9,483	0.0037	0.9963	92.45
37.5	2,396,064	2,958	0.0012	0.9988	92.11



38.5 2,327,431 4,459 0.0019 0.9981 91.99

#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

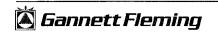
PLACEMENT	BAND 1893-2011		EXPER	LIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	2,209,454	11,506	0.0052	0.9948	91.82
40.5	1,680,353		0.0000	1.0000	91.34
41.5	1,599,917	839	0.0005	0.9995	91.34
42.5	1,504,402	5,833	0.0039	0.9961	91.29
43.5	1,475,794	18,225	0.0123	0.9877	90.94
44.5	1,414,975	494	0.0003	0.9997	89.81
45.5	1,357,687	1,808	0.0013	0.9987	89.78
46.5	1,320,020	363	0.0003	0.9997	89.66
47.5	927,388	803	0.0009	0.9991	89.64
48.5	877,253	781	0.0009	0.9991	89.56
49.5	870,666		0.0000	1.0000	89.48
50.5	806,282	133	0.0002	0.9998	89.48
51.5	791,200	2,985	0.0038	0.9962	89.46
52.5	766,269		0.0000	1.0000	89.13
53.5	762,722	785	0.0010	0.9990	89.13
54.5	745,427		0.0000	1.0000	89.04
55.5	711,069	45	0.0001	0.9999	89.04
56.5	696,074	255	0.0004	0.9996	89.03
57.5	545,815		0.0000	1.0000	89.00
58.5	509,871		0.0000	1.0000	89.00
59.5	498,414	810	0.0016	0.9984	89.00
60.5	466,921		0.0000	1.0000	88.85
61.5	451,780		0.0000	1.0000	88.85
62.5	453,860		0.0000	1.0000	88.85
63.5	381,951		0.0000	1.0000	88.85
64.5	371,816		0.0000	1.0000	88.85
65.5	371,343		0.0000	1.0000	88.85
66.5	370,966		0.0000	1.0000	88.85
67.5	370,312		0.0000	1.0000	88.85
68.5	370,244		0.0000	1.0000	88.85
69.5	366,135		0.0000	1.0000	88.85
70.5	365,633		0.0000	1.0000	88.85
71.5	365,366	171	0.0005	0.9995	88.85
72.5	365,526	591	0.0016	0.9984	88.81
73.5	361,705	2,057	0.0057	0.9943	88.67
74.5	358,668	133	0.0004	0.9996	88.16
75.5	354,094		0.0000	1.0000	88.13
76.5	351,798		0.0000	1.0000	88.13
77.5	351,582		0.0000	1.0000	88.13
78.5	351,549		0.0000	1.0000	88.13

#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

PLACEMENT	BAND 1893-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5 86.5 87.5 88.5	347,211 385,443 381,134 366,930 363,161 361,951 361,426 361,272 325,433 313,485	311	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0010 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.9990 1.0000	88.13 88.13 88.13 88.13 88.13 88.13 88.13 88.13 88.13
89.5 90.5 91.5 92.5 93.5 94.5 95.5 96.5 97.5	301,944 301,299 252,973 249,353 176,883 176,883 183,114 181,959 184,174	1,844	0.0000 0.0061 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 0.9939 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	88.05 88.05 87.51 87.51 87.51 87.51 87.51 87.51
99.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5	182,826 166,761 152,801 138,787 131,129 131,129 124,679 118,448 116,233	124	0.0000 0.0007 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 0.9993 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	87.51 87.51 87.44 87.44 87.44 87.44 87.44 87.44
109.5 110.5 111.5 112.5 113.5 114.5 115.5 116.5 117.5 118.5	116,233 108,738 108,380 108,380 101,273 98,090 98,090 3,249		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	87.44 87.44 87.44 87.44 87.44 87.44 87.44 87.44

## ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

PLACEMENT E	BAND 1893-2011		EXPER	IENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
					100.00
0.0	36,517,258		0.0000	1.0000	100.00
0.5	38,177,456	65,821	0.0017	0.9983	100.00
1.5	42,240,227		0.0000	1.0000	99.83
2.5	43,380,802	15,524	0.0004	0.9996	99.83
3.5	42,104,237		0.0000	1.0000	99.79
4.5	39,077,269	429,150	0.0110	0.9890	99.79
5.5	36,124,410	6,634	0.0002	0.9998	98.70
6.5	36,990,984	83,149	0.0022	0.9978	98.68
7.5	36,589,721	41,999	0.0011	0.9989	98.46
8.5	30,653,788	61,826	0.0020	0.9980	98.34
9.5	30,938,531	826	0.0000	1.0000	98.14
10.5	30,300,383	55,957	0.0018	0.9982	98.14
11.5	28,397,988	17,012	0.0006	0.9994	97.96
12.5	23,310,177	28,200	0.0012	0.9988	97.90
13.5	22,633,729	28,613	0.0013	0.9987	97.78
14.5	17,452,927	5,948	0.0003	0.9997	97.66
15.5	16,526,856	899	0.0001	0.9999	97.63
16.5	14,232,834	922	0.0001	0.9999	97.62
17.5	13,939,176	76,385	0.0055	0.9945	97.62
18.5	11,221,394	6,140	0.0005	0.9995	97.08
19.5	9,507,392	41,584	0.0044	0.9956	97.03
20.5	9,760,754	9,006	0.0009	0.9991	96.60
21.5	6,600,668	3,164	0.0005	0.9995	96.51
22.5	5,999,462	31,110	0.0052	0.9948	96.47
23.5	5,357,499	4,835	0.0009	0.9991	95.97
24.5	4,170,658	15,847	0.0038	0.9962	95.88
25.5	3,644,368	13/01/	0.0000	1.0000	95.52
26.5	2,507,867	454	0.0002	0.9998	95.52
27.5	2,881,331	4,956	0.0017	0.9983	95.50
28.5	2,890,610	19,515	0.0068	0.9932	95.33
	2 541 250	3,176	0.0012	0.9988	94.69
29.5	2,541,359	22,723	0.0012	0.9904	94.57
30.5	2,359,215				93.66
31.5	2,226,448	1,248	0.0006	0.9994	93.61
32.5	2,173,277	28,311 8,190	0.0130	0.9870 0.9960	92.39
33.5	2,072,652		0.0040 0.0049	0.9951	92.39
34.5	2,049,003	10,113 9,926		0.9951	91.57
35.5	2,045,886	9,926	0.0049		91.13
36.5	2,047,864	2 754	0.0000	1.0000	91.13
37.5	2,077,558	2,754	0.0013	0.9987	91.13
38.5	2,050,568	4,459	0.0022	0.9978	<i>Э</i> ⊥, ∨⊥



#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

PLACEMENT I	BAND 1893-2011		EXPER	LIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5	1,908,498 1,396,302 1,301,852 1,201,442 1,244,658	11,506 4 5,075 1,391	0.0060 0.0000 0.0000 0.0042 0.0011	0.9940 1.0000 1.0000 0.9958 0.9989	90.81 90.26 90.26 90.26 89.88
44.5 45.5 46.5 47.5 48.5	1,159,021 1,103,482 1,068,372 676,393 626,820	688 363 803	0.0000 0.0006 0.0003 0.0012 0.0000	1.0000 0.9994 0.9997 0.9988 1.0000	89.78 89.78 89.72 89.69 89.59
49.5 50.5 51.5 52.5 53.5	617,761 553,462 538,647 517,531 510,107	133 2,985 752	0.0000 0.0002 0.0055 0.0000 0.0015	1.0000 0.9998 0.9945 1.0000 0.9985	89.59 89.59 89.56 89.07 89.07
54.5 55.5 56.5 57.5 58.5	490,643 457,563 349,498 196,078 160,166	255	0.0000 0.0000 0.0007 0.0000 0.0000	1.0000 1.0000 0.9993 1.0000	88.94 88.94 88.94 88.87 88.87
59.5 60.5 61.5 62.5 63.5 64.5	148,727 126,105 115,272 128,162 59,682 50,757		0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000	88.87 88.87 88.87 88.87 88.87
65.5 66.5 67.5 68.5	50,809 50,585 85,941 97,510		0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000	88.87 88.87 88.87 88.87
69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5	107,000 107,143 108,909 112,688 142,842 139,805 138,403 137,262 137,045 137,013	171 591 2,057 133	0.0000 0.0000 0.0016 0.0052 0.0144 0.0010 0.0000 0.0000 0.0000	1.0000 1.0000 0.9984 0.9956 0.9990 1.0000 1.0000	88.87 88.87 88.87 88.73 88.27 87.00 86.91 86.91 86.91

## ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

PLACEMENT	BAND 1893-2011		EXPER	RIENCE BAN	1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5 86.5	134,024 188,321 197,847 197,657 201,858 200,648 245,069 244,915 209,076 197,128	311	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0015 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 0.9985 1.0000	86.91 86.91 86.91 86.91 86.91 86.91 86.91 86.91 86.78
88.5 89.5 90.5 91.5 92.5 93.5 94.5 95.5 96.5 97.5 98.5	185,586 192,437 144,469 140,849 68,379 75,486 84,900 83,745 180,925 184,174	1,844	0.0000 0.0096 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 0.9904 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	86.78 86.78 85.95 85.95 85.95 85.95 85.95 85.95 85.95
99.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5 108.5	182,826 166,761 152,801 138,787 131,129 131,129 124,679 118,448 116,233	124	0.0000 0.0007 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 0.9993 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	85.95 85.95 85.89 85.89 85.89 85.89 85.89 85.89
109.5 110.5 111.5 112.5 113.5 114.5 115.5 116.5 117.5	116,233 108,738 108,380 108,380 108,380 101,273 98,090 98,090 3,249		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	85.89 85.89 85.89 85.89 85.89 85.89 85.89 85.89



ORIGINAL CURVE # 1989-2011 EXPERIENCE: 1992-2011 EXPERIENCE: 1889-2011 PLACEMENTS 140 120 ACCOUNT 304.3 PURIFICATION BUILDINGS ORIGINAL AND SMOOTH SURVIVOR CURVES PENNSYLVANIA-AMERICAN WATER COMPANY 100 AGE IN YEARS OWA 60-RP 90 40 20 70 70 90 80 30 20. 20 РЕВСЕИТ SURVIVING

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#### ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT	BAND 1889-2011		EXPER	EIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS		arm.	PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	159,135,559	5,551	0.0000	1.0000	100.00
0.5	153,261,732	20,709	0.0001	0.9999	100.00
1.5	156,843,370	349,089	0.0022	0.9978	99.98
2.5	156,420,224	144,092	0.0009	0.9991	99.76
3.5	153,490,877	37,094	0.0002	0.9998	99.67
4.5	149,598,983	266,227	0.0018	0.9982	99.64
5.5	133,781,330	568,390	0.0042	0.9958	99.47
6.5	135,847,995	417,192	0.0031	0.9969	99.04
7.5	134,042,460	241,040	0.0018	0.9982	98.74
8.5	122,282,235	121,489	0.0010	0.9990	98.56
9.5	121,214,867	129,438	0.0011	0.9989	98.46
10.5	112,646,653	185,732	0.0016	0.9984	98.36
11.5	109,822,332	109,876	0.0010	0.9990	98.20
12.5	102,316,508	183,694	0.0018	0.9982	98.10
13.5	100,737,712	140,901	0.0014	0.9986	97.92
14.5	91,571,011	181,395	0.0020	0.9980	97.79
15.5	88,373,875	267,394	0.0030	0.9970	97.59
16.5	81,515,375	131,131	0.0016	0.9984	97.30
17.5	79,461,600	196,793	0.0025	0.9975	97.14
18.5	60,265,145	171,782	0.0029	0.9971	96.90
19.5	48,885,771	92,027	0.0019	0.9981	96.62
20.5	46,753,338	60,694	0.0013	0.9987	96.44
21.5	22,250,408	106,414	0.0048	0.9952	96.32
22.5	18,785,751	81,341	0.0043	0.9957	95.86
23.5	10,900,199	13,338	0.0012	0.9988	95.44
24.5	13,475,372	37,551	0.0028	0.9972	95.32
25.5	13,037,183	63,944	0.0049	0.9951	95.06
26.5	9,909,935	57,637	0.0058	0.9942	94.59
27.5	9,768,555	68,958	0.0071	0.9929	94.04
28.5	9,454,340	99,048	0.0105	0.9895	93.38
29.5	8,756,826	21,590	0.0025	0.9975	92.40
30.5	8,632,395	15,548	0.0018	0.9982	92.17
31.5	8,536,707	5,672	0.0007	0.9993	92.01
32.5	8,507,651	28,028	0.0033	0.9967	91.95
33.5	8,475,203	83,459	0.0098	0.9902	91.64
34.5	8,335,220	15,391	0.0018	0.9982	90.74
35.5	5,168,718	25,143	0.0049	0.9951	90.57
36.5	4,391,399	14,565	0.0033	0.9967	90.13
37.5	4,329,558	49,238	0.0114	0.9886	89.83
38.5	4,255,634	8,272	0.0019	0.9981	88.81



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT E	BAND 1889-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5 44.5 45.5 46.5	2,991,248 2,950,718 2,932,035 1,930,882 1,646,442 1,645,857 1,507,895 1,437,732 1,428,028	13,661 10,055 31,838 10,906 35,104 135,888 1,141 2,739 53	0.0046 0.0034 0.0109 0.0056 0.0213 0.0826 0.0008 0.0019	0.9954 0.9966 0.9891 0.9944 0.9787 0.9174 0.9992 0.9981	88.64 88.23 87.93 86.98 86.49 84.64 77.65 77.60
48.5 49.5 50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5 58.5	1,444,997  1,629,525  1,046,816  930,868  897,400  863,558  829,441  867,392  796,329  580,584  339,216	690 110 115,783 316 21,311 464 1,030 731 2,396 118	0.0005 0.0001 0.1106 0.0003 0.0000 0.0247 0.0006 0.0012 0.0009 0.0041 0.0003	0.9995 0.9999 0.8894 0.9997 1.0000 0.9753 0.9994 0.9988 0.9991 0.9959 0.9997	77.45 77.41 77.40 68.84 68.82 67.12 67.08 67.00 66.94 66.67
59.5 60.5 61.5 62.5 63.5 64.5 65.5 66.5 67.5 68.5	329,019 316,066 328,576 322,846 317,311 310,535 309,859 309,358 308,291 308,107	4,719 150 318 7,402 675 501 145 50 5,237	0.0143 0.0005 0.0010 0.0000 0.0233 0.0022 0.0016 0.0005 0.0002	0.9857 0.9995 0.9990 1.0000 0.9767 0.9978 0.9984 0.9995 0.9998	66.64 65.69 65.66 65.59 65.59 64.06 63.92 63.82 63.79
69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5	316,354 315,918 315,331 308,380 295,043 294,416 297,589 296,116 291,983 292,125	423 318 9,630 4 198	0.0013 0.0010 0.0305 0.0000 0.0000 0.0000 0.0000 0.0000	0.9987 0.9990 0.9695 1.0000 1.0000 1.0000 1.0000 1.0000 0.9993	62.69 62.61 62.55 60.64 60.64 60.64 60.64 60.64 60.64



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT	BAND 1889-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	291,928		0.0000	1.0000	60.60
80.5	284,597		0.0000	1.0000	60.60
81.5	309,666	10,519	0.0340	0.9660	60.60
82.5	295,750		0.0000	1.0000	58.54
83.5	286,727	23	0.0001	0.9999	58.54
84.5	307,105		0.0000	1.0000	58.53
85.5	307,105	4,245	0.0138	0.9862	58.53
86.5	302,860		0.0000	1.0000	57.72
87.5	223,230		0.0000	1.0000	57.72
88.5	175,620		0.0000	1.0000	57.72
89.5	175,620	51	0.0003	0.9997	57.72
90.5	161,398	0.4.3	0.0000	1.0000	57.71
91.5	160,861	243	0.0015	0.9985	57.71
92.5	160,618	. 66	0.0004	0.9996	57.62
93.5	159,714		0.0000	1.0000	57.60
94.5	137,896	2 004	0.0000	1.0000	57.60
95.5	137,896	3,024	0.0219	0.9781	57.60
96.5	133,007	3,457	0.0260	0.9740	56.33
97.5	153,720	28	0.0002	0.9998	54.87
98.5	153,692	12	0.0001	0.9999	54.86
99.5	151,241	13,151	0.0870	0.9130	54.85
100.5	138,091		0.0000	1.0000	50.09
101.5	126,536		0.0000	1.0000	50.09
102.5	126,133		0.0000	1.0000	50.09
103.5	123,844		0.0000	1.0000	50.09
104.5	123,844	21,449	0.1732	0.8268	50.09
105.5	64,790		0.0000	1.0000	41.41
106.5	64,790	112	0.0017	0.9983	41.41
107.5	64,678		0.0000	1.0000	41.34
108.5	38,068		0.0000	1.0000	41.34
109.5	18,162		0.0000	1.0000	41.34
110.5	18,106		0.0000	1.0000	41.34
111.5	13,774		0.0000	1.0000	41.34
112.5	13,774		0.0000	1.0000	41.34
113.5	13,774		0.0000	1.0000	41.34
114.5	13,774		0.0000	1.0000	41.34
115.5	13,774		0.0000	1.0000	41.34
116.5	13,774		0.0000	1.0000	41.34
117.5	13,774		0.0000	1.0000	41.34
118.5	13,041		0.0000	1.0000	41.34

## ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT	BAND 1889-2011		EXPE	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5 120.5	13,041 13,041		0.0000	1.0000	41.34 41.34
121.5	13,041		0.0000	1.0000	41.34 41.34

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT	BAND 1889-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	109,776,468	5,551	0.0001	0.9999	100.00
0.5	105,869,967	20,616	0.0002	0.9998	99.99
1.5	133,769,333	348,935	0.0026	0.9974	99.98
2.5	136,739,467	144,013	0.0011	0.9989	99.71
3.5	141,869,810	31,966	0.0002	0.9998	99.61
4.5	138,772,546	262,716	0.0019	0.9981	99.59
5.5	123,460,840	566,352	0.0046	0.9954	99.40
6.5	128,788,272	417,142	0.0032	0.9968	98.94
7.5	127,311,169	238,885	0.0019	0.9981	98.62
8.5	115,766,150	117,558	0.0010	0.9990	98.44
9.5	115,337,480	127,408	0.0011	0.9989	98.34
10.5	106,903,877	184,217	0.0017	0.9983	98.23
11.5	104,162,765	108,976	0.0010	0.9990	98.06
12.5	96,782,586	182,030	0.0019	0.9981	97.96
13.5	95,261,923	137,285	0.0014	0.9986	97.77
14.5	86,112,277	176,745	0.0021	0.9979	97.63
15.5	82,953,438	265,167	0.0032	0.9968	97.43
16.5	76,865,962	107,922	0.0014	0.9986	97.12
17.5	74,910,452	195,992	0.0026	0.9974	96.98
18.5	55,741,360	166,155	0.0030	0.9970	96.73
19.5	45,704,311	92,027	0.0020	0.9980	96.44
20.5	43,703,506	58,982	0.0013	0.9987	96.25
21.5	19,212,728	105,939	0.0055	0.9945	96.12
22.5	16,774,081	78,273	0.0047	0.9953	95.59
23.5	9,281,979	13,338	0.0014	0.9986	95.14
24.5	11,886,531	36,339	0.0031	0.9969	95.00
25.5	11,470,297	60,253	0.0053	0.9947	94.71
26.5	8,341,426	57,601	0.0069	0.9931	94.22
27.5	8,183,156	67,542	0.0083	0.9917	93.57
28.5	7,884,187	98,572	0.0125	0.9875	92.79
29.5	7,211,548	20,323	0.0028	0.9972	91.63
30.5	7,703,049	11,727	0.0015	0.9985	91.38
31.5	7,611,811	5,371	0.0007	0.9993	91.24
32.5	7,618,215	28,028	0.0037	0.9963	91.17
33.5	7,412,263	81,353	0.0110	0.9890	90.84
34.5	7,294,010	14,891	0.0020	0.9980	89.84
35.5	4,135,316	25,143	0.0061	0.9939	89.66
36.5	3,671,534	14,565	0.0040	0.9960	89.11
37.5	3,829,281	48,975	0.0128	0.9872	88.76
38.5	3,991,857	8,180	0.0020	0.9980	87.62



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT :	BAND 1889-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5	2,749,131 2,740,446 2,722,781 1,720,946 1,443,643	13,555 10,055 31,838 10,906 35,104	0.0049 0.0037 0.0117 0.0063 0.0243	0.9951 0.9963 0.9883 0.9937 0.9757	87.44 87.01 86.69 85.68 85.14
44.5 45.5 46.5 47.5 48.5	1,406,078 1,268,350 1,198,276 1,190,137 1,183,861	135,789 1,141 2,739 53 690	0.0966 0.0009 0.0023 0.0000 0.0006	0.9034 0.9991 0.9977 1.0000 0.9994	83.07 75.04 74.98 74.80 74.80
49.5 50.5 51.5 52.5	1,373,704 785,413 669,870 637,030	110 115,783 316	0.0001 0.1474 0.0005 0.0000	0.9999 0.8526 0.9995 1.0000	74.76 74.75 63.73 63.70
53.5 54.5 55.5 56.5 57.5	616,878 582,761 580,659 510,883 299,747	21,311 464 899 397	0.0345 0.0008 0.0015 0.0008 0.0000	0.9655 0.9992 0.9985 0.9992 1.0000	63.70 61.50 61.45 61.36 61.31
58.5 59.5 60.5 61.5 62.5	60,775 50,578 60,499 62,075 57,486	118 4,719 73 318	0.0019 0.0933 0.0012 0.0051 0.0000	0.9981 0.9067 0.9988 0.9949 1.0000	61.31 61.19 55.48 55.41 55.13
63.5 64.5 65.5 66.5 67.5	60,629 53,853 26,996 26,495 103,923	7,402 675 501 145	0.1221 0.0125 0.0186 0.0055 0.0000	0.8779 0.9875 0.9814 0.9945 1.0000	55.13 48.40 47.79 46.91 46.65
68.5 69.5 70.5 71.5	160,845 158,711 171,759 171,491	2,134 423 9,592	0.0133 0.0027 0.0000 0.0559	0.9867 0.9973 1.0000 0.9441	46.65 46.03 45.91 45.91
72.5 73.5 74.5 75.5 76.5 77.5 78.5	164,578 152,079 152,921 153,239 153,829 157,462 157,605	4 198	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 0.9987	43.34 43.34 43.34 43.34 43.34 43.34



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

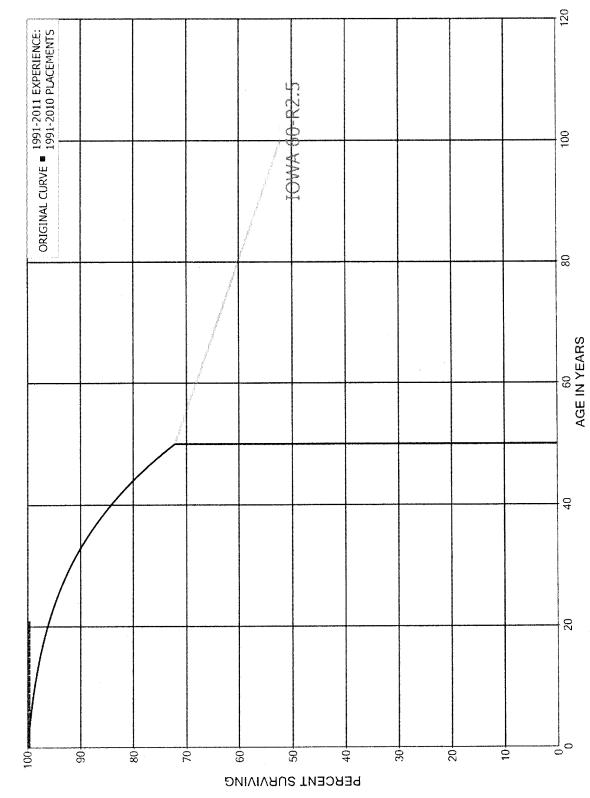
PLACEMENT	BAND 1889-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	169,952		0.0000	1.0000	43.28
80.5	151,067		0.0000	1.0000	43.28
81.5	190,714	10,519	0.0552	0.9448	43.28
82.5	177,264		0.0000	1.0000	40.90
83.5	170,531	23	0.0001	0.9999	40.90
84.5	190,908		0.0000	1.0000	40.89
85.5	228,513	4,245	0.0186	0.9814	40.89
86.5	224,268		0.0000	1.0000	40.13
87.5	145,901		0.0000	1.0000	40.13
88.5	98,291	,	0.0000	1.0000	40.13
89.5	122,367	51	0.0004	0.9996	40.13
90.5	108,851		0.0000	1.0000	40.11
91.5	112,646	227	0.0020	0.9980	40.11
92.5	112,419		0.0000	1.0000	40.03
93.5	111,581		0.0000	1.0000	40.03
94.5	89,962		0.0000	1.0000	40.03
95.5	89,962	3,024	0.0336	0.9664	40.03
96.5	119,966	3,457	0.0288	0.9712	38.69
97.5	139,947	28	0.0002	0.9998	37.57
98.5	140,652	12	0.0001	0.9999	37.57
99.5	138,201	13,151	0.0952	0.9048	37.56
100.5	125,050		0.0000	1.0000	33.99
101.5	113,496		0.0000	1.0000	33.99
102.5	126,133		0.0000	1.0000	33.99
103.5	123,844		0.0000	1.0000	33.99
104.5	123,844	21,449	0.1732	0.8268	33.99
105.5	64,790		0.0000	1.0000	28.10
106.5	64,790	112	0.0017	0.9983	28.10
107.5	64,678		0.0000	1.0000	28.05
108.5	38,068		0.0000	1.0000	28.05
109.5	18,162		0.0000	1.0000	28.05
110.5	18,106		0.0000	1.0000	28.05
111.5	13,774		0.0000	1.0000	28.05
112.5	13,774		0.0000	1.0000	28.05
113.5	13,774		0.0000	1.0000	28.05
114.5	13,774		0.0000	1.0000	28.05
115.5	13,774		0.0000	1.0000	28.05
116.5	13,774		0.0000	1.0000	28.05
117.5	13,774		0.0000	1.0000	28.05
118.5	13,041		0.0000	1.0000	28.05



## ACCOUNT 304.3 PURIFICATION BUILDINGS

PLACEMENT	BAND 1889-2011		EXPER	RIENCE BAN	D 1992-2011
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	13,041		0.0000	1.0000	28.05
120.5	13,041		0.0000	1.0000	28.05
121.5	13,041		0.0000	1.0000	28.05
122 5					28.05

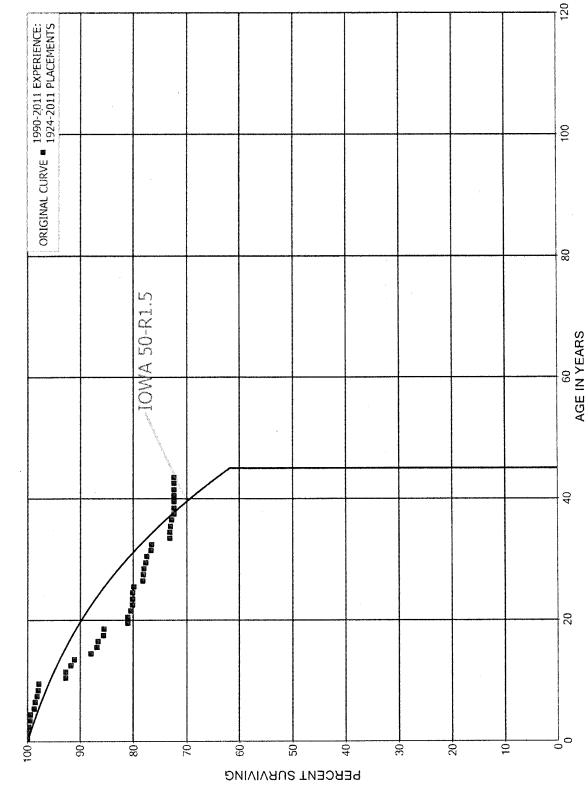
PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 304.36 WASTE HANDLING AND TREATMENT STRUCTURE ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 304.36 WASTE HANDLING AND TREATMENT STRUCTURE

PLACEMENT	BAND 1991-2010		EXPER	RIENCE BAN	D 1991-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	11,422,066		0.0000	1.0000	100.00
0.5	11,422,066		0.0000	1.0000	100.00
1.5	11,342,800		0.0000	1.0000	100.00
2.5	11,342,800		0.0000	1.0000	100.00
3.5	11,342,800		0.0000	1.0000	100.00
4.5	11,281,399		0.0000	1.0000	100.00
5.5	11,281,399		0.0000	1.0000	100.00
6.5	11,281,399		0.0000	1.0000	100.00
7.5	11,281,399		0.0000	1.0000	100.00
8.5	11,277,335		0.0000	1.0000	100.00
9.5	11,277,335		0.0000	1.0000	100.00
10.5	11,251,501		0.0000	1.0000	100.00
11.5	11,129,184		0.0000	1.0000	100.00
12.5	11,129,184		0.0000	1.0000	100.00
13.5	11,060,215		0.0000	1.0000	100.00
14.5	11,060,215		0.0000	1.0000	100.00
15.5	11,060,215		0.0000	1.0000	100.00
16.5	11,060,215		0.0000	1.0000	100.00
17.5	11,031,323		0.0000	1.0000	100.00
18.5	11,031,323		0.0000	1.0000	100.00
19.5	11,031,323		0.0000	1.0000	100.00
20.5					100.00

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 304.61 OFFICE BUILDINGS ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 304.61 OFFICE BUILDINGS

PLACEMENT	BAND 1924-2011		EXPE	RIENCE BAN	D 1990-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	6,984,398		0.0000	1.0000	100.00
0.5	9,929,243	10,320	0.0010	0.9990	100.00
1.5	10,571,492	19,244	0.0018	0.9982	99.90
2.5	13,369,551	34,504	0.0026	0.9974	99.71
3.5	14,662,637	9,381	0.0006	0.9994	99.46
4.5	14,286,326	90,510	0.0063	0.9937	99.39
5.5	13,774,608	38,752	0.0028	0.9972	98.76
6.5	13,336,880	42,043	0.0032	0.9968	98.49
7.5	13,863,267	30,976	0.0022	0.9978	98.18
8.5	13,667,322	20,189	0.0015	0.9985	97.96
9.5	13,652,765	714,913	0.0524	0.9476	97.81
10.5	12,832,960	573	0.0000	1.0000	92.69
11.5	11,922,377	122,600	0.0103	0.9897	92.69
12.5	11,617,003	84,169	0.0072	0.9928	91.73
13.5	11,425,055	396,723	0.0347	0.9653	91.07
14.5	10,678,615	132,559	0.0124	0.9876	87.91
15.5	10,432,564	26,716	0.0026	0.9974	86.81
16.5	10,227,531	112,423	0.0110	0.9890	86.59
17.5	7,924,069	11,653	0.0015	0.9985	85.64
18.5	7,894,016	410,891	0.0521	0.9479	85.51
19.5	7,370,048	1,065	0.0001	0.9999	81.06
20.5	7,128,672	43,732	0.0061	0.9939	81.05
21.5	6,995,193	28,473	0.0041	0.9959	80.55
22.5	5,502,968	5,487	0.0010	0.9990	80.23
23.5	4,805,774		0.0000	1.0000	80.15
24.5	2,357,424	4,184	0.0018	0.9982	80.15
25.5	835,641	17,425	0.0209	0.9791	80.00
26.5	718,281	1,140	0.0016	0.9984	78.34
27.5	712,510	1,081	0.0015	0.9985	78.21
28.5	686,683	3,168	0.0046	0.9954	78.09
29.5	558,907	1,754	0.0031	0.9969	77.73
30.5	486,671	4,765	0.0098	0.9902	77.49
31.5	925,554	1,222	0.0013	0.9987	76.73
32.5	854,683	38,642	0.0452	0.9548	76.63
33.5	817,383		0.0000	1.0000	73.16
34.5	756,393	1,219	0.0016	0.9984	73.16
35.5	697,522	2,095	0.0030	0.9970	73.05
36.5	693,003	3,664	0.0053	0.9947	72.83
37.5	689,340	349	0.0005	0.9995	72.44
38.5	684,937		0.0000	1.0000	72.40

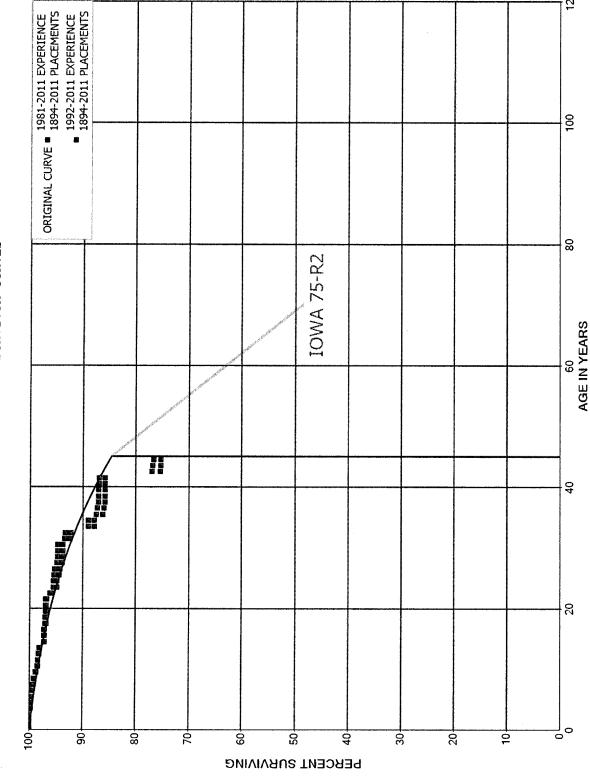
#### ACCOUNT 304.61 OFFICE BUILDINGS

PLACEMENT	BAND 1924-2011		EXPE	RIENCE BAN	D 1990-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5 44.5 45.5 46.5 47.5 48.5	620,084 610,714 599,114 596,080 538,468 51,019 48,805 36,847 35,767	350 106 1,089	0.0006 0.0000 0.0002 0.0000 0.0000 0.0214 0.0000 0.0000 0.0000	0.9994 1.0000 0.9998 1.0000 1.0000 0.9786 1.0000 1.0000	72.40 72.36 72.36 72.35 72.35 72.35 70.81 70.81 70.81
49.5 50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5 58.5	83 62 13 13		0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000	70.81 70.81 70.81 70.81 70.81
59.5 60.5 61.5 62.5 63.5 64.5 65.5 66.5 67.5					
69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5	215 215 1,060 1,060		0.0000 0.0000 0.0000 0.0000		

#### ACCOUNT 304.61 OFFICE BUILDINGS

BEGIN OF BEGINNING OF DURING AGE RETMT SURV BE	1990-2011
80.5 1,060 0.0000 81.5 1,060 0.0000	PCT SURV BEGIN OF INTERVAL
83.5 1,060 0.0000 84.5 1,060 0.0000 85.5 845 0.0000 86.5 845 0.0000	

ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES PENNSYLVANIA-AMERICAN WATER COMPANY ORIGINAL AND SMOOTH SURVIVOR CURVES



VI-33

## ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES

PLACEMENT	BAND 1894-2011		EXPE	RIENCE BAN	D 1981-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	8,666,182		0.0000	1.0000	100.00
0.5	8,523,638		0.0000	1.0000	100.00
1.5	8,423,750		0.0000	1.0000	100.00
2.5	8,270,974	12,945	0.0016	0.9984	100.00
3.5	7,700,366	1,568	0.0002	0.9998	99.84
4.5	7,453,296	567	0.0001	0.9999	99.82
5.5	7,453,269	20,527	0.0028	0.9972	99.82
6.5	7,276,728		0.0000	1.0000	99.54
7.5	7,289,895	25,324	0.0035	0.9965	99.54
8.5	7,281,954	24,097	0.0033	0.9967	99.19
9.5	7,239,531	27,858	0.0038	0.9962	98.87
10.5	6,824,266	4,441	0.0007	0.9993	98.49
11.5	6,722,400	10,365	0.0015	0.9985	98.42
12.5	6,553,581	9,300	0.0014	0.9986	98.27
13.5	6,518,462	55,000	0.0084	0.9916	98.13
14.5	6,225,096	2,199	0.0004	0.9996	97.30
15.5	6,996,027	1,610	0.0002	0.9998	97.27
16.5	6,994,298	15,073	0.0022	0.9978	97.25
17.5	6,890,479		0.0000	1.0000	97.04
18.5	6,907,053	2,082	0.0003	0.9997	97.04
19.5	6,509,081	716	0.0001	0.9999	97.01
20.5	5,733,659	5,928	0.0010	0.9990	97.00
21.5	4,580,642	31,635	0.0069	0.9931	96.90
22.5	3,748,127	27,716	0.0074	0.9926	96.23
23.5	2,922,494		0.0000	1.0000	95.52
24.5	1,944,725	3,417	0.0018	0.9982	95.52
25.5	1,591,704	629	0.0004	0.9996	95.35
26.5	1,405,076	7,359	0.0052	0.9948	95.31
27.5	1,338,422	791	0.0006	0.9994	94.81
28.5	1,325,208	75	0.0001	0.9999	94.75
29.5	1,303,041	578	0.0004	0.9996	94.75
30.5	1,307,888	18,194	0.0139	0.9861	94.71
31.5	1,287,087	1,476	0.0011	0.9989	93.39
32.5	1,276,611	59,471	0.0466	0.9534	93.28
33.5	1,173,681		0.0000	1.0000	88.94
34.5	1,162,189	19,401	0.0167	0.9833	88.94
35.5	1,116,009	2,299	0.0021	0.9979	87.45
36.5	1,113,670	2,890	0.0026	0.9974	87.27
37.5	1,094,691		0.0000	1.0000	87.05
38.5	1,112,374		0.0000	1.0000	87.05



# ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1894-2011		EXPER	RIENCE BAN	D 1981-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	1,098,247	599	0.0005	0.9995	87.05
40.5	1,112,887	91	0.0001	0.9999	87.00
41.5	1,098,197	126,747	0.1154	0.8846	86.99
42.5	935,158	1,992	0.0021	0.9979	76.95
43.5	918,343	1,500	0.0016	0.9984	76.79
44.5	860,929		0.0000	1.0000	76.66
45.5	837,721		0.0000	1.0000	76.66
46.5	114,776		0.0000	1.0000	76.66
47.5	106,693		0.0000	1.0000	76.66
48.5	104,291	294	0.0028	0.9972	76.66
49.5	103,170		0.0000	1.0000	76.45
50.5	100,679		0.0000	1.0000	76.45
51.5	107,846	1,750	0.0162	0.9838	76.45
52.5	108,799		0.0000	1.0000	75.21
53.5	106,406		0.0000	1.0000	75.21
54.5	115,224	61	0.0005	0.9995	75.21
55.5	85,831		0.0000	1.0000	75.17
56.5	86,272		0.0000	1.0000	75.17
57.5	75,582	84	0.0011	0.9989	75.17
58.5	81,762		0.0000	1.0000	75.08
59.5	81,762		0.0000	1.0000	75.08
60.5	80,891		0.0000	1.0000	75.08
61.5	73,787		0.0000	1.0000	75.08
62.5	73,527		0.0000	1.0000	75.08
63.5	72,449		0.0000	1.0000	75.08
64.5	72,322		0.0000	1.0000	75.08
65.5	72,322	111	0.0015	0.9985	75.08
66.5	71,493	67	0.0009	0.9991	74.97
67.5	71,426		0.0000	1.0000	74.90
68.5	76,317		0.0000	1.0000	74.90
69.5	46,531		0.0000	1.0000	74.90
70.5	46,370	1,914	0.0413	0.9587	74.90
71.5	58,409		0.0000	1.0000	71.81
72.5	72,409		0.0000	1.0000	71.81
73.5	72,409		0.0000	1.0000	71.81
74.5	74,391		0.0000	1.0000	71.81
75.5	74,391		0.0000	1.0000	71.81
76.5	73,976		0.0000	1.0000	71.81
77.5	73,976		0.0000	1.0000	71.81
78.5	73,976		0.0000	1.0000	71.81



# ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1894-2011		EXPE	RIENCE BAN	D 1981-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	73,976		0.0000	1.0000	71.81
80.5	73,976		0.0000	1.0000	71.81
81.5	73,976		0.0000	1.0000	71.81
82.5	60,880		0.0000	1.0000	71.81
83.5	58,703		0.0000	1.0000	71.81
84.5	58,420	635	0.0109	0.9891	71.81
85.5	42,876	506	0.0118	0.9882	71.03
86.5	43,840		0.0000	1.0000	70.19
87.5	43,202		0.0000	1.0000	70.19
88.5	43,202		0.0000	1.0000	70.19
89.5	36,938		0.0000	1.0000	70.19
90.5	36,938		0.0000	1.0000	70.19
91.5	36,938		0.0000	1.0000	70.19
92.5	36,938	23	0.0006	0.9994	70.19
93.5	75,411		0.0000	1.0000	70.14
94.5	75,411	1,065	0.0141	0.9859	70.14
95.5	74,346		0.0000	1.0000	69.15
96.5	74,346		0.0000	1.0000	69.15
97.5	74,346		0.0000	1.0000	69.15
98.5	74,346		0.0000	1.0000	69.15
99.5	69,727		0.0000	1.0000	69.15
100.5	69,727		0.0000	1.0000	69.15
101.5	69,727		0.0000	1.0000	69.15
102.5	56,220		0.0000	1.0000	69.15
103.5	42,220		0.0000	1.0000	69.15
104.5	42,220		0.0000	1.0000	69.15
105.5	1,470		0.0000	1.0000	69.15
106.5	1,470	• .	0.0000	1.0000	69.15
107.5	1,470		0.0000	1.0000	69.15
108.5	1,470		0.0000	1.0000	69.15
109.5	1,470		0.0000	1.0000	69.15
110.5	1,470		0.0000	1.0000	69.15
111.5	1,470		0.0000	1.0000	69.15
112.5	1,470		0.0000	1.0000	69.15
113.5	1,470		0.0000	1.0000	69.15
114.5	1,470		0.0000	1.0000	69.15
115.5	1,470		0.0000	1.0000	69.15
116.5	1,470		0.0000	1.0000	69.15
117.5					69.15



#### ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES

## ORIGINAL LIFE TABLE

PLACEMENT B	AND 1894-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5	3,234,281 3,865,669 4,926,750 5,604,571 5,787,559 6,647,311	12,945 979 272	0.0000 0.0000 0.0000 0.0023 0.0002	1.0000 1.0000 1.0000 0.9977 0.9998 1.0000	100.00 100.00 100.00 100.00 99.77 99.75
5.5 6.5 7.5 8.5	7,046,263 7,060,632 7,126,602 7,113,329	19,938 25,324 24,097	0.0028 0.0000 0.0036 0.0034	0.9972 1.0000 0.9964 0.9966	99.75 99.47 99.47 99.11
9.5 10.5 11.5 12.5 13.5 14.5	7,096,272 6,696,340 6,570,459 6,398,408 6,308,333 6,018,285	26,191 4,337 10,365 9,300 55,000 2,199	0.0037 0.0006 0.0016 0.0015 0.0087 0.0004	0.9963 0.9994 0.9984 0.9985 0.9913 0.9996	98.78 98.41 98.35 98.19 98.05 97.20
15.5 16.5 17.5 18.5	5,843,300 5,831,486 5,741,571 5,729,240	1,610 15,073 2,082	0.0003 0.0026 0.0000 0.0004	0.9997 0.9974 1.0000 0.9996	97.16 97.13 96.88 96.88
19.5 20.5 21.5 22.5 23.5 24.5	5,346,564 4,568,109 3,428,348 2,633,262 1,816,572 883,372	716 5,928 31,635 27,716	0.0001 0.0013 0.0092 0.0105 0.0000 0.0039	0.9999 0.9987 0.9908 0.9895 1.0000 0.9961	96.85 96.83 96.71 95.82 94.81 94.81
25.5 26.5 27.5 28.5 29.5	555,017 1,305,286 1,249,155 1,238,743 1,259,263	629 7,359 791 578	0.0011 0.0056 0.0006 0.0000	0.9989 0.9944 0.9994 1.0000	94.44 94.33 93.80 93.74
30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5 38.5	1,259,498 1,246,139 1,236,016 1,135,635 1,130,318 1,094,854 1,092,712 1,084,189 1,070,276	18,194 1,476 59,471 19,401 2,299 2,890	0.0144 0.0012 0.0481 0.0000 0.0172 0.0021 0.0026 0.0000	0.9856 0.9988 0.9519 1.0000 0.9828 0.9979 0.9974 1.0000	93.70 92.35 92.24 87.80 87.80 86.29 86.11 85.88



ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT H	BAND 1894-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5 44.5 45.5 46.5 47.5 48.5	1,055,920 1,051,752 1,044,256 881,587 865,556 809,769 785,081 62,854 54,771 52,603	599 126,747 1,992	0.0006 0.0000 0.1214 0.0023 0.0000 0.0000 0.0000 0.0000	0.9994 1.0000 0.8786 0.9977 1.0000 1.0000 1.0000 1.0000 0.9944	85.88 85.83 75.42 75.25 75.25 75.25 75.25 75.25
49.5 50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5	83,078 80,815 92,908 89,728 87,052 81,172 51,779 53,062 42,372 42,372	1,750 61	0.0000 0.0000 0.0188 0.0000 0.0007 0.0007 0.0000 0.0000	1.0000 1.0000 0.9812 1.0000 1.0000 0.9993 1.0000 1.0000	74.82 74.82 74.82 73.42 73.42 73.36 73.36 73.36 73.36
59.5 60.5 61.5 62.5 63.5 64.5 65.5 66.5 67.5	42,372 41,501 34,397 47,299 50,355 50,511 65,420 64,591 65,162 64,928	111 67	0.0000 0.0000 0.0000 0.0000 0.0000 0.0017 0.0010 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 0.9983 0.9990 1.0000	73.36 73.36 73.36 73.36 73.36 73.36 73.36 73.16 73.16
69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5	41,406 41,246 39,141 39,141 39,141 38,846 38,846 37,366 37,366 37,366	1,914	0.0000 0.0464 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 0.9536 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	73.16 73.16 69.77 69.77 69.77 69.77 69.77 69.77



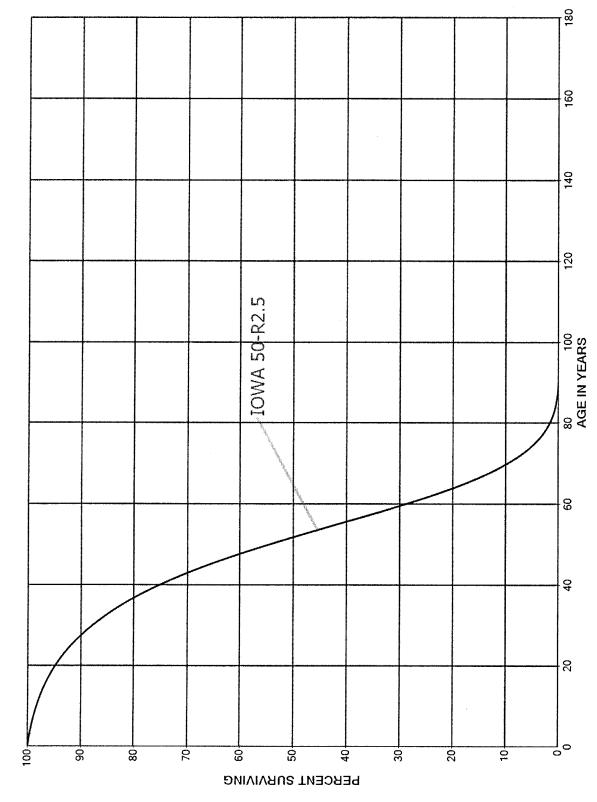
ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS - LARGE STRUCTURES

ORIGINAL LIFE TABLE, CONT.

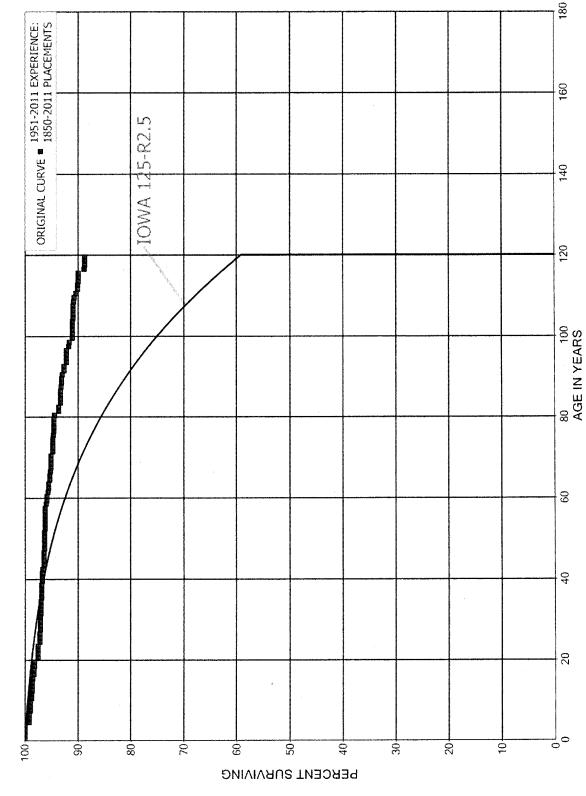
PLACEMENT I	BAND 1894-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	42,491		0.0000	1.0000	69.77
80.5	42,491		0.0000	1.0000	69.77
81.5	42,491		0.0000	1.0000	69.77
82.5	43,539		0.0000	1.0000	69.77
83.5	55,361		0.0000	1.0000	69.77
84.5	55,078	635	0.0115	0.9885	69.77
85.5	41,811	506	0.0121	0.9879	68.96
86.5	41,305		0.0000	1.0000	68.13
87.5	41,732		0.0000	1.0000	68.13
88.5	41,732		0.0000	1.0000	68.13
89.5	35,468		0.0000	1.0000	68.13
90.5	35,468		0.0000	1.0000	68.13
91.5	35,468		0.0000	1.0000	68.13
92.5	35,468	23	0.0007	0.9993	68.13
93.5	73,941		0.0000	1.0000	68.08
94.5	73,941	1,065	0.0144	0.9856	68.08
95.5	72,876		0.0000	1.0000	67.10
96.5	72,876		0.0000	1.0000	67.10
97.5	74,346		0.0000	1.0000	67.10
98.5	74,346		0.0000	1.0000	67.10
99.5	69,727		0.0000	1.0000	67.10
100.5	69,727		0.0000	1.0000	67.10
101.5	69,727		0.0000	1.0000	67.10
102.5	56,220		0.0000	1.0000	67.10
103.5	42,220		0.0000	1.0000	67.10
104.5	42,220		0.0000	1.0000	67.10
105.5	1,470		0.0000	1.0000	67.10
106.5	1,470		0.0000	1.0000	67.10
107.5	1,470		0.0000	1.0000	67.10
108.5	1,470		0.0000	1.0000	67.10
109.5	1,470		0.0000	1.0000	67.10
110.5	1,470		0.0000	1.0000	67.10
111.5	1,470		0.0000	1.0000	67.10
112.5	1,470		0.0000	1.0000	67.10
113.5	1,470		0.0000	1.0000	67.10
114.5	1,470		0.0000	1.0000	67.10
115.5	1,470		0.0000	1.0000	67.10
116.5	1,470		0.0000	1.0000	67.10
117.5					67.10

100 ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDING - OTHER STRUCTURES 8 PENNSYLVANIA-AMERICAN WATER COMPANY **IOWA 45-R3** SMOOTH SURVIVOR CURVE AGE IN YEARS 6 2 100 8 80 70 ġ 20 50 РЕВСЕИТ SURVIVING

PENNSYLVANIA-AMERICAN WATER COMPANY
ACCOUNT 304.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS
SMOOTH SURVIVOR CURVE



PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

PLACEMENT B	AND 1850-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5	44,522,154 37,272,054 37,236,283 37,299,920 27,284,730	16,065 1,429 2,822 197,085	0.0000 0.0004 0.0000 0.0001 0.0072	1.0000 0.9996 1.0000 0.9999 0.9928	100.00 100.00 99.96 99.95 99.95
4.5 5.5 6.5 7.5 8.5	28,175,450 28,222,426 28,224,600 28,315,562 28,307,278	1,930 21,179 65,285 3,124 1,567	0.0001 0.0008 0.0023 0.0001 0.0001	0.9999 0.9992 0.9977 0.9999	99.22 99.22 99.14 98.91 98.90
9.5 10.5 11.5 12.5 13.5	28,188,230 28,044,488 27,586,862 27,449,820 27,442,372	56,149 2,948 15,423 2,681 2,637	0.0020 0.0001 0.0006 0.0001 0.0001	0.9980 0.9999 0.9994 0.9999	98.90 98.70 98.69 98.63 98.62
14.5 15.5 16.5 17.5 18.5	26,781,406 26,426,614 24,524,012 23,984,230 23,467,786	41,271 34,846 11,755 32,506 2,088	0.0015 0.0013 0.0005 0.0014 0.0001	0.9985 0.9987 0.9995 0.9986 0.9999	98.61 98.46 98.33 98.29 98.15
19.5 20.5 21.5 22.5 23.5 24.5	21,544,065 20,322,529 20,269,640 16,845,388 16,802,606 13,188,530	130,449 6,704 6,290 196 54,160 4,129	0.0061 0.0003 0.0003 0.0000 0.0032 0.0003	0.9939 0.9997 0.9997 1.0000 0.9968 0.9997	98.14 97.55 97.52 97.49 97.49 97.17
25.5 26.5 27.5 28.5 29.5	12,945,788 8,551,910 9,001,667 8,699,723 8,690,560	2,751 949 1,220 1,165 2,616	0.0002 0.0001 0.0001 0.0001	0.9998 0.9999 0.9999 0.9999	97.14 97.12 97.11 97.10 97.08
30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5 38.5	8,113,355 8,195,040 8,410,104 8,236,071 8,205,044 7,243,800 7,197,126 7,179,600 7,154,260	9,734 2,013 543 428 1,219 83 1,020 6,843 1,324	0.0012 0.0002 0.0001 0.0001 0.0001 0.0000 0.0001 0.0010 0.0002	0.9988 0.9998 0.9999 0.9999 1.0000 0.9999 0.9990	97.05 96.94 96.91 96.91 96.90 96.89 96.87 96.78



## ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

PLACEMENT 1	BAND 1850-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	5,347,582	459	0.0001	0.9999	96.76
40.5	5,591,683		0.0000	1.0000	96.76
41.5	5,588,513	8,598	0.0015	0.9985	96.76
42.5	5,580,421	11,589	0.0021	0.9979	96.61
43.5	5,583,981	3,540	0.0006	0.9994	96.41
44.5	5,583,272		0.0000	1.0000	96.34
45.5	5,608,623	80	0.0000	1.0000	96.34
46.5	5,646,839	444	0.0001	0.9999	96.34
47.5	4,362,622	163	0.0000	1.0000	96.34
48.5	4,399,024	940	0.0002	0.9998	96.33
49.5	4,437,320	469	0.0001	0.9999	96.31
50.5	4,861,651	625	0.0001	0.9999	96.30
51.5	4,526,089	3,593	0.0008	0.9992	96.29
52.5	4,182,497	2,543	0.0006	0.9994	96.21
53.5	3,752,033	349	0.0001	0.9999	96.15
54.5	3,730,382	516	0.0001	0.9999	96.15
55.5	3,753,957		0.0000	1.0000	96.13
56.5	3,756,756	176	0.0000	1.0000	96.13
57.5	3,799,847	5,964	0.0016	0.9984	96.13
58.5	3,973,914	5,564	0.0014	0.9986	95.98
59.5	4,000,267	332	0.0001	0.9999	95.84
60.5	3,998,299	10,040	0.0025	0.9975	95.83
61.5	4,017,299	1,681	0.0004	0.9996	95.59
62.5	4,384,007	2,723	0.0006	0.9994	95.55
63.5	4,348,422	9,098	0.0021	0.9979	95.49
64.5	4,280,319	773	0.0002	0.9998	95.29
65.5	4,077,907	6,677	0.0016	0.9984	95.28
66.5	3,886,532	913	0.0002	0.9998	95.12
67.5	3,923,300		0.0000	1.0000	95.10
68.5	3,924,966	95	0.0000	1.0000	95.10
69.5	3,917,064	421	0.0001	0.9999	95.10
70.5	3,904,563		0.0033		95.09
71.5	3,891,499	366	0.0001	0.9999	94.77
72.5	3,892,238	458	0.0001	0.9999	94.76
73.5	3,892,371	2,266	0.0006	0.9994	94.75
74.5	3,896,309	2,158	0.0006	0.9994	94.69
75.5	3,894,098	4,665	0.0012	0.9988	94.64
76.5	3,888,458	145	0.0000	1.0000	94.53
77.5	3,887,203		0.0000	1.0000	94.52
78.5	3,937,029		0.0000	1.0000	94.52



#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

PLACEMENT	BAND 1850-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	3,851,047	4,999	0.0013	0.9987	94.52
80.5	3,823,751	32,756	0.0086	0.9914	94.40
81.5	3,727,794	573	0.0002	0.9998	93.59
82.5	3,642,625	10,914	0.0030	0.9970	93.58
83.5	3,593,787	52	0.0000	1.0000	93.30
84.5	3,588,820	1,318	0.0004	0.9996	93.30
85.5	3,768,802		0.0000	1.0000	93.26
86.5	3,761,987	5,571	0.0015	0.9985	93.26
87.5	3,847,907	1,697	0.0004	0.9996	93.12
88.5	2,954,851	654	0.0002	0.9998	93.08
89.5	2,972,797	4,952	0.0017	0.9983	93.06
90.5	2,960,531	7,652	0.0026	0.9974	92.91
91.5	2,909,862	2,656	0.0009	0.9991	92.67
92.5	2,812,776	12,228	0.0043	0.9957	92.58
93.5	2,920,748		0.0000	1.0000	92.18
94.5	2,920,988	346	0.0001	0.9999	92.18
95.5	2,824,335	796	0.0003	0.9997	92.17
96.5	2,590,711	12,897	0.0050	0.9950	92.14
97.5	2,215,853	1,961	0.0009	0.9991	91.69
98.5	2,295,808	12,840	0.0056	0.9944	91.60
99.5	2,247,917	417	0.0002	0.9998	91.09
100.5	2,239,066	86	0.0000	1.0000	91.08
101.5	2,061,096	352	0.0002	0.9998	91.07
102.5	2,041,762		0.0000	1.0000	91.06
103.5	2,091,547	1,706	0.0008	0.9992	91.06
104.5	1,885,750	1,236	0.0007	0.9993	90.98
105.5	2,218,882		0.0000	1.0000	90.92
106.5	1,823,802	50	0.0000	1.0000	90.92
107.5	1,753,565	2,000	0.0011	0.9989	90.92
108.5	1,750,082	1,604	0.0009	0.9991	90.82
109.5	1,689,244	5,597	0.0033	0.9967	90.73
110.5	1,324,454	5,317	0.0040	0.9960	90.43
111.5	1,036,918	103	0.0001	0.9999	90.07
112.5	1,032,318	1,829	0.0018	0.9982	90.06
113.5	1,030,476		0.0000	1.0000	89.90
114.5	798,895		0.0000	1.0000	89.90
115.5	773,913	9,597	0.0124	0.9876	89.90
116.5	757,079	221	0.0003	0.9997	88.79
117.5	756,858		0.0000	1.0000	88.76
118.5	673,000	42	0.0001	0.9999	88.76



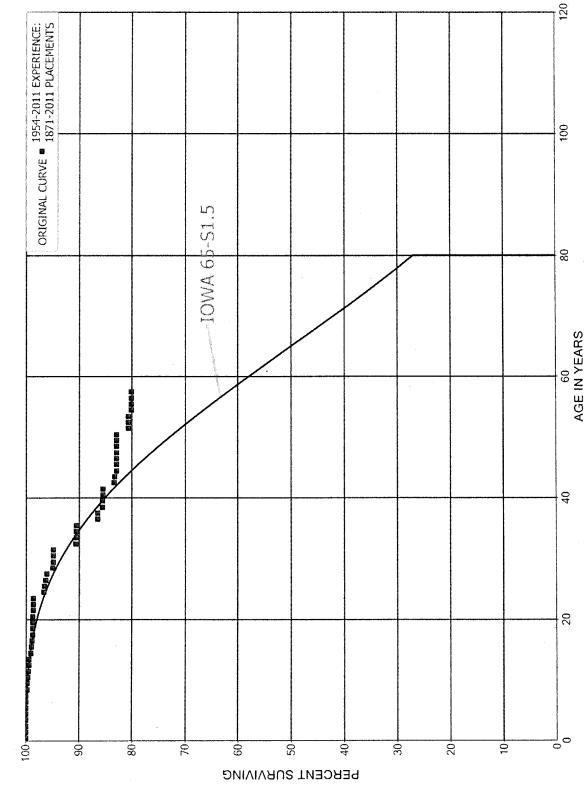
#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

PLACEMENT 1	BAND 1850-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5 120.5 121.5 122.5	479,937 448,723 445,942 70,830	<b></b>	0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000	88.75 88.75 88.75 88.75
123.5 124.5 125.5 126.5 127.5	139,008 68,178 68,178 68,178 68,178		0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000	88.75 88.75 88.75 88.75 88.75
128.5 129.5 130.5 131.5 132.5	68,178 68,178 68,178 68,178 68,178		0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000	88.75 88.75 88.75 88.75 88.75
133.5 134.5 135.5 136.5 137.5	68,178 68,178 68,178 68,178 68,178 68,178		0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000	88.75 88.75 88.75 88.75 88.75 88.75
138.5 139.5 140.5 141.5 142.5 143.5	00,170		0.0000	1.0000	88.75
144.5 145.5 146.5 147.5 148.5	4,000 4,000 4,000 4,000		0.0000 0.0000 0.0000 0.0000		
149.5 150.5 151.5 152.5 153.5 154.5 155.5 156.5 157.5 158.5	4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000 4,000		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000		

## ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

PLACEMENT	BAND 1850-2011		EXPER	IENCE BAN	ID 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
159.5 160.5	4,000 4,000		0.0000		
161.5	-,				

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

PLACEMENT E	BAND 1871-2011		EXPER	ZIENCE BAN	D 1954-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5 6.5 7.5 8.5	17,456,456 17,638,791 18,115,103 18,049,365 18,526,581 18,083,913 17,887,563 17,839,033 17,744,311 17,703,934	3,225 5,293 40,377 1,340	0.0000 0.0000 0.0000 0.0002 0.0000 0.0000 0.0003 0.0023 0.0001	1.0000 1.0000 0.9998 1.0000 1.0000 1.0000 0.9997 0.9977	100.00 100.00 100.00 100.00 99.98 99.98 99.98 99.98 99.95
9.5 10.5 11.5 12.5 13.5 14.5 15.5 16.5 17.5	17,501,707 17,473,268 17,448,765 16,940,146 16,766,145 6,930,710 5,885,295 3,813,137 3,788,042	16,896 21,266 9,291 55,128 15,857 1,200 4,733	0.0010 0.0012 0.0005 0.0000 0.0033 0.0023 0.0002 0.0012 0.0000	0.9990 0.9988 0.9995 1.0000 0.9967 0.9977 0.9998 0.9988 1.0000	99.72 99.62 99.50 99.45 99.45 99.12 98.89 98.87 98.75
19.5 20.5 21.5 22.5 23.5 24.5 25.5 26.5 27.5 28.5	2,647,154 2,308,868 2,288,839 2,247,574 2,185,181 2,117,350 2,040,227 2,032,570 2,008,566 1,983,949	1,910  46,026 1,383 4,458 5,359 22,801 2,467	0.0000 0.0008 0.0000 0.0000 0.0211 0.0007 0.0022 0.0026 0.0114 0.0012	1.0000 0.9992 1.0000 1.0000 0.9789 0.9993 0.9974 0.9886 0.9988	98.75 98.75 98.67 98.67 98.67 96.59 96.53 96.32 96.06 94.97
29.5 30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5 38.5	1,651,558 1,645,833 1,644,963 1,529,421 1,483,658 1,483,346 1,478,402 1,412,729 1,412,729 1,412,289 1,292,064	73,202 1,885 65,673 14,326 57	0.0000 0.0000 0.0445 0.0012 0.0000 0.0000 0.0444 0.0000 0.0101 0.0000	1.0000 1.0000 0.9555 0.9988 1.0000 1.0000 0.9556 1.0000 0.9899 1.0000	94.85 94.85 94.85 90.63 90.52 90.52 90.52 86.50 86.50 85.62

### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

PLACEMENT	BAND 1871-2011		EXPER	RIENCE BAN	D 1954-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	1,292,172	2,232	0.0017	0.9983	85.62
40.5	1,289,080	61	0.0000	1.0000	85.47
41.5	1,291,214	30,786	0.0238	0.9762	85.47
42.5	749,475	1,745	0.0023	0.9977	83.43
43.5	739,530	2,902	0.0039	0.9961	83.23
44.5	578,726		0.0000	1.0000	82.91
45.5	477,820		0.0000	1.0000	82.91
46.5	477,870		0.0000	1.0000	82.91
47.5	464,884		0.0000	1.0000	82.91
48.5	474,013		0.0000	1.0000	82.91
49.5	463,404	51	0.0001	0.9999	82.91
50.5	257,398	6,835	0.0266	0.9734	82.90
51.5	245,848		0.0000	1.0000	80.70
52.5	248,173	31	0.0001	0.9999	80.70
53.5	268,051	1,645	0.0061	0.9939	80.69
54.5	270,740		0.0000	1.0000	80.19
55.5	270,352		0.0000	1.0000	80.19
56.5	268,087		0.0000	1.0000	80.19
57.5	266,663	200	0.0000	1.0000	80.19
58.5	57,056	929	0.0163	0.9837	80.19
59.5	63,311		0.0000	1.0000	78.89
60.5	63,311		0.0000	1.0000	78.89
61.5	63,368		0.0000	1.0000	78.89
62.5	63,368		0.0000	1.0000	78.89
63.5	59,198		0.0000	1.0000	78.89
64.5	59,150		0.0000	1.0000	78.89
65.5	59,150		0.0000	1.0000	78.89
66.5	59,150		0.0000	1.0000	78.89
67.5	59,150		0.0000	1.0000	78.89
68.5	59,150		0.0000	1.0000	78.89
69.5	75,058		0.0000	1.0000	78.89
70.5	75,058	1,037	0.0138	0.9862	78.89
71.5	76,069		0.0000	1.0000	77.80
72.5	76,069		0.0000	1.0000	77.80
73.5	75,846		0.0000	1.0000	77.80
74.5	74,378		0.0000	1.0000	77.80
75.5	74,378		0.0000	1.0000	77.80
76.5	74,378		0.0000	1.0000	77.80
77.5	75,102		0.0000	1.0000	77.80
78.5	75,102		0.0000	1.0000	77.80

## ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

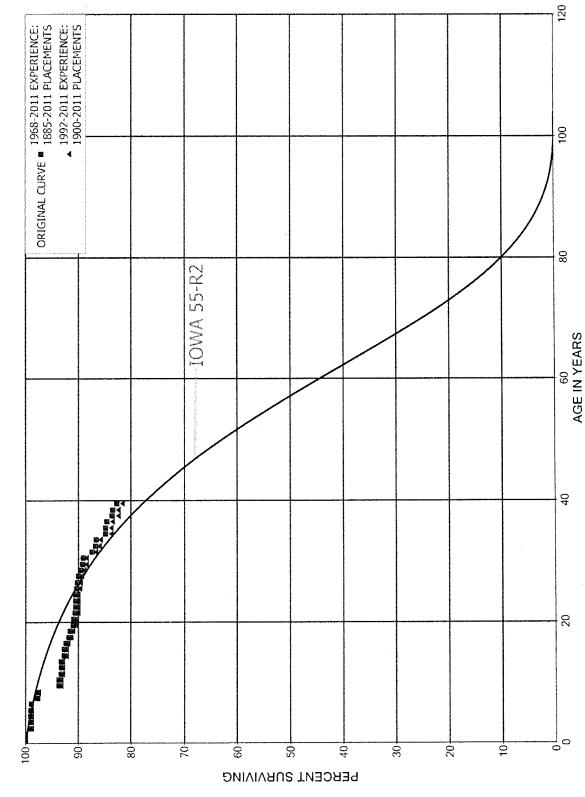
PLACEMENT	BAND 1871-2011		EXPER	RIENCE BAN	D 1954-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	75,102		0.0000	1.0000	77.80
80.5	75,102		0.0000	1.0000	77.80
81.5	75,102		0.0000	1.0000	77.80
82.5	82,587		0.0000	1.0000	77.80
83.5	82,587		0.0000	1.0000	77.80
84.5	83,091		0.0000	1.0000	77.80
85.5	83,091		0.0000	1.0000	77.80
86.5	83,091		0.0000	1.0000	77.80
87.5	82,907	2,572	0.0310	0.9690	77.80
88.5	80,335	19	0.0002	0.9998	75.38
89.5	80,316		0.0000	1.0000	75.37
90.5	80,316		0.0000	1.0000	75.37
91.5	79,954		0.0000	1.0000	75.37
92.5	79,954		0.0000	1.0000	75.37
93.5	81,018		0.0000	1.0000	75.37
94.5	80,332		0.0000	1.0000	75.37
95.5	79,944		0.0000	1.0000	75.37
96.5	77,841		0.0000	1.0000	75.37
97.5	77,749		0.0000	1.0000	75.37
98.5	77,749		0.0000	1.0000	75.37
99.5	77,749		0.0000	1.0000	75.37
100.5	77,749		0.0000	1.0000	75.37
101.5	77,749		0.0000	1.0000	75.37
102.5	77,124		0.0000	1.0000	75.37
103.5	70,410		0.0000	1.0000	75.37
104.5	70,360		0.0000	1.0000	75.37
105.5	70,244		0.0000	1.0000	75.37
106.5	61,008		0.0000	1.0000	75.37
107.5	61,008		0.0000	1.0000	75.37
108.5	59,243		0.0000	1.0000	75.37
109.5	59,243		0.0000	1.0000	75.37
110.5	58,988		0.0000	1.0000	75.37
111.5	39,079		0.0000	1.0000	75.37
112.5	34,746		0.0000	1.0000	75.37
113.5	34,746		0.0000	1.0000	75.37
114.5	34,746		0.0000	1.0000	75.37
115.5	33,682		0.0000	1.0000	75.37
116.5	33,682		0.0000	1.0000	75.37
117.5	26,499		0.0000	1.0000	75.37
118.5	26,499		0.0000	1.0000	75.37

### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1871-2011		EXPER	RIENCE BAN	D 1954-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
119.5	26,499		0.0000	1.0000	75.37
120.5	26,499		0.0000	1.0000	75.37
121.5	26,499		0.0000	1.0000	75.37
122.5	26,499		0.0000	1.0000	75.37
123.5	26,499		0.0000	1.0000	75.37
124.5	26,499		0.0000	1.0000	75.37
125.5	26,499		0.0000	1.0000	75.37
126.5	26,499		0.0000	1.0000	75.37
127.5	10,591		0.0000	1.0000	75.37
128.5	10,591		0.0000	1.0000	75.37
129.5	8,485		0.0000	1.0000	75.37
130.5	8,485		0.0000	1.0000	75.37
131.5	8,485		0.0000	1.0000	75.37
132.5	8,485		0.0000	1.0000	75.37
133.5	8,485		0.0000	1.0000	75.37
134.5	8,485		0.0000	1.0000	75.37
135.5	7,485		0.0000	1.0000	75.37
136.5	7,485		0.0000	1.0000	75.37
137.5	7,485		0.0000	1.0000	75.37
138.5	7,485		0.0000	1.0000	75.37
139.5	7,485		0.0000	1.0000	75.37
140.5					75.37

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 307 WELLS AND SPRINGS ORIGINAL AND SMOOTH SURVIVOR CURVES



# ACCOUNT 307 WELLS AND SPRINGS

PLACEMENT	BAND 1885-2011		EXPER	RIENCE BAN	D 1968-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	6,848,033		0.0000	1.0000	100.00
0.5	7,566,543		0.0000	1.0000	100.00
1.5	7,519,433	82,336	0.0109	0.9891	100.00
2.5	7,492,853		0.0000	1.0000	98.91
3.5	7,199,388		0.0000	1.0000	98,91
4.5	6,937,473		0.0000	1.0000	98.91
5.5	6,784,268	2,046	0.0003	0.9997	98.91
6.5	6,814,671	81,413	0.0119	0.9881	98.88
7.5	5,723,832	2,189	0.0004	0.9996	97.69
8.5	5,607,880	231,294	0.0412	0.9588	97.66
9.5	5,202,300	371	0.0001	0.9999	93.63
10.5	5,143,929	22,495	0.0044	0.9956	93.62
11.5	2,912,319		0.0000	1.0000	93.21
12.5	2,994,004		0.0000	1.0000	93.21
13.5	3,126,924	19,303	0.0062	0.9938	93.21
14.5	3,010,317		0.0000	1.0000	92.64
15.5	3,032,904	9,791	0.0032	0.9968	92.64
16.5	2,994,892	18,321	0.0061	0.9939	92.34
17.5	2,984,294	10,050	0.0034	0.9966	91.77
18.5	2,942,896	17,216	0.0059	0.9941	91.46
19.5	3,007,340	2,088	0.0007	0.9993	90.93
20.5	2,968,140	8,989	0.0030	0.9970	90.87
21.5	2,171,166	1,232	0.0006	0.9994	90.59
22.5	2,224,035	79	0.0000	1.0000	90.54
23.5	1,908,232	341	0.0002	0.9998	90.54
24.5	1,677,415	4,751	0.0028	0.9972	90.52
25.5	1,598,291	1,713	0.0011	0.9989	90.26
26.5	1,552,082	3,887	0.0025	0.9975	90.17
27.5	1,479,671	7,864	0.0053	0.9947	89.94
28.5	1,314,228	4,975	0.0038	0.9962	89.46
29.5	1,113,280	674	0.0006	0.9994	89.12
30.5	972,316	18,436	0.0190	0.9810	89.07
31.5	794,823	5,574	0.0070	0.9930	87.38
32.5	739,925	999	0.0014	0.9986	86.77
33.5	602,059	12,749	0.0212	0.9788	86.65
34.5	581,947		0.0000	1.0000	84.82
35.5	585,457	1,478	0.0025	0.9975	84.82
36.5	579,666	6,871	0.0119	0.9881	84.60
37.5	531,752	264	0.0005	0.9995	83.60
38.5	433,611	4,049	0.0093	0.9907	83.56



### ACCOUNT 307 WELLS AND SPRINGS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1885-2011		EXPER	LIENCE BAN	D 1968-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	312,332	1	0.0000	1.0000	82.78
40.5	286,773		0.0000	1.0000	82.78
41.5	329,260		0.0000	1.0000	82.78
42.5	255,320		0.0000	1.0000	82.78
43.5	253,618	530	0.0021	0.9979	82.78
44.5	263,915		0.0000	1.0000	82.60
45.5	202,986		0.0000	1.0000	82.60
46.5	188,079		0.0000	1.0000	82.60
47.5	182,518		0.0000	1.0000	82.60
48.5	162,934	123	0.0008	0.9992	82.60
49.5	159,074		0.0000	1.0000	82.54
50.5	151,420		0.0000	1.0000	82.54
51.5	107,547		0.0000	1.0000	82.54
52.5	109,734	3	0.0000	1.0000	82.54
53.5	109,381		0.0000	1.0000	82.54
54.5	95,468	631	0.0066	0.9934	82.54
55.5	93,533		0.0000	1.0000	82.00
56.5	81,365		0.0000	1.0000	82.00
57.5	68,989	55	0.0008	0.9992	82.00
58.5	53,946		0.0000	1.0000	81.93
59.5	54,937	17	0.0003	0.9997	81.93
60.5	56,416		0.0000	1.0000	81.90
61.5	56,308	148	0.0026	0.9974	81.90
62.5	71,298		0.0000	1.0000	81.69
63.5	72,094		0.0000	1.0000	81.69
64.5	72,094		0.0000	1.0000	81.69
65.5	70,637	4,738	0.0671	0.9329	81.69
66.5	63,557	93	0.0015	0.9985	76.21
67.5	64,083	1,294	0.0202	0.9798	76.10
68.5	62,789		0.0000	1.0000	74.56
69.5	62,789		0.0000	1.0000	74.56
70.5	63,900	1,661		0.9740	74.56
71.5	62,151		0.0000	1.0000	72.62
72.5	60,110	1 000	0.0000	1.0000	72.62
73.5	59,869	1,999	0.0334	0.9666	72.62
74.5	54,762	5,323	0.0972	0.9028	70.20
75.5	49,439	277	0.0056	0.9944	63.38
76.5	47,912		0.0000	1.0000	63.02
77.5	48,478		0.0000	1,0000	63.02
78.5	48,478		0.0000	1.0000	63.02

### ACCOUNT 307 WELLS AND SPRINGS

PLACEMENT	BAND 1885-2011		EXPER	RIENCE BAN	D 1968-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	48,478	14	0.0003	0.9997	63.02
80.5	48,464	7	0.0001	0.9999	63.00
81.5	48,448		0.0000	1.0000	62.99
82.5	49,337	463	0.0094	0.9906	62.99
83.5	50,058		0.0000	1.0000	62.40
84.5	47,522		0.0000	1.0000	62.40
85.5	47,062		0.0000	1.0000	62.40
86.5	47,370		0.0000	1.0000	62.40
87.5	39,005		0.0000	1.0000	62.40
88.5	29,137	426	0.0146	0.9854	62.40
89.5	25,892		0.0000	1.0000	61.49
90.5	25,892		0.0000	1.0000	61.49
91.5	29,697		0.0000	1.0000	61.49
92.5	29,697		0.0000	1.0000	61.49
93.5	28,513	193	0.0068	0.9932	61.49
94.5	28,320		0.0000	1.0000	61.07
95.5	26,559		0.0000	1.0000	61.07
96.5	24,044		0.0000	1.0000	61.07
97.5	24,993		0.0000	1.0000	61.07
98.5	23,497		0.0000	1.0000	61.07
99.5	22,211		0.0000	1.0000	61.07
100.5	22,211		0.0000	1.0000	61.07
101.5	15,853		0.0000	1.0000	61.07
102.5	15,853		0.0000	1.0000	61.07
103.5	15,842		0.0000	1.0000	61.07
104.5	15,782		0.0000	1.0000	61.07
105.5	15,782		0.0000	1.0000	61.07
106.5	4,225		0.0000	1.0000	61.07
107.5	2,524		0.0000	1.0000	61.07
108.5	2,524		0.0000	1.0000	61.07
109.5	2,524		0.0000	1.0000	61.07
110.5	1,510		0.0000	1.0000	61.07
111.5					61.07

### ACCOUNT 307 WELLS AND SPRINGS

PLACEMENT	BAND 1900-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	4,567,009		0.0000	1.0000	100.00
0.5	5,337,273		0.0000	1.0000	100.00
1.5	6,187,499	82,336	0.0133	0.9867	100.00
2.5	6,285,123		0.0000	1.0000	. 98.67
3.5	6,193,577		0.0000	1.0000	98.67
4.5	6,334,160		0.0000	1.0000	98.67
5.5	6,294,277	2,046	0.0003	0.9997	98.67
6.5	6,337,240	81,413	0.0128	0.9872	98.64
7.5	5,318,674	2,189	0.0004	0.9996	97.37
8.5	5,335,972	231,294	0.0433	0.9567	97.33
9.5	4,943,732	371	0.0001	0.9999	93.11
10.5	4,923,196	22,495	0.0046	0.9954	93.10
11.5	2,700,585		0.0000	1.0000	92.68
12.5	2,770,472		0.0000	1.0000	92.68
13.5	2,914,916	19,303	0.0066	0.9934	92.68
14.5	2,791,603		0.0000	1.0000	92.06
15.5	2,814,190	9,791	0.0035	0.9965	92.06
16.5	2,775,916	18,321	0.0066	0.9934	91.74
17.5	2,782,724	10,050	0.0036	0.9964	91.14
18.5	2,741,803	17,216	0.0063	0.9937	90.81
19.5	2,807,642	2,088	0.0007	0.9993	90.24
20.5	2,795,452	8,989	0.0032	0.9968	90.17
21.5	1,998,478	1,232	0.0006	0.9994	89.88
22.5	2,098,864	79	0.0000	1.0000	89.83
23.5	1,783,539	341	0.0002	0.9998	89.82
24.5	1,554,480	4,751	0.0031	0.9969	89.81
25.5	1,481,378	1,713	0.0012	0.9988	89.53
26.5	1,438,057	3,887	0.0027	0.9973	89.43
27.5	1,379,508	7,864	0.0057	0.9943	89.19
28.5	1,235,006	4,975	0.0040	0.9960	88.68
29.5	1,037,679	674	0.0006	0.9994	88.32
30.5	902,444	18,436	0.0204	0.9796	88.26
31.5	724,951	5,574	0.0077	0.9923	86.46
32.5	670,491	999	0.0015	0.9985	85.80
33.5	535,020	12,749	0.0238	0.9762	85.67
34.5	532,818		0.0000	1.0000	83.63
35.5	536,328	1,478	0.0028	0.9972	83.63
36.5	542,335	6,871	0.0127	0.9873	83.40
37.5	509,282	264	0.0005	0.9995	82.34
38.5	424,142	4,049	0.0095	0.9905	82.30



#### ACCOUNT 307 WELLS AND SPRINGS

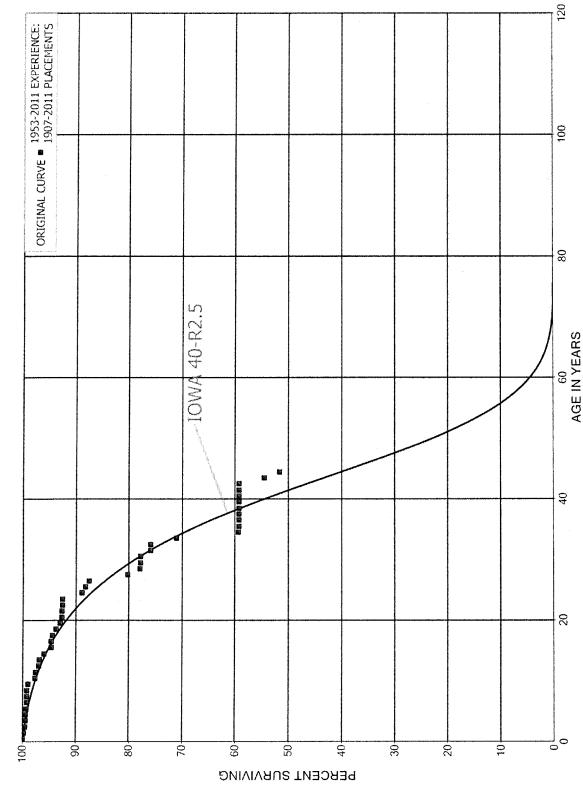
PLACEMENT	BAND 1900-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5	293,675 265,544 307,571 233,631	1	0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000	81.51 81.51 81.51 81.51
43.5 44.5 45.5 46.5	224,329 224,758 162,551 151,965	530	0.0024 0.0000 0.0000 0.0000	0.9976 1.0000 1.0000 1.0000	81.51 81.32 81.32 81.32
47.5 48.5	146,342 126,758	123	0.0000 0.0010 0.0000	1.0000 0.9990 1.0000	81.32 81.32 81.24
49.5 50.5 51.5 52.5	122,898 115,529 69,983 70,594	3	0.0000 0.0000 0.0000	1.0000 1.0000 1.0000	81.24 81.24 81.24
53.5 54.5 55.5 56.5	69,537 57,291 54,070 42,172	631	0.0000 0.0110 0.0000 0.0000	1.0000 0.9890 1.0000 1.0000	81.24 81.24 80.34 80.34
57.5 58.5	27,504 12,461	55	0.0020	0.9980 1.0000	80.34 80.18
59.5 60.5 61.5 62.5 63.5	13,441 14,860 14,761 18,194 28,178	17	0.0013 0.0000 0.0100 0.0000 0.0000	0.9987 1.0000 0.9900 1.0000	80.18 80.08 80.08 79.28 79.28
64.5 65.5 66.5 67.5 68.5	31,012 30,015 21,921 28,537 37,111	4,738 93 1,294	0.0000 0.1579 0.0042 0.0453 0.0000	1.0000 0.8421 0.9958 0.9547 1.0000	79.28 79.28 66.76 66.48 63.46
69.5 70.5 71.5 72.5	38,389 39,500 37,813 35,772	1,661	0.0000 0.0421 0.0000 0.0000	1.0000 0.9579 1.0000 1.0000	63.46 63.46 60.80 60.80
73.5 74.5 75.5 76.5 77.5 78.5	35,531 30,424 26,862 27,542 29,053 30,549	1,999 5,323 277	0.0563 0.1750 0.0103 0.0000 0.0000	0.9437 0.8250 0.9897 1.0000 1.0000	60.80 57.38 47.34 46.85 46.85

#### ACCOUNT 307 WELLS AND SPRINGS

PLACEMENT 1	BAND 1900-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5	31,835 31,821 34,296 34,296 35,491 33,015 32,555 44,420 36,055	14 7	0.0004 0.0002 0.0000 0.0000 0.0000 0.0000 0.0000	0.9996 0.9998 1.0000 1.0000 1.0000 1.0000 1.0000	46.85 46.83 46.82 46.82 46.82 46.82 46.82 46.82
88.5 89.5 90.5 91.5 92.5 93.5 94.5 95.5 96.5 97.5 98.5	26,187 23,368 24,382 29,697 29,697 28,513 28,320 26,559 24,044 24,993 23,497	193	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 0.9932 1.0000 1.0000 1.0000 1.0000	46.82 46.82 46.82 46.82 46.82 46.50 46.50 46.50 46.50
99.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5 108.5	22,211 22,211 15,853 15,853 15,842 15,782 15,782 4,225 2,524 2,524 2,524		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	46.50 46.50 46.50 46.50 46.50 46.50 46.50 46.50 46.50 46.50



PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 310 POWER GENERATION EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 310 POWER GENERATION EQUIPMENT

PLACEMENT	BAND 1907-2011		EXPE	RIENCE BAN	D 1953-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	8,011,901	2,600	0.0003	0.9997	100.00
0.5	4,322,680	10,729	0.0025	0.9975	99.97
1.5	4,198,896	10,900	0.0026	0.9974	99.72
2.5	4,155,783	2,198	0.0005	0.9995	99.46
3.5	4,062,561		0.0000	1.0000	99.41
4.5	3,913,927	6,285	0.0016	0.9984	99,41
5.5	3,566,691	1,854	0.0005	0.9995	99.25
6.5	3,193,031	246	0.0001	0.9999	99.20
7.5	3,106,041	89	0.0000	1.0000	99.19
8.5	2,645,490	7,001	0.0026	0.9974	99.19
9.5	2,456,920	31,355	0.0128	0.9872	98.92
10.5	2,430,562	3,334	0.0014	0.9986	97.66
11.5	2,330,627	13,182	0.0057	0.9943	97.53
12.5	2,068,075	1,845	0.0009	0.9991	96.98
13.5	2,041,058	20,851	0.0102	0.9898	96.89
14.5	814,653	10,797	0.0133	0.9867	95.90
15.5	805,014		0.0000	1.0000	94.63
16.5	808,947	1,674	0.0021	0.9979	94.63
17.5	688,498	5,015	0.0073	0.9927	94.43
18.5	663,866	5,996	0.0090	0.9910	93.74
19.5	570,993	1,755	0.0031	0.9969	92.90
20.5	550,646		0.0000	1.0000	92.61
21.5	569,557	514	0.0009	0.9991	92.61
22.5	569,151		0.0000	1.0000	92.53
23.5	569,151	22,698	0.0399	0.9601	92.53
24.5	546,453	3,752	0.0069	0.9931	88.84
25.5	542,702	4,370	0.0081	0.9919	88.23
26.5	538,332	44,304	0.0823	0.9177	87.52
27.5	494,027	14,729	0.0298	0.9702	80.32
28.5	483,264	208	0.0004	0.9996	77.92
29.5	447,590		0.0000	1.0000	77.89
30.5	447,005	10,813	0.0242	0.9758	77.89
31.5	411,115		0.0000	1.0000	76.00
32.5	416,868	27,374	0.0657	0.9343	76.00
33.5	389,494	63,863	0.1640	0.8360	71.01
34.5	325,631	165	0.0005	0.9995	59.37
35.5	325,466	13	0.0000	1.0000	59.34
36.5	287,140	283	0.0010	0.9990	59.34
37.5	234,542		0.0000	1.0000	59.28
38.5	246,981		0.0000	1.0000	59.28

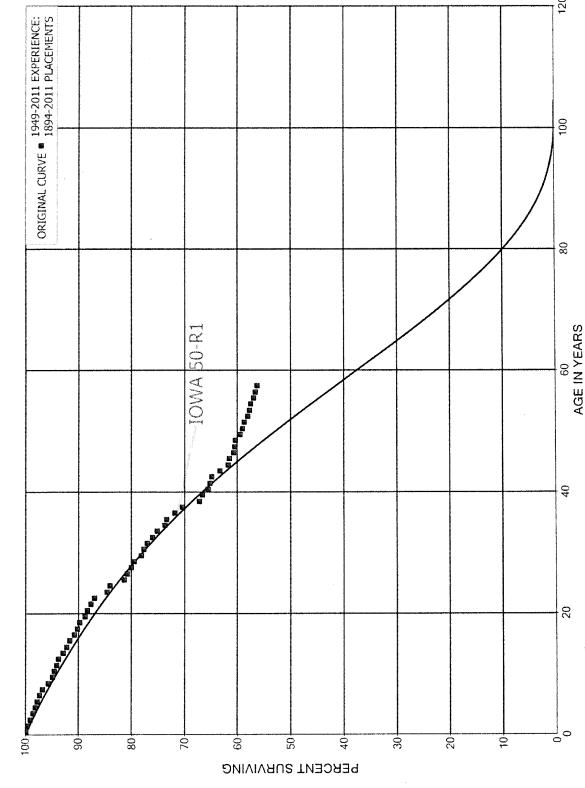


## ACCOUNT 310 POWER GENERATION EQUIPMENT

PLACEMENT E	BAND 1907-2011		EXPER	RIENCE BAN	D 1953-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	165,447		0.0000	1.0000	59.28
40.5	165,447		0.0000	1.0000	59.28
41.5	165,241		0.0000	1.0000	59.28
42.5	120,038	9,761	0.0813	0.9187	59.28
43.5	87,217	4,487	0.0515	0.9485	54.46
44.5	75,410		0.0000	1.0000	51.66
45.5	81,518	97	0.0012	0.9988	51.66
46.5	75,402		0.0000	1.0000	51.59
47.5	75,402	336	0.0045	0.9955	51.59
48.5	74,126	7,456	0.1006	0.8994	51.37
49.5	66,670	5,093	0.0764	0.9236	46.20
50.5	61,577		0.0000	1.0000	42.67
51.5	61,577		0.0000	1.0000	42.67
52.5	61,470	257	0.0042	0.9958	42.67
53.5	55,877	7,592	0.1359	0.8641	42.49
54.5	47,107		0.0000	1.0000	36.72
55.5	47,107		0.0000	1.0000	36.72
56.5	47,107	3,792	0.0805	0.9195	36.72
57.5	34,977	1,009	0.0289	0.9711	33.76
58.5	33,968		0.0000	1.0000	32.79
59.5	33,968	18,823	0.5541	0.4459	32.79
60.5	15,145	1,266	0.0836	0.9164	14.62
61.5	13,879		0.0000	1.0000	13.40
62.5	13,879		0.0000	1.0000	13.40
63.5	13,879		0.0000	1.0000	13.40
64.5	13,879		0.0000	1.0000	13.40
65.5	13,879		0.0000	1.0000	13.40
66.5	13,879		0.0000	1.0000	13.40
67.5	13,878		0.0000	1.0000	13.40
68.5	13,878		0.0000	1.0000	13.40
69.5	13,878		0.0000	1.0000	13.40
70.5	13,878		0.0000	1.0000	13.40
71.5	10,939		0.0000	1.0000	13.40
72.5	10,939		0.0000	1.0000	13.40
73.5	10,939		0.0000	1.0000	13.40
74.5	6,419		0.0000	1.0000	13.40
75.5	3,610		0.0000	1.0000	13.40
76.5	3,610		0.0000	1.0000	13.40
77.5	3,610		0.0000	1.0000	13.40
78.5	3,610		0.0000	1.0000	13.40
79.5	3,610		0.0000	1.0000	13.40
80.5					13.40



PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNTS 311.2 THRU 311.54 PUMPING EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNTS 311.2 THRU 311.54 PUMPING EQUIPMENT

PLACEMENT	BAND 1894-2011		EXPER	RIENCE BAN	D 1949-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	76,126,182	120,610	0.0016	0.9984	100.00
0.5	76,129,236	198,556	0.0026	0.9974	99.84
1.5	74,961,919	356,054	0.0047	0.9953	99.58
2.5	72,815,745	404,623	0.0056	0.9944	99.11
3.5	70,259,970	314,524	0.0045	0.9955	98.56
4.5	64,860,335	230,037	0.0035	0.9965	98.12
5.5	61,208,959	315,899	0.0052	0.9948	97.77
6.5	60,767,831	303,590	0.0050	0.9950	97.26
7.5	58,801,714	709,554	0.0121	0.9879	96.78
8.5	55,068,115	444,676	0.0081	0.9919	95.61
9.5	52,450,110	176,450	0.0034	0.9966	94.84
10.5	51,237,124	226,707	0.0044	0.9956	94.52
11.5	47,599,690	200,670	0.0042	0.9958	94.10
12.5	43,153,842	383,341	0.0089	0.9911	93.70
13.5	41,273,840	294,162	0.0071	0.9929	92.87
14.5	37,502,212	242,558	0.0065	0.9935	92.21
15.5	35,632,177	359,111	0.0101	0.9899	91.61
16.5	31,199,622	162,480	0.0052	0.9948	90.69
17.5	30,466,006	171,622	0.0056	0.9944	90.22
18.5	27,869,100	307,999	0.0111	0.9889	89.71
19.5	25,511,453	138,156	0.0054	0.9946	88.72
20.5	24,066,171	180,455	0.0075	0.9925	88.24
21.5	19,719,769	137,546	0.0070	0.9930	87.58
22.5	17,843,152	479,673	0.0269	0.9731	86.97
23.5	16,519,033	117,653	0.0071	0.9929	84.63
24.5	15,545,779	476,418	0.0306	0.9694	84.02
25.5	13,376,583	107,428	0.0080	0.9920	81.45
26.5	10,926,477	102,229	0.0094	0.9906	80.80
27.5	10,491,145	68,710	0.0065	0.9935	80.04
28.5	9,987,261	166,592	0.0167	0.9833	79.52
29.5	8,692,039	53,663	0.0062	0.9938	78.19
30.5	7,986,330	63,197		0.9921	77.71
31.5	7,619,698	99,378	0.0130	0.9870	77.09
32.5	7,226,597	89,159	0.0123	0.9877	76.09
33.5	7,017,761	129,963	0.0185	0.9815	75.15
34.5	6,810,329	37,776	0.0055	0.9945	73.76
35.5	6,709,369	138,916	0.0207	0.9793	73.35
36.5	6,435,390	130,092	0.0202	0.9798	71.83
37.5	6,258,505	289,305	0.0462	0.9538	70.38
38.5	5,894,541	41,457	0.0070	0.9930	67.12



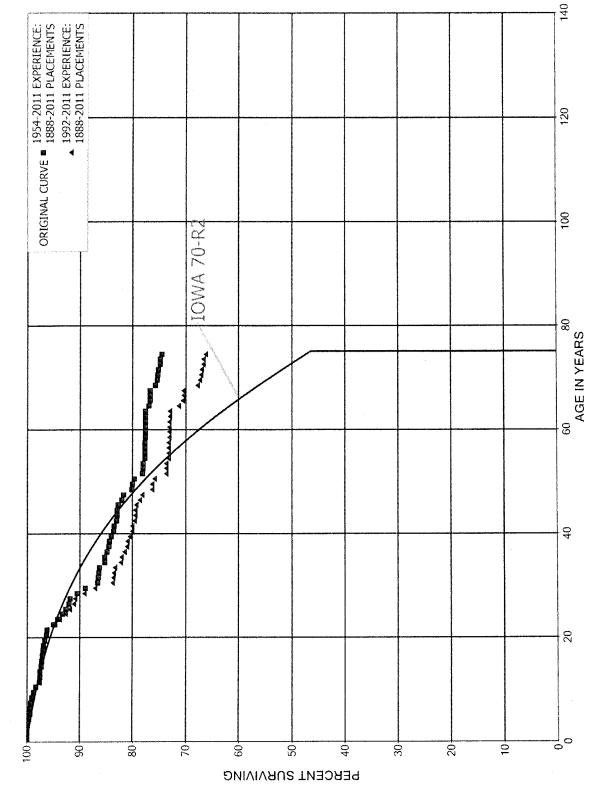
### ACCOUNTS 311.2 THRU 311.54 PUMPING EQUIPMENT

PLACEMENT	BAND 1894-2011		EXPER	RIENCE BAN	D 1949-2013
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	5,355,042	95,159	0.0178	0.9822	66.65
40.5	4,636,672	17,607	0.0038	0.9962	65.47
41.5	4,599,643	23,962	0.0052	0.9948	65.22
42.5	3,392,192	81,184	0.0239	0.9761	64.88
43.5	3,177,242	79,205	0.0249	0.9751	63.33
44.5	2,951,083	11,564	0.0039	0.9961	61.75
45.5	2,893,169	34,688	0.0120	0.9880	61.50
46.5	2,500,663	10,102	0.0040	0.9960	60.77
47.5	2,348,913	4,854	0.0021	0.9979	60.52
48.5	2,272,576	34,941	0.0154	0.9846	60.40
49.5	2,237,346	13,521	0.0060	0.9940	59.47
50.5	1,653,337	11,586	0.0070	0.9930	59.11
51.5	1,567,507	16,258	0.0104	0.9896	58.69
52.5	1,559,446	8,721	0.0056	0.9944	58.09
53.5	1,451,426	5,120	0.0035	0.9965	57.76
54.5	1,426,028	13,851	0.0097	0.9903	57.56
55.5	1,368,084	7,873	0.0058	0.9942	57.00
56.5	1,165,902	8,200	0.0070	0.9930	56.67
57.5	471,641	6,564	0.0139	0.9861	56.27
58.5	434,260	5,028	0.0116	0.9884	55.49
59.5	336,840	1,732	0.0051	0.9949	54.85
60.5	315,848	461	0.0015	0.9985	54.56
61.5	299,613	3,335	0.0111	0.9889	54.48
62.5	292,217	10,670	0.0365	0.9635	53.88
63.5	281,517	953	0.0034	0.9966	51.91
64.5	237,260	619	0.0026	0.9974	51.73
65.5	230,342	10,079	0.0438	0.9562	51.60
66.5	217,640	1,592	0.0073	0.9927	49.34
67.5	213,275	3,791	0.0178	0.9822	48.98
68.5	207,009	1,540	0.0074	0.9926	48.11
69.5	191,978	901	0.0047	0.9953	47.75
70.5	189,715	6,418	0.0338	0.9662	47.53
71.5	179,263	1,233	0.0069	0.9931	45.92
72.5	198,108	380	0.0019	0.9981	45.60
73.5	197,728	452	0.0023	0.9977	45.52
74.5	197,276	2,577	0.0131	0.9869	45.41
75.5	194,073	195	0.0010	0.9990	44.82
76.5	193,878	4,518	0.0233	0.9767	44.77
77.5	184,556	314	0.0017	0.9983	43.73
78.5	180,463	396	0.0022	0.9978	43.66

## ACCOUNTS 311.2 THRU 311.54 PUMPING EQUIPMENT

PLACEMENT	BAND 1894-2011		EXPER	RIENCE BAN	D 1949-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5	179,990 153,747 144,786 99,710 49,640 48,583	187 3,871 5,704 10,561 106 154	0.0010 0.0252 0.0394 0.1059 0.0021 0.0032	0.9990 0.9748 0.9606 0.8941 0.9979 0.9968	43.56 43.52 42.42 40.75 36.43 36.36
85.5 86.5 87.5 88.5	47,728 45,084 29,865 27,155	15 57 824 422	0.0003 0.0013 0.0276 0.0155	0.9997 0.9987 0.9724 0.9845	36.24 36.23 36.18 35.18
89.5 90.5 91.5 92.5 93.5	22,234 22,234 21,709 21,174 20,350	,	0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000	34.64 34.64 34.64 34.64 34.64
94.5 95.5 96.5 97.5 98.5	19,648 19,576 19,345 18,831 17,204	514 1,597	0.0000 0.0000 0.0266 0.0848 0.0000	1.0000 1.0000 0.9734 0.9152 1.0000	34.64 34.64 34.64 33.72 30.86
99.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5 108.5	17,204 13,405 10,652 10,322 8,634 7,421 3,562 3,562 3,562 1,721	30 360 67	0.0017 0.0269 0.0063 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	0.9983 0.9731 0.9937 1.0000 1.0000 1.0000 1.0000 1.0000	30.86 30.80 29.98 29.79 29.79 29.79 29.79 29.79
109.5 110.5 111.5	1,721 510		0.0000	1.0000	29.79 29.79 29.79

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES ORIGINAL AND SMOOTH SURVIVOR CURVES



### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPER	RIENCE BAN	D 1954-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5	152,933,010 149,908,304 155,095,552 154,623,358 153,977,130 152,983,576 147,481,008 148,015,850	23,021 22,302 97,417 479,810 235,837 114,769 197,942	0.0000 0.0002 0.0001 0.0006 0.0031 0.0015 0.0008	1.0000 0.9998 0.9999 0.9994 0.9969 0.9985 0.9992 0.9987 0.9986	100.00 100.00 99.98 99.97 99.91 99.60 99.44 99.37 99.23
7.5 8.5	147,778,521 147,548,046	202,267 580,984	0.0014	0.9961	99.10
9.5 10.5 11.5 12.5 13.5 14.5 15.5 16.5 17.5 18.5 19.5 20.5 21.5 22.5 23.5 24.5 25.5 26.5 27.5	146,995,075 145,183,782 142,947,628 132,254,267 130,897,987 119,054,737 117,152,557 111,848,079 108,383,010 82,898,968 70,494,313 62,899,994 37,380,089 31,238,326 23,896,244 23,227,802 22,035,951 18,183,310 17,746,983	580,349 992,756 136,743 57,398 288,309 167,433 47,733 161,228 123,041 206,726 236,833 50,248 486,221 260,429 234,644 151,707 135,514 38,558 273,154	0.0039 0.0068 0.0010 0.0004 0.0022 0.0014 0.0011 0.0025 0.0034 0.0008 0.0130 0.0083 0.0083 0.0098 0.0065 0.0061 0.0021	0.9961 0.9932 0.9990 0.9996 0.9978 0.9986 0.9986 0.9989 0.9975 0.9966 0.9992 0.9870 0.9917 0.9902 0.9935 0.9939 0.9979	98.71 98.32 97.64 97.55 97.51 97.29 97.16 97.12 96.98 96.63 96.63 96.30 96.22 94.97 94.18 93.26 92.65 92.08 91.88
28.5	16,813,128	289,405	0.0172	0.9828	90.47 88.91
29.5 30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5	12,562,389 12,466,438 12,105,399 12,050,047 11,583,747 11,039,888 11,009,203 9,671,330 9,612,407 9,582,553	330,922 9,575 11,710 24,017 123,922 7,855 58,449 39,642 3,646 42,225	0.0263 0.0008 0.0010 0.0020 0.0107 0.0007 0.0053 0.0041 0.0004	0.9737 0.9992 0.9990 0.9880 0.9893 0.9993 0.9947 0.9959 0.9996	86.57 86.50 86.42 86.25 85.32 85.26 84.81 84.46 84.43



### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPER	RIENCE BAN	D 1954-201
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	8,426,580	45,415	0.0054	0.9946	84.06
40.5	8,371,307	8,807	0.0011	0.9989	83.61
41.5	8,305,940	41,076	0.0049	0.9951	83.52
42.5	5,535,982	10,548	0.0019	0.9981	83.10
43.5	4,862,343	2,542	0.0005	0.9995	82.95
44.5	4,867,279	12,901	0.0027	0.9973	82.90
45.5	4,854,949	38,210	0.0079	0.9921	82.68
46.5	4,347,759	18,620	0.0043	0.9957	82.03
47.5	4,431,636	83,519	0.0188	0.9812	81.68
48.5	4,368,279	4,210	0.0010	0.9990	80.14
49.5	4,345,496	20,065	0.0046	0.9954	80.06
50.5	3,566,957	70,407	0.0197	0.9803	79.69
51.5	3,485,807	3,294	0.0009	0.9991	78.12
52.5	3,314,268	112	0.0000	1.0000	78.05
53.5	3,161,290	11,648	0.0037	0.9963	78.04
54.5	3,121,606	931	0.0003	0.9997	77.76
55.5	3,084,681	301	0.0001	0.9999	77.73
56.5	2,991,637	26	0.0000	1.0000	77.73
57.5	2,814,126	2,059	0.0007	0.9993	77.73
58.5	1,581,472	896	0.0006	0.9994	77.67
59.5	1,522,447	488	0.0003	0.9997	77.62
60.5	1,281,038		0.0000	1.0000	77.60
61.5	1,280,817	259	0.0002	0.9998	77.60
62.5	1,260,969	271	0.0002	0.9998	77.58
63.5	1,258,875	9,202	0.0073	0.9927	77.57
64.5	1,218,220	3,623	0.0030	0.9970	77.00
65.5	1,220,898	901	0.0007	0.9993	76.77
66.5	1,219,997		0.0000	1.0000	76.71
67.5	1,194,678	15,763	0.0132	0.9868	76.71
68.5	1,178,915	5,103	0.0043	0.9957	75.70
69.5	1,232,665	2,273	0.0018	0.9982	75.38
70.5	1,230,101	1,531	0.0012	0.9988	75.24
71.5	1,228,569	5,258	0.0043	0.9957	75.14
72.5	1,223,311		0.0000	1.0000	74.82
73.5	1,243,201	6,091	0.0049	0.9951	74.82
74.5	1,174,823	319	0.0003	0.9997	74.45
75.5	1,174,548	3,278	0.0028	0.9972	74.43
76.5	1,093,049		0.0000	1.0000	74.23
77.5	1,092,928	162	0.0001	0.9999	74.23
78.5	1,090,445	1,056	0.0010	0.9990	74.22



# ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPE	RIENCE BAN	D 1954-201
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	1,089,373	69	0.0001	0.9999	74.14
80.5	1,003,349		0.0000	1.0000	74.14
81.5	997,300	18,211	0.0183	0.9817	74.14
82.5	927,657	31,858	0.0343	0.9657	72.78
83.5	864,373	2,743	0.0032	0.9968	70.29
84.5	870,506		0.0000	1.0000	70.06
85.5	870,462	28	0.0000	1.0000	70.06
86.5	870,434	1,000	0.0011	0.9989	70.06
87.5	776,355		0.0000	1.0000	69.98
88.5	446,556	734	0.0016	0.9984	69.98
89.5	445,514		0.0000	1.0000	69.86
90.5	384,653	374	0.0010	0.9990	69.86
91.5	384,277		0.0000	1.0000	69.80
92.5	384,277		0.0000	1.0000	69.80
93.5	362,501	312	0.0009	0.9991	69.80
94.5	351,789	10,976	0.0312	0.9688	69.74
95.5	340,813	345	0.0010	0.9990	67.56
96.5	326,127		0.0000	1.0000	67.49
97.5	341,459	211	0.0006	0.9994	67.49
98.5	341,242	102	0.0003	0.9997	67.45
99.5	340,620	47,573	0.1397	0.8603	67.43
100.5	293,047		0.0000	1.0000	58.01
101.5	278,550		0.0000	1.0000	58.01
102.5	231,132	1,388	0.0060	0.9940	58.01
103.5	225,444		0.0000	1.0000	57.66
104.5	225,257	19,275	0.0856	0.9144	57.66
105.5	96,045		0.0000	1.0000	52.73
106.5	61,306		0.0000	1.0000	52.73
107.5	56,370		0.0000	1.0000	52.73
108.5	38,867		0.0000	1.0000	52.73
109.5	35,215		0.0000	1.0000	52.73
110.5	35,215		0.0000	1.0000	52.73
111.5	35,215		0.0000	1.0000	52.73
112.5	35,215		0.0000	1.0000	52.73
113.5	35,215		0.0000	1.0000	52.73
114.5	35,215		0.0000	1.0000	52.73
115.5	35,215		0.0000	1.0000	52.73
116.5	32,693		0.0000	1.0000	52.73
117.5	23,001		0.0000	1.0000	52.73
118.5	7,639		0.0000	1.0000	52.73



## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPER	RIENCE BAN	D 1954-2011
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	7,639		0.0000	1.0000	52.73
120.5	7,639		0.0000	1.0000	52.73
121.5	7,639		0.0000	1.0000	52.73
122.5	7,639		0.0000	1.0000	52.73
123.5					52.73

# ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	81,254,034		0.0000	1.0000	100.00
0.5	84,460,406	21,209	0.0003	0.9997	100.00
1.5	115,828,140	19,280	0.0002	0.9998	99.97
2.5	121,592,791	97,314	0.0008	0.9992	99.96
3.5	128,254,857	477,356	0.0037	0.9963	99.88
4.5	127,825,810	234,527	0.0018	0.9982	99.51
5.5	123,484,302	114,769	0.0009	0.9991	99.32
6.5	128,224,214	141,710	0.0011	0.9989	99.23
7.5	128,860,412	191,154	0.0015	0.9985	99.12
8.5	129,616,013	577,902	0.0045	0.9955	98.97
9.5	133,475,764	480,645	0.0036	0.9964	98.53
10.5	131,902,401	991,940	0.0075	0.9925	98.18
11.5	130,022,150	136,743	0.0011	0.9989	97.44
12.5	119,394,966	47,229	0.0004	0.9996	97.34
13.5	118,547,032	287,494	0.0024	0.9976	97.30
14.5	107,150,476	166,896	0.0016	0.9984	97.06
15.5	105,379,554	46,086	0.0004	0.9996	96.91
16.5	101,553,522	155,742	0.0015	0.9985	96.87
17.5	98,153,574	102,351	0.0010	0.9990	96.72
18.5	72,683,478	206,055	0.0028	0.9972	96.62
19.5	61,508,795	73,666	0.0012	0.9988	96.35
20.5	54,151,817	49,849	0.0009	0.9991	96.23
21.5	29,043,671	486,221	0.0167	0.9833	96.14
22.5	25,876,397	259,366	0.0100	0.9900	94.53
23.5	19,353,424	234,394	0.0121	0.9879	93.59
24.5	18,707,559	151,707	0.0081	0.9919	92.45
25.5	17,507,386	135,514	0.0077	0.9923	91.70
26.5	14,158,355	38,558	0.0027	0.9973	90.99
27.5	13,757,599	270,659	0.0197	0.9803	90.74
28.5	12,847,764	285,766	0.0222	0.9778	88.96
29.5	8,541,971	330,762	0.0387	0.9613	86.98
30.5	9,039,953	9,559	0.0011	0.9989	83.61
31.5	8,710,369	11,710	0.0013	0.9987	83.52
32.5	8,821,633	21,067	0.0024	0.9976	83.41
33.5	8,584,973	122,364	0.0143	0.9857	83.21
34.5	8,072,577	7,855	0.0010	0.9990	82.03
35.5	8,055,048	58,449	0.0073	0.9927	81.95
36.5	6,883,620	38,884	0.0056	0.9944	81.35
37.5	6,995,286	3,646	0.0005	0.9995	80.89
38.5	8,258,365	42,225	0.0051	0.9949	80.85



### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT	BAND 1888-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	7,138,084	43,225	0.0061	0.9939	80.44
40.5	7,364,249	2,149	0.0003	0.9997	79.95
41.5	7,305,240	41,076	0.0056	0.9944	79.93
42.5	4,558,831	3,783	0.0008	0.9992	79.48
43.5	3,879,249	2,542	0.0007	0.9993	79.41
44.5	3,883,627	7,726	0.0020	0.9980	79.36
45.5	3,876,578	34,102	0.0088	0.9912	79.20
46.5	3,373,527	18,534	0.0055	0.9945	78.50
47.5	3,371,519	79,692	0.0236	0.9764	78.07
48.5	3,277,251	2,736	0.0008	0.9992	76.23
49.5	3,251,066	20,065	0.0062	0.9938	76.16
50.5	2,455,316	70,407	0.0287	0.9713	75.69
51.5	2,370,514	919	0.0004	0.9996	73.52
52.5	2,201,546	32	0.0000	1.0000	73.50
53.5	2,050,045	11,648	0.0057	0.9943	73.49
54.5	2,076,724	931	0.0004	0.9996	73.08
55.5	2,039,799	301	0.0001	0.9999	73.04
56.5	2,025,045	26	0.0000	1.0000	73.03
57.5	1,848,075	2,059	0.0011	0.9989	73.03
58.5	536,658		0.0000	1.0000	72.95
59.5	468,854	44	0.0001	0.9999	72.95
60.5	331,033		0.0000	1.0000	72.94
61.5	340,398	259	0.0008	0.9992	72.94
62.5	388,293	271	0.0007	0.9993	72.89
63.5	397,657	9,202	0.0231	0.9769	72.84
64.5	359,356	3,623	0.0101	0.9899	71.15
65.5	354,396	901	0.0025	0.9975	70.43
66.5	353,494		0.0000	1.0000	70.26
67.5	421,255	15,763	0.0374	0.9626	70.26
68.5	747,923	5,103	0.0068	0.9932	67.63
69.5	743,101	2,273	0.0031	0.9969	67.17
70.5	801,775	1,531	0.0019	0.9981	66.96
71.5	800,246	3,898	0.0049	0.9951	66.83
72.5	796,347		0.0000	1.0000	66.51
73.5	839,121	6,091	0.0073	0.9927	66.51
74.5	770,743	319	0.0004	0.9996	66.02
75.5	770,468	120	0.0002	0.9998	66.00
76.5	724,703	200	0.0000	1.0000	65.99
77.5	756,470	162	0.0002	0.9998	65.99
78.5	753,993	1,056	0.0014	0.9986	65.97

# ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

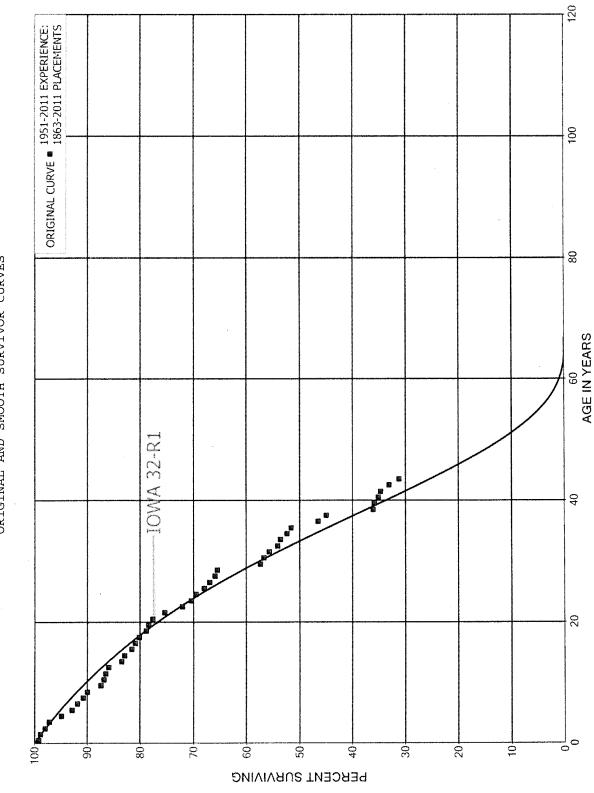
PLACEMENT	BAND 1888-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	753,441	69	0.0001	0.9999	65.88
80.5	665,989		0.0000	1.0000	65.87
81.5	674,443	18,211	0.0270	0.9730	65.87
82.5	657,185	31,858	0.0485	0.9515	64.09
83.5	598,013	2,743	0.0046	0.9954	60.99
84.5	604,334		0.0000	1.0000	60.71
85.5	715,615	28	0.0000	1.0000	60.71
86.5	750,325	1,000	0.0013	0.9987	60.71
87.5	661,182		0.0000	1.0000	60.62
88.5	348,887	734	0.0021	0.9979	60.62
89.5	351,496		0.0000	1.0000	60.50
90.5	290,636	374	0.0013	0.9987	60.50
91.5	290,260		0.0000	1.0000	60.42
92.5	290,260		0.0000	1.0000	60.42
93.5	268,483	312	0.0012	0.9988	60.42
94.5	257,772		0.0000	1.0000	60.35
95.5	257,772	345	0.0013	0.9987	60.35
96.5	308,796		0.0000	1.0000	60.27
97.5	318,458	211	0.0007	0.9993	60.27
98.5	333,603	102	0.0003	0.9997	60.23
99.5	332,981	47,573	0.1429	0.8571	60.21
100.5	285,408		0.0000	1.0000	51.61
101.5	270,911		0.0000	1.0000	51.61
102.5	223,493	1,388	0.0062	0.9938	51.61
103.5	225,444		0.0000	1.0000	51.29
104.5	225,257	19,275	0.0856	0.9144	51.29
105.5	96,045		0.0000	1.0000	46.90
106.5	61,306		0.0000	1.0000	46.90
107.5	56,370		0.0000	1.0000	46.90
108.5	38,867		0.0000	1.0000	46.90
109.5	35,215		0.0000	1.0000	46.90
110.5	35,215		0.0000	1.0000	46.90
111.5	35,215		0.0000	1.0000	46.90
112.5	35,215		0.0000	1.0000	46.90
113.5	35,215		0.0000	1.0000	46.90
114.5	35,215		0.0000	1.0000	46.90
115.5	35,215		0.0000	1.0000	46.90
116.5	32,693		0.0000	1.0000	46.90
117.5	23,001		0.0000	1.0000	46.90
118.5	7,639		0.0000	1.0000	46.90



# ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

PLACEMENT E	BAND 1888-2011		EXPER	RIENCE BAN	D 1992-2011
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	7,639		0.0000	1.0000	46.90
120.5	7,639		0.0000	1.0000	46.90
121.5	7,639		0.0000	1.0000	46.90
122.5	7,639		0.0000	1.0000	46.90
123.5					46.90

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT

PLACEMENT	BAND 1863-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5 6.5	58,685,549 56,510,226 55,602,385 55,359,092 53,115,418 49,076,299 48,472,326 47,433,299 45,204,350	483,202 208,215 485,781 463,381 1,240,842 1,037,960 508,821 604,135 373,063	0.0082 0.0037 0.0087 0.0084 0.0234 0.0211 0.0105 0.0127 0.0083	0.9918 0.9963 0.9913 0.9916 0.9766 0.9789 0.9895 0.9873	100.00 99.18 98.81 97.95 97.13 94.86 92.85 91.88 90.71
8.5	43,243,051	1,209,505	0.0280	0.9720	89.96
9.5	41,370,655	275,861	0.0067	0.9933	87.44
10.5	38,748,601	178,603	0.0046	0.9954	86.86
11.5	38,613,743	243,115	0.0063	0.9937	86.46
12.5	31,149,308	877,293	0.0282	0.9718	85.92
13.5	28,229,831	201,223	0.0071	0.9929	83.50
14.5	24,393,959	374,489	0.0154	0.9846	82.90
15.5	21,524,827	167,406	0.0078	0.9922	81.63
16.5	15,485,472	154,470	0.0100	0.9900	80.99
17.5	14,537,265	241,321	0.0166	0.9834	80.19
18.5	14,092,265	84,843	0.0060	0.9940	78.85
19.5	9,465,601	86,096	0.0091	0.9909	78.38
20.5	8,545,827	244,489	0.0286	0.9714	77.67
21.5	7,777,689	348,743	0.0448	0.9552	75.44
22.5	6,664,484	158,664	0.0238	0.9762	72.06
23.5	6,031,801	73,230	0.0121	0.9879	70.35
24.5	6,369,358	140,930	0.0221	0.9779	69.49
25.5	4,228,335	65,490	0.0155	0.9845	67.95
26.5	3,120,489	43,207	0.0138	0.9862	66.90
27.5	2,730,635	20,592	0.0075	0.9925	65.98
28.5	2,643,027 2,307,422 2,069,783 1,970,659 1,904,363 1,809,281 1,727,561 599,132 496,374 473,549 362,002	327,627	0.1240	0.8760	65.48
29.5		25,631	0.0111	0.9889	57.36
30.5		37,249	0.0180	0.9820	56.72
31.5		54,255	0.0275	0.9725	55.70
32.5		20,971	0.0110	0.9890	54.17
33.5		41,181	0.0228	0.9772	53.57
34.5		25,854	0.0150	0.9850	52.35
35.5		58,565	0.0977	0.9023	51.57
36.5		17,362	0.0350	0.9650	46.53
37.5		92,625	0.1956	0.8044	44.90
38.5		3,206	0.0089	0.9911	36.12

### ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT

## ORIGINAL LIFE TABLE, CONT.

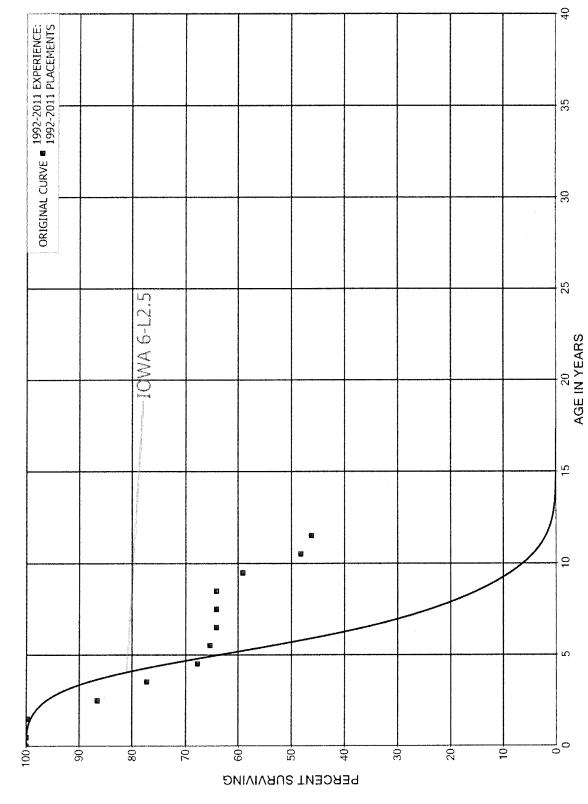
PLACEMENT BAND 1863-2011			EXPERIENCE BAND 1951-2011		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5 44.5 45.5 46.5	295,568 253,332 240,880 229,888 218,020 212,418 237,932 189,830	5,693 3,871 10,201 13,381 2,430 5,246 3,800 27,118	0.0193 0.0153 0.0423 0.0582 0.0111 0.0247 0.0160 0.1429	0.9807 0.9847 0.9577 0.9418 0.9889 0.9753 0.9840 0.8571	35.80 35.11 34.57 33.11 31.18 30.83 30.07 29.59
47.5 48.5	140,482 134,127	2,145 2,407	0.0153 0.0179	0.9847 0.9821	25.37 24.98
49.5 50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5 58.5 59.5 601.5 62.5 63.5 64.5 65.5 66.5	236,096 230,863 231,527 226,538 153,082 150,766 150,551 124,400 123,582 122,094 117,135 116,128 81,648 81,409 81,409 65,224 64,442 64,361 19,313	5,233 5,261 4,989 12,802 1,590 214 14,595 818 1,426 4,958 905 34,275 158 52 765 51 45,048 27	0.0222 0.0228 0.0215 0.0565 0.0104 0.0014 0.0969 0.0066 0.0115 0.0406 0.0077 0.2951 0.0019 0.0000 0.0006 0.0117 0.0008 0.6999 0.0014	0.9778 0.9772 0.9785 0.9435 0.9896 0.9986 0.9931 0.9934 0.9885 0.9594 0.9923 0.7049 0.9981 1.0000 0.9994 0.9883 0.9992 0.3001 0.9986	24.53 23.99 23.44 22.93 21.64 21.41 21.38 19.31 19.18 18.96 18.19 18.05 12.72 12.70 12.70 12.69 12.54 12.53 3.76
68.5 69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5 78.5	19,287 19,287 19,287 8,416 8,302 8,872 8,872 8,872 8,782 8,388 8,388	10,709 114 582 394	0.0000 0.0000 0.5552 0.0136 0.0701 0.0000 0.0000 0.0000 0.0449 0.0000 0.0000	1.0000 1.0000 0.4448 0.9864 0.9299 1.0000 1.0000 1.0000 0.9551 1.0000 1.0000	3.76 3.76 1.67 1.65 1.53 1.53 1.53 1.46 1.46



### ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT

PLACEMENT	BAND 1863-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	8,388		0.0000	1.0000	1.46
80.5	8,388	4,740	0.5651	0.4349	1.46
81.5	3,648	1,687	0.4626	0.5374	0.64
82.5	1,915		0.0000	1.0000	0.34
83.5					0.34
84.5	2,942		0.0000		
85.5	2,942		0.0000		
86.5	2,942		0.0000		
87.5	3,835		0.0000		
88.5	3,835		0.0000		
89.5	3,835		0.0000		
90.5	3,835		0.0000		
91.5	3,835		0.0000		
92.5	3,835		0.0000		
93.5	3,835		0.0000		
94.5	893		0.0000		
95.5	893		0.0000		
96.5	893		0.0000		
97.5	893		0.0000		
98.5	893		0.0000		
99.5	893		0.0000		
100.5	893	,	0.0000		
101.5	893		0.0000		
102.5	893		0.0000		
103.5	893		0.0000		
104.5	893		0.0000		
105.5	893		0.0000		
106.5	893		0.0000		
107.5	893		0.0000		
108.5	893		0.0000		
109.5	893		0.0000		
110.5	893	893	1.0000		
111.5					

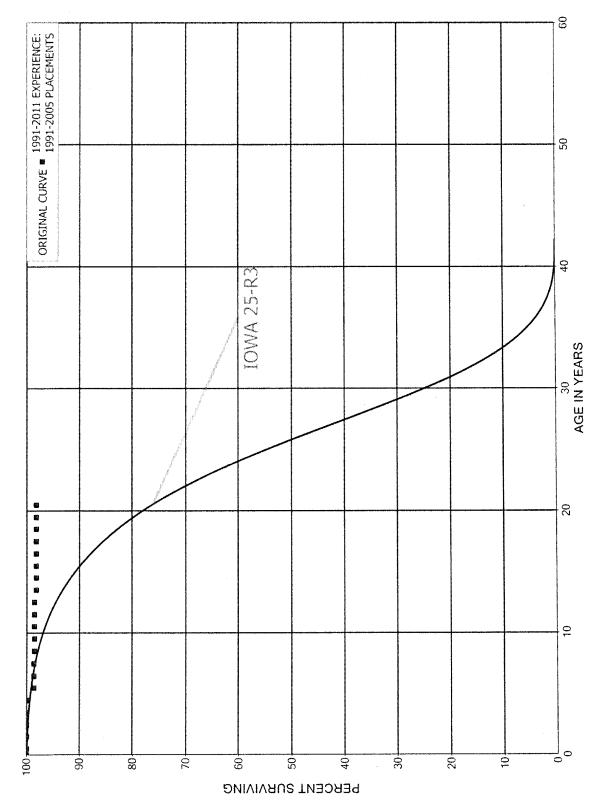
PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 320.3 GRANULAR ACTIVATED CARBON ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 320.3 GRANULAR ACTIVATED CARBON

PLACEMENT	BAND 1992-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	13,491,597		0.0000	1.0000	100.00
0.5	13,130,228	31,197	0.0024	0.9976	100.00
1.5	11,680,244	1,540,259	0.1319	0.8681	99.76
2.5	8,959,244	962,529	0.1074	0.8926	86.61
3.5	7,099,644	878,357	0.1237	0.8763	77.30
4.5	5,134,385	176,496	0.0344	0.9656	67.74
5.5	4,957,889	92,643	0.0187	0.9813	65.41
6.5	4,865,246		0.0000	1.0000	64.19
7.5	4,865,246		0.0000	1.0000	64.19
8.5	4,795,198	375,108	0.0782	0.9218	64.19
9.5	3,983,246	737,125	0.1851	0.8149	59.17
10.5	2,024,866	85,177	0.0421	0.9579	48.22
11.5	1,465,473	35,061	0.0239	0.9761	46.19
12.5	695,790	8,206	0.0118	0.9882	45.08
13.5	643,924	30,390	0.0472	0.9528	44.55
14.5	560,704	16,298	0.0291	0.9709	42.45
15.5	433,308		0.0000	1.0000	41.22
16.5	410,778	19,071	0.0464	0.9536	41.22
17,5	370,886		0.0000	1.0000	39.30
18.5	123,185		0.0000	1.0000	39.30
19.5					39.30

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 320.37 WASTE HANDLING AND TREATMENT - EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES

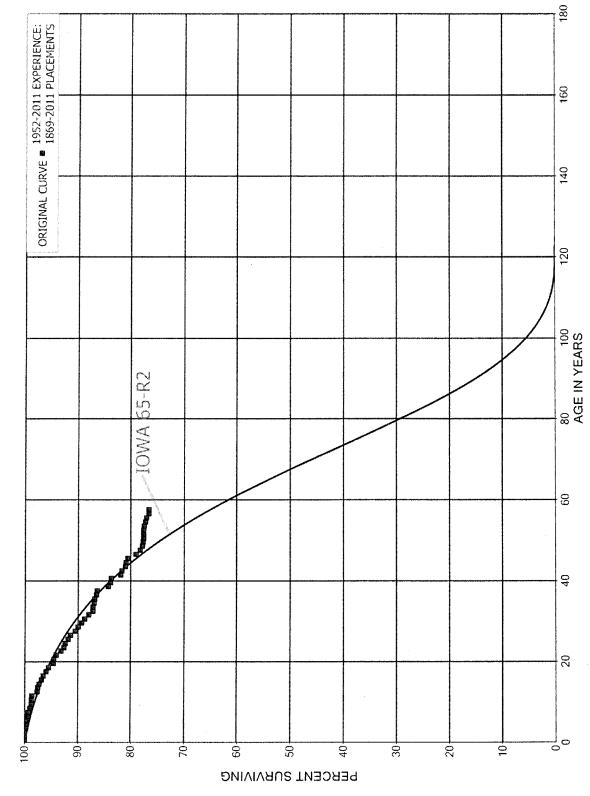


## ACCOUNT 320.37 WASTE HANDLING AND TREATMENT - EQUIPMENT

PLACEMENT	BAND 1991-2005		EXPE	RIENCE BAN	D 1991-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	13,585,374		0.0000	1.0000	100.00
0.5	14,387,621		0.0000	1.0000	100.00
1.5	14,273,667		0.0000	1,0000	100.00
2.5	14,273,667	8,979	0.0006	0.9994	100.00
3.5	14,264,688	33,450	0.0023	0.9977	99.94
4.5	14,231,238	151,154	0.0106	0.9894	99.70
5.5	14,080,084	3,717	0.0003	0.9997	98.64
6.5	14,062,344	6,570	0.0005	0.9995	98.62
7.5	13,870,921	7,736	0.0006	0.9994	98.57
8.5	13,527,030		0.0000	1.0000	98.52
9.5	13,523,868		0.0000	1.0000	98.52
10.5	13,455,508		0.0000	1.0000	98.52
11.5	12,455,022		0.0000	1.0000	98.52
12.5	10,061,869	36,438	0.0036	0.9964	98.52
13.5	10,025,431		0.0000	1.0000	98.16
14.5	9,432,455		0.0000	1.0000	98.16
15.5	9,432,455		0.0000	1.0000	98.16
16.5	9,432,455		0.0000	1.0000	98.16
17.5	9,432,455		0.0000	1.0000	98.16
18.5	9,432,455		0.0000	1.0000	98.16
19.5 20.5	9,432,455		0.0000	1.0000	98.16 98.16



PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNTS 330 THRU 330.3 DISTRIBUTION RESERVOIRS AND STANDPIPES ORIGINAL AND SMOOTH SURVIVOR CURVES



# ACCOUNTS 330 THRU 330.3 DISTRIBUTION RESERVOIRS AND STANDPIPES

PLACEMENT	BAND 1869-2011		EXPER	RIENCE BAN	D 1952-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	74,439,535		0.0000	1.0000	100.00
0.5	79,539,775	1,440	0.0000	1.0000	100.00
1.5	74,079,610	15,966	0.0002	0.9998	100.00
2.5	73,607,185	163,251	0.0022	0.9978	99.98
3.5	70,809,918	19,149	0.0003	0.9997	99.75
4.5	70,767,333	22,260	0.0003	0.9997	99.73
5.5	70,583,116	216,947	0.0031	0.9969	99.70
6.5	67,117,074	60,573	0.0009	0.9991	99.39
7.5	66,439,193	224,815	0.0034	0.9966	99.30
8.5	64,518,095	122,372	0.0019	0.9981	98.96
9.5	64,550,543	33,266	0.0005	0.9995	98.78
10.5	61,245,166	85,204	0.0014	0.9986	98.73
11.5	58,936,248	573,886	0.0097	0.9903	98.59
12.5	53,994,805	88,684	0.0016	0.9984	97.63
13.5	53,341,632	100,555	0.0019	0.9981	97.47
14.5	51,103,479	232,840	0.0046	0.9954	97.28
15.5	47,762,432	157,888	0.0033	0.9967	96.84
16.5	46,205,343	287,022	0.0062	0.9938	96.52
17.5	43,766,554	184,279	0.0042	0.9958	95.92
18.5	36,328,605	341,328	0.0094	0.9906	95.52
19.5	34,847,346	39,804	0.0011	0.9989	94.62
20.5	34,366,876	164,651	0.0048	0.9952	94.51
21.5	27,657,513	265,858	0.0096	0.9904	94.06
22.5	23,283,566	128,665	0.0055	0.9945	93.16
23.5	18,647,089	51,916	0.0028	0.9972	92.64
24.5	17,370,693	100,221	0.0058	0.9942	92.38
25.5	15,769,112	85,114	0.0054	0.9946	91.85
26.5	14,054,949	132,141	0.0094	0.9906	91.35
27.5	14,338,380	83,173	0.0058	0.9942	90.49
28.5	12,757,522	99,750	0.0078	0.9922	89.97
29.5	11,892,801	73,789	0.0062	0.9938	89.27
30.5	11,905,770	99,715	0.0084	0.9916	88.71
31.5	11,278,282	95,830	0.0085	0.9915	87.97
32.5	10,888,293	5,722	0.0005	0.9995	87.22
33.5	9,815,194	23,884	0.0024	0.9976	87.18
34.5	9,486,802	18,252	0.0019	0.9981	86.96
35.5	9,212,876	25,256	0.0027	0.9973	86.80
36.5	8,755,167	16,262	0.0019	0.9981	86.56
37.5	7,930,504	197,673	0.0249	0.9751	86.40
38.5	6,654,991	36,031	0.0054	0.9946	84.24



# ACCOUNTS 330 THRU 330.3 DISTRIBUTION RESERVOIRS AND STANDPIPES ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1869~2011

EXPERIENCE BAND 1952-2011

PLACEMENT	BAND 1869~2011		EXPE	RIENCE BAN	ID 1952-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	6,453,146	5,608	0.0009	0.9991	83.79
40.5	6,064,808	130,937	0.0216	0.9784	83.72
41.5	5,882,269	12,475	0.0021	0.9979	81.91
42.5	5,701,432	44,643	0.0078	0.9922	81.73
43.5	5,310,902	6,920	0.0013	0.9987	81.09
44.5	4,446,105	23,082	0.0052	0.9948	80.99
45.5	4,218,113	77,829	0.0185	0.9815	80.57
46.5	3,674,712	38,369	0.0104	0.9896	79.08
47.5	3,379,881	19,073	0.0056	0.9944	78.26
48.5	3,345,581	1,527	0.0005	0.9995	77.81
49.5	3,337,648	7,123	0.0021	0.9979	77.78
50.5	2,978,936	102	0.0000	1.0000	77.61
51.5	2,965,204		0.0000	1.0000	77.61
52.5	2,501,315	3,648	0.0015	0.9985	77.61
53.5	2,184,197	6,691	0.0031	0.9969	77.50
54.5	2,004,406	3,932	0.0020	0.9980	77.26
55.5	1,963,924	11,687	0.0060	0.9940	77.11
56.5	1,864,435	381	0.0002	0.9998	76.65
57.5	1,700,032	17,944	0.0106	0.9894	76.63
58.5	863,891	167	0.0002	0.9998	75.82
59.5	835,376	3,864	0.0046	0.9954	75.81
60.5	693,555	764	0.0011	0.9989	75.46
61.5	673,404		0.0000	1.0000	75.38
62.5	621,019		0.0000	1.0000	75.38
63.5	571,950	4,454	0.0078	0.9922	75.38
64.5	565,043	31	0,0001	0.9999	74.79
65.5	540,609	618	0.0011	0.9989	74.79
66.5	540,367	71	0.0001	0.9999	74.70
67.5	535,750	147	0.0003	0.9997	74.69
68.5	539,458	7,431	0.0138	0.9862	74.67
69.5	436,843	2.2	0.0000	1.0000	73.64
70.5	422,924	335	0.0008	0.9992	73.64
71.5	408,808	310	0.0008	0.9992	73.58
72.5	407,324	8,607	0.0211	0.9789	73.53
73.5	391,495	23,343	0.0596	0.9404	71.97
74.5	381,351	707	0.0019	0.9981	67.68
75.5	393,594	5,930	0.0151	0.9849	67.56
76.5	381,341		0.0000	1.0000	66.54
77.5	381,508	4 500	0.0000	1.0000	66.54
78.5	377,792	4,588	0.0121	0.9879	66.54

# ACCOUNTS 330 THRU 330.3 DISTRIBUTION RESERVOIRS AND STANDPIPES

PLACEMENT	BAND 1869-2011		EXPE	RIENCE BAN	D 1952-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5	373,204 293,581 274,915 267,567 263,400 263,291	62,989 64 109 2,723	0.1688 0.0000 0.0000 0.0002 0.0004 0.0103	0.8312 1.0000 1.0000 0.9998 0.9996 0.9897	65.73 54.64 54.64 54.64 54.62 54.60
85.5 86.5 87.5 88.5	247,537 239,905 234,384 219,029	710	0.0003 0.0000 0.0000 0.0032	0.9997 1.0000 1.0000 0.9968	54.04 54.02 54.02 54.02
89.5 90.5 91.5 92.5 93.5	171,735 109,799 108,272 108,451 108,451	6,912	0.0402 0.0000 0.0000 0.0000	0.9598 1.0000 1.0000 1.0000	53.84 51.68 51.68 51.68 51.68
94.5 95.5 96.5 97.5 98.5	160,478 161,347 161,109 136,336 136,306	239 1,346 30	0.0000 0.0015 0.0084 0.0002 0.0000	1.0000 0.9985 0.9916 0.9998 1.0000	51.68 51.68 51.60 51.17 51.16
99.5 100.5 101.5 102.5 103.5	128,910 124,843 123,861 123,682 123,682	49	0.0000 0.0004 0.0000 0.0000 0.0004	1.0000 0.9996 1.0000 1.0000 0.9996	51.16 51.16 51.14 51.14 51.14
104.5 105.5 106.5 107.5 108.5	65,658 44,150 41,684 24,933 24,933	2,150	0.0000 0.0487 0.0000 0.0000	1.0000 0.9513 1.0000 1.0000	51.12 51.12 48.63 48.63 48.63
109.5 110.5 111.5 112.5 113.5 114.5 115.5	24,933 24,933 24,503 23,665 23,665 23,665 23,665		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	48.63 48.63 48.63 48.63 48.63 48.63
117.5 118.5	22,271 22,271		0.0000	1.0000	48.63 48.63

## ACCOUNTS 330 THRU 330.3 DISTRIBUTION RESERVOIRS AND STANDPIPES

PLACEMENT	BAND 1869-2011		EXPER	RIENCE BAN	D 1952-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
119.5	22,271		0.0000	1.0000	48.63
120.5	22,271		0.0000	1.0000	48.63
121.5	22,206		0.0000	1.0000	48.63
122.5	21,732		0.0000	1.0000	48.63
123.5	20,058		0.0000	1.0000	48.63
124.5	20,058		0.0000	1.0000	48.63
125.5	20,058		0.0000	1.0000	48.63
126.5	20,058		0.0000	1.0000	48.63
127.5	20,058		0.0000	1.0000	48.63
128.5	20,058		0.0000	1.0000	48.63
129.5	20,058		0.0000	1.0000	48.63
130.5	20,058		0.0000	1.0000	48.63
131.5	17,403		0.0000	1.0000	48.63
132.5	17,403		0.0000	1.0000	48.63
133.5	17,403		0.0000	1.0000	48.63
134.5					48.63

ORIGINAL CURVE # 1948-2011 EXPERIENCE; 160 140 120 PENNSYLVANIA-AMERICAN WATER COMPANY ORIGINAL AND SMOOTH SURVIVOR CURVES ACCOUNT 331 MAINS AND ACCESSORIES 80 100 AGE IN YEARS 9 40 20 30 20 80 1001 ŝ 70 50

РЕРСЕИТ SURVIVING

VI-89

#### ACCOUNT 331 MAINS AND ACCESSORIES

PLACEMENT	BAND 1823-2011		EXPER	IENCE BAN	D 1948-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5	1,478,787,900 1,413,312,281 1,325,540,967 1,240,196,223 1,134,398,416 1,058,388,188 1,049,482,852	112,415 656,705 566,788 646,004 1,698,449 1,283,008 754,605	0.0001 0.0005 0.0004 0.0005 0.0015 0.0012	0.9999 0.9995 0.9996 0.9995 0.9985 0.9988	100.00 99.99 99.95 99.90 99.85 99.70 99.58
6.5	995,123,335	859,528	0.0009	0.9991	99.51
7.5	937,666,319	1,238,260	0.0013	0.9987	99.42
8.5	918,714,265	370,821	0.0004	0.9996	99.29
9.5	860,319,873	471,754	0.0005	0.9995	99.25
10.5	801,109,405	473,271	0.0006	0.9994	99.20
11.5	747,623,854	584,554	0.0008	0.9992	99.14
12.5	695,696,057	342,256	0.0005	0.9995	99.06
13.5	607,075,453	508,730	0.0008	0.9992	99.01
14.5	576,653,775	482,402	0.0008	0.9992	98.93
15.5	542,146,750	873,319	0.0016	0.9984	98.85
16.5	494,111,608	526,189	0.0011	0.9989	98.69
17.5	457,361,127	375,194	0.0008	0.9992	98.58
18.5	424,300,896	377,906	0.0009	0.9991	98.50
19.5	401,965,421	520,792	0.0013	0.9987	98.41
20.5	382,477,683	221,180	0.0006	0.9994	98.29
21.5	351,533,535	389,054	0.0011	0.9989	98.23
22.5	320,599,626	541,437	0.0017	0.9983	98.12
23.5	288,166,604	735,782	0.0026	0.9974	97.96
24.5	264,541,077	462,796	0.0017	0.9983	97.71
25.5	243,220,563	418,540	0.0017	0.9983	97.53
26.5	224,892,965	354,915	0.0016	0.9984	97.37
27.5	210,460,757	300,597	0.0014	0.9986	97.21
28.5	204,164,575	522,298	0.0026	0.9974	97.07
29.5 30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5 38.5	198,745,688 190,859,006 178,377,875 169,775,637 161,312,085 155,386,985 151,807,898 143,786,494 138,843,745 130,739,232	353,937 324,179 438,784 378,232 447,761 560,377 255,798 506,335 320,463 566,032	0.0018 0.0017 0.0025 0.0022 0.0028 0.0036 0.0017 0.0035 0.0023 0.0043	0.9982 0.9983 0.9975 0.9978 0.9972 0.9964 0.9983 0.9965 0.9977	96.83 96.65 96.49 96.25 96.04 95.77 95.43 95.26 94.93



## ACCOUNT 331 MAINS AND ACCESSORIES

AGE AT BEGIN OF BEGINNING OF INTERVAL RATTO RATTO INTERVAL  39.5 119,836,182 325,600 0.0027 0.9973 94.30 40.5 114,444,761 304,471 0.0027 0.9973 94.04 41.5 110,981,833 216,613 0.0021 0.9979 93.79 42.5 106,626,678 344,458 0.0032 0.9968 93.59 43.5 100,343,764 219,672 0.0022 0.9978 93.29 44.5 94,152,445 210,200 0.0022 0.9978 93.29 45.5 89,056,954 186,413 0.0021 0.9979 92.88 47.5 79,918,513 237,111 0.0330 0.9970 92.88 47.5 79,918,513 237,111 0.0330 0.9970 92.33 48.5 77,770,262 226,259 0.0029 0.9971 92.06 49.5 76,051,408 252,718 0.0033 0.9967 91.79 50.5 70,663,534 366,028 0.0052 0.9948 91.49 51.5 67,081,463 157,632 0.0023 0.9977 91.01 52.5 63,731,617 336,337 0.0048 0.9952 90.80 53.5 60,334,663 346,626 0.0052 0.9948 91.49 51.5 667,081,463 157,632 0.0023 0.9977 91.01 52.5 63,374,506 330,391 0.0056 0.9944 89.52 56.5 48,240,840 285,538 0.0059 0.9941 89.02 57.5 45,194,651 297,788 0.0056 0.9944 89.52 56.5 48,240,840 285,538 0.0059 0.9941 89.02 57.5 45,194,651 297,788 0.0056 0.9944 89.52 56.5 37,971,490 57.78 0.0057 0.9949 87.91 58.5 42,259,726 193,432 0.0046 0.9954 87.91 59.5 38,516,516 169,908 0.0044 0.9956 86.60 62.5 37,971,490 137,704 0.0056 0.9944 89.52 63.5 34,986,625 179,903 0.0055 0.9949 87.51 65.5 34,986,625 179,903 0.0056 0.9940 88.49 64.5 35,679,382 147,745 0.0041 0.9959 85.51 65.5 34,986,625 179,903 0.0056 0.9949 87.51 65.5 34,986,625 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66.5 34,086,825 179,903 0.0056 0.9949 87.51 66	PLACEMENT	BAND 1823-2011		EXPER	RIENCE BAN	D 1948-2011
39.5				RETMT	SURV	
40.5       114,444,761       304,471       0.0027       0.9973       94.04         41.5       110,981,833       236,613       0.0021       0.9979       93.79         42.5       106,626,678       344,458       0.0032       0.9968       93.59         43.5       100,343,764       219,672       0.0022       0.9978       93.29         44.5       94,152,445       210,200       0.0022       0.9978       93.09         45.5       89,056,954       186,413       0.0021       0.9979       92.88         46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60	INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
41.5       110,981,833       236,613       0.0021       0.9979       93.79         42.5       106,626,678       344,458       0.0032       0.9968       93.59         43.5       100,343,764       219,672       0.0022       0.9978       93.29         44.5       94,152,445       210,200       0.0022       0.9978       93.09         45.5       89,056,954       186,413       0.0021       0.9979       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9941       89.52         56.5       48,	39.5	119,836,182	325,600	0.0027	0.9973	94.30
42.5       106,626,678       344,458       0.0032       0.9968       93.59         43.5       100,343,764       219,672       0.0022       0.9978       93.09         44.5       94,152,445       210,200       0.0022       0.9978       93.09         45.5       89,056,954       186,413       0.0021       0.9979       92.68         46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       53,374,506       300,391       0.0056       0.9944       89.52         55.5       48,2	40.5	114,444,761	304,471	0.0027	0.9973	94.04
43.5       100,343,764       219,672       0.0022       0.9978       93.29         44.5       94,152,445       210,200       0.0021       0.9979       92.88         46.5       89,056,954       186,413       0.0021       0.9979       92.88         46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9944       89.52         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,24	41.5	110,981,833	236,613	0.0021		93.79
44.5       94,152,445       210,200       0.0022       0.9978       93.09         45.5       89,056,954       186,413       0.0021       0.9979       92.88         46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259	42.5	106,626,678	344,458	0.0032	0.9968	93.59
45.5       89,056,954       186,413       0.0021       0.9979       92.88         46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259	43.5	100,343,764	219,672	0.0022	0.9978	93.29
46.5       83,431,016       315,659       0.0038       0.9962       92.68         47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.52         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         60.5       39,270	44.5	94,152,445	210,200	0.0022	0.9978	93.09
47.5       79,918,513       237,111       0.0030       0.9970       92.33         48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270	45.5	89,056,954	186,413	0.0021	0.9979	92.88
48.5       77,770,262       226,259       0.0029       0.9971       92.06         49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9941       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971	46.5	83,431,016	315,659	0.0038	0.9962	92.68
49.5       76,051,408       252,718       0.0033       0.9967       91.79         50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971	47.5	79,918,513	237,111	0.0030	0.9970	92.33
50.5       70,663,534       366,028       0.0052       0.9948       91.49         51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0063       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9954       85.91         65.5       34,938	48.5	77,770,262	226,259	0.0029	0.9971	92.06
51.5       67,081,463       157,632       0.0023       0.9977       91.01         52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9954       85.90         64.5       36,680,248       167,623       0.0046       0.9954       85.90         65.5       34,086	49.5	76,051,408	252,718	0.0033	0.9967	
52.5       63,731,617       306,337       0.0048       0.9952       90.80         53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       34,938,670       174,319       0.0050       0.9950       85.16         65.5       34,086	50.5	70,663,534				
53.5       60,334,663       346,364       0.0057       0.9943       90.36         54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0050       0.9940       84.73         69.5       33,609	51.5	67,081,463	157,632			
54.5       56,385,888       201,782       0.0036       0.9964       89.84         55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.51         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609	52.5	63,731,617	306,337			
55.5       53,374,506       300,391       0.0056       0.9944       89.52         56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,609,803       218,668       0.0065       0.9935       83.23         70.5       32,172	53.5	60,334,663	346,364			
56.5       48,240,840       285,538       0.0059       0.9941       89.02         57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9959       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9932       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577	54.5	56,385,888	201,782			
57.5       45,194,651       297,788       0.0066       0.9934       88.49         58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577	55.5	53,374,506	·			
58.5       42,259,726       193,432       0.0046       0.9954       87.91         59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894	56.5	48,240,840	285,538			
59.5       41,356,106       209,967       0.0051       0.9949       87.51         60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894	57.5	45,194,651		0.0066		
60.5       39,270,174       208,724       0.0053       0.9947       87.06         61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672	58.5	42,259,726	193,432	0.0046	0.9954	87.91
61.5       38,516,516       169,908       0.0044       0.9956       86.60         62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672	59.5	41,356,106	209,967	0.0051		
62.5       37,971,490       137,704       0.0036       0.9964       86.22         63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9935       81.00         74.5       30,024,764       200,231       0.0065       0.9935       81.00         75.5       29,672,799       192,369       0.0050       0.9935       80.04         76.5       29,292	60.5	39,270,174	208,724	0.0053		
63.5       36,680,248       167,623       0.0046       0.9954       85.90         64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9950       79.52         77.5       29,035	61.5	38,516,516	169,908	0.0044		86.60
64.5       35,679,382       147,745       0.0041       0.9959       85.51         65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035	62.5	37,971,490	137,704			
65.5       34,938,670       174,319       0.0050       0.9950       85.16         66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	63.5	36,680,248	167,623		0.9954	
66.5       34,086,825       179,903       0.0053       0.9947       84.73         67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	64.5	35,679,382	147,745	0.0041		
67.5       33,957,610       204,276       0.0060       0.9940       84.29         68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	65.5	34,938,670	174,319	0.0050	0.9950	85.16
68.5       33,609,803       218,668       0.0065       0.9935       83.78         69.5       33,104,126       226,049       0.0068       0.9932       83.23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	66.5	34,086,825	179,903			
69.5       33,104,126       226,049       0.0068       0.9932       83,23         70.5       32,172,585       178,359       0.0055       0.9945       82.67         71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	67.5					
70.5     32,172,585     178,359     0.0055     0.9945     82.67       71.5     31,577,164     287,669     0.0091     0.9909     82.21       72.5     30,894,485     172,144     0.0056     0.9944     81.46       73.5     30,624,764     200,231     0.0065     0.9935     81.00       74.5     30,014,245     161,523     0.0054     0.9946     80.47       75.5     29,672,799     192,369     0.0065     0.9935     80.04       76.5     29,292,524     147,308     0.0050     0.9950     79.52       77.5     29,035,046     145,104     0.0050     0.9950     79.12	68.5	33,609,803	218,668	0.0065	0.9935	83.78
71.5       31,577,164       287,669       0.0091       0.9909       82.21         72.5       30,894,485       172,144       0.0056       0.9944       81.46         73.5       30,624,764       200,231       0.0065       0.9935       81.00         74.5       30,014,245       161,523       0.0054       0.9946       80.47         75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12	69.5	,	226,049			
72.5     30,894,485     172,144     0.0056     0.9944     81.46       73.5     30,624,764     200,231     0.0065     0.9935     81.00       74.5     30,014,245     161,523     0.0054     0.9946     80.47       75.5     29,672,799     192,369     0.0065     0.9935     80.04       76.5     29,292,524     147,308     0.0050     0.9950     79.52       77.5     29,035,046     145,104     0.0050     0.9950     79.12			·			
73.5     30,624,764     200,231     0.0065     0.9935     81.00       74.5     30,014,245     161,523     0.0054     0.9946     80.47       75.5     29,672,799     192,369     0.0065     0.9935     80.04       76.5     29,292,524     147,308     0.0050     0.9950     79.52       77.5     29,035,046     145,104     0.0050     0.9950     79.12	71.5					
74.5     30,014,245     161,523     0.0054     0.9946     80.47       75.5     29,672,799     192,369     0.0065     0.9935     80.04       76.5     29,292,524     147,308     0.0050     0.9950     79.52       77.5     29,035,046     145,104     0.0050     0.9950     79.12						
75.5       29,672,799       192,369       0.0065       0.9935       80.04         76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12						
76.5       29,292,524       147,308       0.0050       0.9950       79.52         77.5       29,035,046       145,104       0.0050       0.9950       79.12						
77.5 29,035,046 145,104 0.0050 0.9950 79.12						
, , , , , , , , , , , , , , , , , , , ,	76.5					
78.5 28,819,298 195,341 0.0068 0.9932 78.73	77.5					
	78.5	28,819,298	195,341	0.0068	0.9932	78.73



# ACCOUNT 331 MAINS AND ACCESSORIES

PLACEMENT	BAND 1823-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT BEGIN OF	EXPOSURES AT BEGINNING OF	RETIREMENTS DURING AGE	RETMT	SURV	PCT SURV BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	28,537,426	461,892	0.0162	0.9838	78.19
80.5	27,681,548	190,940	0.0069	0.9931	76.93
81.5	26,737,646	211,968	0.0079	0.9921	76.40
82.5	25,932,016	310,032	0.0120	0.9880	75.79
83.5	24,880,886	145,105	0.0058	0.9942	74.89
84.5	24,120,162	150,698	0.0062	0.9938	74.45
85,5	23,544,927	139,981	0.0059	0.9941	73.98
86.5	22,193,111	140,463	0.0063	0.9937	73.54
87.5	20,688,775	159,530	0.0077	0.9923	73.08
88.5	18,520,478	140,816	0.0076	0.9924	72.52
89.5	18,022,679	185,586	0.0103	0.9897	71.96
90.5	17,445,490	114,586	0.0066	0.9934	71.22
91.5	16,946,466	98,746	0.0058	0.9942	70.75
92.5	16,581,148	99,281	0.0060	0.9940	70.34
93.5	16,356,785	103,979	0.0064	0.9936	69.92
94.5	15,962,962	116,799	0.0073	0.9927	69.48
95.5	15,695,727	126,363	0.0081	0.9919	68.97
96.5	14,961,068	138,683	0.0093	0.9907	68.41
97.5	15,020,531	136,472	0.0091	0.9909	67.78
98.5	14,667,206	129,803	0.0088	0.9912	67.16
99.5	14,150,805	77,269	0.0055	0.9945	66.57
100.5	13,747,224	131,751	0.0096	0.9904	66.21
101.5	13,176,802	118,477	0.0090	0.9910	65.57
102.5	12,526,411	92,564	0.0074	0.9926	64.98
103.5	11,802,573	107,496	0.0091	0.9909	64.50
104.5	11,140,388	81,034	0.0073	0.9927	63.91
105.5	10,439,630	85,962	0.0082	0.9918	63.45
106.5	9,754,009	171,287	0.0176	0.9824	62.93
107.5	9,090,327	159,049	0.0175	0.9825	61.82
108.5	7,816,812	229,840	0.0294	0.9706	60.74
109.5	7,130,584	37,726	0.0053	0.9947	58.95
110.5	6,748,229	68,513	0.0102	0.9898	58.64
111.5	5,157,341	54,950	0.0107	0.9893	58.05
112.5	4,287,250	54,489	0.0127	0.9873	57.43
113.5	4,018,969	57,555	0.0143	0.9857	56.70
114.5	3,807,730	45,056	0.0118	0.9882	55.89
115.5	3,157,224	96,365	0.0305	0.9695	55.22
116.5	2,924,214	117,578	0.0402	0.9598	53.54
117.5	2,641,270	122,556	0.0464	0.9536	51.39
118.5	2,166,087	80,992	0.0374	0.9626	49.00

## ACCOUNT 331 MAINS AND ACCESSORIES

PLACEMENT	BAND 1823-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5 120.5 121.5 122.5 123.5 124.5 125.5 126.5 127.5 128.5 129.5 130.5 131.5 132.5 133.5	1,898,756 1,656,605 1,096,148 855,194 684,065 555,337 424,247 340,467 311,079 272,719 249,605 246,859 216,215 201,196 192,503 170,106	47,309 49,911 10,282 21,218 24,372 60,257 8,065 39,828 25,000 7,947 2,195 12,235 583 1,209 22,216 2,186	0.0249 0.0301 0.0094 0.0248 0.0356 0.1085 0.0190 0.1170 0.0804 0.0291 0.0088 0.0496 0.0027 0.0060 0.1154 0.0129	0.9751 0.9699 0.9906 0.9752 0.9644 0.8915 0.9810 0.8830 0.9196 0.9709 0.9709 0.9912 0.9504 0.9973 0.9940 0.8846 0.9871	47.17 45.99 44.61 44.19 43.09 41.56 37.05 36.35 32.09 29.51 28.65 28.40 26.99 26.92 26.76 23.67
135.5 136.5 137.5 138.5	158,643 153,487 101,887 86,891	95 75	0.0006 0.0000 0.0007 0.0000	0.9994 1.0000 0.9993 1.0000	23.37 23.35 23.35 23.34
139.5 140.5 141.5 142.5 143.5 144.5 145.5 146.5 147.5 148.5	37,157 14,916 4,051 3,816	1,223	0.0217 0.0820 0.0000 0.0000	0.9783 0.9180 1.0000 1.0000	23.34 22.83 20.96 20.96 20.96
149.5 150.5 151.5 152.5 153.5 154.5 155.5 156.5 157.5	72 72 72 72 72 72 72 72		0.0000 0.0000 0.0000 0.0000 0.0000 0.0000		



## ACCOUNT 331 MAINS AND ACCESSORIES

PLACEMENT	BAND 1823-2011		EXPE	RIENCE BAND	1948-2011
AGE AT BEGIN OF	EXPOSURES AT BEGINNING OF	RETIREMENTS DURING AGE	RETMT	SURV	PCT SURV BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
159.5	72		0.0000		
160.5	72		0.0000		
161.5	72		0.0000		
162.5	72		0.0000		
163.5	72		0.0000		
164.5	72		0.0000		
165.5	72		0.0000		
166.5	72		0.0000		
167.5	72		0.0000		
168.5					
169.5 170.5					
171.5 172.5	153	153	1.0000		

ORIGINAL CURVE # 1948-2011 EXPERIENCE: 1890-2011 PLACEMENTS 100 10WA 70-R2 80 ORIGINAL AND SMOOTH SURVIVOR CURVES ACCOUNT 333 SERVICES AGE IN YEARS 40 20 80 70 50 8 20. 9 РЕВСЕИТ SURVIVING

## ACCOUNT 333 SERVICES

PLACEMENT	BAND 1890-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	395,125,134	63,542	0.0002	0.9998	100.00
0.5	388,565,541	323,489	0.0008	0.9992	99.98
1.5	371,153,782	475,150	0.0013	0.9987	99.90
2.5	349,206,668	405,403	0.0012	0.9988	99.77
3.5	323,417,059	539,783	0.0017	0.9983	99.66
4.5	310,226,822	540,792	0.0017	0.9983	99.49
5.5	311,2 78,246	728,564	0.0023	0.9977	99.32
6.5	291,879,116	418,942	0.0014	0.9986	99.08
7.5	290,506,236	1,368,410	0.0047	0.9953	98.94
8.5	286,993,465	378,413	0.0013	0.9987	98.48
9.5	257,689,107	459,456	0.0018	0.9982	98.35
10.5	241,389,914	429,190	0.0018	0.9982	98.17
11.5	227,566,762	405,242	0.0018	0.9982	98.00
12.5	213,601,116	466,939	0.0022	0.9978	97.82
13.5	165,425,425	427,027	0.0026	0.9974	97.61
14.5	154,500,320	466,832	0.0030	0.9970	97.36
15.5	143,041,347	453,854	0.0032	0.9968	97.06
16.5	132,113,534	413,944	0.0031	0.9969	96.75
17.5	124,368,749	396,038	0.0032	0.9968	96.45
18.5	115,026,519	410,182	0.0036	0.9964	96.14
19.5	108,251,738	422,869	0.0039	0.9961	95.80
20.5	101,913,698	391,695	0.0038	0.9962	95.43
21.5	93,407,824	344,245	0.0037	0.9963	95.06
22.5	85,730,239	376,196	0.0044	0.9956	94.71
23.5	78,720,003	351,855	0.0045	0.9955	94.29
24.5	72,174,530	329,716	0.0046	0.9954	93.87
25.5	67,632,977	276,419	0.0041	0.9959	93.44
26.5	63,744,275	384,948	0.0060	0.9940	93.06
27.5	60,140,811	378,112	0.0063	0.9937	92.50
28.5	56,964,927	319,032	0.0056	0.9944	91.92
29.5	53,916,152	249,635	0.0046	0.9954	91.40
30.5	51,013,989	272,890	0.0053	0.9947	90.98
31.5	47,995,029	282,394	0.0059	0.9941	90.49
32.5	44,664,597	238,637	0.0053	0.9947	89.96
33.5	41,678,133	337,037	0.0081	0.9919	89.48
34.5	38,780,854	285,096	0.0074	0.9926	88.76
35.5	36,513,009	527,268	0.0144	0.9856	88.10
36.5	34,772,923	241,233	0.0069	0.9931	86.83
37.5	33,249,671	151,596	0.0046	0.9954	86.23
38.5	30,580,695	163,034	0.0053	0.9947	85.84



## ACCOUNT 333 SERVICES

PLACEMENT	BAND 1890-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	28,637,617	145,409	0.0051	0.9949	85.38
40.5	26,851,987	136,906	0.0051	0.9949	84.95
41.5	25,214,126	133,608	0.0053	0.9947	84.51
42.5	23,732,981	126,776	0.0053	0.9947	84,06
43.5	22,329,052	149,001	0.0067	0.9933	83.62
44.5	21,045,994	127,528	0.0061	0.9939	83.06
45.5	19,780,427	93,119	0.0047	0.9953	82.55
46.5	18,608,847	95,952	0.0052	0.9948	82.17
47.5	17,432,671	89,426	0.0051	0.9949	81.74
48.5	16,478,968	100,780	0.0061	0.9939	81.32
49.5	15,429,518	104,312	0.0068	0.9932	80.83
50.5	14,322,182	120,619	0.0084	0.9916	80.28
51.5	13,119,296	109,484	0.0083	0.9917	79.60
52.5	11,941,424	108,895	0.0091	0.9909	78.94
53.5	10,915,994	205,931	0.0189	0.9811	78.22
54.5	9,815,369	98,496	0.0100	0.9900	76.74
55.5	8,764,736	96,764	0.0110	0.9890	75.97
56.5	7,789,081	96,892	0.0124	0.9876	75.13
57.5	6,971,416	83,296	0.0119	0.9881	74.20
58.5	6,155,849	67,143	0.0109	0.9891	73.31
59.5	5,366,522	107,559	0.0200	0.9800	72.51
60.5	4,598,027	58,473	0.0127	0.9873	71.06
61.5	4,044,598	66,225	0.0164	0.9836	70.16
62.5	3,474,938	114,120	0.0328	0.9672	69.01
63.5	2,919,945	56,265	0.0193	0.9807	66.74
64.5	2,527,548	44,631	0.0177	0.9823	65.46
65.5	2,353,983	50,015	0.0212	0.9788	64.30
66.5	2,238,851	48,261	0.0216	0.9784	62.93
67.5	2,171,700	108,100	0.0498	0.9502	61.58
68.5	2,089,560	101,202	0.0484	0.9516	58.51
69.5	1,924,654	109,430	0.0569	0.9431	55.68
70.5	1,753,401	167,568	0.0956	0.9044	52.51
71.5	1,538,286	348,186	0.2263	0.7737	47.49
72.5	1,128,986	225,422	0.1997	0.8003	36.74
73.5	858,266	93,676	0.1091	0.8909	29.41
74.5	714,494	65,425	0.0916	0.9084	26.20
75.5	619,925	70,108	0.1131	0.8869	23.80
76.5	507,376	46,129	0.0909	0.9091	21.11
77.5	432,752	24,351	0.0563	0.9437	19.19
78.5	412,707	20,425	0.0495	0.9505	18.11



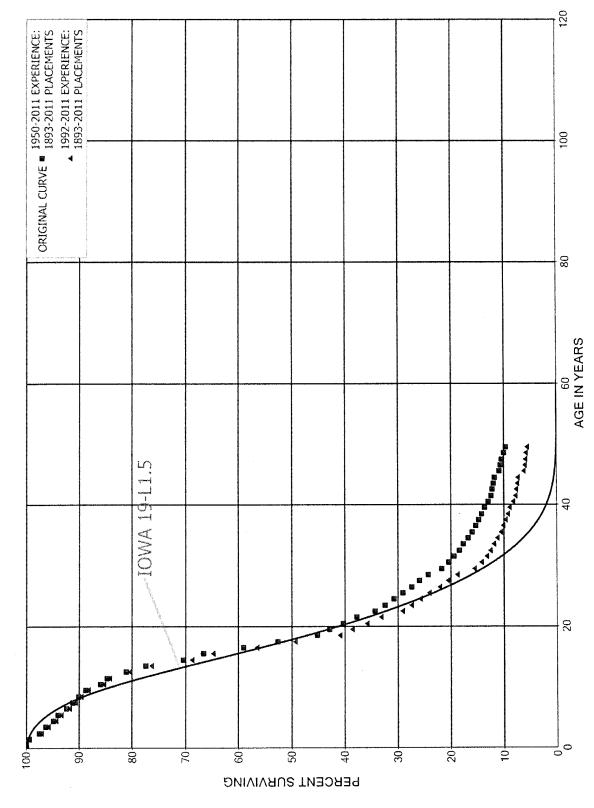
## ACCOUNT 333 SERVICES

PLACEMENT E	BAND 1890-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SÚRV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5	392,256 355,689 306,733 275,045 259,378 203,767 200,033	36,560 49,911 30,763 12,734 9,886 14,407 38,767	0.0932 0.1403 0.1003 0.0463 0.0381 0.0707 0.1938	0.9068 0.8597 0.8997 0.9537 0.9619 0.9293 0.8062	17.21 15.61 13.42 12.07 11.51 11.07
86.5 87.5 88.5	160,188 142,382 110,676	4,853 4,102 2,720	0.0303 0.0288 0.0246	0.9697 0.9712 0.9754	8.30 8.05 7.81
89.5 90.5 91.5 92.5 93.5 94.5 95.5 96.5 97.5 98.5 100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5	98,817 83,553 67,466 62,598 57,923 50,057 44,316 28,751 34,752 27,153 21,066 19,817 7,259 3,159 1,816 1,520 480 390 311	3,261 2,478 1,608 3,657 2,436 2,365 2,357 2,000 5,084 3,126 789 12,368 3,230 1,265 139 375	0.0330 0.0297 0.0238 0.0584 0.0420 0.0472 0.0532 0.0696 0.1463 0.1151 0.0375 0.6241 0.4450 0.4450 0.4066 0.0765 0.2467 0.0000 0.1789 0.0000	0.9670 0.9703 0.9762 0.9416 0.9580 0.9528 0.9468 0.9304 0.8537 0.8849 0.9625 0.3759 0.5550 0.5994 0.9235 0.7533 1.0000 0.8211 1.0000	7.62 7.37 7.15 6.98 6.57 6.30 6.00 5.68 5.29 4.51 3.99 3.84 1.44 0.80 0.48 0.48 0.44 0.33 0.33
108.5 109.5 110.5 111.5 112.5 113.5 114.5 115.5 116.5 117.5 118.5	307 307 307 307 307 307 284 275 50 8	22 10 225 42	0.0000 0.0000 0.0000 0.0000 0.0726 0.0335 0.8184 0.8333 0.0000	1.0000 1.0000 1.0000 1.0000 0.9274 0.9665 0.1816 0.1667 1.0000 1.0000	0.27 0.27 0.27 0.27 0.27 0.27 0.25 0.25 0.04 0.01

## ACCOUNT 333 SERVICES

PLACEMENT	BAND 1890-2011		EXPE	RIENCE BAN	D 1948-2011
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	8		0.0000	1.0000	0.01
120.5 121.5	8	•	0.0000	1.0000	0.01

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 334 METERS AND METER INSTALLATIONS ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 334 METERS AND METER INSTALLATIONS

PLACEMENT	BAND 1893-2011		EXPER	RIENCE BAN	D 1950-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	175,495,836	67,012	0.0004	0.9996	100.00
0.5	161,510,999	987,210	0.0061	0.9939	99.96
1.5	145,002,348	2,757,567	0.0190	0.9810	99.35
2.5	127,270,689	1,508,390	0.0119	0.9881	97.46
3.5	118,881,648	1,825,810	0.0154	0.9846	96.31
4.5	112,851,750	1,071,728	0.0095	0.9905	94.83
5.5	112,336,527	1,850,175	0.0165	0.9835	93.93
6.5	107,006,891	1,410,578	0.0132	0.9868	92.38
7.5	105,372,858	1,326,264	0.0126	0.9874	91.16
8.5	103,413,312	1,487,957	0.0144	0.9856	90.01
9.5	98,029,178	3,058,955	0.0312	0.9688	88.72
10.5	89,863,554	1,236,931	0.0138	0.9862	85.95
11.5	84,551,086	3,550,543	0.0420	0.9580	84.77
12.5	76,313,303	3,495,189	0.0458	0.9542	81.21
13.5	55,228,680	5,033,511	0.0911	0.9089	77.49
14.5	45,970,995	2,490,999	0.0542	0.9458	70.43
15.5	39,484,603	4,451,468	0.1127	0.8873	66.61
16.5	31,598,477	3,460,670	0.1095	0.8905	59.10
17.5	26,289,287	3,721,079	0.1415	0.8585	52.63
18.5	19,639,548	1,027,328	0.0523	0.9477	45.18
19.5	16,174,015	966,328	0.0597	0.9403	42.82
20.5	13,274,346	825,133	0.0622	0.9378	40.26
21.5	12,553,737	1,163,810	0.0927	0.9073	37.76
22.5	10,344,518	546,612	0.0528	0.9472	34.26
23.5	8,418,940	455,275	0.0541	0.9459	32.44
24.5	6,646,347	354,783	0.0534	0.9466	30.69
25.5	6,152,512	344,726	0.0560	0.9440	29.05
26.5	5,740,339	313,575	0.0546	0.9454	27.42
27.5	5,288,614	339,384	0.0642	0.9358	25.93
28.5	4,816,194	508,848	0.1057	0.8943	24.26
29.5	4,205,480	245,733	0.0584	0.9416	21.70
30.5	3,754,316	196,596	0.0524	0.9476	20.43
31.5	3,370,685	162,602	0.0482	0.9518	19.36
32.5	3,092,750	140,397	0.0454	0.9546	18.43
33.5	2,822,887	145,481	0.0515	0.9485	17.59
34.5	2,596,413	121,823	0.0469	0.9531	16.68
35.5	2,374,289	85,849	0.0362	0.9638	15.90
36.5	2,352,862	91,484	0.0389	0.9611	15.33
37.5	2,226,172	86,247	0.0387	0.9613	14.73
38.5	2,095,290	79,896	0.0381	0.9619	14.16



#### ACCOUNT 334 METERS AND METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT :	BAND 1893-2011		EXPER	RIENCE BAN	D 1950-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	1,992,879	106,500	0.0534	0.9466	13.62
40.5	1,860,524	67,761	0.0364	0.9636	12.89
41.5	1,848,674	42,074	0.0228	0.9772	12.42
42.5	1,785,358	33,273	0.0186	0.9814	12.14
43.5	1,729,573	34,567	0.0200	0.9800	11.91
44.5	1,677,985	115,520	0.0688	0.9312	11.68
45.5	1,552,619	39,252	0.0253	0.9747	10.87
46.5	1,468,238	29,866	0.0203	0.9797	10.60
47.5	1,419,870	50,909	0.0359	0.9641	10.38
48.5	1,345,711	54,787	0.0407	0.9593	10.01
49.5	1,265,527	53,363	0.0422	0.9578	9.60
50.5	1,182,851	59,535	0.0503	0.9497	9.20
51.5	1,101,467	37,828	0.0343	0.9657	8.73
52.5	1,034,174	50,781	0.0491	0.9509	8.43
53.5	959,866	35,824	0.0373	0.9627	8.02
54.5	885,305	25,297	0.0286	0.9714	7.72
55.5	795,419	30,289	0.0381	0.9619	7.50
56.5	726,831	31,773	0.0437	0.9563	7.21
57.5	668,636	28,068	0.0420	0.9580	6.90
58.5	616,821	30,849	0.0500	0.9500	6.61
59.5	567,038	34,473	0.0608	0.9392	6.28
60.5	523,712	38,210	0.0730	0.9270	5.90
61.5	483,233	32,662	0.0676	0.9324	5.47
62.5	447,637	36,950	0.0825	0.9175	5.10
63.5	403,899	29,139	0.0721	0.9279	4.68
64.5	372,985	41,041	0.1100	0.8900	4.34
65.5	326,852	36,506	0.1117	0.8883	3.86
66.5	288,604	28,585	0.0990	0.9010	3.43
67.5	259,453	24,931	0.0961	0.9039	3.09
68.5	234,279	28,831	0.1231	0.8769	2.79
69.5	204,088	19,994	0.0980	0.9020	2,45
70.5	182,500	29,031	0.1591	0.8409	2.21
71.5	152,566	31,912	0.2092	0.7908	1.86
72.5	120,556	21,649	0.1796	0.8204	1.47
73.5	99,178	19,787	0.1995	0.8005	1.21
74.5	79,010	14,403	0.1823	0.8177	0.97
75.5	64,097	8,208	0.1280	0.8720	0.79
76.5	55,875	11,480	0.2055	0.7945	0.69
77.5	44,568	12,431	0.2789	0.7211	0.55
78.5	32,106	4,779	0.1489	0.8511	0.39

#### ACCOUNT 334 METERS AND METER INSTALLATIONS

PLACEMENT 1	BAND 1893-2011		EXPÉR	RIENCE BAN	D 1950-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5 86.5	27,105 22,225 17,744 15,290 11,968 8,947 7,896 7,683 7,143	4,601 4,073 2,467 3,167 2,961 931 45 287	0.1698 0.1833 0.1391 0.2071 0.2474 0.1040 0.0056 0.0374 0.0020	0.8302 0.8167 0.8609 0.7929 0.7526 0.8960 0.9944 0.9626 0.9980	0.34 0.28 0.23 0.20 0.16 0.12 0.10 0.10
88.5 89.5 90.5 91.5 92.5 93.5 94.5	7,129 6,308 6,013 6,321 5,902 5,479 5,267	717 39 27 7 90 103 31	0.1006 0.0061 0.0044 0.0010 0.0153 0.0189 0.0059	0.8994 0.9939 0.9956 0.9990 0.9847 0.9811 0.9941	0.10 0.09 0.09 0.09 0.09 0.09
95.5 96.5 97.5 98.5	4,868 4,334 4,117 3,377	31 398 213	0.0064 0.0000 0.0967 0.0000 0.0632	0.9936 1.0000 0.9033 1.0000	0.09 0.08 0.08 0.08
100.5 101.5 102.5 103.5 104.5 105.5 106.5 107.5 108.5	2,875 2,464 2,350 2,231 2,178 2,114 1,998 1,994 1,904	31 45 93	0.0000 0.0126 0.0000 0.0000 0.0000 0.0000 0.0000 0.0224 0.0487	1.0000 0.9874 1.0000 1.0000 1.0000 1.0000 0.9776 0.9513	0.07 0.07 0.07 0.07 0.07 0.07 0.07 0.07
109.5 110.5 111.5	1,778 1,777	1,762	0.0000 0.9918	1.0000	0.07 0.07 0.00

#### ACCOUNT 334 METERS AND METER INSTALLATIONS

## ORIGINAL LIFE TABLE

PLACEMENT	BAND 1893-2011		EXPER	RIENCE BANI	1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	134,746,831	43,280	0.0003	0.9997	100.00
0.5	125,337,615	879,959	0.0070	0.9930	99.97
1.5	111,316,413	2,616,022	0.0235	0.9765	99.27
2.5	100,181,519	1,306,389	0.0130	0.9870	96.93
3.5	98,032,351	1,577,769	0.0161	0.9839	95.67
4.5	96,574,656	932,137	0.0097	0.9903	94.13
5.5	98,231,782	1,673,350	0.0170	0.9830	93.22
6.5	94,684,871	1,214,444	0.0128	0.9872	91.63
7.5	94,188,460	1,134,218	0.0120	0.9880	90.46
8.5	93,209,985	1,330,777	0.0143	0.9857	89.37
9.5	88,689,962	2,926,764	0.0330	0.9670	88.09
10.5	81,307,551	1,111,622	0.0137	0.9863	85.19
11.5	76,686,922	3,428,117	0.0447	0.9553	84.02
12.5	69,013,298	3,379,547	0.0490	0.9510	80.26
13.5	48,380,066	4,893,986	0.1012	0.8988	76.33
14.5	39,575,237	2,308,876	0.0583	0.9417	68.61
15.5	33,527,813	4,286,796	0.1279	0.8721	64.61
16.5	26,069,925	3,309,567	0.1269	0.8731	56.35
17.5	21,080,654	3,634,065	0.1724	0.8276	49.20
18.5	14,642,505	851,979	0.0582	0.9418	40.71
19.5	11,497,528	827,689	0.0720	0.9280	38.35
20.5	8,834,071	660,223	0.0747	0.9253	35.59
21.5	8,380,241	1,001,172	0.1195	0.8805	32.93
22.5	6,463,395	370,876	0.0574	0.9426	28.99
23.5	4,857,014	303,172	0.0624	0.9376	27.33
24.5	3,322,878	224,344	0.0675	0.9325	25,62
25.5	3,065,053	243,372	0.0794	0.9206	23.89
26.5	3,064,885	217,711	0.0710	0.9290	22.00
27.5	2,791,635	250,750	0.0898	0.9102	20.43
28.5	2,445,765	421,635	0.1724	0.8276	18.60
29.5	1,973,769	167,197	0.0847	0.9153	15.39
30.5	1,648,672	115,470	0.0700	0.9300	14.09
31.5	1,387,469	76,790	0.0553	0.9447	13.10
32.5	1,223,103	59,888	0.0490	0.9510	12.38
33.5	1,063,949	60,605	0.0570	0.9430	11.77
34.5	996,791	68,087	0.0683	0.9317	11.10
35.5	891,609	33,041	0.0371	0.9629	10.34
36.5	957,707	46,217	0.0483	0.9517	9.96
37.5	927,696	37,290	0.0402	0.9598	9.48
38.5	867,191	40,122	0.0463	0.9537	9.10

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## ACCOUNT 334 METERS AND METER INSTALLATIONS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT I	BAND 1893-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	825,035	61,210	0.0742	0.9258	8.68
40.5	754,916	34,400	0.0456	0.9544	8.03
41.5	738,701	15,648	0.0212	0.9788	7.67
42.5	719,238	15,940	0.0222	0.9778	7.50
43.5	705,044	20,017	0.0284	0.9716	7.34
44.5	685,860	102,871	0.1500	0.8500	7.13
45.5	593,493	20,174	0.0340	0.9660	6.06
46.5	532,340	9,700	0.0182	0.9818	5.85
47.5	507,252	13,121	0.0259	0.9741	5.75
48.5	473,394	15,593	0.0329	0.9671	5.60
49.5	438,435	28,461	0.0649	0.9351	5.41
50.5	398,717	21,581	0.0541	0.9459	5.06
51.5	371,383	17,994	0.0485	0.9515	4.79
52.5	334,544	15,923	0.0476	0.9524	4.56
53.5	301,963	10,673	0.0353	0.9647	4.34
54.5	260,127	7,290	0.0280	0.9720	4.19
55.5	195,096	9,969	0.0511	0.9489	4.07
56.5	152,138	9,045	0.0595	0.9405	3.86
57.5	125,177	7,309	0.0584	0.9416	3.63
58.5	98,785	9,263	0.0938	0.9062	3.42
59.5	73,798	8,848	0.1199	0.8801	3.10
60.5	67,804	10,090	0.1488	0.8512	2.73
61.5	71,449	8,398	0.1175	0.8825	2.32
62.5	87,665	10,551	0.1204	0.8796	2.05
63.5	82,799	12,163	0.1469	0.8531	1.80
64.5	95,451	13,366	0.1400	0.8600	1.54
65.5	86,717	12,142	0.1400	0.8600	1.32
66.5	86,136	11,132		0.8708	1.14
67.5	85,712	9,225		0.8924	0.99
68.5	89,052	15,412	0.1731	0.8269	0.88
69.5	80,197	14,024		0.8251	0.73
70.5	69,746			0.6960	0.60
71.5	53,604	15,492	0.2890	0.7110	0.42
72.5	41,754	10,802	0.2587	0.7413	0.30
73.5	33,508	10,161	0.3032	0.6968	0.22
74.5	27,905	7,148	0.2562	0.7438	0.15
75.5	24,556	4,618	0.1881	0.8119	0.11
76.5	22,829	6,055	0.2652	0.7348	0.09
77.5	19,389	4,583	0.2364	0.7636	0.07
78.5	17,284	2,493	0.1442	0.8558	0.05



## ACCOUNT 334 METERS AND METER INSTALLATIONS

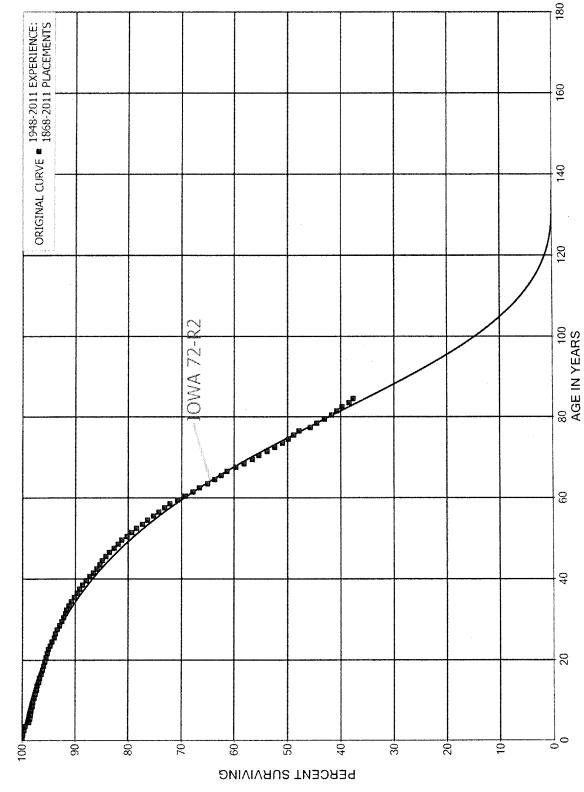
ORIGINAL LIFE TABLE, CONT.

PLACEMENT 1	BAND 1893-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5 80.5 81.5 82.5 83.5 84.5 85.5	17,060 15,229 12,496 10,664 8,436 5,565 4,873	4,142 3,598 2,040 2,383 2,916 647	0.2428 0.2362 0.1633 0.2234 0.3457 0.1163 0.0038	0.7572 0.7638 0.8367 0.7766 0.6543 0.8837 0.9962	0.04 0.03 0.03 0.02 0.02 0.01
86.5 87.5 88.5	4,832 4,551 4,599	49 14 674	0.0102 0.0032 0.1465	0.9898 0.9968 0.8535	0.01 0.01 0.01
89.5 90.5 91.5 92.5 93.5	3,863 3,604 6,111 5,692 5,346	17 18 7 13	0.0045 0.0050 0.0011 0.0024 0.0002	0.9955 0.9950 0.9989 0.9976 0.9998	0.01 0.01 0.01 0.01 0.01
94.5 95.5 96.5 97.5 98.5	5,236 4,837 4,303 4,086 3,377	31 31 398	0.0059 0.0064 0.0000 0.0974 0.0000	0.9941 0.9936 1.0000 0.9026 1.0000	0.01 0.01 0.01 0.01 0.01
99.5 100.5 101.5 102.5	3,377 2,875 2,464 2,350	213 31	0.0632 0.0000 0.0126 0.0000	0.9368 1.0000 0.9874 1.0000	0.01 0.01 0.01 0.01
103.5 104.5 105.5 106.5 107.5 108.5	2,231 2,178 2,114 1,998 1,994 1,904	<b>4</b> 5 93	0.0000 0.0000 0.0000 0.0000 0.0224 0.0487	1.0000 1.0000 1.0000 1.0000 0.9776 0.9513	0.01 0.01 0.01 0.01 0.01 0.01
109.5	1,778 1,777	1,762	0.0000	1.0000	0.01

111.5

0.00

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 335 FIRE HYDRANTS ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNT 335 FIRE HYDRANTS

PLACEMENT	BAND 1868-2011		EXPEF	RIENCE BAN	D 1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	60,400,601	37,965	0.0006	0.9994	100.00
0.5	58,640,923	73,171	0.0012	0.9988	99.94
1.5	54,726,105	99,179	0.0018	0.9982	99.81
2.5	50,688,997	137,866	0.0027	0.9973	99.63
3.5	46,098,765	291,929	0.0063	0.9937	99.36
4.5	43,059,049	79,290	0.0018	0.9982	98.73
5.5	42,909,562	61,242	0.0014	0.9986	98.55
6.5	42,861,569	68,853	0.0016	0.9984	98.41
7.5	38,127,114	51,939	0.0014	0.9986	98.25
8.5	37,601,599	77,443	0.0021	0.9979	98.12
9.5	34,732,512	71,050	0.0020	0.9980	97.91
10.5	32,817,865	61,776	0.0019	0.9981	97.71
11.5	31,458,085	62,472	0.0020	0.9980	97.53
12.5	29,411,065	58,608	0.0020	0.9980	97.34
13.5	26,209,901	73,096	0.0028	0.9972	97.14
14.5	24,498,418	49,188	0.0020	0.9980	96.87
15.5	23,149,682	60,011	0.0026	0.9974	96.68
16.5	21,423,703	45,634	0.0021	0.9979	96.43
17.5	20,085,097	55,665	0.0028	0.9972	96.22
18.5	18,932,107	37,469	0.0020	0.9980	95.95
19.5	17,596,594	52,319	0.0030	0.9970	95.76
20.5	16,489,931	37,477	0.0023	0.9977	95.48
21.5	15,406,179	31,018	0.0020	0.9980	95.26
22.5	14,325,257	48,547	0.0034	0.9966	95.07
23.5	13,127,499	47,462	0.0036	0.9964	94.75
24.5	12,270,000	53,502	0.0044	0.9956	94.41
25.5	11,535,365	38,394	0.0033	0.9967	94.00
26.5	10,878,869	39,568	0.0036	0.9964	93.68
27.5	10,273,152	45,211	0.0044	0.9956	93.34
28.5	9,750,908	44,840	0.0046	0.9954	92.93
29.5	9,145,684	28,608	0.0031	0.9969	92.50
30.5	8,715,067	32,214	0.0037	0.9963	92.21
31.5	8,069,440	26,659	0.0033	0.9967	91.87
32.5	7,499,569	33,776	0.0045	0.9955	91.57
33.5	6,758,492	33,112	0.0049	0.9951	91.16
34.5	6,326,412	34,121	0.0054	0.9946	90.71
35.5	6,023,502	36,983	0.0061	0.9939	90.22
36.5	5,519,578	31,134	0.0056	0.9944	89.67
37.5	5,108,363	30,733	0.0060	0.9940	89.16
38.5	4,754,205	33,044	0.0070	0.9930	88.63

## ACCOUNT 335 FIRE HYDRANTS

PLACEMENT	BAND 1868-2011		EXPER	LIENCE BAN	D 1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	4,366,883	37,822	0.0087	0.9913	88.01
40.5	4,119,079	31,120	0.0076	0.9924	87.25
41.5	3,906,116	29,782	0.0076	0.9924	86.59
42.5	3,649,859	22,730	0.0062	0.9938	85.93
43.5	3,436,909	19,541	0.0057	0.9943	85.39
44.5	3,244,902	23,469	0.0072	0.9928	84.91
45.5	3,055,878	25,313	0.0083	0.9917	84.29
46.5	2,856,277	31,024	0.0109	0.9891	83.59
47.5	2,689,245	24,069	0.0090	0.9910	82.69
48.5	2,506,402	20,277	0.0081	0.9919	81.95
49.5	2,363,175	29,755	0.0126	0.9874	81.28
50.5	2,208,585	22,908	0.0104	0.9896	80.26
51.5	2,026,004	22,575	0.0111	0.9889	79.43
52.5	1,869,739	26,147	0.0140	0.9860	78.54
53.5	1,712,926	23,967	0.0140	0.9860	77.44
54.5	1,555,498	21,793	0.0140	0.9860	76.36
55.5	1,399,279	18,870	0.0135	0.9865	75.29
56.5	1,256,911	18,306	0.0146	0.9854	74.28
57.5	1,155,217	15,655	0.0136	0.9864	73.19
58.5	1,057,972	21,369	0.0202	0.9798	72.20
59.5	985,059	21,026	0.0213	0.9787	70.74
60.5	899,501	18,856	0.0210	0.9790	69.23
61.5	860,305	14,992	0.0174	0.9826	67.78
62.5	793,939	18,244	0.0230	0.9770	66.60
63.5	742,696	15,411	0.0208	0.9792	65.07
64.5	699,822	13,350	0.0191	0.9809	63.72
65.5	676,207	12,506	0.0185	0.9815	62.50
66.5	649,405	17,296	0.0266	0.9734	61.35
67.5	624,882	15,955	0.0255	0.9745	59.71
68.5	603,458	16,686	0.0277	0.9723	58.19
69.5	578,739	12,502	0.0216	0.9784	56.58
70.5	538,351	14,650	0.0272	0.9728	55.36
71.5	511,834	13,788	0.0269	0.9731	53.85
72.5	487,692	14,015	0.0287	0.9713	52.40
73.5	468,177	10,029	0.0214	0.9786	50.90
74.5	440,666	8,947	0.0203	0.9797	49.81
75.5	418,603	8,606	0.0206	0.9794	48.79
76.5	396,380	16,998	0.0429	0.9571	47.79
77.5	369,641	9,942	0.0269	0.9731	45.74
78.5	356,552	11,363	0.0319	0.9681	44.51

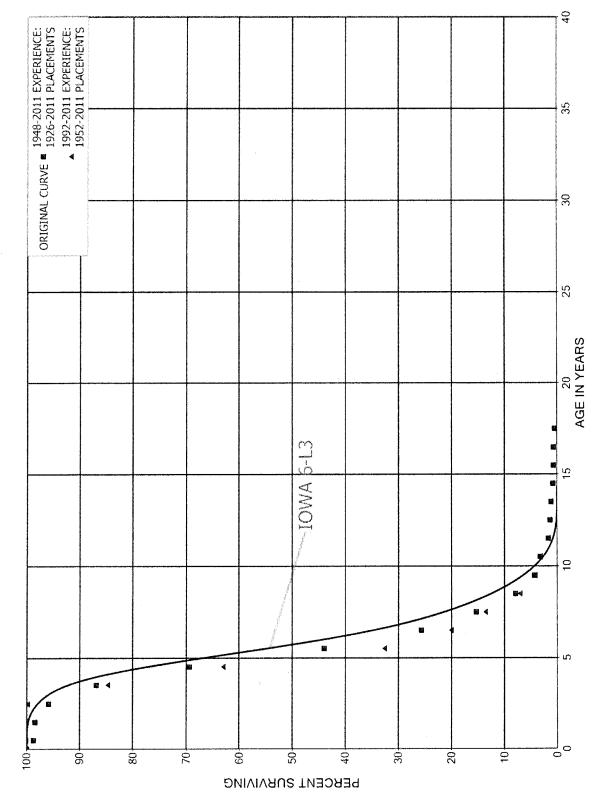
## ACCOUNT 335 FIRE HYDRANTS

PLACEMENT	BAND 1868-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	347,041	10,655	0.0307	0.9693	43.09
80.5	323,607	8,301	0.0257	0.9743	41.77
81.5	302,939	7,606	0.0251	0.9749	40.70
82.5	278,675	9,305	0.0334	0.9666	39.68
83.5	251,556	4,980	0.0198	0.9802	38.35
84.5	234,739	5,094	0.0217	0.9783	37.59
85.5	221,503	7,181	0.0324	0.9676	36.78
86.5	203,083	3,546	0.0175	0.9825	35.58
87.5	192,048	3,500	0.0182	0.9818	34.96
88.5	186,453	3,897	0.0209	0.9791	34.33
89.5	173,534	4,391	0.0253	0.9747	33.61
90.5	163,878	5,683	0.0347	0.9653	32.76
91.5	160,505	2,529	0.0158	0.9842	31.62
92.5	152,693	3,558	0.0233	0.9767	31.12
93.5	146,655	2,957	0.0202	0.9798	30.40
94.5	138,460	3,970	0.0287	0.9713	29.79
95.5	131,350	3,999	0.0304	0.9696	28.93
96.5	112,638	2,264	0.0201	0.9799	28.05
97.5	114,052	4,402	0.0386	0.9614	27.49
98.5	107,890	3,200	0.0297	0.9703	26.43
99.5	100,458	3,335	0.0332	0.9668	25.64
100.5	98,321	1,356	0.0138	0.9862	24.79
101.5	93,959	3,686	0.0392	0.9608	24.45
102.5	89,548	2,445	0.0273	0.9727	23.49
103.5	86,379	1,640	0.0190	0.9810	22.85
104.5	83,961	5,146	0.0613	0.9387	22.41
105.5	78,064	1,333	0.0171	0.9829	21.04
106.5	74,426	4,516	0.0607	0.9393	20.68
107.5	68,477	3,103	0.0453	0.9547	19.43
108.5	60,362	2,515	0.0417	0.9583	18.55
109.5	58,009	5,837	0.1006	0.8994	17.77
110.5	51,076	1,400	0.0274	0.9726	15.99
111.5	49,554	1,944	0.0392	0.9608	15.55
112.5	47,482	1,378	0.0290	0.9710	14.94
113.5	43,935	2,024	0.0461	0.9539	14.50
114.5	39,614	2,943	0.0743	0.9257	13.84
115.5	35,768	751	0.0210	0.9790	12.81
116.5	31,053	566	0.0182	0.9818	12.54
117.5	27,466	196	0.0071	0.9929	12.31
118.5	35,801		0.0000	1.0000	12.22

## ACCOUNT 335 FIRE HYDRANTS

PLACEMENT	BAND 1868-2011		EXPE	RIENCE BAN	D 1948-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5 120.5 121.5 122.5 123.5 124.5 125.5 126.5 127.5 128.5	31,810 29,028 27,768 26,836 15,988 14,915 13,803 13,680 13,680	735 522 76 125 1,065 348 62	0.0231 0.0180 0.0027 0.0046 0.0666 0.0233 0.0045 0.0000 0.0000	0.9769 0.9820 0.9973 0.9954 0.9334 0.9767 0.9955 1.0000 1.0000	12.22 11.94 11.73 11.69 11.64 10.86 10.61 10.56 10.56
129.5 130.5 131.5 132.5 133.5 134.5 135.5 136.5 137.5 138.5	12,882 11,602 10,149 9,280 8,223 8,223 8,223 8,223 8,223 7,465	869 174 236	0.0675 0.0150 0.0000 0.0255 0.0000 0.0000 0.0000 0.0000 0.0000	0.9325 0.9850 1.0000 0.9745 1.0000 1.0000 1.0000 1.0000	10.56 9.85 9.70 9.70 9.46 9.46 9.46 9.46 9.46
139.5 140.5 141.5 142.5 143.5	7,465 7,393 7,393 7,393	72	0.0096 0.0000 0.0000 0.0000	0.9904 1.0000 1.0000	9.46 9.36 9.36 9.36 9.36

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNTS 341 THRU 341.4 TRANSPORTATION EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



## ACCOUNTS 341 THRU 341.4 TRANSPORTATION EQUIPMENT

PLACEMENT E	BAND 1926-2011		EXPER	RIENCE BAN	D 1948-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5	7,767,074 8,116,199 5,059,062 5,469,506 5,391,241 4,328,291 2,755,005 1,841,652	95,788 28,401 132,714 516,381 1,079,426 1,587,231 1,152,632 736,749	0.0123 0.0035 0.0262 0.0944 0.2002 0.3667 0.4184 0.4000	0.9877 0.9965 0.9738 0.9056 0.7998 0.6333 0.5816 0.6000	100.00 98.77 98.42 95.84 86.79 69.41 43.96 25.57
7.5 8.5	1,508,204 1,101,264	739,620 501,826	0.4904 0.4557	0.5096 0.5443	15.34 7.82
9.5 10.5 11.5 12.5 13.5 14.5 15.5 16.5 17.5 18.5	873,269 668,059 442,704 418,206 332,027 252,636 189,289 182,662 179,100 120,967 89,651 64,327 50,641 50,193	225,502 322,899 89,375 93,402 84,729 62,502 176 44,646 1,127 30,236 11,285 5,401 448 261 24,789	0.2019 0.2233 0.2552 0.2474 0.0009 0.2444	0.7418 0.5167 0.7981 0.7767 0.7448 0.7526 0.9991 0.7556 0.9937 0.7500 0.8741 0.9160 0.9912 0.9948 0.5034	4.25 3.16 1.63 1.30 1.01 0.75 0.57 0.57 0.43 0.43 0.32 0.28 0.26 0.25
23.5 24.5 25.5 26.5 27.5 28.5	49,913 22,872 22,082 15,083 3,537 2,000	24,769 227 736 489 208 93	0.4966 0.0099 0.0334 0.0324 0.0588 0.0466	0.9901 0.9666 0.9676 0.9412 0.9534	0.23 0.13 0.13 0.12 0.12
29.5 30.5 31.5 32.5 33.5 34.5	1,906 1,733 917 917 917 868	173 284 49	0.0907 0.1636 0.0000 0.0000 0.0534 0.0000	0.9093 0.8364 1.0000 1.0000 0.9466 1.0000	0.11 0.10 0.08 0.08 0.08 0.08
34.5 35.5 36.5 37.5 38.5	868 868 843 300	0 543	0.0000 0.0005 0.0000 0.6436 0.0000	0.9995 1.0000 0.3564 1.0000	0.08 0.08 0.08 0.08

## ACCOUNTS 341 THRU 341.4 TRANSPORTATION EQUIPMENT

PLACEMENT	BAND 1926-2011		EXPE	RIENCE BAN	1948-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
39.5	300		0.0000	1.0000	0.03
40.5	300		0.0000	1.0000	0.03
41.5	300		0.0000	1.0000	0.03
42.5	300		0.0000	1.0000	0.03
43.5	300		0.0000	1.0000	0.03
44.5	300	70	0.2330	0.7670	0.03
45.5	230	0	0.0021	0.9979	0.02
46.5	230		0.0000	1.0000	0.02
47.5	230	83	0.3609	0.6391	0.02
48.5	147	147	1.0000		0.01
49.5					

# ACCOUNTS 341 THRU 341.4 TRANSPORTATION EQUIPMENT

## ORIGINAL LIFE TABLE

PLACEMENT E	BAND 1952-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	4,078,067		0.0000	1.0000	100.00
0.5	4,502,109	9,000		0.9980	100.00
1.5	1,458,354	2,711	0.0019	0.9981	99.80
2.5	2,039,616	308,763	0.1514	0.8486	99.61
3,5	2,168,820	556,877	0.2568	0.7432	84.53
4.5	1,628,405	790,023	0.4852	0.5148	62.83
5.5	865,197	334,914	0.3871	0.6129	32.35
6.5	776,624	253,129	0.3259	0.6741	19.83
7.5	932,151	454,155	0.4872	0.5128	13.36
8.5	820,144	341,610	0.4165	0.5835	6.85
9.5	752,365	197,295	0.2622	0.7378	4.00
10.5	577,854	279,423	0.4836	0.5164	2.95
11.5	397,791	69,937	0.1758	0.8242	1.52
12.5	397,562	85,439	0.2149	0.7851	1.26
13.5	319,346	83,371	0.2611	0.7389	0.99
14.5	241,575	57,906	0.2397	0.7603	0.73
15.5	183,708		0.0000	1.0000	0.55
16.5	177,484	44,482	0.2506	0.7494	0.55
17.5	174,161		0.0000	1.0000	0.42
18.5	117,468	29,734	0.2531	0.7469	0.42
19.5	86,655	11,093	0.1280	0.8720	0.31
20.5	61,764	5,364	0.0868	0.9132	0.27
21.5	47,969		0.0000	1.0000	0.25
22.5	47,969	261	0.0054	0.9946	0.25
23.5	47,688	24,789	0.5198	0.4802	0.25
24.5	20,647	227	0.0110	0.9890	0.12
25.5	19,857	268	0.0135	0.9865	0.12
26.5	13,326	314	0.0236	0.9764	0.12
27.5	2,239		0.0000	1.0000	0.11
28.5	1,108	93	0.0842	0.9158	0.11
29.5	1,557	173	0.1111	0.8889	0.10
30.5	1,384	284	0.2049	0.7951	0.09
31.5	568		0.0000	1.0000	0.07
32.5	568		0.0000	1.0000	0.07
33.5	568		0.0000	1.0000	0.07
34.5	568		0.0000	1.0000	0.07
35.5	568	0	0.0007	0.9993	0.07
36.5	567		0.0000	1.0000	0.07
37.5	543	543	0.9991	0.0009	0.07
38.5	0		0.0000	1.0000	0.00

## ACCOUNTS 341 THRU 341.4 TRANSPORTATION EQUIPMENT

PLACEMENT BAND 1952-2011 EXPERIENCE BAND 1992-2011					
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5	83 83 83		0.0000 0.0000 0.0000	1.0000 1.0000 1.0000	0.00 0.00 0.00
42.5	83 83		0.0000	1.0000	0.00
44.5 45.5 46.5	83 83 83	0	0.0000 0.0057 0.0000	1.0000 0.9943 1.0000	0.00 0.00 0.00
47.5 48.5	83	83	1.0000		0.00

ORIGINAL CURVE # 1900-2011 EXPERIENCE: ▲ 1992-2011 EXPERIENCE: ▲ 1920-2011 PLACEMENTS 20 40 ORIGINAL AND SMOOTH SURVIVOR CURVES PENNSYLVANIA-AMERICAN WATER COMPANY IOWA 20-R0. ACCOUNT 344 LABORATORY EQUIPMENT 20 10 70 30 20 9 80 20 PERCENT SURVIVING

9

AGE IN YEARS

#### ACCOUNT 344 LABORATORY EQUIPMENT

PLACEMENT	BAND 1900-2011		EXPER	RIENCE BAN	D 1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	7,022,675	1,204	0.0002	0.9998	100.00
0.5	6,596,523	59,097	0.0090	0.9910	99.98
1.5	6,308,348	90,344	0.0143	0.9857	99.09
2.5	5,989,466	21,752	0.0036	0.9964	97.67
3.5	5,762,396	185,704	0.0322	0.9678	97.31
4.5	5,435,572	105,745	0.0195	0.9805	94.18
5.5	5,206,508	159,337	0.0306	0.9694	92.35
6.5	5,042,672	339,949	0.0674	0.9326	89.52
7.5	4,542,964	276,971	0.0610	0.9390	83.48
8.5	3,953,502	125,437	0.0317	0.9683	78.39
9.5	3,741,154	119,476	0.0319	0.9681	75.91
10.5	3,526,275	282,774	0.0802	0.9198	73.48
11.5	3,194,086	186,479	0.0584	0.9416	67.59
12.5	2,881,215	45,218	0.0157	0.9843	63.64
13.5	2,722,630	79,632	0.0292	0.9708	62.65
14.5	2,458,056	62,568	0.0255	0.9745	60.81
15.5	2,280,203	87,263	0.0383	0.9617	59.27
16.5	1,907,074	74,482	0.0391	0.9609	57.00
17.5	1,517,505	81,895	0.0540	0.9460	54.77
18.5	1,431,824	17,461	0.0122	0.9878	51.82
19.5	1,260,075	23,448	0.0186	0.9814	51.18
20.5	1,071,534	16,279	0.0152	0.9848	50.23
21.5	905,501	12,504	0.0138	0.9862	49.47
22.5	691,341	10,350	0.0150	0.9850	48.78
23.5	533,416	27,684	0.0519	0.9481	48.05
24.5	440,686	8,337	0.0189	0.9811	45.56
25.5	351,612	2,611	0.0074	0.9926	44.70
26.5	280,939	7,681	0.0273	0.9727	44.37
27.5	244,200	3,343	0.0137	0.9863	43.15
28.5	207,667	11,288	0.0544	0.9456	42.56
29.5	163,269	2,423	0.0148	0.9852	40.25
30.5	158,154	5,053	0.0320	0.9680	39.65
31.5	149,437	4,884	0.0327	0.9673	38.38
32.5	135,156	. 7,207	0.0533	0.9467	37.13
33.5	115,977	3,673	0.0317	0.9683	35.15
34.5	84,804	461	0.0054	0.9946	34.04
35.5	77,692	4,590	0.0591	0.9409	33.85
36.5	57,761	420	0.0073	0.9927	31.85
37.5	57,341	11,242	0.1960	0.8040	31.62
38.5	41,450	667	0.0161	0.9839	25.42

#### ACCOUNT 344 LABORATORY EQUIPMENT

PLACEMENT	BAND 1900-2011		EXPE	RIENCE BAI	ND 1951-2011	
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL	
39.5 40.5 41.5 42.5 43.5 44.5	28,193 25,164 24,697 12,894 12,557 14,932	442 435 804 248 631 741 1,204	0.0157 0.0173 0.0326 0.0193 0.0503 0.0496 0.0844	0.9843 0.9827 0.9674 0.9807 0.9497 0.9504	25.01 24.62 24.19 23.41 22.96 21.80 20.72	
46.5 47.5 48.5	12,773 10,271 9,022	2,502 1,184 92		0.8041 0.8847 0.9898	18.97	
49.5 50.5 51.5 52.5 53.5 54.5 55.5 56.5 57.5	8,798 8,724 7,587 6,529 5,606 5,414 5,145 4,896 4,331	140 1,081 1,058 922 152 269 248 266 152	0.1413 0.0271 0.0497 0.0483	0.9841 0.8761 0.8605 0.8587 0.9729 0.9503 0.9517 0.9457 0.9649		
58.5 59.5 60.5 61.5 62.5 63.5 64.5 65.5 66.5	4,179 4,039 3,968 867 867 867 867 867 615	140 71 3,101 252 115	0.0335 0.0176 0.7815 0.0000 0.0000 0.0000 0.0000 0.0000 0.2906 0.1870	0.9665 0.9824 0.2185 1.0000 1.0000 1.0000 1.0000 0.7094 0.8130	6.83 6.60 6.49 1.42 1.42 1.42 1.42 1.42 1.42	9
68.5 69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5 77.5	135 135 135 135 135 135 135 135 135	365	0.7301 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0924 0.0000	0.2699  1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000 1.0000	0.82 0.22 0.22 0.22 0.22 0.22 0.22 0.22 0.22 0.22	

## ACCOUNT 344 LABORATORY EQUIPMENT

PLACEMENT	BAND 1900-2011		EXPER	RIENCE BANI	1951-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	123		0.0000	1.0000	0.20
80.5	123		0.0000	1.0000	0.20
81.5	123		0.0000	1.0000	0.20
82.5	123		0.0000	1.0000	0.20
83.5	123		0.0000	1.0000	0.20
84.5	123		0.0000	1.0000	0.20
85.5	123		0.0000	1.0000	0.20
86.5	123	123	1.0000		0.20
87.5					

### ACCOUNT 344 LABORATORY EQUIPMENT

### ORIGINAL LIFE TABLE

PLACEMENT E	BAND 1920-2011		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF	EXPOSURES AT BEGINNING OF	RETIREMENTS DURING AGE	RETMT	SURV	PCT SURV BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
0.0	4,977,406		0.0000	1.0000	100.00
0.5	4,726,526	55,296	0.0117	0.9883	100.00
1.5	4,681,530	88,465	0.0189	0.9811	98.83
2.5	4,680,921	18,213	0.0039	0.9961	96.96
3.5	4,698,532	175,316	0.0373	0.9627	96.59
4.5	4,530,149	90,923	0.0201	0.9799	92.98
5.5	4,481,929	144,470	0.0322	0.9678	91.12
6.5	4,423,001	324,659	0.0734	0.9266	88.18
7.5	4,000,815	243,115	0.0608	0.9392	81.71
8.5	3,489,315	101,144	0.0290	0.9710	76.74
9.5	3,375,660	102,832	0.0305	0.9695	74.52
10.5	3,188,974	271,170	0.0850	0.9150	72.25
11.5	2,928,235	177,120	0.0605	0.9395	66.10
12.5	2,638,037	36,519	0.0138	0.9862	62.10
13.5	2,501,581	74,351	0.0297	0.9703	61.24
14.5	2,287,514	54,677	0.0239	0.9761	59.42
15.5	2,122,423	76,354	0.0360	0.9640	58.00
16.5	1,789,910	68,527	0.0383	0.9617	55.92
17.5	1,407,077	73,842	0.0525	0.9475	53.78
18.5	1,336,537	13,362	0.0100	0.9900	50.95
19.5	1,183,978	19,626	0.0166	0.9834	50.45
20.5	998,424	13,237	0.0133	0.9867	49.61
21.5	835,565	9,141	0.0109	0.9891	48.95
22.5	645,042	6,932	0.0107	0.9893	48.42
23.5	490,534	22,107	0.0451	0.9549	47.90
24.5	403,396	6,044	0.0150	0.9850	45.74
25.5	316,730	1,374	0.0043	0.9957	45.05
26.5	246,020	5,033	0.0205	0.9795	44.86
27.5	211,852	2,091	0.0099	0.9901	43.94
28.5	176,530	10,652	0.0603	0.9397	43.50
29.5	132,852	1,091	0.0082	0.9918	40.88
30.5	129,331	3,490	0.0270	0.9730	40.54
31.5	123,180	4,478	0.0364	0.9636	39.45
32.5	110,404	4,937	0.0447	0.9553	38.02
33.5	93,496	1,744	0.0187	0.9813	36.32
34.5	64,236	196	0.0031	0.9969	35.64
35.5	57,359	205	0.0036	0.9964	35.53
36.5	41,814		0.0000	1.0000	35,40
37.5	42,178	8,340	0.1977	0.8023	35.40
38.5	29,189		0.0000	1.0000	28.40

### ACCOUNT 344 LABORATORY EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT	BAND 1920-2011		EXPE	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5	16,589 14,565 14,326 3,273 2,987	207 5	0.0000 0.0142 0.0003 0.0000 0.0000	1.0000 0.9858 0.9997 1.0000 1.0000	28.40 28.40 28.00 27.99 27.99
44.5 45.5 46.5 47.5 48.5	2,797 2,866 1,948 1,805 1,740	681 143	0.0000 0.2374 0.0735 0.0000 0.0000	1.0000 0.7626 0.9265 1.0000 1.0000	27.99 27.99 21.34 19.77 19.77
49.5 50.5 51.5 52.5 53.5 54.5	1,608 1,459 1,444 1,174 479 439	270 694	0.0000 0.0000 0.1870 0.5916 0.0000 0.0000	1.0000 1.0000 0.8130 0.4084 1.0000	19.77 19.77 19.77 16.07 6.56 6.56
55.5 56.5 57.5 58.5	439	139	0.3177	0.6823	6.56 4.48 4.48
59.5 60.5 61.5 62.5 63.5 64.5 65.5 66.5 67.5 68.5					
69.5 70.5 71.5 72.5 73.5 74.5 75.5 76.5	135 135 135 135 135 135	12	0.0000 0.0000 0.0000 0.0000 0.0000 0.0000		

78.5

123

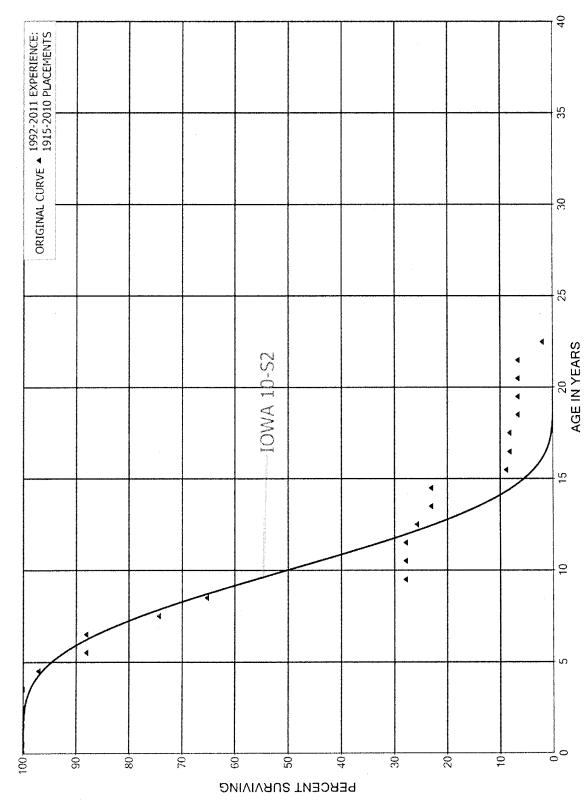
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# ACCOUNT 344 LABORATORY EQUIPMENT

# ORIGINAL LIFE TABLE, CONT.

PLACEMENT 1	BAND 1920-2011		EXPER	IENCE BAN	D 1992-2011
AGE AT	EXPOSURES AT	RETIREMENTS			PCT SURV
BEGIN OF	BEGINNING OF	DURING AGE	RETMT	SURV	BEGIN OF
INTERVAL	AGE INTERVAL	INTERVAL	RATIO	RATIO	INTERVAL
79.5	123		0.0000		
80.5	123		0.0000		
81.5	123		0.0000		
82.5	123		0.0000		
83.5	123		0.0000		
84.5	123		0.0000		
85.5	123		0.0000		
86.5	123	123	1.0000		
87.5					

PENNSYLVANIA-AMERICAN WATER COMPANY ACCOUNT 345 POWER OPERATED EQUIPMENT ORIGINAL AND SMOOTH SURVIVOR CURVES



#### ACCOUNT 345 POWER OPERATED EQUIPMENT

### ORIGINAL LIFE TABLE

PLACEMENT E	BAND 1915-2010		EXPER	RIENCE BAN	D 1992-2011
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0 0.5 1.5 2.5 3.5 4.5 5.5	44,533 44,533 22,547 23,288 23,288 24,854 24,854	706 2,308	0.0000 0.0000 0.0000 0.0000 0.0303 0.0928 0.0000	1.0000 1.0000 1.0000 1.0000 0.9697 0.9072 1.0000	100.00 100.00 100.00 100.00 100.00 96.97 87.96
6.5 7.5 8.5	24,854 20,983 24,811	3,871 2,573 14,238	0.1557 0.1226 0.5738	0.8443 0.8774 0.4262	87.96 74.26 65.16
9.5 10.5 11.5 12.5 13.5 14.5 15.5 16.5 17.5	10,574 10,574 10,574 10,122 9,093 23,910 9,093 8,352 8,352 6,785	836 1,029 14,818 741 1,567	0.0000 0.0000 0.0790 0.1017 0.0000 0.6197 0.0815 0.0000 0.1876 0.0000	1.0000 1.0000 0.9210 0.8983 1.0000 0.3803 0.9185 1.0000 0.8124 1.0000	27.77 27.77 27.77 25.57 22.97 22.97 8.74 8.02 8.02 6.52
19.5 20.5 21.5 22.5 23.5 24.5 25.5 26.5 27.5 28.5	6,785 6,785 13,908 7,507 7,507 7,507 7,507 7,123 7,123 8,305	9,958 384	0.0000 0.0000 0.7160 0.0000 0.0000 0.0000 0.0512 0.0000 0.0000	1.0000 1.0000 0.2840 1.0000 1.0000 1.0000 0.9488 1.0000 1.0000	6.52 6.52 6.52 1.85 1.85 1.85 1.76 1.76
29.5 30.5 31.5 32.5 33.5 34.5 35.5 36.5 37.5 38.5	8,305 8,370 8,370 8,370 8,370 8,370 1,248 1,248 1,248	7,123	0.0000 0.0000 0.0000 0.0000 0.0000 0.8509 0.0000 0.0000	1.0000 1.0000 1.0000 1.0000 0.1491 1.0000 1.0000 1.0000	1.76 1.76 1.76 1.76 1.76 1.76 0.26 0.26

### ACCOUNT 345 POWER OPERATED EQUIPMENT

# ORIGINAL LIFE TABLE, CONT.

PLACEMENT I	RIENCE BAN	D 1992-2011			
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5 40.5 41.5 42.5 43.5	1,248 1,248 1,248 65 65	1,182 65	0.0000 0.0000 0.9475 0.0000 1.0000	1.0000 1.0000 0.0525 1.0000	0.26 0.26 0.26 0.01 0.01
44 5					

# PART VII. DETAILED DEPRECIATION CALCULATIONS

**CUMULATIVE DEPRECIATED ORIGINAL COST** 

# CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR INST	ORIGINAL COST	ACCRUED DEPRECIATION	AMOUNT (2)-(3)	CUMULATIVE AMOUNT	PCT OF COL 4 TOTAL
(1)	(2)	(3)	(4)	(5)	(6)
1868	3,751	2,968	783	783	0.00
1869	232	182	50	833	0.00
1870	8,967	7,001	1,966	2,799	0.00
1871	28,641	24,159	4,482	7,281	0.00
1872	61,587	50,917	10,670	17,951	0.00
1873	14,590	11,342	3,248	21,199	0.00
1874	46,735	36,660	10,075	31,274	0.00
1875	4,984	3,883	1,101	32,376	0.00
1876	10,163	8,088	2,075	34,451	0.00
1877 1878	180 7,061	138 5,470	42 1,591	34,493 36,084	0.00 0.00
1879	14,292	10,992	3,300	39,383	0.00
1880	11,037	8,428	2,609	41,993	0.00
1882	2,609	2,544	65	42,058	0.00
1883	527	400	127	42,185	0.00
1884	20,278	19,198	1,080	43,265	0.00
1885	71,974	54,615	17,359	60,624	0.00
1886	64,024	48,299	15,725	76,349	0.00
1887	133,797	111,953	··· 21,844	98,192	0.00
1888	179,418	137,070	42,348	140,540	0.00
1889	541,901	487,360	54,541	195,081	0.01
1890	460,240	341,503	118,737	313,818	0.01
1891	195,910	143,618	52,292	366,110	0.01
1892 1893	346,477 438,372	235,538 317,526	110,939	477,049 507,805	0.01
1894	267,274	223,649	120,846 43,625	597,895 641,520	0.02 0.02
1895	95,103	70,529	24,574	666,094	0.02
1896	578,705	422,058	156,647	822,741	0.02
1897	365,228	241,931	123,297	946,038	0.03
1898	212,535	154,854	57,681	1,003,718	0.03
1899	791,065	569,848	221,217	1,224,936	0.03
1900	1,902,457	1,360,970	541,487	1,766,423	0.05
1901	664,831	438,215	226,616	1,993,040	0.05
1902	503,368	360,262	143,106	2,136,145	0.06
1903	1,096,458	779,898	316,560	2,452,705	0.07
1904	468,959	332,138	136,821	2,589,526	0.07
1905 1906	642,490 640,483	457,237 466,752	185,253 173,731	2,774,779 2,948,510	0.08 0.08
1907	723,612	501,071	222,541	3,171,050	0.08
1908	639,052	446,821	192,231	3,363,281	0.09
1909	455,556	317,975	137,581	3,500,863	0.10
1910	738,518	469,564	268,954	3,769,816	0.10
1911	343,457	246,770	96,687	3,866,503	0.11
1912	434,688	295,526	139,162	4,005,665	0.11
1913	263,417	178,455	84,962	4,090,627	0.11
1914	546,127	368,339	177,788	4,268,415	0.12
1915	742,313	467,896	274,417	4,542,832	0.12
1916	187,479	124,005	63,474	4,606,306	0.13
1917 1918	304,670	208,553 175,874	96,117 89,547	4,702,423	0.13
1919	265,421 360,373	233,278	127,095	4,791,969 4,919,065	0.13 0.13
1920	411,347	271,724	139,623	5,058,688	0.13
1921	471,153	330,745	140,408	5,199,096	. 0.14
1922	431,781	295,868	135,913	5,335,009	0.15
1923	2,832,545	1,868,511	964,034	6,299,043	0.17
1924	1,584,766	1,083,161	501,605	6,800,649	0.19
1925	1,146,049	720,078	425,971	7,226,620	0.20
1926	746,876	473,657	273,219	7,499,838	0.20
1927	680,779	434,230	246,549	7,746,387	0.21
1928	842,515	530,333	312,182	8,058,569	0.22
1929	738,641	467,994	270,647	8,329,216	0.23
1930	854,106	509,263	344,843	8,674,059	0.24
1931	485,146	313,335	171,811	8,845,869	0.24
1932	149,530	85,258 57,071	64,272 38,571	8,910,142 8,948,712	0.24 0.24
1933 1934	95,642 174,775	57,071 111,198	63,577	8,948,712 9,012,290	0.24
1004	174,773	111,130	03,377	5,012,250	0.25



# CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR INST	ORIGINAL COST	ACCRUED DEPRECIATION	AMOUNT (2)-(3)	CUMULATIVE AMOUNT	PCT OF COL 4 TOTAL
(1)	(2)	(3)	(4)	(5)	(6)
1935	394,556	245,999	148,557	9,160,846	0.25
1936	422,303	257,268	165,035	9,325,881	0.25
1937	652,146	412,317	239,829	9,565,710	0.26
1938	484,978	297,784	187,194	9,752,904	0.27
1939	550,706	332,597	- 218,109	9,971,013	0.27
1940	548,294	334,688	213,606	10,184,619	0.28
1941	734,256	430,349	303,907	10,488,526	0.29
1942	392,066	243,595	148,471	10,636,997	0.29 0.29
1943 1944	219,468 159,187	128,714 95,056	90,754 64,131	10,727,751 10,791,882	0.29
1945	960,048	527,234	432,814	11,224,696	0.23
1946	1,006,611	536,438	470,173	11,694,869	0.32
1947	1,191,567	721,653	469,914	12,164,783	0.33
1948	1,681,273	975,285	705,988	12,870,771	0.35
1949	1,095,611	695,616	399,995	13,270,766	0.36
1950	1,156,806	716,786	440,020	13,710,786	0.37
1951	3,180,439	1,884,622	1,295,817	15,006,603	0.41
1952	1,823,737	1,133,737	690,000	15,696,603	0.43
1953	5,786,910	3,749,695	2,037,215	17,733,818	0.48
1954	4,918,703	2,770,338	2,148,365	19,882,182	0.54 0.62
1955	6,275,389 4,671,695	3,313,704 2,549,419	2,961,685 2,122,276	22,843,868 24,966,144	0.62
1956 1957	5,343,314	2,813,914	2,122,276	27,495,544	0.75
1958	5,583,806	2,879,857	2,703,949	30,199,492	0.82
1959	5,525,318	2,938,379	2,586,939	32,786,432	0.89
1960	5,740,008	2,953,392	2,786,616	35,573,048	0.97
1961	8,284,614	4,504,453	3,780,161	39,353,208	1.07
1962	3,354,987	1,823,849	1,531,138	40,884,346	1.11
1963	4,184,107	2,115,045	2,069,062	42,953,408	1,17
1964	8,940,631	4,122,005	4,818,626	47,772,034	1.30
1965	8,708,704	4,631,360	4,077,344	51,849,378	1.41
1966	7,760,000	3,697,466	4,062,534	55,911,912	1.52
1967 1968	9,188,032 8,740,460	4,416,596 4,126,432	4,771,436 4,614,028	60,683,348 65,297,375	1.65 1.78
1969	11,125,645	6,445,254	4,680,391	69,977,766	1.73
1970	6,288,311	2,859,566	3,428,745	73,406,511	2.00
1971	8,987,147	4,050,867	4,936,280	78,342,791	2.14
1972	19,143,179	10,138,001	9,005,178	87,347,969	2.38
1973	12,794,867	5,712,759	7,082,108	94,430,077	2.57
1974	8,436,416	3,734,906	4,701,510	99,131,587	2.70
1975	11,856,374	5,031,970	6,824,404	105,955,991	2.89
1976	13,426,391	7,866,849	5,559,542	111,515,533	3.04
1977	10,255,703	4,313,278	5,942,425 9,157,876	117,457,959 126,615,834	3.20 3.45
1978 1979	15,342,279 13,902,070	6,184,403 5,601,076	8,300,994	134,916,828	3.68
1980	17,442,108	6,592,970	10,849,138	145,765,966	3.97
1981	13,573,036	5,466,475	8,106,561	153,872,527	4.20
1982	16,426,658	7,972,655	8,454,003	162,326,530	4.43
1983	16,576,547	6,448,742	10,127,805	172,454,335	4.70
1984	21,374,201	7,727,049	13,647,152	186,101,487	5.07
1985	39,937,037	15,484,622	24,452,415	210,553,902	5.74
1986	39,209,542	14,745,460	24,464,082	235,017,984	6.41
1987	43,003,504	15,976,924	27,026,580	262,044,564	7.15
1988	63,946,317	24,529,492	39,416,825	301,461,389 343,413,909	8.22 9.36
1989	65,468,288	23,515,768 45,741,162	41,952,520 59,899,420	403,313,329	11.00
1990 1991	105,640,582 63,305,051	28,037,366	59,899,420 35,267,685	438,581,014	11.96
1992	71,218,463	28,114,840	43,103,623	481,684,637	13.13
1993	106,063,173	41,788,216	64,274,957	545,959,594	14.89
1994	64,988,071	20,323,265	44,664,806	590,624,400	16.11
1995	96,596,935	32,111,246	64,485,689	655,110,089	17.86
1996	71,775,101	21,921,226	49,853,875	704,963,964	19.22
1997	100,630,581	34,291,245	66,339,336	771,303,300	21.03
1998	166,561,462	47,956,356	118,605,106	889,908,406	24.27
1999	122,569,417	37,660,763	84,908,654	974,817,060 1,047,908,746	26.58 28.57
2000	97,974,888	24,883,203	73,091,685	1,047,908,746	20.37



# CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2017

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2)-(3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
2001	115,424,697	30,349,372	85,075,325	1,132,984,071	30.89
2002	111,350,870	24,645,714	86,705,156	1,219,689,226	33.26
2003	73,769,306	23,201,806	50,567,500	1,270,256,726	34.64
2004	78,637,910	14.905.366	63,732,544	1,333,989,271	36.38
2005	101,597,652	22,971,508	78,626,144	1,412,615,415	38.52
2006	60,160,588	14,798,759	45,361,829	1,457,977,243	39.76
2007	132,072,680	23.656.274	108,416,406	1,566,393,650	42.71
2008	175,136,056	27,043,429	148,092,627	1,714,486,277	46.75
2009	144,448,764	21,198,041	123,250,723	1,837,737,000	50.11
2010	165,146,437	25,939,397	139,207,040	1,976,944,040	53.91
2011	206,944,973	29,159,938	177,785,035	2,154,729,075	58.76
2012	352,759,126	55,982,093	296,777,033	2,451,506,108	66,85
2013	308,378,657	49,826,288	258,552,369	2,710,058,476	73.90
2014	244,316,724	20,771,135	223,545,589	2,933,604,065	79.99
2015	252,345,475	17,526,854	234,818,621	3,168,422,686	86.40
2016	280,619,141	14.090.213	266,528,928	3,434,951,614	93.66
2017	236,605,402	4,252,063	232,353,332	3,667,304,946	100.00
SUBTOTAL	4,723,761,565	1,056,456,609	3,667,304,946		
UNDATED	(277,253,912)	(40,449,166)	(236,804,746)		
NONDEPRECIABLE	23,770,904	0	23,770,904		
TOTAL	4,470,278,557	1,016,007,443	3,454,271,104		



**NET UTILITY PLANT IN SERVICE** 



#### ACCOUNT 303.14 WATER RIGHTS - HIBERNIA

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE 25-S LVAGE PERCENT	-				
1995	1,942,822.51	1,748,540	1,643,499	299,324	2.50	119,730
	1,942,822.51	1,748,540	1,643,499	299,324		119,730
ر	OMPOSITE REMAIN	TNG LTFE AND	ANNUAL ACCRUAL	RATE. PERCENT	2.5	6.16

#### ACCOUNT 303.35 WASTE HANDLING AND TREATMENT LAND

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PROBABLI	SURVIVOR CURV E RETIREMENT Y VAGE PERCENT	EAR 6-2017				
1991 1992	70,430.00 84,595.17	70,430 84,595	70,430 84,595			
	155,025.17	155,025	155,025			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

### ACCOUNT 303.99 COMPREHENSIVE PLANNING STUDIES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE 5-SQ LVAGE PERCENT					
2006	237,373.08	237,373	237,373			
2007	186,266.03	186,266	186,266			
2008	289,238.79	289,239	289,239			
2009	181,344.01	181,344	181,344			
2010	1,258,916.44	1,258,916	1,258,916			
2011	895,540.75	895,541	895,541			
2013	208,715.88	187,844	186,545	22,171	0.50	22,171
2014	668,293.04	467,805	464,571	203,722	1.50	135,815
2015	145,685.55	72,843	72,339	73,347	2.50	29,339
2016	5,204,351.54	1,561,305	1,550,513	3,653,839	3.50	1,043,954
2017	301,001.00	30,100	29,892	271,109	4.50	60,246
	9,576,726.11	5,368,576	5,352,539	4,224,187		1,291,525

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.3 13.49

#### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

SURVIVOR CURVE. I JOWA 60-R3 NET SALVAGE PERCENT. 0  1916	YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NET SALVAGE PERCENT 0				(1)	(3)	(0)	( / /
1916   3397.96   388   398   18.176   1925   728.12   714   728   728.12   714   728   728.12   714   728   728.12   714   728   728.12   714   728   728.12   728.12   728.12   728.12   728.12   728.12   729.							
1921	NET SA	LVAGE PERCENT	0				
1921	1016	307 06	200	308			
1925         728.12         714         728           1946         2,129.00         1,933         2,038         91         7.24         13           1948         286.66         257         271         16         8.02         2           1961         423.70         345         364         60         12.94         5           1962         5,056.64         4,070         4,291         766         13.46         57           1965         31,013.07         24,228         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,85         18.01         160							
1945         57.00         52         55         2         6.87           1946         2,129.00         1,933         2,038         91         7.24         13           1948         286.66         257         271         16         8.02         2           1961         423.70         345         364         60         12.94         5           1962         5,056.64         4,070         4,291         766         13.46         57           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         266         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,228         5,128         18.60         276           1973         102.13         71         75         27         19.20							
1946         2,129.00         1,933         2,038         91         7.24         13           1948         286.66         257         271         16         8.02         2           1961         423.70         345         364         60         12.94         5           1962         5,055.64         4,070         4,291         766         13.46         57           1965         31,013.07         24,258         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238					2	6 87	
1948         286.66         257         271         16         8.02         2           1961         423.70         345         364         60         12.94         5           1965         31,013.07         24,258         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1977         2,198.00         1,433         1,511							13
1961         423.70         345         364         60         12.94         5           1962         5,056.64         4,070         4,291         766         13.46         57           1965         31,013.07         24,258         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,918.00         1,4455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470 </td <td></td> <td>· ·</td> <td></td> <td></td> <td></td> <td></td> <td></td>		· ·					
1962         5,056.64         4,070         4,291         766         13.46         57           1965         31,013.07         24,258         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292							
1965         31,013.07         24,258         25,573         5,440         14.62         372           1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,228         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,9603.00         49,959							
1966         25,025.40         19,332         20,380         4,645         15.17         306           1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.28         1,179           1980         216,610.00         133,215							
1967         375.30         286         302         73         15.72         5           1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         5							
1968         14,522.76         10,927         11,519         3,004         16.29         184           1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215							
1969         945.00         701         739         206         16.86         12           1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         1							
1970         1,980.00         1,448         1,526         454         17.44         26           1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
1971         12,018.02         8,663         9,133         2,885         18.01         160           1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00         3,352         603         419         26.38         16           1984         1,022.00							
1972         20,365.59         14,455         15,238         5,128         18.60         276           1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,669         145,552         83,723         24.11         3,473           1982         5,781.00         3,407         3,592         2,189         24.74         88           1983         23,321.00         13,356         14,080         9,241         25.74         359           1984         1,022.0							
1973         102.13         71         75         27         19.20         1           1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00         3,407         3,552         2,189         24.74         88           1983         23,321.00         13,356         14,080         9,241         25.74         359           1984         1,022.00         572         603         419         26.38         16           1985         100,655.15							
1974         24,226.01         16,651         17,553         6,673         19.79         337           1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00         3,407         3,592         2,189         24.74         88           1983         23,321.00         13,356         14,080         9,241         25.74         359           1984         1,022.00         572         603         419         26.38         16           1985         100,655.15         54,958         57,937         42,718         27.02         1,581           1986         <							
1975         4,871.00         3,292         3,470         1,401         20.39         69           1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00         3,407         3,592         2,189         24.74         88           1983         23,321.00         13,356         14,080         9,241         25.74         359           1984         1,022.00         572         603         419         26.38         16           1985         100,655.15         54,958         57,937         42,718         27.02         1,581           1986         101,533.37         54,056         56,986         44,547         27.67         1,610           1987				17,553	6,673		337
1977         2,198.00         1,433         1,511         687         21.61         32           1978         3,361.00         2,151         2,268         1,093         22.23         49           1979         79,603.00         49,959         52,667         26,936         22.85         1,179           1980         216,610.00         133,215         140,435         76,175         23.48         3,244           1981         229,274.71         138,069         145,552         83,723         24.11         3,473           1982         5,781.00         3,407         3,592         2,189         24.74         88           1983         23,321.00         13,356         14,080         9,241         25.74         359           1984         1,022.00         572         603         419         26.38         16           1985         100,655.15         54,958         57,937         42,718         27.02         1,581           1986         101,533.37         54,056         56,986         44,547         27.67         1,610           1987         13,371.47         6,933         7,309         6,062         28.32         214           1988							
1978       3,361.00       2,151       2,268       1,093       22.23       49         1979       79,603.00       49,959       52,667       26,936       22.85       1,179         1980       216,610.00       133,215       140,435       76,175       23.48       3,244         1981       229,274.71       138,069       145,552       83,723       24.11       3,473         1982       5,781.00       3,407       3,592       2,189       24.74       88         1983       23,321.00       13,356       14,080       9,241       25.74       359         1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874						21.61	32
1979       79,603.00       49,959       52,667       26,936       22.85       1,179         1980       216,610.00       133,215       140,435       76,175       23.48       3,244         1981       229,274.71       138,069       145,552       83,723       24.11       3,473         1982       5,781.00       3,407       3,592       2,189       24.74       88         1983       23,321.00       13,356       14,080       9,241       25.74       359         1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1991       530,473.66       243,169       256,349       274,125       31.31       8,755							49
1980       216,610.00       133,215       140,435       76,175       23.48       3,244         1981       229,274.71       138,069       145,552       83,723       24.11       3,473         1982       5,781.00       3,407       3,592       2,189       24.74       88         1983       23,321.00       13,356       14,080       9,241       25.74       359         1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755<						22.85	1,179
1982       5,781.00       3,407       3,592       2,189       24.74       88         1983       23,321.00       13,356       14,080       9,241       25.74       359         1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446 </td <td>1980</td> <td>216,610.00</td> <td>133,215</td> <td>140,435</td> <td>76,175</td> <td>23.48</td> <td>3,244</td>	1980	216,610.00	133,215	140,435	76,175	23.48	3,244
1983       23,321.00       13,356       14,080       9,241       25.74       359         1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446         1994       1,295,468.19       535,806       564,847       730,621       33.32	1981	229,274.71	138,069	145,552	83,723	24.11	3,473
1984       1,022.00       572       603       419       26.38       16         1985       100,655.15       54,958       57,937       42,718       27.02       1,581         1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446         1994       1,295,468.19       535,806       564,847       730,621       33.32       21,927         1995       243,669.24       97,029       102,288       141,381       34.00 <td>1982</td> <td>5,781.00</td> <td>3,407</td> <td>3,592</td> <td>2,189</td> <td>24.74</td> <td>88</td>	1982	5,781.00	3,407	3,592	2,189	24.74	88
1985     100,655.15     54,958     57,937     42,718     27.02     1,581       1986     101,533.37     54,056     56,986     44,547     27.67     1,610       1987     13,371.47     6,933     7,309     6,062     28.32     214       1988     5,623.39     2,836     2,990     2,633     28.98     91       1989     237,627.81     116,485     122,799     114,829     29.64     3,874       1990     223,834.14     106,500     112,272     111,562     30.30     3,682       1991     530,473.66     243,169     256,349     274,125     31.31     8,755       1992     316,201.04     140,298     147,902     168,299     31.97     5,264       1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999 <td>1983</td> <td>23,321.00</td> <td>13,356</td> <td>14,080</td> <td>9,241</td> <td>25.74</td> <td>359</td>	1983	23,321.00	13,356	14,080	9,241	25.74	359
1986       101,533.37       54,056       56,986       44,547       27.67       1,610         1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446         1994       1,295,468.19       535,806       564,847       730,621       33.32       21,927         1995       243,669.24       97,029       102,288       141,381       34.00       4,158         1996       523,886.83       199,391       210,198       313,689       34.99       8,965         1998       299,670.51       104,585       110,254       189,417 <td>1984</td> <td>1,022.00</td> <td>572</td> <td>603</td> <td>419</td> <td>26.38</td> <td>16</td>	1984	1,022.00	572	603	419	26.38	16
1987       13,371.47       6,933       7,309       6,062       28.32       214         1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446         1994       1,295,468.19       535,806       564,847       730,621       33.32       21,927         1995       243,669.24       97,029       102,288       141,381       34.00       4,158         1996       523,886.83       199,391       210,198       313,689       34.99       8,965         1997       36,548.31       13,336       14,059       22,489       35.68       630         1998       299,670.51       104,585       110,254       189,417	1985	100,655.15	54,958	57,937	42,718	27.02	1,581
1988       5,623.39       2,836       2,990       2,633       28.98       91         1989       237,627.81       116,485       122,799       114,829       29.64       3,874         1990       223,834.14       106,500       112,272       111,562       30.30       3,682         1991       530,473.66       243,169       256,349       274,125       31.31       8,755         1992       316,201.04       140,298       147,902       168,299       31.97       5,264         1993       145,706.35       62,479       65,865       79,841       32.64       2,446         1994       1,295,468.19       535,806       564,847       730,621       33.32       21,927         1995       243,669.24       97,029       102,288       141,381       34.00       4,158         1996       523,886.83       199,391       210,198       313,689       34.99       8,965         1997       36,548.31       13,336       14,059       22,489       35.68       630         1998       299,670.51       104,585       110,254       189,417       36.37       5,208         1999       206,520.14       68,771       72,498       134,022	1986	101,533.37	54,056	56,986	44,547	27.67	1,610
1989     237,627.81     116,485     122,799     114,829     29.64     3,874       1990     223,834.14     106,500     112,272     111,562     30.30     3,682       1991     530,473.66     243,169     256,349     274,125     31.31     8,755       1992     316,201.04     140,298     147,902     168,299     31.97     5,264       1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1987	13,371.47	6,933	7,309	6,062	28.32	214
1990     223,834.14     106,500     112,272     111,562     30.30     3,682       1991     530,473.66     243,169     256,349     274,125     31.31     8,755       1992     316,201.04     140,298     147,902     168,299     31.97     5,264       1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1988	5,623.39	2,836	2,990	2,633	28.98	91
1991     530,473.66     243,169     256,349     274,125     31.31     8,755       1992     316,201.04     140,298     147,902     168,299     31.97     5,264       1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1989	237,627.81	116,485	122,799	114,829	29.64	3,874
1992     316,201.04     140,298     147,902     168,299     31.97     5,264       1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1990	223,834.14	106,500	112,272	111,562	30.30	3,682
1993     145,706.35     62,479     65,865     79,841     32.64     2,446       1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1991	530,473.66	243,169	256,349	274,125	31.31	
1994     1,295,468.19     535,806     564,847     730,621     33.32     21,927       1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1992	316,201.04	140,298	147,902	168,299		
1995     243,669.24     97,029     102,288     141,381     34.00     4,158       1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1993		62,479	65,865	79,841	32.64	2,446
1996     523,886.83     199,391     210,198     313,689     34.99     8,965       1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1994		535,806	564,847			
1997     36,548.31     13,336     14,059     22,489     35.68     630       1998     299,670.51     104,585     110,254     189,417     36.37     5,208       1999     206,520.14     68,771     72,498     134,022     37.06     3,616	1995	243,669.24	97,029	102,288	141,381	34.00	
1998       299,670.51       104,585       110,254       189,417       36.37       5,208         1999       206,520.14       68,771       72,498       134,022       37.06       3,616	1996	523,886.83	199,391	210,198	313,689		8,965
1999 206,520.14 68,771 72,498 134,022 37.06 3,616	1997						
	1998	·	104,585		•		
2000 204,855.75 64,530 68,028 136,828 38.06 3,595							
	2000	204,855.75	64,530	68,028	136,828	38.06	3,595



#### ACCOUNT 304.15 OTHER WATER SOURCE STRUCTURES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA ALVAGE PERCENT					
2001	77,573.51	23,163	24,418	53,156	38.75	1,372
2002	854,140.02	240,953	254,013	600,127	39.45	15,212
2003	2,299,626.57	610,321	643,401	1,656,226	40.14	41,261
2004	263,551.31	65,097	68,625	194,926	41.15	4,737
2005	1,198,909.97	275,749	290,695	908,215	41.85	21,702
2006	794,873.49	169,149	178,317	616,556	42.55	14,490
2007	1,836,776.23	356,702	376,035	1,460,741	43.56	33,534
2008	1,474,805.61	260,598	274,722	1,200,084	44.26	27,114
2009	256,994.46	40,862	43,077	213,917	44.97	4,757
2010	11,306,319.50	1,594,191	1,680,597	9,625,722	45.69	210,675
2011	354,938.99	43,374	45,725	309,214	46.69	6,623
2012	378,179.21	39,331	41,463	336,716	47.41	7,102
2013	3,208,116.18	274,294	289,160	2,918,956	48.13	60,647
2014	1,668,123.45	111,431	117,471	1,550,652	48.86	31,737
2015	1,036,771.49	49,765	52,462	984,309	49.58	19,853
2016	2,013,274.12	58,586	61,761	1,951,513	50.05	38,991
2017	210,480.00	2,063	2,175	208,305	50.26	4,145
	34,442,969.90	6,554,687	6,909,235	27,533,735		629,833

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 43.7 1.83

# ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

YEAR (1)	COST			FUTURE BOOK ACCRUALS (5)	LIFE	
INTERI PROBA	HENY RIVER PUMP : IM SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	E IOWA 70-R EAR 6-2045				
		4,653 814,498	2,875 503,192	8,529 3,835 1,212,262 4,689	20.99 24.89	
	1,744,234.47	833,478	514,918	1,229,316		49,531
INTERI PROBAE	RUN STATION - NI M SURVIVOR CURVI BLE RETIREMENT YI ALVAGE PERCENT	E IOWA 70-R EAR 6-2072				
	23,868,706.90 17,442.33	2,639,879 938	1,630,902 579	22,237,805 16,863		502,549 383
	23,886,149.23	2,640,817	1,631,481	22,254,668		502,932
INTERI PROBAE	TREET PUMP STAT M SURVIVOR CURVE BLE RETIREMENT YE LLVAGE PERCENT	E IOWA 70-R EAR 6-2040				
1990	1,277,952.17	730,989	451,600	826,352	20.58	40,153
1994	3,067.93	1,622	1,002	2,066	20.94	99
2001	15,048.48	6,579	4,064	10,984	21.24	517
	1,296,068.58	739,190	456,667	839,402		40,769
INTERI PROBAB	R CREEK PUMP STA M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 70-R EAR 6-2043	2.5			
1993	1,121,355.16	574,134	354,697	766,658	23.35	32,833
1994	85,662.97	43,080	26,615	59,048	23.23	2,542
2001	13,088.07	5,356	3,309	9,779	23.82	411
2003	7,900.11	2,978	1,840	6,060	23.96	253
	1,228,006.31	625,548	386,460	841,546		36,039

#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)		FUTURE BOOK ACCRUALS (5)	LIFE	
INTERI PROBAB	TOWN BOOSTER STA M SURVIVOR CURVA LE RETIREMENT YA LVAGE PERCENT	E IOWA 70-R EAR 6-2047				
1997	2,400,581.27	1,043,293	644,540	1,756,042	26.67	65,843
1998	52,044.11	21,921	13,543	38,501	26.80	1,437
2003	1,271.63	443	274	998	27.17	37
2007	10,970.93	3,041	1,879	9,092	27.38	332
2008	97,884.43	25,195	15,565	82,319	27.40	3,004
2012	1,059.31	176	109	951	27.50	35
2013	31,601.32	4,437	2,741	28,860	27.55	1,048
	2,595,413.00	1,098,506	678,650	1,916,763		71,736
INTERII PROBAB	DAD BOOSTER STA M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 70-R EAR 6-2047				
1997	2,093,461.42	909,818	562,080	1,531,382	26.67	57,420
1998	·	11,377	7,029	19,981	26.80	746
2015	97,145.43	8,112	5,012	92,134	27.44	3,358
	2,217,616.85	929,307	574,120	1,643,497		61,524
INTERII PROBABI	VALLEY M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	EAR 6-2049				
1999	4,650,691.72	1,832,373	1,132,029	3,518,663	28.45	123,679
2014	95,817.23	10,262	6,340	89,477		3,066
	4,746,508.95	1,842,635	1,138,369	3,608,140		126,745

#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

YEAR (1)	ORIGINAL ( COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIN PROBABI	N WATER TREATMENT 1 SURVIVOR CURVE. LE RETIREMENT YEA LVAGE PERCENT 0	. IOWA 70-R	2.5			
2003	2,349,120.19	739,033	456,570	1,892,550		59,910
2004 2007	146,294.31 2,583.58	43,654 638	26,969 394	119,325 2,189		3,758 68
2007	2,363.36	636	3 34	2,109	32.03	66
	2,497,998.08	783,325	483,933	2,014,065		63,736
INTERIM PROBABI	COWN - FOREST AVE 1 SURVIVOR CURVE. LE RETIREMENT YEA LVAGE PERCENT 0	. IOWA 70-R				
2013	1,969,212.16	202,829	125,307	1,843,905	39.17	47,074
	1,969,212.16	202,829	125,307	1,843,905		47,074
INTERIM PROBABL	OAKS RELAY STATION I SURVIVOR CURVE. JE RETIREMENT YEAN JVAGE PERCENT 0	. IOWA 70-R	2.5			
2013	2,585,737.11	266,331	164 538	2,421,199	39 17	61,813
2014	2,223,738.04	182,124	112,515	2,111,223		53,803
	4,809,475.15	448,455	277,053	4,532,422		115,616
INTERIM PROBABL	STATION SURVIVOR CURVE. E RETIREMENT YEAI VAGE PERCENT 0		2.5			
2013	4,853,431.24	499,903	308,837	4,544,594	39.17	116,022
2014	1,472,142.36	120,568	74,486	1,397,656	39.24	35,618
	6,325,573.60	620,471	383,323	5,942,251		151,640



#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
			٠			, ,
	TRUCTURES R CURVE IOWA	55_D3				
	VAGE PERCENT					
NEI DAL	TVACE PERCENT	O				
1893	3,249.15	3,249	3,249			
1894	94,841.04	94,841	94,841			
1896	3,182.60	3,183	3,183			
1897	7,107.03	7,107	7,107			
1900	358.00	358	358			
1901	7,495.63	7,496	7,496			
1904	2,215.00	2,215	2,215			
1905	6,230.79	6,231	6,231			
1906	6,449.72	6,450	6,450			
1908	7,657.66	7,658	7,658			
1909	8,663.76	8,664	8,664			
1910	13,836.00	13,836	13,836			
1911	16,065.00	16,065	16,065			
1912	1,348.87	1,349	1,349			
1915	1,154.25	1,154	1,154			
1918	33,974.06	33,974	33,974			
1919	3,620.00	3,620	3,620			
1920	5,563.30	5,563	5,563			
1921	645.00	645	645			
1922	11,541.92	11,542	11,542			
1923	8,106.40	8,106	8,106			
1924	35,623.67	35,624	35,624			
1925	154.00	154	154			
1926	525.00	524	320	205	0.24	205
1927	927.19	923	563	364	0.41	364
1928	3,768.38	3,744	2,284	1,484	0.59	1,484
1929	14,204.23	14,079	8,588	5,616	0.79	5,616
1930	4,309.44	4,261	2,599	1,710	0.99	1,710
1931	8,059.98	7,948	4,848	3,212	1.22	2,633
1932	4,338.00	4,265	2,602	1,736	1.46	1,189
1933	32.82	32	20	13	1.71	8
1934	216.34	211	129	88	1.97	45
1935	2,295.77	2,235	1,363	932	2.25	414
1936	1,269.17	1,231	751	518	2.54	204
1937	979.72	946	577	403	2.83	142
1938	3,229.30	3,107	1,895	1,334	3.14	425
1939	3,064.46	2,935	1,790	1,274	3.47	367
1940	267.00	255	156	111	3.80	29
1941	443.03	420	256	187	4.15	45
1942	4,109.17	3,909	2,385	1,725	3.87	446
1943	68.00	64	39	29	4.24	7
1944	653.45	615	375	278	4.62	60

# ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OMITED (	TOTAL CONTINUES					
	STRUCTURES OR CURVE., IOWA	55-D3				
	LVAGE PERCENT					
MEI DAI	JVAGE FERCENI	O				
1945	1,436.76	1,344	820	617	5.02	123
1946	473.00	440	268	205	5.42	38
1947	10,135.29	9,432	5,754	4,382	5.26	833
1948	71,909.00	66,473	40,550	31,359	5.68	5,521
1949	2,239.14	2,055	1,254	986	6.13	161
1950	14,620.88	13,422	8,188	6,433	6.03	1,067
1951	30,741.27	28,005	17,084	13,658	6.50	2,101
1952	12,157.42	11,068	6,752	5,406	6.45	838
1953	29,291.37	26,450	16,135	13,156	6.93	1,898
1954	153,376.90	137,334	83,777	69,600	7.42	9,380
1955	109,166.68	97,573	59,522	49,645	7.43	6,682
1956	34,301.66	30,378	18,531	15,770	7.94	1,986
1957	17,668.01	15,606	9,520	8,148	7.99	1,020
1958	21,329.85	18,655	11,380	9,950	8.53	1,166
1959	28,883.94	25,008	15,255	13,629	9.07	1,503
1960	21,287.75	18,361	11,201	10,087	9.17	1,100
1961	78,692.88	67,141	40,957	37,735	9.72	3,882
1962	774.72	654	399	376	10,29	37
1963	49,046.94	41,165	25,111	23,935	10.44	2,293
1964	390,375.67	323,700	197,464	192,912	11.02	17,506
1965	35,451.65	29,219	17,824	17,627	11.20	1,574
1966	56,907.37	46,306	28,248	28,660	11.79	2,431
1967	98,163.64	78,825	48,085	50,079	12.39	4,042
1968	21,975.15	17,514	10,684	11,291	12.61	895
1969	116,617.91	91,627	55,894	60,724	13.23	4,590
1970	47,470.11	36,751	22,419	25,051	13.85	1,809
1971	130,043.91	99,171	60,496	69,548	14.48	4,803
1972	142,293.56	107,474	65,561	76,732	14.74	5,206
1973	62,938.92	46,776	28,534	34,405	15.38	2,237
1974	124,855.06	91,244	55,661	69,194	16.02	4,319
1975	106,962.94	76,821	46,862	60,101	16.67	3,605
1976	48,590.64	34,281	20,912	27,679	17.32	1,598
1977	27,908.09	19,441	11,859	16,049	17.64	910
1978	91,744.25	62,698	38,247	53,497	18.30	2,923
1979	73,094.61	48,966	29,870	43,224	18.97	2,279
1980	137,173.03	90,013	54,910	82,263	19.65	4,186
1981	256,329.30	164,666	100,450	155,880	20.32	7,671
1982	194,879.67	122,462	74,704	120,175	20.99	5,725
1983	161,540.95	99,202	60,515	101,026	21.68	4,660
1984	132,167.58	79,697	48,617	83,551	22.06	3,787
1985	954,829.05	561,630	342,606	612,223	22.75	26,911
1986	234,073.37	134,194	81,861	152,212	23.45	6,491
1000	231,073.37	101,101	01,001	,		-, - <del>-</del> -



#### ACCOUNT 304.2 POWER AND PUMPING STRUCTURES

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER	STRUCTURES					
SURVI	VOR CURVE IOWA	55-R3				
NET S	ALVAGE PERCENT	0				
				<i>2</i>		
1987	1,118,201.24	624,180	380,763	737,439	24.14	30,548
1988	359,508.30	195,141	119,040	240,468	24.85	9,677
1989	802,971.88	423,327	258,238	544,734	25.56	21,312
1990	1,977,683.76	1,011,585	617,088	1,360,596	26.26	51,812
1991	235,492.27	116,710	71,195	164,297	26.97	6,092
1992	1,853,412.02	888,526	542,019	1,311,393	27.69	47,360
1993	1,585,929.48	734,285	447,929	1,138,001	28.41	40,056
1994	244,001.25	108,947	66,460	177,541	29.13	6,095
1995	698,673.20	300,290	183,183	515,490	29.85	17,269
1996	991,199.84	409,167	249,600	741,600	30.58	24,251
1997	725,094.85	286,848	174,983	550,112	31.32	17,564
1998	635,311.29	240,338	146,611	488,700	32.05	15,248
1999	676,136.09	243,950	148,815	527,322	32.78	16,087
2000	1,789,277.09	610,501	372,418	1,416,859	33.78	41,944
2001	821,527.03	265,682	162,071	659,456	34.52	19,104
2002	297,417.02	90,831	55,409	242,008	35.26	6,864
2003	4,333,680.55	1,244,200	758,988	3,574,693	36.01	99,269
2004	502,606.80	135,000	82,353	420,254	36.75	11,435
2005	492,020.21	123,005	75,036	416,985	37.50	11,120
2006	3,557,134.61	822,410	501,687	3,055,448	38.25	79,881
2007	4,321,249.09	911,784	556,207	3,765,042	39.25	95,925
2008	1,298,031.59	249,092	151,951	1,146,080	40.00	28,652
2009	145,921.76	25,186	15,364	130,558	40.76	3,203
2010	237,689.83	36,367	22,185	215,505	41,52	5,190
2011	593,562.48	79,063	48,230	545,332	42.28	12,898
2012	574,260.45	65,064	39,690	534,570	43.04	12,420
2013	1,730,654.73	161,297	98,394	1,632,260	43.81	37,258
2014	803,022.12	58,460	35,662	767,360	44.58	17,213
2015	759,029.64	39,621	24,170	734,860	45.35	16,204
2016	3,052,051.26	96,445	58,833	2,993,218	45.90	65,212
9999	1,289,607.60-	431,157-	266,366-	1,023,241-		32,160-
	40,588,907.32	13,570,175	8,383,570	32,205,337		1,012,183
	93,905,163.70	24,334,736	15,033,851	78,871,312		2,279,525

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 34.6 2.43



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	LDRICH PURIFICA					
INTERI	M SURVIVOR CURV	E IOWA 60-R	.2.5			
PROBAB	LE RETIREMENT Y	EAR 6-2041				
NET SA	LVAGE PERCENT	0			* \$	
1961	144,820.56	117,015	131,082	13,739	13.43	1,023
1962	478.45	385	431	47	13.46	3
1964	332.30	263	295	38	14.07	3
1969	83,129.95	62,497	70,010	13,120	16.01	819
1970	7.94	6	7	1	16.19	
1972	2,353.68	1,724	1,931	422	16.61	25
1975	148.78	106	119	30	17.38	2
1976	1,157.48	812	910	248	17.67	14
1979	8,069.89	5,468	6,125	1,945	18.32	106
1980	0.42	,	. 0			
1981	4,895.51	3,234	3,623	1,273	18.75	68
1982	175.81	114	128	48	19.15	3
1983	32,778.24	21,034	23,563	9,216	19.26	479
1985	1,384.33	864	968	416	19.58	21
1986	2,340.44	1,437	1,610	731	19.78	37
1987	36,948.21	22,313	24,995	11,953	20.01	597
1989	3,440.72	2,010	2,252	1,189	20.28	59
1995	4,525.03	2,342	2,624	1,901	20.98	91
1996	588,551.43	297,336	333,080	255,471	21.06	12,131
1997	1,161.52	571	640	522	21.17	25
1998	34,430.88	16,451	18,429	16,002	21.31	751
2000	65,897.07	29,522	33,071	32,826	21.56	1,523
2001	7,388.33	3,207	3,593	3,796	21.52	176
2002	173,084.80	72,176	80,853	92,232	21.67	4,256
2003	61,479.96	24,604	27,562	33,918	21.73	1,561
2005	27,201.58	9,896	11,086	16,116	21.86	737
2006	352,110.27	121,056	135,609	216,502	21.95	9,863
2008	6,927.10	2,086	2,337	4,590	22.04	208
2009	76,429.36	21,247	23,801	52,628	22.08	2,384
2010	2,138.24	542	607	1,531	22.09	69
2011	86,968.96	19,785	22,163	64,806	22.07	2,936
2012	5,728,348.48	1,140,514	1,277,621	4,450,728	22.12	201,208
2013	126,527.39	21,408	23,982	102,546	22.10	4,640
2014	88,098.77	12,025	13,471	74,628	22.14	3,371
2017	640,484.00	14,603	16,358	624,126	21.48	29,056
	8,394,215.88	2,048,653	2,294,932	6,099,284		278,245

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAE	MINE FILTER BUILI M SURVIVOR CURVI BLE RETIREMENT YI ALVAGE PERCENT	E IOWA 60-R EAR 6-2050				
1906	871.05	871	871			
1924	65,855.77	62,807	65,856			
1928	5,894.08	5,592	5,894			
1938	5,543.24	5,068	5,543			
1953	101,879.76	86,740	97,309	4,570	11.26	406
1954	121,610.29	102,712	115,228	6,383	11.68	546
1955	22,935.00	19,208	21,549	1,386	12.13	114
1958	1,894.04	1,555	1,744	150	12.96	12
1961	6,679.68	5,321	5,969	710	14.43	49
1962	306.00	241	270	36	14.92	2
1963	541.00	425	477	64	14.94	4
1965	321.42	246	276	45	15.99	3
1966	438.31	332	372	66	16.53	4
1969	941.98	690	774	168	17.72	9
1973	503.00	351	394	109	19.20	6
1975	27,418.68	18,530	20,788	6,631	20.39	325
1976	340.00	227	255	85	20.61	4
1977	1,330.30	878	985	345	20.85	17
1979	6,592.08	4,213	4,726	1,866	21.74	86
1980	1,168.00	736	826	342	22.02	16
1981	249.00	154	173	76	22.67	3
1982	180.14	109	122	58	22.98	3
1984	3,590.63	2,105		1,229	23.65	52
1985	123,865.79	71,248	79,930	43,936	24.00	1,831
1986	79,350.99	44,738	50,189	29,162	24.37	1,197
1987	835.29	461	517	318	24.75	13
1988	3,086.01	1,675	1,879	1,207	24.85	49
1989	112,676.89	59,730	67,008	45,669	25.26	1,808
1990	410,240.82	213,243	239,227	171,014	25.41	6,730
1991	170,555.94	86,335	96,855	73,701	25.85	2,851
1995	370.12	169	190	181	26.76	7
1996	13,940.61	6,174	6,926	7,014	27.04	259
1997	41,038.76	17,667	19,820	21,219	27.12	782
2002	76,925.72	27,309	30,637	46,289	28.17	1,643
2003	30,725.41	10,425	11,695	19,030	28.24	674
2007	95,024.01	25,343	28,431	66,593	28.87	2,307
2008	105,093.21	25,958	29,121	75,972	28.96	2,623
2009	71,161.85	16,154	18,122	53,039	28.95	1,832
2010	5,973.99	1,223	1,372	4,602	29.13	158
2011	50,433.38	9,209	10,331	40,102	29.09	1,379
2012	12,939,563.04	2,049,627	2,299,376	10,640,187	29.22	364,141

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	INE FILTER BUILI M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 60-R EAR 6-2050				
2013 2014 2016 2017	131,156.68 1,581,299.96 161,148.09 1,026,088.00 17,607,638.01	17,523 169,357 7,961 17,854 3,198,494	19,658 189,993 8,931 20,030 3,583,002	111,498 1,391,307 152,217 1,006,058	29.17 29.18 28.89 28.15	3,822 47,680 5,269 35,739 484,455
INTERI PROBAB	RSHEY TREATMENT M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 60-R EAR 6-2067				
1992	5,487,572.11	2,477,090	2,774,874	2,712,698	30.99	87,535
1995	8,866.38	3,610	4,044	4,822	32.75	147
1996	7,097.75	2,792	3,128	3,970	33.15	120
2001	219,124.56	69,419	77,764	141,360	35.58	3,973
2006	50,011.38	11,733	13,143	36,868	37.52	983
2010	7,202.92	1,173	1,314	5,889	38.58	153
2011	65,485.64	9,404	10,535	54,951	38.75	1,418
2012	3,767,409.91	466,405	522,474	3,244,936	38.94	83,332
2013	166,659.20	17,166	19,230	147,430	39.17	3,764
2014	237,415.86	19,444	21,781	215,634	39.24	5,495
2015	34,086.88	2,045	2,291	31,796	39.17	812
2016	214,343.91	7,974	8,933	205,411	38.82	5,291
	10,265,276.50	3,088,255	3,459,510	6,805,766		193,023
INTERI PROBAB	ILLA WATER TREAT M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 60-R EAR 6-2050				
1893	690.28	690	690			
1910	2,109.69	2,086	2,110			
		8,403	8,708			
1921 1953	8,707.86 44.66	38	43	2	11.26	
1953	196.98	130	146	51	20.85	2
1977	3,175,539.91	1,650,646	1,850,077	1,325,463	25.41	52,163
	2,561.54			1,325,463	26.50	46
1994		1,204	1,349	4,989	26.76	186
1995	10,224.61	4,671	5,235	4,509	20.70	100



### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	ILLA WATER TREAT		2.5			
	LE RETIREMENT Y LVAGE PERCENT					
2006	66,480.93	19,040	21,340	45,141	28.66	1,575
2000	1,592.33	425	476	1,116	28.87	39
2009	1,945.08	442	495	1,450	28.95	50
2013	13,302.91	1,777	1,992	11,311	29.17	388
	3,283,396.78	1,689,552	1,892,662	1,390,735		54,449
FALLBR	LOOK WTP					
INTERI	M SURVIVOR CURVI	E IOWA 60-R	2.5			
PROBAB	LE RETIREMENT Y	EAR 6-2050				
NET SA	LVAGE PERCENT	0				
1990	2,232,245.42	1,160,321	1,299,809	932,436	25.41	36,696
1991	14,802.97	7,493	8,394	6,409	25.85	248
1992	3,782.38	1,871	2,096	1,686	26.05	65
1994	7,446.00	3,500	3,921	3,525	26.50	133
1997	5,455.32	2,349	2,631	2,824	27.12	104
1998	18,465.92	7,671	8,593	9,873	27.45	360
1999	2,277.11	914	1,024	1,253	27.59	45
2003	17,373.38	5,895	6,604	10,770	28.24	381
2006	53,490.76	15,320	17,162	36,329	28.66	1,268
2007	72,172.59	19,248	21,562	50,611	28.87	1,753
2008	47,309.49	11,685	13,090	34,220	28.96	1,182
2009	28,023.69	6,361	7,126	20,898	28.95	722
2010	4,824.82	988	1,107	3,718	29.13	128
2012	30,878.01	4,891	5,479	25,399	29.22	869
2014	45,791.34	4,904	5,494	40,298	29.18	1,381
2015	54,662.81	4,318	4,837	49,826	29.15	1,709
2016	58,953.74	2,912	3,262	55,692	28.89	1,928
	2,697,955.75	1,260,641	1,412,189	1,285,767		48,972
INTERI PROBAB	ON AREA WTP M SURVIVOR CURVE	EAR 6-2050				
NET SA	LVAGE PERCENT	0				
1990	12,098,555.12	6,288,829	7,044,842	5,053,713	25.41	198,887
1991	172,584.82	87,362	97,864	74,721		2,891
1992	921.09	456	511	410	26.05	16



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	ON AREA WTP	e town co b	o			
	M SURVIVOR CURV					
	LE RETIREMENT Y LVAGE PERCENT					
NEI SA	LVAGE PERCENT	U				
1994	6,179.76	2,904	3,253	2,927	26.50	110
1995	10,085.19	4,607	5,161	4,924	26.76	184
1996	246,822.95	109,318	122,460	124,363	27.04	4,599
1997	6,209.31	2,673	2,994	3,215	27.12	119
1999	27,560.28	11,063	12,393	15,167	27.59	550
2001	546.17	203	227	319	27.95	11
2002	63,064.14	22,388	25,079	37,985	28.17	1,348
2003	62,648.42	21,257	23,812	38,836	28.24	1,375
2004	24,416.13	, 7,877	8,824	15,592	28.34	550
2005	405,786.18	123,765	138,643	267,143	28.48	9,380
2006	6,853.93	1,963	2,199	4,655	28.66	162
2007	74,115.07	19,766	22,142	51,973	28.87	1,800
2008	21,793.42	5,383	6,030	15,763	28.96	544
2009	1,608.99	365	409	1,200	28.95	41
2010	8,984.69	1,840	2,061	6,923	29.13	238
2011	109,082.32	19,918	22,312	86,770	29.09	2,983
2012	124,857.08	19,777	22,154	102,703	29.22	3,515
2013	21,303.42	2,846	3,188	18,115	29.17	621
2014	5,306.83	568	636	4,671	29.18	160
2017	3,359,247.00	58,451	65,478	3,293,769	28.15	117,008
	16,858,532.31	6,813,579	7,632,675	9,225,857		347,092
BROWNE	דד שייים					
	M SURVIVOR CURV	F TOWN 60-P	2 5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
NEI SA	DVAGE FERCENT	O				
1990	4,333,605.45	2,252,608	2,523,406	1,810,200	25.41	71,240
1991	91,879.45	46,509	52,100	39,779		1,539
1992	72.69	36	40		26.05	1
1998	5,873.05	2,440	2,733	3,140	27.45	114
1999	152.98	61	68	85	27.59	3
2003	7,790.06	2,643	2,961	4,829	28.24	171
2005	30,165.72	9,201	10,307	19,859	28.48	697
2007	12,234.92	3,263	3,655	8,580	28.87	297
2008	56,670.86	13,998	15,681	40,990	28.96	1,415
2009	66,342.17	15,060	16,870	49,472	28.95	1,709
2010	10,428.23	2,136	2,393	8,035	29.13	276
2011	5,098.68	931	1,043	4,056	29.09	139



### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC, BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PROBAB	LL WTP M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2050				
2012	56,670.09	8,977	10,056	46,614	29.22	1,595
2013	1,247.32	167	187	1,060	29.17	36
2014	42,913.80	4,596	5,149	37,765	29.18	1,294
2015	10,206.09	806	903	9,303	29.15	319
2016	8,159.69	403	451	7,708	28.89	267
	4,739,511.25	2,363,835	2,648,004	2,091,507		81,112
INTERII PROBAB	T WATER TREATMEN M SURVIVOR CURV LE RETIREMENT YN LVAGE PERCENT	E IOWA 60-R EAR 6-2048				
1988	6,091,845.49	3,360,262	3,764,217	2,327,629	23.98	97,065
1989	236,127.92	127,178	142,467	93,661	24.41	3 <sup>-</sup> , 837
1991	9,200.90	4,755	5,327	3,874	24.78	156
1992	3,913.79	1,976	2,214	1,700	25.01	68
1994	2,637.07	1,264	1,416	1,221	25.52	48
1997	1,578.02	696	780	798	26.01	31
1998	19,882.52	8,490	9,511	10,372	26.16	396
1999	5,954.90	2,457	2,752	3,203	26.34	122
2001	15,115.78	5,786	6,482	8,634	26.60	325
2002	777.36	284	318	459	26.87	17
2003	9,821.77	3,432	3,845	5,977	27.00	221
2006	33,459.15	9,927	11,120	22,339	27.26	819
2007	18,344.81	5,085	5,696	12,649	27.38	462
2008	68,374.13	17,538	19,646	48,728	27.54	1,769
2009	26,211.66	6,170	6,912	19,300	27.60	699
2010	1,810.10	387	434	1,377	27.59	50
2012	649,812.36	107,609	120,545	529,267	27.72	19,093
2014	96,480.80	10,806	12,105	84,376	27.75	3,041
2015	14,209.06	1,179	1,321	12,888	27.62	467
	7,305,557.59	3,675,281	4,117,106	3,188,452		128,686



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

	ORIGINAL	CALCULATED	ALLOC. BOOK	FUTURE BOOK	REM.	ANNUAL
YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CRYSTAI	L LAKE WATER TRI	EATMENT PLANT	1			
	M SURVIVOR CURVI					
	LE RETIREMENT Y					
	LVAGE PERCENT					
1992	5,054,319.04	2,461,453	2,757,357	2,296,962	26.86	85,516
1993	73,596.13	34,796	38,979	34,617	27.32	1,267
1995	197.94	89	100	98	27.75	4
1999	13,626.50	5,344	5,986	7,640	28.67	266
2002	11,509.46	3,978	4,456	7,053	29.35	240
2004	11,303.55	3,540	3,966	7,338	29.60	248
2006	99,797.96	27,664	30,990	68,808	29.99	2,294
2007	13,173.73	3,403	3,812	9,362	30.15	311
2008	28,589.12	6,816	7,635	20,954	30.34	691
2009	19,356.65	4,227	4,735	14,622	30.41	481
2010	2,858.04	564	632	2,226	30.52	73
2011	22,252.17	3,905	4,374	17,878	30.54	585
2014	3,545.66	364	408	3,138	30.63	102
2015	2,868.40	217	243	2,625	30.50	86
2016	10,676.66	503	563	10,113	30.35	333
	5,367,671.01	2,556,863	2,864,237	2,503,434		92,497
CEASET	OWN WATER TREAT	MENT PLANT				
INTERI	M SURVIVOR CURVE	E IOWA 60-R	22.5			
PROBABI	LE RETIREMENT Y	EAR 6-2053	}			
NET SAI	LVAGE PERCENT	0				
1993	8,491,079.67	3,994,204	4,474,368	4,016,712	27.58	145,639
1994	18,958.58	8,643	9,682	9,277	28.05	331
1995	16,043.96	7,111	7,966	8,078	28.26	286
1997	45,655.10	19,002	21,286	24,369	28.76	847
1998	3,202.38	1,286	1,441	1,762	29.04	61
2001	5,100.00	1,818	2,037	3,063	29.80	103
2002	3,150.51	1,074	1,203	1,947	29.95	65
2004	17,119.10	5,269	5,902	11,217	30.36	369
2005	299,398.81	87,185	97,666	201,733	30.42	6,632
2006	87,058.57	23,732	26,585	60,474	30.69	1,970
2007	11,733.64	2,982	3,340	8,393	30.82	272
2008	28,894.84	6,779	7,594	21,301	30.99	687
2009	10,169.23	2,186	2,449	7,720	31.03	249
2010	16,080.19	3,123	3,498	12,582	31.11	404
2011	77,289.61	13,309	14,909	62,381	31.24	1,997

### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	OWN WATER TREATI M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 60-R EAR 6-2053				
2012	123,725.49	18,509	20,734	102,991	31.26	3,295
2013	2,077.72	261	292	1,785	31.34	57
2014	40,488.30	4,065	4,554	35,935	31.34	1,147
	9,297,225.70	4,200,538	4,705,506	4,591,720		164,411
WATDEC	WATER TREATMENT	ר דא אידי				
	M SURVIVOR CURVE		2 5			
	M SORVIVOR CORVI LE RETIREMENT YI					
	LVAGE PERCENT		'			
1993	9,042,484.16	4,253,585	4,764,931	4,277,554	27.58	155,096
1994	557,586.68	254,204	284,763	272,823	28.05	9,726
1995	52,517.59	23,276	26,074	26,443	28.26	936
1998	1,099.27	442	495	604	29.04	21
2002	1,956.80	667	747	1,210	29.95	40
2003	5,173.10	1,680	1,882	3,291	30.14	109
2006	32,831.09	8,950	10,026	22,805	30.69	743
2007	1,179.60	300	336	844	30.82	27
2008	34,000.57	7,977	8,936	25,065	30.99	809
2009	5,827.62	1,253	1,404	4,424	31.03	143
2010	15,084.17	2,929	3,281	11,803	31.11	379
2011	95,761.95	16,490	18,472	77,290	31.24	2,474
2013	64,674.64	8,123	9,100	55,575	31.34	1,773
2014	165,655.45	16,632	18,631	147,024	31.34	4,691
2015	9,260.45	687	770	8,491	31.17	272
2016	8,706.97	402	450	8,257	30.97	267
	10,093,800.11	4,597,597	5,150,298	4,943,502		177,506
MODDIC	TOWN					
NORRIS'	M SURVIVOR CURVE	7 TOWN 60-10	2 5			
	LE RETIREMENT YE					
	LVAGE PERCENT					
MIL DA	TANDE TENCEMENT.					
1966	179.14	135	151	28	16.99	. 2
1997	5,570,498.27	2,238,226	2,507,295	3,063,203	30.52	100,367
1998	57,213.04	22,090	24,746	32,467	31.01	1,047
2000	74,588.87	26,628	29,829	44,760	31.52	1,420
2001	2,370,232.41	809,671	907,006	1,463,227	31.81	45,999
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#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NORRIS	TOWN				:	
	M SURVIVOR CURVI	E IOWA 60-R	.2.5			
	LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
2002	29,045.94	9,454	10,591	18,455	32.12	575
2003	86,104.25	26,718	29,930	56,174	32.23	1,743
2004	98,144.99 140.00	28,756 39	32,213	65,932 96	32.58 32.75	2,024 3
2005	1,204,036.32	311,605	349,065	854,972	32.75	25,955
2006 2007	47,742.24	11,477	12,857	34,886	33.17	1,052
2007	114,233.37	23,109	25,887	88,346	33.52	2,636
2010	55,984.86	10,200	11,426	44,559	33.65	1,324
2011	28,104.08	4,530	5,075	23,030	33.82	681
2012	365,613.30	51,076	57,216	308,397	33.87	9,105
2013	21,001.51	2,457	2,752	18,249	33.96	537
2014	69.14	. 6	7	62	33.96	2
2015	65,724.22	4,522	5,066	60,659	33.86	1,791
2016	1,026,830.11	43,948	49,231	977,599	33.59	29,104
	11,215,486.06	3,624,647	4,060,385	7,155,101		225,367
HUNTSV						
	M SURVIVOR CURV		22.5			
	LE RETIREMENT Y		)			
NET SA	LVAGE PERCENT	0				
1000	5,140,610.11	1,883,005	2,109,370	3,031,240	32.01	94,697
1999 2001	8,125.96	2,722	3,049	5,077	32.01	155
2001	48,155.64	13,002	14,565	33,591	33.80	994
2005	30,782.70	7,788	8,724	22,058	33.95	650
2007	7,211.16	1,689	1,892	5,319	34.34	155
2008	64,791.73	14,034	15,721	49,071	34.36	1,428
2009	25,684.93	5,065	5,674	20,011	34.60	578
2010	2,533.46	448	502	2,032	34.87	58
2011	38,290.79	5,996	6,717	31,574	35.00	902
2012	15,722.39	2,135	2,392	13,331	34.99	381
2013	3,295.43	375	420	2,875	35.03	82
2015	11,172.48	746	836	10,337	34.95	296
2016	9,027.44	374	419	8,608	34.73	248
	5,405,404.22	1,937,379	2,170,281	3,235,123		100,624

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	STLE WATER TREA					
	M SURVIVOR CURV					
	LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
2000	2,288,448.73	796,838	892,630	1,395,819	32.75	42,620
2001	3,501,677.38	1,167,109	1,307,413	2,194,264	33.00	66,493
2003	1,504.36	452	506	998	33.81	30
2004	166,573.01	47,440	53,143	113,430	33.90	3,346
2006	156,404.08	39,038	43,731	112,673	34.58	3,258
2007	11,385.73	2,641	2,958	8,427	34.75	243
2008	220,753.83	47,197	52,871	167,883	34.94	4,805
2014	30,485.81	2,719	3,046	27,440	35.72	768
2015	149,409.41	9,831	11,013	138,397	35.52	3,896
	6,526,642.34	2,113,265	2,367,311	4,159,331		125,459
	UN FILTRATION P					
	M SURVIVOR CURV					
	LE RETIREMENT Y LVAGE PERCENT		•			
1976	3,100,855.19	2,058,968	2,306,487	794,368	21.00	37,827
1985	5,833.47	3,337	3,738	2,095	24.32	86
1991	23,116.00	11,639	13,038	10,078	26.13	386
1996	6,671.00	2,926	3,278	3,393	27.52	123
2000	142,779.16	54,470	61,018	81,761	28.37	2,882
2002	373,803.03	130,943	146,684	227,119	28.75	7,900
2006	406,929.21	114,673	128,458	278,471	29.31	9,501
2007	36,506.64	9,583	10,735	25,772	29.50	874
2011	13,005,027.49	2,325,299	2,604,835	10,400,192	29.86	348,298
2013	228,674.96	29,842	33,429	195,245	29.98	6,513
2013	33,340.29	3,487	3,906	29,434	29.95	983
	17,363,536.44	4,745,167	5,315,608	12,047,928		415,373
እ፤ አ ማ አ ነጋ ርጋ	TH(BLUE MOUNTAI	או סו				
	M SURVIVOR CURV		22.5			
	LE RETIREMENT Y		;			
NET SA	LVAGE PERCENT	U				
1951	429.84	369	413	16	11.02	1
1960	45.00	36	40	5	13.93	
1970	349.00	250	280	69	18.73	4
1975	41,890.00	28,129	31,511	10,379	20.79	499



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	TH(BLUE MOUNTAIN M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 60-R EAR 6-2055				
1976	12,586.04	8,304	9,302	3,284	21.40	153
1977	48,491.99	31,423	35,201	13,291	22.00	604
1978	89.00	57	64	25	22.23	1
1979	1,797.00	1,128	1,264	533	22.85	23
1980	9,400.42	5,781	6,476	2,924	23.48	125
1983	3,194.00	1,862	2,086	1,108	24.67	45
1985	30.00	17 4,877	19 5,463	11 3,824	25.64 26.68	143
1988 1989	9,287.67 2,360.00	1,211	1,357	1,003	27.06	37
1991	4,553.00	2,220	2,487	2,066	27.85	74
1992	72,215.50	34,252	38,370	33,846	28.26	1,198
1995	4,258,824.56	1,858,977	2,082,454	2,176,371	29.05	74,918
1996	7,506.00	3,163	3,543	3,963	29.52	134
1997	7,826.00	3,193	3,577	4,249	29.75	143
1998	541.00	213	239	302	30.00	10
2007	2,222.54	549	615	1,608	32.05	50
2008	360,111.32	82,105	91,975	268,136	32.17	8,335
2009	6,280.49	1,308	1,465	4,815	32.32	149
2011	12,316.24	2,049	2,295	10,021	32.56 32.68	308 456
2013	17,236.87	2,086	2,337	14,900	32.00	456
	4,879,583.48	2,073,559	2,322,832	2,556,751		87,410
INTERI PROBAB	N WATER TREATMEN M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 60-F EAR 6-2063				
2003	10,424,313.52	3,053,281	3,420,332	7,003,982	35.00	200,114
2004	1,073,637.95	297,183	332,909	740,729		20,996
2005	51,929.31	13,502	15,125	36,804		1,034
2008	4,901.24	1,015	1,137	3,764	36.37	103
2009	3,997.32	754	845	3,153	36.55	86
2010	15,074.97	2,545	2,851	12,224	36.94	331 597
2012	25,964.22	3,342	3,744	22,220 19,388	37.24 37.34	519
2013 2015	22,045.21 4,722.08	2,372 297	2,657 333	4,389	37.18	118
	11,626,585.82	3,374,291	3,779,932	7,846,654		223,898

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

	ORIGINAL	CALCULATED	ALLOC. BOOK		REM.	ANNUAL
YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
INTERI	HORE REGIONAL T M SURVIVOR CURV LE RETIREMENT Y	E IOWA 60-R	22.5			
	LVAGE PERCENT					
MEI SH	TOVAGE TERCENT	0				
2006	13,462,876.01			9,890,112		
2007		743,666	833,066	2,556,480	37.35	
2008	20,115.84	4,051	4,538	15,578	37.67	414
2009	21,160.91	•	4,333	16,828		443
2011	68,339.41	9,909	11,100	57,239		
2013	109,213.87		12,723		38.79	
2014	156,102.97	12,957	14,515	141,588	38.69	3,660
2015	8,725.59	531	595	8,131	38.65	210
2016	64,712.83	2,433	2,725	61,987	38.34	1,617
	17,300,793.45	3,978,128	4,456,359	12,844,434		345,783
INTERI PROBAB	RUN PUMP STATION SURVIVOR CURVILLE RETIREMENT YOU LUAGE PERCENT	E IOWA 60-R EAR 6-2072				
2012	26,304,729.23	3,125,002	3,500,675	22,804,054	40.80	558,923
	26,304,729.23	3,125,002	3,500,675	22,804,054		558,923
OTHER	PURIFICATION ST	RUCTURES				
	OR CURVE IOWA					
	LVAGE PERCENT					
1889	12,242.39	12,242	12,242			
1900	4,321.94	4,322	4,322			
1901	55.86	56	56			
1902	19,858.84	19,859	19,859			
1903	1,918.53	1,919	1,919			
1906	8,186.20	8,186	8,186			
1908	526.09	526	526			
1909	402.10	402	402			
1912	225.52	226	226			
1914	1,048.71	1,049	1,049			
1915	41.81	42	42			
1917	8,905.62	8,906	8,906			
1918	836.61	837	837			
1923	32,506.48	32,506	32,506			
1923	10,746.17	10,746	10,746			

#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER I	PURIFICATION ST	RUCTURES				
	OR CURVE IOWA					
NET SAI	LVAGE PERCENT	0				
1928	1,420.49	1,411	1,420			
1929	3,188.11	3,160	3,188			
1930	932.58	922	933			
1931	1,864.05	1,838	1,864			
1934	1,350.79	1,320	1,351			
1935	437.58	426	438			
1937	626.33	605	626			
1940	50.84	48	51			
1941	12.99	12	13			
1943	133.91	127	134			
1944	301.20	283	301			
1946	1.00	1	1			
1947	0.28		0			
1948	4.01	4	4			
1949	4,988.26	4,579	4,988			
1951	5,458.97	4,973	5,459			
1952	1,809.97	1,648	1,810			
1953	8,971.88	8,102	8,972			
1954	7,590.20	6,796	7,590			
1955	491.50	439	492			
1956	47.14	42	47			
1957	1,692.75	1,495	1,676	17	7.99	2
1958	809.24	708	. 794	16	8.53	2
1959	178.32	154	173	. 6	9.07	1
1960	120.31	104	117	4	9.17	
1961	392.61	335	376	17	9.72	2
1962	19,680.67	16,603	18,614	1,067	10.29	104
1963	3,902.50	3,275	3,672	231	10.44	22
1964	2,086.06	1,730	1,940	147	11.02	13
1965	63,403.92	52,258	58,586	4,817	11.20	430
1966	6,797.98	5,532	6,202	596	11.79	51
1967	951.85	764	857	95	12.39	8
1968	47,224.06	37,638	42,196	5,028	12.61	399
1969	770,232.70	605,172	678,459	91,774	13.23	6,937
1970	545.16	422	473	72	13.85	5
1971	17,197.20	13,115	14,703	2,494	14.48	172
1972	1,302,893.36	984,075	1,103,247	199,646	14.74	13,545
1973	12,729.13	9,460	10,606	2,124	15.38	138
1974	9,490.30	6,936	7,776	1,714	16.02	107
1975	338,257.37	242,936	272,356	65,902	16.67	3,953
1976	39,522.15	27,883	31,260	8,262	17.32	477
1977	28,837.31	20,088	22,521	6,317	17.64	358



#### ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER	PURIFICATION ST	RUCTURES				
	VOR CURVE IOWA					
NET S	ALVAGE PERCENT	0				
1978	10,577.05	7,228	8,103	2,474	18.30	135
1979	4,798.14	3,214	3,603	1,195	18.97	63
1980	409.54	269	302	108	19.65	5
1981	48,302.65	31,030	34,788	13,515	20.32	665
1982	560,030.64	351,923	394,541	165,489	20.99	7,884
1983	178,981.90	109,913	123,224	55,758	21.68	2,572
1984	98,949.37	59,666	66,892	32,058	22.06	1,453
1985	1,813,459.40	1,066,677	1,195,853	617,607	22.75	27,148
1986	163,630.34	93,809	105,169	58,461	23.45	2,493
1987	201,070.56	112,238	125,830	75,240	24.14	3,117
1988	1,317,366.39	715,066	801,661	515,705	24.85	20,753
1989	2,754,712.34	1,452,284	1,628,157	1,126,555	25.56	44,075
1990	1,245,436.93	637,041	714,187	531,250	26.26	20,230
1991	1,402,029.70	694,846	778,993	623,037	26.97	23,101
1992	207,873.34	99,654	111,722	96,151	27.69	3,472
1993	953,307.29	441,381	494,833	458,475	28.41	16,138
1994	1,246,617.30	556,615	624,022	622,596	29.13	21,373
1995	2,612,291.99	1,122,763	1,258,731	1,353,561	29.85	45,345
1996	1,640,580.15	677,231	759,244	881,336	30.58	28,821
1997	2,688,001.04	1,063,373	1,192,149	1,495,852	31.32	47,760
1998	974,082.62	368,495	413,120	560,962	32.05	17,503
1999	2,197,932.36	793,014	889,049	1,308,884	32.78	39,929
2000	197,741.44	67,469	75,640	122,102	33.78	3,615
2001	2,380,168.28	769,746	862,963	1,517,205	34.52	43,951
2002	372,290.85	113,698	127,467	244,824	35.26	6,943
2003	509,921.99	146,399	164,128	345,794	36.01	9,603
2004	110.99	, 30	34	77	36.75	2
2005	729,354.40	182,339	204,420	524,934	37.50	13,998
2006	282,970.13	65,423	73,346	209,624	38.25	5,480
2007	114,755.08	24,213	27,145	87,610	39.25	2,232
2008	1,033,864.87	198,399	222,425	811,440	40.00	20,286
2009	780,987.33	134,798	151,122	629,865	40.76	15,453
2010	712,499.83	109,012	122,213	590,286	41.52	14,217
2011	2,388,983.79	318,213	356,749	2,032,235	42.28	48,066
2012	2,851,108.56	323,031	362,150	2,488,958	43.04	57,829
2013	1,644,432.49	153,261	171,821	1,472,611	43.81	33,614
2014	4,019,241.67	292,601	328,035	3,691,206	44.58	82,800
2015	566,359.10	29,564	33,144	533,215	45.35	11,758



## ACCOUNT 304.3 PURIFICATION BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	PURIFICATION STE VOR CURVE IOWA ALVAGE PERCENT	55-R3				
2016 2017 9999	1,528,003.66 1,329,753.00 169,605.01-	48,285 14,361 56,877-	54,132 16,100 63,714-	1,473,871 1,313,653 105,891-	45.90 46.01	32,110 28,551 3,027-
	46,401,833.39	15,560,938	17,431,599	28,970,234		828,242
	242,935,375.32	76,025,664	85,165,103	157,770,270		4,961,527
	COMPOSITE REMAIN:	ING LIFE AND	ANNUAL ACCRUAL	RATE, PERCENT	31.8	2.04

## ACCOUNT 304.36 WASTE HANDLING AND TREATMENT STRUCTURES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED . (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PROBA	IM SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	EAR 6-2041				
1991	10,836,118.51	6,115,905	4,941,543	5,894,576	20.45	288,243
1998	68,969.00	32,953	26,625	42,344	21.31	1,987
2000	122,317.58	54,798	44,276	78,042	21.56	3,620
2001	25,833.98	11,212	9,059	16,775	21.52	780
2003	4,063.71	1,626	1,314	2,750	21.73	127
2007	58,121.65	18,797	15,188	42,934	21.97	1,954
2010	79,266.28	20,094	16,236	63,030	22.09	2,853
2012	197,523.29	39,327	31,775	165,748	22.12	7,493
2013	129,535.29	21,917	17,709	111,826	22.10	5,060
2014	18,080.06	2,468	1,994	16,086	22.14	727
2016	193,392.39	12,377	10,000	183,392	21.92	8,366
	11,733,221.74	6,331,474	5,115,719	6,617,503		321,210

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.6 2.74

### ACCOUNT 304.38 WASTE HANDLING AND TREATMENT STRUCTURE PAINTING

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE 10-S VAGE PERCENT	~				
1991 2015	38,331.32 27,627.10	38,331 6,907	38,331 12,345	15,282	7.50	2,038
	65,958.42	45,238	50,676	15,282		2,038

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.5 3.09

**Sannett Fleming** 

### ACCOUNT 304.39 PURIFICATION BUILDINGS - TANK PAINTING

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE 10-S	<del>-</del>				
NET SALV	AGE PERCENT	0				
1997	39,947.89	39,948	39,948			
1999	12,732.18	12,732	12,732			
2000	10,588.12	10,588	10,588			
2002	28,101.61	28,102	28,102			
2015	43,436.99	10,859	23,149	20,288	7.50	2,705
	134,806.79	102,229	114,519	20,288		2,705

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.5 2.01

## ACCOUNT 304.61 OFFICE BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	STLE OFFICE M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2031				
1986	1,251,151.20	910,338	922,558	328,594	11.79	27,871
1987	17,605.59	12,673	12,843	4,762	11.87	401
1988	66,022.32	46,942	47,572	18,450	11.99	1,539
1989	21,520.60	15,151	15,354	6,166	11.98	515
1990	47,919.69	33,343	33,791	14,129	12.02	1,175
1991	3,439.19	2,361	2,393	1,046	12.11	86
1992	3,258.04	2,210	2,240	1,018	12.09	84
1996	15,197.42	9,672	9,802	5,396	12.28	439
1998	1,013.00	620	628	385	12.35	31
2005	8,291.75	4,136	4,192	4,100	12.56	326
2006	206,201.63	98,399	99,720	106,482	12.60	8,451
2008	59,275.49	25,453	25,795	33,481	12.62	2,653
2009	4,369.19	1,760	1,784	2,586	12.60	205
2011	8,577.97	2,922	2,961	5,617	12.58	447
2012	18,670.27	5,679	5,755	12,915	12.58	1,027
2013	103,178.46	27,208	27,573	75,605	12.56	6,020
2014	68,172.08	14,916	15,116	53,056	12.50	4,244
2015	29,091.75	4,873	4,938	24,153	12.43	1,943
2016	107,280.37	11,683	11,840	95,441	12.27	7,778
	2,040,236.01	1,230,339	1,246,854	793,382		65,235
INTERI PROBAB	GTON CUSTOMER S M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 50-F EAR 6-2032	21.5			
1007	1,315,832.88	931,083	943,580	372,252	12.60	29,544
1987	2,021.01	1,413	1,432	589	12.69	46
1988 1989	3,371.53	2,335	2,366	1,005	12.65	79
1992	15,076.98	9,996			12.96	382
1994	2,429.06	1,564	1,585	844	13.00	65
1995	69,619.62	44,014	44,605	25,015	13.09	1,911
	96,402.86	58,690	59,478	36,925	13.17	2,804
1997	50,080.02	27,764	28,137	21,943	13.26	1,655
2001		37,754	38,257	34,256	13.35	2,566
2003 2010	72,512.60 19,835.46	7,111	7,206	12,629	13.42	941
2010	19,033.40	/,	7,200	12,023	-3.12	711



#### ACCOUNT 304.61 OFFICE BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
				( - /	, - ,	, ,
	GTON CUSTOMER S M SURVIVOR CURV					
	LE RETIREMENT Y					
	LVAGE PERCENT			•		
1121 211						
2011	62,740.65	20,472	20,747	41,994	13.42	3,129
2013	82,727.62	20,814	21,093	61,634	13.39	4,603
2014	14,536.76	3,022	3,063	11,474	13.34	860
	1,807,187.05	1,166,028	1,181,679	625,508		48,585
CA DIMO:		SENTED.				
	L DISTRIBUTION ( M SURVIVOR CURVI		1 5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
MEI DA	DVAGE TERCENT	•				
1989	1,226,155.16	821,279	832,303	393,852	14.05	28,032
1990	5,101.58	3,367	3,412	1,689	14.17	119
1991	1,803.26	1,171	1,187	617	14.32	43
1992	1,547.03	990	1,003	544	14.34	38
1994	1,690.90	1,045	1,059	632	14.52	44
1995	25,211.07	15,316	15,522	9,689	14.54	666
1996	24,474.21	14,577	14,773	9,702	14.60	665
1997	1,272.06	741	751	521	14.71	35
2001	12,812.78	6,745	6,836	5,977	14.85	402
2002	5,478.58	2,794	2,832	2,647	14.89	178
2003	1,018.77	502	509	510	14.91	34
2006	28,442.30	12,333	12,499	15,944	15.02	1,062
2007	295,873.67	121,782	123,417	172,457	15.01	11,489
2008	77,843.20	30,094	30,498	47,345	15.07	3,142
2009	2,301.64	830	841	1,460	15.08	97
2010	12,910.55	4,289	4,347	8,564	15.07	568
2011	45,457.41	13,710	13,894	31,563	15.05	2,097
2012	124,750.18	33,408	33,856	90,894	15.03	6,048
2013	226,588.06	52,297	52,999	173,589	14.99	11,580
2014	6,928.73	1,316	1,334	5,595	14.92	375
	2,127,661.14	1,138,586	1,153,869	973,792		66,714

### ACCOUNT 304.61 OFFICE BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CORDOR	ATE CENTER					
	M SURVIVOR CURVI	7 TOWA 50-E	1 5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1101 011						
1991	15,076.33	7,990	8,097	6,979	23.50	297
1992	16,723.00	8,656	8,772	7,951	23.76	335
1993	2,532.00	1,272	1,289	1,243	24.28	51
1994	1,902,164.04	929,778	942,258	959,906	24.58	39,052
1995	46,395.87	22,029	22,325	24,071	24.89	967
1996	17,029.34	7,835	7,940	9,089	25.23	360
1997	63,553.01	28,402	28,783	34,770	25.37	1,371
1998	30,064.34	12,958	13,132	16,932	25.75	658
1999	166,626.77	69,350	70,281	96,346	25.95	3,713
2000	173,521.24	69,235	70,164	103,357	26.36	3,921
2001	23,647.92	9,090	9,212	14,436	26.42	546
2002	6,520.16	2,396	2,428	4,092	26.69	153
2004	16,242.11	5,394	5,466	10,776	27.15	397
2005	45,143.90	14,166	14,356	30,788	27.34	1,126
2006	27,595.68	8,157	8,266	19,329	27.41	705
2007	289,414.65	79,936	81,009	208,406	27.52	7,573
2009	209,124.41	49,061	49,720	159,405	27.73	5,748
2010	42,775.40	9,077	9,199	33,577	27.84	1,206
2011	212,889.97	40,407	40,949	171,941	27.75	6,196
2012	367,493.73	60,857	61,674	305,820	27.72	11,032
2013	254,548.54	35,739	36,219	218,330	27.55	7,925
2014	285,152.87	32,450	32,886	252,267	27.27	9,251
2015	43,633.32	3,718	3,768	39,865	26.83	1,486
2016	18,022.49	984	997	17,025	25.97	656
9999	60,000.00-	21,174-	21,458-	38,542-		1,470-
,,,,	00,000.00	,	,,	,-		·
	4,215,891.09	1,487,763	1,507,733	2,708,158		103,255
	OFFICE BUILDINGS	•				
	OFFICE BOILDINGS					
	LVAGE PERCENT					
NEI SAI	LVAGE PERCENI	<b>O</b> .				
1924	845.00	845	845			
1924	215.00	215	215			
1958	13.02	12	12	1	3.79	
1960	48.73	45	46	3	4.61	1
1960	21.19	20	20	1	4.85	<b>-</b>
1961	33,045.39	30,078	30,482	2,564	5.38	477
1963	1,079.50	982	995	84	5.32	16
1964	11,957.68	10,798	10,943	1,015	5.64	180
エラロコ	11,557.00	10,790	TO, 272	1,010	5.01	100

### ACCOUNT 304.61 OFFICE BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER O	FFICE BUILDINGS	3				
SURVIVO	R CURVE IOWA	45~R3				
NET SAL	VAGE PERCENT	0				
1966	1,125.43	1,008	1,022	104	5.97	17
1967	48,178.36	42,821	43,396	4,782	6.32	757
1968	57,612.52	50,762	51,444	6,169	6.68	924
1969	1,273.22	1,112	1,127	146	7.06	21
1970	11,499.94	9,942	10,075	1,424	7.45	191
1971	9,019.90	7,717	7,821	1,199	7.85	153
1972	64,853.02	54,885	55,622	9,231	8.26	1,118
1973	1,636.52	1,369	1,387	249	8.69	29
1975	6,526.85	5,326	5,398	1,129	9.58	118
1976	55,167.00	44,415	45,011	10,156	10.05	1,011
1977	13,240.50	10,510	10,651	2,589	10.52	246
1979	28,098.53	21,636	21,927	6,172	11.50	537
1980	1,10	1	1	11 040	10 50	0.00
1981	45,810.00	34,110	34,568	11,242	12.52	898
1982	361,045.49	264,033	267,578	93,467	13.04	7,168
1983	35,850.00	25,604	25,948	9,902	13.81	717
1984	902.06	632	640	262	14.34	18
1985	72,985.69	50,054	50,726	22,260	14.89	1,495
1986	351,447.26	235,821	238,987	112,460	15.45	7,279
1987	637,873.18	416,340	421,930	215,943	16.23	13,305 12,934
1988	613,396.25	390,856	396,104	217,292	16.80	
1989	449,868.60	279,503	283,256	166,613	17.37 18.16	9,592 3,199
1990	149,072.06	89,771	90,976	58,096	18.75	479
1991	22,074.08	12,927	13,101	8,974	19.55	3,233
1992	148,265.09	83,933	85,060 7,176	63,205 5,726	20.14	284
1993	12,902.30	7,081		108,914	20.14	5,249
1994	235,862.93 14,621.08	125,267	126,949 7,568	7,053	21.55	3,243
1995	47,370.53	7,468 23,325	23,638	23,732	22.17	1,070
1996 1997	49,047.66	23,325	23,437	25,732	22.98	1,114
1997	20,073.06	9,081	9,203	10,870	23.60	461
1999	61,011.45	26,296	26,649	34,362	24.42	1,407
2000	759,342.14	312,241	316,434	442,909	25.06	17,674
2001	49,302.15	19,198	19,456	29,846	25.87	1,154
2001	4,780.74	1,756	1,780	3,001	26.69	112
2002	84,890.14	29,423	29,818	55,072	27.34	2,014
2003	52,030.07	16,858	17,084	34,946	28.17	1,241
2005	403,088.52	121,410	123,040	280,048	29.00	9,657
2005	271,513.04	75,861	76,880	194,633	29.65	6,564
2007	10,362.80	2,655	2,691	7,672	30.48	252
2007	251,383.27	58,522	59,308	192,075	31.31	6,135
2009	5,344.65	1,118	1,133	4,212	32.15	131
2000	5,511.05	_,0	_,	- <b>,</b>	*	



## ACCOUNT 304.61 OFFICE BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	OFFICE BUILDINGS VOR CURVE IOWA ALVAGE PERCENT	45-R3				•
2010	18,349,35	3,413	3,459	14,891	32.82	454
2011	108,680.65	17,585	17,821	90,860	33.66	2,699
2012	171,348.70	23,560	23,876	147,472	34.50	4,275
2013	71,067.26	8,059	8,167	62,900	35.18	1,788
2014	232,610.86	20,609	20,886	211,725	36.02	5,878
2016	734,812.82	28,364	28,745	706,068	37.41	18,874
	6,903,844.33	3,140,359	3,182,511	3,721,333		154,927
	17,094,819.62	8,163,075	8,272,646	8,822,173		438,716
	COMPOSITE REMAIN	ING LIFE AND	ANNUAL ACCRUAL	RATE. PERCEN'	г 20.1	2.57

## ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
INTERI PROBAB	TOWN OPERATIONS M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 75-R EAR 6-2032				
			660 885	101 000	10 85	12 000
1987	860,794.14	593,345	669,775	191,020	13.75	13,892
1988	45,426.41	30,954	34,941	10,485	13.79	760
1990	62,790.60	41,787	47,170 1,869	15,621 651	13.82 13.82	1,130 47
1991	2,520.15	1,656 4,572	5,161	3,079	14.04	219
2000	8,240.40 106,652.86	57,721	65,156	41,497	13.99	2,966
2001	2,125.81	672	759	1,367	14.08	2,500
2011 2014	390,865.47	77,978	88,022	302,843	14.04	21,570
2014	19,376.64	2,936	3,314	16,062	14.00	1,147
	1,498,792.48	811,621	916,167	582,625		41,828
PROBAB	PARK M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	EAR 6-2028				
1958	1,356.00	1,170	1,321	35	9.46	4
1965	657,881.85	556,042	627,667	30,215	9.61	3,144
1967	45,486.00	38,131	43,043	2,443	9.74	251
1969	4,300.00	3,566	4,025	275	9.98	28
1970	2,902.00	2,399	2,708	194	9.97	19
1972	1,319.97	1,081	1,220	100	10.06	10
1973	9,153.18	7,495	8,460	693	9.85	70
1975	40.52	33	37	3	10.13	
1977	1,690.34	1,355	1,530	161	10.01	16
1979	3,808.27	3,020	3,409	399	10.04	40
1981	0.16		0			
1985	8,909.55	6,805	7,682	1,228	10.05	122
1986	56,270.95	42,541	48,021	8,250	10.17	811
1987	51,879.47	38,925	43,939	7,940	10.15	782
1988	1,675.90	1,246	1,406	269	10.18	26
1989	365,534.82	269,838	304,596	60,939	10.11	6,028
1991	4,610.90	3,324	3,752	859	10.26	84
1992	10,300.00	7,354	8,301	1,999	10.21	196
1993	2,884.28	2,035	2,297	587	10.22	57
1995	1,257.55	863	974	283	10.29	28
1996	53,669.41	36,345	41,027	12,643	10.25	1,233
1997	47,281.24	31,499	35,556	11,725	10.27	1,142
1998	41,194.00	26,990	30,467	10,727	10.26	1,046

## ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
BETHEL	. PARK					
	M SURVIVOR CURV	E. TOWA 75-R	2			
	LE RETIREMENT Y					
	LVAGE PERCENT					
MET DE	HUVAGH I HRCHIII	O				
2000	47,532.86	29,946	33,803	13,729	10.28	1,336
2002	3,229.97	1,943	2,193	1,037	10.27	101
2007	61,197.63	30,905	34,886	26,312	10.29	2,557
2008	530,439.54	254,505	287,288	243,151	10.30	23,607
2009	415,793.46	188,022	212,241	203,552	10.30	19,762
2010	105,796.74	44,519	50,254	55,543	10.32	5,382
2011	61,653.29	23,847	26,919	34,735	10.31	3,369
2012	393,497.73	137,016	154,665	238,833	10.30	23,188
2013	32,181.42	9,777	11,036	21,145	10.31	2,051
2014	27,215.99	6,907	7,797	19,419	10.29	1,887
2011	27,223.33	0,20,	.,,-	,		•
	3,051,944.99	1,809,444	2,042,521	1,009,424		98,377
INTERI PROBAE	ORD AVENUE DISTR M SURVIVOR CURVI BLE RETIREMENT YI LVAGE PERCENT	E IOWA 75-R EAR 6-2062	.2			
MEI DE	MVAGE FERCENI	O				
2012	1,537,705.01	197,134	222,527	1,315,178	37.42	35,146
2012	19,285,243.83	1,660,459	1,874,345	17,410,898		468,665
2015	12,394.22	787	888	11,506	36.87	312
2015	12,001.22	, , ,	000	,		
	20,835,343.06	1,858,380	2,097,761	18,737,582		504,123
	STRUCTURES					
	OR CURVE IOWA					
NET SA	LVAGE PERCENT	0				
1926	6,996.54	6,997	6,997			
1927	154.34	154	154			
1928	1,312.97	1,313	1,313			
1929	8,444.76	8,445	8,445			
1935	1,176.78	1,177	1,177			
1937	242.28	242	242			
1940	161.30	161	161			
1942	25,685.23	25,598	25,685			
1943	0.06	·	0			
1945	633.79	629	634			
1947	0.19	<u> </u>	0			
1948	969.53	950	970			

#### ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER	STRUCTURES					
SURVIV	OR CURVE IOWA	45-R3				
NET SA	ALVAGE PERCENT	0				
1949	235.23	229	235			
1950	2,402.84	2,336	2,403			
1951	796.79	768	797			
1954	9,930.13	9,458	9,930			
1955	132.10	125	132			
1956	10,398.06	9,848	10,398			
1957	4,136.42	3,904	4,136			
1958	1,131.55	1,064	1,132			
1959	1,357.94	1,271	1,358			
1960	4,367.10	4,043	4,367			
1961	2,233.83	2,057	2,234			
1962	792.93	726	793			
1963	2,309.72	2,102	2,310			
1964	6,347.10	5,773	6,347			
1965	556.01	502	556			
1966	6,166.00	5,525	6,166			
1967	411.02	365	411			
1968	2,875.00	2,533	2,867	8	6.68	1
1969	4,532.07	3,956	4,478	54	7.06	8
1970	7,308.33	6,318	7,151	157	7.45	21
1971	4,129.79	3,533	3,999	131	7.85	17
1972	7,038.25	5,956	6,741	297	8.26	36
1973	4,356.08	3,644	4,124	232	8.69	27
1974	15,016.26	12,411	14,048	969	9.13	106
1976	25,597.17	20,608	23,325	2,272	10.05	226
1977	1,330.39	1,056	1,195	135	10.52	13
1978	228,55	179	203	26	11.01	2
1980	2,805.63	2,125	2,405	400	12.00	33
1981	1,518.79	1,131	1,280	239	12.52	19
1982	20,007.40	14,631	16,560	3,447	13.04	264
1983	7,365.46	5,260	5,954	1,412	13.81	102
1984	58,816.40	41,183	46,613	12,203	14.34	851
1985	149,706.22	102,669	116,207	33,499	14.89	2,250
1986	191,488.43	128,489	145,432	46,057	15.45	2,981
1987	8,970.20	5,855	6,627	2,343	16.23	144
1988	729,230.79	464,666	525,937	203,294	16.80	12,101
1989	75,470.59	46,890	53,073	22,398	17.37	1,289
1990	987,257.33	594,526	672,920	314,337	18.16	17,309
1991	703,096.36	411,733	466,024	237,072	18.75	12,644
1992	369,591.10	209,226	236,815	132,777	19.55	6,792
1993	10,871.65	5,966	6,753	4,119	20.14	205
1994	87,859.17	46,662	52,815	35,044	20.75	1,689

#### ACCOUNT 304.62 STORES, SHOP AND GARAGE BUILDINGS

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	STRUCTURES /OR CURVE IOWA ALVAGE PERCENT					
1995	6,899.79	3,524	3,989	2,911	21.55	135
1996	114,001.44	56,134	63,536	50,466	22.17	2,276
1997	198,218.56	93,460	105,784	92,435	22.98	4,022
1998	33,293.69	15,062	17,048	16,246	23.60	688
1999	154,638.10	66,649	75,437	79,201	24.42	3,243
2000	73,517.92	30,231	34,217	39,301	25.06	1,568
2001	290,367.40	113,069	127,978	162,389	25.87	6,277
2002	15,357.16	5,642	6,386	8,971	26.69	336
2004	1,407.70	456	516	892	28.17	32
2005	195,886.75	59,001	66,781	129,106	29.00	4,452
2006	96,791.38	27,044	30,610	66,181	29.65	2,232
2007	146,752.49	37,598	42,556	104,197	30.48	3,419
2008	137,877.83	32,098	36,330	101,547	31.31	3,243
2009	39,878.05	8,339	9,439	30,439	32.15	947
2010	3,345.62	622	704	2,642	32.82	80
2011	218,205.66	35,306	39,961	178,244	33.66	5,295
2012	213,189.68	29,314	33,179	180,010	34.50	5,218
2013	46,128.38	5,231	5,921	40,208	35.18	1,143
2014	89,894.64	7,965	9,015	80,879	36.02	2,245
2015	638,906.98	40,762	46,137	592,770	36.71	16,147
2016	97,492.44	3,763	4,259	93,233	37.41	2,492
2017	1,000,000.00	13,100	14,827	985,173	37.67	26,153
9999	576.00-	228-	257-	319-		12-
	7,387,425.61	2,921,110	3,297,382	4,090,044		150,761
	32,773,506.14	7,400,555	8,353,831	24,419,675		795,089

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.7 2.43



## ACCOUNT 304.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE IOWA AGE PERCENT					
1952	498.06	453	491	7	6.45	1
1954	1,739.16	1,568	1,701	38	6.92	5
1958	1,172.35	1,039	1,127	45	7.61	6
1959	114.12	100	108	6	8.17	1
1960	1,915.12	1,674	1,816	99	8.29	12
1962	157.74	136	148	10	9.02	1
1963	906.59	776	842	65	9.20	7
1964	374.41	316	343	31	9.79	3
1967	2,680.13	. 2,206	2,393	287	10.85	26
1969	72.03	58	63	9	11.38	1
1970	2,955.03	2,358	2,558	397	12.02	33
1971	437.15	346	375	62	12.32	5
1972	531.27	413	448	83	12.98	6
1973	22.99	18	20	3	13.31	
1975	2,835.10	2,121	2,301	534	14.32	37
1981	138.14	93	101	37	17.56	2
1983	1,794.17	1,164	1,263	531	18.69	28
1986	1,950.24	1,186	1,287	663	20.31	33
1987	33,756.96	19,974	21,670	12,087	21.05	574
1988	4,549.62	2,631	2,854	1,696	21.52	79
1989	2,723.83	1,529	1,659	1,065	22.26	48
1991	5,689.60	3,015	3,271	2,419	23.50	103
1992	1,477.24	761	826	651	24.00	27
1996	80,007.68	35,779	38,817	41,191	26.58	1,550
1997	23,463.72	10,052	10,906	12,558	27.35	459
1998	5,836.73	2,401	2,605	3,232	27.90	116
2003	68,335.52	21,703	23,546	44,790	31.16	1,437
2004	205,425.83	61,011	66,192	139,234	31.95	4,358
2005	368,818.95	102,347	111,037	257,782	32.55	7,920
2007	327,225.36	77,651	84,245	242,980	33.75	7,199
2008	343,598.63	74,080	80,370	263,229	34.56	7,617
2009	26,587.50	5,174	5,613	20,974	35.17	596
2010	163,537.03	28,455	30,871	132,666	35.60	3,727
2011	4,665.35	710	770	3,895	36.24	107
2012	59,634.68	7,741	8,398	51,237	36.87	1,390
2013	54,999.86	5,918	6,421	48,579	37.34	1,301
2014	13,190.16	1,121	1,216	11,974	37.65	318

## ACCOUNT 304.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
2015	595,851.44	36,824	39,951	555,900	37.98	14,637
2016	463,708.90	17,667	19,167	444,542	37.87	11,739
2017	660,443.00	8,850	9,602	650,841	36.68	17,744
	3,533,821.39	541,419	587,392	2,946,429		83,253

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 35.4 2.36

### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)		ACCRUED		FUTURE BOOK ACCRUALS (5)	LIFE	
INTERIN PROBABI	3 (CITIZENS) 1 SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	EAR 6-2042				
1920	42,226.36	34,583	25,328	16,898	21.55	784
1920	48.00	34,383	23,328	21	22.60	1
1949	331.00	247	181	150	23.25	6
	2,483.15		1,285	1,199	23.50	51
1973	1,843.00	1,206	883	960	23.52	41
1974	259.00	168	123	136	23.61	6
1978	82,513.54		37,716	44,797		1,883
1992			522,798	862,989		35,958
	1,515,490.93	803,311	588,341	927,150		38,730
INTERIN PROBABI	RUN IMPOUNDING 1 SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 125- EAR 6-2078				
1957	3,545.00	1,973	1,445	2,100	48.20	44
	937,679.88		375,928	561,752	49.20	11,418
1962	1,170.00	617	452	718	49.77	14
1964	15,475.00	7,948	5,821	9,654	50.67	191
1965	5,506.28	2,804	2,054	3,453	50.60	68
1967	0.83			1	50.51	
1985	2,905.50	1,095	802			39
1990			4,526			255
1995	1,423,197.85	413,012	302,488	1,120,710	55.02	20,369
	2,407,899.82	946,915	693,516	1,714,384		32,398
INTERIM PROBABI	DAM AND RESERVO 1 SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 125- EAR 6-2089				
1918	97,835.35	71,068	52,050	45,785	37.48	1,222
1925	408.75	284	208	201	40.83	5
1930	2,267.00	1,508	1,104	1,163	44.08	26
1934	1,013.55	660	483	530	44.71	12
1956	775.09	415	304	471	53.45	9
1978	134.64	54	40	95	59.50	2
1982	245.51	91	67	179	60.65	3
1702						

#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	
INTERIN PROBABI	DAM AND RESERVO 1 SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 125- EAR 6-2089				
1985	16,193.21	5,632	4,125	12,068	60.95	198
1989	294,046.08	93,036	68,139	225,907		3,668
2013	8,655,614.25	576,464	422,200	8,233,414		130,544
2013	0,033,011.23	3,0,101	122,200	0,,		,_
	9,068,533.43	749,212	548,720	8,519,813		135,689
THORN F	RUN DAM AND RES	ERVOIR				
	4 SURVIVOR CURV		R2.5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1904	361.68	283	207	154	31.42	5
1925	882.00	612	448	434		11
1928	103.00	70	51	52		1
1930	285.00	192	141	144	42.36	3
1933	93.00	61	45	48	43.71	1
1936	86.00	55	40	46	45.09	1
1956	941.01	515	377	564	50.85	11
1958	951.00	509	373	578	51.61	11
1983	14,744.19	5,595	4,098	10,646		189
1984	76,177.36	28,323	20,744	55,434		980
1987	14,359.75	4,993	3,657	10,703	57.22	187
1989	210,306.30	69,527	50,921	159,385		2,762
1994	5,117.89	1,467	1,074	4,043		69
2011	7,667,320.88	757,531	554,813	7,112,508		119,961
2011						
	7,991,729.06	869,733	636,989	7,354,740		124,192
GRIFFI	N.					
	M SURVIVOR CURVI	E TOWA 125-	R2.5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1893	59,431.80	48,835	35,767	23,665	27.02	876
1942	171.57	105	77	95	47.95	2
1943	2,456.07	1,482	1,085	1,371	48.96	28
1983	12,768.00	4,625	3,387	9,381	60.74	154
1984	21,564.86	7,658	5,609	15,956	60.84	262
1985	4,179.31	1,454	1,065	3,114	60.95	51
1989	1,031,668.95	326,420	239,069	792,600	61.59	12,869



## ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
GRIFFI	ΛT					
INTERI	M SURVIVOR CURV LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
7.000	12 074 55	4 204	2 150	10 000	C1 70	175
1990	13,974.55	4,304	3,152	10,822	61.79	38
1995	2,925.08	777	569	2,356		205
2001	15,236.40	3,168	2,320	12,916	62.87	205
	1,164,376.59	398,828	292,100	872,277		14,660
LAKE SO	CRANTON					
	M SURVIVOR CURV	E IOWA 125-	R2.5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1901	300,722.92	238,233	174,481	126,242	30.56	4,131
1916	2,609.36	1,907	1,397	1,213	37.39	32
1935	239.93	154	113	127	45.71	3
1968	1,279.11	595	436	843	56.88	15
1970	3,211.00	1,449	1,061	2,150	57.77	37
1976	2,210.73	917	672	1,539	58.50	26
1977	57.10	23	17	40	59.50	1
1978	40,805.32	16,281	11,924	28,881	59.50	485
1982	276.75	102	75	202	60.65	3
1983	15,120.00	5,476	4,011	11,109	60.74	183
1984	35,225.92	12,509	9,162	26,064	60.84	428
1985	30,307.31	10,541	7,720	22,587	60.95	371
1986	30,933.62	10,524	7,708	23,226	61.09	380
1987	17,143.97	5,699	4,174	12,970	61.25	212
1989	1,718,945.82	543,874	398,331	1,320,615	61.59	21,442
1990	99,790.35	30,735	22,510	77,280	61.79	1,251
1991	7,810.44	2,338	1,712	6,098	62.00	98
1993	182,207.07	51,346	37,606	144,602	62.45	2,315
1994	518.27	143	105	414	61.97	7
1995	0.88			. 1	62.25	
2001	8,465.23	1,760	1,289	7,176	62.87	114
	2,497,881.10	934,606	684,501	1,813,380		31,534



#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)		FUTURE BOOK ACCRUALS (5)		ACCRUAL
	MS BRIDGE M SURVIVOR CURV	E TOWN 12E	ם ב			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1892	101,358.36	83,955	61,488	39,870	26.02	1,532
1902	20,137.13	15,816	11,584	8,554		271
1915	1,350.92	997		621		17
1916	3,362.29		1,799	1,563		42
1930	111.28	75	55	56		. 1
1942	202.61	125	92	111		2
1962	40,618.95	20,740	15,190	25,429		478
1974	16,787.48	7,303	5,349	11,439		202
1975	78.02	33	24	54	56.51	1
1985	1,916,629.50	685,195	501,834	1,414,796		24,222
1986	·	22,703	16,628	48,313		825
1988	23,272.56	7,759	5,683	17,590		298
	29,971.02		7,132	22,839		386
1990	5.17	2	1	4		25
1993	1,867.84		399	1,469		145
2001	10,426.96	2,237	1,638	8,789	60.42	145
	2,231,120.57	859,680	629,626	1,601,495		28,447
HOLLIS'	ਧਾਸ਼ਾਨ					
	ACCRUED					
	LVAGE PERCENT	0				
1972	1,814,273.85	1,814,274	1,814,274			
1973	3,536.78	3,537				
1976	958,017.39	958,017	958,017			
1977	25,124.94		25,125			
1978	33.29	33	33			
1993	1,202.20	1,202	1,202			
	2,802,188.45	2,802,188	2,802,188			
INTERI PROBAB	OPHER CHENERY ( M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 125- EAR 6-2091				
1010	226 215 25	177 007	117 440	110 060	35 36	3,362
1910	236,315.37	177,827	117,448	118,868	35.36	3,362
1916	3,174.05	2,320	1,532	1,642	37.39	961
1929	74,456.00	50,079	33,075	41,381	43.08	301



#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)		FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	
спртст	OPHER CHENERY (I	אבל (ממבת)				
	M SURVIVOR CURVE		R2 5			
	LE RETIREMENT Y					
	LVAGE PERCENT					
•,						
1930	93,721.44	62,325	41,163	52,558	44.08	1,192
1933	4,694.45	3,054	2,017	2,677	45.38	59
1935	258.54	166	110	149	45.71	3
1964	36,327.26	17,684	11,680	24,648	56.40	437
1983	2,366.25	849	561	1,806		29
1984	40,978.64	14,416	9,521	31,457	61.73	510
1986	40,605.19	13,684	9,038	31,567	61.96	509
1987	158.58	52	34	124	62.09	2
1988	5,675.53	1,825	1,205	4,470		72
1989	619.11	194	128	491		8
1991			212,770	872,650		13,898
	284,909.12	· ·	52,556	232,353		3,675
2001	8,126.08	1,650	1,090	7,036	64.80	109
	1,917,805.58	747,853	493,928	1,423,878		24,870
CD V CMA	* 1 7 12 12					
	L LAKE M SURVIVOR CURVI	Z TOWN 10E-	DO E			
	M SORVIVOR CORVI LE RETIREMENT YI					
	LVAGE PERCENT					
MEI DA	HVACH IHRCHAI					
1904	14,752.48	11,721	7,741	7,011	29.36	239
1930	603.90	428	283	321		9
1933	61.83	43	28	33	35.98	1
1951	79,182.32	49,497	32,691	46,491	39.88	1,166
1953	26,444.91	16,375	10,815	15,630	39.67	394
1954	114.24	70	46	68	39.59	2
1964	1,215,428.80	689,270	455,236	760,193	40.84	18,614
1965	1,783.96	1,002	662	1,122	40.95	27
1966	264.25	147	97	167		4
1967	3,530.07	1,943	1,283	2,247	41.25	54
1981	7,623.81	3,506	2,316	5,308	42.87	124
1982	45.13	21	14	31	42.62	1
1987	10,559.42	4,380	2,893	7,667	43.03	178
1989	1,797.68	712	470	1,327	43.44	31
1990	0.04		0			_
1993	184.09	66	44	141	43.52	3
1994	392.40	137	90	302	43.61	7
	1,362,769.33	779,318	514,709	848,060		20,854

#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

	ORIGINAL	CALCULATED	ALLOC. BOOK	FUTURE BOOK	REM.	ANNUAL
YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
@#.D.D.11	TO A COMPLY THEN	-				
	ER'S CREEK INTAK		חס ב			
	M SURVIVOR CURV					
	BLE RETIREMENT Y		•			
NET SA	ALVAGE PERCENT	0				
1900	53,822.16	43,004	28,402	25,420	29.56	860
1929	10,139.00	6,909	4,563			135
1985		714,615	471,975			26,142
1986		3,197	2,111	7,034		120
	6,281.95	1,347	890	5,392		89
2001	0,281.55	1,547	0,50	3,332	00,42	0,5
	2,078,312.63	769,072	507,942	1,570,371		27,346
	, - ,	,	·			
NESBIT	ГТ					
INTERI	- IM SURVIVOR CURVI	E IOWA 125-	R2.5			
	BLE RETIREMENT Y					
	ALVAGE PERCENT					
		-				
1900	186,178.90	148,757	98,248	87,931	29.56	2,975
1932	37,406.03	24,628	16,266	21,140	44.36	477
1934	97.08	63	42	55	44.71	1
1946	172,052.80	100,875	66,624	105,429	50.45	2,090
1980	413.30	157	104	310		5
1981	18,286.47	6,808	4,496	13,790	61.54	224
1984	111,517.46	38,853	25,661	85,857		1,370
2001	8,137.93	1,638	1,082	7,056		108
2012	26,922,112.06		1,379,806	25,542,306	65.42	390,436
2012	20,322,112.00	2,003,130	1,3,3,000	20,012,000		<b></b> ,
	27,456,202.03	2,410,935	1,592,328	25,863,874		397,686
WATRES	3					
INTERI	M SURVIVOR CURVI	E IOWA 125-	R2.5			
PROBAE	BLE RETIREMENT Y	EAR 6-2088				
NET SA	ALVAGE PERCENT	0	•			
1923	440,826.75	308,270	203,600	237,227	40.64	5,837
1941	3,067.89	1,901	1,256	1,812	46.96	39
1943	445.19	269	178	268	48.96	5
1947	12,218.40	7,150	4,722	7,496	49.98	150
1963	203.31	101	67	137	55.38	2
1976	3,892.59	1,615	1,067	2,826	58.50	48
1992	1,033.37	303	200	833	61.46	14
- <del>-</del> -	• • • • •					



## ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PROBAE	S IM SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	EAR 6-2088				
2000	36,085.19	7,895	5,214	30,871	62.50	494
2008	10,206,443.00	1,338,065	883,739	9,322,704		148,073
2013	10,331.83	692	457	9,875		158
	10,714,547.52	1,666,261	1,100,500	9,614,048		154,820
INTER I PROBAL	RUN DAM IM SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	EAR 6-2065				
1915	181,300.00	137,516	90,824	90,476	32,64	2,772
1985	470,440.45	200,314	132,300	338,141	43.83	7,715
1993	46,068.00	16,363	10,807	35,261		793
1996	722,840.00	234,634	154,967	567,873	44.73	12,696
2000	383,237.34	107,996	71,327	311,910	44.61	6,992
2008	13,218.88	2,311	1,526	11,693	44.85	261
2013	376,416.70	34,404	22,722	353,694		7,902
2014	1.01	,	,	1	44.58	·
	2,193,522.38	733,538	484,473	1,709,049		39,131
PROBA	RST IM SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	EAR 6-2097				
2017	23,087,531.00	175,465	115,888	22,971,643	64.86	354,173
	23,087,531.00	175,465	115,888	22,971,643		354,173
SURVI	COLLECTING AND VOR CURVE IOWA	75-R3	SERVOIRS			
1872	12,472.38	12,472	12,472			
1887	47,334.33	47,334	47,334			
1889	313,034.40	313,034	313,034			
1890	786.71	787	787			
1891	24,216.42	24,202	14,876	9,340	0.08	9,340
1071	21,210.12	21,202	=-,	- ,		•



#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OTHER	COLLECTING AND	TMPOUNDING RE	SERVOIRS			
	OR CURVE IOWA		BERTOTILE			
	ALVAGE PERCENT					
1892	63,398.63	62,853	38,633	24,765	1.09	22,720
1893	18,750.46	18,675	11,479	7,272	0.50	7,272
1895	6,406.19	6,356	3,907	2,499	0.96	2,499
1896	4,282.07	4,266	2,622	1,660	0.45	1,660
1897	206,819.08	204,358	125,611	81,208	1.45	56,006
1899	3,873.67	3,810	2,342	1,532	1.98	774
1900	102.29	101	62	40	1.55	26
1902	18,016.72	17,689	10,873	7,144	2.14	3,338
1903	1,354.74	1,318	810	545	3.15	173
1904	8,653.74	8,447	5,192	3,462	2.78	1,245
1905	1,565.34	1,514	931	635	3.78	168
1906	12,469.82	12,096	7,435	5,035	3.45	1,459
1907	133,856.55	128,690	79,101	54,756	4.44	12,332
1908	9,877.86	9,518	5,850	4,027	4.14	973
1909	634.19	612	376	258	3.87	67
1911	3,523.49	3,377	2,076	1,448	4.61	314
1912	29,204.03	27,729	17,044	12,160	5.61	2,168
1914	12,227.65	11,643	7,157	5,071	5.20	975
1915	47,310.91	44,614	27,423	19,888	6.20	3,208
1916	14,518.08	13,705	8,424	6,094	6.02	1,012
1919	92,687.10	86,737	53,314	39,373	6.76	5,824
1920	705.59	660	406	300	6.67	45
1921	6,984.46	6,470	3,977	3,008	7.67	392
1922	7,241.83	6,709	4,124	3,118	7.59	411
1924	43,713.02	40,461	24,870	18,843	7.52	2,506
1925	888.04	813	500	388	8.51	46
1927	5,375.47	4,913	3,020	2,356	8.51	277
1928	36,569.70	33,059	20,320	16,250	9.50	1,711
1930	999.24	901	554	445	9.59	46
1931	4,401.76	3,960	2,434	1,968	9.65	204
1935	464.91	410	252	213	10.95	19
1936	59.43	52	32	27	11.96	2
1937	175.75	153	94	82	12.09	7
1938	1,831.26	1,587	975	856	12.24	70
1939	490.11	423	260	230	12.41	19
1940	47.11	40	25	23	13.41	2
1941	409.60	348	214	196	13.59	14
1942	1,502.56	1,271	781	721	13.79	52
1943	186.20	157	97	90	14.00	6
1944	0.05		0		15.00	- 01-
1945	182,986.44	151,238	92,960	90,026	15.22	5,915
1946	18,020.81	14,817	9,107	8,913	15.46	577

### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
				1 - 7	, - ,	, ,
	COLLECTING AND		SERVOIRS			
	OR CURVE IOWA					
NET SA	LVAGE PERCENT	0				
1047	41 701 04	24 102	20,062	20 720	15.71	1 220
1947	41,701.24	34,103	20,962	20,739		1,320 3,156
1948	104,548.31	84,287 180	51,808	52,740 114	16.71 16.97	3,136 7
1949	224.29		111	1,324	18.25	73
1951	2,558.40	2,008	1,234	1,324		73
1953	242.21	187	115		18.83	15
1954	550.76	420	258	293 15	19.83 20.47	1
1956	28.75	22	14		20.47	
1957	50,202.89	37,055	22,776	27,427	21.47	1,277 518
1958	20,506.08	15,006	9,224	11,282		8,633
1959	345,073.57	250,316	153,860	191,214	22.15	·
1960	350,070.11	249,600	153,420	196,650	23.15	8,495
1961	919.14	649	399	520	23.50	22
1962	7,260.28	5,077	3,121	4,140	23.87	173
1963	2,766.90	1,900	1,168	1,599	24.87	64
1964	109,130.86	74,144	45,574	63,557	25.24	2,518
1965	9,372.82	6,299	3,872	5,501	25.62	215
1966	0.72			1	26.62	
1967	44,390.66	28,916	17,774	26,617	27.02	985
1968	16,113.83	10,290	6,325	9,789	28.02	349
1971	438.94	267	164	275	29.83	9
1972	133.67	80	49	84	30.26	3
1973	2,050.37	1,204	740	1,310	31.26	42
1974	84.70	49	30	55	31.68	2
1975	24,394.65	13,893	8,540	15,855	32.13	493
1977	49.85	27	17	33	33.57	1
1978	2,553.58	1,362	837	1,716	34.58	50
1979	3,320.58	1,739	1,069	2,252	35.03	64
1980	7,760.74	3,958	2,433	5,328	36.03	148
1981	61,731.77	30,866	18,972	42,760	36.50	1,172
1982	9,247.07	4,498	2,765	6,482	37.49	173
1983	32,252.35	15,355	9,438	22,814	37.96	601
1984	12,525.10	5,790	3,559	8,966	38.96	230
1985	12,545.81	5,668	3,484	9,062	39.44	230
1986	79,657.37	35,129	21,592	58,065	39.93	1,454
1987	292,906.64	125,071	76,877	216,030	40.93	5,278
1988	6,083.35	2,531	1,556	4,528	41.42	109
1989	12,588.58	5,058	3,109	9,480	42.43	223
1990	7,630.20	2,980	1,832	5,799	42.92	135
1991	111,686.26	42,028	25,833	85,853	43.92	1,955
1992	549,244.22	200,254	123,089	426,155	44.43	9,592
1993	13,034.93	4,567	2,807	10,228	45.43	225
1994	647.07	219	135	512	45.94	11

#### ACCOUNT 305 COLLECTING AND IMPOUNDING RESERVOIRS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	COLLECTING AND DOWN CURVE IOWA ALVAGE PERCENT		SERVOIRS			
1995	439,185.51	142,296	87,464	351,721	46.94	7,493
1996	19,639.01	6,080	3,737	15,902	47.94	332
1997	621,389.88	184,677	113,514	507,876	48.47	10,478
1998	9,052.34	2,560	1,574	7,479	49.46	151
1999	121,623.17	32,850	20,192	101,431	49.99	2,029
2000	37,696.79	9,632	5,920	31,776	50.99	623
2001	111,167.25	26,969	16,577	94,590	51.52	1,836
2002	125,597.22	28,611	17,586	108,011	52.53	2,056
2003	3,088.20	663	408	2,681	53.07	51
2006	13,779.66	2,362	1,452	12,328	55.61	222
2007	23,333.87	3,649	2,243	21,091	56.62	373
2014	1,226,158.81	65,722	40,397	1,185,762	61.86	19,168
2016	7,766.96	182	112	7,655	62.60	122
9999	3,575.00-	1,727-	1,141-	2,434-		132-
	6,504,563.48	3,141,957	2,075,139	4,429,424		240,704
	104,994,473.90	18,788,872	13,760,888	91,233,586		1,665,234

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 54.8 1.59

### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIN PROBABI	TOWN INTAKE 1 SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2077				
1966	6,696.14	4,725	3,885	2,811	21.49	131
1997	4,076,795.17		1,216,084	2,860,711	36.00	79,464
1998	86,320.84	30,126	24,770	61,551	36.37	1,692
2004	37,517.86	9,470	7,786	29,732	39.98	744
2005	48,578.25	11,474	9,434	39,144	40.41	969
	4,255,908.26	1,534,856	1,261,959	2,993,949		83,000
INTERI PROBABI	OAD INTAKE 1 SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2077				
1997	5,249,023.27	1.904.346	1,565,754	3,683,269	36.00	102,313
1998	67,078.68	23,410	19,248	47,831		1,315
2004	51,910.47	13,102	10,772	41,138		1,029
	5,368,012.42	1,940,858	1,595,774	3,772,238		104,657
INTERIN PROBABI	A CREEK INTAKE M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2072				
1992	1,097,993.04	481,580	395,955	702,038	32.64	21,509
1998	16,433.30	5,832	4,795	11,638	35.45	328
2007	52,227.42		8,881	43,347	40.26	1,077
2008	24,096.05	4,554	3,744	20,352	40.75	499
	1,190,749.81	502,767	413,375	777,375		23,413
INTERI PROBABI	ENY RIVER PUMP 1 SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 65-S EAR 6-2070				
1962	4,167.41	3,076	2,529	1,638	19.68	83
1970	1,783.13	1,203	989	794		35
· <del>-</del>		•				

#### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	ENY RIVER PUMP ( M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 65-S EAR 6-2070				
1990	18,120.03	8,471	6,965	11,155	31.32	356
1995	2,057,673.24	824,098	677,573	1,380,100	33.68	40,977
1996	16,079.46	6,223	5,117	10,963	34.06	322
	2,097,823.27	843,071	693,173	1,404,650		41,773
	INTAKES					
SURVIV	OR CURVE IOWA	60-S1		•		
NET SA	LVAGE PERCENT	0				
1871	7,485.00	7,485	7,485			
1876	1,000.00	1,000	1,000			
1882	2,105.88	2,106	2,106			
1884	15,908.00	15,908	15,908			
1896	1,064.36	1,064	1,064			
1899	4,333.00	4,313	3,534	799	0.55	799
1900	19,909.00	19,885	16,293	3,616	0.14	3,616
1901	255.00	253	207	48	1.15	42
1903	1,764.21	1,737	1,423	341	1.78	192
1905	926.29	907	743	183	2.44	75
1906	116.00	114	93	23	2.14	11
1907	50.00	49	40	10	1.87	5
1908	5,105.59	4,976	4,077	1,029	2.85	361
1909	625.00	610	500	125	2.61	48
1914	91.65	88	72	20	4.02	5
1915	2,103.77	2,005	1,643	461	5.03	92
1916	387.96	370	303	85	4.88	17
1920	362.00	342	280	82	5.59	15
1924	184.48	171	140	44	7.52	6
1934	275.60	246	202	74	9.96	7
1937	1,649.48	1,447	1,186	464	11.25	41
1938	223.95	196	161	63	11.41	6
1948	4,170.00	3,449	2,826	1,344	14.54	92
1954	527.89	422	346	182	15.87	11
1955	1,225.24	973	797	428	16.24	26
1959	0.02		0			
1961	201,175.04	152,310	124,795	76,380	18.13	4,213
1962	6,324.74	4,738	3,882	2,443	18.58	131
1963	126.00	93	. 76	50	19.03	. 3
1964	13,102.67	9,604	7,869	5,234	19.49	269



#### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER	INTAKES					
		60-S1				
	ALVAGE PERCENT	0				
1966	32,201.49	23,217	19,023	13,179	19.93	661
1967	129,302.67	92,064	75,432	53,870	20.43	2,637
1968	8,200.03	5,764	4,723	3,477	20.92	166
1969	349,018.66	243,755	199,720	149,298	20.94	7,130
1970	242.30	167	137	105	21.46	5
1972	2,528.96	1,703	1,395	1,134	22.07	51
1973	79,450.31	52,676	43,160	36,290	22.62	1,604
1974	695.59	454	372	324	23.17	14
1976	4,944.00	3,139	2,572	2,372	23.86	99
1979	4,591.44	2,793	2,288	2,303	24.79	93
1980	219.84	131	107	113	25.40	4
1982	0.25		0			
1983	948.38	537	440	508	26.48	19
1984	15,468.09	8,551	7,006	8,462	27.10	312
1985	3,033.55	1,647	1,349	1,684	27.38	62
1986	5,152.00	2,743	2,247	2,905	27.67	105
1987	373.00	193	158	215	28.32	8
1988	329.26	167	137	192	28.64	7
1989	35,044.05	17,277	14,156	20,888	29.31	713
1991	338,286.17	158,656	129,995	208,292	30.00	6,943
1992	13,345.24	6,057	4,963	8,382	30.68	273
1994	7,175.69	3,069	2,515	4,661	31.45	148
1995	2,404.15	990	811	1,593	32.14	50
1996	994,262.16	395,517	324,066	670,196	32.55	20,590
1997	258,343.09	99,049	81,156	177,187	32.97	5,374
1998	4,168.18	1,536	1,259	2,910	33.41	87
1999	476,312.30	167,424	137,179	339,134	34.13	9,937
2000	3,236.92	1,088	891	2,345	34.58	68
2001	11,542.58	3,695	3,027	8,515	35.05	243
2002	148,733.53	44,947	36,827	111,906	35.78	3,128
2006	200,520.03	46,360	37,985	162,535	38.25	4,249
2007	433,877.13	92,503	75,792	358,085	38.76	9,239 1,530
2008	71,901.04	13,934	11,417	60,484	39.52	760
2011	35,533.38	4,804	3,936	31,597	41.58	
2013	63,869.08	6,036	4,946	58,923	43.12	1,366



### ACCOUNT 306 LAKE, RIVER AND OTHER INTAKES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	R INTAKES VOR CURVE IOWA BALVAGE PERCENT					
2014	6,733.23	497	407	6,326	43.90	144
2017	594,990.00	6,307	5,168	589,822	46.67	12,638
9999	41,551.00-	15,673-	12,886-	28,665-		902-
	4,588,004.59	1,730,635	1,422,928	3,165,077		99,638
	17,500,498.35	6,552,187	5,387,209	12,113,289		352,481
	COMPOSITE REMAIN	TNG LIFE AND	ANNUAL ACCRUAL	RATE. PERCENT	34.4	2.01

#### ACCOUNT 307 WELLS AND SPRINGS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
		EE DO				
	CURVE IOWA AGE PERCENT					
NEI SALV	AGE PERCENI	U				
1900	1,510.00	1,510	1,510			
1901	687.32	687	687			
1904	1,700.99	1,701	1,701			
1905	11,557.00	11,557	11,557			
1907	60.00	60	60			
1908	11.00	11	11			
1910	6,358.00	6,358	6,358			
1912	850.80	851	851			
1913	1,496.00	1,496	1,496			
1914	685.91	686	686			
1915	2,515.00	2,515	2,515			
1916	1,761.00	1,752	1,761			
1918	1,184.00	1,178	1,184			
1920	62.00	61	62			
1922	2,819.00	2,773	2,814	5	1.59	3
1923	9,868.00	9,698	9,840	28	1.65	17
1924	8,365.00	8,134	8,253	112	2.65	42
1926	460.00	446	453	7	2.84	2
1927	1,464.24	1,418	1,439	25	2.95	8
1930	9.00	9	9			
1934	199.00	188	191	8	4.99	2
1935	1,250.00	1,176	1,193	57	5.22	11
1937	3,054.88	2,853	2,895	160	5.71	28
1938	241.00	224	227	14	5.97	2
1939	3,581.28	3,317	3,366	215	6.25	34
1940	74.75	69	70	5	6.54	1
1941	830.19	762	773	57	6.83	8
1945	4,321.00	3,885	3,942	379	8.15	47
1946	1,457.00	1,302	1,321	136	8.50	16
1948	865.57	770	781	85	8.62	10
1950	108.00	95	96	12	9.42	1
1951	608.00	530	538	70	9.83	7
1953	13,001.00	11,237	11,401	1,600	10.13	158
1954	14,821.28	12,705	12,891	1,930	10.58	182
1955	12,168.00	10,343	10,494	1,674	11.03	152
1956	4,046.80	3,410	3,460	587	11.49	51
1957	865.30	722	733	132	11.96	11
1958	2,594.00	2,161	2,193	401	11.93	34
1959	1,929.11	1,591	1,614	315	12.43	25
1960	46,187.99	37,712	38,264	7,924	12.92	613
1961	4,481.46	3,621	3,674	807	13.43	. 60
1962	2,887.26	2,324	2,358	529	13.46	39
1963	8,669.74	6,899	7,000	1,670	13.99	119

### ACCOUNT 307 WELLS AND SPRINGS.

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
			(1)	(3)	(0)	( , ,
	OR CURVE IOWA LVAGE PERCENT					
1964	2,122.94	1,669	1,693	430	14.53	30
1965	14,960.06	11,624	11,794	3,166	15.07	210
1966	57,611.35	44,505	45,156	12,455	15.17	821
1967	4,217.40	3,216	3,263	954	15.72	61
1968	9,156.71	6,890	6,991	2,166	16.29	133
1969	68,521.83	51,179	51,928	16,594	16.44	1,009
1970	5,074.73	3,736	3,791	1,284	17.02	75
1971	31,889.13	23,132	23,470	8,419	17.60	478
1972	110,634.29	79,037	80,193	30,441	18.19	1,674
1973	94,331.88	66,749	67,726	26,606	18.39	1,447
1974	55,326.00	38,507	39,070	16,256	19.00	856
1975	13,918.78	9,523	9,662	4,257	19.61	217
1976	111,791.51	75,616	76,722	35,070	19.85	1,767
1977	21,221.03	14,095	14,301	6,920	20.48	338
1978	169,169.52	110,265	111,878	57,292	21.10	2,715
1979	42,958.48	27,622	28,026	14,932	21.38	698
1980	133,899.77	84,357	85,591	48,309	22.02	2,194
1981	119,430.83	73,665	74,743	44,688	22.67	1,971
1982	295,695.95	179,487	182,113	113,583	22.98	4,943
1983	169,602.61	100,642	102,114	67,489	23.64	2,855
1984	48,715.45	28,235	28,648	20,067	24.30	826
1985	60,868.99	34,622	35,129	25,740	24.64	1,045
1986	75,047.92	41,607	42,216	32,832	25.32	1,297
1987	270,665.74	146,944	149,094	121,572	25.68	4,734
1988	270,905.36	143,038	145,131	125,774	26.37	4,770
1989	66,388.63	34,243	34,744	31,645	26.75	1,183
1990	962,823.67	481,893	488,943	473,881	27.45	17,263
1991	104,559.65	50,983	51,729	52,831	27.85	1,897
1992	239,523.02	113,007	114,660	124,863	28.55	4,373
1993	80,770.05	37,009	37,550	43,220	28.97	1,492
1994	11,479.91	5,072	5,146	6,334	29.69	213
1995	57,249.24	24,474	24,832	32,417	30.13	1,076
1996	30,321.51	12,450	12,632	17,690	30.86	573
1997	77,313.24	30,585	31,033	46,280	31.32	1,478
1998	28,154.21	10,704	10,861	17,293	31.78	544
1999	40,204.97	14,578	14,791	25,414	32.52	781
2000	2,256,111.14	781,743	793,181	1,462,930	33.01	44,318
2001	240,340.60	79,312	80,472	159,869	33.50	4,772
2002	321,443.07	100,644	102,117	219,326	34.00	6,451
2003	144,555.67	42,760	43,386	101,170	34.52	2,931
2004	1,043,721.55	290,259	294,506	749,216	35.04	21,382
2005	2,661.30	692	702	1,959	35.58	55
2006	169,540.66	40,944	41,543	127,998	36.12	3,544



#### ACCOUNT 307 WELLS AND SPRINGS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA					
2007	547,087.77	121,782	123,564	423,524	36.67	11,550
2008	318,981.29	65,136	66,089	252,892	37.01	6,833
2009	11,481.05	2,117	2,148	9,333	37.59	248
2010	53,132.46	8,767	8,895	44,237	37.95	1,166
2011	340,253.19	49,337	50,059	290,194	38.34	7,569
2012	32,806.62	4,094	4,154	28,653	38.56	743
2013	283,176.93	29,450	29,881	253,296	38.79	6,530
2014	172,350.32	14,236	14,444	157,906	38.87	4,062
2015	1,068,628.50	64,652	65,597	1,003,032	38.82	25,838
2016	97,428.08	3,683	3,737	93,691	38.18	2,454
9999	71,610.27-	25,960-	26,337-	45,273-		1,402-
	11,170,283.16	4,049,405	4,108,224	7,062,059		218,764

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 32.3 1.96

#### ACCOUNT 310 POWER GENERATION EQUIPMENT

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CIIDVITV	OR CURVE IOWA	40-P2 5				
	LVAGE PERCENT					
1101 011						
1931	3,609.84	3,610	3,610			
1936	2,809.10	2,809	2,809			
1937	4,520.24	4,520	4,520			
1940	2,939.00	2,939	2,939			
1944	1.00	1	1			
1954	8,338.50	7,995	. 8,338			
1957	1,178.00	1,119	1,174	4	3.20	1
1958	5,336.00	5,048	5,296	40	3.40	12
1959	107.00	101	106	1	3.61	
1963	940.00	866	908	32	4.67	7
1965	6,019.00	5,498	5,768	251	4.97	51
1966	142.00	129	135	7	5.32	1
1967	7,319.00	6,616	6,941	378	5.36	71
1968	23,061.00	20,663	21,677	1,384	5.75	241
1969	45,202.40	40,339	42,318	2,884	5.85	493
1970	206.00	182	191	15	6.26	2
1972	7,872.85	6,842	7,178	695	6.86	101
1973	136.00	117	123	13	7.05	2
1974	52,315.00	44,604	46,792	5,523	7.52	734
1975	38,313.36	32,405	33,995	4,318	7.75	557
1980	25,076.66	19,841	20,814	4,263	9.90	431
1981	585.65	457	479	107	10.23	10
1982	11,137.43	8,540	8,959	2,178	10.80	202
1983	2,509.00	1,896	1,989	520	11.16	47
1991	24,139.00	15,224	15,971	8,168	15.52	526
1992	48,752.04	29,836	31,300	17,452	16.17	1,079
1993	23,243.53	13,839	14,518	8,726	16.65	524
1994	107,457.50	61,874	64,909	42,548	17.31	2,458
1995	1,076.42	598	627	449	17.98	25
1996	7,932.48	4,264	4,473	3,459	18.50	. 187
1997	1,119,717.89	578,446	606,824	512,894	19.18	26,741
1998	25,172.70	12,468	13,080	12,093	19.87	609
1999	250,279.72	118,983	124,820	125,460	20.41	6,147
2000	96,600.18	43,779	45,927	50,673	21.11	2,400
2001	3,572.21	1,538	1,613	1,959	21.82	90
2002	239,930.33	98,179	102,995	136,935	22.38	6,119
2003	241,761.04	93,247	97,822	143,939	23.09	6,234
2004	86,744.06	31,505	33,051	53,693	23.67	2,268
2005	274,536.26	93,013	97,576	176,960	24.40	7,252
2005	380,105.41	119,771	125,647	254,458	25.00	10,178
2007	186,121.99	53,938	56,584	129,538	25.73	5,035
2007	165,083.77	43,747	45,893	119,191	26.34	4,525
2009	129,823.10	31,119	32,646	97,177	26.96	3,604
2002	+25,025.10	51,119	22,010	2.,,		-,

### ACCOUNT 310 POWER GENERATION EQUIPMENT

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
2010	113,054.93	24,171	25,357	87,698	27.59	3,179
2011	400,962.72	75,060	78,742	322,221	28.22	11,418
2012	6,281,773.40	1,005,084	1,054,391	5,227,382	28.87	181,066
2013	5,285,686.55	701,939	736,375	4,549,312	29.40	154,739
2014	259,708.78	27,269	28,607	231,102	29.83	7,747
2015	210,076.98	16,008	16,793	193,284	30.29	6,381
2016	71,947.79	3,389	3,555	68,393	30.35	2,253
9999	118,273.00-	25,532-	26,779-	91,494-		3,310-
	16,166,661.81	3,489,893	3,660,377	12,506,285		452,437

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.6 2.80

### ACCOUNT 311.2 PUMPING EQUIPMENT

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

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIV	OR CURVE IOWA	50-R1				
NET SA	LVAGE PERCENT	0				
1956	10,954.80	9,163	10,541	414	12.03	34
1957	4,911.00	4,070	4,682	229	12.50	18
1958	77.00	63	72	5	12.96	
1963	148.87	117	135	14	14.94	1
1973	2,137.00	1,503	1,729	408	18.79	22
1981	5,635.81	3,518	4,047	1,589	21.98	72
1989	961.14	510	587	374	25.26	15
1990	3,317.46	1,715	1,973	1,344	25.69	52
1991	6,354.07	3,199	3,680	2,674	26.13	102
1992	60,602.18	29,671	34,135	26,467	26.58	996
1993	18,511.91	8,799	10,123	8,389	27.05	310
1994	1,375.00	637	733	642	27.26	24
1995	10,623.28	4,757	5,473	5,150	27.75	186
1996	81,001.47	35,179	40,471	40,530	28.00	1,448
1999	5,434.16	2,111	2,429	3,005	29.12	103
2001	125,000.00	44,550	51,252	73,748	29.80	2,475
2002	62,433.03	21,190	24,378	38,055	30.16	1,262
2003	1,018,252.14	329,303	378,842	639,410	30.34	21,075
2004	297,680.98	91,209	104,930	192,751	30.56	6,307
2005	403,676.40	116,582	134,120	269,556	30.79	8,755
2006	3,056,135.07	825,768	949,994	2,106,141	31.06	67,809
2007	1,806.39	455	523	1,283	31.17	41
2008	268,051.60	62,402	71,790	196,262	31.31	6,268
2009	9,243.96	1,973	2,270	6,974	31.34	223
2010	75,404.48	14,591	16,786	58,618	31.26	1,875
2011	116,694.53	20,095	23,118	93,577	31.24	2,995
2012	975,275.58	146,974	169,084	806,192	31.00	26,006
2013	304,840.58	38,959	44,820	260,021	30.71	8,467
2014	4,148,662.57	431,461	496,369	3,652,294	30.17	121,057
2015	438,334.23	34,541	39,737	398,597	29.24	13,632
2016	545,879.50	28,004	32,217	513,662	27.74	18,517
2017	406,091.00	8,365	9,624	396,467	23.83	16,637
9999	1,954,569.05-	363,997-	418,756-	1,535,813-		51,239-
	10,510,938.14	1,957,437	2,251,908	8,259,030		275,545

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.0 2.62



#### ACCOUNT 311.5 PUMPING EQUIPMENT - OTHER

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE IOWA VAGE PERCENT					
1989	1,138.62	604	695	444	25.26	18
1993	1,124.24	534	614	510	27.05	19
1995	5,977.82	2,677	3,080	2,898	27.75	104
1999	4,366.65	1,696	1,951	2,416	29.12	83
2000	285,732.07	106,521	122,546	163,186	29.45	5,541
2002	4,918.39	1,669	1,920	2,998	30.16	99
2003	4,227.88	1,367	1,573	2,655	30.34	88
2004	75,780.20	23,219	26,712	49,068	30.56	1,606
2005	179,201.58	51,753	59,538	119,664	30.79	3,886
2006	95,127.71	25,704	29,571	65,557	31.06	2,111
2007	22,450.38	5,657	6,508	15,942	31.17	511
2009	2,012.56	429	494	1,519	31.34	48
2010	72,931.73	14,112	16,235	56,697	31.26	1,814
2011	170,765.87	29,406	33,830	136,936	31.24	4,383
2012	9,450.37	1,424	1,638	7,812	31.00	252
2013	679,320.19	86,817	99,877	579,443	30.71	18,868
2016	19,625.74	1,007	1,158	18,468	27.74	666
	1,634,152.00	354,596	407,940	1,226,212		40,097

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.6 2.45

## ACCOUNT 311.52 PUMPING EQUIPMENT - SOURCE OF SUPPLY

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE IOWA VAGE PERCENT					
1995	1,511.21	677	779	732	27.75	26
1997	4,550.89	1,903	2,189	2,362	28.52	83
2007	549,918.17	138,579	159,427	390,491	31.17	12,528
2008	286,348.33	66,662	76,690	209,658	31.31	6,696
2009	144,475.04	30,831	35,469	109,006	31.34	3,478
2010	751,592.07	145,433	167,312	584,280	31.26	18,691
2011	1,498,977.87	258,124	296,955	1,202,023	31.24	38,477
2012	301,954.16	45,504	52,350	249,604	31.00	8,052
2013	1,472,653.09	188,205	216,518	1,256,135	30.71	40,903
2014	219,733.26	22,852	26,290	193,443	30.17	6,412
2015	1,465,594.33	115,489	132,863	1,332,731	29.24	45,579
2016	1,812,308.72	92,971	106,957	1,705,352	27.74	61,476
	8,509,617.14	1,107,230	1,273,799	7,235,818		242,401

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.9 2.85

## ACCOUNT 311.53 PUMPING EQUIPMENT - WATER TREATMENT

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
			( - /	(-,	( - /	, , ,
	CURVE IOWA					
NET SALV	AGE PERCENT	0				
1909	501.25	501	501			
1910	137.73	138	138			
1917	133.00	133	133			
1918	435.34	433	435			
1919	8,727.40	8,682	8,727			
1923	62.09	61	62	*		
1928	134.45	130	134			
1929	7,987.63	7,635	7,988			
1930	417.06	398	417			
1931	3,609.84	3,435	3,610			
1936	93.89	88	94			
1937	1,084.39	1,013	1,084			
1939	195.67	180	196			
1941	233.57	213	234			
1942	901.65	817	902			
1944	46.63	42	47			
1945	2,151.41	1,919	2,151			
1946	36.51	32	37			
1947	3,558.34	3,161	3,558			
1948	1,721.87	1,520	1,722			
1950	454.95	396	455			
1951	52,230.88	45,154	51,953	278	10.42	27
1952	33,222.64	28,505	32,797	426	10.84	39
1953	15,012.51	12,782	14,707	306	11.26	2,7
1954	10,791.48	9,114	10,486	305	11.68	26
1955	10,508.03	8,867	10,202	306	11.57	26
1956	4,590.81	3,840	4,418	173	12.03	14
1957	15,469.94	12,821	14,752	718	12.50	57
1958	6,142.77	5,044	5,804	339	12.96	26
1959	73,437.16	59,719	68,712	4,725	13.44	352
1960	82,848.56	67,174	77,289	5,560	13.42	414
1961	190,866.10	153,132	176,191	14,675	13.92	1,054
1962	3,846.01	3,052	3,512	334	14.43	23
1963	22,373.05	17,558	20,202	2,171	14.94	145
1964	39,821.18	31,104	35,788	4,033	14.99	269
1965	216,702.55	167,251	192,436	24,267	15.52	1,564
1966	15,328.52	11,683	13,442	1,887	16.07	117
1967	73,824.97	55,922	64,343	9,482	16.17	586
1968	134,976.99	100,882	116,073	18,904	16.73	1,130
1969	720,203.61	534,391	614,860	105,344	16.86	6,248
1970	9,689.34	7,088	8,155	1,534	17.44	88 570
1971	60,135.70	43,346	49,873	10,263	18.01	4,610
1972	471,039.57	336,511	387,183	83,857	18.19	4,610

### ACCOUNT 311.53 PUMPING EQUIPMENT - WATER TREATMENT

Column   C		ORIGINAL	CALCULATED	ALLOC. BOOK	FUTURE BOOK	REM.	ANNUAL
SURVIVOR CURVE IOWA 50-R1 NET SALVAGE PERCENT 0  1973	YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
NET SALVAGE PERCENT. 0  1973	( 1 )	(2)	(3)	(4)	(5)	(6)	( / )
1973	SURVIV	OR CURVE IOWA	50-R1				
1974         45,388.56         31,597         36,355         9,044         19.00         476           1975         142,294.39         97,358         112,018         30,276         19.61         1,544           1977         40,887.02         27,321         31,435         9,452         20.11         470           1978         24,085.89         15,793         18,171         5,915         20.74         285           1979         295,041.51         190,833         219,569         75,473         21.02         3,591           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1985         1,270,910.43         735,222         845,932         424,978         23.32         4,447           1986         521,226.09         295,535         340,037         181,189         24.06 <t< td=""><td>NET SA</td><td>LVAGE PERCENT</td><td>0</td><td></td><td></td><td></td><td></td></t<>	NET SA	LVAGE PERCENT	0				
1974         45,388.56         31,597         36,355         9,044         19.00         476           1975         142,294.39         97,358         112,018         30,276         19.61         1,544           1977         40,887.02         27,321         31,435         9,452         20.11         470           1978         24,085.89         15,793         18,171         5,915         20.74         285           1979         295,041.51         190,833         219,569         75,473         21.02         3,591           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1985         1,270,910.43         735,222         845,932         424,978         23.32         4,447           1986         521,226.09         295,535         340,037         181,189         24.06 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
1975         142,294.39         97,358         112,018         30,276         19.61         1,544           1976         84,805.87         57,363         66,001         18,805         19.85         947           1977         40,887.02         27,321         31,435         9,452         20.11         470           1979         295,041.51         190,833         219,569         75,473         21.02         3,591           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1989         784,014.55         415,606         478,188         305,827         25.26	1973			28,830			
1976         84,805.87         57,363         66,001         18,805         19.85         947           1977         40,887.02         27,321         31,435         9,452         20.11         470           1978         24,085.89         15,793         18,171         5,915         20.74         285           1979         295,041.51         190,833         219,569         75,473         21.02         3,591           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         796,741.55         41,566         478,188         305,827         25.26	1974						
1977         40,887.02         27,321         31,435         9,452         20.11         470           1978         24,085.89         15,793         18,171         5,915         20.74         285           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         126,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25				· ·	•		
1978         24,085.89         15,793         18,171         5,915         20.74         285           1979         295,041.51         190,833         219,669         75,473         21.02         3,591           1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.45         13,459           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24							
1979         295,041.51         190,833         219,569         75,473         21.02         3,591           1980         203,494.06         128,975         148,996         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529,14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,576 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
1980         203,494.06         128,975         148,396         55,098         21.67         2,543           1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,788,999,52         968,918         1,114,818         864,182							
1981         560,533.62         349,885         402,571         157,963         21.98         7,187           1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         7910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818							
1982         961,973.62         590,844         679,813         282,161         22.30         12,653           1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1984         322,417.02         199,097         218,722         103,695         23.32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         86							
1983         270,949.97         163,600         188,235         82,715         22.64         3,653           1984         322,417.02         190,097         218,722         103,695         23,32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>							
1984         322,417.02         190,097         218,722         103,695         23.32         4,447           1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         20.417 <td< td=""><td></td><td>·</td><td></td><td></td><td></td><td></td><td></td></td<>		·					
1985         1,270,910.43         735,222         845,932         424,978         23.68         17,947           1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         133,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969,48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036,54         1,587,467         1,826,508							
1986         521,226.09         295,535         340,037         181,189         24.06         7,531           1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036.54         1,587,467         1,826,508         1,718,529         27.75         61,929           1996         1,368,928.83         594,526         684,050							
1987         910,773.63         505,570         581,699         329,075         24.45         13,459           1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036.54         1,587,467         1,826,508         1,718,529         27.75         61,929           1996         1,368,928.83         594,526         684,050         684,879         28.00         24,460           1997         3,547,267.99         1,483,467         1,706,847<							
1988         359,529.14         195,152         224,538         134,991         24.85         5,432           1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036.54         1,587,467         1,826,508         1,718,529         27.75         61,929           1996         1,368,928.83         594,526         684,050         684,879         28.00         24,460           1997         3,547,267.99         1,483,467         1,706,847         1,840,421         28.52         64,531           1998         1,333,446.55         1,38,179         619							•
1989         784,014.55         415,606         478,188         305,827         25.26         12,107           1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036.54         1,587,467         1,826,508         1,718,529         27.75         61,929           1996         1,368,928.83         594,526         684,050         684,879         28.00         24,460           1997         3,547,267.99         1,483,467         1,706,847         1,840,421         28.52         64,531           1998         1,333,446.55         538,179         619,218         714,229         28.81         24,791           1999         3,794,421.65         1,474,133 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>							
1990         4,677,015.54         2,418,017         2,782,122         1,894,894         25.69         73,760           1991         1,097,213.44         552,447         635,635         461,578         26.13         17,665           1992         1,978,999.52         968,918         1,114,818         864,182         26.58         32,512           1993         1,601,453.09         761,171         875,788         725,665         27.05         26,827           1994         379,969.48         175,926         202,417         177,552         27.26         6,513           1995         3,545,036.54         1,587,467         1,826,508         1,718,529         27.75         61,929           1996         1,368,928.83         594,526         684,050         684,879         28.00         24,460           1997         3,547,267.99         1,483,467         1,706,847         1,840,421         28.52         64,531           1998         1,333,446.55         538,179         619,218         714,229         28.81         24,791           2000         2,516,089.60         937,998         1,079,242         1,436,848         29.45         48,789           2001         2,610,309.18         930,314				•			
1991       1,097,213.44       552,447       635,635       461,578       26.13       17,665         1992       1,978,999.52       968,918       1,114,818       864,182       26.58       32,512         1993       1,601,453.09       761,171       875,788       725,665       27.05       26,827         1994       379,969.48       175,926       202,417       177,552       27.26       6,513         1995       3,545,036.54       1,587,467       1,826,508       1,718,529       27.75       61,929         1996       1,368,928.83       594,526       684,050       684,879       28.00       24,460         1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1							
1992       1,978,999.52       968,918       1,114,818       864,182       26.58       32,512         1993       1,601,453.09       761,171       875,788       725,665       27.05       26,827         1994       379,969.48       175,926       202,417       177,552       27.26       6,513         1995       3,545,036.54       1,587,467       1,826,508       1,718,529       27.75       61,929         1996       1,368,928.83       594,526       684,050       684,879       28.00       24,460         1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2							
1993       1,601,453.09       761,171       875,788       725,665       27.05       26,827         1994       379,969.48       175,926       202,417       177,552       27.26       6,513         1995       3,545,036.54       1,587,467       1,826,508       1,718,529       27.75       61,929         1996       1,368,928.83       594,526       684,050       684,879       28.00       24,460         1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       4							
1994       379,969.48       175,926       202,417       177,552       27.26       6,513         1995       3,545,036.54       1,587,467       1,826,508       1,718,529       27.75       61,929         1996       1,368,928.83       594,526       684,050       684,879       28.00       24,460         1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,						27.05	26,827
1996       1,368,928.83       594,526       684,050       684,879       28.00       24,460         1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2009       227,618.41<	1994			202,417	177,552	27.26	6,513
1997       3,547,267.99       1,483,467       1,706,847       1,840,421       28.52       64,531         1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2010       250,567.02	1995	3,545,036.54	1,587,467	1,826,508	1,718,529	27.75	61,929
1998       1,333,446.55       538,179       619,218       714,229       28.81       24,791         1999       3,794,421.65       1,474,133       1,696,108       2,098,314       29.12       72,057         2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       4	1996	1,368,928.83	594,526	684,050	684,879	28.00	24,460
1999         3,794,421.65         1,474,133         1,696,108         2,098,314         29.12         72,057           2000         2,516,089.60         937,998         1,079,242         1,436,848         29.45         48,789           2001         2,610,309.18         930,314         1,070,401         1,539,908         29.80         51,675           2002         1,486,921.88         504,661         580,653         906,269         30.16         30,049           2003         2,292,563.93         741,415         853,057         1,439,507         30.34         47,446           2004         435,006.14         133,286         153,356         281,650         30.56         9,216           2005         131,949.05         38,107         43,845         88,104         30.79         2,861           2006         288,931.02         78,069         89,825         199,106         31.06         6,410           2007         2,302,906.67         580,332         667,718         1,635,189         31.17         52,460           2008         422,794.21         98,426         113,247         309,547         31.31         9,887           2010         250,567.02         48,485         55,786	1997	3,547,267.99	1,483,467	1,706,847	1,840,421	28.52	64,531
2000       2,516,089.60       937,998       1,079,242       1,436,848       29.45       48,789         2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802	1998	1,333,446.55	538,179	619,218	714,229	28.81	·
2001       2,610,309.18       930,314       1,070,401       1,539,908       29.80       51,675         2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802       84	1999	3,794,421.65	1,474,133	1,696,108	2,098,314		
2002       1,486,921.88       504,661       580,653       906,269       30.16       30,049         2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802       84,915       404,814       31.00       13,059	2000	2,516,089.60					
2003       2,292,563.93       741,415       853,057       1,439,507       30.34       47,446         2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802       84,915       404,814       31.00       13,059	2001						
2004       435,006.14       133,286       153,356       281,650       30.56       9,216         2005       131,949.05       38,107       43,845       88,104       30.79       2,861         2006       288,931.02       78,069       89,825       199,106       31.06       6,410         2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802       84,915       404,814       31.00       13,059	2002	1,486,921.88					
2005     131,949.05     38,107     43,845     88,104     30.79     2,861       2006     288,931.02     78,069     89,825     199,106     31.06     6,410       2007     2,302,906.67     580,332     667,718     1,635,189     31.17     52,460       2008     422,794.21     98,426     113,247     309,547     31.31     9,887       2009     227,618.41     48,574     55,888     171,730     31.34     5,480       2010     250,567.02     48,485     55,786     194,781     31.26     6,231       2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059		•					
2006     288,931.02     78,069     89,825     199,106     31.06     6,410       2007     2,302,906.67     580,332     667,718     1,635,189     31.17     52,460       2008     422,794.21     98,426     113,247     309,547     31.31     9,887       2009     227,618.41     48,574     55,888     171,730     31.34     5,480       2010     250,567.02     48,485     55,786     194,781     31.26     6,231       2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059		·	•				
2007       2,302,906.67       580,332       667,718       1,635,189       31.17       52,460         2008       422,794.21       98,426       113,247       309,547       31.31       9,887         2009       227,618.41       48,574       55,888       171,730       31.34       5,480         2010       250,567.02       48,485       55,786       194,781       31.26       6,231         2011       447,625.82       77,081       88,688       358,938       31.24       11,490         2012       489,729.36       73,802       84,915       404,814       31.00       13,059		· ·					
2008     422,794.21     98,426     113,247     309,547     31.31     9,887       2009     227,618.41     48,574     55,888     171,730     31.34     5,480       2010     250,567.02     48,485     55,786     194,781     31.26     6,231       2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059							
2009     227,618.41     48,574     55,888     171,730     31.34     5,480       2010     250,567.02     48,485     55,786     194,781     31.26     6,231       2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059							
2010     250,567.02     48,485     55,786     194,781     31.26     6,231       2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059							
2011     447,625.82     77,081     88,688     358,938     31.24     11,490       2012     489,729.36     73,802     84,915     404,814     31.00     13,059							
2012 489,729.36 73,802 84,915 404,814 31.00 13,059							
2013 232,675.91 29,736 34,214 196,462 30.71 6,462							
	2013	232,675.91	29,/36	34,214	130,402	3U./I	0,402



#### ACCOUNT 311.53 PUMPING EQUIPMENT - WATER TREATMENT

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	VOR CURVE IOWA ALVAGE PERCENT	=				
2014 2015 2016	149,862.92 391,478.79 301,779.90	15,586 30,849 15,481	17,933 35,494 17,812	131,930 355,985 283,968	30.17 29.24 27.74	4,373 12,175 10,237
	47,432,222.90	20,698,128	23,811,898	23,620,325		845,391
	COMPOSITE REMAIN	ING LIFE AND	ANNUAL ACCRUAL	RATE, PERCENT	27.9	1.78

## ACCOUNT 311.54 PUMPING EQUIPMENT - TRANSMISSION AND DISTRIBUTION

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
1978	1,438.68	943	1,085	354	20.74	17
1999	106,103.80	41,221	47,422	58,682	29.12	2,015
2000	502,264.82	187,244	215,413	286,852	29.45	9,740
2001	36,531.40	13,020	14,979	21,552	29.80	723
2002	538,352.70	182,717	210,204	328,149	30.16	10,880
2003	167,835.33	54,278	62,443	105,392	30.34	3,474
2004	336,638.69	103,146	118,663	217,976	30.56	7,133
2005	21,677.82	6,261	7,203	14,475	30.79	470
2006	236,039.74	63,778	73,373	162,667	31.06	5,237
2007	1,255,942.43	316,497	364,110	891,832	31.17	28,612
2008	839,950.09	195,540	224,956	614,994	31.31	19,642
2009	1,510,346.64	322,308	370,795	1,139,552	31.34	36,361
2010	392,838.07	76,014	87,450	305,388	31.26	9,769
2011	167,544.93	28,851	33,191	134,354	31.24	4,301
2012	155,563.99	23,443	26,970	128,594	31.00	4,148
2013	276,598.58	35,349	40,667	235,932	30.71	7,683
2015	218,421.37	17,212	19,801	198,620	29.24	6,793
2016	312,936.06	16,054	18,469	294,467	27.74	10,615
	7,077,025.14	1,683,876	1,937,194	5,139,831		167,613

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.7 2.37

### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	RSHEY TREATMENT M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 70-R EAR 6-2067				
1992	4,957,875.70	2,073,384	2,174,623	2,783,252	35.48	78,446
1993	236.04	95	100	136	36.11	4
1994	15,232.02	5,977	6,269	8,963	36.38	246
1995	830.13	316	331	499	36.67	14
1996	1,183.76	438	459	724	36.64	20
1998	5,798.79	1,990	2,087	3,712	37.32	99
2001	55,101.60	16,641	17,454	37,648	38.14	987
2008	30,628.68	5,994	6,287	24,342	39.04	624
2009	156,208.55	27,743	29,098	127,111	39.35	3,230
2012	3,190,991.80	391,216	410,318	2,780,673	39.35	70,665
2013	143,928.90	14,825	15,549	128,380	39.17	3,278
2014	144,316.86	11,863	12,442	131,875	39.06	3,376
	8,702,332.83	2,550,482	2,675,017	6,027,316		160,989
INTERI PROBAB	TREATMENT PLANT M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 70-R EAR 6-2064				
1989	2,875,135.64	1,319,112	1,383,522	1,491,614	33.61	44,380
1990	10,623.39	4,761	4,993	5,630	33.85	166
1994	8,231.30	3,307	3,468	4,763	34.98	136
2000	691.60	224	235	457	36.55	13
2007	6,598.67	1,441	1,511	5,087	37.58	135
2008	51,019.15	10,275	10,777	40,242	37.67	1,068
2009	13,787.45	2,531	2,655	11,133	37.80	295
2010	29,160.31	4,835	5,071	24,089	37.75	638
2012	25,731.93	• 3,268	3,428	22,304	37.79	590
2013	10,033.12	1,070	1,122	8,911	37.70	236
2014	10,972.92	937	983	9,990	37.48	267
	3,041,985.48	1,351,761	1,417,765	1,624,220		47,924



#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	NON VALLEY M SURVIVOR CURV	E IOWA 70-R	2			
	LE RETIREMENT Y LVAGE PERCENT					
1101 011						
1988	2,378,740.29	1,354,455	1,420,590	958,150	22.31	42,947
1990	6,544.83	3,600	3,776	2,769	22.50	123
1993	8,633.92	4,464	4,682	3,952	22.89	173
1994	35,338.97	17,853	18,725	16,614	23.01	722
1995	21,272.50	10,530	11,044	10,228	22.95	446
2011	15,381.16	3,319	3,481	11,900	23.62	504
	2,465,911.67	1,394,221	1,462,298	1,003,614		44,915
NORRIS'	TOWN PLANT					
INTERI	M SURVIVOR CURV	E IOWA 70-R	.2			
	LE RETIREMENT Y					
	LVAGE PERCENT					
1997	3,081,917.33	1,193,935	1,252,233	1,829,685	32.41	56,454
1998	107,989.06	40,431	42,405	65,584	32.58	2,013
1999	312,258.00	112,663	118,164	194,094	32.78	
2000	128,124.58	44,613	46,791	81,333		2,483
2001	405,208.19	135,056	141,651	263,558	33.00	7,987
	4,035,497.16	1,526,698	1,601,244	2,434,253		74,858
NORRIS'	TOWN PLANT NO.	2				
	M SURVIVOR CURV		.2			
	LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
1999	4,035,844.63	1,619,988	1,699,089	2,336,756		84,696
2004	14,854.67	4,834	5,070	9,785	27.99	350
2006	18,839.86	5,460	5,727	13,113	28,18	465
2010	35,600.00	7,476	7,841	27,759	28.21	984
2011	9,238.54	1,729	1,813	7,425	28.22	263
2012	111,639.37	18,175	19,062	92,577	28.28	3,274
2013	126,470.76	17,415	18,265	108,205	28.18	3,840
2014	92,686.99	10,288	10,790	81,897	28.04	2,921
	4,445,174.82	1,685,365	1,767,658	2,677,517		96,793



#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SILVER INTERI PROBAB	SPRINGS FILTER M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	PLANT E IOWA 70-R EAR 6-2044	2			
1060	605 102 01	425,508	446,285	158,817	20.47	7,759
1969 1970	605,102.01 105.00	425,508	77	28	20.53	1
1971	85.00	58	61	24	21.07	1
1971	77.00	53	56	21	21.17	1
1973	159.00	108	113	46	21.29	2
1977	915.82	593	622	294	22.00	13
1982	1,483.91	906	950	534	22.64	24
1984	2,725.23	1,625	1,704	1,021	22.68	45
1985	5,679.13	3,340	3,503	2,176	22.75	96
1986	274.00	159	167	107	22.85	5
1989	1,399.32	770	808	592	23.32	25
1990	839,132.66	454,642	476,841	362,291	23.26	15,576
1991	1,611,862.00	854,287	896,000	715,862	23.50	30,462
1992	142.08	74	. 78	64	23.52	3
1994	3,438.13	1,713	1,797	1,641	23.67	69
1995	39,107.01	19,006	19,934	19,173	23.80	806
2000	35,452.36	14,954	15,684	19,768	23.99	824
2001	12,817.10	5,202	5,456	7,361	24.15	305
2004	30,905.55	11,058	11,598	19,308	24.23	797
2007	0.06		0			
2008	38,004.78	10,649	11,169	26,836	24.40	1,100
2009	43,188.45	11,160	11,705	31,484	24.39	1,291
2011	1,847,904.99	389,169	408,171	1,439,734	24.36	59,102
2012	4,021.14	741	<b>7</b> 77	3,244	24.35	133
2013	246,296.50	38,472	40,351	205,946	24.32	8,468
2014	12,654.23	1,594	1,672	10,982	24.28	452
	5,382,932.46	2,245,914	2,355,578	3,027,354		127,360
ONEIDA	VALLEY TREATMED	NT PLANT				
=	M SURVIVOR CURVI		2			
	LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
1972	991,745.07	663,279	695,666	296,079	22.53	13,142
1973	4,253.01	2,820	2,958	1,295	22.62	57
1974	84.31	55	58	27	22.73	1
1982	1,619,944.17	960,303	1,007,193	612,751	24.38	25,133
1983	985.80	578	606	380	24.32	16
1984	1,092.20	629	660	432	24.64	18
-	•					



## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIN PROBABI	VALLEY TREATMEN M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 70-R EAR 6-2047				
1985	1,762.52	1,003	1,052	711	24.64	29
1986	158,342.13	88,292	92,603	65,739	24.99	2,631
1987	5,291.21	2,905	3,047	2,244	25.06	90
1990	9,016.06	4,687	4,916	4,100	25.41	161
1994	11,504.67	5,488	5,756	5,749	25.76	223
1996	206,838.17	93,822	98,403	108,435	25.90	4,187
1997	211,238.37	93,114	97,661	113,578	26.01	4,367
1998	143,526.80	61,286	64,278	79,248	26.16	3,029
2008	44,084.18	11,559	12,123	31,961	26.73	1,196
2009	3,924.36	947	993	2,931	26.71	110
2012	12.52	2	2	10	26.76	
2013	55,551.77	8,022	8,414	47,138	26.65	1,769
2014	2,179.04	253	265	1,914	26.62	72
	3,471,376.36	1,999,044	2,096,654	1,374,722		56,231
INTERII PROBABI	CK CREEK TREATME M SURVIVOR CURVE LE RETIREMENT YE	E IOWA 70-R				
	LVAGE PERCENT					
1906			1,384			
1906	LVAGE PERCENT	0				
1906 1909	LVAGE PERCENT	1,327	1,384	2	6.14	
1906	1,384.00 3,521.00	1,327 3,362	1,384 3,521	2 86		9
1906 1909 1910	1,384.00 3,521.00 203.00	1,327 3,362 192	1,384 3,521 201			1
1906 1909 1910 1924	1,384.00 3,521.00 203.00 1,765.00	1,327 3,362 192 1,601	1,384 3,521 201 1,679	86	9.59	
1906 1909 1910 1924 1927	1,384.00 3,521.00 203.00 1,765.00 135.95	1,327 3,362 192 1,601 123	1,384 3,521 201 1,679 129	86 7	9.59 9.50	1
1906 1909 1910 1924 1927 1928 1935	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00	1,327 3,362 192 1,601 123 115	1,384 3,521 201 1,679 129 121	86 7 8	9.59 9.50 10.50	1
1906 1909 1910 1924 1927 1928	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65	1,327 3,362 192 1,601 123 115 38	1,384 3,521 201 1,679 129 121 40	86 7 8 3	9.59 9.50 10.50 10.95	1 1 17
1906 1909 1910 1924 1927 1928 1935 1958 1963	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84	1,327 3,362 192 1,601 123 115 38 23 1,132	1,384 3,521 201 1,679 129 121 40 24 1,187	86 7 8 3 5	9.59 9.50 10.50 10.95 15.13 15.92	1
1906 1909 1910 1924 1927 1928 1935	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15	1,327 3,362 192 1,601 123 115 38 23	1,384 3,521 201 1,679 129 121 40 24	86 7 8 3 5 276	9.59 9.50 10.50 10.95 15.13 15.92	1 1 17
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408	86 7 8 3 5 276 44,975	9.59 9.50 10.50 10.95 15.13 15.92 15.99	1 17 2,813
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57	86 7 8 3 5 276 44,975	9.59 9.50 10.50 10.95 15.13 15.92 15.99	1 17 2,813
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967 1969	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40 2.12 304,607.79	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57	86 7 8 3 5 276 44,975	9.59 9.50 10.50 10.95 15.13 15.92 15.99 16.07	1 17 2,813 1
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967 1969	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40 2.12	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57 2	86 7 8 3 5 276 44,975	9.59 9.50 10.50 10.95 15.13 15.92 15.99 16.07	1 17 2,813 1
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967 1969 1972	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40 2.12 304,607.79 0.36	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57 2	86 7 8 3 5 276 44,975 14	9.59 9.50 10.50 10.95 15.13 15.92 15.99 16.07	1 17 2,813 1
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967 1969	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40 2.12 304,607.79 0.36 0.55	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57 2 238,622 0	86 7 8 3 5 276 44,975 14	9.59 9.50 10.50 10.95 15.13 15.92 15.99 16.07	1 17 2,813 1
1906 1909 1910 1924 1927 1928 1935 1958 1963 1965 1966 1967 1969 1972 1973	1,384.00 3,521.00 203.00 1,765.00 135.95 129.00 42.65 29.15 1,462.84 229,382.77 70.40 2.12 304,607.79 0.36 0.55 0.27	1,327 3,362 192 1,601 123 115 38 23 1,132 175,822 54 2 227,512	1,384 3,521 201 1,679 129 121 40 24 1,187 184,408 57 2 238,622 0	86 7 8 3 5 276 44,975 14 65,986	9.59 9.50 10.50 10.95 15.13 15.92 15.99 16.07	1 17 2,813 1 4,014

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	CK CREEK TREATM					
	M SURVIVOR CURV					
	LE RETIREMENT Y					
NET SA	LVAGE PERCENT	0				
1988	20,150.57	12,542	13,154	6,996	17.90	391
1989	176,134.57	107,935	113,206	62,929	18.01	3,494
1990	7,021.40	4,248	4,455	2,566	17.95	143
1992	11,166.13	6,521	6,839	4,327	18.17	238
1994	1,419,246.48	800,455	839,544	579,703	18.17	31,904
1996	5,063.26	2,743	2,877	2,186	18.18	120
1997	1,346.73	712	747	600	18.26	33
2000	1,658.35	810	850	809	18.34	44
2008	8,355.53	2,834	2,972	5,383	18.51	291
2009	44,551.46	14,011	14,695	29,856	18.53	1,611
2013	396,506.56	77,636	81,427	315,079	18.49	17,041
2014	57.46	9	9	48	18.48	3
	3,931,764.25	2,306,913	2,419,555	1,512,209		84,241
NEW CA	STLE FILTER PLAI	NΤ				
	M SURVIVOR CURVI		2			
	LE RETIREMENT Y		•			
NET SA	LVAGE PERCENT	0				
1007	17 503 17	16,835	17,503			
1903 1929	17,503.17 43,868.22	38,823	40,722	3,147	11.50	274
1949	16,496.58	13,108	13,749	2,748	17.71	155
1952	399.52	309	324	75	19.25	4
1957	163.91	121	127	37	21.47	2
1959	27,636.27	20,047	21,027	6,609	22.15	298
1961	6.17	4	4	. 2	22.87	
1968	32.03	21	22	10	25.68	
1970	549.55	355	372	177		7
1982	1,666.07	899	943	723	30.29	24
1985	2,429,854.46	1,239,712	1,300,341	1,129,513	31.20	36,202
1986	4,228.30	2,118	2,222	2,007	31.40	64
1987	2,974.55	1,461	1,532	1,442	31.61	46
1989	51,823.44	24,367	25,559	26,265	32.11	818
1992	964,823.83	420,663	441,236	523,588	32.98	15,876
1994	1,096.11	453	475	621	33.32	19
1995	3,900.84	1,562	1,638	2,262	33.68	67
1996	23,488.35	9,142	9,589	13,899	33.75	412
1997	21,148.18	7,977	8,367	12,781	33.85	378
1998	43,209.17	15,672	16,438	26,771	34.26	781

#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAB	STLE FILTER PLAI M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 70-R EAR 6-2060				
1999	151,695.78	53,033	55,627	96,069	34.41	2,792
2000	81,605.90	27,420	28,761	52,845	34.58	1,528
2006	65.06	16	17	48	35.23	1
2008	3,214.95	678	711	2,504	35.55	70
2009	5,543.68	1,070	1,122	4,421	35.55	124
2012	233,587.43	31,347	32,880	200,707	35.48	5,657
2013	57,995.33	6,524	6,843	51,152	35.50	1,441
2014	711,008.00	64,204	67,344	643,664	35.26	18,255
	4,899,584.85	1,997,941	2,095,497	2,804,088		85,295
INTERI PROBAB	LDRICH STATION M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2041				
1961	630,366.81	480,844	504,323	126,044	17.57	7,174
1962	6,750.73	5,095	5,344	1,407	18.03	78
1963	479.89	361	379	101	17.96	6
1964	977.76	732	768	210	17.93	12
1966	240.00	177	186	54	18.43	3
1969	1,014,046.84	727,883	763,424	250,623	19.07	13,142
1970	4,015.31	2,861	3,001	1,015	19.17	53
1972	8,844.27	6,197	6,500	2,345	19.44	121
1975	20,102.89	13,754	14,426	5,677	19.61	289
1976	5,336.00	3,609	3,785	1,551	19.85	78
1979	5,834.00	3,818	4,004	1,830	20.32	90
1980	1,913.00	1,241	1,302	611	20.30	30
1981	9,983.52	6,413	6,726	3,257		160
1982	326,342.11	207,358	217,483	108,859	20.37	5,344
1983	51,415.94	32,284	33,860	17,556	20.45	858
1984	1,689.05	1,047	1,098	591	20.55	29
1986	10,972.25	6,601	6,923	4,049	20.86	194
1987	770.54	458	480	290	20.78	14
1988	2,916.68	1,704	1,787	1,129	21.01	54
1989	1,211.14	697	731	480	21.00	23
1990	12,231.46	6,929	7,267	4,964	21.04	236
1991	48,602.15	27,047	28,368	20,234	21.12	958
1992	1,006.23	549	576	2 213 299	21.23	20 150,365
1993	7,305,923.95	3,902,094	4,092,626	3,213,298	21.37	130,365

#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBAE	ALDRICH STATION M SURVIVOR CURV BLE RETIREMENT Y ALVAGE PERCENT	EAR 6-2041				
1994	16,957.32	8,886	9,320	7,637	21.35	358
1995	1,428,715.76	732,931	768,719	659,997	21.36	30,899
1996	176,466.95	88,410	92,727	83,740	21.42	3,909
1997	2,294,372.72	1,119,424	1,174,083	1,120,289	21.52	52,058
2000	62,308.54	27,802	29,160	33,149	21.72	1,526
2001	339,034.47	145,988	153,116	185,918	21.82	8,521
2006	14,081.71	4,841	5,077	9,004	21.95	410
2012	4,153,926.68	831,616	872,222	3,281,704	21.97	149,372
2013	2,796,226.12	477,036	500,329	2,295,897	21.88	104,931
2014	197,172.45	27,190	28,518	168,655	21.88	7,708
	20,951,235.24	8,903,877	9,338,637	11,612,598		539,023
PROBAE	M SURVIVOR CURV BLE RETIREMENT Y LVAGE PERCENT	EAR 6-2050				
1894	9,692.00	9,576	9,692			
1905	584.13	559	584			
1906	38,476.97	36,896	38,477			
1909	54.95	52	55			
1915	149.00	139	146	3	7.38	
1923	28,824.04	26,149	27,427	1,397	9.67	144
1928	1,754.14	1,570	1,647	107	10.50	10
1929	1,618.00	1,432	1,502	116	11.50	10
1930	2,023.01	1,788	1,875	148	11.50	13
1931	37,143.90	32,772	34,374	2,770	11.54	240
1935	498.19	432	453	45	12.74	4
1937	50,237.31	42,867	44,963	5,275	13.84	381
1951	32,258.92	25,530	26,778	5,481		313
1952	66,350.50	52,151	54,700	11,650	17.83	653
1953	575,177.12	445,187	466,950	108,227	18.83	5,748
1954	41,918.46	32,474	34,062	7,857	18.47	425
1955	2,978.13	2,290	2,402	576	18.80	31
1957	565.19	427	448	117	19.50	6
1958	2,118.16	1,588	1,666	453	19.87	23
1959	590.20	439	460	130	20.24	6 3
1962	233.82	169	177	57 435	21.42	20
1963	1,773.15	1,276	1,338	435	21.26	20

#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

	ORIGINAL	CALCULATED	ALLOC. BOOK	FUTURE BOOK	REM.	ANNUAL
YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
HAYS N	MINE STATION TRE	ATMENT PLANT				
	M SURVIVOR CURV		.2			
	BLE RETIREMENT Y					
	ALVAGE PERCENT					
1967	575.00	398	417	158	22.50	7
1968	3,514.01	2,400	2,517	997	22.96	43
1969	930.65	632	663	268	22.93	12
1971	355.64	237	249	107	23.43	5
1972	2,839.64	1,861	1,952	888	23.94	37
1975	176,525.54	111,776	117,240	59,285	24.62	2,408
1976	22,111.00	13,855	14,532	7,579	24.73	306
1978	0.03		0			
1979	0.08		0			
1980	962.00	574	602	360	25.40	14
1981	410.00	241	253	157	25.61	6
1982	57.40	33	35	23	25.85	1
1983	36,621.52	20,845	21,864	14,757	26.11	565
1985	76,193.86	41,846	43,892	32,302	26.67	1,211
1986	221.00	120	126	95	26.64	4
1987	1,190.45	632	663	528	26.97	20
1989	668,229.62	342,802	359,560	308,669	27.06	11,407
1990	9,097,725.75	4,577,976	4,801,775	4,295,951	27.15	158,230
1991	4,130,008.90	2,024,530	2,123,501	2,006,508	27.56	72,805
1993	20,545.39	9,665	10,137	10,408	27.58	377
1994	29,102.76	13,335	13,987	15,116	27.78	544
1995	38,145.57	16,994	17,825	20,321	28.01	725
1996	6,669.92	2,897	3,039	3,631	28.00	130
1997	223,266.28	94,285	98,894	124,372	28.04	4,436
1998	11,663.70	4,754	4,986	6,677	28.34	236
2001	250,469.04	91,747	96,232	154,237	28.55	5,402
2006	39,725.44	11,330	11,884	27,842	28.82	966
2008	67,546.77	16,684	17,500	50,047	28.96	1,728
2009	785.87	178	187	599	28.95	21
2010	29,994.96	6,164	6,465	23,530	29.00	811
2012	11,514,274.26	1,836,527	1,926,308	9,587,967	28.98	330,848
2013	25,957.50	3,494	3,665	22,293	28.94	770
2014	92,604.55	10,048	10,539	82,065	28.76	2,853
	27,464,243.39	9,974,623	10,461,666	17,002,577		604,958

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SUSOUE	HANNA FILTER PL	ANT				
	SURVIVOR CURV		2			
	LE RETIREMENT Y					
	LVAGE PERCENT					
<b>-</b>						
1920	2.00	2	2			
1927	119.00	107	112	7	10.51	1
1929	5,945.58	5,262	5,519	427	11.50	37
1931	5,319.00	4,693	4,922	397	11.54	34
1947	278.00	223	234	44	17.22	3
1954	493.00	373	391	102	20.54	5
1956	179.54	134	141	39	21.14	2
1957	631.36	466	489	143	21.47	7
1963	842.00	583	611	231	24.24	10
1973	26,394.70	15,974	16,754	9,641	29.03	332
1979	391.74	216	227	165	31.43	5
1982	7,848.56	4,068	4,267	3,582	32.99	109
1984	1,071.66	535	561	511	33.61	15
1985	34,553.31	16,845	17,668	16,886	34.17	494
1986	19,163.69	9,176	9,624	9,540	34.29	278
1990	8,393.40	3,647	3,825	4,568	35.79	128
1995	1,937,167.63	727,988	763,535	1,173,633	37.38	31,397
1998	37.76	13	14	24	38.30	1
2008	12,798.62	2,432	2,551	10,248	40.50	253
2009	27,067.43	4,693	4,922	22,145	40.52	547
2010	27,009.76	4,192	4,397	22,613	40.81	554
2011	5,393.93	743	779	4,615	40.67	113
2012	68,345.06	8,119	8,515	59,830	40.80	1,466
2014	10,788.07	861	903	9,885	40.36	245
	_ <b>,</b>			·		
	2,200,234.80	811,345	850,962	1,349,273		36,036
			7 B 3 T B 3 T B 1			
	Y - MILLRUN ROA					
	M SURVIVOR CURV				•	
	LE RETIREMENT Y					
NET SAI	LVAGE PERCENT	0				
1000	4 155 000 10	1 755 040	1 041 574	2 216 220	20 04	92 604
1997	4,157,802.12	1,755,840	1,841,574	2,316,228	28.04	82,604
1998	687,918.00	280,395	294,086	393,832	28.34	13,897
1999	22,865.33	9,009	9,449	13,416	28.45	472
2001	3,473.57	1,272	1,334	2,139	28.55	75
2007	40,599.49	10,828	11,357	29,243	28.87	1,013
2008	19,404.61	4,793	5,027	14,378	28.96	496
2010	38,695.00	7,952	8,340	30,355	29.00	1,047



## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIN PROBABI	7 - MILLRUN ROAI 4 SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	E IOWA 70-R EAR 6-2050	.2			
2012	12,166.56	1,941	2,036	10,131	28.98	350
2013	106,076.97	14,278	14,975	91,102	28.94	3,148
2014	22,389.82	2,429	2,548	19,842	28.76	690
	5,111,391.47	2,088,737	2,190,726	2,920,665		103,792
PROBABI	ON WTP M SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	EAR 6-2050				
1990	6,603,825.31	3,323,045	3,485,303	3,118,522	27.15	114,863
1991	11,542.33	5,658	5,934	5,608	27.56	203
1992	63.36	30	31	32	27.69	1
1993	30.28	14	15	16	27.58	1
1994	2,129.12	976	1,024	1,105	27.78	40
1995	5,092.90	2,269	2,380	2,713	28.01	97
1998	71.71	29	30	41	28.34	1
1999	169.19	67	70	99	28.45	3
2000	279,397.67	106,590	111,795	167,603	28.37	5,908
2001	2,058.52	754	791	1,268	28.55	44
2007	48,626.86	12,969	13,602	35,025	28.87	1,213
2008	184,433.05	45,555	47,779	136,654	28.96	4,719
2009	133,091.40	30,212	31,687	101,404	28.95	3,503
2010	32,619.58	6,703	7,030	25,589	29.00	882
2012	31,903.15	5,089	5,337	26,566	28.98	917
2013	528.32	71	74	454	28.94	16
2014	77,664.18	8,427	8,838	68,826	28.76	2,393
	7,413,246.93	3,548,458	3,721,723	3,691,524		134,804
PROBABI	LL WTP 1 SURVIVOR CURVE LE RETIREMENT YE LVAGE PERCENT	EAR 6-2050				
1990 1991 1992 1993	2,300,658.24 149,358.33 5,385.37 35.91	1,157,691 73,215 2,582 17	1,214,219 76,790 2,708 18	1,086,439 72,568 2,677 18	27.15 27.56 27.69 27.58	40,016 2,633 97 1

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

(1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	
PROBABI	LL WTP 4 SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2050				
1995	7,546.15	3,362	3,526	4,020	28.01	144
1999	7,340.13 5.76	2	2	4	28.45	
2000	212,116.60	80,922	84,873	127,243	28.37	4,485
2000	3,429.29	1,256	1,317	2,112	28.55	74
2001	7,049.64	1,880	1,972	5,078	28.87	176
2007	16,915.26	3,840	4,027	12,888	28.95	445
2010	7,308.81	1,502	1,575	5,733	29.00	198
2010	119,943.23	19,131	20,065	99,878	28.98	3,446
2013	41,899.64	5,640	5,915	35,984		1,243
2013	19,329.32	2,097	2,199	17,130	28.76	596
2014	17,323.32	2,05.	2/133	_,,,		
	2,890,981.55	1,353,137	1,419,208	1,471,774		53,554
INTERI PROBABI	ILLA WTP 1 SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	EAR 6-2050				
1893	14,836.59	14,593	14 027			
1907	187.12		14,83/			
1910			14,837 187			
	1,427.96	178	187	10	6.14	2
1921	1,427.96 42,429.29	178 1,351	187 1,418			2 184
1921 1990	42,429.29	178 1,351 38,899	187 1,418 40,819	1,611	8.76	
1990	42,429.29 1,459,927.15	178 1,351 38,899 734,635	187 1,418 40,819 770,891		8.76	184
1990 1991	42,429.29 1,459,927.15 125,225.99	178 1,351 38,899 734,635 61,386	187 1,418 40,819	1,611 689,037	8.76 27.15	184 25,379 2,206
1990 1991 1992	42,429.29 1,459,927.15 125,225.99 1,469.28	178 1,351 38,899 734,635 61,386 704	187 1,418 40,819 770,891 64,416	1,611 689,037 60,810	8.76 27.15 27.56	184 25,379 2,206
1990 1991 1992 1993	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89	178 1,351 38,899 734,635 61,386 704 306	187 1,418 40,819 770,891 64,416 739 321	1,611 689,037 60,810 731 330	8.76 27.15 27.56 27.69	184 25,379 2,206 26
1990 1991 1992 1993 1994	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90	178 1,351 38,899 734,635 61,386 704 306 2,032	187 1,418 40,819 770,891 64,416 739 321 2,132	1,611 689,037 60,810 731	8.76 27.15 27.56 27.69 27.58	184 25,379 2,206 26 12
1990 1991 1992 1993 1994 1995	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70	178 1,351 38,899 734,635 61,386 704 306	187 1,418 40,819 770,891 64,416 739 321	1,611 689,037 60,810 731 330 2,302	8.76 27.15 27.56 27.69 27.58 27.78	184 25,379 2,206 26 12 83
1990 1991 1992 1993 1994 1995	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157	1,611 689,037 60,810 731 330 2,302 24,100	8.76 27.15 27.56 27.69 27.58 27.78 28.01	184 25,379 2,206 26 12 83 860
1990 1991 1992 1993 1994 1995 1997	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96 244.82	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162 660 100	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157 693 105	1,611 689,037 60,810 731 330 2,302 24,100 869 140	8.76 27.15 27.56 27.69 27.58 27.78 28.01 28.04 28.34	184 25,379 2,206 26 12 83 860 31
1990 1991 1992 1993 1994 1995 1997 1998	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96 244.82 163.20	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162 660 100 64	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157 693 105 67	1,611 689,037 60,810 731 330 2,302 24,100 869 140	8.76 27.15 27.56 27.69 27.58 27.78 28.01 28.04	184 25,379 2,206 26 12 83 860 31
1990 1991 1992 1993 1994 1995 1997 1998 1999 2000	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96 244.82 163.20 513.06	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162 660 100 64 196	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157 693 105 67 206	1,611 689,037 60,810 731 330 2,302 24,100 869 140 96 307	8.76 27.15 27.56 27.69 27.58 27.78 28.01 28.04 28.34 28.34 28.37	184 25,379 2,206 26 12 83 860 31 5
1990 1991 1992 1993 1994 1995 1997 1998 1999 2000 2001	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96 244.82 163.20 513.06 18,845.86	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162 660 100 64 196 6,903	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157 693 105 67 206 7,244	1,611 689,037 60,810 731 330 2,302 24,100 869 140	8.76 27.15 27.56 27.69 27.58 27.78 28.01 28.04 28.34 28.45	184 25,379 2,206 26 12 83 860 31 5
1990 1991 1992 1993 1994 1995 1997 1998 1999 2000	42,429.29 1,459,927.15 125,225.99 1,469.28 650.89 4,433.90 45,256.70 1,561.96 244.82 163.20 513.06	178 1,351 38,899 734,635 61,386 704 306 2,032 20,162 660 100 64 196	187 1,418 40,819 770,891 64,416 739 321 2,132 21,157 693 105 67 206	1,611 689,037 60,810 731 330 2,302 24,100 869 140 96 307	8.76 27.15 27.56 27.69 27.58 27.78 28.01 28.04 28.34 28.45 28.37 28.55	184 25,379 2,206 26 12 83 860 31 5 3

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
NECETTO	T WATER TREATMEN	יית בו, אוד				
	MATER TREATMENT M SURVIVOR CURVE		2			
	LE RETIREMENT YE					
	LVAGE PERCENT					
1101 0111		•				
1988	3,485,446.48	1,861,228	1,952,108	1,533,338	25.75	59,547
1989	20,213.19	10,600	11,118	9,096	25.85	352
1990	4,961.45	2,551	2,676	2,286	25.98	88
1991	16,130.80	8,122	8,519	7,612	26.13	291
1992	1,148.36	565	593	556	26.31	21
1993	6,916.77	3,338	3,501	3,416	26.26	130
1994	1,753.58	824	864	889	26.50	34
1995	30,147.05	13,837	14,513	15,634	26.52	590
1997	1,057.68	458	480	577	26.89	21
1998	13,500.19	5,686	5,964	7,537	26.80	281
1999	80,486.61	32,758	34,358	46,129	26.95	1,712
2000	245,573.32	96,265	100,965	144,608	27.14	5,328
2001	5,752.97	2,173	2,279	3,474	27.17	128
2007	22,550.39	6,228	6,532	16,018	27.52	582
2008	8,002.36	2,053	2,153	5,849	27.54	212
2009	39,060.79	9,230	9,681	29,380	27.47	1,070
2010	14,986.30	3,215	3,372	11,614	27.47	423
2012	81,800.26	13,628	14,293	67,507	27.50	2,455
2013	32,118.74	4,522	4,743	27,376	27.45	997
2014	28,769.10	3,262	3,421	25,348	27.36	926
2016	592,000.00	31,376	32,908	559,092	26.83	20,838
		0 444 010	0.015.040	0 515 336		06 026
	4,732,376.39	2,111,919	2,215,040	2,517,336		96,026
	LAKE WATER TRE					
	4 SURVIVOR CURVI					
	LE RETIREMENT YE					
NET SAL	LVAGE PERCENT	U				
1992	4,762,749.62	2,234,682	2,343,798	2,418,952	28.85	83,846
	63,896.31			33,190		1,146
1995	32,030.36	13,908	14,587	17,443	29.32	595
1997	6,279.48	2,575	2,701	3,579	29.50	121
1998	3,543.58	1,410	1,479	2,065	29.52	70
2000	15,477.24	5,742	6,022	9,455	29.67	319
2000	4,668.59	1,664	1,745	2,923	29.80	98
2001	8,958.35	2,304	2,417	6,542	30.32	216
2007	8,813.12	2,101	2,204	6,610	30.34	218
2008	33,412.18	7,297	7,653	25,759	30.41	847
2010	3,395.99	672	7,055	2,691	30.38	89
2010	٠,٥,٥,٠	0 / 2	, 55	2,001		



#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI PROBABI	L LAKE WATER TRI M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 70-R EAR 6-2052	2			
2012	39,565.46	6,069	6,365	33,200	30.34	1,094
2013	53,719.47	6,941	7,280	46,440	30.34	1,531
2013	49,390.50	5,137		44,003	30.17	1,459
2014	15,550.50	3,13,	3,300	, 000		_,,
	5,085,900.25	2,319,779	2,433,050	2,652,850		91,649
CEASETO	OWN WATER TREATI	MENT PLANT				
	M SURVIVOR CURVI		2			
	LE RETIREMENT Y		2			
	LVAGE PERCENT					
MDI DAI	JVIIOD I DRODIVI	· ·				
1993	7,986,963.23	3,619,692	3,796,435	4,190,528	29.56	141,763
1994	44,194.91	19,525	20,478	23,717	29.69	799
1995	129,976.49	55,864	58,592	71,385	29.85	2,391
1997	122,014.58	49,526	51,944	70,070	30.01	2,335
1998	3,366.88	1,320	1,384	1,982	30.25	66
1999	532.85	202	212	321	30.28	11
2000	9,934.19	3,634	3,811	6,123	30.34	202
2001	79,560.47	27,958	29,323	50,237	30.45	1,650
2006	0.33	<b>,</b> _ <b>2</b> -	0	·		
2007	9,549.60	2,416	2,534	7,016	31.00	226
2008	2,264.03	531	557	1,707	30.99	55
2009	26,199.97	5,633	5,908	20,292	31.03	654
2010	165,181.88	32,078	33,644	131,538	31.11	4,228
2012	34,593.21	5,196	5,450	29,144	31.13	936
2013	128,885.26	16,356	17,155	111,731	30.96	3,609
2014	37,093.23	3,776	3,960	33,133	30.87	1,073
	•					
	8,780,311.11	3,843,707	4,031,388	4,748,923		159,998
	WATER TREATMENT		2			
	M SURVIVOR CURVE		2			
	LE RETIREMENT YE					
NET SAL	LVAGE PERCENT	U				
1002	0 700 /65 76	3,983,386	4,177,888	4,611,578	29.56	156,007
1993 1994	8,789,465.26 481,805.58	212,862	223,256	258,550	29.69	8,708
	169,615.00	72,901	76,461	93,154	29.85	3,121
1995	1,500.56	626	657	844	30.05	28
1996	91.08	36	38	53	30.25	2
1998	91.00	30	50	33	50,25	_



## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERI!	WATER TREATMEN' M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 70-R EAR 6-2053				
2000	6,829.73	2,498	2,620	4,210	30.34	139
2001	5,365.57	1,885	1,977	3,389	30.45	111
2001	128,405.79	30,124	31,595	96,811	30.99	3,124
2009	16,416.46	3,530	3,702	12,714	31.03	410
2010	6,304.52	1,224	1,284	5,021	31.11	161
2012	36,404.23	5,468	5,735	30,669	31.13	985
2012	70,933.95	9,002	9,442	61,492		1,986
2013	19,921.37	2,028	2,127	17,794		576
	9,733,059.10	4,325,570	4,536,780	5,196,279		175,358
INTERII PROBAB	ILLE WATER TREA M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 70-R EAR 6-2075				
1999	5,830,780.58	1,833,780	1,923,320	3,907,461	40.32	96,911
2001	49,592.40	14,238	14,933	34,659	40.97	846
2007	10,162.55	2,016	2,114	8,048	42.41	190
2008	6,430.94	1,173	1,230	5,201	42.58	122
2009	20,153.37	3,358	3,522	16,631	42.52	391
2010	6,227.91	929	974	5,254	42.75	123
2012	14,664.07	1,669	1,750	12,914	42.81	302
2013	49,081.55	4,682	4,911	44,171	42.67	1,035
2014	41,390.35	3,146	3,300	38,091	42.58	895
	6,028,483.72	1,864,991	1,956,055	4,072,429		100,815
INTERI PROBAB	HORE REGIONAL T M SURVIVOR CURV LE RETIREMENT Y LVAGE PERCENT	E IOWA 70-R EAR 6-2081	22			
2006	6,470,962.03	1,339,489	1,404,894	5,066,068	44.06	114,981
	14,881.08	2,629	2,757	12,124	44.26	274
2008	10,105.34	1,615	1,694	8,411	44.69	188
2009	20,843.84	2,643	2,772	18,072	44.78	404
2011	20,043.04	2,013	2,112	10,072	1	131

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR (1)	ORIGINAL COST (2)			FUTURE BOOK ACCRUALS (5)		
INTERI PROBABI	HORE REGIONAL TH M SURVIVOR CURVI LE RETIREMENT YN LVAGE PERCENT	E IOWA 70-R EAR 6-2081	2			
2012	159,124.19	17,408	18,258	140,866	44.75	3,148
2013	12,202.19	1,115	1,169	11,033		
2014	523,557.86	38,115	39,976	483,582	44.58	10,848
	7,211,676.53	1,403,014	1,471,521	5,740,156		130,089
INTERIN PROBABI	AY/SAXONBURG M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	EAR 6-2061				
1992	45,446.78	19,701	20,663	24,784	33.32	744
2011	3,266,953.16	496,904	521,167	2,745,787	36.24	75,767
2012	3,336.82	440	461	2,875	36.17	79
	3,315,736.76	517,045	542,291	2,773,446		76,590
INTERIN PROBABI	UN FILTRATION PI M SURVIVOR CURVI LE RETIREMENT YI LVAGE PERCENT	E IOWA 70-R EAR 6-2061				
2011	4,692,559.53	713,738	748,588	3,943,971	36.24	108,829
	15,596.59		2,160	13,437		
2013	31,104.01		3,628	27,476		764
2014	48,004.23		4,476	43,528	35.87	1,213
	4,787,264.36	723,524	758,852	4,028,412		111,177
OTHER	LARGE STRUCTURE					
	OR CURVE IOWA LVAGE PERCENT					
1888	4,319.09	4,319	4,319			
1895	2,105.61	2,106	2,106			
1902	3,652.00	3,652	3,652			
1904	4,936.00	4,936	4,936			
1906	10,099.40	10,099	10,099			
1908	4,299.00	4,299	4,299			
1909	472.28	472	472			



## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER	LARGE STRUCTUR	ES				
	R CURVE IOWA					
	VAGE PERCENT					
1910	4,775.61	4,776	4,776			
1912	26.50	26	27			
1914	30.00	30	30			
1915	3,972.14	3,972	3,972			
1917	3,672.89	3,673	3,673			
1918	536.25	536	536			
1921	1,979.50	1,980	1,980			
1922	0.32		0			
1923	265,334.75	265,335	265,335			
1924	90,322.54	90,323	90,323			
1926	44.00	44	44			
1927	378.43	377	378			
1928	20,047.10	19,915	20,047			
1930	3,544.35	3,505	3,544			
1931	4,019.43	3,964	4,019			
1932	16.80	17	17			
1933	212.87	209	213			
1934	114.24	112	114			
1937	519.55	502	520			
1938	275.05	265	275			
1941	290.96	276	290	1	4.15	
1942	13.00	12	13			
1944	152.27	143	150	2	4.62	
1946	1,076.08	1,000	1,052	24	5.42	4
1947	31,130.67	28,970	30,480	651	5.26	124
1948	183.72	170	179	5	5.68	1
1950	107.70	99	104	4	6.03	1
1951	111,670.85	101,732	107,035	4,636	6.50	713
1952	1,270.21	1,156	1,216	54	6.45	8
1953	424,720.00	383,522	403,513	21,207	6.93	3,060
1954	41,223.49	36,912	38,836	2,387	7.42	322
1955	27,213.35	24,323	25,591	1,623	7.43	218
1956	25,003.38	22,143	23,297	1,706	7.94	215
1957	10,398.25	9,185	9,664	734	7.99	92
1958	116,777.58	102,134	107,458	9,320	8.53	1,093
1959	57,448.98	49,739	52,332	5,117	9.07	564
1960	12,671.12	10,929	11,499	1,172	9.17	128
1961	214.35	183	193	22	9.72	2
1962	10,171.67	8,581	9,028	1,143	10.29	111
1963	1,028.58	863	908	121	10.44	12
1964	2,543.25	2,109	2,219	324	11.02	29
1965	45,935.18	37,860	39,833	6,102	11.20	545

## ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
OTHER	LARGE STRUCTUR	ES				*
SURVIV	OR CURVE IOWA	55~R3				
NET SA	LVAGE PERCENT	0				
1966	2,832.15	2,305	2,425	407	11.79	35
1967	33,705.06	27,065	28,476	5,229	12.39	422
1968	148,774.88	118,574	124,755	24,020	12.61	1,905
1969	181,248.55	142,407	149,830	31,419	13.23	2,375
1970	983.27	761	801	183	13.85	13
1971	1,995.36	1,522	1,601	394	14.48	27
1972	40,398.28	30,513	32,104	8,295	14.74	563
1973	10.38	8	8	2	15.38	
1974	147.41	108	114	34	16.02	2
1975	19,006.80	13,651	14,363	4,644	16.67	279
1976	12,516.92	8,831	9,291	3,226	17.32	186
1977	44,378.89	30,914	32,525	11,853	17.64	672
1978	14,105.18	9,639	10,141	3,964	18.30	217
1979	7,556.87	5,062	5,326	2,231	18.97	118
1980	34,286.09	22,499	23,672	10,614	19.65	540
1981	6,185.52	3,974	4,181	2,004	20.32	99
1982	18,108.77	11,380	11,973	6,136	20.99	292
1983	102,774.60	63,114	66,404	36,371	21.68	1,678
1984	80,419.16	48,493	51,021	29,398	22.06	1,333
1985	427,284.57	251,329	264,430	162,855	22.75	7,158
1986	412,616.15	236,553	248,883	163,733	23.45	6,982
1987	93,902.83	52,417	55,149	38,754	24.14	1,605
1988	345,015.30	187,274	197,036	147,980	24.85	5,955
1989	1,138,645.13	600,294	631,585	507,061	25.56	19,838
1990	1,370,410.04	700,965	737,503	632,907	26.26	24,102
1991	589,195.64	292,005	307,226	281,970	26.97	10,455
1992	97,969.24	46,966	49,414	48,555	27.69	1,754
1993	12,226.56	5,661	5,956	6,270	28.41	221
1994	908,775.74	405,768	426,919	481,857	29.13	16,542
1995	2,470,542.48	1,061,839	1,117,188	1,353,355	29.85	45,339
1996	855,934.84	353,330	371,747	484,187	30.58	15,833
1997	413,904.48	163,741	172,276	241,628	31.32	7,715
1998	8,920.66	3,375	3,551	5,370	32.05	168
1999	6,128.13	2,211	2,326	3,802	32.78	116
2000	5,245.59	1,790	1,883	3,362	33.78	100
2001	3,416.80	1,105	1,163	2,254	34.52	65
2005	226,399.57	56,600	59,550	166,849	37.50	4,449
2006	2,792.99	646	680	2,113	38.25	55
2007	403,593.76	85,158	89,597	313,997	39.25	8,000
2008	353,098.66	67,760	71,292	281,807	40.00	7,045
2009	365,590.66	63,101	66,390	299,200	40.76	7,341
2010	1,800.57	275	289	1,511	41.52	36

#### ACCOUNT 320.1 PURIFICATION SYSTEM - LARGE STRUCTURES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	LARGE STRUCTURI VOR CURVE IOWA ALVAGE PERCENT	55-R3				
2011	105,136.85	14,004	14,734	90,403	42.28	2,138
2012	1,261,748.47	142,956	150,408	1,111,341	43.04	25,821
2013	1,109,352.13	103,392	108,781	1,000,571	43.81	22,839
2014	227,999.87	16,598	17,463	210,537	44.58	4,723
2016	5,204.87	164	173	5,032	45.90	110
9999	27,162.27-	11,894-	12,475-	14,688-		469-
	15,296,074.79	6,697,688	7,024,724	8,271,351		264,034
	173,193,906.51	68,456,612	71,799,224	101,394,681		3,488,069

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 29.1 2.01

#### ACCOUNT 320.18 PURIFICATION SYSTEM - LARGE STRUCTURES PAINT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE 10-S VAGE PERCENT	~				
1982 1997	50,562.15 52,683.58	50,562 52,684	50,562 52,684			
	103,245.73	103,246	103,246			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

#### ACCOUNT 320.19 PURIFICATION SYSTEM - LARGE STRUCTURES PAINT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVO	OR CURVE 10-SQ	QUARE	(1)	(= /		<b>,</b> ,
1983	72,520.43	72,520	72,520			
1984	288,417.83	288,418	288,418			
1985	265,911.82	265,912	265,912			
1986	103,281.57	103,282	103,282			
1987	104,997.90	104,998	104,998			
1988	99,795.30	99,795	99,795			
1989	6,520.49	6,520	6,520			
1991	1,937.55	1,938	1,938			
1994	13,659.99	13,660	13,660			
1996	174,603.42	174,603	174,603			
1997	251,912.62	251,913	251,913			
1998	175,497.41	175,497	175,497			
1999	517,480.78	517,481	517,481			
2004	475,875.22	475,875	475,875			
2005	686,472.80	686,473	686,473			
2007	386,650.67	386,651	386,651			
2008	117,393.77	111,524	98,859	18,535	0.50	18,535
2015	27,772.91	6,943	6,155	21,618	7.50	2,882
	3,770,702.48	3,744,003	3,730,550	40,152		21,417

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.9 0.57

#### ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OR CURVE IOWA LVAGE PERCENT					
1947	10,045.69	10,046	10,046			
1949	69.78	70	70			
1950	178.27	178	178			
1951	90.22	90	90			
1953	55.68	56	56			
1955	9,224.26	9,167	9,224			
1957	664.74	652	665			
1958	36,797.15	35,907	36,797			
1962	5,751.63	5,491	5,752			
1963	772.38	732	768	4	2.97	1
1964	7,185.12	6,766	7,098	87	3.32	26
1965	35,240.76	32,932	34,548	693	3.68	188
1966	1,598.49	1,490	1,563	35	3.75	9
1967	653.10	604	634	19	4.14	5
1968	760.36	696	730	30	4.55	7
1969	2,154.08	1,964	2,060	94	4.69	20
1970	8,159.99	7,364	7,725	435	5.13	85
1971	14,974.80	13,438	14,098	877	5.32	165
1972	31,295.07	27,765	29,128	2,167	5.78	375
1973	14,326.00	12,623	13,243	1,083	6.01	180
1974	30,775.32	26,775	28,089	2,686	б.50	413
1975	41,280.99	35,617	37,365	3,916	6.76	579
1976	1,038,215.76	887,571	931,135	107,081	7.04	15,210
1977	28,255.00	23,915	25,089	3,166	7.35	431
1978	49,666.70	41,591	43,632	6,035	7.67	787
1979	18,818.58	15,578	16,343	2,476	8.01	309
1980	58,606.50	47,911	50,263	8,344	8.37	997
1981	187,215.59	151,008	158,420	28,796	8.75	3,291
1982	7,339.04	5,836	6,122	1,217	9.14	133
1983	70,959.95	55,576	58,304	12,656	9.55	1,325
1984	286,032.52	220,388	231,205	54,828	9.98	5,494
1985	954,187.12	725,659	761,276	192,911	10.24	18,839
1986	1,973,646.58	1,473,525	1,545,849	427,798	10.69	40,019
1987	704,799.43	515,913	541,235	163,564	11,17	14,643
1988	55,389.51	39,869	41,826	13,564	11.48	1,182
1989	767,794.42	540,527	567,057	200,737	11.98	16,756
1990	428,475.77	295,734	310,249	118,227	12.34	9,581
1991	692,310.06	467,863	490,827	201,483	12.71	15,852
1992	4,234,431.30	2,796,418	2,933,672	1,300,759	13.11	99,219
1993	106,911.77	68,894	72,275	34,637	13.52	2,562
1994	728,392.49	456,993	479,423	248,969	13.96	17,834
1995	4,576,820.00	2,790,945	2,927,931	1,648,889	14.40	114,506
1996	2,037,511.11	1,204,577	1,263,700	773,811	14.87	52,038
T > 50	2,031,311.11	1,201,311	1,200,700	, , , , , , , , ,	11.07	32,030

#### ACCOUNT 320.2 PURIFICATION SYSTEM - CHEMICAL TREATMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA ALVAGE PERCENT					
1997	3,288,930.64	1,887,846	1,980,506	1,308,425	15.21	86,024
1998	2,046,667.81	1,133,445	1,189,077	857,591	15.71	54,589
1999	7,109,642.43	3,800,815	3,987,367	3,122,275	16.10	193,930
2000	1,243.54	640	671	573	16.51	. 35
2001	2,431,046.46	1,199,478	1,258,351	1,172,695	16.94	69,226
2002	76,892.53	36,355	38,139	38,754	17.29	2,241
2003	1,946,522.09	874,962	917,907	1,028,615	17.76	57,918
2004	1,972,233.69	844,116	885,547	1,086,687	18.04	60,238
2005	2,364,212.38	954,669	1,001,526	1,362,686	18.46	73,818
2006	796,663.62	302,334	317,173	479,491	18.80	25,505
2007	2,718,246.30	964,706	1,012,056	1,706,190	19.09	89,376
2008	2,057,840.35	676,412	709,612	1,348,228	19.40	69,496
2009	351,686.37	106,139	111,349	240,337	19.67	12,218
2010	726,701.69	199,480	209,271	517,431	19.82	26,107
2011	1,677,704.83	412,212	432,444	1,245,261	19.96	62,388
2012	3,210,950.55	692,281	726,260	2,484,691	20.01	124,172
2013	685,073.53	125,780	131,954	553,120	20.01	27,642
2014	644,372.36	96,785	101,535	542,837	19.81	27,402
2015	4,054,684.98	463,045	485,772	3,568,913	19.38	184,154
2016	5,603,199.07	419,119	439,691	5,163,508	18.54	278,506
2017	9,691,729.00	293,659	308,072	9,383,657	16.00	586,479
9999	42,367.00-	16,629-	17,444-	24,923-		1,483-
	72,671,710.30	28,524,363	29,922,596	42,749,114		2,543,042

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.8 3.50



#### ACCOUNT 320.29 PURIFICATION SYSTEM - CHEMICAL TREATMENT PAINT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY AC	CRUED AGE PERCENT	0				
1985	8,167.87	8,168	8,168			
	8,167.87	8,168	8,168			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

#### ACCOUNT 320.3 GRANULAR ACTIVATED CARBON

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
1992	755.89	756	756			
1994	3,127.19	3,127	3,127			
1995	22,529.51	22,530	22,530			
1996	19,021.10	19,021	19,021			
1998	42,425.34	42,425	42,425			
1999	9,019.00	9,019	9,019			
2000	312,300.74	312,301	312,301			
2001	991,397.06	991,397	991,397			
2002	290,731.34	288,871	290,731			
2003	45,891.42	45,047	45,891			
2007	705,659.50	647,584	702,871	2,788	0.94	2,788
2008	24,360.51	21,778	23,637	724	1.13	641
2009	897,153.79	776,307	842,584	54,570	1.32	41,341
2010	756,875.73	630,629	684,469	72,407	1.50	48,271
2011	1,327,559.27	1,059,658	1,150,126	177,433	1.64	108,191
2012	510,474.08	386,327	419,309	91,165	1.77	51,506
2013	1,661,392.16	1,152,840	1,251,263	410,129	1.99	206,095
2014	648,647.47	385,686	418,614	230,033	2.39	96,248
2015	70,760.97	32,373	35,137	35,624	2.96	12,035
2016	51,979.80	15,033	16,316	35,664	3.69	9,665
	8,392,061.87	6,842,709	7,281,524	1,110,538		576,781

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.9 6.87

## ACCOUNT 320.37 WASTE HANDLING AND TREATMENT - EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA ALVAGE PERCENT					
1991	6,554,389.80	5,680,034	6,076,196	478,194	4.08	117,204
1997	592,975.99	443,665	474,609	118,367	6.90	17,155
1999	2,185,811.83	1,524,385	1,630,706	555,106	8.03	69,129
2000	959,998.69	643,391	688,265	271,734	8.61	31,560
2002	3,162.77	1,932	2,067	1,096	9.88	111
2003	256,272.33	148,279	158,621	97,651	10.56	9,247
2004	184,852.68	100,819	107,851	77,002	11.25	6,845
2005	13,991.19	7,152	7,651	6,340	11.95	531
2013	15,021.77	3,001	3,210	11,812	18.02	655
2014	586,277.39	91,928	98,340	487,937	18.82	25,927
2015	1,032,007.83	116,823	124,971	907,037	19.58	46,325
2016	3,690,314.96	253,525	271,207	3,419,108	20.33	168,180
	16,075,077.23	9,014,934	9,643,694	6,431,383		492,869

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.0 3.07

## ACCOUNT 330 DISTRIBUTION RESERVOIRS AND STANDPIPES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE IOWA VAGE PERCENT					
1888	3,763.66	3,764	3,764			
1889	466.74	467	467			
1900	153,538.14	153,354	153,538			
1904	807.16	797	805	2	1.45	1
1905	300.46	294	297	3	2.44	1
1906	6,024.53	5,911	5,967	58	2.14	27
1907	49,731.27	48,359	48,818	913	3.14	291
1909	177.35	173	175	2	2.61	1
1910	260.99	253	255	6	3.61	2
1911	22,749.62	22,049	22,258	492	3.38	146
1912	4,827.41	4,634	4,678	149	4.40	34
1922	37,238.08	34,851	35,182	2,056	6.54	314
1923	14,170.23	13,258	13,384	786	6.51	121
1924	1,153.34	1,068	1,078	75	7.52	10
1925	983.02	909	918	65	7.50	9
1928	539.95	493	498	42	8.54	5
1929	2,406.91	2,194	2,215	192	8.58	22
1930	3,832.43	3,488	3,521	311	8.65	36
1933	64.65	58	59	6	9.84	1
1935	288.21	257	259	29	10.09	3
1938	7,309.21	6,392	6,453	856	11.41	75
1940	16,381.18	14,219	14,354	2,027	11.79	172
1941	8,284.41	7,161	7,229	1,055	12.00	88
1943	64.72	55	56	9	13.22	1
1949	25,458.85	20,927	21,126	4,333	14.83	292
1950	11,323.31	9,249	9,337	1,986	15.14	131
1951	84,303.25	68,395	69,045	15,258	15.47	986
1952	1,141.14	912	921	220	16.47	13
1953	848,741.19	673,391	679,789	168,952	16.80	10,057
1954	177,344.94	139,641	140,968	36,377	17.15	2,121
1955	60,960.60	47,622	48,074	12,887	17.50	736
1956	48,576.93	37,642	38,000	10,577	17.87	592
1957	104,671.03	80,429	81,193	23,478	18.24	1,287
1958	79,220.35	60,334	60,907	18,313	18.62	984
1959	167,082.01	126,080	127,278	39,804	19.02	2,093
1960	25,103.97	18,765	18,943	6,161	19.42	317
1961	415,469.97	307,531	310,453	105,017	19.83	5,296
1962	186,747.56	136,811	138,111	48,637	20.26	2,401
1963	77,562.87	56,218	56,752	20,811	20.69	1,006
1964	46,740.69	33,261	33,577	13,164	21.68	607
1965	81,858.27	57,587	58,134	23,724	22.13	1,072
1966	507,312.52	352,684	356,035	151,278	22.58	6,700
1967	810,045.14	556,339	561,625	248,420	23.03	10,787

## ACCOUNT 330 DISTRIBUTION RESERVOIRS AND STANDPIPES

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIV	OR CURVE IOWA	65-R2				
NET SA	LVAGE PERCENT	0				
1968	286,403.15	194,239	196,085	90,318	23.49	3,845
1969	272,003.84	182,052	183,782	88,222	23.96	3,682
1970	71,811.41	47,410	47,860	23,951	24.45	980
1971	444,006.80	289,048	291,794	152,213	24.93	6,106
1972	176,910.29	113,506	114,584	62,326	25.42	2,452
1973	998,021.30	630,650	636,642	361,379	25.92	13,942
1974	697,283.65	433,710	437,831	259,453	26.43	9,817
1975	404,824.12	247,752	250,106	154,718	26.94	5,743
1976	478,655.31	288,055	290,792	187,863	27.46	6,841
1977	214,001.35	126,539	127,741	86,260	27.99	3,082
1978	748,014.39	434,297	438,423	309,591	28.53	10,851 4,359
1979	298,324.18	169,985	171,600	126,724	29.07	4,359
1980	1,910.78	1,068	1,078	833	29.61	797
1981	53,762.69	29,435	29,715	24,048 409,033	30.17 30.73	13,311
1982	891,318.73	477,747	482,286		30.73	20,905
1983	1,389,943.51	728,886	735,811	654,133 15,603	31.29	490
1984	32,334.73	16,575	16,732	871,256	32.44	26,857
1985	1,761,021.45	881,391	889,765 810 505	834,061	33.02	25,259
1986	1,644,565.76	802,877	810,505 203,944	220,654	33.60	6,567
1987	424,598.01 2,587,632.71	202,024	1,209,979	1,377,654	34.19	40,294
1988 1989	5,585,429.04	2,515,119	2,539,016	3,046,413	34.79	87,566
1990	6,203,092.08	2,711,992	2,737,760	3,465,332	35.40	97,891
1991	1,068,973.00	456,024	460,357	608,616	35.61	17,091
1992	1,350,100.93	557,727	563,026	787,075	36.23	21,724
1993	7,726,283.88	3,085,878	3,115,198	4,611,086	36.85	125,131
1994	2,258,634.64	870,478	878,749	1,379,886	37.48	36,817
1995	1,677,598.84	622,725	628,642	1,048,957	38.11	27,524
1996	3,527,360.77	1,258,915	1,270,876	2,256,485	38.74	58,247
1997	2,274,183.28	783,229	790,671	1,483,512	39.02	38,019
1998	1,241,623.66	409,239	413,127	828,497	39.67	20,885
1999	5,119,756.52	1,610,163	1,625,462	3,494,295	40.32	86,664
2000	3,554,272.79	1,069,836	1,080,001	2,474,272	40.64	60,883
2001	5,219,192.21	1,489,557	1,503,710	3,715,482	41.31	89,941
2002	1,735,130.74	470,567	475,038	1,260,093	41.65	30,254
2003	2,409,385.08	614,875	620,717	1,788,668	42.32	42,265
2004	1,519,950.96	365,244	368,714	1,151,237	42.68	26,974
2005	3,916,233.31	876,453	884,781	3,031,452	43.36	69,914
2006	3,041,450.30	633,230	639,247	2,402,203	43.75	54,907
2007	1,544,503.88	296,854	299,675	1,244,829	44.14	28,202
2008	236,065.86	41,500	41,894	194,172	44.55	4,359
2009	24,825.18	3,947	3,985	20,840	44.97	463
2010	797,092.52	113,028	114,102	682,991	45.41	15,041



## ACCOUNT 330 DISTRIBUTION RESERVOIRS AND STANDPIPES

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA					
2011	259,940.14	32,441	32,749	227,191	45.58	4,984
2012	232,874.70	24,964	25,201	207,674	45.78	4,536
2013	4,267,212.35	380,209	383,821	3,883,391	46.01	84,403
2014	6,039,656.37	427,004	431,061	5,608,595	46.00	121,926
2015	376,614.19	19,584	19,770	356,844	45.58	7,829
2016	8,423,452.45	272,920	275,514	8,147,938	44.80	181,874
2017	307,670.00	3,631	3,665	304,005	42.05	7,230
9999	2,905,114.51-	948,535-	957,509-	1,947,606-		49,681-
	97,005,821.58	31,672,911	31,972,571	65,033,251		1,658,909

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.2 1.71

#### ACCOUNT 330.1 ELEVATED TANKS AND STANDPIPES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
1992	189,738.86	78,381	79,123	110,616	36.23	3,053
2007	178,310.38	34,271	34,595	143,715	44.14	3,256
2008	452,291.74	79,513	80,265	372,027	44.55	8,351
2009	634,986.43	100,963	101,918	533,068	44.97	11,854
2010	5,413,352.20	767,613	774,875	4,638,477	45.41	102,147
2011	1.37	·		1	45.58	
2012	70,427.57	7,550	7,621	62,807	45.78	1,372
2013	6,186,602.61	551,226	556,442	5,630,161	46.01	122,368
2014	402,306.06	28,443	28,712	373,594	46.00	8,122
2015	391,942.55	20,381	20,574	371,369	45.58	8,148
	13,919,959.77	1,668,341	1,684,125	12,235,835		268,671

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.5 1.93

#### ACCOUNT 330.2 GROUND LEVEL FACILITIES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	65-R2				
NET SA	LVAGE PERCENT	0	*			
2007	756,428.48	145,386	146,761	609,667	44.14	13,812
2008	60,894.99	10,705	10,806	50,089	44.55	1,124
2009	21,769.28	3,461	3,494	18,275	44.97	406
2010	13,139.81	1,863	1,881	11,259	45.41	248
2011	261,613.14	32,649	32,958	228,655	45.58	5,017
2012	1,944,284.21	208,427	210,399	1,733,885	45.78	37,874
2013	5,127,068.52	456,822	461,144	4,665,925	46.01	101,411
2014	3,916,162.54	276,873	279,492	3,636,671	46.00	79,058
2015	141,079.99	7,336	7,405	133,675	45.58	2,933
2016	1,574,317.52	51,008	51,491	1,522,827	44.80	33,992
2017	2,471,347.00	29,162	29,438	2,441,909	42.05	58,072
	16,288,105.48	1,223,692	1,235,269	15,052,836		333,947

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.1 2.05

### ACCOUNT 330.3 BELOW GRADE FACILITIES

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE IOWA VAGE PERCENT					
2007	173,959.09	33,435	33,751	140,208	44.14	3,176
2010	31,397.64	4,452	4,494	26,904	45.41	592
2011	100,934.51	12,597	12,716	88,219	45.58	1,935
2014	280,555.88	19,835	20,023	260,533	46.00	5,664
2016	231,896.94	7,513	7,584	224,313	44.80	5,007
	818,744.06	77,832	78,568	740,176		16,374

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.2 2.00

### ACCOUNT 330.4 CLEARWELL

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	VOR CURVE IOWA ALVAGE PERCENT					
2012	12,769,078.14	1,368,845	1,381,796	11,387,282	45.78	248,739
	12,769,078.14	1,368,845	1,381,796	11,387,282		248,739
	COMPOSITE REMAIN	TNG LIFE AND	ANNUAL ACCRUAL	RATE. PERCEN	Г., 45.8	1.95

### ACCOUNT 330.58 DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE 10-SÇ AGE PERCENT	-				
1959	427.00	427	427			
1961	3,005.00	3,005	3,005			
1962	646.00	646	646			
1963	501.00	501	501			
1984	69,262.85	69,263	69,263	•		
1985	136,645.56	136,646	136,646			
1986	38,563.66	38,564	38,564			
1990	105,687.39	105,687	105,687			
1996	11,662.63	11,663	11,663			
1997	138,050.00	138,050	138,050			
2002	788,096.37	788,096	788,096			
2003	135,772.35	135,772	135,772			
2004	456,940.96	456,941	456,941			
2007	263,798.12	263,798	263,798			
2015	226,222.55	56,556	77,424	148,799	7.50	19,840
:	2,375,281.44	2,205,615	2,226,483	148,798		19,840

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.5 0.84

### ACCOUNT 330.59 DISTRIBUTION RESERVOIRS AND STANDPIPES - PAINTING

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	JOR CURVE 10-S	QUARE				
NET SA	ALVAGE PERCENT	0				
1004	055 050 57	055 053	055 053			
1994	855,852.57	855,853	855,853 223,566			
1996	223,566.03	223,566	1,284,541			
1997	1,284,541.36	1,284,541				
1998	302,099.28	302,099	302,099			
1999	1,152,990.35	1,152,990	1,152,990			
2000	972,558.06	972,558	972,558			
2001	1,501,769.45	1,501,769	1,501,769			
2004	828,752.33	828,752	828,752			
2005	2,843,162.93	2,843,163	2,843,163			
2006	1,973,424.21	1,973,424	1,973,424			
2007	1,636,685.63	1,636,686	1,636,686			
2008	2,441,140.86	2,319,084	2,380,354	60,787	0.50	60,787
2009	259,191.15	220,312	226,133	33,058	1.50	22,039
2010	7,332.39	5,499	5,644	1,688	2.50	675
2011	1,561,997.33	1,015,298	1,042,122	519,875	3.50	148,536
2012	3,774,514.50	2,075,983	2,130,830	1,643,684	4.50	365,263
2013	1,350,299.88	607,635	623,689	726,611	5.50	132,111
2014	772,333.61	270,317	277,459	494,875	6.50	76,135
2015	3,038,190.02	759,548	779,615	2,258,575	7.50	301,143
2016	459,170.47	68,876	70,696	388,474	8.50	45,703
2017	4,619,614.00	230,981	237,083	4,382,531	9.50	461,319
	31,859,186.41	21,148,934	21,349,026	10,510,160		1,613,711

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.5 5.07

### ACCOUNT 331 MAINS AND ACCESSORIES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
		110 00				
	CURVE IOWA AGE PERCENT					
1868	3,751.28	3,421	2,968	783	14.43	54
1869	232.16	210	182	50	15.44	3
1870	8,966.56	8,068	7,001	1,966	16.43	120
1871	21,156.26	19,216	16,674	4,482	14.79	303
1872	49,114.24	44,306	38,445	10,669	15.79	676
1873	14,589.82	13,071	11,342	3,248	16.79	193
1874	46,735.46	42,249	36,660	10,075	15.24	661
1875	4,984.38	4,475	3,883	1,101	16.22	68
1876	9,163.43	8,168	7,088	2,075	17.24	120
1877	179.56	159	138	42	18.22	2
1878	7,061.04	6,304	5,470	1,591	16.75	95
1879	14,291.73	12,668	10,992	3,300	17.75	186
1880	11,037.44	9,713	8,428	2,609	18.75	139
1882	277.88	245	213	65	18.34	4
1883	527.16	461	400	127	19.35	7
1884	4,369.91	3,792	3,290	1,080	20.34	53
1885	71,973.83	62,941	54,615	17,359	19.02	913
1886	63,685.69	55,273	47,961	15,725	20.02	785
1887	86,462.25	74,470	64,619	21,843	21.02	1,039
1888	171,334.80	148,650	128,987	42,348	19.76	2,143
1889	215,653.81	185,678	161,117	54,537	20.75	2,628
1890	458,759.25	391,872	340,035	118,724	21.76	5,456
1891	169,240.27	145,580	126,323	42,917	20.56	2,087
1892	178,141.88	152,026	131,916	46,226	21.56	2,144
1893	338,608.52	286,666	248,746	89,863	22.56	3,983
1894	160,607.60	134,878	117,036	43,572	23.56	1,849
1895	82,482.86	69,715	60,493	21,990	22.43	980
1896	568,583.20	476,700	413,642	154,941	23.42	6,616
1897	151,064.50	125,595	108,981	42,084	24.43	1,723
1898	210,111.22	175,758	152,509	57,602	23.36	2,466
1899	780,910.91	647,766	562,080	218,831	24.36	8,983
1900	1,482,629.16	1,219,462	1,058,152	424,477	25.36	16,738
1901	355,471.82	294,046	255,150	100,322	24.34	4,122
1902	441,663.36	362,164	314,257	127,406	25.35	5,026
1903	1,071,411.06	871,057	755,834	315,577	26.34	11,981
1904	433,466.67	354,229	307,372	126,095	25.39	4,966
1905	620,564.54	502,657	436,166	184,399	26.39	6,987
1906	555,636.10	446,065	387,060	168,576	27.39	6,155
1907	538,709.39	428,597	371,902	166,807	28.39	5,876
1908	610,859.72	488,321	423,726	187,134	27.48	6,810
1909	438,152.09	347,016	301,113	137,039	28.49	4,810
1910	469,709.08	368,628	319,866	149,843	29.48	5,083
1911	299,328.56	235,901	204,696	94,633	28.64	3,304



#### ACCOUNT 331 MAINS AND ACCESSORIES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	DR CURVE IOWA LVAGE PERCENT					
1912	391,512.53	305,654	265,222	126,291	29.64	4,261
1913	256,977.00	198,720	172,433	84,544	30.64	2,759
1914	527,935.29	409,783	355,577	172,358	29.84	5,776
1915	484,411.27	372,415	323,152	161,259	30.83	5,231
1916	153,791.43	117,066	101,581	52,210	31.84	1,640
1917	282,014.82	215,403	186,909	95,106	31.08	3,060
1918	126,069.97	95,334	82,723	43,347	32.08	1,351
1919	248,427.80	185,973	161,372	87,056	33.08	2,632
1920	345,511.55	259,410	225,095	120,417	32.36	3,721
1921	377,488.36	280,474	243,373	134,115	33.38	4,018
1922	356,085.55	261,865	227,225	128,861	34.36	3,750
1923	1,998,630.39	1,473,190	1,278,316	720,314	33.71	21,368
1924	1,308,097.19	953,995	827,801	480,296	34.71	13,837
1925	1,134,018.99	818,195	709,964	424,055	35.71	11,875
1926	729,537.09	527,309	457,557	271,980	35.09	7,751
1927	625,834.90	447,472	388,280	237,555	36.08	6,584
1928	757,137.60	535,296	464,487	292,651	37.09	7,890
1929	550,187.17	389,533	338,006	212,181	36.50	5,813
1930	730,011.75	511,008	443,412	286,600	37.50	7,643
1931	405,424.44	280,554	243,442	161,982	38.50	4,207
1932	101,636.42	70,393	61,081	40,555	37.95	1,069
1933	86,904.38	59,477	51,609	35,295	38.96	906
1934	139,682.88	94,482	81,984	57,699	39.95	1,444
1935	334,897.96	226,558	196,589	138,309	39.45	3,506
1936	373,098.60	249,342	216,359	156,740	40.45	3,875
1937	516,692.16	341,068	295,952	220,740	41.45	5,325
1938	404,129.59	266,645	231,373	172,757	40.99	4,215
1939	464,415.58	302,613	262,583	201,833	41.98	4,808
1940	439,437.14	282,646	245,258	194,179	42.99	4,517
1941	647,654.89	416,183	361,130	286,525	42.55	6,734
1942	295,537.33	187,430	162,637	132,900	43.55	3,052
1943	177,495.18	111,076	96,383	81,112	44.55	1,821
1944	123,503.74	77,165	66,958	56,546	44.14	1,281
1945	705,297.13	434,604	377,115	328,182	45.15	7,269
1946	698,694.31	424,666	368,491	330,,203	46.14	7,157
1947	771,981.18	468,052	406,138	365,843	45.78	7,991
1948	1,095,248.20	654,630	568,036	527,212	46.78	11,270
1949	561,391.37	330,716	286,969	274,422	47.78	5,743
1950	625,325.91	367,191	318,619	306,707	47.45	6,464
1951	2,063,628.48	1,194,015	1,036,071	1,027,557	48.44	21,213
1952	941,808.62	536,643	465,656	476,153	49.45	9,629
1953	2,933,314.31	1,664,949	1,444,710	1,488,604	49.14	30,293
1954	3,487,062.81	1,948,571	1,690,814	1,796,249	50.14	35,825



#### ACCOUNT 331 MAINS AND ACCESSORIES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CIIDIITIIC	R CURVE IOWA	110-R2				
	VAGE PERCENT.					
1955	5,003,220.56	2,751,771	2,387,767	2,615,454	51.14	51,143
1956	3,380,130.82	1,850,284	1,605,528	1,774,603	50.85	34,899
1957	4,060,269.04	2,186,049	1,896,878	2,163,391	51.87	41,708
1958	3,282,014.66	1,738,155	1,508,232	1,773,783	52.85	33,563
1959	3,596,475.97	1,893,545	1,643,067	1,953,409	52.61	37,130
1960	3,932,246.30	2,034,937	1,765,756	2,166,490	53.61	40,412
1961	5,425,950.37	2,759,096	2,394,123	3,031,827	54.61	55,518
1962	1,904,665.60	961,856	834,622	1,070,044	54.40	19,670
1963	2,917,111.70	1,446,887	1,255,493	1,661,619	55.38	30,004
1964	5,769,249.63	2,839,625	2,463,999	3,305,251	55.20	59,878
1965	5,941,298.27	2,869,647	2,490,050	3,451,248	56.20	61,410
1966	5,740,093.34	2,719,656	2,359,900	3,380,193	57.20	59,094
1967	6,543,737.01	3,072,939	2,666,451	3,877,286	57.03	67,987
1968	6,447,991.89	2,968,655	2,575,961	3,872,031	58.02	66,736
1969	4,972,178.90	2,242,453	1,945,821	3,026,358	59.03	51,268
1970	4,396,146.92	1,962,880	1,703,230	2,692,917	58.88	45,736
1971	6,282,854.76	2,746,236	2,382,964	3,899,891	59.88	65,128
1972	11,689,549.05	5,052,223	4,383,915	7,305,634	59.77	122,229
1973	8,485,086.05	3,587,494	3,112,940	5,372,146	60.76	88,416
1974	5,518,005.10	2,280,040	1,978,436	3,539,569	61.77	57,302
1975	8,809,046.96	3,594,091	3,118,665	5,690,382	61.67	92,271
1976	5,073,627.79	2,021,333	1,753,951	3,319,677	62.67	52,971
1977	6,681,261.24	2,624,399	2,277,243	4,404,018	62.60	70,352
1978	10,429,795.48	3,996,698	3,468,015	6,961,780	63.59	109,479
1979	9,129,789.56	3,409,063	2,958,112	6,171,678	64.60	95,537
1980	13,032,993.27	4,789,625	4,156,053	8,876,940	64.54	137,542
1981	8,567,212.46	3,064,492	2,659,121	5,908,091	65.54	90,145
1982	6,322,429.55	2,221,702	1,927,815	4,394,615	65.52	67,073
1983	10,039,076.25	3,429,348	2,975,714	7,063,362	66.51	106,200
1984	15,192,454.14	5,089,472	4,416,237	10,776,217	66.50	162,048
1985	20,049,670.78	6,516,143	5,654,188	14,395,483	67.50	213,266
1986	25,853,728.54	8,226,656	7,138,434	18,715,295	67.50	277,264
1987	27,025,083.74	8,323,726	7,222,664	19,802,420	68.51	289,044
1988	35,900,635.12	10,802,501	9,373,546	26,527,089	68.54	387,031
1989	33,857,447.31	9,842,360	8,540,413	25,317,034	69.54	364,064
1990	33,289,976.26	9,337,838	8,102,629	25,187,347	70.54	357,065
1991	21,975,146.78	5,999,215	5,205,639	16,769,508	70.58	237,596
1992	25,625,401.86	6,795,857	5,896,901	19,728,501	70.65	279,243
1993	35,920,545.98	9,152,555	7,941,855	27,978,691	71.65	390,491
1994	40,349,744.62	9,958,317	8,641,031	31,708,714	71.73	442,057
1995	48,666,060.87	11,494,924	9,974,375	38,691,686	72.74	531,918
1996	39,703,786.93	9,048,493	7,851,558	31,852,229	72.84	437,290
1997	36,325,565.30	7,893,545	6,849,387	29,476,178	73.84	399,190

#### ACCOUNT 331 MAINS AND ACCESSORIES

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

YEAI		CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	IVOR CURVE IOWA SALVAGE PERCENT					
1998	91,174,882.71	19,019,081	16,503,237	74,671,646	73.96	1,009,622
1999	56,220,796.84	11,232,915	9,747,025	46,473,772	74.09	627,261
2000	58,675,432.29	11,089,657	9,622,717	49,052,715	75.09	653,252
200	64,900,253.94	11,669,066	10,125,482	54,774,772	75.25	727,904
2002	65,703,320.20	11,202,416	9,720,560	55,982,760	75.41	742,378
2003	3 23,714,068.22	3,782,394	3,282,059	20,432,009	76.41	267,400
2004	61,658,968.69	9,236,514	8,014,708	53,644,261	76.59	700,408
2005	58,218,712.64	8,150,620	7,072,456	51,146,257	76.79	666,054
2006	14,849,158.85	1,930,391	1,675,039	13,174,120	76.99	171,115
2007	7 81,838,010.60	9,796,010	8,500,194	73,337,817	77.22	949,726
2008	3 108,625,449.47	11,861,899	10,292,807	98,332,642	77.46	1,269,463
2009	95,794,785.08	9,445,366	8,195,933	87,598,852	77.71	1,127,253
2010	98,014,815.90	8,605,701	7,467,339	90,547,477	77.97	1,161,312
2011	116,836,087.60	9,043,113	7,846,890	108,989,198	77.53	1,405,768
2012	2 114,382,198.40	7,549,225	6,550,613	107,831,585	77.83	1,385,476
2013	3 146,219,541.67	8,027,453	6,965,581	139,253,961	77.47	1,797,521
2014	144,052,936.97	6,251,897	5,424,896	138,628,041	77.15	1,796,864
2015	174,327,198.09	5,543,605	4,810,297	169,516,901	76.24	2,223,464
2016	163,834,014.84	3,243,913	2,814,808	161,019,207	74.26	2,168,317
2017	7 117,185,192.00	843,733	732,124	116,453,068	68.94	1,689,194
9999	253,556,288.92-	39,607,660-	34,368,359-	219,187,930-		2,983,623-
	2,266,777,896.52	354,090,091	307,251,055	1,959,526,842		26,673,408

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 73.5 1.18



#### ACCOUNT 333 SERVICES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE IOWA					
NET SALV	AGE PERCENT	0				
1906	13.40	13	13			
1907	104.85	100	96	9	5.78	2
1908	14.33	14	14		2	
1909	860.41	822	788	72	5.14	14
1910	187.73	178	171	17	6.14	3
1911	79.95	76	73	7	5.87	1
1912	2,861.53	2,687	2,576	286	6.85	42
1913	2,489.14	2,341	2,244	245	6.61	37
1914	1,458.26	1,358	1,302	156	7.61	20
1915	10,984.22	10,246	9,823	1,161	7.38	157
1916	3,344.55	3,123	2,994	351	7.20	49
1917	5,673.84	5,246	5,029	645	8.20	79
1918	987.37	914	876	111	8.02	14
1919	2,959.25	2,740	2,627	332	7.88	42
1920	12,384.22	11,350	10,881	1,503	8.88	169
1921	10,736.69	9,843	9,436	1,301	8.76	149
1922	8,162.67	7,405	7,099	1,064	9.77	109
1923	27,878.28	25,291	24,246	3,632	9.67	376
1924	10,403.12	9,436	9,046	1,357	9.59	142
1925	124.11	113	108	16	9.54	2
1926	4.11	4	4			
1927	35,256.09	31,589	30,284	4,972	10.51	473
1928	699.46	626	600	99	10.50	9
1929	26.10	23	22	4	11.50	
1930	17.41	15	14	3	11.50	
1931	7.32	6	6	1	11.54	
1932	26.92	23	22	5	12.54	
1933	123.02	107	103	20	12.58	2
1934	24,197.05	21,013	20,145	4,052	12.65	320
1935	39,775.41	34,453	33,030	6,745	12.74	529
1936	31,613.31	27,055	25,937	5,676	13.73	413
1937	54,638.50	46,623	44,697	9,942	13.84	718
1938	53,607.96	45,599	43,715	9,893	13.96	709
1939	67,007.83	56,809	54,462	12,546	14.09	890
1940	77,421.04	64,801	62,124	15,297	15.09	1,014
1941	51,182.17	42,676	40,913	10,269	15.25	673
1942	57,963.23	48,138	46,150	11,813	15.41	767
1943	32,322.42	26,731	25,627	6,695	15.59	429
1944	26,144.28	21,329	20,448	5,696	16.59	343
1945	48,337.27	39,250	37,629	10,708	16.79	638
1946	100,890.67	81,520	78,153	22,738	16.99	1,338
1947	283,623.86	227,948	218,532	65,092	17.22	3,780
1948	370,167.74	295,838	283,618	86,550	17.46	4,957

### ACCOUNT 333 SERVICES

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	70-R2				
	LVAGE PERCENT					
1949	434,565.52	342,351	328,209	106,357	18.45	5,765
1950	482,619.21	377,891	362,281	120,338	18.71	6,432
1951	661,071.25	514,313	493,068	168,003	18.97	8,856
1952	713,357.19	551,354	528,579	184,778	19.25	9,599
1953	730,390.78	555,900	532,937	197,454	20.25	9,751
1954	714,501.87	539,878	517,577	196,925	20.54	9,587
1955	873,567.48	655,176	628,113	245,454	20.83	11,784
1956	961,852.25	715,810	686,242	275,610	21.14	13,037
1957	900,622.88	664,750	637,291	263,332	21.47	12,265
1958	918,670.64	666,863	639,317	279,354	22.47	12,432
1959	1,064,089.10	765,719	734,089	330,000	22.80	14,474
1960	1,083,309.76	772,400	740,494	342,816	23.15	14,808
1961	1,021,240.01	721,200	691,409	329,831	23.50	14,035
1962	970,688.36	678,802	650,763	319,925	23.87	13,403
1963	872,793.58	599,347	574,590	298,204	24.87	11,991
1964	1,093,751.05	743,094	712,399	381,352	25.24	15,109
1965	1,098,704.21	738,329	707,831	390,873	25.62	15,257
1966	1,112,613.43	739,220	708,685	403,928	26.02	15,524
1967	1,143,110.47	750,452	719,453	423,657	26.42	16,035
1968	1,285,273.82	833,372	798,948	486,326	26.84	18,119
1969	1,362,682.55	865,848	830,082	532,601	27.83	19,138
1970	1,491,947.58	935,451	896,810	595,138	28.26	21,059
1971	1,705,893.91	1,054,925	1,011,349	694,545	28.69	24,209
1972	1,853,899.17	1,130,322	1,083,632	770,267	29.13	26,442
1973	2,536,891.95	1,524,165	1,461,206	1,075,686	29.57	36,378 20,270
1974	1,406,347.39	831,995	797,628	608,719	30.03 31.03	16,168
1975	1,125,181.92	650,355	623,491	501,691		
1976	1,957,181.61	1,112,853	1,066,884	890,298	31.49 31.96	28,272 37,450
1977	2,578,479.98	1,441,112	1,381,584	1,196,896	32.45	40,850
1978	2,798,509.29	1,536,382	1,472,919	1,325,590	32.43	45,946
1979	3,130,781.12	1,687,491	1,617,786	1,512,995 1,385,076	33.42	41,445
1980	2,809,237.53	1,485,525	1,424,162	1,370,626	33.42	40,408
1981	2,724,310.03	1,412,010	1,353,684			42,260
1982	2,834,234.17	1,438,657	1,379,230	1,455,004 1,576,480	34.43 35.43	44,496
1983	2,991,531.98	1,476,022	1,415,052	1,913,191	35.43	53,233
1984	3,559,250.02	1,716,982	1,646,059	2,132,102	36.47	58,462
1985	3,888,824.20	1,832,414	1,756,722	2,613,899	36.99	70,665
1986	4,675,212.82	2,150,130	2,061,314	3,800,112	37.52	101,282
1987	6,665,436.28 7,200,261.98	2,988,782	2,865,324 3,013,780	4,186,482	38.07	109,968
1988	7,200,261.98	3,143,634 3,394,828	3,254,598	4,740,759	38.62	122,754
1989		3,394,828	3,401,993	5,200,610	39.17	132,770
1990	8,602,602.64 6,494,882.24	2,599,252	2,491,885	4,002,997	39.72	100,780
1991	0,494,002.24	۷,۵/۶,۷۵۷	2,471,003	1,002,001	55.72	_00,.00

#### ACCOUNT 333 SERVICES

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

	ORIGINAL	CALCULATED	ALLOC. BOOK	FUTURE BOOK	REM.	ANNUAL
YEAR	COST	ACCRUED	RESERVE	ACCRUALS	LIFE	ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVI	VOR CURVE IOWA	. 70-R2				
NET S	SALVAGE PERCENT	0				
1992	6,910,529.68	2,678,521	2,567,879	4,342,651	40.29	107,785
1993	9,760,979.16	3,658,415	3,507,297	6,253,682	40.86	153,051
1994	8,167,742.24	2,955,906	2,833,806	5,333,936	41.44	128,715
1995	11,101,718.89	3,872,280	3,712,327	7,389,392	42.01	175,896
1996	11,650,776.83	3,907,671	3,746,257	7,904,520	42.60	185,552
1997	11,051,132.33	3,579,462	3,431,605	7,619,527	42.79	178,068
1998	48,166,773.86	14,931,700	14,314,915	33,851,859	43.40	779,997
1999	14,322,885.06	4,239,574	4,064,450	10,258,435	44.00	233,146
2000	14,457,969.66	4,074,256	3,905,960	10,552,010	44.61	236,539
2001	17,152,174.59	4,584,776	4,395,392	12,756,783	45.23	282,043
2002	30,136,046.48	7,660,583	7,344,147	22,791,899	45.48	501,141
2003	3,640,535.62	870,816	834,845	2,805,691	46.11	60,848
2004	2,193,476.92	491,558	471,253	1,722,224	46.74	36,847
2005	19,351,580.91	4,063,832	3,895,967	15,455,614	47.02	328,703
2006	98,231.91	19,096	18,307	79,925	47.67	1,677
2007	14,114,031.85	2,534,880	2,430,172	11,683,860	47.98	243,515
2008	27,164,747.11	4,465,884	4,281,412	22,883,335	48.30	473,775
2009	24,020,994.16	3,574,324	3,426,679	20,594,315	48.64	423,403
2010	18,938,006.87	2,514,967	2,411,081	16,526,926	48.99	337,353
2011	19,376,639.59	2,255,441	2,162,275	17,214,365	49.36	348,751
2012	22,257,725.49	2,227,998	2,135,966	20,121,759	49.45	406,911
2013	23,093,355.32	1,921,367	1,842,001	21,251,354	49.56	428,801
2014	20,902,427.70	1,383,741	1,326,583	19,575,845	49.41	396,192
2015	22,003,688.59	1,067,179	1,023,097	20,980,592	49.05	427,739
2016	30,707,622.32	927,370	889,063	29,818,559	48.25	618,001
2017	22,612,298.00	248,735	238,461	22,373,837	44.95	497,749
9999	10,775,394.15-	2,693,181-	2,581,934-	8,193,460-		184,227-
	544,561,188.07	136,106,553	130,484,389	414,076,799		9,310,348

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 44.5 1.71



#### ACCOUNT 334 METERS AND METER INSTALLATIONS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
			( - /	ζ – γ	(-,	• • •
	OR CURVE IOWA					
NET SAI	LVAGE PERCENT	0				
1952	5,025.49	5,025	5,025			
1953	8,889.89	8,890	8,890			
1954	11,474.31	11,474	11,474			
1955	18,882.76	18,883	18,883			
1956	34,398.23	34,398	34,398			
1957	22,052.77	22,053	22,053			
1958	14,230.54	14,225	14,168	63	0.02	63
1959	18,711.59	18,281	18,207	505	1.38	366
1960	14,361.22	14,203	14,146	215	0.64	215
1961	19,994.83	19,771	19,691	304	0.64	304
1962	23,456.13	23,043	22,950	506	0.99	506
1963	17,361.92	17,032	16,963	399	1.06	376
1964	16,644.11	16,295	16,229	415	1.15	361
1965	39,133.06	38,213	38,059	1,074	1.26	852
1966	10,796.43	10,509	10,467	329	1.41	233
1967	14,681.98	14,236	14,179	503	1.58	318
1968	18,247.62	17,613	17,542	706	1.78	397
1969	19,150.07	18,390	18,316	834	2.01	415
1970	2,921.02	2,803	2,792	129	2.00	64
1971	42,200.94	40,226	40,064	2,137	2.28	937
1972	27,419.47	26,076	25,971	1,448	2.34	619
1973	60,386.60	57,234	57,004	3,383	2.45	1,381
1974	42,956.66	40,551	40,388	2,569	2.58	996
1975	47,515.73	44,627	44,447	3,069	2.75	1,116
1976	100,453.42	93,803	93,425	7,028	2.94	2,390
1977	94,374.45	87,910	87,556	6,818	2.98	2,288
1978	126,395.46	116,827	116,357	10,038	3.24	3,098
1979	135,089.43	124,309	123,808	11,281	3.34	3,378
1980	187,826.47	171,861	171,169	16,657	3.48	4,786
1981	196,056.10	178,176	177,459	18,597	3.66	5,081
1982	120,341.24	108,512	108,075	12,266	3.87	3,170
1983	170,628.29	152,473	151,859	18,769	4.11	4,567
1984	205,368.47	182,326	181,592	23,776	4.23	5,621
1985	158,917.65	139,975	139,411	19,507	4.40	4,433
1986	213,220.21	186,056	185,307	27,913	4.60	6,068
1987	1,279,674.96	1,104,615	1,100,167	179,508	4.83	37,165
1988	597,286.68	510,979	508,921	88,366	4.98	17,744
1989	569,394.90	481,936	479,995	89,400	5.17	17,292
1990	1,270.19	1,065	1,061	209	5.29	40
1991	1,557,191.98	1,287,486	1,282,302	274,890	5.55	49,530
1992	1,599,345.71	1,305,066	1,299,811	299,535	5.75	52,093
1993	2,582,218.29	2,081,268	2,072,888	509,330	5.90	86,327
1994	1,315,494.53	1,044,897	1,040,690	274,805	6.09	45,124

#### ACCOUNT 334 METERS AND METER INSTALLATIONS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	VOR CURVE IOWA ALVAGE PERCENT					
1995	2,677,843.87	2,096,752	2,088,309	589,535	6.24	94,477
1996	3,251,022.08	2,502,312	2,492,236	758,786	6.43	118,007
1997	3,313,135.85	2,506,056	2,495,965	817,171	6.60	123,814
1998	15,732,020.21	11,688,891	11,641,824	4,090,196	6.75	605,955
1999	4,161,780.53	3,025,614	3,013,431	1,148,350	6.95	165,230
2000	3,879,142.13	2,762,725	2,751,601	1,127,541	7.07	159,482
2001	4,975,793.83	3,456,186	3,442,269	1,533,525	7.25	211,521
2002	3,958,975.15	2,675,475	2,664,702	1,294,273	7.44	173,961
2003	448,866.28	294,815	293,628	155,238	7.58	20,480
2004	6,683.90	4,241	4,224	2,460	7.78	316
2005	4,027,302.54	2,456,655	2,446,763	1,580,540	7.99	197,815
2006	56,355.65	32,855	32,723	23,633	8.22	2,875
2007	4,387,405.38	2,427,990	2,418,213	1,969,192	8.47	232,490
2008	6,731,503.17	3,497,689	3,483,605	3,247,898	8.78	369,920
2009	10,568,650.08	5,094,089	5,073,577	5,495,073	9.14	601,211
2010	15,606,788.91	6,882,594	6,854,881	8,751,908	9.51	920,285
2011	19,595,495.84	7,744,140	7,712,957	11,882,539	9.95	1,194,225
2012	13,961,463.03	4,822,289	4,802,872	9,158,591	10.42	878,943
2013	9,864,408.56	2,876,462	2,864,879	6,999,530	10.93	640,396
2014	6,656,804.85	1,556,361	1,550,094	5,106,711	11.47	445,223
2015	14,097,711.57	2,427,626	2,417,851	11,679,861	12.01	972,511
2016	15,881,967.57	1,691,430	1,684,619	14,197,349	12.58	1,128,565
2017	17,001,674.00	629,062	626,529	16,375,145	13.00	1,259,627
9999	1,653,080.42-	712,765-	709,898-	943,182-		93,355-
	190,951,156.36	82,333,135	82,002,013	108,949,143		10,783,688

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.1 5.65

#### ACCOUNT 335 FIRE HYDRANTS

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					
1882	225.10	225	225			
1886	338.65	338	338	1	0.08	1
1889	504.15	499	499	5	1.38	4
1890	693.86	681	681	13	2.36	6
1891	2,452.92	2,420	2,419	34	1.71	20
1892	3,577.84	3,502	3,500	78	2.71	29
1893	2,805.67	2,760	2,759	47	2.08	23
1894	2,133.20	2,081	2,080	53	3.09	17
1895	4,108.50	4,026	4,024	84	2.50	34
1896	1,592.65	1,548	1,547	46	3.50	13
1897	237.32	232	232	5	2.96	2
1898	2,423.36	2,346	2,345	78	3.95	20
1899	1,947.67	1,893	1,892	56	3.45	16
1900	87.85	85	85	3	4.45	1
1901	142.87	138	138	5	3.98	1
1902	39.52	38	38	2	4.99	
1903	2,506.04	2,410	2,409	97	4.55	21
1904	2,065.09	1,969	1,968	97	5.55	17
1905	761.63	728	728	34	5.15	7
1906	755.58	716	716	40	6.14	7
1907	912.42	867	867	45	5.78	8
1908	700.66	660	660	41	6.78	6
1909	1,492.08	1,409	1,408	84	6.44	13
1910	3,196.45	2,989	2,988	208	7.45	28
1911	1,710.36	1,603	1,602	108	7.14	15
1912	3,830.44	3,556	3,554	276	8.14	34
1913	2,454.53	2,283	2,282	173	7.87	22
1914	2,649.74	2,468	2,467	183	7.61	24
1915	7,019.77	6,476	6,473	547	8.61	64
1916	4,132.47	3,817	3,815	317	8.40	38
1917	4,269.63	3,905	3,903	367	9.38	39
1918	3,561.71	3,260	3,259	303	9.20	33
1919	3,951.72	3,620	3,618	334	9.03	37
1920	4,529.91	4,108	4,106	424	10.02	42
1921	4,005.90	3,634	3,632	374	9.88	38
1922	8,691.91	7,885	7,882	810	9.77	83
1923	6,337.76	5,690	5,688	650	10.76	60
1924	7,692.16	6,904	6,901	791	10.67	74
1925	7,861.61	7,053	7,050	812	10.60	77
1926	9,093.92	. 8,072	8,068	1,026	11.59	89
1927	11,133.08	9,874	9,870	1,263	11.54	109
1928	13,004.91	11,522	11,517	1,488	11.52	129
1929	16,169.19	14,167	14,161	2,008	12.51	161

#### ACCOUNT 335 FIRE HYDRANTS

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CIIDIITIO	R CURVE IOWA	72-P2				
	VAGE PERCENT					
1101 0110	viide rencemir.	J				
1930	11,020.73	9,643	9,639	1,382	12.50	111
1931	11,686.22	10,209	10,205	1,481	12.51	118
1932	6,106.02	5,273	5,271	835	13.50	62
1933	3,454.79	2,978	2,977	478	13.54	35
1934	7,628.55	6,561	6,558	1,071	13.59	79
1935	12,929.68	10,988	10,983	1,947	14.58	134
1936	13,273.83	11,251	11,246	2,028	14.65	138
1937	17,677.16	14,941	14,934	2,743	14.74	186
1938	8,587.47	7,169	7,166	1,421	15.73	90
1939	11,951.08	9,944	9,940	2,011	15.84	127
1940	11,466.82	9,508	9,504	1,963	15.96	123
1941	21,846.24	18,049	18,041	3,805	16.09	236
1942	5,979.86	4,876	4,874	1,106	17.09	65
1943	6,276.67	5,097	5,095	1,182	17.25	69
1944	8,383.98	6,778	6,775	1,609	17.41	92
1945	14,826.84	11,933	11,928	2,899	17.59	165
1946	11,780.08	9,349	9,345	2,435	18.59	131
1947	26,894.03	21,236	21,227	5,667	18.79	302
1948	31,066.66	24,400	24,389	6,678	18.99	352
1949	49,611.16	38,741	38,724	10,887	19.22	566 225
1950	19,664.59	15,132	15,125	4,540	20.22 20.45	638
1951 1952	55,379.63 46,696.31	42,354 35,480	42,336 35,465	13,044 11,231	20.45	542
1952	70,732.73	53,375	53,465	17,381	20.71	829
1954	115,292.85	85,663	85,626	29,667	21.97	1,350
1955	122,715.48	90,503	90,463	32,252	22.25	1,450
1956	155,469.89	113,773	113,723	41,747	22.54	1,852
1957	143,605.54	104,258	104,212	39,394	22.83	1,726
1958	132,954.54	94,930	94,889	38,066	23.83	1,597
1959	141,776.08	100,349	100,305	41,471	24.15	1,717
1960	165,424.88	116,046	115,995	49,430	24.47	2,020
1961	135,176.88	93,948	93,907	41,270	24.80	1,664
1962	136,475.04	93,158	93,117	43,358	25.80	1,681
1963	167,436.61	113,154	113,105	54,332	26.15	2,078
1964	171,535.73	114,723	114,673	56,863	26.50	2,146
1965	182,221.04	120,539	120,486	61,735	26.87	2,298
1966	175,559.34	113,920	113,870	61,689	27.87	2,213
1967	180,709.81	115,907	115,856	64,854	28.24	2,297
1968	211,432.53	133,964	133,906	77,527	28.62	2,709
1969	225,730.16	141,217	141,155	84,575	29.02	2,914
1970	201,776.42	124,597	124,543	77,233	29.42	2,625
1971	229,469.65	138,714	138,653	90,817	30.42	2,985
1972	365,748.12	217,986	217,891	147,857	30.84	4,794



#### ACCOUNT 335 FIRE HYDRANTS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	72-R2				
	LVAGE PERCENT					
		-				
1973	356,569.45	209,449	209,358	147,211	31.26	4,709
1974	396,362.54	229,335	229,235	167,128	31.68	5,276
1975	464,656.80	264,622	264,506	200,151	32.13	6,229
1976	288,815.67	160,610	160,540	128,276	33.13	3,872
1977	390,454.22	213,500	213,407	177,047	33.57	5,274
1978	743,840.58	399,591	399,417	344,424	34.03	10,121
1979	622,348.70	328,227	328,084	294,265	34.50	8,529
1980	567,537.63	293,701	293,573	273,965	34.96	7,837
1981	443,965.53	225,268	225,170	218,796	35.44	6,174
1982	582,672.77	287,491	287,365	295,308	36.45	8,102
1983	612,774.56	295,970	295,841	316,934	36.93	8,582
1984	653,284.97	308,612	308,477	344,808	37.42	9,215
1985	619,124.56	285,726	285,601	333,524	37.92	8,795
1986	775,206.88	349,153	349,001	426,206	38.43	11,090
1987	845,901.31	371,520	371,358	474,543	38.94	12,187
1988	1,282,004.62	548,442	548,203	733,802	39.46	18,596
1989	1,119,853.55	465,971	465,768	654,086	39.99	16,356
1990	1,134,831.73	458,699	458,499	676,333	40.53	16,687
1991	1,009,818.94	396,051	395,878	613,941	41.07	14,949
1992	1,359,645.04	516,665	516,439	843,206	41.61	20,265
1993	1,194,957.54	439,147	438,955	756,003	42.17	17,928
1994	1,578,279.06	559,973	559,728	1,018,551	42.73	23,837
1995	1,717,012.90	587,218	586,962	1,130,051	43.29	26,104
1996	1,446,080.37	475,760	475,552	970,528	43.86	22,128
1997	1,767,878.49	558,119	557,875	1,210,003	44.44	27,228
1998	1,618,567.99	489,131	488,917	1,129,651	45.02	25,092
1999	2,163,769.30	624,464	624,191	1,539,578	45.60	33,763
2000	1,562,057.92	429,254	429,067	1,132,991	46.19	24,529
2001	1,798,902.56	468,974	468,769	1,330,134	46.79	28,428
2002	1,822,381.70	451,951	451,754	1,370,628	47.00	29,162
2003	2,216,719.18	517,382	517,156	1,699,563	47.61	35,698
2004	2,125,580.77	464,865	464,662	1,660,919	48.23	34,437
2005	97,442.08	19,976	19,967	77,475	48.48	1,598
2006	5,317,992.49	1,009,355	1,008,914	4,309,078	49.10	87,761
2007	3,648,061.61	639,870	639,591	3,008,471	49.38	60,925
2008	4,729,411.57	759,543	759,212	3,970,200	49.67	79,932
2009	4,804,625.05	694,268	693,965	4,110,660	50.32	81,690
2010	4,428,732.64	574,849	574,598	3,854,135	50.30	76,623
2011	3,576,258.54	406,978	406,800	3,169,459	50.64	62,588
2012	4,701,826.59	457,958	457,758	4,244,069	50.99	83,233
2013	5,555,028.53	449,957	449,761	5,105,268	51.06	99,986
2014	4,865,420.34	313,333	313,196	4,552,224	50.85	89,523
2015	7,590,246.22	358,260	358,104	7,232,142	50.41	143,466



#### ACCOUNT 335 FIRE HYDRANTS

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	VOR CURVE IOWA ALVAGE PERCENT					
2016 2017 9999	6,770,827.86 6,430,405.00 4,580,637.60-	199,062 68,805 962,197-	198,975 68,775 961,777-	6,571,853 6,361,630 3,618,861-	49.52 46.23	132,711 137,608 77,295-
	97,220,732.27	20,421,929	20,413,015	76,807, <b>717</b>		1,640,521
	COMPOSITE REMAIN	ING LIFE AND	ANNUAL ACCRUAL	RATE, PERCENT	46.8	1.69

### ACCOUNT 340.1 OFFICE FURNITURE AND EQUIPMENT - FURNITURE

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE 20-S LVAGE PERCENT	-				
1998	95,295.76	92,913	80,087	15,209	0.50	15,209
1999	78,772.50	72,865	62,806	15,966	1.50	10,644
2000	22,980.73	20,108	17,332	5,649	2.50	2,260
2001	10,548.26	8,702	7,501	3,047	3.50	871
2002	157,590.57	122,133	105,273	52,318	4.50	11,626
2003	12,858,016.03	9,322,062	8,035,177	4,822,839	5.50	876,880
2004	22,171.43	14,966	12,900	9,271	6.50	1,426
2005	31,747.76	19,842	17,103	14,645	7.50	1,953
2006	51,409.99	29,561	25,480	25,930	8.50	3,051
2007	564,122.43	296,164	255,279	308,843	9.50	32,510
2008	119,978.59	56,990	49,123	70,856	10.50	6,748
2009	8,229.70	3,498	3,015	5,215	11.50	453
2010	15,038.10	5,639	4,861	10,177	12.50	814
2011	47,428.85	15,414	13,286	34,143	13.50	2,529
2012	152,376.48	41,904	36,119	116,257	14.50	8,018
2013	638,137.92	143,581	123,760	514,378	15.50	33,186
2014	171,825.74	30,070	25,919	145,907	16.50	8,843
2015	235,630.41	29,454	25,388	210,242	17.50	12,014
2016	346,831.40	26,012	22,421	324,410	18.50	17,536
2017	1,762,568.78	44,064	37,981	1,724,588	19.50	88,440
	17,390,701.43	10,395,942	8,960,811	8,429,890		1,135,011

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.4 6.53

# ACCOUNT 340.2 OFFICE FURNITURE AND EQUIPMENT - COMPUTERS AND PERIPHERAL EQUIPMENT

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	OR CURVE 5-SQ	UARE				
NET SA	ALVAGE PERCENT	0				•
2013	3,365,307.17	3,028,776	2,610,662	754,645	0.50	754,645
2014	2,486,682.64	1,740,678	1,500,382	986,301	1.50	657,534
2015	7,289,724.35	3,644,862	3,141,698	4,148,026	2.50	1,659,210
2016	6,290,370.38	1,887,111	1,626,601	4,663,769	3.50	1,332,505
2017	2,392,057.63	239,206	206,184	2,185,874	4.50	485,750
·	21,824,142.17	10,540,633	9,085,527	12,738,615		4,889,644

### ACCOUNT 340.3 OFFICE FURNITURE AND EQUIPMENT - COMPUTER SOFTWARE

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE 5-SQ	UARE				
NET SA	ALVAGE PERCENT	0				
2013	4,682,316.71	4,214,085	3,632,342	1,049,975	0.50	1,049,975
2014	4,481,440.67	3,137,008	2,703,953	1,777,488	1.50	1,184,992
2015	2,995,602.70	1,497,801	1,291,034	1,704,569	2.50	681,828
2016	5,779,056.75	1,733,717	1,494,382	4,284,675	3.50	1,224,193
2017	8,435,150.59	843,515	727,070	7,708,081	4.50	1,712,907
	26,373,567.42	11,426,126	9,848,781	16,524,786		5,853,895

# ACCOUNT 340.31 OFFICE FURNITURE AND EQUIPMENT - COMPUTER SOFTWARE - BUSINESS TRANSFORMATION

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVI	VOR CURVE 10-S	QUARE				
NET S	ALVAGE PERCENT	0				
2012	25,686,482.62	14,127,565	12,177,293	13,509,190	4.50	3,002,042
2013	35,659,466.60	16,046,760	13,831,549	21,827,918	5.50	3,968,712
2014	1,144,664.47	400,633	345,326	799,338	6.50	122,975
2015	58,280.82	14,570	12,559	45,722	7.50	6,096
	62,548,894.51	30,589,528	26,366,727	36,182,168		7,099,825
	COMPOSITE REMAIN	ING LIFE AND	ANNUAL ACCRUAL	RATE, PERCENT	5.1	11.35

### ACCOUNT 340.5 OFFICE FURNITURE AND EQUIPMENT - OTHER OFFICE EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE 10-SO NAGE PERCENT					
2008 9999	50,413.74 354.00-	47,893 336-	41,282 290-	9,132 64-	0.50	9,132 64-
	50,059.74	47,557	40,992	9,068		9,068

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.0 18.11

### ACCOUNT 341 TRANSPORTATION EQUIPMENT - NOT CLASSIFIED

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	6-L3				
NET SA	LVAGE PERCENT	0				
1986	349.00	349	349			
1987	2,225.00	2,225	2,225			
1995	2,590.00	2,590	2,590			
1996	3,410.91	3,411	3,411			
1997	7,078.43	7,078	7,078			
2001	348.80	349	349			
	16,002.14	16,002	16,002			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

#### ACCOUNT 341.1 TRANSPORTATION EQUIPMENT - LIGHT DUTY TRUCKS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	6-L3				
NET SA	ALVAGE PERCENT	0				
		10 440	10 515			
2005	19,715.45	19,443	19,715			
2011	11,603.37	9,510	10,364	1,239	1.43	866
2012	4,889,683.96	3,811,020	4,153,231	736,453	1.56	472,085
2013	4,755,104.56	3,382,781	3,686,538	1,068,567	1.83	583,916
2014	48,948.09	29,447	32,091	16,857	2.32	7,266
2015	2,999,887.81	1,360,449	1,482,611	1,517,277	3.01	504,079
2016	1,425,357.37	399,813	435,714	989,643	3.85	257,050
2017	2,377,900.86	224,949	245,148	2,132,753	4.78	446,183
	16,528,201.47	9,237,412	10,065,412	6,462,789		2,271,445

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.8 13.74

### ACCOUNT 341.2 TRANSPORTATION EQUIPMENT - EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA	6-L3				
NET SA	LVAGE PERCENT	0				
2007	32,348.03	30,537	32,348			
2010	901,677.33	768,950	837,986	63,691	1.29	49,373
2012	804,979.51	627,401	683,728	121,252	1.56	77,726
2013	4,328,693.40	3,079,432	3,355,901	972,792	1.83	531,580
2014	1,055,882.70	635,219	692,248	363,635	2.32	156,739
2015	801,778.21	363,606	396,250	405,528	3.01	134,727
2016	2,851,299.19	799,789	871,594	1,979,705	3.85	514,209
2017	1,824,900.66	172,636	188,135	1,636,766	4.78	342,420
	12,601,559.03	6,477,570	7,058,190	5,543,369		1,806,774

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.1 14.34

### ACCOUNT 341.3 TRANSPORTATION EQUIPMENT - AUTOS

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVO	OR CURVE IOWA	6-L3				
NET SAI	LVAGE PERCENT	0				
2010	1,283,994.14	1,094,990	1,193,140	90,854	1.29	70,429
2011	9,093.45	7,453	8,121	972	1.43	680
2012	2,372,333.56	1,848,997	2,014,733	357,601	1.56	229,231
2017	608,300.22	57,545	62,703	545,597	4.78	114,142
	4,273,721.37	3,008,985	3,278,697	995,024		414,482

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.4 9.70

#### ACCOUNT 341.4 TRANSPORTATION EQUIPMENT - OTHER

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE IOWA LVAGE PERCENT					
1998	2,998.21	2,998	2,998			
1999	2,418.87	2,419	2,419			
2006	6,978.88	6,750	6,979	•		
2007	21,009.50	19,833	21,010			
2008	81,927.63	75,111	81,883	45	0.86	45
2009	26,867.89	23,821	25,969	899	1.09	825
2010	445,831.71	380,205	414,484	31,348	1.29	24,301
2011	99,208.07	81,311	88,642	10,566	1.43	7,389
2012	340,324.70	265,249	289,164	51,161	1.56	32,796
2013	1,514,742.80	1,077,588	1,174,743	340,000	1.83	185,792
2014	777,341.08	467,648	509,811	267,530	2.32	115,315
2015	178,318.32	80,867	88,158	90,160	3.01	29,953
2016	958,668.51	268,907	293,151	665,518	3.85	172,862
2017	718,900.26	68,008	74,140	644,760	4.78	134,887
	5,175,536.43	2,820,715	3,073,551	2,101,985		704,165

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.0 13.61

#### ACCOUNT 342 STORES EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2.)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE 20-SO VAGE PERCENT	<del></del>				
1999	18,538.18	17,148	14,568	3,970	1.50	2,647
2001	75,069.92	61,933	52,614	22,456	3.50	6,416
2002	35,927.34	27,844	23,654	12,273	4.50	2,727
2003	7,565.20	5,485	4,660	2,905	5.50	528
2004	4,806.42	3,244	2,756	2,050	6.50	315
2005	4,482.50	2,802	2,380	2,102	7.50	280
2006	1,756.71	1,010	858	899	8.50	106
2007	34,088.10	17,896	15,203	18,885	9.50	1,988
2008	23,325.31	11,080	9,413	13,912	10.50	1,325
2013	41,334.12	9,300	7,900	33,434	15.50	2,157
2014	61,104.50	10,693	9,084	52,020	16.50	3,153
2016	92,074.40	6,906	5,867	86,207	18.50	4,660
	400,072.70	175,341	148,957	251,116		26,302

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.5 6.57

### ACCOUNT 343 TOOLS AND WORK EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE 20-SQ					
NET SA	ALVAGE PERCENT	U				
1998	273,456.79	266,620	237,282	36,175	0.50	36,175
1999	310,043.12	286,790	255,232	54,811	1.50	36,541
2000	75,104.97	65,717	58,486	16,619	2.50	6,648
2001	303,887.70	250,707	223,120	80,768	3.50	23,077
2002	333,452.16	258,425	229,988	103,464	4.50	22,992
2003	429,311.88	311,251	277,002	152,310	5.50	27,693
2004	363,800.07	245,565	218,544	145,256	6.50	22,347
2005	568,797.67	355,499	316,381	252,417	7.50	33,656
2006	564,097.66	324,356	288,665	275,433	8.50	32,404
2007	813,777.32	427,233	380,221	433,556	9.50	45,637
2008	706,125.85	335,410	298,502	407,624	10.50	38,821
2009	261,443.50	111,113	98,886	162,558	11.50	14,135
2010	929,684.30	348,632	310,269	619,415	12.50	49,553
2011	1,592,616.89	517,600	460,645	1,131,972	13.50	83,850
2012	2,649,295.17	728,556	648,387	2,000,908	14.50	137,994
2013	3,571,714.73	803,636	715,206	2,856,509	15.50	184,291
2014	1,134,415.71	198,523	176,678	957,738	16.50	58,045
2015	1,832,774.08	229,097	203,888	1,628,886	17.50	93,079
2016	5,078,916.80	380,919	339,003	4,739,914	18.50	256,212
2017	2,625,804.00	65,645	58,422	2,567,382	19.50	131,661
9999	61.00-	16-	15-	46-		3 -
	24,418,459.37	6,511,278	5,794,792	18,623,667		1,334,808

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.0 5.47



#### ACCOUNT 344 LABORATORY EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CUDUE TOWN	20 00 5				
	CURVE IOWA AGE PERCENT					
NEI SALV	AGE PERCENI	U				
1977	10,422.12	10,422	10,422			
1978	3,427.18	3,425	3,139	288	0.02	288
1979	1,191.05	1,169	1,071	120	0.71	120
1980	956.65	929	851	106	1.11	95
1982	4,885.35	4,630	4,243	642	1.96	328
1983	3,186.24	2,979	2,730	456	2.40	190
1984	7,039.06	6,484	5,942	1,097	2.87	382
1985	35,961.70	32,725	29,989	5,973	3.21	1,861
1986	41,610.99	37,358	34,235	7,376	3.59	2,055
1987	4,442.88	3,944	3,614	829	3.86	215
1988	55,994.94	48,895	44,807	11,188	4.28	2,614
1989	122,542.91	105,473	96,655	25,888	4.61	5,616
1990	106,345.10	90,074	82,543	23,802	4.97	4,789
1991	98,795.98	82,208	75,335	23,461	5.35	4,385
1992	54,837.30	44,890	41,137	13,700	5.65	2,425
1994	157,018.58	123,605	113,271	43,748	6.35	6,889
1995	197,830.21	152,230	139,503	58,327	6,74	8,654
1996	60,680.87	45,662	41,844	18,837	7.07	2,664
1997	153,067.90	112,337	102,945	50,123	7.43	6,746
1998	52,491.63	37,463	34,331	18,161	7.82	2,322
1999	94,917.05	65,853	60,347	34,570	8.17	4,231
2000	12,019.94	8,077	7,402	4,618	8.54	541
2001	69,430.68	45,137	41,363	28,068	8.88	3,161
2002	102,651.21	64,280	58,906	43,745	9.25	4,729
2003	283,728.14	170,322	156,082	127,646	9.65	13,228
2004	144,923.40	83,345	76,377	68,546	9.97	6,875
2005	37,937.18	20,771	19,034	18,903	10.33	1,830
2006	150,301.45	77,946	71,429	78,872	10.67	7,392
2007	140,646.33	68,818	63,065	77,581	10.96	7,079
2008	202,155.28	92,385	84,661	117,494	11.29	10,407
2009	219,594.47	93,152	85,364	134,230	11.54	11,632
2010	128,142.15	49,873	45,704	82,438	11.77	7,004
2011	220,713.10	77,757	71,256	149,457	11.95	12,507
2012	87,379.71	27,394	25,104	62,276	12.04	5,172
2013	103,424.98	28,111	25,761	77,664	12.06	6,440
2014	75,409.64	17,073	15,646	59,764	11.96	4,997
2015	20,940.27	3,696	3,387	17,553	11.66	1,505
2016	55,984.53	6,718	6,156	49,829	11.00	4,530
;	3,323,028.15	1,947,610	1,785,651	1,537,377		165,898

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.3 4.99



### ACCOUNT 345 POWER OPERATED EQUIPMENT

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE IOWA AGE PERCENT					
1940	47.41	47	47			
1943	19.85	20	20			
1948	132.00	132	132			
1951	29.64	3.0	30			
1967	1,980.23	1,980	1,980			
1968	1,032.10	1,032	1,032			
1969	817.92	818	818			
1970	7,960.29	7,960	7,960			
1972	6,321.41	6,321	6,321			
1973	2,202.90	2,203	2,203			
1975	281.75	282	282			
1977	596.25	596	596			
1978	1,790.00	1,790	1,790			
1979	170.67	171	171			
1980	7,445.82	7,446	7,446			
1981	23,588.00	23,588	23,588			
1982	4,667.75	4,668	4,668			
1984	13,721.64	13,722	13,722			
1985	64,679.17	64,679	64,679			
1986	24,394.35	24,394	24,394			
1987	10,441.99	10,442	10,442			
1988	20,211.60	20,212	20,212			
1989	29,103.63	29,104	29,104			
1990	9,498.15	9,498	9,498			
1991	36,330.78	36,331	36,331			
1992	18,034.45	18,034	18,034			
1993	77,817.09	77,817	77,817			
1994	177,861.00	177,861	177,861			
1995	148,485.10	148,485	148,485			
1996	134,341.51	134,342	134,342			
1997	63,115.88	63,116	63,116			
1998	91,085.02	91,085	91,085	10 010	0 00	10 010
1999	259,177.73	257,960	248,359	10,819	0.09	10,819
2001	50,530.88	48,944	47,122	3,409	0.53	3,409
2002	112,094.99	106,849	102,872	9,223	0.76	9,223 51,395
2003	515,993.05	482,557	464,598	51,395	1.00	9,060
2004	95,353.63	87,277	84,029	11,325	1.25	
2005	46,995.17	41,882	40,323	6,672	1.53	4,361
2006	13,570.69	11,736	11,299	2,272	1.80	1,262 529
2007	5,629.80	4,687	4,513	1,117	2.11 2.45	8,172
2008	85,414.00	67,921	65,393	20,021 18,022	2.45	6,391
2009	64,981.58	48,775	46,960 14 780	7,206	3.24	2,224
2010	21,985.95	15,351	14,780	7,200	J. 2 T	2,224



#### ACCOUNT 345 POWER OPERATED EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIV	OR CURVE IOWA LVAGE PERCENT					
2012	63,036.69	35,540	34,217	28,820	4.26	6,765
2013	21,465.79	10,297	9,914	11,552	4.88	2,367
2014	100,707.30	38,732	37,290	63,417	5.60	11,324
2015	5,982.85	1,678	1,616	4,367	6.41	681
2016	130,232.16	22,139	21,315	108,917	7.33	14,859
	2,571,357.61	2,260,531	2,212,806	358,552		142,841

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.5 5.56

### ACCOUNT 346 COMMUNICATION EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	OR CURVE 15-SO LVAGE PERCENT	_				
2003	188,943.90	182,646	176,070	12,874	0.50	12,874
2004	425,059.17	382,553	368,780	56,279	1.50	37,519
2005	1,045,731.71	871,440	840,066	205,666	2.50	82,266
2006	184,419.18	141,389	136,298	48,121	3.50	13,749
2012	23,821.81	8,735	8,421	15,401	9.50	1,621
2013	230,281.76	69,085	66,598	163,684	10.50	15,589
2015	17,452.26	2,909	2,804	14,648	12.50	1,172
2016	107,148.51	10,715	10,329	96,820	13.50	7,172
2017	76,670.00	2,555	2,463	74,207	14.50	5,118
	2,299,528.30	1,672,027	1,611,829	687,699		177,080

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.9 7.70

#### ACCOUNT 346.1 COMMUNICATION EQUIPMENT - NON-TELEPHONE

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	CURVE 15-S AGE PERCENT					
2003	362.47	350	337	25	0.50	25
2007	10,911.09	7,638	7,363	3,548	4.50	788
2008	3,768.85	2,387	2,301	1,468	5.50	267
2009	7,001.15	3,967	3,824	3,177	6.50	489
2010	7,913.52	3,957	3,815	4,099	7.50	547
2011	18,194.10	7,884	7,600	10,594	8.50	1,246
2012	45,635.24	16,733	16,131	29,504	9.50	3,106
2013	773,567.95	232,070	223,715	549,853	10.50	52,367
2014	47,071.49	10,983	10,588	36,483	11.50	3,172
2015	3,007.59	501	483	2,525	12.50	202
2016	1,855.13	186	179	1,676	13.50	124
	919,288.58	286,656	276,336	642,953		62,333

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.3 6.78

### ACCOUNT 346.19 COMMUNICATION EQUIPMENT - REMOTE CONTROL AND INSTRUMENTATION

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

YEAR	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR	CURVE 10-SQ	QUARE				
NET SALV	AGE PERCENT	0				
2008	627,917.12	596,521	575,044	52,873	0.50	52,873
2009	922,757.36	784,344	756,105	166,652	1.50	111,101
2010	302,266.91	226,700	218,538	83,729	2.50	33,492
2011	286,314.11	186,104	179,404	106,910	3.50	30,546
2012	400,448.90	220,247	212,317	188,132	4.50	41,807
2013	322,429.59	145,093	139,869	182,561	5.50	33,193
2014	102,010.70	35,704	34,419	67,592	6.50	10,399
2015	114,000.72	28,500	27,474	86,527	7.50	11,537
2016	712,636.57	106,895	103,046	609,591	8.50	71,717
2017	1,600,000.00	80,000	77,120	1,522,880	9.50	160,303
	5,390,781.98	2,410,108	2,323,336	3,067,446		556,968

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.5 10.33

#### ACCOUNT 346.20 COMMUNICATION EQUIPMENT - TELEPHONE

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
	R CURVE 10-S VAGE PERCENT	~				
2008	140,641.95	133,610	128,800	11,842	0.50	11,842
2010	118,538.39	88,904	85,703	32,835	2.50	13,134
2011	572,349.51	372,027	358,633	213,717	3.50	61,062
2012	31,932.00	17,563	16,931	15,001	4.50	3,334
2014	73,917.41	25,871	24,939	48,978	6.50	7,535
2015	11,214.19	2,804	2,703	8,511	7.50	1,135
2016	23,919.00	3,588	3,459	20,460	8.50	2,407
	972,512.45	644,367	621,168	351,344		100,449

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.5 10.33

### ACCOUNT 347 MISCELLANEOUS EQUIPMENT

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

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SURVIV	OR CURVE 25-SQ	DUARE				
	ALVAGE PERCENT	=				
1993	800,710.67	784,696	736,417	64,294	0.50	64,294
1994	184,696.43	173,615	162,933	21,763	1.50	14,509
1995	163,665.46	147,299	138,236	25,429	2.50	10,172
1996	635,119.08	546,202	512,597	122,522	3.50	35,006
1997	433,721.85	355,652	333,770	99,952	4.50	22,212
1998	616,596.66	480,945	451,355	165,242	5.50	30,044
1999	285,469.87	211,248	198,251	87,219	6.50	13,418
2000	329,175.86	230,423	216,246	112,930	7.50	15,057
2001	1,510,814.23	997,137	935,788	575,026	8.50	67,650
2002	845,452.13	524,180	491,929	353,523	9.50	37,213
2003	353,949.54	205,291	192,660	161,290	10.50	15,361
2004	1,148,377.03	620,124	581,971	566,406	11.50	49,253
2005	2,649,170.11	1,324,585	1,243,089	1,406,081	12.50	112,486
2006	509,271.67	234,265	219,852	289,420	13.50	21,439
2007	14,412.76	6,053	5,681	8,732	14.50	602
2008	175,499.07	66,690	62,587	112,912	15.50	7,285
2009	21,138.73	7,187	6,745	14,394	16.50	872
2010	39,101.22	11,730	11,008	28,093	17.50	1,605
2011	81,654.41	21,230	19,924	61,730	18.50	3,337
2012	223,114.88	49,085	46,065	177,050	19.50	9,079
2013	3,048,338.14	548,701	514,941	2,533,397	20.50	123,580
2014	324,974.29	45,496	42,697	282,277	21.50	13,129
2015	211,065.93	21,107	19,808	191,258	22.50	8,500
2016	794,199.34	47,652	44,720	749,479	23.50	31,893
2017	1,247,112.00	24,942	23,408	1,223,704	24.50	49,947
9999	4,085.00-	1,886-	1,770-	2,315-		186-
	16,642,716.36	7,683,649	7,210,908	9,431,808		757,757

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.4 4.55

#### ACCOUNT 348 OTHER TANGIBLE EQUIPMENT

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

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR	CURVE 25-S	QUARE				
NET SALV	AGE PERCENT	0				
		2 222	2 222	0 501	10 50	240
2003	5,843.07	3,389	3,322	2,521	10.50	240
2004	20,479.05	11,059	10,841	9,638	11.50	838
2006	12,840.00	5,906	5,790	7,050	13.50	522
2007	694,887.82	291,853	286,100	408,788	14.50	28,192
2015	1,360.35	136	133	1,227	22.50	55
	735,410.29	312,343	306,186	429,224		29,847

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.4 4.06

# PART VIII. EXPERIENCED AND ESTIMATED NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2013 TRA	NSACTION YEAR			
304.15	12,387.41	5,694.22		5,694.22-
304.20	7,573.00	3,890.31		3,890.31-
304.30	489,194.38	1,005,607.68	18.13	1,005,589.55-
304.36	3,279.22			
304.61	42,596.15	5,930.60		5,930.60-
304.62	29,003.05	35,356.20		35,356.20-
305.00	738.47	157,400.00		157,400.00-
306.00	16,539.05			
307.00	43,396.64	9,413.12		9,413.12-
310.00		36,629.13		36,629.13-
311.00	309,604.79	106,966.38		106,966.38-
320.00	567,100.59	2,279,576.34	76,673.35	2,202,902.99-
320.30	822,537.30	81,114.57		81,114.57-
330.00	662,916.22	1,664,823.50		1,664,823.50-
331.00	1,298,949.97	2,661,617.17	9,472.85	2,652,144.32-
333.00	382,957.75	623,472.59	1,562.20	621,910.39-
334.00	2,421,297.11	1,339,545.79	121,869.64	1,217,676.15-
335,00	67,346.11	133,162.19		133,162.19-
340.00	19,481,522.30	3,485.48		3,485.48-
341.00	52,000.00			
342.00	5,445.59			
343.00	77,736.07	19,725.49		19,725.49-
344.00	17,746.02	2,274.77		2,274.77-
345.00	9,763.41	86.16		86.16-
346.00	169,150.23	10,436.45		10,436.45-
347.00	40,267.76	1,264.53		1,264.53-
	27,031,048.59	10,187,472.67	209,596.17	9,977,876.50-



ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
		112110	211-11-0-	
2014 TRA	NSACTION YEAR			
303.35			4.00-	4.00-
304.15	745,475.25	46,636.35		46,636.35-
304.20	1,963,283.31	53,487.96		53,487.96-
304.30	7,081,636.89	108,670.21	428,589.99	319,919.78
304.36	174,064.55			,
304.61	681,770.72	65,824.28		65,824.28-
304.62	931,572.94	80,107.11		80,107.11-
305.00	2,461,485.37	317,804.74		317,804.74-
306.00	1,367,400.05	2,002.25		2,002.25-
307.00	681,614.71	13,938.29		13,938.29-
310.00	104,483.49	,		·
311.00	11,902,583.62	185,783.35	23,442.00	162,341.35-
320.00	22,107,482.19	93,582.83	•	93,582.83-
320.30	3,160,022.40	27,729.91		27,729.91-
320.37	1,593,461.25	6,733.77		6,733.77-
330.00	4,482,990.47	631,746.16		631,746.16-
331.00	810,794.43	3,508,184.22	11,746.91	3,496,437.31-
333.00	339,989.60	523,607.18	76,983.04	446,624.14-
334.00	2,045,300.94	868,765.50	104,729.27	764,036.23~
335.00	63,018.79	147,798.60	1,707.65	146,090.95-
340.00	7,395,039.41	1,940.83-		1,940.83
341.00	121,217.02	1,877.07	321.87	1,555.20-
342.00	141,291.15			
343.00	2,934,483.38	9,639.66		9,639.66-
344.00	1,241,857.32	983.13		983.13-
345.00	979,153.49	200.69		200.69-
346.00	2,678,172.01	1,029.17		1,029.17-
347.00	597,863.65	9,534.36		9,534.36-
	78,787,508.40	6,703,725.96	647,516.73	6,056,209.23-



ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
ACCI	KETIKEMIS	REMOVAL	DALIVAGE	DALIVAGE
2015 TRA	NSACTION YEAR			
				45 040 01
304.15	26,252.16	46,243.74	.53	46,243.21-
304.20	12,259.44	56,756.64		56,756.64-
304.30	554,888.66	476,945.24		476,945.24-
304.36	155.13			
304.62	20,888.44	3,615.06		3,615.06-
304.63	188,630.17	59,775.74		59,775.74-
305.00	2,455.15	46,347.63		46,347.63-
306.00	9,146.79	323.60		323.60-
307.00	5,885.03	16,118.13		16,118.13-
310.00	51,660.37	8,915.14		8,915.14-
311.00	209,724.36	159,508.77		159,508.77-
320.00	384,148.85	182,337.13		182,337.13-
320.30	167,764.02	78,144.48		78,144.48-
320.37		1,024,941.57		1,024,941.57-
330.00	65,837.30	7,606,969.81		7,606,969.81-
331.00	2,012,093.13	630,106.85	28,420.05	601,686.80-
333.00	705,904.81	1,315,817.72	23,440.34	1,292,377.38-
334.00	7,981,302.82	77,405.74-	57,686.55	135,092.29
335.00	89,526.76	30,315.40	3,987.77	26,327.63-
340.00	973,882.80	13,623.13	9,444.62	4,178.51-
341.00	21,201.86	629.92		629.92-
343.00	47,725.20	23,321,34	4,000.00	19,321.34-
344.00	927.13	3,938.69	·	3,938.69-
345.00	20,832.24	3,679.71		3,679.71-
346.00	55,055.57	7,472.45		7,472.45-
347.00	64,294.10	21,447.96		21,447.96-
317.00	01,231.10	,,		,, ·-
	13,672,442.29	11,739,890.11	126,979.86	11,612,910.25-



	REGULAR	COST OF	GROSS	NET
ACCT	RETIREMENTS	REMOVAL	SALVAGE	SALVAGE
2016 TRA	ANSACTION YEAR			
2010 114	145110111011 151111			
303.14		25.80-		25.80
304.15	7,970.14	70,089.44		70,089.44-
304.20	36,280.66	26,237.34		26,237.34-
304.30	722,167.62	191,034.83		191,034.83-
304.36	59,344.40			
304.61	173,884.74	70,935.90		70,935.90-
304.62	117,708.60	48,018.96		48,018.96-
304.63	28,622.51	11,676.49		11,676.49-
305.00	2,455.15-	84,115.51		84,115.51~
306.00	78,383.49	6,541.50	*	6,541.50-
307.00	8,525.54	1,053.72		1,053.72-
310.00	49,619.20	45,775.55		45,775.55-
311.00	454,135.53	103,119.41		103,119.41-
320.00	913,900.27	101,952.75		101,952.75-
320.30	150,932.31	16,457.02		16,457.02-
320.37	1,724,062.45	192,597.40		192,597.40-
330.00	1,793,748.81	1,370,180.50		1,370,180.50-
331.00	8,114,974.40	11,580,684.61	16,358.23	11,564,326.38-
333.00	259,575.71	989,722.04	2,108.47	987,613.57-
334.00	526,015.64	865,037.58	94,953.89	770,083.69-
335.00	28,309.92	277,353.81	738.76	276,615.05-
340.00	1,443,623.81	44,935.76	3,428.00	41,507.76-
341.00	988,786.07	1,158.44		1,158.44-
343.00	131,484.53	19,241.39	300.00	18,941.39-
344.00	44,853.83	5,015.06		5,015.06-
345.00	17,354.35	472.21		472.21-
346.00	15,189.87	777.08		777.08-
347.00	88,204.71	4,547.16		4,547.16-
	17,975,203.96	16,128,705.66	117,887.35	16,010,818.31-



E	NET SALVAGE	GROSS SALVAGE	COST OF REMOVAL	REGULAR RETIREMENTS	ACCT
	511111101	OMIVACE	KIIIIO VIII	ANSACTION YEAR	
0.00-	19,080	5,300.00	24,380.00	106,000.00	304.30
	14,400	-,	14,400.00	80,000.00	304.62
0.00-	8,250		8,250.00	25,000.00	304.63
	59,314		59,314.00	•	305.00
1.00-	91,944		91,944.00	766,200.00	320.00
5.00-	475,306		•	•	330.00
3.00-	4,703,868	22,724.00	•	•	331.00
3.00-	1,239,963	34,443.00	•		333.00
€.00	1,414,519	184,502.00		•	334.00
0.00-	244,260	2,655.00	246,915.00	132.750.00	335.00
			,	•	340.00
0.00-	11,060		11,060.00	·	341.00
			·	2,240.38	342.00
				•	
				3,634,339.54	346.00
				421,776.16	347.00
1.00-	8,281,964	249,624.00	8,531,588.00	21,653,367.60	
3.29~	51,939,778	1,351,604.11	53,291,382.40	159,119,570.84	TOTAL
1 . 0 1 . 0 5 . 0 3 . 0 3 . 0 9 . 0 0 . 0	59,314 91,944 475,306 4,703,868 1,239,963 1,414,519 244,260 11,060	184,502.00 2,655.00 249,624.00	59,314.00 91,944.00 475,306.00 4,726,592.00 1,274,406.00 1,599,021.00 246,915.00 11,060.00	211,836.00 766,200.00 698,980.00 2,272,400.00 688,868.00 6,150,079.00 132,750.00 3,921,935.63 1,106,000.00 2,240.38 1,434,962.89 3,634,339.54 421,776.16	305.00 320.00 330.00 331.00 333.00 334.00 340.00 341.00 342.00 343.00 346.00 347.00