LACLEDE GAS COMPANY St. Louis, Missouri

FILED October 7, 2019 Data Center Missouri Public Service Commission

DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO GAS PLANT

AT SEPTEMBER 30, 2012

206 Exhibit i Date 10-2:19 File No 60-201

GANNETT FLEMING, INC. - VALUATION AND RATE DIVISION

Harrisburg, Pennsylvania



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December 13, 2012

Laclede Gas Company 720 Olive Street St. Louis, MO 63101

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Attention Mr. Glenn W. Buck Manager of Financial Services

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the gas plant of Laclede Gas Company. The study results include the annual depreciation rates and reserve variance as of September 30, 2012. The attached report presents a description of the methods used in the estimation of depreciation, summaries of annual and accrued depreciation, the statistical support for the life and net salvage estimates and the detailed tabulations of depreciation by year installed for each account.

Respectfully submitted,

GANNETT FLEMING, INC.

John J. Apanos

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DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for Laclede Gas Company (the Company) as applied to gas plant in service as of September 30, 2012. The study results include annual depreciation rates and amortization amounts. The rates and amounts are based on the straight line whole life method of depreciation. The reserve variance between the book depreciation reserve and the calculated accrued depreciation is set forth based on the life and salvage parameters. The report also describes the concepts, methods and basic judgments which underlie recommended annual depreciation accrual rates and amounts related to current gas plant in service.

The service life and net salvage estimates resulting from the study were based on informed judgment which incorporated analyses of historical plant retirement data as recorded through 2012; a review of Company practice and outlook as they relate to plant operation and retirement; and consideration of current practice in the gas industry, including knowledge of service life and salvage estimates used for other gas properties.

PLAN OF REPORT

Part I, Introduction, includes brief statements of the scope and basis of the study. Part II presents descriptions of the methods used in the service life and net salvage studies and the methods and procedures used in the calculation of depreciation. Part III presents the results of the study, including summary tables, survivor curve charts and life tables

resulting from the retirement rate method of analysis, tabular results of the historical net salvage analyses, and detailed tabulations of the calculated annual accruals and accrued depreciation.

BASIS OF STUDY

<u>Depreciation</u>

For all accounts, the annual depreciation was calculated by the straight line whole life method using the average service life procedure. The calculated annual and accrued depreciation were based on attained ages of plant in service and the estimated service life and net salvage characteristics of each depreciable group. Amortization accounting or vintage pooling is proposed for most general plant accounts. The calculations of annual depreciation use the whole life basis plus establish the reserve variance using these parameters.

Service Life Estimates

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

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data analyses and the probable future.

The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived.

The Company's service life estimates used in the depreciation calculation incorporated historical data compiled through 2012 from the property records of the Company. Such data included plant additions, retirements, transfers and other activity. Generally, retirement data for the years 1964 through 2012 were used in the actuarial life table computations which were the primary statistical support of the service life estimates.

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

Net Salvage Estimates

The estimates of net salvage were based in part on historical data compiled for the years 1972 through 2012. Gross salvage and cost of removal as recorded to the depreciation reserve account and related to experienced retirements were used. Percentages of the cost of plant retired were calculated for each component of net salvage, on both annual and three-year moving average bases. The most recent five-year average also was calculated for consideration. The estimates of net salvage are expressed as percentages of the cost of plant retired.

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PART II. METHODS USED IN

THE ESTIMATION OF DEPRECIATION

PART II. METHODS USED IN THE ESTIMATION OF DEPRECIATION

DEPRECIATION

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

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

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

SERVICE LIFE AND NET SALVAGE ESTIMATION

Average Service Life

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages. A discussion of the general concept of survivor curves is presented. Also, the lowa type survivor curves are reviewed.

Survivor Curves

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

<u>lowa Type Curves</u>. The range of survivor characteristics usually experienced by gas and industrial properties is encompassed by a system of generalized survivor curves known as the lowa type curves. There are four families in the lowa system, labeled in accordance with the location of the modes of the retirements in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the



Figure 1. A Typical Survivor Curve and Derived Curves

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

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

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greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numerical subscripts represent the relative heights of the modes of the frequency curves within each family.

The 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, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.¹ These type curves have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."² In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis³ presenting his development of the fourth family consisting of the four O type survivor curves.

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

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

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



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

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

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available or for which aged accounting experience is developed by statistically aging unaged amounts and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,³⁴ "Engineering Valuation and Depreciation,⁵⁵ and "Depreciation Systems.⁹⁶

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginnings of the age intervals during the same period. The period of observation is referred to as the <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 aged property transactions, a schedule of plant exposed to retirement, a life table, and illustrations of smoothing the stub survivor curve.

⁴Winfrey, Robley, Supra Note 1.

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

⁶Wolf, Frank K. and W. Chester Fitch. <u>Depreciation Systems</u>. Iowa State University Press. 1994

Schedules of Annual Transactions in Plant Records. The property group used to illustrate the retirement rate method is observed for the experience band 2003-2012 during which there were placements during the years 1998-2012. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Tables 1 and 2 on pages II-12 and II-13. In Table 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 1998 were retired in 2003. The \$10,000 retirement occurred between 41½ and 51½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Table 1 immediately above the stairstep line drawn on the table beginning with the 2003 retirements of 1998 installations and ending with the 2012 retirements of the 2007 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

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

In Table 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

•.	•	•	•				•			•	Placement Ban	0 1990-2012
	·····			Ret	irements	<u>, Thousa</u>	ands of [Dollars		······		
Year					Duri	ng Year					Total During	Age
<u>Placed</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>Age Interval</u>	<u>Interval</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1998	10	11	12	13	14	16	23	24	25	26	26	13½-14½
1999	11	12	13	15	16	18	20	21	22	19	44	121⁄2-131⁄2
2000	11	12	13	14	16	17	19	21	22	18	64	111/2-121/2
2001	8	9	10	11	11	13	14	15	16	17	83	101⁄2-111⁄2
2002	9	10	11	12	13	14	16	17	19	20	93	91⁄2-101⁄2
2003	4	9	10	11	12	13	14	15	16	20	105	81/2-91/2
2004		5	11	12	13	14	15	16	18	20	113	71⁄2-81⁄2
2005			6	12	13	15	16	17	19	19	124	61/2-71/2
2006				6	13	15	16	17	19	19	131	51⁄2-61⁄2
2007					7	14	16	17	19	20	143	41/2-51/2
2008						· 8	18	20	22	23	146	31/2-41/2
2009							9	20	22	25	150	21/2-31/2
2010								11	23	25	151	11/2-21/2
2011									11	24	153	1/2-11/2
2012		<u></u>								<u> 13</u>	80	0-1/2
- -												•
Iotal	<u>53</u>	<u>68</u>	<u>86</u>	<u>106</u>	<u>128</u>	<u>157</u>	<u>196</u>	<u>231</u>	<u>273</u>	<u>308</u>	<u>1,606</u>	

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

Experience Band 2003-2012

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

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Experience Band 2003-2012

Placement Band 1998-2012 . .

			Acquis	sitions, T	ransfers	and Sal	es, Thou	sands of D	Oollars			
Year					Dı	uring Yea	ar				Total During	Age
<u>Placed</u>	<u>2003</u>	<u>2004</u>	<u>2005 </u>	2006	<u>2007</u>	<u>2008</u>	<u>2009</u>	2010	<u>2011</u>	2012	Age Interval	Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1998	-	-	-	. –	-	-	60 ^ª	-	-	-	-	131⁄2-141⁄2
1999	~	-	-	-	-	-	Η.	-	-	-	-	121⁄2-131⁄2
2000	-	-	-	-	-	-	-	-	-	-	***	111⁄2-121⁄2
2001	. =	-	-	-	-	-	-	(5) ^b	-	-	60	101⁄2-111⁄2
2002	-	-	-	-	-	-	-	6°	-	-	-	91⁄2-101⁄2
2003		-	-	-	-	-		-	-	-	(5)	81⁄2-91⁄2
2004		-	-	-	-		-	-		_	6	71⁄2-81⁄2
2005			-	-	-	-	-	-	-	-		61/2-71/2
2006				-	-	-	-	(12) ^b	-	-	-	51/2-61/2
2007					-	-	-	-	22 ^a	÷		41⁄2-51⁄2
2008						-	•	(19) ^b	-	-	10	31/2-41/2
2009							-		-	-		21/2-31/2
2010								-	-	(102) [°]	(121)	11/2-21/2
2011									-	÷	-	1/2-11/2
2012	_	_	—			<u></u>	—		_		400 · ·	0-1⁄2
Total		- -	· _		-	-	<u>60</u>	(<u>30</u>)	<u>22</u>	(<u>102</u>)	(<u>50</u>)	

^a Transfer Affecting Exposures at Beginning of Year ^b Transfer Affecting Exposures at End of Year ^c Sale with Continued Use

Parentheses denote Credit amount.

are not totaled with the retirements but are used in developing the exposures at the beginning of each age interval.

<u>Schedule of Plant Exposed to Retirement</u>. The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Table 3 on page II-15.

The surviving plant at the beginning of each year from 2003 through 2012 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Table 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Tables 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being <u>exposed</u> to retirement in this group <u>at the beginning of the year</u> in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the <u>beginning of the following year</u>. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2008 are calculated in the following manner:

Exposures at age 0 = amount of addition	= \$750,000
Exposures at age ½ = \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½ = \$742,000 - \$18,000	= \$724,000
Exposures at age 21/2 = \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 31/2 = \$685,000 - \$22,000	= \$663,000

For the entire experience band 2003-2012, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing

SCHEDULE 3. PLANT EXPOSED TO RETIREMENT JANUARY 1 OF EACH YEAR 2003-2012 SUMMARIZED BY AGE INTERVAL

Experience Band 2003-2012

Placement Band 1998-2012

		•		E	xposures	s, Thousa	ands of I	Dollars				
. : '				Annual	Survivor	<u>'s at the l</u>	Beginnin	g of the	(ear		Total at	
Year <u>Placed</u> (1)	<u>2003</u> (2)	<u>2004</u> (3)	<u>2005</u> (4)	<u>2006</u> (5)	<u>2007</u> (6)	<u>2008</u> (7)	<u>2009</u> (8)	<u>2010</u> (9)	<u>2011</u> (10)	<u>2012</u> (11)	Beginning of <u>Age Interval</u> (12)	Age <u>Interval</u> (13)
1998	255	245	234	222	209	195	239	216	192	167	167	13½-14½
1999	279	268	256	243	228	212	194	174	153	131	323	121⁄2-131⁄2
2000	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2001	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2002	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2003	420 ^a	416	407	397	386	374	361	347	332	316	1,503	81⁄2-91⁄2
2004		460ª	455	444	432	419	405	390	374	356	1,952	71⁄2-81⁄2
2005			510ª	504	492	479	464	448	431	412	2,463	61⁄2-71⁄2
2006				580ª	574	561	546	530	501	482	3,057	51/2-61/2
2007					660 ^a	653	639	623	628	609	3,789	41⁄2-51⁄2
2008						750°	742	724	685	663	4,332	31/2-41/2
2009							850ª	841	821	799	4,955	21/2-31/2
2010								960ª	949	926	5,719	11/2-21/2
2011									1,080ª	1,069	6,579	1⁄2-11⁄2
2012			· <u> </u>			·····			 	<u>1,220</u> ª	7,490	0-1⁄2
Total	<u>1,975</u>	<u>2,382</u>	<u>2,824</u>	<u>3,318</u>	<u>3,872</u>	<u>4,494</u>	<u>5,247</u>	<u>6,017</u>	<u>6,852</u>	<u>7,799</u>	44,780	

^a Additions during the year.

II-15

of the retirements during an age interval (Table 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

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

<u>Original Life Table</u>. The original life table, illustrated in Table 4 on page II-17, is developed from the totals shown on the schedules of retirements and exposures, Tables 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 retirements during 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 at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½		88.15			
Exposures at age 41/2	=	3,789,000			
Retirements from age 41/2 to 51/2	=	143,000			
Retirement Ratio		143,000	ŵ	3,789,000 =	0.0377
Survivor Ratio	=	1.000	-	0.0377 =	0.9623
Percent surviving at age 5½	=	(88.15)	Х	(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 Tables 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

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

Experience Band 2003-2012

Placement Band 1998-2012

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of <u>Interval</u> (1)	Exposures at Beginning of <u>Age Interval</u> (2)	Retirements During Age <u>Interval</u> (3)	Retirement <u>Ratio</u> (4)	Survivor <u>Ratio</u> (5)	Percent Surviving at Beginning of <u>Age Interval</u> (6)
(.)	~~/				
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55,60
12.5	323	44	0.1362	0.8638	48.90
13.5	<u> 167</u>	26	0.1557	0.8443	42.24
					35.66
Total	44 780	1.606			

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

Column 3 from Table 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, Table 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.

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

The 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 Table 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

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selected as the most representative of the plotted survivor characteristics of the group, assuming no contrary relevant factors external to the analysis of historical data.

Service Life Considerations

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

The estimated survivor curves for most of the mass property accounts are based on statistical analyses of plant accounting data, management policies and outlook, and previous estimates for the Company and other gas utilities. Account 380.2, Services -Plastic and Copper, is the largest depreciable group, representing 38 percent of depreciable plant, and is used to illustrate the manner in which the study was conducted for groups using the retirement rate method. Aged retirement and other plant accounting data were compiled for the years 1964 through 2012. 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 III-92 and the life tables for the experience bands, 1964-2012, 1983-2012 and 1998-2012, plotted on the chart follow it.

The previous estimate for this account was the 42-R2.5 for Plastic and Copper. Services. The primary causes of retirements for plastic and copper services are breaks and main replacement. Management has increased its capital budget for replacement

of copper services with plastic services in the past fifteen years as well as installing new plastic services when the associated main is replaced. The historical indication of life characteristics is quite supportive of the 46-R2 through age 58. Significant installations of plastic services occurred in the last 20 years and the original survivor curve declines to 38 percent at age 52, which substantiates the good fit of the 46-R2.

The estimated survivor curve for Account 376.2, Mains - Cast Iron, reflects the early stages of the Cast Iron Replacement Program. The program was initiated in 1989 but the current practices were developed in 2009 and will continue until all cast iron main and related assets are replaced. The current practices anticipate completing the replacement program in about 20 years. Therefore, the survivor curve is truncated at year end 2035 to reflect the remaining life cycle. The 80-R0.5 survivor curve reflects the historical indications as well as the future plans. The previous estimate for this account was the 85-S1 survivor curve.

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

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

Net Salvage Analysis

The estimates of net salvage were based in part on historical data compiled for the years 1972 through 2012. The net salvage estimates are expressed as a percent of the original cost of plant retired. The salvage analyses include annual amounts, threeyear moving average bases and the most recent five-year average.

Net Salvage Considerations

The estimates of net salvage were based primarily on judgment which considered a number of factors. The primary factors were the analyses of historical data, a knowledge of management's plans and operating policies determined during the field trip and other discussions, a general knowledge of the gas industry, and net salvage estimates used by other gas companies. Depreciation reserve accounting data were compiled for the years 1972 through 2012. These data include the retirements, cost of removal and gross salvage.

The net salvage results for combined Accounts 367.0, Mains, and 376.1, Mains -Steel, will be used to illustrate the methods for estimating net salvage. The net salvage estimate for these steel transmission and distribution mains is negative 40 percent and is based on the historical analysis of salvage percents as shown in the tabulation on pages III-178 through III-180 and the typical range of net salvage estimates used by other gas utilities for mains. The historical indication for the period 1972 through 2012 is negative 40 percent. The most recent five-year average, 2008-2012, was negative 98 percent net salvage. Based on the overall average and the range of estimates used by others, negative 40 percent net salvage is estimated for both Account 367.0, Mains, and Account 376.1, Mains - Steel.

The net salvage estimates for the remaining accounts were estimated using the above-described process of historical indications, judgment and reviewing the typical range of estimates used by other gas companies. The results of the net salvage for each plant account are presented in account sequence beginning in the section titled "Net Salvage Statistics", page III-135.

Generally, the net salvage estimates for the general plant accounts were zero percent, consistent with amortization accounting.

CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

Single Unit of Property

After the survivor curve and net salvage are estimated, the annual and accrued depreciation can be calculated. The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a \$1,000 unit of property attains an age of four years and has a life expectancy of six years, the annual accrual over the total life is:

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

The accrued depreciation is:

$$(1 - \frac{6}{10}) = 400.$$

Group Depreciation Procedures

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

retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the average service life procedure, the annual accrual rate is computed by the following equation:

Annual Accrual Rate,
$$Percent = \frac{(100\% - Net Salvage, Percent)}{Average Service Life}$$
.

For property groups in which the average service life of each vintage differs because the life of successive additions is restricted by an expected concurrent retirement of all associated property, the annual accrual rate is calculated separately for each vintage. The rate for each vintage is determined by the above equations, using the average service life calculated for the investment in that vintage. A composite rate for the total investment in such a group may then be calculated at a specific date by weighting the rate for each vintage by the related surviving investment.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age, service life and net salvage. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

Ratio =
$$\left(1 - \frac{\text{Average Remaining Life}}{\text{Average Service Life}}\right)$$
 (1-Net Salvage, Percent).

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

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

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

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

Account	Amortization Period, <u>Years</u>
391 Office Eurniture and Equipment	
Eurniture and Equipment	20
Mechanical Office Equipment	15
Data Processing Systems	5
Data Processing Equipment	10
393. Stores Equipment	30
394. Tools, Shop and Garage Equipment	25
395. Laboratory Equipment	20
397. Communication Equipment	15
398, Miscellaneous Equipment	20

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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.

MONITORING OF BOOK ACCUMULATED DEPRECIATION

As stated previously, the calculated accrued depreciation or amortization represents that portion of the depreciable cost which will not be allocated to expense through future depreciation accruals, if current forecasts of service life characteristics and net salvage materialize and are used as a basis for depreciation accounting. Thus, the calculated accrued depreciation provides a measure of the book accumulated depreciation. The use of this measure is recommended in the adjustment of book accumulated depreciation variances to insure complete recovery of capital over the life of the property.

The Company has identified a reserve variance of \$45,190,384 as of September 30, 2012, based on the results of the updated service life and net salvage studies. The amortization of this amount could occur over the remaining life of each account commencing with the effective date of customer rates based on this proceeding. However, utilizing the rates based on the life and net salvage parameters in this study would correct the variance over time.

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PART III. RESULTS OF STUDY

PART III. RESULTS OF STUDY

QUALIFICATION OF RESULTS

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

The annual depreciation accrual rates are applicable specifically to the gas plant in service as of September 30, 2012. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to September 30, 2012, is reasonable for a period of three to five years.

DESCRIPTION OF STATISTICAL SUPPORT

The service life and salvage estimates were based on judgment which incorporated statistical analyses of retirement data, discussions with management and consideration of estimates made for other gas companies. The results of the statistical analyses of service life are presented in the section titled "Service Life Statistics".

The estimated survivor curves for each account are presented in graphical form. The charts depict the estimated smooth survivor curve and original survivor curve(s),

when applicable, related to each specific group. For groups where the original survivor curve was plotted, the calculation of the original life table is also presented.

The analyses of salvage data are presented in the section titled, "Net Salvage Statistics". The tabulations present annual cost of removal and salvage data, three-year moving averages and the most recent five-year average. Data are shown in dollars and as percentages of the original cost retired.

DESCRIPTION OF DEPRECIATION TABULATIONS

Summaries of the results of the study, as applied to the original cost of gas plant at September 30, 2012, are presented on pages III-4 through III-12 of this report. Tables 1 and 2 present the study results. Table 1 is a summary of the calculated annual and accrued depreciation by account based on the straight line whole life method of depreciation. Table 2 compares the calculated accrued depreciation with the book depreciation reserve and sets forth the reserve variance.

The tables of the calculated annual and accrued depreciation are presented in account sequence in the section titled "Depreciation Calculations." The tables indicate the estimated survivor curve and salvage percent for the account and set forth for each installation year the original cost, the average life, the calculated annual accrual amount and rate, the expectancy, and the calculated accrued factor and depreciation.

		Survivor	Original Cost Net at		Calcul Annual A	ated Accrual	Calculated Accrued	
	Depreciable Group	Curve	Salvage	September 30, 2012	Amount	Rate	Depreciation	
	(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)	
DEPRE	CIABLE PLANT						·	
MANUF	ACTURED GAS PLANT - LPG							
305	Structures and Improvements	60-R1.5	(15)	1,351,572.00	25,957	. 1.92	536,723 97,874	
307 311	Other Power Equipment	50-R4 33-R2	(10) (15)	4,194,768.00	145,828	3.48	1,539,025	
311			()		475.000		0.472.622	
	. Total Manufactured Gas Plant - LPG			5,705,355.00	175,283		2,173,622	
UNDER	RGROUND STORAGE PLANT					·		
	Structures and Improvements							
351.2	Compressor Station	50-R0.5	(10)	612,742.00	13,480	2.20	341,384	
351.4	Other Structures	50-R0.5	(20)	1,009,062.00	24,218	2.40	550,440	
	Total Account 351			1,621,804.00	37,698	2.32	691,624	
352	Wells	90-R2.5	(20)	6,233,515.00	83,030	1.33	3,336,481	
352.2	Reservoirs	90-R2.5	0	245,023.00	2,720	1.11	99,533	
352.3	Non-Recoverable Gas	90-R2.5	0	6,167,263.00	68,457	1,11	1,018,676	
352.4	Wells - Oil and Vent Gas	90-R2.5	(20)	1,825,170.00	24,311	1.33	336,298	
	Total account 352			14,470,971.00	178,518	1.23	4,790,988	
353	lines	80-R2.5	(25)	2.891.804.00	45,184	1.56	1,478,205	
354	Compressor Station Equipment	60-R3	(10)	2,411,310,00	44,296	1.84	1,757,278	
355	Measuring and Regulating Equipment	50-R2.5	(10)	2,247,514,00	49,445	2.20	1,364,728	
356	Purification Equinment	42-R2	(10)	233.043.00	6,101	2.62	186,827	
357	Other Equipment	20-L2.5	(5)	61,691.00	3,059	4.96	35,554	
	Total Underground Storage Plant		•	23,938,137.00	364,301		10,505,404	

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

•		Survivor	Net	Original Cost at	Calcu Annual /	lated Accrual	Calculated Accrued	
	Depreciable Group	Curve	Salvage	September 30, 2012	Amount	Rate	Depreciation	
	(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)	
TRAN	SMISSION PLANT						•	
367	Mains	85-R2	(40)	2,013,842.00	33,269	1.65	1,372,831	
3/1	Other Equipment	45-53	(5)	17,180.00	400	2.33	15,820	
	Total Transmission Plant			2,031,022.00	33,669		1,388,651	
DISTR	RIBUTION PLANT							
	Structures and improvements							
375	District Measuring and Regulating	45-R1	(10)	316,165.00	7,721	2.44	138.049	
	Service Centers	55-R1.5	(25)	9,352,838.00	212,617	2.27	3,563,168	
	Garage	60-S0	(20)	698,664.00	14,001	2.00	333,223	
	Other Small Structures	45-R1	(10)	70,344.00	1,718	2.44	46,799	
	Total Account 375			10,438,011.00	236,056	2.26	4,081,239	
	Mains							
376	Steel	85-R2	(40)	220,535,978.00	· 3,643,254	1.65	94,902,592	
	Cast Iron	80-R0.5 *	(140)	18,327,272.00	603,561	3.29	33.008.281	
	Plastic and Copper	75-R2.5	(25)	284,433,363.00	4,728,705	1.66	54,541,749	
	Total Account 376			523,296,613.00	8,975,520	1.72	182,452,622	
378	Meas and Reg Equipment ~ General	35-L0	(30)	10,396,174.00	386,530	3.72	2.696.078	
379 380	Meas and Reg Equipment - City Gate Services	35-L1	(30)	2,083,974.00	77,482	3.72	880,225	
	Steel	45-R0 5	(110)	38 152 317 00	1 779 661	4.00	07 000 070	
	Plastic and Copper	46-R2	(85)	522 074 507 00	20 958 681	4.00	37,888,979	
	Total Account 380		(00)	560,226,824.00	22,737,342	4.01	272.516.352	
004	14 ·						2, 2, 0, 0, 002	
381	Meters	33-S0	3 .	125,369,844.00	3,683,619	2.94	39,489,037	
383	House Regulators	55-R3	0	22,928,314.00	417,295	1.82	6,927,860	
300	Industrial Measuring and Regulating Equipment	42-50	(15)	12,900,543.00	353,088	2.74	3,263,336	
200	Other Property on Customer's Premises	15-L3	0	22,974.00	1,067	4.64	19,882	
301	Outer ⊨quipment	40-R1	(10)	399,370.00	10,974	2.75	157,190	
	Total Distribution Plant			1,268,062,641.00	36,878,973		512,483,821	

		Survivor	Net	Original Cost at	Calculated Annual Accrual		Calculated Accrued
	Depreciable Group	Curve	Salvage	September 30, 2012	Amount	Rate	Depreciation
	(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)
GENEI	RALPLANT						
390 391	Structures and Improvements - General Office Furniture and Equipment	· 35-S0	(5)	569,964.00	17,116	3.00	177,223
	Fully Accrued	20-SQ	0	955,527.00	0	-	955,527
	Amortized	20-SQ	0	4,309,218,00	215,461	5.00	1,663,936
	Total Office Furniture and Equipment			5,264,745.00	215,461	4.09	2,619,463
	Mechanical Office Equipment						•
	Fully Accrued	15-SQ	0	76,110.00	0	-	76,110
	Amortized	15-SQ	Ó	63,541.00	4,238	6.67	40,837
	Total Mechanical Office Equipment			139,651.00	4,238	3.03	116,947
	DP Systems				•		
	Fully Accrued	5-SQ	0	3,185,293.00	0	~	3,185,293
	Amortized	5-SQ	0	6,248,298.00	1,249,660	20.00	2,500,592
	Total DP Systems			9,433,591.00	1,249,660	13.25	5,685,885
	DP Equipment						
	Fully Accrued	10-SQ	0	880,031.00	0	+	880,031
	Amortized	10-SQ	0	479,393.00	47,939	10.00	300,073
	Total DP Equipment			1,359,424.00	47,939	3.53	1,180,104
	Total Account 391			16,197,411.00	1,517,298	9.37	9,602,399
392.1	Transportation Equipment - Autos	6-L2.5	15	1,745,509.00	247,330	14.17	446,478
392.2	Transportation Equipment - Trucks	11-L3	10	7,357,003.00	590,856	8.03	2,316,918
	Total Account 392			9,102,512.00	838,186	9.21	2,763,396
393	Stores Equipment			,	•		
	Fully Accrued	30-SQ	0	136,543.00	0		136,543
	Amortized	30-SQ	0	209,808.00	6,987	3,33	96,061
	Total Account 393			346,351.00	6,987	2.02	232,604

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

	• •	Survivor	Net	Original Cost at	Calcu Annual	lated Accrual	Calculated
	Depreciable Group	Curvé	Salvage	September 30, 2012	Amount	Rate	Depreciation
	(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)
394	Tools, Shop and Garage Equipment			;			
	Fully Accrued	25-SQ	Ó	1,332,357.00	0	-	1 332 357
	Amortized	25-SQ	0	10,258,151.00	410.326	4.00	4 060 956
	Total Account 394			11,590,508.00	410,326	3.54	5,393,313
395	Laboratory Equipment						
	Fully Accrued	20-SQ	0	64,466.00	0	-	64 466
	Amortized	20-SQ	0	206,995.00	10.350	5.00	70 647
	Total Account 395			271,461.00	10,350	3.81	135,113
396 397	Power Operated Equipment Communication Equipment	13-L2.5	15	17,214,622.00	1,124.590	6.53	6,438,425
	Fully Accrued	15-SQ	0	235 958 00	0		225.050
	Amortízed	15-SQ	Ō	975.902.00	65 093	6.67	230,930
	Total Account 397			1,211,860.00	65,093	5.37	993,692
398	Miscellaneous Equipment						
	Fully Accrued	20-SQ	0	122,184,00	n	-	122 194
	Amortized	20-SQ	0	1.612.604.00	80 630	5.00	122, 104
	Total Account 398			1,734,788.00	80,630	4.65	552,720
	Total General Plant			58,239,477.00	4,070,576		26,288,885
	Total Depreciable Plant			1,357,976,632.00	41,522,802		552,840,383
NONE	EPRECIABLE PLANT AND ACCOUNTS NO			· · ·			
204	Ormenitation			•			
301				2,500.22			
302	Franchises and Consents			8,484,49			
250 4	Land			119,929.40	•		1
350.1				1,201,600.30		r	
250.2	Right-of-Way			778,417.59			
352,1	Storage Leasenoid Rights			2,055,421.60			
264	Lano and Lano Rights			50,653.53			
301	Structures and Improvements			107,232.63			
362 C	Compressor Environment			659,027.10			
১০৩.৩	Compressor Equipment			338 616 06			

338,616.06

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

TABLE 1. ESTIMATED SURVIVOR CURVES, NET SALVAGE, ORIGINAL COST, AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO GAS PLANT AT SEPTEMBER 30, 2012

		Survivor	Net	Original Cost	Calcu Annual	lated Accrual	Calculated Accrued
	Depreciable Group	Curve	Salvage	September 30, 2012	Amount	Rate	Depreciation
	(1)	(2)	(3)	(4)	(5)	(6)=(5)/(4)	(7)
365	Right-of-Way			41,152.62			
374	Land Rights			1,679,143.41			
375.2	Structures and Improvements			94,641.31			
375,4	Structures and Improvements Leased Property			6,448.03			
389	Land and Rights			10,088.75			
390.1	Structures and Improvements - Office			5,629,061.30			
390.3	Structures and Improvements Leased Property			35,641,38			•
390.7	Structures and Improvements Leased Property			118,552.01			
390.8	Structures and Improvements Leased Property			52,745.49		,	
391,2	DP Systems			3,612.65			
391.3	DP Software	-		43,706,358.63		-	
	Total Nondepreciable Plant and Accounts Not Studi	ed		56,699,328.50			
	Total Gas Plant			1,414,675,960.50	41,522,802		552,840,383

* Cast iron replacement program to continue through 12-2035.

NOTE: New assets related to the newBlue system will have a life of 15 years.

	Depreciable Group	Original Cost at September 30, 2012	Calculated Accrued Depreciation	Book Depreciation Reserve	Reserve Variance
	(1)	(2)	(3)	(4)	(5)=(3)-(4)
DEPR	ECIABLE PLANT				
MANU	FACTURED GAS PLANT - LPG				
305 307 311	Structures and Improvements Other Power Equipment	1,351,572.00 159,015.00 4 194 768 00	536,723 97,874	781,565	(244,842) (53,764)
••••	Total Magufactured Cas Plant / BC	4,134,700.00	1,539,025	2,608,107_	(1,069,082)
	i olai manulaclureo Gas Plant - LPG	5,705,355.00	2,173,622	3,541,310	. (1,367,688)
UNDE	RGROUND STORAGE PLANT				• •
	Structures and Improvements				
351.2	Compressor Station	612,742.00	341,384	701,549	(360,165)
351.4	Other Structures	1,009,062.00	550,440	910,037	(359,597)
	Total Account 351	1,621,804.00	891,824	1,611,586	(719,762)
352	Wells	6,233,515.00	3,336,481	6,282,283	(2,945,802)
352.2	Reservoirs	245,023.00	99,533	190,704	(91,171)
352.3	Non-Recoverable Gas	6,167,263.00	1,018,676	2,549,002	(1.530.326)
352.4	Wells - Oil and Vent Gas	1,825,170.00	336,298	473,635	(137,337)
	Total account 352	14,470,971.00	4,790,988	9,495,624	(4,704,636)
353	Lines	2,891,804.00	1,478,205	2,588,567	(1 110 362)
354	Compressor Station Equipment	2,411,310.00	1,757,278	2,399,809	(642,531)
355	Measuring and Regulating Equipment	2,247,514.00	1,364,728	2.038.576	(673 848)
356	Purification Equipment	233,043.00	186,827	227,108	(40,281)
357.	Other Equipment	. 61,691.00.	35,554	29,916	5,638
	Total Underground Storage Plant	23,938,137.00	10,505,404	18,391,186	(7.885.782)

TABLE 2. COMPARISON OF CALCULATED ACCRUED DEPRECIATION AND BOOK DEPRECIATION RESERVE AT SEPTEMBER 30, 2012 WITH THE RESERVE VARIANCE

	Depreciable Group	Original Cost at September 30, 2012	Calculated Accrued Depreciation	Book Depreciation Reserve	Reserve Variance
	(1)	(2)	(3)	(4)	(5)=(3)-(4)
TRAN	ISMISSION PLANT				•
367 371	Mains Other Equipment	2,013,842.00 17,180.00	1,372,831 15,820	1,856,899 20,145_	(484,068) (4,325)
	Total Transmission Plant	2,031,022.00	1,388,651	1,877,044	(488,393)
DIST	RIBUTION PLANT				
	Structures and Improvements				
375	District Measuring and Regulating	316,165.00	138,049	124,744	13,305
	Service Centers	9,352,838.00	3,563,168	3,267,427	295,741
	Garage	698,664.00	333,223	350,521	(17,298)
	Other Small Structures	70,344.00	46,799	65,376	(18,577)
	Total Account 375	10,438,011.00	4,081,239	3,808,068	. 273,171
	Mains				
376	Steel	220,535,978.00	94,902,592	130,048,106	(35,145,514)
	Cast Iron	18,327,272.00	33,008,281	5,966,023	27,042,258
	Plastic and Copper	284,433,363.00	54,541,749	60,639,837	(6,098,088)
	Total Account 376	523,296,613.00	182,452,622	196,653,966	(14,201,344)
378	Meas and Reg Equipment - General	10,396,174.00	2,696,078	1,075,228	1,620,850
379 380	Meas and Reg Equipment - City Gate Services	2,083,974.00	880,225	557,655	322,570
	Steel	38.152.317.00	37.888.979	33,857,494	4.031.485
	Plastic and Copper	522.074.507.00	234 627 373	186 803 649	47 823 724
	Total Account 380	560,226,824.00	272,516,352	220,661,143	.51,855,209
381	Meters	125,369,844,00	39,489,037	22.393.764	17.095.273
383	House Regulators	22.928.314.00	6.927,860	8,981,443	(2.053.583)
385	Industrial Measuring and Regulating Equipment	12,900,543.00	3,263,336	4,184,814	(921,478)

TABLE 2. COMPARISON OF CALCULATED ACCRUED DEPRECIATION AND BOOK DEPRECIATION RESERVE AT SEPTEMBER 30, 2012 WITH THE RESERVE VARIANCE

		Original Cost at	Calculated Accrued	Book Depreciation	Reserve
	Depreciable Group	September 30, 2012	Depreciation	Reserve	Variance
	(1)	(2)	(3)	(4)	(5)=(3)-(4)
386	Other Property on Customer's Premises	22,974.00	19,882	159,445	(139,563)
387	Other Equipment	399,370.00	157,190	343,348	(186,158)
	Total Distribution Plant	1,268,062,641.00	512,483,821	458,818,874	53,664,947
GENE	RAL PLANT				
390 391	Structures and Improvements - General	569,964.00	177,223	169,312	7,911
551	Fully Accrued	955 527 00	955 527	055 507	0
	Amortized	4.309.218.00	1 663 936	1 663 339	0
	Total Office Furniture and Equipment	5,264,745.00	2,619,463	2,618,855	608
	Mechanical Office Equipment				
	Fully Accrued	76,110.00	76 110	76 110	0
	Amortized	63,541.00	40.837	40.748	.U. 89
	Total Mechanical Office Equipment	139,651.00	116,947	116,858	89
	DP Systems				
	Fully Accrued	3,185,293.00	3,185,293	3,185,293	0
	Amortized	6,248,298.00	2,500,592	2.329.961	170.631
	Total DP Systems	9,433,591.00	5,685,885	5,515,254	170,631
	DP Equipment				
	Fully Accrued	880,031.00	880.031	880.031	0
	Amortized	479,393.00	300,073	232.365	67 708
	Total DP Equipment	1.359,424.00	1,180,104	1.112,396	67,708
	Total Account 391	16,197,411.00	9,602,399	9,363,363	239,036
392.1	Transportation Equipment - Autos	1,745,509.00	446,478	446.319	159
392.2	Transportation Equipment - Trucks	7,357,003.00	2,316,918	1,866,965	449,953
	Total Account 392	9,102,512.00	2,763,396	2,313,284	450,112

TABLE 2. COMPARISON OF CALCULATED ACCRUED DEPRECIATION AND BOOK DEPRECIATION RESERVE AT SEPTEMBER 30, 2012 WITH THE RESERVE VARIANCE

	Depreciable Group	Original Cost at September 30, 2012	Calculated Accrued Depreciation	Book Depreciation Reserve	Reserve Variance
	(1)	(2)	(3)	(4)	(5)=(3)-(4)
202	Store Equipment				
282	Stores Equipment	126 642 00	196 549	136 513	0
	Fully Accrued	200 808 00	130,343	100,043	0
	Amortized	209,808.00	96,061	000,000	
	Total Account 393	46,351.00	232,604	232,549	. 55
394	Tools, Shop and Garage Equipment	:		· ·	· .
	Fully Accrued	1,332,357.00	1,332,357	1,332,357	0
	Amortized	10,258,151.00	4,060,956	4,060,884	72
	Total Account 394	11,590,508.00	5,393,313	5,393,241	72
395	Laboratory Equipment				
	Fully Accrued	64,466.00	64,466	64,466	0
	Amortized	206,995,00	70.647	70.615	32
	Total Account 395	271,461.00	135,113	135,081	32
396	Power Operated Equipment	17,214,622.00	6,438,425	5,868,556	569,869
397	Communication Equipment				_
	Fully Accrued	235,958.00	235,958	235,958	0
	Amortized	975,902.00	757,734	757,637	97
	Total Account 397	1,211,860.00	993,692	993,595	97
398	Miscellaneous Equipment				
	Fully Accrued	122,184.00	122,184	122,184	0
	Amortized	1,612,604.00	430,536	430,420	116
	Total Account 398	1,734,788.00	552,720	552,604	116
	Total General Plant	58,239,477.00	26,288,885	25,021,585	1.267,300
	Total Depreciable Plant	1,357,976,632.00	552,840,383	507,649,999	45,190,384

TABLE 2. COMPARISON OF CALCULATED ACCRUED DEPRECIATION AND BOOK DEPRECIATION RESERVE AT SEPTEMBER 30, 2012 WITH THE RESERVE VARIANCE

* Reserve includes 322,458 from account 311.1 - Liquefied Petroleum Gas Storage Caverns