019

Exhibit No.: _____
Issue: Depreciation
Witness: Thomas J. Sullivan
Sponsoring Party: Missouri Gas Energy
Case No.: GR-2006-

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-

DIRECT TESTIMONY OF

THOMAS J. SULLIVAN

Jefferson City, Missouri

May 1, 2006

Exhibit No.: _____
Issue: Depreciation
Witness: Thomas J. Sullivan
Sponsoring Party: Missouri Gas Energy
Case No.: GR-2006-

MISSOURI PUBLIC SERVICE COMMISSION

MISSOURI GAS ENERGY

CASE NO. GR-2006-

DIRECT TESTIMONY OF

THOMAS J. SULLIVAN

Jefferson City, Missouri

May 1, 2006

DIRECT TESTIMONY OF THOMAS J. SULLIVAN

CASE NO. GR-2006-

MAY 1, 2006

Q. Please state your name and business address.

A. Thomas J. Sullivan, 11401 Lamar, Overland Park, Kansas 66211.

Q. What is your occupation?

A. I am a Vice President in the Enterprise Management Solutions Division of Black & Veatch Corporation. I serve as the Leader of the Energy Financial Advisory Services group of that Division.

Q. How long have you been with Black & Veatch?

A. I have been employed with Black & Veatch since 1980.

Q. What is your educational background?

A. I earned a Bachelor of Science Degree in Civil Engineering from the University of Missouri - Rolla in 1980, summa cum laude, and a Master of Business Administration degree from the University of Missouri - Kansas City in 1985.

Q. Are you a registered professional engineer?

A. Yes, I am a registered Professional Engineer in the State of Missouri.

Q. To what professional organizations do you belong?

A. I am a member of the American Society of Civil Engineers and I am the sponsor for the Black & Veatch membership in the American Public Gas Association.

Q. What is your professional experience?

A. I have been responsible for the preparation and presentation of numerous studies for gas, electric, water, and wastewater utilities. Clients served include investor owned utilities, publicly owned utilities, and their customers. Studies involve valuation and depreciation, cost of service, cost allocation, rate design, cost of capital, supply analysis, load forecasting, economic and financial feasibility, cost recovery mechanisms, and other engineering and economic matters.

Prior to joining the Enterprise Management Solutions Division in 1982, I worked as a staff engineer in Black & Veatch's Energy and Water Divisions.

Q. Have you previously appeared as an expert witness?

A. Yes, I have. In Exhibit No.____(TJS-1), I list cases where I have filed expert witness testimony and/or appeared as an expert witness.

Q. For whom are you testifying in this matter?

A. I am testifying on behalf of Missouri Gas Energy ("MGE" or "Company").

Q. What is the purpose of your testimony in this matter?

A. In 2005, I prepared a report on depreciation accrual rates for the Company to meet its requirements of 4 CSR 240.040(6). This Report includes discussions of the methodologies and analyses employed to determine the depreciation rates I am recommending that the Company use for its gas utility properties in this case.

Q. Do you sponsor any schedules with your testimony?

A. Yes, in addition to Schedule TJS-1, I also sponsor Schedule TJS-2. Schedule TJS-2 is the aforementioned depreciation report, "*Report on Depreciation Accrual Rates Prepared for Missouri Gas Energy*" by Black & Veatch Corporation dated June 2005.

Q. In your report, what are your recommendations with regard to the depreciation accrual rates for the Company?

A. In my report, I recommend the Company implement the depreciation expense rates contained in column (H) of Table 4-2, which are based on the remaining life methodology.

Q. Are you recommending that the Company implement these same depreciation expense rates for this case?

A. No, I am not. Based on the Commission and Staff's historical use of the whole life methodology, the Company is proposing the whole life rates developed in my Report. Therefore, for the purposes of this case, I recommend that the Company implement the whole life rates contained in column (J) of Table 4-1.

Q. What is the impact of the whole life depreciation rates you are recommending for the Company?

A. As can be seen from Mr. Noack's Schedule H-12 attached to his direct testimony, the whole life rates I am recommending for this case result in an increase in annual depreciation expense for the Company of $2,231,474 based on plant in service at December 31, 2005. While I am recommending that some depreciation rates be increased and others reduced, the most significant changes I am recommending are as follows:

1. An increase in the depreciation rate for Account 380, Services from 2.70 percent to 3.41 percent. I recommend a change in the average service life (ASL) from 37 years to 32 years with an annual net salvage allowance of

$800,000. My recommendation results in an annual increase in depreciation expense for Account 380 of approximately $2,058,000.

2. An increase in the depreciation rate for Account 383, Regulators from 2.44 percent to 2.86 percent. I recommend a change in the ASL from 41 years to 35 years. My recommendation results in an annual increase in depreciation expense for Account 383 of approximately $47,440.

3. An increase in the depreciation rate for Account 391, Office Furniture and Equipment from 8.06 percent to 9.09 percent. I recommend a slight change in the ASL from 12 years to 11 years. My recommendation results in an annual increase in depreciation expense for Account 391 of approximately $72,711.

Q. Do the Company's existing depreciation expense rates include an allowance for net salvage?

A. No, they do not. Beginning in August 2001, the Company began to treat net salvage as an expense (revenue requirement) based upon the recommendation by Staff.

Q. Do the rates that you are proposing include an allowance for net salvage?

A. Yes, they do. Based on my historical analysis of annual net salvage amounts and as discussed in my Report, I recommend a net salvage adjustment for Account 380, Services only.

Q. Why are you proposing that net salvage be put back into the Company's depreciation rates?

A. My proposal to put net salvage back into the Company's depreciation rates is consistent with the Commission's final order in Case No GR-99-315. The Commission ordered LaClede Gas Company to discontinue its treatment of net salvage as an expense for ratemaking or financial accounting purposes. The Commission ordered LaClede to recover the cost of net salvage in its design of depreciation rates using LaClede's recommended accrual method of:

$$\text{Depreciation Rate} = \frac{100\% - \%\ \text{Net Salvage}}{\text{Average Service Life}}$$

Where net salvage equals the gross salvage value of the asset minus the cost of removing the asset from service.[1] The net salvage percentage is determined by dividing the net salvage experienced for a period of time by the original cost of the property retired during that same period of time.[2]

Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

---

[1] Third Report and Order, Case No. GR-99-315.

[2] Ibid.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Missouri Gas Energy's Tariff Sheets Designed to Increase Rates for Gas Service in the Company's Missouri Service Area.	))))	Case No. GR-2006-____

AFFIDAVIT OF THOMAS J. SULLIVAN

STATE OF Colorado)
) ss.
COUNTY OF Jefferson)

Thomas J. Sullivan, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

Thomas J. Sullivan
THOMAS J. SULLIVAN

Subscribed and sworn to before me this 26th day of April 2006.

Laura A Kerts
Notary Public

My Commission Expires: 2/28/2008

Expert Witness Testimony of Thomas J. Sullivan

- *Peoples Natural Gas Company of South Carolina, South Carolina Public Service Commission Docket No. 88-52-G (1988).* Natural gas utility revenue requirements and rate design.
- *Peoples Natural Gas (UtiliCorp United, Inc.), Iowa Utilities Board Docket No. RPU-92-6 (1992).* Natural gas utility class cost of service study and peak day demand requirements.
- *Peoples Natural Gas (UtiliCorp United, Inc.), Kansas Corporation Commission Docket No. 193,787-U (1996).* Natural gas utility class cost of service study, rate design, and peak day demand requirements.
- *Southern Union Gas Company, Railroad Commission of Texas Gas Utilities Docket No. 8878 (1998).* Natural gas utility depreciation rates.
- *Southern Union Gas Company, City of El Paso (1999).* Natural Gas utility depreciation rates.
- *UtiliCorp United, Inc., Kansas Corporation Commission Docket No. 00-UTCG-336-RTS (1999).* Natural gas utility weather normalization, class cost of service, and rate design.
- *Philadelphia Gas Works, Pennsylvania Public Utility Commission Docket No. R-00006042 (2001)*. Natural gas utility revenue requirements.
- *Missouri Gas Energy, Missouri Public Service Commission Docket No. GR-2001-292 (2001).* Natural gas utility depreciation rates.
- *Aquila Networks, Iowa Utilities Board Docket No. RPU-02-5 (2002).* Natural gas utility class cost of service study, rate design, and weather normalization adjustment.
- *Aquila Networks, Michigan Gas Utilities, Michigan Public Service Commission Case No. U-13470 (2002).* Natural gas utility class cost of service study, rate design, and weather normalization adjustment.
- *Aquila Networks, Nebraska Public Service Commission Docket No. NG-0001, NG0002, NG0003 (2003).* Natural gas utility weather normalization adjustment.
- *Aquila Networks, Missouri Public Service Commission Docket No. GR-2003 (2003).* Natural gas utility class cost of service study, rate design, annualization adjustment, and weather normalization adjustment.
- *North Carolina Natural Gas, North Carolina Utilities Commission Docket No. G-21-Sub 442 (2003).* Filed intervenor testimony on behalf of the municipal customers regarding natural gas cost of service and rates related to intrastate transmission service.
- *Texas Gas Service Company, Division of ONEOK, Railroad Commission of Texas Gas Utilities Docket No. 9465 (2004)*. Natural gas utility depreciation rates.

- *Missouri Gas Energy, Missouri Public Service Commission Docket No. GR-2004-0209 (2004)*. Natural gas utility depreciation rates.

- *Aquila Networks, Kansas Corporation Commission Docket No. 05-AQLG-367-RTS (2004)*. Natural gas utility class cost of service study, rate design, and weather normalization adjustment.

- *Aquila Networks, Iowa Utilities Board Docket No. RPU-05-02 (2005)*. Natural gas utility class cost of service study, rate design, grain drying adjustment and weather normalization adjustment.

- *PJM Interconnection, LLC, Federal Energy Regulatory Commission Docket No. ER05-1181 (2005).* Operating cash reserve requirements.

- *Kinder Morgan, Inc., Wyoming Public Service Commission Docket No. 30022-GR-6-73 (2006)*. Natural gas utility weather normalization adjustment, development of load factors, billing cycle adjustment, determination of test year billing units and revenue, and depreciation rates.

Exhibit ___ (TJS-2)

Report on Depreciation Accrual Rates

Prepared for

Missouri Gas Energy

June 2005

BLACK & VEATCH
building a world of difference™

ENERGY • WATER • INFORMATION • GOVERNMENT

BLACK & VEATCH
building a world of difference™

ENERGY WATER INFORMATION GOVERNMENT

June 28, 2005

Mr. Robert J. Hack
Vice President, Pricing and Regulatory Affairs
Missouri Gas Energy
3420 Broadway
Kansas City, MO 64111

Dear Mr. Hack:

Our enclosed report summarizes the results of our analysis of the depreciation accrual rates for the gas utility properties of Missouri Gas Energy (Company). Our studies are based on the plant balances as of December 31, 2004. The Executive Summary of the report summarizes our major findings and recommendations.

Ultimately, the appropriate level of depreciation expense rates is a management decision taking into consideration various factors. If management concludes that a change is warranted in depreciation rates at this time, we recommend implementation of the rates set forth in Column H of Table 4-2 of this report. We are also recommending that the Company redistribute the excess accumulated reserve balance of Account 380 – Services to other accounts. The net effect of this redistribution is zero.

We appreciate the opportunity to provide this service. If you have any questions concerning the contents of this report, please do not hesitate to contact us.

Very Truly Yours,

BLACK & VEATCH CORPORATION

Thomas J. Sullivan

CEB
Enclosures

Table of Contents

List of Tables

Executive Summary

This report describes the analyses conducted and the results obtained for the gas utility property of Missouri Gas Energy with respect to its depreciation expense rates. The report is based on plant activity through December 31, 2004. The depreciation rates recommended in this report are considered appropriate for use in the near future. We recommend these rates be reviewed at least every five years. Ultimately the appropriate level of depreciation expense rates is a management decision taking into account various factors.

MGE's current rates went into effect in October 2004 as a result of the Missouri Public Service Commission order in Case No. GR-2004-0209. If the Company concludes that a change in depreciation expense rates is appropriate in the next rate filing, we recommend the Company implement the depreciation expense rates based on the analyses set forth in Sections 3 and 4. Recommended rates are summarized on Table 4-2, column H. Implementation of these rates will increase annual depreciation expense by $2.79 million annually, based on December 31, 2004 plant balances.

The individual accrual rates that we recommend for each account recognize average service lives and reflect the results of simulated plant balance analysis, regional industry averages, reserve analysis, and our experience with similar utility property. We recommend changes to depreciation rates for the following accounts:

- Accounts 375 and 390 – Structures and Improvements. We recommend decreasing the average service life to 40 years for both accounts.
- Account 376 – Mains. We recommend the average service life remain at 44 years, however, by amortizing the reserve deficiency over the remaining life, the accrual rate raises from 2.27% to 2.43%, increasing depreciation expense by $504,000.
- Account 380 – Services. We recommend a decrease in average service life from 37 to 32 years, with a negative net salvage allowance of $800,000 per year. This increases the accrual rate from 2.70% to 3.41%, which will increase depreciation expense by about $2 million.
- Account 383 – Regulators. We recommend a decrease in average service life from 41 to 35 years, increasing depreciation expense by $61,000.
- Account 391 – Furniture and Equipment. We recommend reducing the average service life from 12 to 11 years.

We also recommend that the Company redistribute the excess accumulated reserve balance of Account 380 to other accounts so that the net redistribution is zero. Based on our recommended rates and analysis of the depreciation reserve balances, we find that Account 380-

Services has an excess of accumulated reserve in the amount of $29 million, based on the 3.41% rate recommended in the report. We propose to redistribute this excess to the other accounts so that negative reserves are eliminated and reserve ratios are in line with the weighted dollar age of the account and the recommended average service lives.

In our 1995 and 2000 studies, we used several actuarial methods in an effort to measure the Company's retirement experience. These methods included survivor curve analysis and simulated plant balance method. However, a sufficient retirement history did not exist at that time to complete a study based on survivor curve analysis and other sources of data were inadequate to conduct a complete and reliable simulated plant balance analysis for each of the accounts. The issue of the lack of data was addressed by the Commission in its 1998 order in Case No. GR-98-140 when the Commission found "that it would not be appropriate to require the reconstruction or re-creation of records that apparently do not exist or cannot be completed by any reasonable efforts of MGE." Since February 1994, Missouri Gas Energy has captured the necessary plant information on a prospective basis for future depreciation study needs. However, eleven years of continuing plant data is not adequate to perform detailed and comprehensive analysis of service life characteristics.

The scope of this report includes a discussion of the practice of depreciation accounting (Section 2), the type of information examined in our analysis, the methods applied, and the results of the analyses conducted (Section 3), and a discussion of the Company's depreciation reserve , and development of our recommended accrual rates (Section 4).

1.0 Introduction

This report presents the results of our analysis of the depreciation expense requirements for the gas utility property of Missouri Gas Energy (Company or MGE). The analysis is based on plant activity through December 31, 2004. We understand that the Company desires this report in order to meet the Missouri Public Service Commission's requirement that depreciation rates be reviewed every five years.

Missouri Gas Energy was acquired by Southern Union Company in February 1994. In June of 1995 and 2000, we prepared depreciation rate studies based on plant activity through December 31, 1994 and 1998, respectively. The 1995 and 2000 studies were performed to fulfill the Commission's requirement to review depreciation rates at least every five years. KPL (the Company's predecessor) had previously submitted a study in 1990.

The rates recommended in this report reflect consideration of the results of simulated plant balance analysis, regional industry norms, survivor curve retirement analysis, and our experience with other utilities. In our previous two reports, sufficient retirement history did not exist to adequately perform survivor curve analysis. We now have eleven years of continuing plant data and were able to perform survivor curve analysis on select accounts, but the results are not sufficiently conclusive to use in developing recommended rates. We are able to rely on the simulated plant balance approach to estimate average service lives for some accounts. We also relied upon a survey of depreciation rates for regional gas utilities.

Section 2 of this report briefly discusses the practice of depreciation accounting. Section 3 discusses the type of information examined in the analysis and the methods applied to develop the depreciation rates. Section 3 also discusses the results of the analyses and the recommended average service lives. Section 4 discusses analysis of the Company's existing depreciation reserve and develops our recommended accrual rates.

2.0 Depreciation Accounting

Depreciation is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of gas plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be considered are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities, and in the case of natural gas companies, the exhaustion of natural resources (FERC Uniform System of Accounts).

Depreciation accounting provides a method whereby charges for the loss in service value are made against current income. By properly charging depreciation, the cost of depreciable plant less estimated salvage value (or plus estimated cost of removal) is distributed over the useful life of the asset in such a way as to equitably allocate it to the period during which service is provided through the use and consumption of such facilities.

2.1 Annual Depreciation Expense

The annual depreciation expense represents the annual charge against income associated with the loss of service value of utility equipment. Historically, a number of different methods have been used by gas utilities to determine the level of depreciation expense to be charged against current income. Among the more common are:

1. A percentage of the investment in depreciable property.
2. A direct appropriation by management.
3. An amount equal to the original cost investment retired during the year.
4. A percentage of revenues.

The company's current practice is to calculate annual depreciation expense through the application of straight-line depreciation rates to the respective plant investment account balances. In essence, the annual depreciation expense rate is a percentage figure which, when applied to the dollar balance of investment in plant, yields a depreciation expense level which is expected to amortize the Company's investment over the life of the property.

The existing depreciation rates are based on those approved by the Missouri Public Service Commission in 2004 in Case No. GR-2004-0209. In that case the Company and the Staff of the Missouri PSC entered a Stipulation and Agreement concerning Depreciation and Accounting for the Net Cost of Removal. With respect to depreciation rates the Company was authorized to implement new depreciation rates for: Account 380-Services (2.7%, 37-year average service life) and Account 394-Tools (5.3%, 19-year average service life). With respect to accounting for the net cost of removal, the Commission ordered the Company to book such

cost as an expense up to $771,039 per year. The Company is authorized to record any amount in excess of $771,039 as a regulatory asset and/or liability.

2.2 *Depreciation Reserve*

The depreciation reserve account is a balance sheet item which reflects accumulation of the activity related to annual depreciation expense and retirement accounting. Under the FERC Uniform System of Accounts, depreciation reserve is shown on the balance sheet as "Accumulated Provision for Depreciation."

The depreciation expense charged annually is accumulated in depreciation reserve. The original cost of investment in property retired during the year is deducted from the depreciation reserve. A further adjustment to the reserve is made by adding the salvage value credit and deducting the cost of removal associated with property retired. The use of proper annual depreciation rates to amortize investment over its useful service life will result in accruals to the depreciation reserve which equal the total investment ultimately retired, as adjusted for salvage value and cost of removal.

An illustrative example follows:

Line No.	Depreciation Reserve Balance	$	$
1	Beginning of Period		1,000,000
2	Depreciation Charges		
3	Depreciation Expense	100,000	
4	Depreciation Charges to Clearing Accounts	10,000	
		110,000	
5	Subtotal		1,110,000
6	Deductions		
7	Original Cost of Plant Retired	75,000	
8	Cost of Removal of Retired Plant	10,000	
9	Salvage Realized from Retired Plant	(5,000)	
10	Total Deductions	80,000	
11	Depreciation Reserve End of Period		1,030,000

3.0 Historical Information and Procedures

The determination of a reasonable annual depreciation expense rate is dependent on average service life, cost of removal, and salvage of the property in question. Ideally, the determination of average service life begins with analysis of Company records which show additions by year of installation (vintage year) and retirements by vintage year. We refer to this type of analysis as an actuarial method. Where historical data is not sufficient to produce reliable results using actuarial analysis, data may be sufficient to use a simulated plant balance approach. Both of these two analytical methods provide measures of historically experienced service lives. In order to reflect the prospective nature of depreciation, we consider past, present and anticipated future economic and environmental conditions; and sound engineering judgment. As a final step, the adequacy of depreciation reserve balances must be evaluated and the indicated depreciation rate adjusted so that total investment is recovered over the asset's life.

3.1 Actuarial Analysis

To prepare a sound and credible survivor curve analysis, a sufficient history of retirement data must exist. Based upon historical plant activity (retirements), a survivor stub curve explains the percent of original placements remaining in service by age. Using a least squares analysis technique, we compare this experienced survivor stub curve to general survivor curve types to identify the best fitting curve type and service life based on historical retirements. These curves provide an estimate of the average service life predicted based on historical retirements. Using this method, and relying on general survivor curves, we can estimate average service life of property which has only been partially retired.

In our studies in 1995 and 2000, we found that MGE did not have a sufficient retirement history available to perform meaningful survivor curve analysis. The issue of the lack of data was addressed by the Commission in its order in Case No. GR-98-140 when the Commission found "that it would not be appropriate to require the reconstruction or re-creation of records that apparently do not exist or cannot be completed by any reasonable efforts of MGE." MGE's continuing property record only contains retirement history from 1994 to the present. Eleven years of historical retirement data are generally not enough data to produce significantly reliable results using survivor curve analysis. We tried an adjusted actuarial analysis on certain accounts and got mixed or unreliable results. Our adjustment attempted to estimate additions prior to 1994 based on vintage balances in the Company's continuing property record and representative survivor curves. Therefore as an alternative to actuarial analysis, we use a simulated plant balance approach to estimate average service lives of MGE's depreciable property.

3.2 *Simulated Plant Balance*

For the purpose of this report, we conducted simulated plant balance analyses to estimate average service lives based on historical plant activity. The simulated plant balance method may produce reliable results when aged retirement data is unavailable. Data requirements for the simulated plant balance approach are far less rigorous than for survivor curve analysis. The only data needed for a simulated plant balance analysis are annual additions and end of year plant balances. In the simulated plant balance method, actual end of year plant balances are compared to those simulated by applying the percent surviving at a given age to the initial additions using the same general curves as used in the survivor curve analysis. The curve type that best simulates actual plant balances is the curve that best explains the mortality characteristics of the plant.

We base our simulated plant balance analysis on plant ledger summaries provided by the Company for the period 1968 through 2004. Generally, a reasonable simulated plant estimate requires 40 or more years of data. Data requirements may be reduced provided that the data is "clean" and "behaves" reasonably. Because plant ledger data prior to 1968 is not available and therefore having no breakdown of the initial plant balance in 1968, we performed three analyses: 1) assuming a zero beginning balance in 1968, 2) assuming 1968 additions include the 1967 ending balance, and 3) estimating additions prior to 1968 based on 1994 vintage balances. Tables 3-1, 3-2, and 3-3 summarize the results of these three analyses, respectively. The first two analyses (Tables 3-1 and 3-2) are updates to analyses performed in our two previous reports. The third analysis uses the same original placements for the years 1968 to 2004, but estimates original placements prior to 1968 based on 1994 vintage year balances shown in the company's continuing property record. Theoretically, this extended analysis should yield the most reliable results. Based on review of the results shown in these tables, and a thorough assessment of available information regarding additions, retirements, transfers, and year end plant balances, we find that the simulated plant balance approach does not produce reasonable estimates for a number of accounts.

For example, in the Company's largest account, Mains – Account 376, we find a best fitting average service life of 44 years when the analysis was run starting with a zero beginning balance in 1968 (Table 3-1), and 42 years when the analysis was run with estimated additions (Table 3-3). These results appear reasonable, and are in line with MGE's current rate, however, when the analysis was performed with the 1968 beginning balance, the program could not produce an average service life due to irregularities within the data set, such as a six million dollar negative transfer in 1993. This result tends to reduce the confidence in the other two analyses. Further, while the best fitting service lives of 44 and 42 years appear reasonable, we find significant differences in the indicated service lives for the second and third best fits.

Table 3-1

Missouri Gas Energy
Summary of Simulated Plant Balance Analysis
Starting With a Zero Beginning Balance in 1968

Acct. No.	Account Description	Number 1 Rank		Number 2 Rank		Number 3 Rank	
		Curve Type	Avg. Service Life	Curve Type	Avg. Service Life	Curve Type	Avg. Service Life
			Years		Years		Years
Distribution Plant							
037400	Land Rights (1)	L 3.0	18	L 4.0	17	S 4.0	17
037500	Structures (2)	S 2.0	15	S 1.5	15	S 1.0	15
037600	Mains	SC 0.0	44	R 0.5	37	S -0.5	36
037800	Measuring and Regulating Station	SC 0.0	30	R 0.5	27	L 0.0	28
037900	City Gate Station	S 6.0	12	S 5.0	12	R 5.0	13
038000	Services	SC 0.0	32	L 0.0	30	R 0.5	28
038100	Meters	L 0.0	11	L 0.5	11	SC 0.0	12
038200	Meter/Regulator Installations	S 6.0	36	S 5.0	42	Program could not converge	
038300	Regulators	L 0.0	15	L 0.5	15	SC 0.0	17
038500	Industrial Meas/Regulating Equip	SC 0.0	41	R 0.5	32	R 1.0	25
General Plant							
039000	Structures (2)	L 1.0	10	L 2.0	9	L 1.5	10
039100	Office Furniture & Equipment	SC 0.0	12	R 0.5	12	S -0.5	12
039200	Transportation Equipment	SC 0.0	5	R 0.5	5	S -0.5	5
039300	Stores Equipment	S 6.0	17	S 5.0	18	R 5.0	18
039400	Tool, Shop & Garage Equipment	L 0.0	17	SC 0.0	18	L 0.5	16
039600	Power Operated Equipment	SC 0.0	9	R 0.5	9	S -0.5	9
039700	Communication Equipment	R 5.0	8	S 5.0	10	S 4.0	9
039800	Miscellaneous Equipment	SC 0.0	12	R 0.5	12	S -0.5	12

(1) Includes land because before 1984 there was no separation between land and land rights
(2) Includes leasehold improvements because before 1984 there was no separation between structures and leasehold improvements.

Table 3-2

Missouri Gas Energy
Summary of Simulated Plant Balance Analysis
Starting with 1968 Beginning Balance

Acct. No.	Account Description	Number 1 Rank		Number 2 Rank		Number 3 Rank	
		Curve Type	Avg. Service Life	Curve Type	Avg. Service Life	Curve Type	Avg. Service Life
			Years		Years		Years
Distribution Plant							
037400	Land Rights (1)	S 6.0	21	R 5.0	22	S 5.0	22
037500	Structures (2)	R 5.0	16	S 4.0	16	L 5.0	16
037600	Mains	Program could not converge					
037800	Measuring and Regulating Station	S 6.0	23	S 5.0	24	R 5.0	24
037900	City Gate Station	S 6.0	35	S 5.0	38	S 4.0	49
038000	Services	S 6.0	22	S 5.0	22	L 5.0	23
038100	Meters	S 6.0	18	S 5.0	19	R 5.0	19
038200	Meter/Regulator Installations	S 6.0	36	S 5.0	42	Program could not converg	
038300	Regulators	S 5.0	33	L 5.0	35	R 5.0	34
038500	Industrial Meas/Regulating Equip	SC 0.0	41	R 0.5	32	R 1.0	25
General Plant							
039000	Structures (2)	S 2.0	12	R 4.0	12	S 3.0	12
039100	Office Furniture & Equipment	S 6.0	13	R 5.0	13	S 5.0	13
039200	Transportation Equipment	S 3.0	8	L 3.0	8	L 4.0	8
039300	Stores Equipment	S 4.0	21	R 5.0	21	L 5.0	21
039400	Tool, Shop & Garage Equipment	S 6.0	17	S 5.0	17	R 5.0	18
039600	Power Operated Equipment	S -0.5	11	R 0.5	11	L 2.0	10
039700	Communication Equipment	S 6.0	9	S 5.0	9	R 5.0	9
039800	Miscellaneous Equipment	Program could not converge					

(1) Includes land because before 1984 there was no separation between land and land rights
(2) Includes leasehold improvements because before 1984 there was no separation between structures and leasehold improveme

Table 3-3

Missouri Gas Energy
Summary of Simulated Plant Balance Analysis
With Estimated Additions Prior to 1968

Acct. No.	Account Description	Number 1 Rank		Number 2 Rank		Number 3 Rank	
		Curve Type	Avg. Service Life	Curve Type	Avg. Service Life	Curve Type	Avg. Service Life
			Years		Years		Years
Distribution Plant							
037400	Land Rights						
037500	Structures (1)	S 0	24	L 2	23	SC	23
037600	Mains	S 3	42	SC	69	R2	47
037800	Measuring and Regulating Station	L 3	37	SC	48	L 2	38
037900	City Gate Station	SC	41	L 1	35	L 3	34
038000	Services	L 2	32	S 1	33	SC	43
038100	Meters	SC	28	R 2	31	R 3	33
038200	Meter/Regulator Installations	No Valid Results					
038300	Regulators	S 0	37	S 2	38	L 2	39
038500	Industrial Meas/Regulating Equip	Not Enough Data					
General Plant							
039000	Structures (1)	L 1	25	L 0	23	S 1	31
039100	Office Furniture & Equipment						
039200	Transportation Equipment	R 3	11	L 1	11	R 2	12
039300	Stores Equipment	L 0	32	L 1	30	R 1	30
039400	Tool, Shop & Garage Equipment	L 1	26	L 2	27	S 0	28
039600	Power Operated Equipment	S 0	7	R 1	6	R 2	6
039700	Communication Equipment	S 2	18	R 1	16	L 1	14
039800	Miscellaneous Equipment						

(1) Includes leasehold improvements because before 1984 there was no separation between structures and leasehold improveme

These significant differences between the indicated lives cast some question on the reliability of the best fit.

For Services – Account 380, we find a best fit with a 32 year service life when starting with a zero beginning balance and when using estimated additions. However, with the 1968 beginning balance, the best fit is an average service life of 22 years. There appear to be three main problems that exist with the data. First, nearly 85 percent of the account balance has been added within the last fifteen years. Thus, the indicated average service life of 32 years, Table 3-1 may not reflect the life characteristics of the majority of the plant recorded in the account since it has only recently been placed in service through the Company's service replacement program. Second, we do not have sufficient detail to assess life characteristics of the differing types of services (plastic, bare steel, protected steel, etc). The average physical life of services may vary depending on the material. The use of a simulated plant balance analysis results in an aggregate service life that may not be indicative of the account, especially of the property currently in service. Third, the services account has a relatively high retirements index (76%). This value is in line with expectations since older vintages have been recently retired with the services replacement program. Generally, a relatively high retirements index is desired. However, in this instance, a high index merely substantiates that the majority of the account consists of relatively new property. On the other hand, the uniformity of service lives indicated by the three best fits, as shown in Tables 3-1 and 3-3 for services, suggest the results may be reasonable.

Overall, the results for the analysis run with the 1968 beginning balance included (Table 3-2) produced questionable results, especially for distribution plant assets. All but one of the distribution plant assets produced results with very high modal curves (5 or 6), which tends to reduce confidence in the results.

The following identifies some of the difficulties we encountered with the remaining accounts in connection with the simulated plant balance analysis:

- Account 374 – Land Rights had large transfers that appeared to skew the results of simulated plant balance, returning a low average service life.
- Accounts 375 – Structures, 379 – City Gate Stations, 381 – Meters, 383 – Regulators, and 390 – Structures (General Plant) yielded unreasonably low services lives as compared with industry averages and prior experience with utility property.
- Account 385 – Measuring and Regulating Equipment has not been in service long enough to yield reliable results.
- Account 392 – Transportation Equipment shows service lives that are lower than expected for Tables 3-1 and 3-2, but the Table 3-3 results are consistent with the current service life and other utilities.

- Account 393 – Stores Equipment has varying results due to inconsistent timing of additions and retirements. There is not a smooth flow of when assets are added and retired.

3.3 Regional Industry Norms

We consider regional industry norms in developing average service lives used in this report. In Table 3-4, we summarize depreciation information obtained from 10 Midwestern gas utilities. These utilities include MidAmerican Energy, Kansas Gas Service, Laclede Gas Company, Atmos Energy, Kinder Morgan, Union Electric (Ameren), and Aquila. Properties of these utilities generally include facilities located in Missouri, Kansas, Iowa, Illinois, Nebraska, and Minnesota.

Where data are available, we have attempted to expand our survey analysis with additional information regarding the basis for the rates for each of the utilities. In Columns AN through AO of Table 3-4, we calculate a regional industry average of the average service life and annual depreciation rates. Of course with any such analysis, there will be some differences between the depreciation rates and the rates that would result from a whole life calculation using the average service lives and net salvage values shown because some of the utilities do not provide net salvage figures.

Table 3-4

Page 1 of 3

Missouri Gas Energy

Summary of Regional Gas Depreciation Rate Survey

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]	[O]
		MidAmerican Energy							KS Gas Svc		Ameren (Union Electric)			
		Iowa							Kansas		Missouri		Illinois	
Account Description	FERC Account	Estimated Average Service Life	Net Salvage	Applied Depreciation Rate %	Mortality Curve Type	Avg Remaining Life (Years)	Type of Analysis	Life Basis	Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %
Distribution														
Land and Land Rights	374	50.00	0.00	2.04%	R3	35.29	SPB	Remaining Life	69	1.44%				
Structures and Improvements	375	50.00	(5.00)	1.82%	R2	27.81	SPB	Remaining Life	21	4.66%	51	1.98%	50	2.00%
Mains	376	50.00	(25.00)	2.45%	R3	33.75	SPB	Remaining Life	41	2.42%	42	2.40%	46	2.18%
Measuring and Regulating Equip	378	35.00	(35.00)	3.75%	R1	24.38	SPB	Remaining Life	44	2.27%	42	2.38%	31	3.26%
Meas & Reg Equip - City Gate	379	36.00	(40.00)	4.09%	R3	21.35	SPB	Remaining Life	49	2.06%	44	2.27%	31	3.26%
Services	380	40.00	(55.00)	3.68%	R3	25.75	SPB	Remaining Life	22	4.53%	36	2.79%	34	2.90%
Meters	381	35.00	0.00	3.03%	S1	24.13	SPB	Remaining Life	32	3.13%	52	1.91%	40	2.50%
Meter Installations	382								31	3.23%				
House Regulators	383	50.00	0.00	1.91%	S3	34.93	SPB	Remaining Life	46	2.17%	45	2.21%	43	2.32%
Industrial Meas and Reg Equipment	385	25.00	0.00	3.81%	S1	12.86	SPB	Remaining Life			41	2.45%	35	2.86%
Other Equipment	387								10	10.20%	30	3.36%		
General														
Land and Land Rights	389	50.00	0.00	1.92%	R3	39.51	SPB	Remaining Life						
Structures and Improvements	390	45.00	0.00	2.24%	R2	30.93	SPB	Remaining Life	32	3.09%	79	1.27%		
Office Furn and Equipment	391	15.00	5.00	7.54%	SQ	6.50	SPB	Remaining Life	30	3.38%	13	7.75%	5	20.00%
Computers	391.1	5.00	0.00	11.82%	SL	3.69	SPB	Remaining Life	5	18.30%	9	11.11%	5	20.00%
Transportation Equipment	392								10	9.56%	14	7.28%		
Stores Equipment	393	20.00	5.00	7.47%	SQ	5.43	SPB	Remaining Life	66	1.52%	15	6.67%		
Tool, Shop, and Garage Equipment	394	25.00	5.00	4.00%	SQ	14.63	SPB	Remaining Life	42	2.38%	19	5.18%	10	10.00%
Lab Equipment	395	25.00	0.00	4.32%	SQ	12.57	SPB	Remaining Life	44	2.27%	20	4.90%	15	6.67%
Power Operated Equipment	396								9	11.72%	21	4.78%		
Communication Equipment	397	15.00	0.00	7.43%	SQ	6.34	SPB	Remaining Life	23	4.29%	17	6.06%	10	10.00%
Miscellaneous Equipment	398	15.00	0.00	6.58%	SQ	2.46	SPB	Remaining Life	21	4.72%				

Table 3-4

Page 2 of 3

Missouri Gas Energy

Summary of Regional Gas Depreciation Rate Survey

[A]	[B]	[P]	[Q]	[R]	[S]	[T]	[U]	[V]	[W]	[X]	[Y]	[Z]	[AA]	[AB]	[AC]
		Aquila											Laclede		
		Missouri Public Service			NMU - Minnesota			Peoples Natural Gas - Iowa					Missouri		
Account Description	FERC Account	Estimated Average Service Life	Applied Depreciation Rate %	Iowa Curve Type	Estimated Average Service Life	Net Salvage %	Applied Depreciation Rate %	Estimated Average Service Life	Net Salvage %	Applied Depreciation Rate %	Curve Type	Average Remaining Life	Estimated Average Service Life	Applied Depreciation Rate %	Mortality Curve Type
Distribution															
Land and Land Rights	374														
Structures and Improvements	375	45	2.22%	R 4				45	0.0%	3.48%	S 4	26.55	61	1.64%	
Mains	376	45	2.22%	R 1, R 4	50	-35.00%	2.73%	40	-70.0%	3.48%	R 4	26.55	79	1.27%	
Measuring and Regulating Equip	378	44	2.27%	R 1.5	33	-5.00%	3.23%	27	-5.0%	3.48%	R 2	26.55	45	2.22%	
Meas & Reg Equip - City Gate	379	44	2.27%	R 1.5	28	-5.00%	3.08%						45	2.20%	
Services	380	45	2.22%	R 3, R 4	35	-60.00%	4.60%	38	-125.0%	3.48%	S 2	26.55	44	2.27%	
Meters	381	40	2.50%	S 0.5	38	5.00%	2.52%	35	5.0%	3.48%	S 4	26.55	38	2.63%	
Meter Installations	382				41	-60.00%	3.94%	38	-30.0%	3.48%	R 2	26.55			
House Regulators	383	40	2.50%	S 2	35	-15.00%	3.14%	29	0.0%	3.48%	S 3	26.55	47	2.13%	
Industrial Meas and Reg Equipment	385	44	2.27%	R 1.5				30	15.0%	3.48%	R 2	26.55	40	2.50%	
Other Equipment	387							12	-20.0%	3.48%	R 1	26.55	32	3.13%	
General															
Land and Land Rights	389														
Structures and Improvements	390	45	2.22%	R 1.5				29		3.48%			40	2.50%	
Office Furn and Equipment	391	22	4.55%	L 4	20	5.00%	6.31%	29		3.44%			37	2.70%	
Computers	391.1	7	14.29%	S 2	8		18.98%	8		12.30%			5	20.00%	
Transportation Equipment	392	12	8.33%	S 5	7	30.00%	94.80%						12	8.33%	
Stores Equipment	393	27	3.70%	L 1									45	2.22%	
Tool, Shop, and Garage Equipment	394	27	3.70%	L 0	23		5.00%	31		3.20%			38	2.63%	
Lab Equipment	395	29	3.45%	R 2.5				31		3.20%			28	3.57%	
Power Operated Equipment	396	16	6.25%	S 6	13	25.00%	1.47%						14	7.14%	
Communication Equipment	397	29	3.45%	S 2	18		2.15%	29		3.48%			18	5.56%	
Miscellaneous Equipment	398	23	4.35%	L 4	20		5.00%						29	3.45%	

Table 3-4

Page 3 of 3

Missouri Gas Energy

Summary of Regional Gas Depreciation Rate Survey

[A]	[B]	[AD]	[AE]	[AF]	[AG]	[AH]	[AI]	[AJ]	[AK]	[AL]	[AM]	[AN]	[AO]	[AP]	[AQ]
		Atmos Energy Iowa			Kinder Morgan Kansas			Regional Range				Regional Average		MGE Existing Rates	
								Service Life		Depreciation Rate					
Account Description	FERC Account	Estimated Average Service Life	Applied Depreciation Rate %	Type of Analysis	Estimated Average Service Life	Applied Depreciation Rate %	Net Salvage	Low	High	Low	High	Estimated Average Service Life	Applied Depreciation Rate %	Estimated Average Service Life	Applied Depreciation Rate %
Distribution															
Land and Land Rights	374							50	69	1.44%	2.04%	60	1.74%	48	2.09%
Structures and Improvements	375	38	2.64%	actuarial	33	3.00%		21	61	1.84%	4.66%	40	2.54%	61	1.65%
Mains	376		2.64%	actuarial	33	3.00%		33	79	1.27%	3.48%	44	2.39%	44	2.27%
Measuring and Regulating Equip	378	38	2.64%	actuarial	33	3.00%		27	45	2.22%	3.75%	33	2.86%	35	2.86%
Meas & Reg Equip - City Gate	379	38	2.64%	actuarial	33	3.00%		28	49	2.06%	4.09%	35	2.75%	47	2.13%
Services	380	38	2.64%	actuarial	33	3.00%		22	45	2.22%	4.60%	33	3.31%	37	2.70%
Meters	381	38	2.64%	actuarial	33	3.00%		32	52	1.91%	3.48%	34	2.71%	35	2.86%
Meter Installations	382	38	2.64%	actuarial	33	3.00%		31	41	2.64%	3.94%	28	3.55%	35	2.86%
House Regulators	383	38	2.64%	actuarial	33	3.00%		29	50	1.91%	3.48%	37	2.48%	41	2.44%
Industrial Meas and Reg Equipment	385	38	2.64%	actuarial	33	3.00%		25	44	2.27%	3.81%	31	2.90%	30	3.33%
Other Equipment	387	38	2.64%	actuarial	33	3.00%		10	38	2.64%	10.20%	17	5.04%	16	6.33%
General															
Land and Land Rights	389							50	50	1.92%	1.92%	50	1.92%		
Structures and Improvements	390	8	12.12%	actuarial	40	2.50%		8	79	1.27%	12.12%	39	2.47%	50	2.00%
Office Furn and Equipment	391	8	12.12%	actuarial	13	7.50%		5	37	2.70%	20.00%	18	7.02%	12	8.06%
Computers	391.1	8	12.12%	actuarial	13	7.50%		5	13	7.50%	20.00%	7	14.92%	12	8.06%
Transportation Equipment	392	8	12.12%	actuarial	10	10.00%	20%	7	14	7.28%	94.80%	9	23.05%	11	8.70%
Stores Equipment	393	8	12.12%	actuarial	13	7.50%		8	66	1.52%	12.12%	27	4.85%	37	2.70%
Tool, Shop, and Garage Equipment	394	8	12.12%	actuarial	13	7.50%		8	42	2.38%	12.12%	23	4.84%	19	5.30%
Lab Equipment	395	8	12.12%	actuarial	13	7.50%		8	44	2.27%	12.12%	23	4.49%		
Power Operated Equipment	396	8	12.12%	actuarial	10	10.00%	10%	8	21	1.47%	12.12%	12	8.89%	12	8.33%
Communication Equipment	397	8	12.12%	actuarial	13	7.50%		8	29	2.15%	12.12%	17	5.55%	16	6.25%
Miscellaneous Equipment	398	8	12.12%	actuarial	13	7.50%		8	29	3.45%	12.12%	17	5.60%	26	3.85%

3.4 *Recommended Average Service Lives*

In Table 3-5, we summarize the average service lives underlying MGE's existing depreciation rates (Column C), and the average service lives we recommend for the purpose of this report (Column G). We use recommended average service lives to develop our recommended accrual rates. Based on consideration of the simulated plant balance analysis, regional industry averages, and our experience with gas (and other) utility property, the following discussion explains in further detail the basis for recommending change in the average service lives for certain accounts:

- Accounts 375 and 390 – Structures and Improvements, we recommend a decrease in average service life from 61 years and 50 years to 40 years. This places MGE within the range of other gas utilities in the region.
- Account 379 – City Gate Stations, we find the current service life of 47 years excessive and recommend a life of 40 years. We believe this is still a conservative decrease, relative to similar utilities, which average a 35 year service life.
- Account 380 – Services, we continue to find the existing service life of 37 years high. Our 32 year recommendation is based on our simulated plant balance analysis and the regional average.
- Account 391 – Furniture and Equipment, we base our recommendation for Account 391 on a weighting study performed on the subclasses of assets within the account, as presented in Table 3-6. The account has both furniture, which we estimate to have a 40 year service life, and computer equipment, which has a 5 to 7 year service life. By computing a weighted average based on the dollar amounts in each subclass (Table 3-6), we determine our recommended 11 year service life.
- Account 393 – Stores Equipment, we find the existing life of 37 years to be high relative to regional gas utilities. Our simulated plant balance analysis confirmed the need for a lower service life of 30 years.
- Account 396 – Power Operated Equipment, although some of our analyses suggest a lower service life, we recommend raising the life to 15 years. With a weighted age of the current assets of 11.27 years, an average service life much below 15 years is unreasonable.

Table 3-5
Missouri Gas Energy
Recommeded Average Service Lives

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
Acct. No.	Account	Existing Average Service Life	Existing Annual Accrual Rate	Depreciable Plant 12/31/2004	Existing Annual Depreciation Expense	Recommended Average Service Life	Indicated Accrual Rate	Indicated Depreciation Expense
		Years	%	$	$	Years	%	$
	Distribution Plant							
3742	Land Rights	48	2.09%	1,568,071	32,773	50	2.00%	31,361
3751	Structures	61	1.65%	5,303,297	87,610	40	2.50%	132,582
3760	Mains	44	2.27%	317,114,685	7,201,675	44	2.27%	7,198,503
3780	Measuring & Regulating Stations	35	2.86%	11,340,602	324,341	35	2.86%	324,341
3790	City Gate Stations	47	2.13%	3,225,472	68,670	40	2.50%	80,637
3800	Services	37	2.70%	284,133,633	7,671,608	32	3.13%	8,893,383
3810	Meters	35	2.86%	30,234,961	864,720	35	2.86%	864,720
3820	Meter/Regulator Installations	35	2.86%	63,517,434	1,816,599	35	2.86%	1,816,599
3830	Regulators	41	2.44%	10,874,553	265,339	35	2.86%	311,012
3850	EGM-Meas/Reg Equip	30	3.33%	349,644	11,643	30	3.33%	11,643
3870	Other Equipment	16	6.33%	0	0	16	6.25%	-
	Total Distribution Plant		2.52%	727,662,351	18,344,978		2.70%	19,664,782
	General Plant							
3901	Structures & Improvements	50	2.00%	1,999,518	39,990	40	2.50%	49,988
3910	Furniture & Equipment	12	8.06%	5,958,115	480,224	11	9.09%	541,593
3920	Transportation Equipment	11	8.70%	5,105,489	444,178	11	9.09%	464,089
3930	Stores Equipment	37	2.70%	507,444	13,701	30	3.33%	16,898
3940	Tools	19	5.30%	4,883,622	258,832	20	5.00%	244,181
3960	Power Operated Equipment	12	8.33%	243,807	20,309	15	6.67%	16,262
3970	Communication Equipment	16	6.25%	3,016,045	188,503	16	6.25%	188,503
3971	Electronic Reading-ERT	20	5.00%	35,104,368	1,755,218	20	5.00%	1,755,218
3980	Miscellaneous Equipment	26	3.85%	416,204	16,024	20	5.00%	20,810
	Total General Plant		5.62%	57,234,611	3,216,979		5.76%	3,297,542
	Total Depreciable Plant		2.75%	784,896,963	21,561,957		2.93%	22,962,324

(1) $/year salvage allowance.
(2) Recommended service life of 11 years for Account 391 is based on service life determined in weighting study for Acct. 391, Table 3-6.

Table 3-6

Missouri Gas Energy
Calculation of Whole Life Rate for Account 391

Description	Depreciable Plant 12/31/2004	Percent of Total	Net Salvage	Average Service Life	Whole Life Rate
Account 391 Subcategories					
Furniture	2,629,888	44.14%	10%	40	2.25%
Office Equipment	765,453	12.85%		12	8.33%
Computers	1,032,385	17.33%	10%	7	12.86%
Software	1,530,389	25.69%		5	20.00%
Total	5,958,115	100.00%			
			Weighted Average Rate for Account 391		9.43%
			Equivalent Service Life		10.61
			Recommended Service Life		11

4.0 Development of Recommended Accrual Rates

After developing our recommended average service lives, we then look at any adjustments that need to be made within the accounts for net salvage and amortization of depreciation reserve, before developing our recommended accrual rates.

4.1 Net Salvage Allowance

The traditional approach for incorporating allowance for net salvage is to compare annual net salvage (salvage minus cost of removal plus reimbursements) to the original cost of the plant retired during that year over a representative historical period, preferably at least 10 years. The traditional approach assumes that the ratio of net salvage dollars to the original cost dollars of the retirements is representative of the allowance that will ultimately apply to all plant in service over that life of that asset. In a whole life depreciation calculation, this allowance is then added to (for a net cost of removal) or deducted from (for a net salvage) one in the numerator and then divided by the average service life.

This approach provides reasonable results where there are modest amounts of salvage or cost of removal or where the amounts are fairly consistent (such as for unit property or general plant). However, cost of removal for some natural gas distribution plant can be as much as or more than the original cost of the plant retired especially if natural gas lines that are under streets need to be relocated. In these instances, it may not be reasonable to assume that this experience applies to all plant.

Problems may result (especially with mains and services) if the net salvage allowance is large and a relatively small amount of plant is being retired. A large depreciation reserve may be accumulated in anticipation of cost of removal expenses that may or may not occur. In the 1998 Laclede case, the Missouri Public Service Commission Staff believed that this was at the root of large differences between actual and theoretical reserve. The Staff proposed removing net salvage from the depreciation calculation and treated salvage and cost of removal as a separate expense (or revenue requirement). Beginning in August 2001, MGE began to treat net salvage as an expense.

We believe however, that the goal of matching actual cost of removal expenses and cost of removal allowances can be accomplished within the calculation of depreciation rates. For example, we analyzed MGE's salvage costs and cost of removal over the period 1978 through 2004 and found that the annual net salvage amounts are fairly consistent for some accounts. In our previous two reports, we developed net salvage values for the majority of distribution accounts. However, due to some recent inconsistencies in net salvage plus reimbursements relative to the previous trend, we recommend a net salvage adjustment only in Account 380 – Services. Our analysis indicates net salvage for Services is driven by consistent annual costs

related to cost of removal, and we recommend a negative net salvage allowance of $800,000 per year (Table 4-1, Column H). With the exception of Account 376 – Mains, net salvage plus reimbursements for the other accounts is minor and we recommend no net salvage adjustment. Since 2000, the Mains account has shown large positive and negative net salvage adjustments. To be conservative, we recommend no annual net salvage adjustment for Mains – Account 376 be included at this time.

Some may view this annual allowance approach is an "impure" application of the "whole" life method because it is based on a rather short term analysis of activity. As plant ages and retirement activity increases, we expect that the annual allowance may increase. Insufficient depreciation reserve might be accumulated if the annual allowance is not reviewed on a regular basis. However, in Missouri, depreciation rates are reviewed every five years as required by Commission rule. This frequency will allow for future adjustment of the annual net salvage allowance to reflect changes in activity, if necessary.

In Table 4-1, Column H, we did not extend the annual allowance approach to general plant accounts. Typically, general plant has either no net salvage or a positive net salvage. Also, the salvage amounts of general plant are generally modest and fairly consistent and are frequently associated with shorter lived assets (such as vehicles and computers) where there is a better defined "used" market.

Table 4-1, Column J shows our initial accrual rates, based on our recommended average service live, adjusted for net salvage plus reimbursements.

4.2 Depreciation Reserve

After developing indicated accrual rates, we evaluate the adequacy of the depreciation reserve balance. A simple view of existing depreciation reserve shows two accounts (396 – Power Operated Equipment and 397 – Communication Equipment) with negative reserve balances (Table 4-1, Column F). This might be caused by several factors, including depreciation rates that are too low or extraordinary retirements. In order to correct any imbalances in the depreciation reserve accounts, we first determine a theoretical level of where depreciation reserve should be. We calculate this based on the weighted age of the assets in each account, relative to our recommended service lives. Without adjustment, to the extent that calculated reserve, Column N, is greater than or less than the book reserve, Column F, the Company will under- or over-recover, respectively, its depreciable plant investment. Differences between the calculated theoretical reserve and the book reserve can be attributed primarily to changes in life characteristics or historical rates which have not properly reflected life characteristics or changes in life characteristics. These changing life characteristics and the degree to which these changes are recognized and reflected in the depreciation rates directly affect the book reserves.

By subtracting the actual depreciation reserve from calculated depreciation reserve, we determine the reserve deficiency, Column O. Any amounts that have been over- or under-recovered should be amortized over the remaining life of the asset group. To limit the impact on accrual rates, we recommend a redistribution of the excess depreciation reserve of Account 380 of $29 million, Column O, to other accounts so that the net redistribution is zero, Column P. Once the excess depreciation reserve has been redistributed to minimize the reserve deficiency, any remaining deficiency, Column Q, is then divided by the remaining life of the asset group, Column R, to determine the adjustment that will be amortized annually, Column S. By dividing the annual adjustment by existing plant balance, we determined the percentage adjustment, Column T, to our indicated depreciation rates. The maximum adjustment for any account is 0.15%, Mains – Account 376. The adjustment is then added to or subtracted from our indicated rate to determine our recommended accrual rate, Column U.

Table 4-1
Missouri Gas Energy
Analysis of Accumulated Depreciation Reserve

[A] Acct. No.	[B] Account	[C] Existing Annual Accrual Rate	[D] Depreciable Plant 12/31/2004	[E] Existing Annual Depreciation Expense	[F] Accumulated Depreciation Reserve	[G] Reserve Ratio	[H] Net Salvage Allowance	[I] Recommended Average Service Life	[J] Indicated Accrual Rate	[K] Indicated Depreciation Expense
		%	$	$	$	%	$	Years	%	$
				[C] * [D]		[F] / [D]			(1 / [I]) - ([H] / [D	[D] * [J]
	Distribution Plant									
3742	Land Rights	2.09%	1,568,071	32,773	342,553	21.85%		50	2.00%	31,361
3751	Structures	1.65%	5,303,297	87,610	309,222	5.83%		40	2.50%	132,582
3760	Mains	2.27%	317,114,685	7,201,675	97,058,811	30.61%		44	2.27%	7,198,503
3780	Measuring & Regulating Stations	2.86%	11,340,602	324,341	3,187,532	28.11%		35	2.86%	324,341
3790	City Gate Stations	2.13%	3,225,472	68,670	723,871	22.44%		40	2.50%	80,637
3800	Services	2.70%	284,133,633	7,671,608	124,691,479	43.88%	(800,000)	32	3.41%	9,688,957
3810	Meters	2.86%	30,234,961	864,720	2,876,110	9.51%		35	2.86%	864,720
3820	Meter/Regulator Installations	2.86%	63,517,434	1,816,599	12,039,627	18.95%		35	2.86%	1,816,599
3830	Regulators	2.44%	10,874,553	265,339	1,819,229	16.73%		35	2.86%	311,012
3850	EGM-Meas/Reg Equip	3.33%	349,644	11,643	86,249	24.67%		30	3.33%	11,643
3870	Other Equipment	6.33%	0	0	0	0.00%		16	6.25%	0
	Total Distribution Plant	2.52%	727,662,351	18,344,978	243,134,483	33.41%	(800,000)		2.81%	20,460,356
	General Plant									
3901	Structures & Improvements	2.00%	1,999,518	39,990	123,618	6.18%		40	2.50%	49,988
3910	Furniture & Equipment	8.06%	5,958,115	480,224	329,059	5.52%		11	9.09%	541,593
3920	Transportation Equipment	8.70%	5,105,489	444,178	2,022,624	39.62%		11	9.09%	464,089
3930	Stores Equipment	2.70%	507,444	13,701	149,136	29.39%		30	3.33%	16,898
3940	Tools	5.30%	4,883,522	258,832	646,342	13.23%		20	5.00%	244,181
3960	Power Operated Equipment	8.33%	243,807	20,309	(452,017)	-185.40%		15	6.67%	16,262
3970	Communication Equipment	6.25%	3,016,045	188,503	(1,800,321)	-59.69%		16	6.25%	188,503
3971	Electronic Reading-ERT	5.00%	35,104,368	1,755,218	10,892,791	31.03%		20	5.00%	1,755,218
3980	Miscellaneous Equipment	3.85%	416,204	16,024	262,851	63.11%		20	5.00%	20,810
	Total General Plant	5.62%	57,234,611	3,216,979	12,173,883	21.27%			5.76%	3,297,542
	Total Depreciable Plant	2.75%	784,896,963	21,561,957	255,308,366	32.53%			3.03%	23,757,898

[A] Acct. No.	[B] Account	[L] Weighted Age	[M] Calculated Reserve Ratio Based On Weighted Age	[N] Calculated Depreciation Reserve	[O] Reserve Deficiency	[P] Redistribute Major Reserve Deficiency	[Q] Restated Reserve Deficiency	[R] Average Remaining Life	[S] Annual $ To Amortize over Remaining Life	[T] Change in Accrual Rate	[U] Recommended Accrual Rate
		Years	%	$	$	$	$	Years	$	%	%
			[L] / [I]	[M] * [D]	[N] - [F]		[O] + [P]	[I] - [L]	[Q] / [R]	[S] / [D]	[J] + [T]
	Distribution Plant										
3742	Land Rights	12.86	25.72%	403,308	60,755		60,755	37.14	1,636	0.10%	2.10%
3751	Structures	10.60	26.50%	1,405,374	1,096,152	(1,000,000)	96,152	29.40	3,270	0.06%	2.56%
3760	Mains	15.92	36.18%	114,737,859	17,679,048	(3,400,000)	14,279,048	28.08	508,513	0.16%	2.43%
3780	Measuring & Regulating Stations	13.12	37.49%	4,251,106	1,063,573	(1,000,000)	63,573	21.88	2,906	0.03%	2.89%
3790	City Gate Stations	10.59	26.48%	853,944	130,273		130,273	29.41	4,430	0.14%	2.64%
3800	Services	10.75	33.59%	95,451,142	(29,240,337)	29,000,000	(240,337)	21.25	(11,310)	0.00%	3.41%
3810	Meters	14.77	42.20%	12,759,154	9,883,043	(9,245,000)	638,043	20.23	31,539	0.10%	2.96%
3820	Meter/Regulator Installations	9.42	26.91%	17,095,264	5,055,637	(4,000,000)	1,055,637	25.58	41,268	0.06%	2.92%
3830	Regulators	10.32	29.49%	3,206,440	1,387,211	(1,000,000)	387,211	24.68	15,689	0.14%	3.00%
3850	EGM-Meas/Reg Equip	6.27	20.90%	73,076	(13,174)	10,000	(3,174)	23.73	(134)	-0.04%	3.29%
3870	Other Equipment		0.00%	0	0		0	16.00	0	0.00%	6.25%
	Total Distribution Plant			250,236,664	7,102,181	9,365,000	16,467,181				
	General Plant										
3901	Structures & Improvements	17.90	44.75%	894,784	771,166	(740,000)	31,166	22.10	1,410	0.07%	2.57%
3910	Furniture & Equipment	7.22	65.64%	3,910,690	3,581,631	(3,580,000)	1,631	3.78	432	0.01%	9.10%
3920	Transportation Equipment	4.75	43.18%	2,204,643	182,019	(180,000)	2,019	6.25	323	0.01%	9.10%
3930	Stores Equipment	13.63	45.43%	230,549	81,413	(80,000)	1,413	16.37	86	0.02%	3.35%
3940	Tools	9.99	49.95%	2,439,369	1,793,026	(1,790,000)	3,026	10.01	302	0.01%	5.01%
3960	Power Operated Equipment	11.27	75.13%	183,180	635,197	(635,000)	197	3.73	53	0.02%	8.69%
3970	Communication Equipment	3.96	24.75%	746,471	2,546,792	(2,540,000)	6,792	12.04	564	0.02%	6.27%
3971	Electronic Reading-ERT	6.17	30.85%	10,829,697	(63,094)	60,000	(3,094)	13.83	(224)	0.00%	5.00%
3980	Miscellaneous Equipment	6.67	33.35%	138,804	(123,847)	120,000	(3,847)	13.33	(289)	-0.07%	4.93%
	Total General Plant			21,578,188	9,404,305	(9,365,000)	39,305				
	Total Depreciable Plant			271,814,852	16,506,486	0	16,506,486				

4.3 *Recommended Accrual Rates*

Table 4-2 summarizes the Company's existing and recommended accrual rates and the annual depreciation expense incurred when each of these rates is applied to the depreciable plant balance.

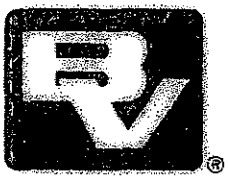
We show in Table 4-2 that when our recommended accrual rates in Column H are applied to depreciable plant balances as of December 31, 2004, annual depreciation expense would increase by $2.79 million over levels produced by existing rates. Of this amount, the majority of the increase is from two accounts: $2 million is attributable to a decrease in the recommended service life of Account 380 – Services, and approximately $500,000 is attributable to the amortization of reserve deficiency of Account 376 – Mains.

Table 4-2
Missouri Gas Energy
Summary of Recommended Depreciation Accrual Rates

[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]
Acct. No.	Account	Depreciable Plant 12/31/2004	Existing Average Service Life	Existing Accrual Rate	Existing Depreciation Expense	Proposed Average Service Life	Recommended Accrual Rate	Proposed Depreciation Expense	Change in Accrual Rate	Change in Depreciation Expense
		$								
	Distribution Plant									
3742	Land Rights	1,568,071	48	2.09%	32,773	50	2.10%	32,929	0.01%	157
3751	Structures	5,303,297	61	1.65%	87,610	40	2.56%	135,764	0.91%	48,154
3760	Mains	317,114,685	44	2.27%	7,201,675	44	2.43%	7,705,887	0.16%	504,212
3780	Measuring & Regulating Stations	11,340,602	35	2.86%	324,341	35	2.89%	327,743	0.03%	3,402
3790	City Gate Stations	3,225,472	47	2.13%	68,670	40	2.64%	85,152	0.51%	16,482
3800	Services	284,133,633	37	2.70%	7,671,608	32	3.41%	9,688,957	0.71%	2,017,349
3810	Meters	30,234,961	35	2.86%	864,720	35	2.96%	894,955	0.10%	30,235
3820	Meter/Regulator Installations	63,517,434	35	2.86%	1,816,599	35	2.92%	1,854,709	0.06%	38,110
3830	Regulators	10,874,553	41	2.44%	265,339	35	3.00%	326,237	0.56%	60,897
3850	EGM-Meas/Reg Equip	349,644	30	3.33%	11,643	30	3.29%	11,503	-0.04%	(140)
3870	Other Equipment	0	16	6.33%	0	16	6.25%	0	-0.08%	0
		727,662,351		2.52%	18,344,978			21,063,837		2,718,859
	General Plant									
3901	Structures & Improvements	592,142	50	2.00%	11,843	40	2.57%	15,218	0.57%	3,375
3910	Furniture & Equipment	5,958,115	12	8.06%	480,224	11	9.10%	542,188	1.04%	61,964
3920	Transportation Equipment	5,105,489	11	8.70%	444,178	11	9.10%	464,600	0.40%	20,422
3930	Stores Equipment	507,444	37	2.70%	13,701	30	3.35%	16,999	0.65%	3,298
3940	Tools	4,883,622	19	5.30%	258,832	20	5.01%	244,669	-0.29%	(14,163)
3960	Power Operated Equipment	243,807	12	8.33%	20,309	15	6.69%	16,311	-1.64%	(3,998)
3970	Communication Equipment	3,016,045	16	6.25%	188,503	16	6.27%	189,106	0.02%	603
3971	Electronic Reading-ERT	35,104,368	20	5.00%	1,755,218	20	5.00%	1,755,218	0.00%	0
3980	Miscellaneous Equipment	416,204	28	3.85%	16,024	20	4.93%	20,519	1.08%	4,495
		55,827,235		5.71%	3,188,832			3,264,829		75,997
		783,489,587		2.75%	21,533,810			24,328,666		2,794,857

CONTACT INFORMATION:

For more information, please contact:
Tom Sullivan
Black & Veatch Corporation, Enterprise Management Solutions
11401 Lamar Avenue
Overland Park, KS 66211
Tel: 913-458-3645
Fax: 913-458-3817
Email: sullivantm@bv.com
www.bv.com



BLACK & VEATCH
building a world of difference™

ENERGY • WATER • INFORMATION • GOVERNMENT