Exhibit No.:
Issue: Depreciation
Witness: Dane A. Watson
Type of Exhibit: Direct Testimony
Sponsoring Party: Liberty Utilities
(Midstates Natural Gas) Corp.
d/b/a Liberty Utilities
Case No.: GR-2018-0013
Date Testimony Prepared: September 26, 2017

Before the Public Service Commission
of the State of Missouri

Direct Testimony

of

Dane A. Watson

On Behalf Of

Liberty Utilities (Midstates Natural Gas) Corp.
d/b/a Liberty Utilities

September 2017

Liberty Utilities

DIRECT TESTIMONY
OF
DANE A. WATSON
LIBERTY UTILITIES
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. GR-2018-0013

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
ALG	Average Life Group
AR-15	FERC Accounting Release Number 15
Atmos	Atmos Energy
Commission	Missouri Public Service Commission
Depreciation Study	Liberty Utilities (Midstates Natural Gas) Corp. – State of Missouri Book Depreciation Accrual Rate Study at September 30, 2015
EEI	Edison Electric Institute
FERC	Federal Energy Regulatory Commission
IEEE	Institute of Electrical and Electronics Engineers
Liberty	Liberty Utilities (Midstates Natural Gas) Corp.
SDP	Society of Depreciation Professionals
TXU	Texas Utilities Electric Company and successor companies

LIST OF ATTACHMENTS

Exhibit	Description
DAW-1	List of Appearances before Regulatory Bodies by Dane A. Watson
DAW-2	Liberty Utilities (Midstates Natural Gas) Corp. - State of Missouri Book Depreciation Accrual Rate Study at September 30, 2015
DAW-3 (CD)	Workpapers to Liberty Utilities (Midstates Natural Gas) Corp. Depreciation Study

DIRECT TESTIMONY
OF
DANE A. WATSON
LIBERTY UTILITIES
BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. GR-2018-0013

WITNESS IDENTIFICATION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dane A. Watson. My business address is 1410 Avenue K, Suite 1105B, Plano, Texas 75074.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am a Partner of Alliance Consulting Group. Alliance Consulting Group provides consulting and expert services to the utility industry.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am filing testimony on behalf of Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities ("Company").

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. I hold a Bachelor of Science degree in Electrical Engineering from the University of Arkansas at Fayetteville and a Master's Degree in Business Administration from Amberton University.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. Since graduation from college in 1985, I have worked in the area of depreciation and valuation. I founded Alliance Consulting Group in 2004 and am responsible for conducting depreciation, valuation, and certain accounting-related studies for clients in various industries. My duties related to depreciation studies include the

assembly and analysis of historical and simulated data, conducting field reviews, determining service life and net salvage estimates, calculating annual depreciation, presenting recommended depreciation rates to utility management for its consideration, and supporting such rates before regulatory bodies.

My prior employment from 1985 to 2004 was with Texas Utilities Electric Company and successor companies ("TXU"). During my tenure with TXU, I was responsible for, among other things, conducting valuation and depreciation studies for the domestic TXU companies. During that time, I served as Manager of Property Accounting Services and Records Management in addition to my depreciation responsibilities.

I have twice been Chair of the Edison Electric Institute ("EEI") Property Accounting and Valuation Committee and have been Chairman of EEI's Depreciation and Economic Issues Subcommittee. I am a Registered Professional Engineer in the State of Texas and a Certified Depreciation Professional. I am a Senior Member of the Institute of Electrical and Electronics Engineers ("IEEE") and served for several years as an officer of the Executive Board of the Dallas Section of IEEE as well as national and global IEEE offices. I served as President of the Society of Depreciation Professionals twice, most recently in 2015..

Q. DO YOU HOLD ANY SPECIAL CERTIFICATION AS A DEPRECIATION EXPERT?

A. Yes. The Society of Depreciation Professionals ("SDP") has established national standards for depreciation professionals. The SDP administers an examination

and has certain required qualifications to become certified in this field. I met all requirements and hold a Certified Depreciation Professional certification.

Q. HAVE YOU PREVIOUSLY TESTIFIED AT ANY REGULATORY COMMISSION?

A. Yes. I have conducted depreciation studies and filed testimony or testified on depreciation and valuation issues before more than thirty utility commissions across the United States, including FERC. A list of proceedings in which I have provided testimony is provided in Exhibit DAW-1.

I. ASSIGNMENT AND SUMMARY OF TESTIMONY AND RECOMMENDATIONS

Q. WHAT IS YOUR ASSIGNMENT IN THIS PROCEEDING?

A. The purpose of my testimony is to:

- discuss the recent Liberty Mid States Gas – State of Missouri Book Depreciation Accrual Rate Study at September 30, 2015, completed for Liberty assets ("Depreciation Study"); and
- support and justify the recommended depreciation rate changes for Liberty, based on the results of the Depreciation Study.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING DEPRECIATION RATE CHANGES FOR LIBERTY ASSETS BASED ON THE RESULTS OF THE DEPRECIATION STUDY.

A. The Depreciation Study and analysis performed under my supervision fully support Liberty's proposed depreciation rates applied to September 30, 2015 depreciable plant balances for Transmission plant, Distribution plant, and General

Property plant. The Depreciation Study follows regulated industry's long-standing precedent for Average Life Group ("ALG") straight-line depreciation. In this way, all customers are charged for their appropriate share of the capital expended for their benefit. In order to ensure intergenerational equities, the Commission should adopt the life characteristics and net salvage parameters proposed in this study. The Depreciation Study also incorporates updated service lives, and accounts for increased removal costs for Transmission and Distribution assets in the proposed depreciation rates. Liberty's depreciation rates should be set at the levels supported in the Depreciation Study in order to recover Liberty's total investment in property over the estimated remaining life of the assets.

Q. WHAT DEPRECIATION RATES IS LIBERTY CURRENTLY USING?

A. In Case No. GM-2012-0037 (the case in which Liberty's purchase of Atmos' Missouri assets was approved by the Commission), Liberty agreed to utilize the depreciation rates that had been approved for Atmos in Case No. GR-2006-0387. *See Unanimous Stipulation And Agreement*, p. 8 and Appendix 1 (filed Feb. 17, 2012). In addition, in Liberty's last rate case, Case No. GR-2014-0152, the Commission approved depreciation rates for corporate hardware and software at the corporate offices in Jackson, Missouri, and allocated to its divisions in Iowa, Illinois and Missouri jurisdictions. (*Report and Order*, Re: Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities, File No. GR-2014-0152, pp. 37-38 (December 3, 2014). These depreciation rates have been utilized by Liberty since the last rate case.

Q. HOW IS THE DEPRECIATION STUDY USED TO DETERMINE

LIBERTY'S DEPRECIATION EXPENSE FOR THE TEST YEAR?

A. Liberty uses depreciation rates determined in the Depreciation Study to calculate the appropriate depreciation expense going forward. The information presented in the Depreciation Study is based on September 30, 2015 depreciable plant balances and all of the conclusions are based on those balances.

II. DEPRECIATION ANALYSIS PHILOSOPHY

Q. PLEASE DESCRIBE THE DEPRECIATION ANALYSIS PHILOSOPHY REFLECTED IN THE CURRENT DEPRECIATION STUDY.

A. The objective of any sound depreciation philosophy should be the matching of expense with revenue over the life of the asset. In general, the life of the asset is determined by several factors including the rate of physical deterioration, obsolescence, weather, maintenance, or (in some cases) the economic usefulness of an entire operating unit. The function of depreciation is to recognize the cost of an asset spread over its useful life. Book depreciation techniques should not accelerate or defer the recovery of an asset in comparison to its appropriate useful life.

Q. WHAT OBJECTIVE SHOULD THE COMMISSION STRIVE TO ACHIEVE IN SETTING DEPRECIATION RATES?

A. The objective of computing depreciation is to ensure that all customers using the assets pay their pro rata share for the investment, including the cost of retirement. This objective is achieved by allocating the cost or depreciable base of a group of assets over the service life of those assets, on a straight-line basis, by charging a portion of the consumption of the assets to each accounting period.

III. LIBERTY UTILITIES BOOK DEPRECIATION STUDY

A. SUMMARY OF LIBERTY'S STUDY

Q. HAVE YOU PREPARED A DEPRECIATION STUDY FOR LIBERTY?

A. Yes. I undertook a comprehensive analysis of annual depreciation for Liberty that is based on Liberty's depreciable plant in service as of September 30, 2015. The Depreciation Study combined the gas utility property of Illinois, Iowa, and Missouri. After the data was combined, I analyzed the property characteristics of Liberty's Transmission plant, Distribution plant, and General plant. After developing common life and net salvage parameters, I computed depreciation rates at the state level for each entity. The study is provided as Exhibit DAW-2.

Q. WHAT DEPRECIATION RATES ARE YOU RECOMMENDING IN THIS PROCEEDING?

A. My recommended depreciation rates for Liberty's Missouri assets are provided in Appendix B of the Depreciation Study. Based on updated service life and net salvage rates for Liberty's Missouri depreciable plant in-service as of September 30, 2015, I derived the appropriate depreciation rates for Transmission plant, Distribution plant, and General plant. Below is a table summarizing the results.

TABLE 1

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
Missouri Assets

Comparison of Existing vs Proposed Depreciation Rates
As of September 30, 2015

Acct	Depreciable Plant at 9/30/15	Current Annual Expense	Proposed Annual Expense	Expense Change
Transmission	10,289,976	158,643	144,918	(13,726)

Distribution	104,597,284	2,929,275	3,955,236	1,025,961
General	8,389,988	580,438	700,053	119,616
Total Missouri	123,277,248	3,668,356	4,800,207	1,131,851

Q. WHAT ACCOUNTS SHOW THE LARGEST CHANGE IN DEPRECIATION EXPENSE BETWEEN THE CURRENT AND PROPOSED ACCRUAL RATES?

A. Within the Distribution function, the largest increases are as follows:

Account 3760 Mains Cathodic Protection Increase of $165 thousand

Account 3761 Steel Mains Increase of $136 thousand

Account 3762 Plastic Mains Increase of $96 thousand

Account 380 Services Increase of $91 thousand

Account 381 Meters Increase of $238 thousand

Account 382 Meter Installations Increase of $280 thousand

Q. WHAT FACTORS ARE INCORPORATED IN YOUR DEPRECIATION STUDY THAT ARE NOT IN LIBERTY'S CURRENT MISSOURI RATES?

A. Since the Company cannot determine the existing underlying life and net salvage parameters, it is first necessary to reset depreciation rates to incorporate the most current life expectations.

Second, the removal costs for Transmission and Distribution plant must be accurately estimated. Liberty's proposed depreciation rates in this case reflect the most current estimates of net salvage.

Finally, Liberty seeks to implement Vintage Group Amortization for its General Plant Assets in FERC Accounts 391-399. The change in depreciation

expense in these accounts will come from updated life and net salvage estimates for certain accounts in that group.

B. OVERVIEW OF DEPRECIATION STUDY METHOD

Q. WHAT DEFINITION OF DEPRECIATION DID YOU USE IN PREPARING YOUR DEPRECIATION STUDY AND TESTIMONY?

A. The term "depreciation," as I use it, is a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. Depreciation expense is systematically allocated to accounting periods over the life of the assets. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. Thus, depreciation is considered an expense or cost, rather than a loss or decrease in value. Liberty accrues depreciation based on the original cost of all property included in each depreciable plant account. On retirement, the full cost of depreciable property, less any net salvage amount, is charged to the depreciation reserve.

Q. PLEASE DESCRIBE YOUR DEPRECIATION STUDY APPROACH.

A. I conducted the Depreciation Study in four phases, as shown in Exhibit DAW-2. The four phases are: Data Collection, Analysis, Evaluation, and Calculation. I began each of the studies by collecting the historical data to be used in the analysis. After the data had been assembled, I performed analyses to determine the life and net salvage percentage for the different property groups being studied. As part of the process for the study, I conferred with field personnel, engineers, and managers responsible for the installation, operation, and removal of the assets

to gain their input into the operation, maintenance, and salvage of the assets. The information obtained from field personnel, engineers, and managerial personnel, combined with the study results is then evaluated to determine how the results of the historical asset activity analysis, in conjunction with Liberty's expected future plans, should be applied. Using all of these resources, I then calculated the depreciation rate for each function.

Q. WHAT PROPERTY IS INCLUDED IN THE DEPRECIATION STUDY?

A. There are three distinct classes of property in this study: Transmission, Distribution, and General Property. The Transmission plant functional group consists of mains, regulators, structures, and communication equipment to transmit natural gas distribution system. The Distribution plant functional group consists of structures, distribution mains, regulating equipment, services, meters, regulators, and other equipment to distribute natural gas across on the distribution system. The General Property plant functional group contains facilities associated with the overall operation of the business such as buildings, office equipment, and computers, and transportation and power operated equipment rather than with a specific transmission or distribution classification.

Q. WHAT DEPRECIATION METHODOLOGY DID YOU USE?

A. The ALG, straight-line, remaining-life depreciation system was employed to calculate annual and accrued depreciation in the studies for all plant except assets found in FERC Accounts 391, 393-195. 397-3995. The ALG methodology is widely used across the utility industry across the United States**.**

C. TRANSMISSION, DISTRIBUTION, AND GENERAL PROPERTY

1. Life of Transmission, Distribution, and General Assets

Q. WHAT IS THE SIGNIFICANCE OF AN ASSET'S USEFUL LIFE IN YOUR DEPRECIATION STUDY?

A. An asset's useful life is used to determine the remaining life over which the remaining cost (original cost plus or minus net salvage, minus accumulated depreciation) can be allocated to normalize the asset's cost and spread it ratably over future periods.

Q. HOW DID YOU DETERMINE THE AVERAGE SERVICE LIVES FOR EACH ACCOUNT?

A. The establishment of appropriate average service lives for each account within each functional group was determined by using actuarial analysis Graphs and tables supporting the actuarial analysis and the chosen Iowa Curves (which represent the percentage of property remaining in service at various age intervals) used to determine the average service lives for analyzed accounts are found in the Liberty Depreciation Study (Exhibit DAW-2) and the work papers filed in Exhibit DAW-3(CD). As detailed in the study, I relied on my judgment to incorporate any differences in the expected future life characteristics of the assets into the selection of lives. The objective of life selection is to estimate the future life characteristics of assets, not simply measure the historical life characteristics. More information can be found in the life analysis section of the Liberty Depreciation Study in Exhibit DAW-2.

Q. WHAT AVERAGE SERVICES LIVES FOR TRANSMISSION, DISTRIBUTION, AND GENERAL FUNCTION ASSETS, DO YOU RECOMMEND?

A. Yes. The results are shown in Appendix C of Exhibit DAW-2 as well as in Table 2 below.

TABLE 2

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
PROPOSED DEPRECIATION PARAMETERS
BY ACCOUNT AT SEPTEMBER 30, 2015

Acct	Description	Average Service Life	Missouri Curve
3660	T&D-Structures & Improvements	50	S3
3661	T&D-Other Structures	50	S3
3670	T&D-Mains-STL-PLST-CI-Mixed	25	SQ
3671	T&D-Mains-STL	70	R2.5
3672	T&D-Mains-PLST	N/A	N/A
3690	T&D-M&R Station Equipment	40	R2.5
3700	Communication Equipment	25	S2.5
3742	T&D-Land Rights	70	R2.5
3750	Structures and Improvements	45	R2
3760	Mains	25	SQ
3761	T&D-Mains-STL	63	R1.5
3762	T&D-Mains-PLST	65	R3
3780	Measuring & regulating stn eqt-General	40	R4
3790	Measuring & regulating stn eqt-City gate check stn	45	S2
3800	Services	33	L0
3810	Meters	31	L1
3820	Meters Installations	27	L0.5
3830	House regulators	27	L0.5
3840	House Regulatory installations	27	L0.5
3850	Industrial measuring & regulating stn eqt	45	R3
3870	Other Equipment	10	R2
3900	General Structures & Improvement	33	L05
3901	GEN-Structure Frame	33	L05
3902	GEN-Improvements	33	L05
3903	GEN-Improvements Leased Premise	33	L05

3910	Office Furniture & Improvement	15	L3
3920	Transportation Equipment	8	L3
3921	Transportation Equip<12,000 LB	8	L3
3930	Stores Equipment	18	L3
3940	Tools, Shop, and Garage Equipment	13	L0
3950	Laboratory Equipment	15	L3
3960	Power Operated Equipment	12	L0
3961	GEN- Ditchers	12	L0
3962	GEN-Backhoes	12	L0
3963	GEN- Welders	12	L0
3970	Communications Equipment	11	L2
3971	GEN-Comm Eq. Mob Radios	11	L2
3972	GEN-Comm Eq. Fixed Radios	11	L2
3973	GEN-Comm Eq. Telemetering	11	L2
3980	Misc. Equipment	16	R1.5
3993	OTH-Oth Tang Prop - Network - H/W	7	SQ
3994	OTH-Oth Tang Prop - PC Hardware	7	SQ
3995	OTH-Oth Tang Prop - PC Software	5	SQ

2. Net Salvage Rates Transmission, Distribution, and General

Q. HOW DID YOU DETERMINE THE NET SALVAGE RATES THAT YOU USED IN YOUR STUDY FOR TRANSMISSION, DISTRIBUTION, AND GENERAL PROPERTY?

A. I examined the experience realized by Liberty by observing the average net salvage rates for various bands (or combinations) of years. Using averages (such as the 5-year average band) allows the smoothing of timing differences between when retirements, removal cost, and salvage are booked and smooth's the natural variations between years. By looking at successive average bands, or "rolling bands," an analyst can see trends in the data that would signal the future net salvage in the account. This examination, in combination with the feedback of Liberty personnel related to any changes in operations or maintenance that would

affect the future net salvage of Liberty, allowed for the selection of the best estimate of future net salvage for each account.

Q. IS THIS A REASONABLE METHOD FOR DETERMINING NET SALVAGE RATES?

A. Yes. This methodology is commonly employed throughout the industry and is the method recommended in authoritative texts.

Q. WHAT ARE YOUR NET SALVAGE RECOMMENDATIONS FOR LIBERTY?

A. My net salvage recommendations are found in Appendix C of Exhibit DAW-2 and each account is discussed in the body of the report. Detailed history for each account is shown in Appendix D of Exhibit DAW-2. Table 3 below shows a summary of those recommendations by account.

TABLE 3

LIBERTY UTILITIES (MIDSTATES NATURAL GAS) CORP.
PROPOSED DEPRECIATION PARAMETERS
BY ACCOUNT AT SEPTEMBER 30, 2015

Acct	Description	Net Salvage Percentage
3660	T&D-Structures & Improvements	-5
3661	T&D-Other Structures	-5
3670	T&D-Mains-STL-PLST-CI-Mixed	0
3671	T&D-Mains-STL	-20
3672	T&D-Mains-PLST	N/A
3690	T&D-M&R Station Equipment	-10
3700	Communication Equipment	0
3742	T&D-Land Rights	0
3750	Structures and Improvements	0
3760	Mains	0
3761	T&D-Mains-STL	-20
3762	T&D-Mains-PLST	-5

3780	Measuring & regulating stn eqt-General	-10
3790	Measuring & regulating stn eqt-City gate check stn	-10
3800	Services	-50
3810	Meters	-35
3820	Meters Installations	-35
3830	House regulators	0
3840	House Regulatory installations	0
3850	Industrial measuring & regulating stn eqt	-10
3870	Other Equipment	0
3900	General Structures & Improvement	0
3901	GEN-Structure Frame	0
3902	GEN-Improvements	0
3903	GEN-Improvements Leased Premise	0
3910	Office Furniture & Improvement	0
3920	Transportation Equipment	6
3921	Transportation Equip<12,000 LB	6
3930	Stores Equipment	0
3940	Tools, Shop, and Garage Equipment	0
3950	Laboratory Equipment	0
3960	Power Operated Equipment	10
3961	GEN- Ditchers	10
3962	GEN-Backhoes	10
3963	GEN- Welders	10
3970	Communications Equipment	0
3971	GEN-Comm Eq. Mob Radios	0
3972	GEN-Comm Eq. Fixed Radios	0
3973	GEN-Comm Eq. Telemetering	0
3980	Misc. Equipment	0
3993	OTH-Oth Tang Prop - Network - H/W	0
3994	OTH-Oth Tang Prop - PC Hardware	0
3995	OTH-Oth Tang Prop - PC Software	0

D. RESERVE REALLOCATION

Q. WHAT IS RESERVE REALLOCATION?

A. Reserve reallocation when the book reserve is respread within a functional group based on the theoretical reserve within each function.

Q. AS PART OF YOUR DEPRECIATION ANALYSIS HAVE YOU TAKEN ANY ACTION TO PROPERLY ALIGN THE COMPANY'S

DEPRECIATION RESERVE WITH THE LIFE AND NET SALVAGE CHARACTERISTICS OF THE TRANSMISSION, DISTRIBUTION AND GENERAL PLANT FUNCTIONS?

A. Yes. In the process of analyzing the Company's depreciation reserve, I observed that the depreciation reserve positions of the accounts were generally not in line with the life characteristics found in the analysis of the Company's assets. To allow the relative reserve positions of each account within a function to mirror the life characteristics of the underlying assets, I reallocated the depreciation reserves for all accounts within each function. Since the basis of the current depreciation rates is unknown, I believe reserve reallocation is the best solution to the differences in reserve position.

Q. DOES THE REALLOCATION OF THE DEPRECIATION RESERVE CHANGE THE TOTAL RESERVE?

A. No. The depreciation reserve represents the amounts that customers have contributed to the return of the investment. The reallocation process does not change the total reserve for each function; it simply reallocates the reserve between accounts in the function.

Q. IS DEPRECIATION RESERVE REALLOCATION A SOUND DEPRECIATION PRACTICE?

A. Yes. The practice of depreciation reserve allocation is endorsed in the 1968 publication of "Public Utility Depreciation Practices", National Association of Regulatory Utility Commissioners ("NARUC"), which explains that reallocation of the depreciation reserve is appropriate "…where the change in the view

concerning the life of property is so drastic as to indicate a serious difference between the theoretical and the book reserve." Additionally, the 1996 edition of the NARUC publication states that "theoretical reserve studies also have been conducted for the purpose of allocating an existing reserve among operating units or accounts." My depreciation study demonstrates that there have been significant changes in the life of the property since the approved accrual rates were authorized. These changes have created a significant difference between the theoretical and the book reserve in each functional group that make the reallocation of the depreciation reserve appropriate in this instance.

Q. WHY IS IT IMPORTANT FOR THE DEPRECIATION RESERVE TO CONFORM TO THE THEORETICAL RESERVE?

A. This is important because it sets the reserve at a level necessary to sustain the regulatory concept of intergenerational equity among Liberty's Missouri customers, as well as set the depreciation rates at the appropriate level based on current parameters and expectations.

Q. HOW WILL THE COMPANY IMPLEMENT THE REALLOCATION OF ITS DEPRECIATION RESERVE IF ITS PROPOSED RATES ARE APPROVED?

A. When the proposed depreciation rates are approved, the Company will reallocate the reserves on its books to match the allocation performed in this study.

E. VINTAGE YEAR DEPRECIATION OF GENERAL PLANT ASSETS, FERC ACCOUNTS 391, 393-395, AND 397-3995

Q. PLEASE DESCRIBE THE VINTAGE GROUP METHODOLOGY.

A. For general plant assets in accounts 391, 393-395, and 397-3995, Liberty is requesting to implement to use a vintage year accounting method approved by the FERC in Accounting Release Number 15 ("AR-15"), *Vintage Year Accounting For General Plant Accounts*, dated January 1, 1997. AR-15 allowed utilities to use a simplified method of accounting for general plant assets, excluding structures and improvements (referred to as "general plant"). The AR-15 release allowed high-volume, low-cost assets to be amortized over the associated useful life, eliminated the need to track individual assets, and allows a retirement to be booked at the end of the depreciable life. This method is often referred to as "amortization of general plant."

Adopting the method of accounting allowed in AR-15 changes the level of detail maintained in the asset records and performs the depreciation calculation at a vintage level rather than at a total account level. The plant asset balances will be maintained by vintage installed with the retirement being recorded when book depreciation has been completed. The empirical retirement data for actuarial or semi-actuarial analysis will no longer be reliable; however, the determination of useful life can be made appropriately with the use of market forces, manufacturer expected life, technological obsolescence, business planning, known causes of retirement, and changes in expected future utilization.

The depreciation calculation uses a useful life applied to a vintage versus the entire account. The depreciation recovery is complete when the vintage accumulated depreciation is equal to the vintage plant adjusted for estimated salvage and removal costs.

Q. PLEASE DESCRIBE THE METHODOLOGY OR TECHNIQUE EMPLOYED IN ANALYZING THE LIFE OF VINTAGE GROUP PROPERTY.

A. Actuarial life analysis was performed on each account. Those results and discussions with management for future goals of implementing an Organizational-wide deployment of certain assets, along with my own professional judgment formed the basis of the proposed life for these accounts. The lives being proposed reflect more recent experience and Liberty Utilities future intentions of these assets and set an appropriate recovery period for the assets going forward.

Q. PLEASE DESCRIBE THE RESULTS OF THE VINTAGE GROUP DEPRECIATION STUDY.

A. Liberty's present depreciation rates were compared to the Depreciation Study recommendations in Appendix B of Exhibit DAW-2. The rates proposed for Vintage Group property are an increase of $69 thousand based on plant balances as of September 30, 2015. In addition there is an additional $23 thousand requested to recover the difference between book and theoretical reserves for this group. The computations are shown in Appendix A-1 of Exhibit DAW-2.

Q. HAVE SIMILAR DEPRECIATION RATES BEEN APPROVED FOR LIBERTY IN OTHER JURISDICTIONS?

A. Yes. In 2017, the Illinois Commerce Commission and Iowa Utilities Board approved the depreciation rates for Liberty's Illinois and Iowa jurisdictions which were derived from this depreciation study.

IV. CONCLUSION

Q. WERE EXHIBITS DAW--1 THROUGH DAW-3 PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION AND CONTROL?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes.

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Michigan	Michigan Public Service Commission	U-18452	SEMCO	2017	Gas Depreciation Study
Texas	Public Utility Commission of Texas	47527	SPS	2017	Electric Production Depreciation Study
Minnesota	Minnesota Public Utilities Commission	17-581	Minnesota Northern States Power	2017	Electric, Gas and Common Transmission, Distribution and General
Colorado	Colorado Public Utilities Commission	17AL-0363G	Public Service of Colorado-Gas	2017	Gas Depreciation Study
MultiState	FERC	ER17-1664	American Transmission Company	2017	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-17-008	Municipal Power and Light City of Anchorage	2017	Generating Unit Depreciation Study
Louisiana	Louisiana Public Service Commission	U-34343	Atmos Trans Louisiana	2017	Gas Depreciation Study
Mississippi	Mississippi Public Service Commission	2017-UN-041	Atmos Energy	2017	Gas Depreciation Study
New York	FERC	ER17-1010-000	New York Power Authority	2017	Electric Depreciation Study
Oklahoma	Oklahoma Corporation Commission	PUD 201700078	CenterPoint Oklahoma	2017	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10580	Atmos Pipeline Texas	2017	Gas Depreciation Study
Texas	Public Utility Commission of Texas	46957	Oncor Electric Delivery	2017	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Alabama	FERC	ER16-2312-000	Alabama Power Company	2016	Electric Depreciation Study
Alabama	FERC	ER16-2313-000	SEGCO	2016	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-16-067	Alaska Electric Light and Power	2016	Generating Unit Depreciation Study
Arizona	Arizona Corporation Commission	G-01551A-16-0107	Southwest Gas	2016	Gas Depreciation Study
Texas	Public Utility Commission of Texas	45414	Sharyland	2016	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	16A-0231E	Public Service of Colorado	2016	Electric Depreciation Study
Multi-State NE US	FERC	16-453-000	Northeast Transmission Development, LLC	2015	Electric Depreciaiton Study
Arkansas	Arkansas Public Service Commission	15-098-U	CenterPoint Arkansas	2015	Gas Depreciation Study and Cost of Removal Study
New Mexico	New Mexico Public Regulation Commission	15-00296-UT	SPS NM	2015	Electric Depreciation Study
Atmos Energy Corporation	Tennessee Regulatory Authority	14-00146	Atmos Tennessee	2015	Natural Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	15-00261-UT	Public Service Company of New Mexico	2015	Electric Depreciation Study
Kansas	Kansas Corporation Commission	16-ATMG-079-RTS	Atmos Kansas	2015	Gas Depreciation Study
Texas	Public Utility Commission of Texas	44704	Entergy Texas	2015	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Alaska	Regulatory Commission of Alaska	U-15-089	Fairbanks Water and Wastewater	2015	Water and Waste Water Depreciation Study
Arkansas	Arkansas Public Service Commission	15-031-U	Source Gas Arkansas	2015	Underground Storage Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	15-00139-UT	SPS NM	2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	44746	Wind Energy Transmission Texas	2015	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	15-AL-0299G	Atmos Colorado	2015	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	15-011-U	Source Gas Arkansas	2015	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10432	CenterPoint-Texas Coast Division	2015	Gas Depreciation Study
Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power and Light	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-120	Alaska Electric Light and Power	2014-2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43950	Cross Texas Transmission	2014	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	14-00332-UT	Public Service of New Mexico	2014	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43695	Xcel Energy	2014	Electric Depreciation Study
Multi State – SE US	FERC	RP15-101	Florida Gas Transmission	2014	Gas Transmission Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
California	California Public Utilities Commission	A.14-07-006	Golden State Water	2014	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-17653	Consumers Energy Company	2014	Electric and Common Depreciation Study
Colorado	Public Utilities Commission of Colorado	14AL-0660E	Public Service of Colorado	2014	Electric Depreciation Study
Wisconsin	Wisconsin	05-DU-102	WE Energies	2014	Electric, Gas, Steam and Common Depreciation Studies
Texas	Public Utility Commission of Texas	42469	Lone Star Transmission	2014	Electric Depreciation Study
Nebraska	Nebraska Public Service Commission	NG-0079	Source Gas Nebraska	2014	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-055	TDX North Slope Generating	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-054	Sand Point Generating LLC	2014	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-045	Matanuska Electric Coop	2014	Electric Generation Depreciation Study
Texas, New Mexico	Public Utility Commission of Texas	42004	Xcel Energy	2013-2014	Electric Production, Transmission, Distribution and General Plant Depreciation Study
New Jersey	Board of Public Utilities	GR13111137	South Jersey Gas	2013	Gas Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Various	FERC	RP14-247-000	Sea Robin	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-078-U	Arkansas Oklahoma Gas	2013	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	13-079-U	Source Gas Arkansas	2013	Gas Depreciation Study
California	California Public Utilities Commission	Proceeding No.: A.13-11-003	Southern California Edison	2013	Electric Depreciation Study
North Carolina/South Carolina	FERC	ER13-1313	Progress Energy Carolina	2013	Electric Depreciation Study
Wisconsin	Public Service Commission of Wisconsin	4220-DU-108	Northern States Power-Wisconsin	2013	Electric, Gas and Common Transmission, Distribution and General
Texas	Public Utility Commission of Texas	41474	Sharyland	2013	Electric Depreciation Study
Kentucky	Kentucky Public Service Commission	2013-00148	Atmos Energy Corporation	2013	Gas Depreciation Study
Minnesota	Minnesota Public Utilities Commission	13-252	Allete Minnesota Power	2013	Electric Depreciation Study
New Hampshire	New Hampshire Public Service Commission	DE 13-063	Liberty Utilities	2013	Electric Distribution and General
Texas	Railroad Commission of Texas	10235	West Texas Gas	2013	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-154	Alaska Telephone Company	2012	Telecommunications Utility
New Mexico	New Mexico Public Regulation Commission	12-00350-UT	SPS	2012	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Colorado	Colorado Public Utilities Commission	12AL-1269ST	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1268G	Public Service of Colorado	2012	Gas and Steam Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-149	Municipal Power and Light City of Anchorage	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40824	Xcel Energy	2012	Electric Depreciation Study
South Carolina	Public Service Commission of South Carolina	Docket 2012-384-E	Progress Energy Carolina	2012	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-12-141	Interior Telephone Company	2012	Telecommunications Utility
Michigan	Michigan Public Service Commission	U-17104	Michigan Gas Utilities Corporation	2012	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	E-2 Sub 1025	Progress Energy Carolina	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40606	Wind Energy Transmission Texas	2012	Electric Depreciation Study
Texas	Texas Public Utility Commission	40604	Cross Texas Transmission	2012	Electric Depreciation Study
Minnesota	Minnesota Public Utilities Commission	12-858	Minnesota Northern States Power	2012	Electric, Gas and Common Transmission, Distribution and General
Texas	Railroad Commission of Texas	10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10174	Atmos West Texas	2012	Gas Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Railroad Commission of Texas	10182	CenterPoint Beaumont/ East Texas	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-KCPE-764-RTS	Kansas City Power and Light	2012	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	12-04005	Southwest Gas	2012	Gas Depreciation Study
Texas	Railroad Commission of Texas	10147, 10170	Atmos Mid-Tex	2012	Gas Depreciation Study
Kansas	Kansas Corporation Commission	12-ATMG-564-RTS	Atmos Kansas	2012	Gas Depreciation Study
Texas	Texas Public Utility Commission	40020	Lone Star Transmission	2012	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-16938	Consumers Energy Company	2011	Gas Depreciation Study
Colorado	Public Utilities Commission of Colorado	11AL-947E	Public Service of Colorado	2011	Electric Depreciation Study
Texas	Texas Public Utility Commission	39896	Entergy Texas	2011	Electric Depreciation Study
MultiState	FERC	ER12-212	American Transmission Company	2011	Electric Depreciation Study
California	California Public Utilities Commission	A1011015	Southern California Edison	2011	Electric Depreciation Study
Mississippi	Mississippi Public Service Commission	2011-UN-184	Atmos Energy	2011	Gas Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37050-R	Southwest Water Company	2011	WasteWater Depreciation Study
Texas	Texas Commission on Environmental Quality	Matter 37049-R	Southwest Water Company	2011	Water Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Michigan	Michigan Public Service Commission	U-16536	Consumers Energy Company	2011	Wind Depreciation Rate Study
Texas	Public Utility Commission of Texas	38929	Oncor	2011	Electric Depreciation Study
Texas	Railroad Commission of Texas	10038	CenterPoint South TX	2010	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-070	Inside Passage Electric Cooperative	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	36633	City Public Service of San Antonio	2010	Electric Depreciation Study
Texas	Texas Railroad Commission	10000	Atmos Pipeline Texas	2010	Gas Depreciation Study
Multi State – SE US	FERC	RP10-21-000	Florida Gas Transmission	2010	Gas Depreciation Study
Maine/ New Hampshire	FERC	10-896	Granite State Gas Transmission	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38480	Texas New Mexico Power	2010	Electric Depreciation Study
Texas	Public Utility Commission of Texas	38339	CenterPoint Electric	2010	Electric Depreciation Study
California	California Public Utility Commission	A10071007	California American Water	2009-2010	Water and Waste Water Depreciation Study
Texas	Texas Railroad Commission	10041	Atmos Amarillo	2010	Gas Depreciation Study
Georgia	Georgia Public Service Commission	31647	Atlanta Gas Light	2010	Gas Depreciation Study
Texas	Public Utility Commission of Texas	38147	Southwestern Public Service	2010	Electric Technical Update

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Alaska	Regulatory Commission of Alaska	U-09-015	Alaska Electric Light and Power	2009-2010	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-10-043	Utility Services of Alaska	2009-2010	Water Depreciation Study
Michigan	Michigan Public Service Commission	U-16055	Consumers Energy/DTE Energy	2009-2010	Ludington Pumped Storage Depreciation Study
Michigan	Michigan Public Service Commission	U-16054	Consumers Energy	2009-2010	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15963	Michigan Gas Utilities Corporation	2009	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-15989	Upper Peninsula Power Company	2009	Electric Depreciation Study
Texas	Railroad Commission of Texas	9869	Atmos Energy	2009	Shared Services Depreciation Study
Mississippi	Mississippi Public Service Commission	09-UN-334	CenterPoint Energy Mississippi	2009	Gas Depreciation Study
Texas	Railroad Commission of Texas	9902	CenterPoint Energy Houston	2009	Gas Depreciation Study
Wyoming	Wyoming Public Service Commission	30022-148-GR10	Source Gas	2009-2010	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	09AL-299E	Public Service of Colorado	2009	Electric Depreciation Study
Tennessee	Tennessee Regulatory Authority	11-00144	Piedmont Natural Gas	2009	Gas Depreciation Study
Louisiana	Louisiana Public Service Commission	U-30689	Cleco	2008	Electric Depreciation Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Public Utility Commission of Texas	35763	SPS	2008	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Wisconsin	Wisconsin	05-DU-101	WE Energies	2008	Electric, Gas, Steam and Common Depreciation Studies
North Dakota	North Dakota Public Service Commission	PU-07-776	Northern States Power	2008	Net Salvage
New Mexico	New Mexico Public Regulation Commission	07-00319-UT	SPS	2008	Testimony – Depreciation
Multiple States	Railroad Commission of Texas	9762	Atmos Energy	2007-2008	Shared Services Depreciation Study
Minnesota	Minnesota Public Utilities Commission	E015/D-08-422	Minnesota Power	2007-2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35717	Oncor	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	34040	Oncor	2007	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-15629	Consumers Energy	2006-2009	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	06-234-EG	Public Service of Colorado	2006	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	06-161-U	CenterPoint Energy – Arkla Gas	2006	Gas Distribution Depreciation Study and Removal Cost Study

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas, New Mexico	Public Utility Commission of Texas	32766	Xcel Energy	2005-2006	Electric Production, Transmission, Distribution and General Plant Depreciation Study
Texas	Railroad Commission of Texas	9670/9676	Atmos Energy Corp	2005-2006	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9400	TXU Gas	2003-2004	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9313	TXU Gas	2002	Gas Distribution Depreciation Study
Texas	Railroad Commission of Texas	9225	TXU Gas	2002	Gas Distribution Depreciation Study
Texas	Public Utility Commission of Texas	24060	TXU	2001	Line Losses
Texas	Public Utility Commission of Texas	23640	TXU	2001	Line Losses
Texas	Railroad Commission of Texas	9145-9148	TXU Gas	2000-2001	Gas Distribution Depreciation Study
Texas	Public Utility Commission of Texas	22350	TXU	2000-2001	Electric Depreciation Study, Unbundling
Texas	Railroad Commission of Texas	8976	TXU Pipeline	1999	Pipeline Depreciation Study
Texas	Public Utility Commission of Texas	20285	TXU	1999	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	18490	TXU	1998	Transition to Competition
Texas	Public Utility Commission of Texas	16650	TXU	1997	Customer Complaint

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Public Utility Commission of Texas	15195	TXU	1996	Mining Company Depreciaiton Study
Texas	Public Utility Commission of Texas	12160	TXU	1993	Fuel Company Depreciation Study
Texas	Public Utility Commission of Texas	11735	TXU	1993	Electric Depreciation Study

LIBERTY MID-STATES GAS
State of Missouri
Book Depreciation Accrual Rate Study
At September 30, 2015

LIBERTY MID-STATES GAS

State of Missouri

DEPRECIATION RATE STUDY

EXECUTIVE SUMMARY

Liberty Mid-States Gas ("Liberty" or "Company"), engaged Alliance Consulting Group to conduct a depreciation study of the Company's Gas and Thermal utility plant depreciable assets as of September 30, 2015.

The study proposes depreciation parameters, including Average Service Life, Iowa Curve, and Net Salvage percentages as set forth in Appendix C, which are a result of actuarial analysis, statistical analysis, and professional judgement after meeting with various company experts. The Company has currently been using accrual rates resulting from various stipulations or orders received in the past.

All annual accrual rates were determined using the straight line method, average life group ("ALG") procedure, and remaining life technique. Depreciation and amortization rates reflect any imbalance between actual and theoretical reserves. Use of the remaining life depreciation system includes a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of each depreciable group.

Given the many changes in life and net salvage in this study, this study recommends a reallocation of book reserve by plant account within each function. This reallocation does not change the total reserve within each function. Rather, reallocating the reserve within a function realigns the depreciation reserve balances within each function using the proposed life and net salvage parameters. Reallocation occurred within each functional group; such as, transmission, distribution and general property. All accounts were reallocated using the theoretical reserve model.

This study recommends an overall increase of approximately $1.1 million in annual depreciation expense, compared to the depreciation rates currently in effect. Appendix B demonstrates the change in depreciation expense for the various Gas Plant accounts. The increase is primarily due to accounts 3810-Meters and 3820-

Meter Installations where the accrual rates increased from 2.16% to 5.01% and from 3.00% to 5.58% respectively. The overall increase in depreciation expense is also driven by changes in life and net salvage as well as treatment of any book and theoretical reserve imbalance.

LIBERTY MID-STATES GAS
STATE OF MISSOURI
DEPRECIATION RATE STUDY
AT SEPTEMBER 30, 2015

Table of Contents

PURPOSE

The purpose of this study is to develop depreciation rates for gas and thermal depreciable property as recorded on the books of Liberty Mid-States Gas, State of Missouri (”Liberty-Missouri” “Company”) as of September 30, 2015.

The depreciation rates in this study were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of Liberty-Missouri’s property on a straight-line basis. Liberty-Missouri is a regulated gas utility principally engaged in providing production and delivery services to customers in Missouri. Liberty-Missouri provides the essential service of producing and delivering natural gas safely, reliably and economically to end-use consumers through its transmission and distribution systems. Liberty Missouri also uses general plant to support its natural gas operations.

STUDY RESULTS

Recommended depreciation rates for Liberty-Missouri Gas depreciable property are shown in Appendix A. Appendix A contains the following sections: A Computation of depreciation accrual rates for Liberty-Missouri Gas depreciable property, A-1 Computation of amortization rates for Liberty-Missouri Gas amortized accounts. The proposed rates translate into an annual depreciation accrual of approximately $4.8 million based on Liberty-Missouri's depreciable gas plant investment at September 30, 2015. A comparison between depreciation rates and annual accruals at current levels versus the proposed rates and resulting annual accruals is shown in Appendix B. As shown in Appendix B, the annual depreciation expense calculated by the same method using the existing approved depreciation rates is approximately $3.7 million for Liberty-Missouri's' gas assets, resulting in a $1.1 million increase in annual depreciation expense. The proposed lives and net salvage parameters on which these calculations are based is shown in Appendix C. Net Salvage analysis is shown in Appendix D.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense; that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. At retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

Basis of Depreciation Estimates

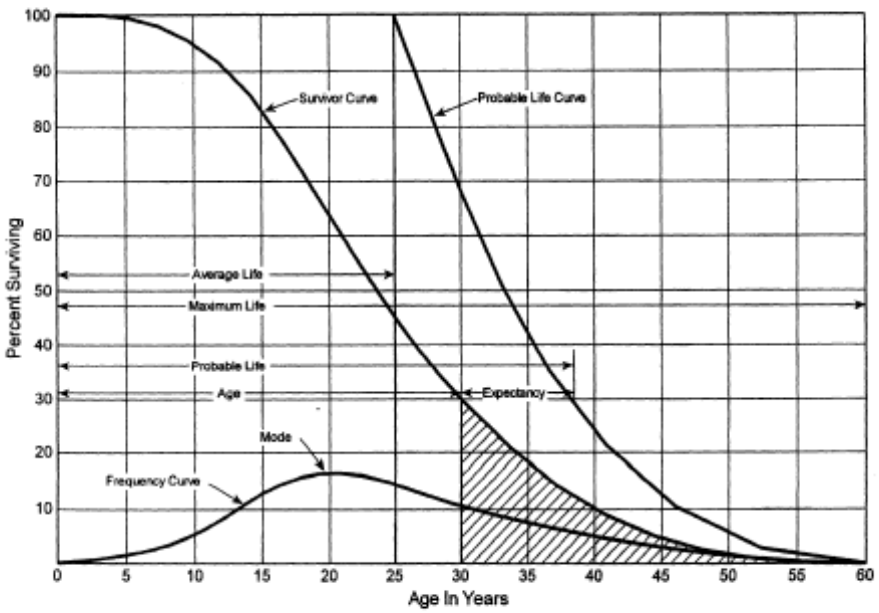
Annual and accrued depreciation were calculated in this study by the straight-line, vintage group, remaining-life depreciation system. In this system, the annual depreciation expense for each vintage is computed by dividing the original cost of the asset vintage (less allocated depreciation reserve less estimated net salvage) by its respective average remaining life. The resulting annual accrual amounts were divided by the original cost of the depreciable property in each account to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group, and were computed in a direct weighting by multiplying each vintage or account balance times its remaining life and dividing by the plant investment in service at September 30, 2015. The computations of the annual depreciation rates are shown in Appendix A through A-1, and the comparison of proposed vs current depreciation rates is shown in Appendix B.

An actuarial analysis approach was incorporated into the analyses of Liberty-Missouri data. This method has been used by utility companies across the regulated industry. Vintaged information was assembled in this study to allow actuarial analysis

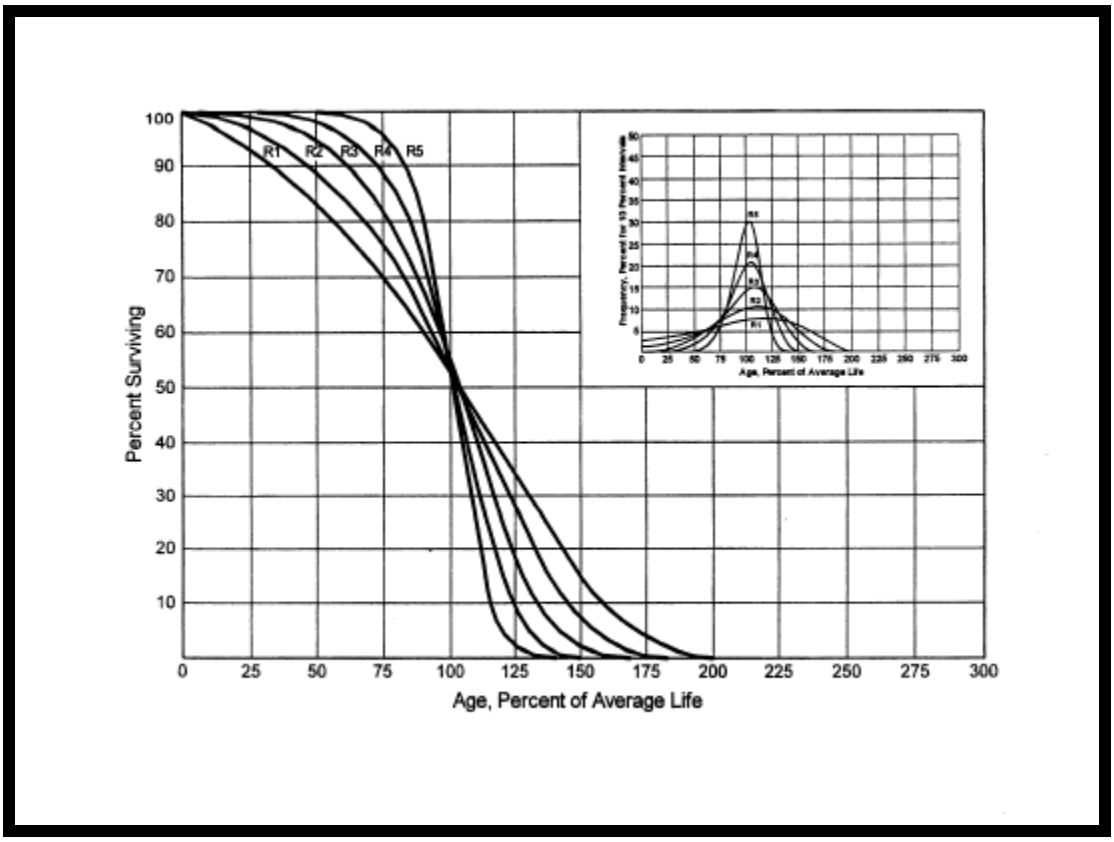
to be performed. Judgment was used to a greater or lesser degree on each account. This approach is more fully described in a later section.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of Survivor Curves. Individual assets within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by comparing actual experience against various Survivor Curves. A Survivor Curve represents the percentage of property remaining in service at various age intervals. The most widely used set of representative Survivor Curves are the Iowa Survivor Curves (Iowa Curves). The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at the Iowa State College Engineering Experiment Station in the first half of the twentieth century. Through common usage, revalidation, and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves which are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. The four families are designated as “R”— Right, “S” — Symmetric, “L” — Left, and “O” — Origin Modal. First, for distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of “R” moded curves is shown below.



Second, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. Third, an "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. Fourth, a special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, Survivor Curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

For all depreciable accounts, a Survivor Curve pattern was selected based on analyses of historical data, as well as other factors, such as general changes relevant to the Company's operations. The blending of professional judgment concerning current conditions and future trends, along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern. Iowa Curves were used to depict the estimated Survivor Curves for each account.

Actuarial Analysis

Actuarial analysis (retirement rate method) was used in evaluating historical asset retirement experience where vintage data were available and sufficient retirement activity was present. In an actuarial analysis, interval exposures (total property subject to retirement at the beginning of the age interval, regardless of vintage) and age interval retirements are calculated. The complement of the ratio of interval retirements to interval exposures establishes a survivor ratio. The survivor ratio is the fraction of property surviving to the end of the selected age interval, given that it has survived to the beginning of that age interval. Survivor ratios for all of the available age intervals were chained by successive multiplications to establish a series of survivor factors, collectively known as an observed life table. The observed life table shows the experienced mortality characteristic of the account and may be compared to standard mortality curves such as the Iowa Curves. Many accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience bands were used to focus on retirement history for all vintages during a set period. Matching data in observed life tables for each experience and placement band to an Iowa Curve requires visual examination. As stated in widely-cited text, Depreciation Systems by Wolf and Fitch, “the analyst must decide which points or sections of the curve should be given the most weight. Points at the end of the curve are often based on fewer exposures and may be given less weight than those points based on larger samples” (page 46). Some analysts chose to use mathematical fitting as a tool to narrow the population of

curves using a least squares technique. Use of the least squares approach does not imply a statistical validity; however, because the underlying data does not meet the criteria for independence between vintages and the same average price for property units through time. Thus, Depreciation Systems cautions, "… the results of mathematical fitting should be checked visually and the final determination of best fit made by the analyst" (page 48). This study uses the visual matching approach to match Iowa Curves, since mathematical fitting produces theoretically possible curve matches. Visual examination and experienced judgment allow the depreciation professional to make the final determination as to the best curve type.

Detailed information for each account is shown later in this study and in workpapers.

In this study all assets in three contiguous states were analyzed together: Iowa, Illinois, and Missouri. There were data limitations in modeling actuarial data for Liberty Mid-States Gas assets. All properties currently operated by Liberty were owned by Atmos Energy. Detailed historical records of transactional activity were available only from 2000 forward for all three states. Data extracted from the Atmos Energy plant accounting system provided data from 2000-2012, and data from Liberty's records was provided from 2012-2015. One state, Missouri, had data prior to 2000, but the other two states did not have any records predating 2000. For these reasons, an experience band of 2000-2015 was run for each account where retirement data was available. In general three placement bands were run: overall, mid-range, and 2000-2015.

Judgment

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. In this depreciation study, judgment was used in areas such as Survivor Curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, property mix in accounts or a multitude of other considerations that affect the analysis (potentially in various directions), judgment is used to take into account all of these considerations and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one consideration in these cases may have a substantial impact on the analysis, but overall, the collective effect of these considerations may shed light on the use and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent the application of informed professional judgment and experience.

DETAILED DISCUSSION

Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. After the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources: Projects System (construction ledger), Fixed Asset System (continuing property ledger), General Ledger, and interfaces from other operating systems. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively so that it could be put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Consideration section of this study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would be helpful in formulating life and salvage recommendations in this study. One of the most important elements in performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Understanding industry and geographical norms for mortality characteristics are important factors in selecting life and salvage recommendations; however, care must be used not to apply them rigorously to any particular company since no two companies would have the same exact forces of retirement acting upon their assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is helpful when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in the

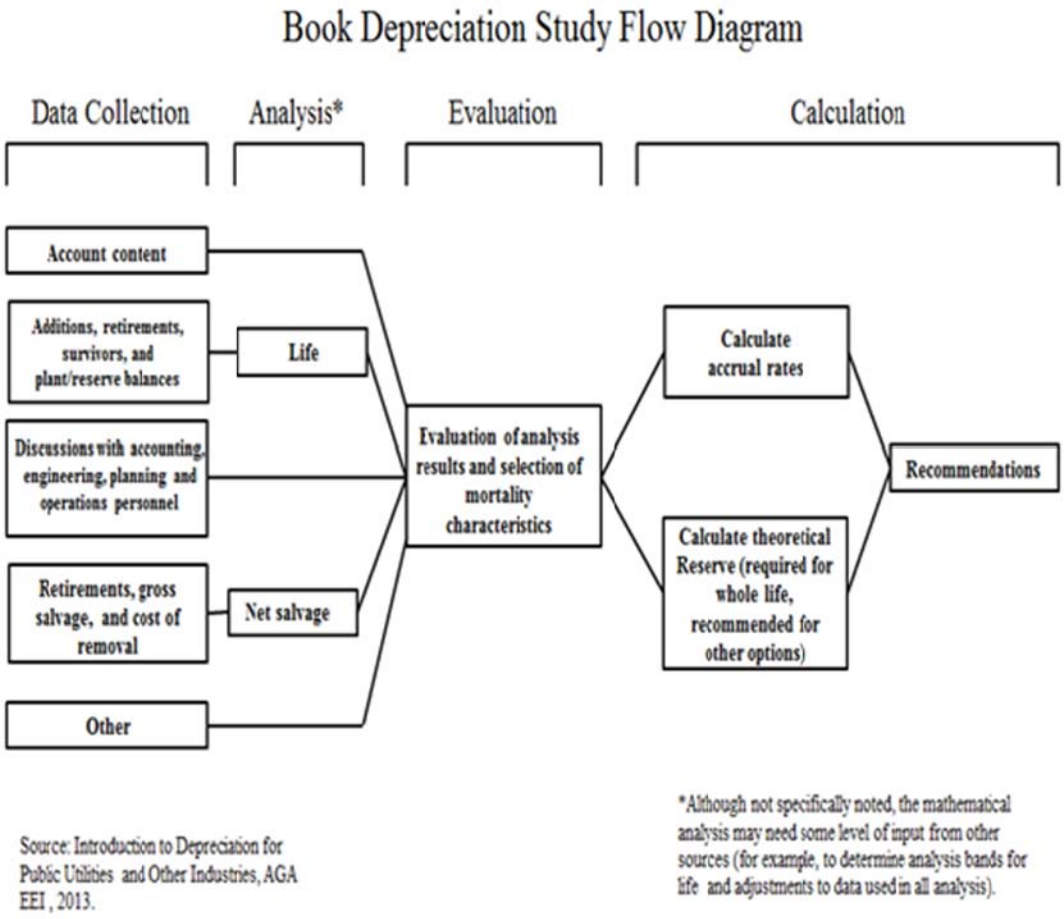
Detailed Discussion portions of the Life Analysis and Salvage Analysis sections and also in workpapers. In addition, Alliance personnel possess a significant understanding of the property and its forces of retirement due to years of day-to-day exposure to property and the operations of gas utility property.

Phase 2 is where the actuarial analysis was performed. Phase 2 and Phase 3 overlap to a significant degree. The detailed property records information was used in Phase 2 to develop observed life tables, graphs and statistics for analysis. Net salvage analysis consists of compiling historical salvage and removal data by account to determine values and trends in gross salvage and removal cost. This information was then carried forward into Phase 3 for the evaluation process.

Phase 3 is the evaluation process, which synthesized analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from Phase 2 was further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. The preliminary results were then reviewed and discussed with Company accounting and operations personnel. Phases 2 and 3 validated the asset characteristics as seen in the accounting transactions with actual Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1[1] documents the steps used in conducting this study. Depreciation Systems[2], a well-respected scholarly treatise on the topic of depreciation, documents the same basic processes in performing a depreciation study, including statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.

[1] Introduction to Depreciation for Public Utilities and Other Industries, AGA EEI, 2013
[2] Wolf, F. K. and Fitch, W. C. Depreciation Systems, Iowa State University Press, 1994, page 289.



LIBERTY UTILITIES DEPRECIATION STUDY PROCESS

Depreciation Calculation Process

Annual depreciation expense amounts for depreciable accounts were calculated by the vintage group, straight line, remaining life procedure.

In a whole life representation, the annual accrual rate is computed by the following equation,

$$AnnualAccrualRate = \frac{(100\% - NetSalvagePercent)}{AverageServiceLife}$$

The vintage group procedure considers each year of plant placement as a separate group, unlike the broad group model which combines all placement years into one group. The vintage group model uses a unique Survivor Curve for each vintage to combine observed and forecast survivor ratios rather than a single curve for each vintage as the broad group model does.

Use of the remaining life depreciation system adds a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of the group. With the straight line, remaining life, average life group system using Iowa Curves, composite remaining lives were calculated according to standard broad group expectancy techniques, noted in the formula below:

$$Composite\ \mathrm{Re}\ mainingLife = \frac{\sum V\ \mathrm{int}\ ageOriginalCost * \mathrm{Re}\ mainingLife}{\sum TotalOriginalCost}$$

For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the composite remaining life to yield the annual depreciation expense as noted in this equation.

$$AnnualDepreciationExpense = \frac{OriginalCost - Book\ \mathrm{Re}\ serve - (OriginalCost) * (1 - NetSalvage\ \%)}{Composite\ \mathrm{Re}\ mainingLife}$$

where the net salvage percent represents future net salvage.

Within a group, the sum of the group annual depreciation expense amounts, as a percentage of the depreciable original cost investment summed, gives the annual

depreciation rate as shown below:

$$AnnualDepreciationRate = \frac{\sum AnnualDepreciationExpense}{\sum OriginalCost}$$

Average salvage was assumed equal to future net salvage when computing reserve ratios. These calculations are shown in Appendix D. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves are maintained on an account level and were used to compute depreciation rates for each account.

LIFE ANALYSIS

Gas Transmission Accounts, FERC Accounts 366.0-370.0

FERC Account 366.0 Structures and Improvements (50 S3)

This account consists of buildings and other related structures and improvements related to transmission operations. There is currently $3.9 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $3 thousand. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 50 S3 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 366.1 T&D-Other Structures (50 S3)

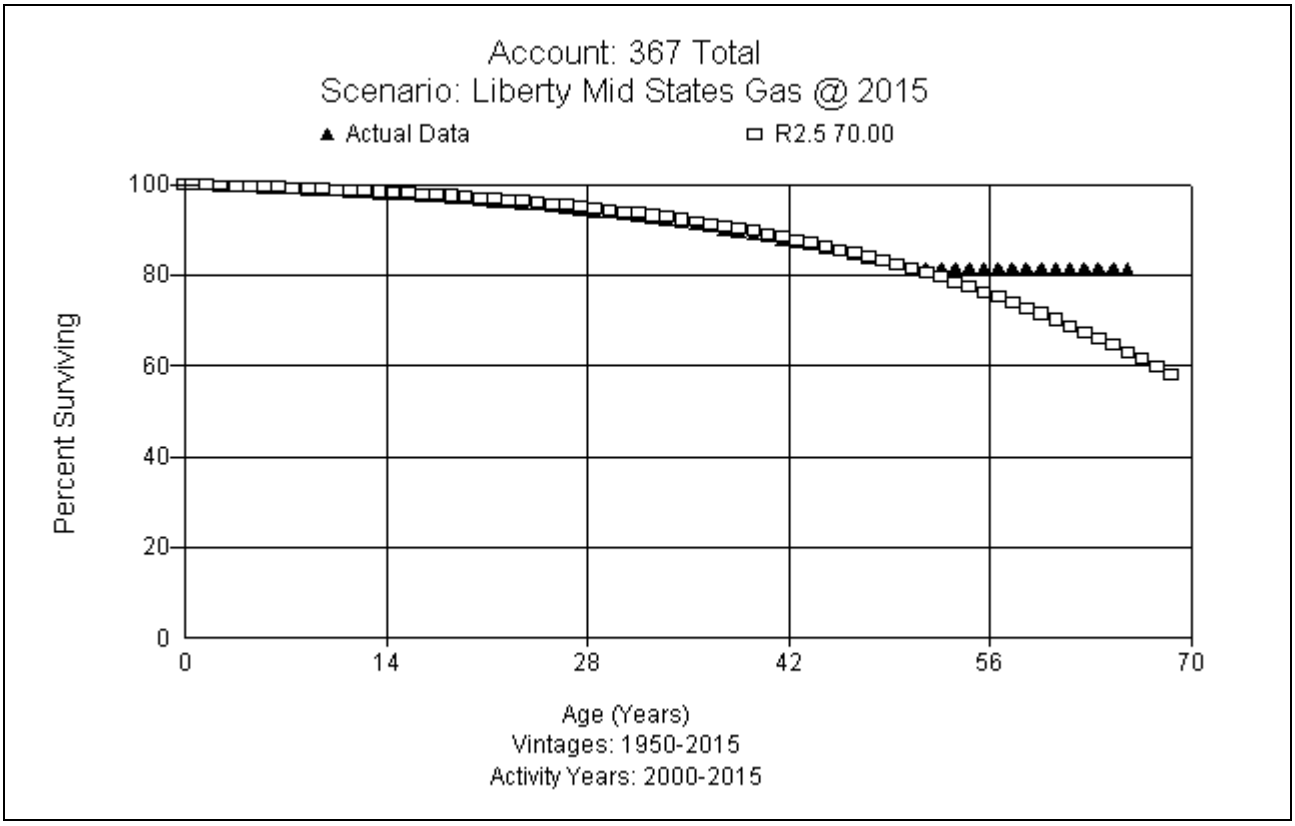
This account consists primarily of fences and pipeline rebranding related to control of the transmission systems. There is currently $140 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $61 thousand. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 50 S3 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 367.0 Transmission Mains Cathodic Protection (25 SQ)

This account consists of cathodic protection assets for transmission mains such as anodes, ground beds, and rectifiers. There is currently $99 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $84 thousand. There were few retirements in this account from 2000-2015. Based on judgment, this study recommends a 25 SQ curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 367.1 Transmission Mains Steel (70 R2.5)

This account consists of t steel transmission mains of various diameters and related assets such as clamps odorant equipment, and vaults. There is currently $12.4 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $9.5 million. Liberty operations personnel report that they see little deterioration in mains, and that most of the transmission mains are from the 1950s and 1960s. They opine that current requirements for mains are creating a better quality product than in the past. This study recommends a 70 R2.5 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 367.2 Transmission Mains Plastic (see Acct 367.1)

This account consists of plastic transmission mains of various diameters. Upon review by Liberty operations personnel, it was determined that the mains should have been booked in account 367.1, since plastic mains would not withstand the pressure transmission assets must perform at. Liberty will transfer these assets to account 3671, and no plant will be booked in this account in the future.

FERC Account 369.0 M&R Station Equipment (40 R2.5)

This account consists of transmission metering and regulating station equipment such as odorizers, chart recorders, and regulators. There is currently $875 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $560 thousand. Liberty operations personnel report that transmission equipment generally operates at higher pressure. Some equipment such as control valves and regulators would generally be the same as distribution, in-line heaters are generally found only on transmission. The Company has budgeted to start replacing "take points" (transmission stations) going in to the future. They are currently working on 3, two of which will finish in 2015 and another that will be completed in 2016. There have been limited retirements in this account, which make the life for this account appear much longer than is reasonable for these assets. Based on judgment, this study recommends a 40 R2.5 curve for this account. No graph is provided.

FERC Account 370.0 Communication Equipment (25 S2.5)

This account consists of microwave and radio communication equipment and related assets. There is currently $5 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. Operations personnel report that now employees communicate by cell (new technology) as opposed to using RTUs in the past. Liberty is starting to replace RTUs because the older assets are failing and replacement parts are not available. Based on judgment, this study recommends a 25 S2.5 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph

is shown.

Gas Distribution Accounts, FERC Accounts 374.2- 387.0

FERC Account 374.2 Distribution Land Rights (70 R2.5)

This account consists of land rights associated with distribution operations. There is currently $306 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $257 thousand. There were no retirements in this account from 2000-2015. Based on the life of distribution mains, this study recommends a 70 R2.5 curve for this account. No graph is provided.

FERC Account 375.0 Structures and Improvements (45 R2)

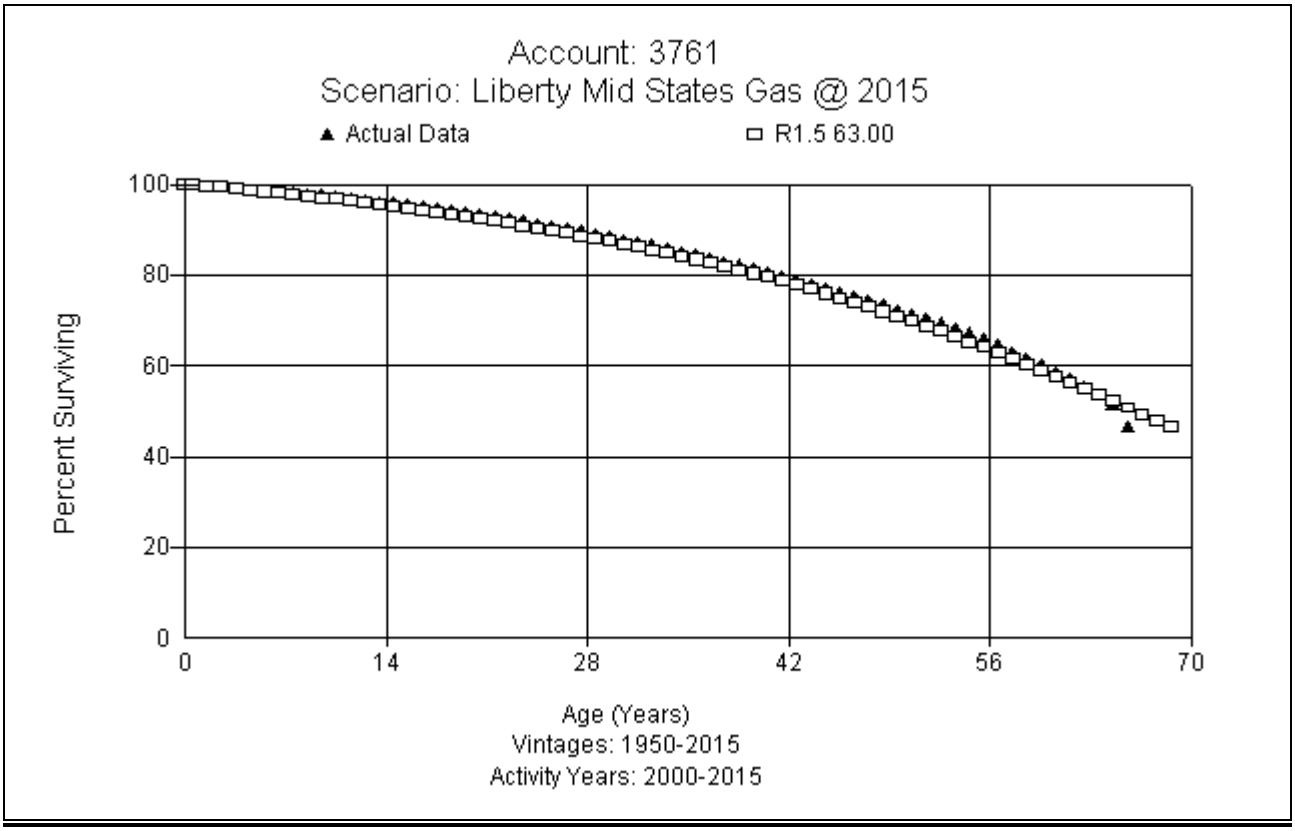
This account consists of structures and improvements, fences and buildings related to distribution operations. There is currently $87 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $80 thousand. There were no retirements in this account from 2000-2015. Based on judgment, this study recommends a 45 R2 curve for this account. No graph is provided.

FERC Account 376.0 Distribution Mains Cathodic Protection (25 SQ)

This account consists of cathodic protection equipment, such as anodes, valves, clamps, rectifiers, and groundbeds associated with distribution mains. There is currently $3.2 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $2.3 million. Operations personnel report that anode beds are designed to last twenty years. They report that rectifiers will last longer although there have been some replacements. Based on operations input and characteristics of the assets, this study recommends a 25 SQ curve for this account. No graph is provided.

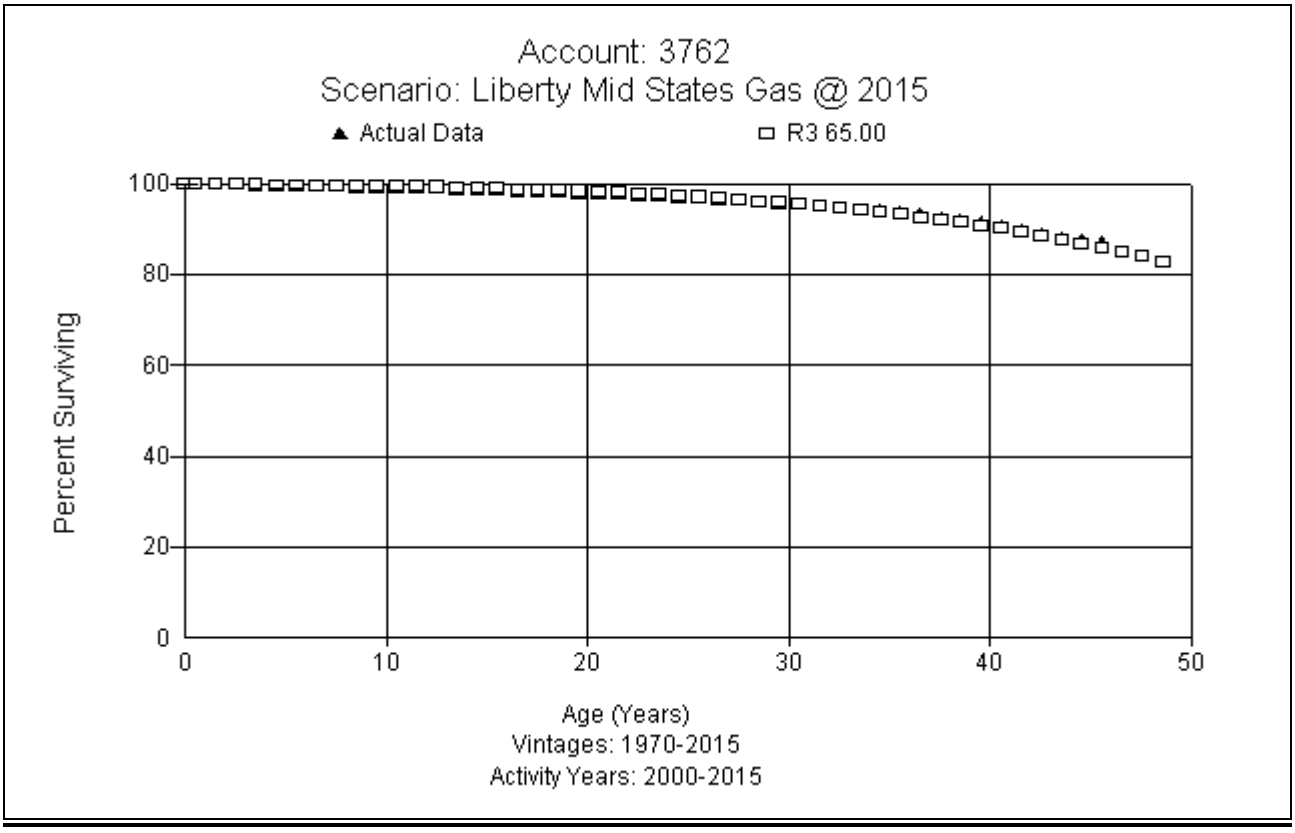
FERC Account 376.1 Distribution Mains Steel (63 R1.5)

This account consists of distribution mains and associated equipment. There is currently $28.5 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $18.9 million. The material types in this account are cast iron, bare steel, bare unprotected steel, and PVC, and protected steel. Operations personnel expect the life if this account to be shorter than transmission mains in 3671, because there is more bare steel and the material is not as robust, For protected steel, operations expect a 65 to 70 year life. Since the process of replacing bare steel is underway, this mediates the longer life seen by transmission mains. Based on judgement, history, and input from Company personnel, this study recommends a 63 R1.5 curve for this account. A graph of the actual experience and the selected Missouri Survivor Curve is shown below.



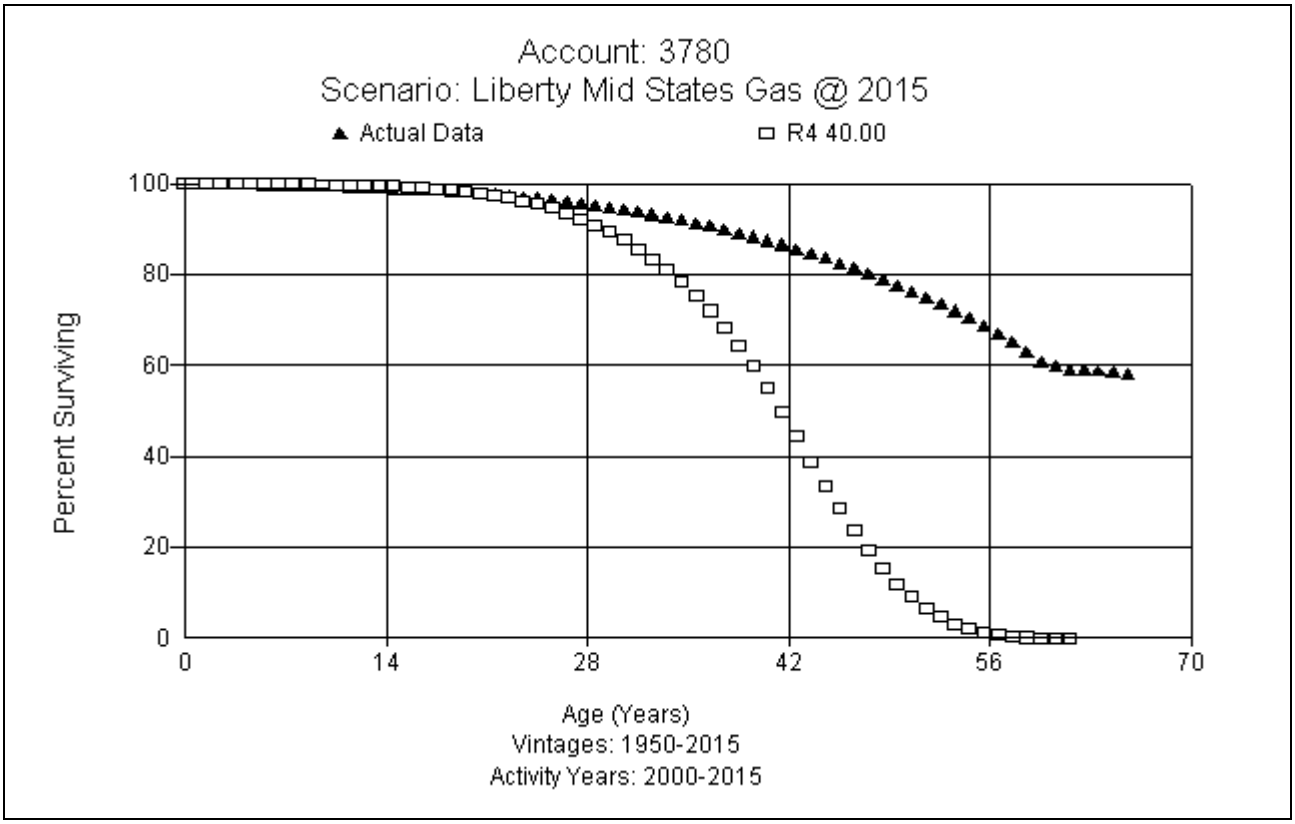
FERC Account 376.2 Distribution Mains Plastic (65 R3)

This account consists of plastic distribution mains and associated equipment. There is currently $42.6 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $28.9 million. The Company began installed plastic pipe in the 1970s. Some first generation plastic pipe and pre-1983 pipe needs to be removed. Operations personnel hope plastic will last as long as steel, but there is no certainty on the life cycle. Historical data is limited since the experience band is only 2000-2015. Based on judgment, this study recommends a 65 R3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



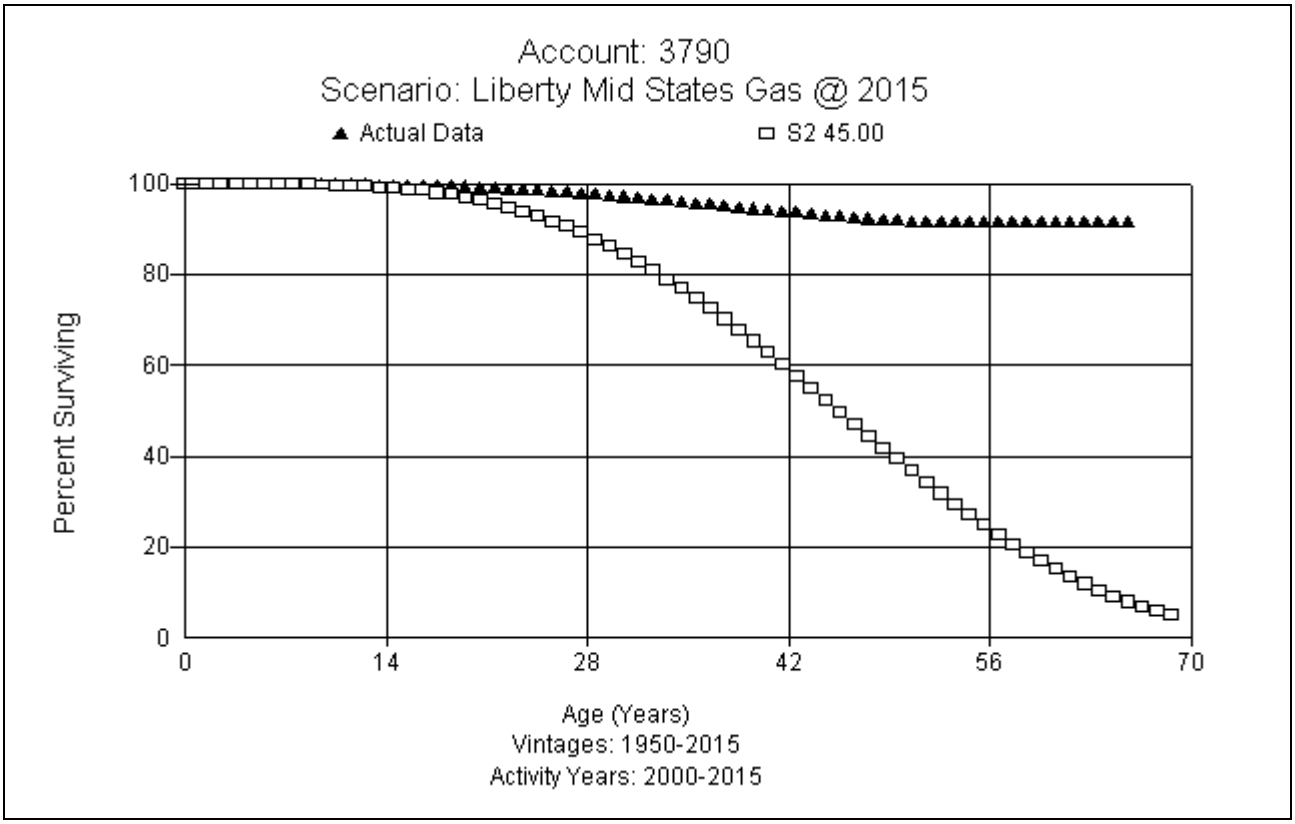
FERC Account 378.0 M&R Station Equipment – General (40 R4)

This account consists of M&R station piping, regulators, controls, odorizers and other equipment used in distribution measuring and regulating stations. There is currently $2.9 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $1.6 million. Operations personnel expect the life of account 378 to be shorter than account 379-city gates. Company personnel report that they have replaced hardware in field (SCADA) equipment and a number of relief valves in recent years. This study recommends a 40 R4 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



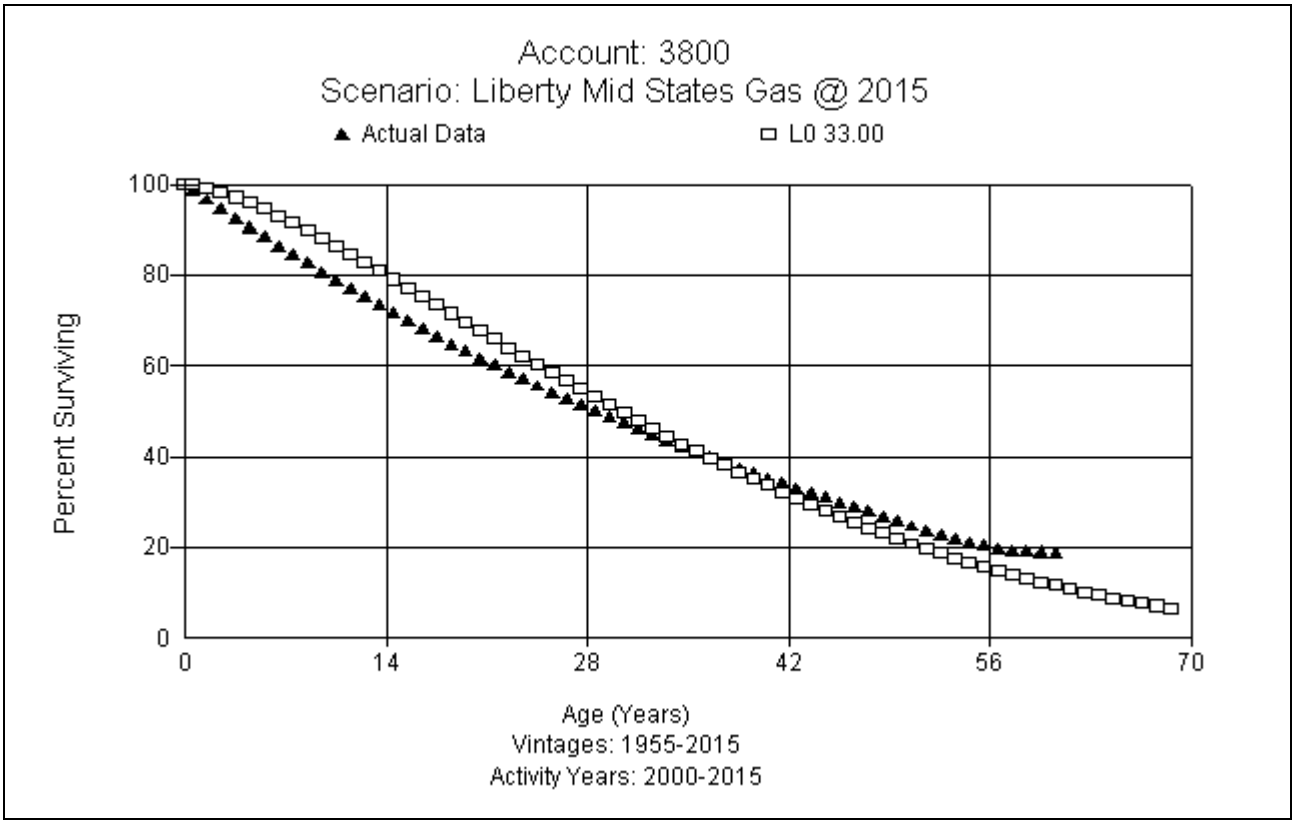
FERC Account 379.0 M&R Station Equipment – City Gate (45 S2)

This account consists of M&R station piping, regulators, controls, odorizers, and other equipment used in city gate distribution measuring and regulating stations. There is currently $2.7 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $1.7 million. Operations personnel expect the life of account 379 to be longer than account 378-measruing and regulating stations. Company personnel report that they have replaced a number of relief valves in recent years. This study recommends a 45 S2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



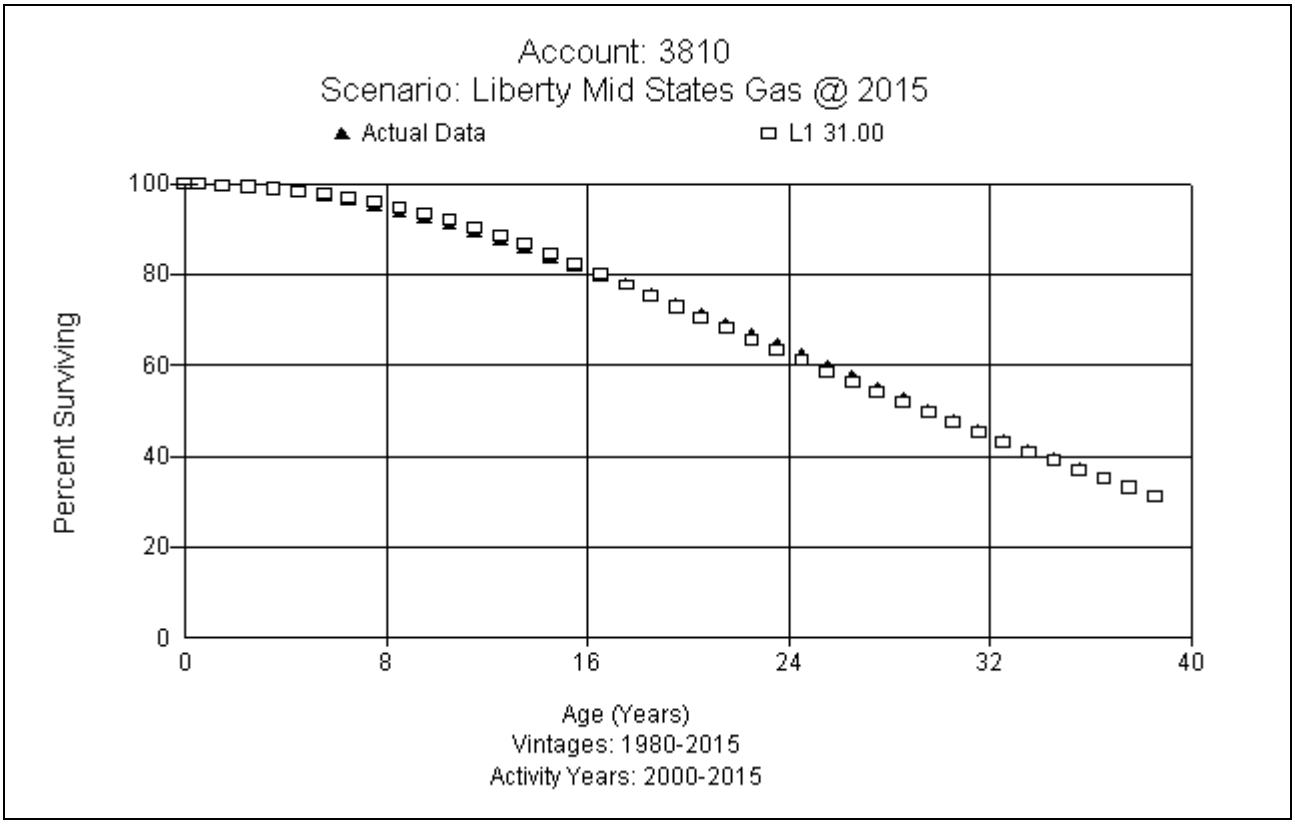
FERC Account 380.0 Services (33 L0)

This account consists of assets related to distribution services. There is currently $45.9 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $28 million. This account includes various material types: copper, plastic and steel. Missouri gas a copper service replacement program in place. Company personnel report that services are being damaged by third parties and relocations. For the past 35 years, plastic has been the predominant material in this account. Company personnel expect the life of services to be shorter than the life of mains. In 2016, the company will focus retiring inactive service (approximately 20K services). Based on history and judgement, this study recommends a 33 L0 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



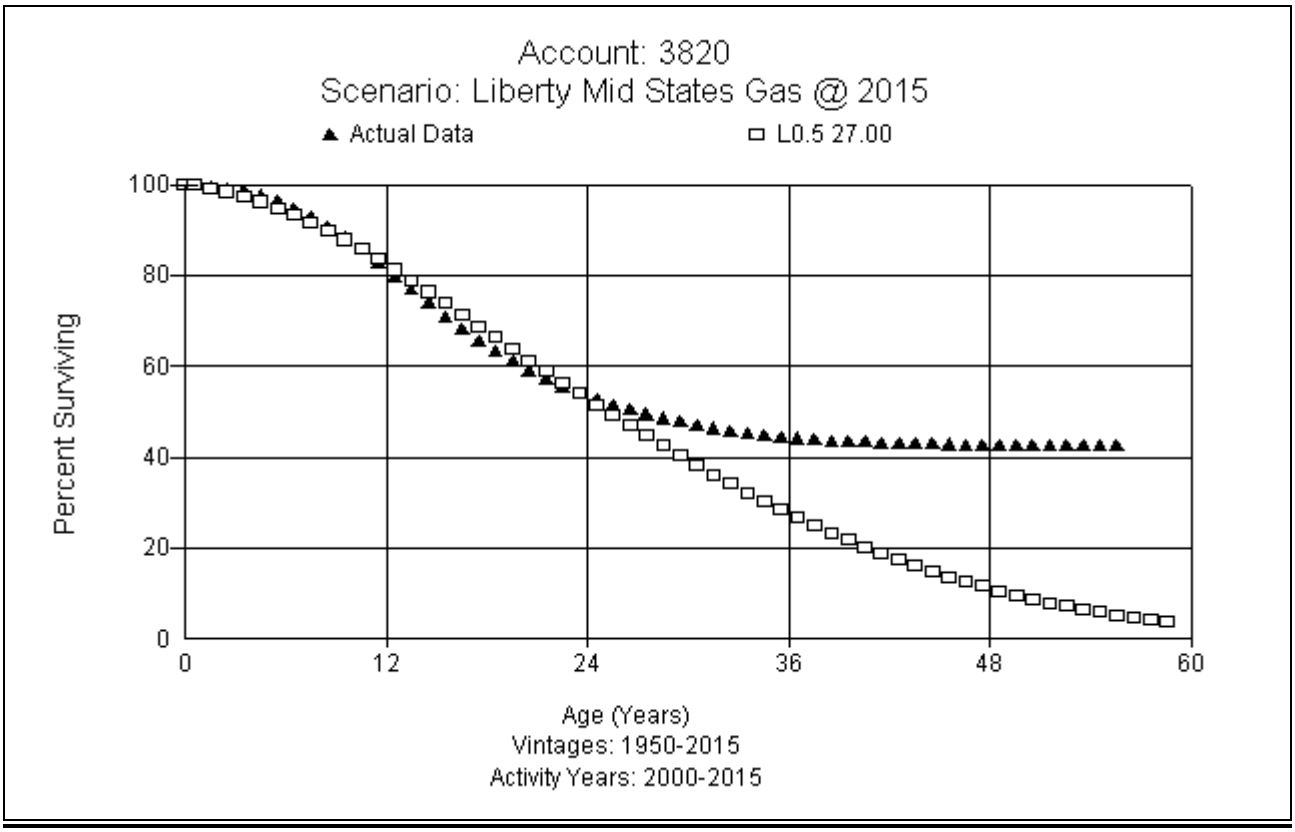
FERC Account 381.0 Meters (31 L1)

This account consists of meters and meter reading equipment. There is currently $13.4 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $8.3 million. The Company's meter assets vary by state: Missouri is 100% AM, Missouri has farm taps and 2% are AMI, and Missouri has about 1.5% AMR. Missouri samples ten percent of meters and retires that proportion every year. Company personnel expect ERT battery life to be 15 to 25 years depending on frequency and overall for meters to last around 30 years. The company that refurbishes meters for Liberty will work on assets to 30 years old. Based on Company personnel's input, history, and judgment, this study recommends a 31 L1 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 382.0 Meter Installations (27 L0.5)

This account consists of meter installation equipment. There is currently $20.4 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $10.9 million. Based on Company history and judgment, this study recommends a 27 L0.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 383.0 House Regulators (27 L0.5)

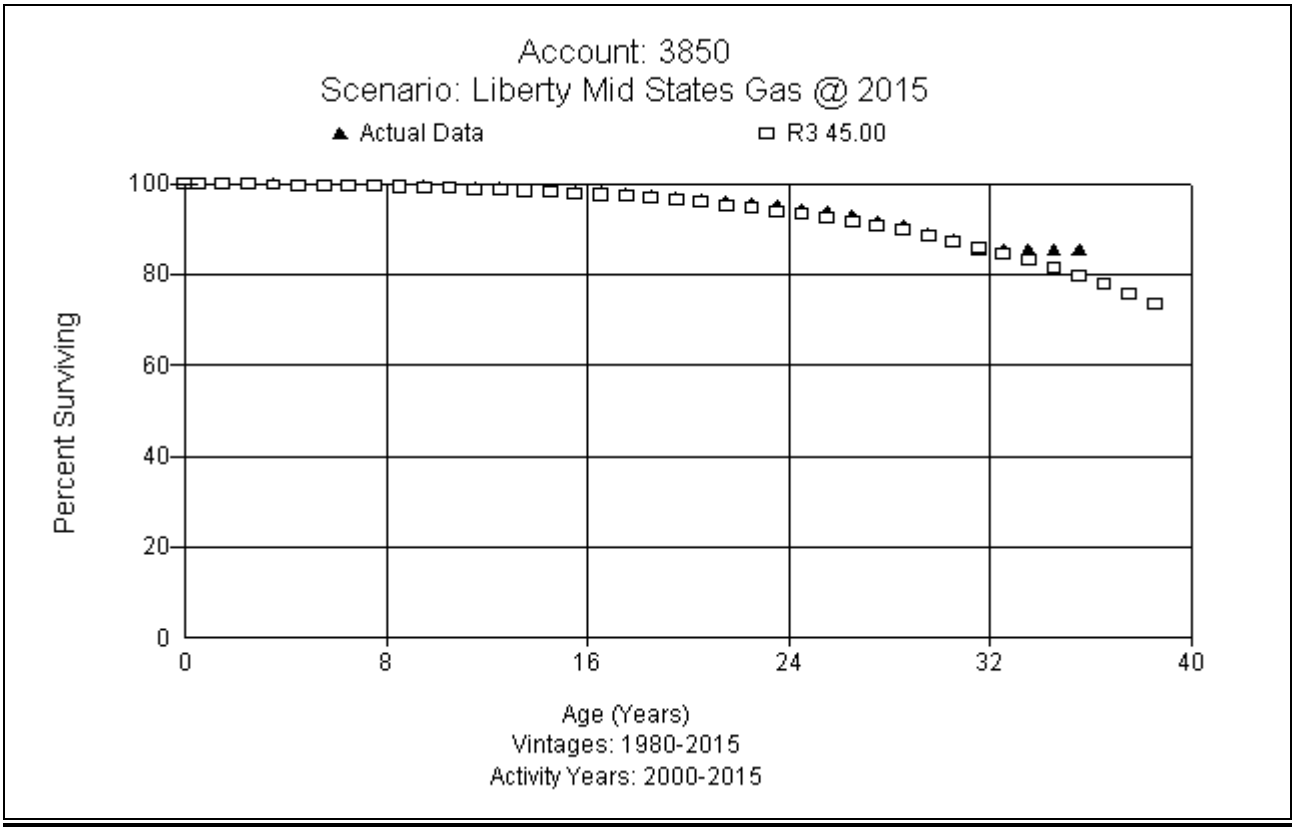
This account consists of house regulators and equipment. There is currently $3.2 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $2.3 million. There is limited history to analyze. Based on judgment, this study recommends a 27 L0.5 curve for this account, the same as account 382.0. No graph is provided.

FERC Account 384.0 House Regulatory Installations (27 L0.5)

This account consists of house regulatory installation equipment. There is currently $732 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. There is limited history to analyze. Based on judgment, this study recommends a 27 L0.5 curve for this account, the same as account 382.0. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is provided.

FERC Account 385.0 Industrial M&R Station Equipment (45 R3)

This account consists of industrial measuring and regulating station equipment. There is currently $783 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $521 thousand. The Company is upgrading a number of meter sets. Company personnel believe there should not be much difference between the life of this account and 378 and 379. Based on results with other accounts and judgment, this study recommends a 45 R3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 387.0 Other Equipment (10 R2)

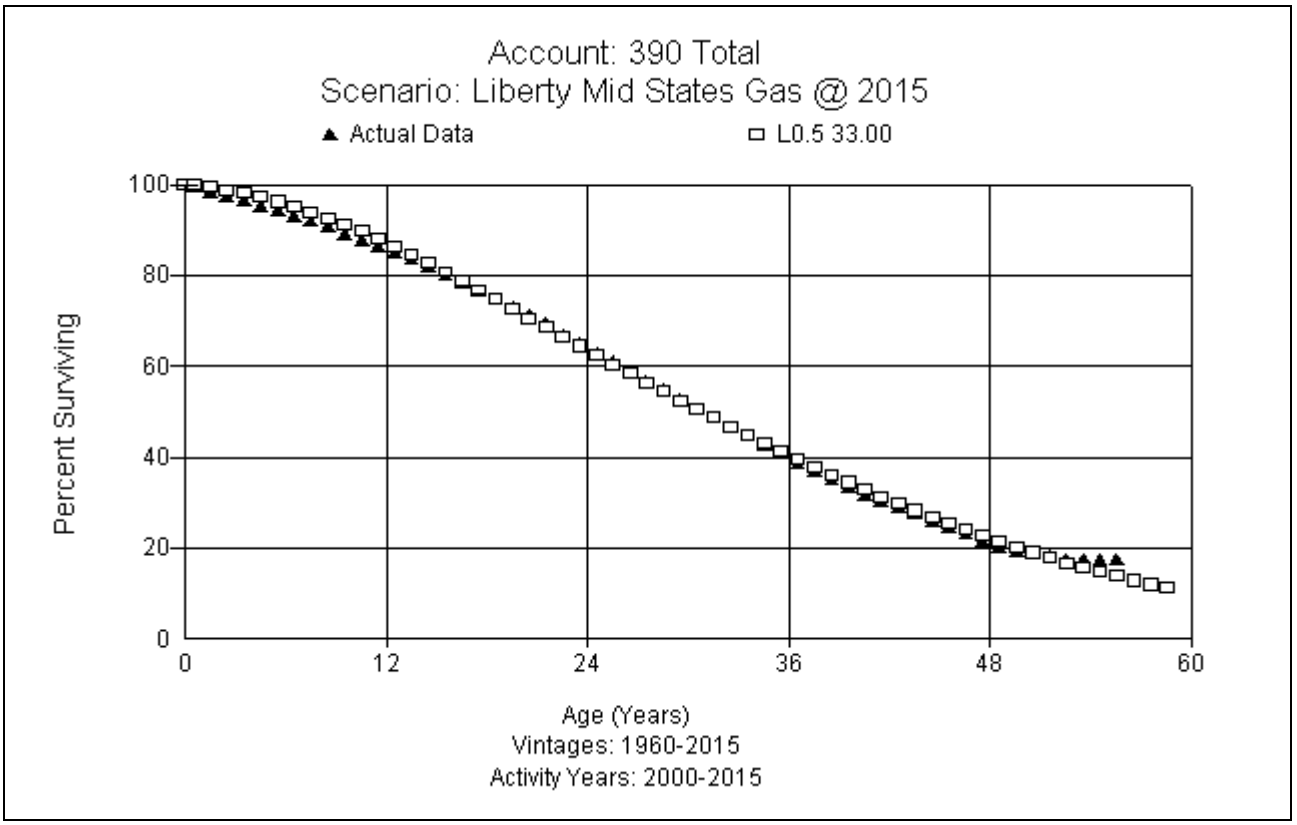
This account consists of other equipment. There is currently $97 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $6 thousand. The assets in this account include tools, calibration equipment, software, and locators. There is no retirement history for this account. Based on judgment, this study recommends a 10 R2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

Gas General Accounts, FERC Accounts 390.0-399.5

GENERAL PLANT DEPRECIATED ACCOUNTS

FERC Account 390 General Structures & Improvements (33 L0.5)

This account consists of general office structures, and other components such as roofs, cabinets, HVAC equipment, yard improvements, and security systems. There is currently $3.1 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $1.9 million. All 390 subaccounts were combined for life analysis in this account. Based on life analysis, this study recommends a 33 L0.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 390.1 General Structure Frame (33 L0.5)

This account consists of frame structures in general plant. There is currently $68 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $22 thousand. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 390.2 General Improvements (33 L0.5)

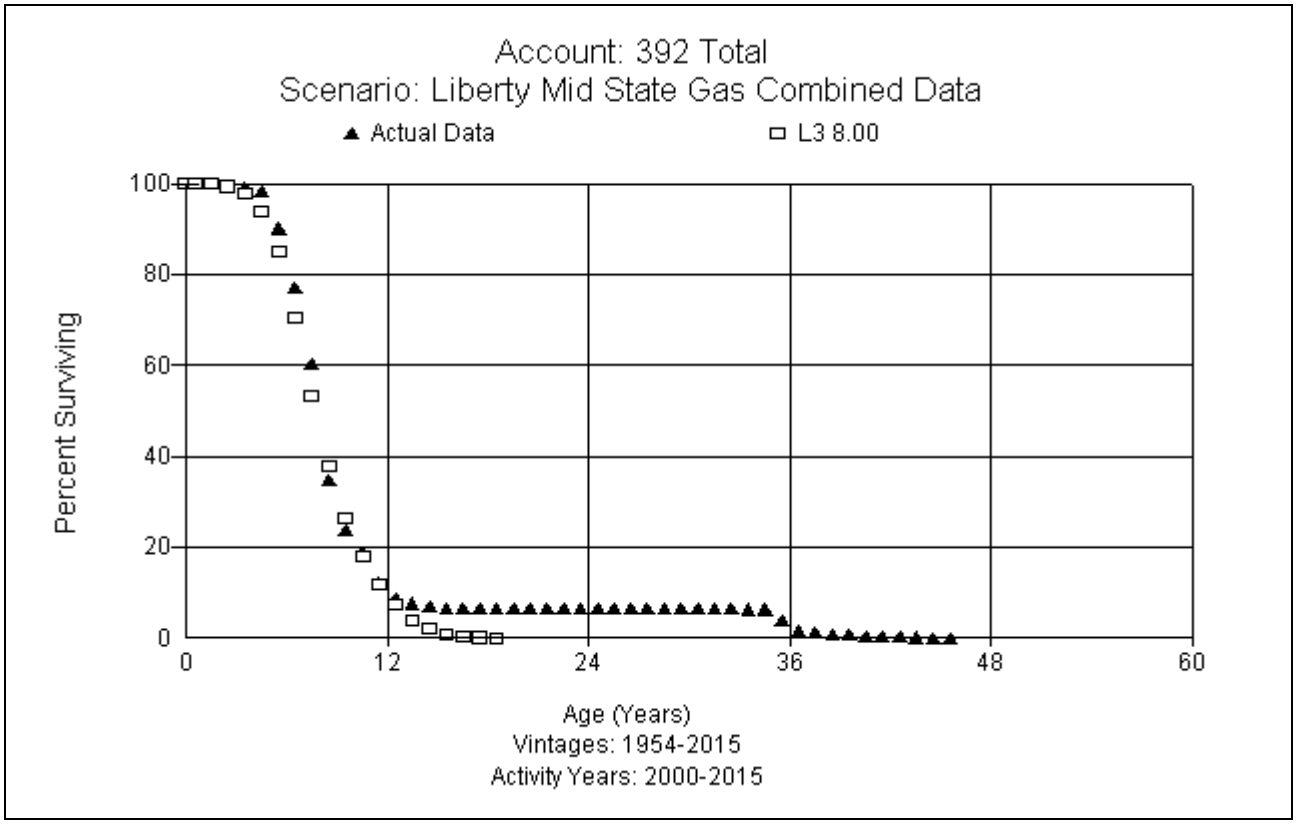
This account consists of leasehold improvements. There is currently no plant in Missouri and $86 thousand in total plant for Mid-States Gas. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

FERC Account 390.3 General Improvements – Leased Premise (33 L0.5)

This account consists of improvements such as cooling equipment related to leased buildings. There is currently $52 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. This study recommends a 33 L0.5 curve for this account based on the combined life analysis results for account 390. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 392.0 Transportation Equipment (8 L3)

This account consists of gas transportation equipment. There is currently $513 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $267 thousand. All 392 accounts were combined for this study. Based on historical analysis and judgment, this study recommends an 8 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 392.1 Transportation Equipment <12,000 LB (8 L3)

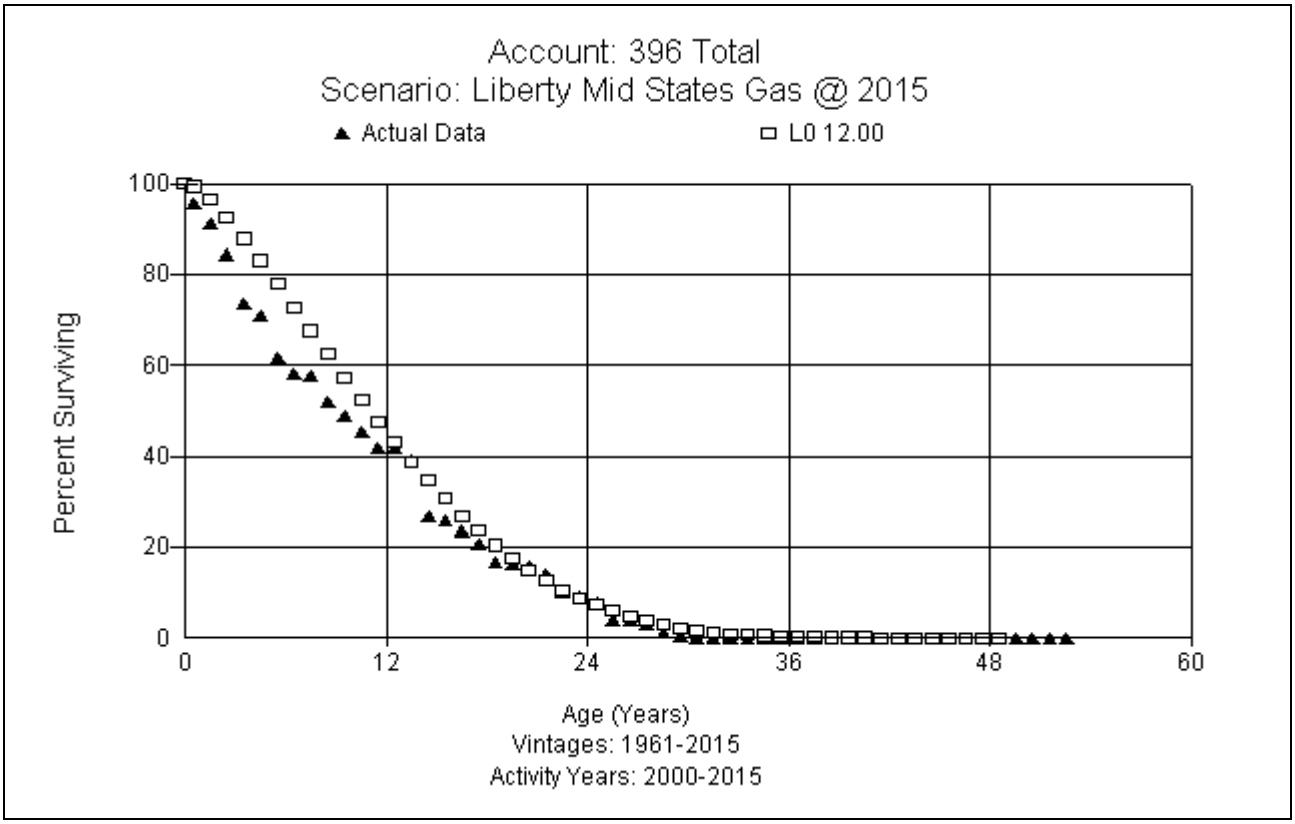
This account consists of transportation equipment weighing less than 12,000 pounds. There is currently $4.2 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $2.3 million. This study recommends an 8 L3 curve for this account based on results for the combined 392 assets. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.

FERC Account 396.0 Power Operated Equipment (12 L0)

This account consists of power operated equipment. There is currently $1.1 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $656 thousand. All assets for the 396 accounts were combined for life analysis. Based on life analysis and judgment, this study recommends a 12 L0 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 396.1 Gen - Ditchers (12 L0)

This account consists of ditchers. There is currently $239 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $194 thousand. All assets for the 396 accounts were combined for life analysis. Based on life analysis and judgment, this study recommends a 12 L0 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.



FERC Account 396.2 Gen - Backhoes (12 L0)

This account consists of backhoes. There is currently $380 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $257 thousand. This study recommends a 12 L0 curve for this account based on the combined 396 analysis. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 396.3 Gen - Welders (12 L0)

This account consists of welders. There is currently no plant in Missouri and $12 thousand in total plant for Mid-States Gas. This study recommends a 12 L0 curve for this account based on the combined 396 analysis. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

GENERAL PLANT AMORTIZED ACCOUNTS

Adoption of Vintage Group Amortization

This study recommends the adoption of vintage group amortization for certain General plant accounts. FERC adopted Accounting Release 15 in 1997 using the following criteria:

1. the individual classes of assets for which vintage year accounting is followed are high volume, low value items;

2. there is no change in existing retirement unit designations, for purposes of determining when expenditures are capital or expense;

3. the cost of the vintage groups is amortized to depreciation expense over their useful lives and there is no change in depreciation rates resulting from the adoption of the vintage year accounting;

4. interim retirements are not recognized;

5. salvage and removal cost relative to items in the vintage categories are included in the accumulated depreciation account and assigned to the oldest vintage first; and

6. properties are retired from the affected accounts that, at the date of the adoption of vintage year accounting, meet or exceed the average service life of properties in that account.

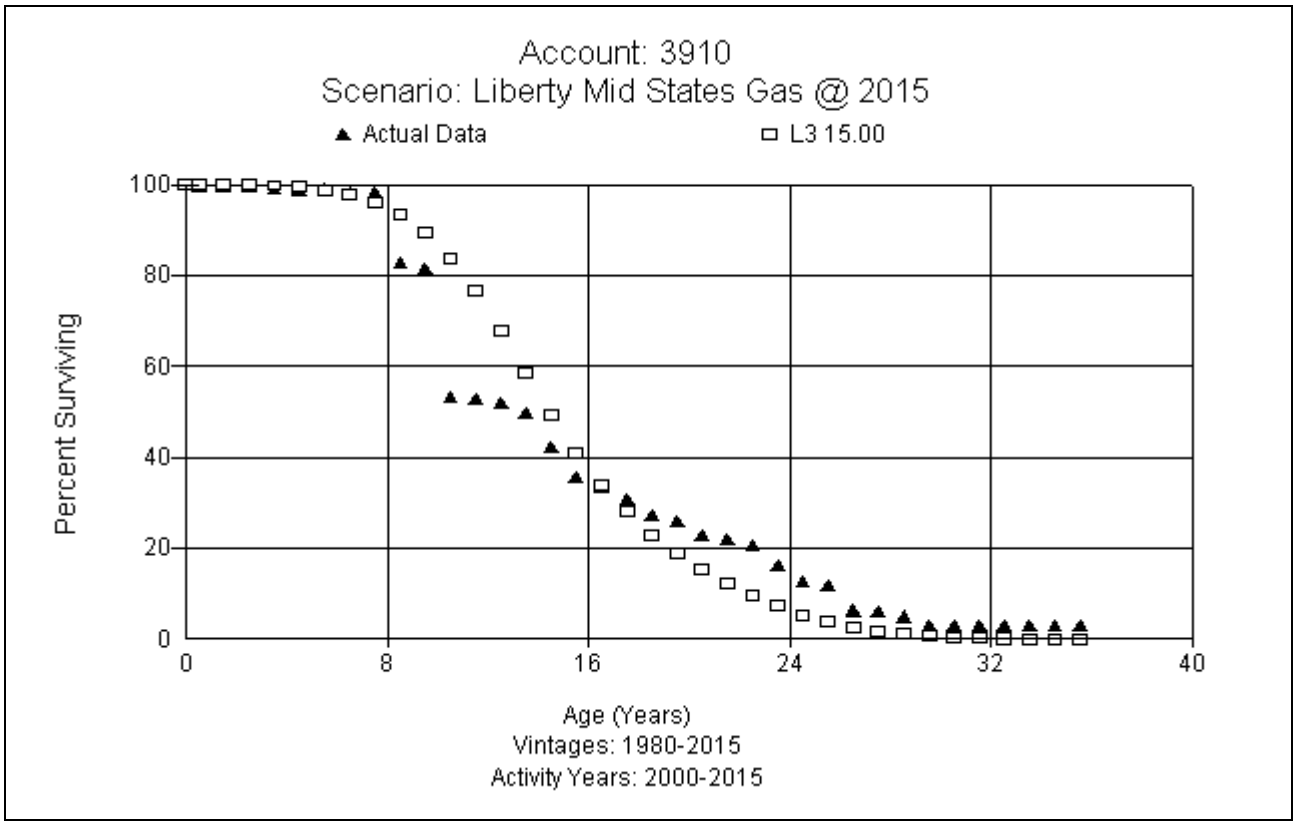
A vintage year method of accounting for the general plant accounts that meets all of the foregoing requirements may be implemented without obtaining specific authorization from the Commission to do so.

To implement this amortization mechanism, it is necessary to first retire the assets whose age is longer than the recommended service life for each group. It will no longer be necessary to track of the location and retirement of those assets. Those amounts are shown for each account in Appendix A-1. After those assets are retired, the remaining plant in service for each account will be amortized using the amortization rates shown in Appendix A-1 and B. Annually, assets which reach the average service life of each account will be retired when the assets reach their average service life. In addition, an additional accrual is necessary for each plant

account to make up the difference between the book depreciation reserve and the theoretical depreciation reserve. Those amounts will be accrued until the total reserve difference for each account shown in Appendix A-1. For example in Missouri, Account 391 will require an annual accrual of $3,011.83 annually for 11.89 years until the reserve difference of $35,802.05 has been accumulated. At that point the additional annual accrual will cease.

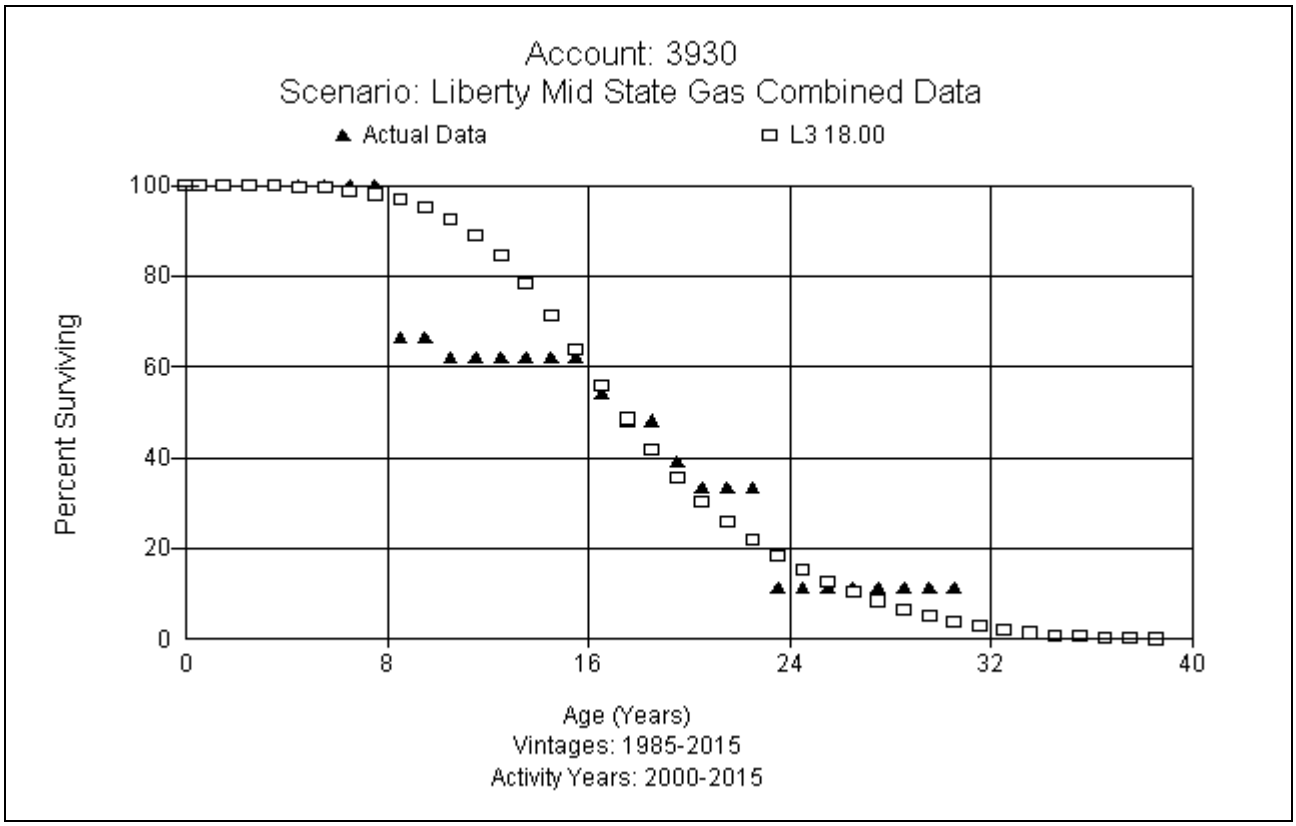
FERC Account 391.0 Office Furniture & Equipment (15 L3)

This account consists of general office furniture and equipment. There is currently $1.3 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $740 thousand. This study recommends a 15 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



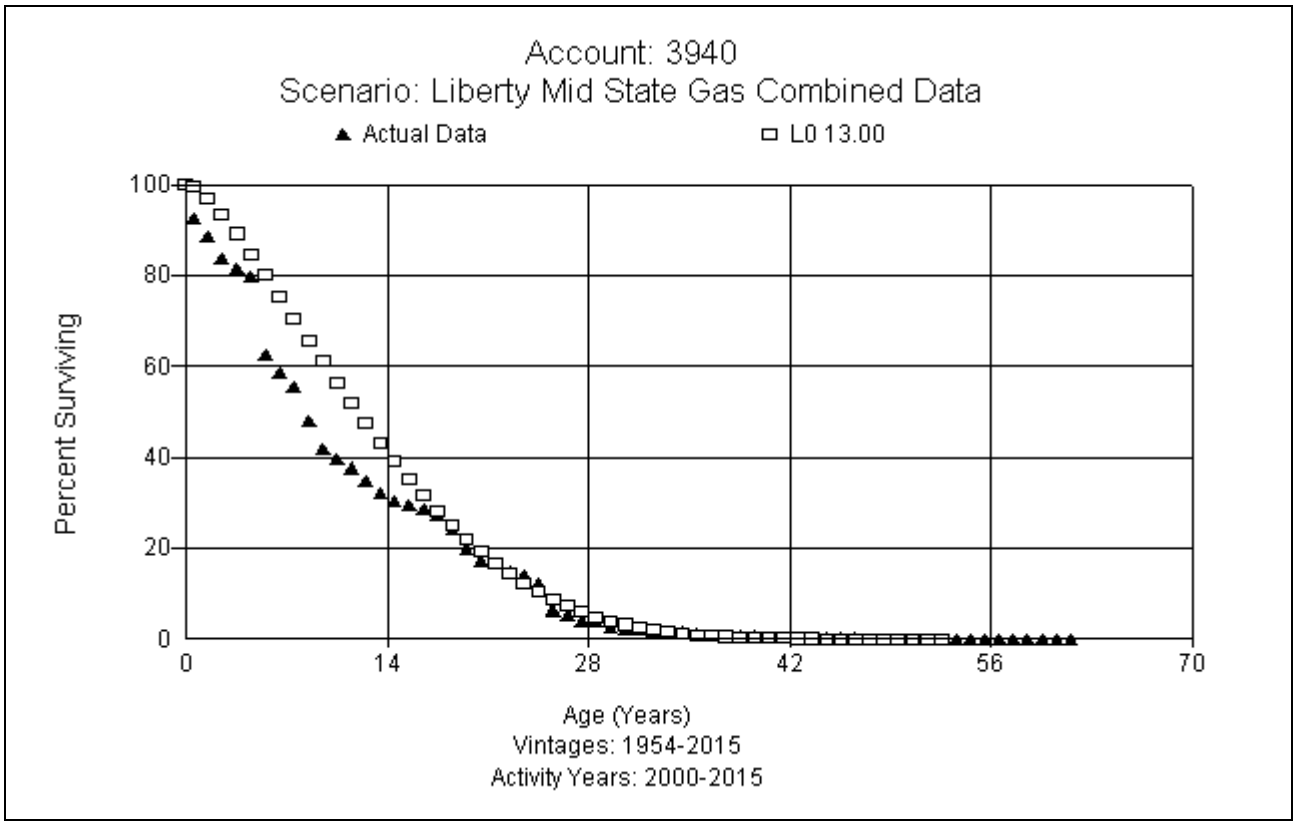
FERC Account 393.0 Stores Equipment (18 L3)

This account consists of gas transportation equipment. There is currently $25 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $9 thousand. This study recommends an 18 L3 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.



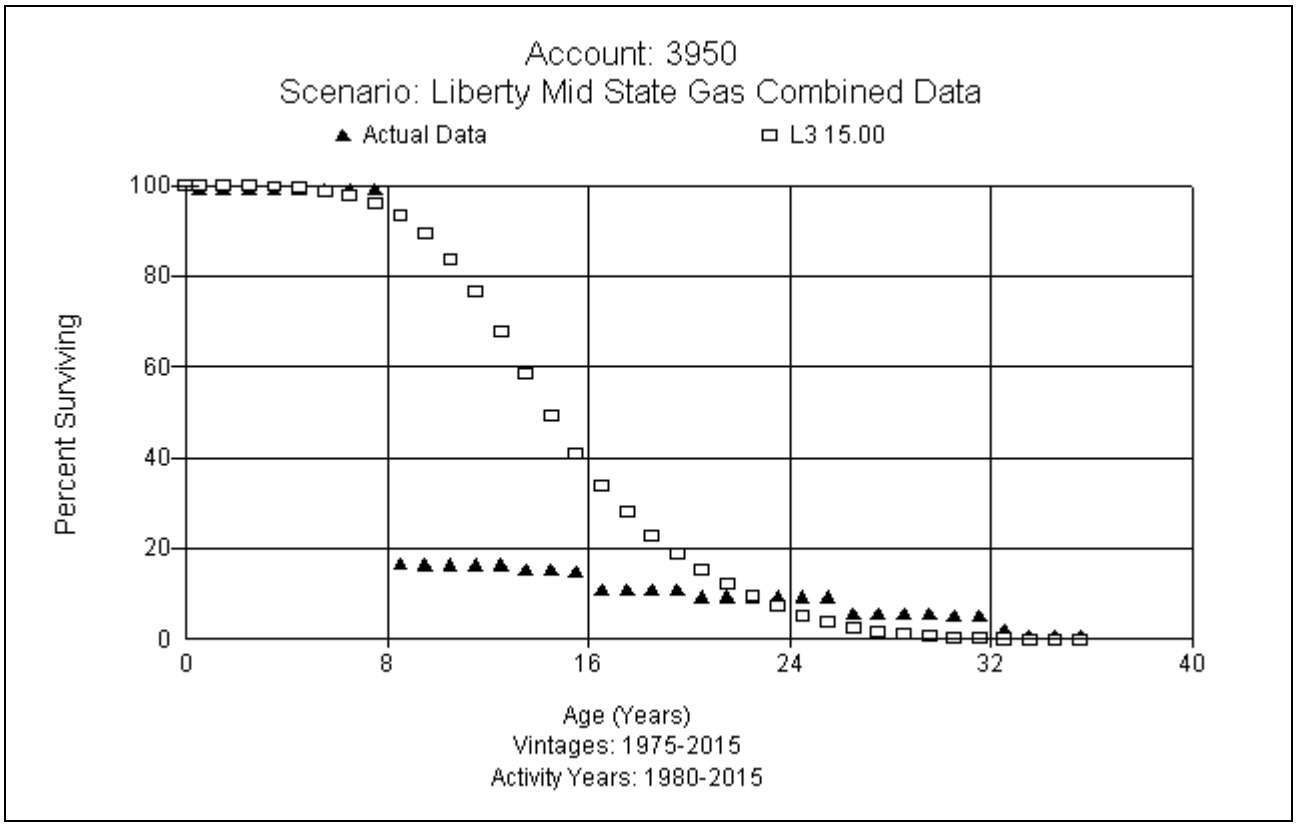
FERC Account 394.0 Tools, Shop, & Garage Equipment (13 L0)

This account consists of various tools and shop equipment. There is currently $2 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $1.4 million. This study recommends a 13 L3 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



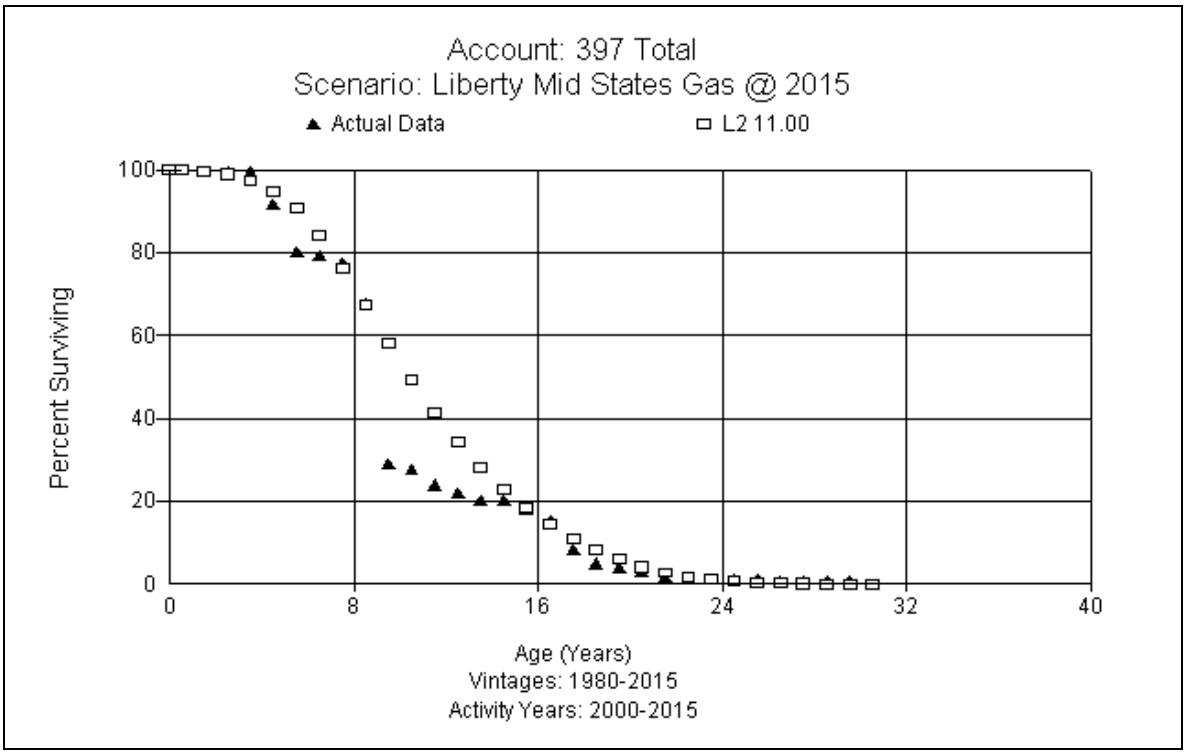
FERC Account 395.0 Laboratory Equipment (15 L3)

This account consists of laboratory equipment. There is currently $2 thousand in total plant for Mid States Gas. And of that amount, the entire plant balance is in Missouri. This study recommends a 15 L3 curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.



FERC Account 397.0 Communications Equipment (11 L2)

This account consists of general plant communications equipment. There is currently $96 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $38 thousand. All 397 accounts were combined to analyze this account. This study recommends an 11 L2 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 397.1 General Comm Eq Mob Radios (11 L2)

This account consists of general plant communications equipment – mobile radios. There is currently no plant located in Missouri and $170 in total plant for Mid-States Gas. This study recommends an 11 L2 curve for this account based on the combined 397 results. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 397.2 General Comm Eq Fixed Radios (11 L2)

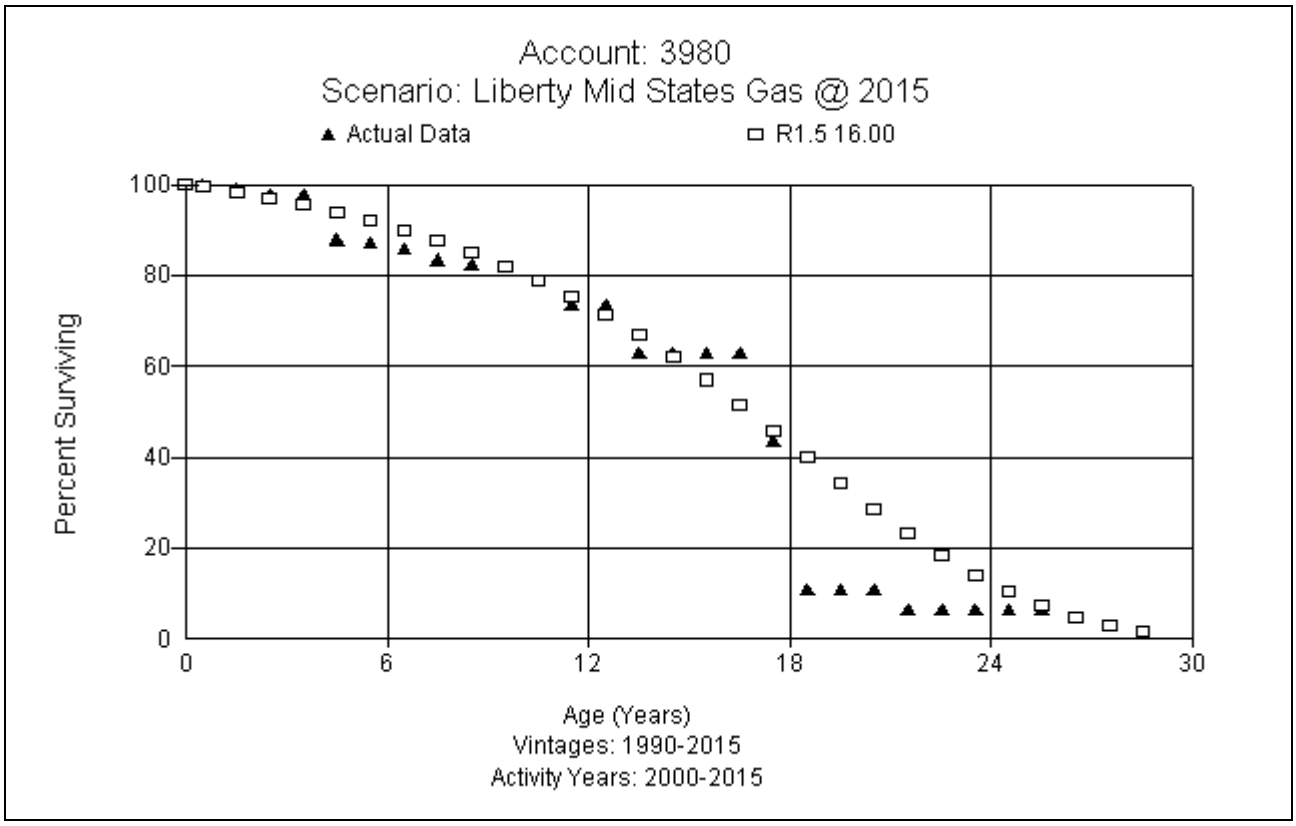
This account consists of general plant communications equipment – fixed radios. There is currently $14 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. This study recommends an 11 L2 curve for this account based on the combined 397 results. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 397.3 General Comm Eq Telemetering (11 L2)

This account consists of general plant communications equipment – telemetering. There is currently $4 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. This study recommends an 11 L2 curve for this account based on combined 397 results. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets.

FERC Account 398 Miscellaneous Equipment (16 R1.5)

This account consists of miscellaneous general plant equipment. There is currently $1.5 million in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $926 thousand. This study recommends a 16 R1.5 curve for this account. A graph of the actual experience and the selected Iowa Survivor Curve is shown below.



FERC Account 399.3 Other Tang Prop – Network – H/W (7 SQ)

This account consists of other tangible property such as networking hardware. There is currently $4 thousand in total plant for Mid States Gas. Of that amount, the entire plant balance is in Missouri. Based on judgment, this study recommends a 7 SQ curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is shown.

FERC Account 399.4 Other Tang Prop – PC Hardware (7 SQ)

This account consists of other tangible property such as PC hardware. There is currently $86 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $69 thousand. Based on judgment and the recommendation for account 399.3, this study recommends a 7 SQ curve for this account. No graph is shown.

FERC Account 399.5 Other Tang Prop – PC Software (5 SQ)

This account consists of other tangible property such as networking hardware. There is currently $31 thousand in total plant for Mid-States Gas. Of that amount, the plant balance in Missouri is $21 thousand. Based on judgement, this study recommends a 5 SQ curve for this account. If any assets are added to this account in Missouri, we recommend the adoption of the proposed parameter for those assets. No graph is shown.

NET SALVAGE ANALYSIS

When a capital asset is retired, physically removed from service, and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset).

Gross salvage and cost of removal related to retirements are recorded to the general ledger in the accumulated provision for depreciation at the time retirements occur within the system.

Removal cost percentages are calculated by dividing the current cost of removal by the original installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the timing of the addition versus the retirement. For example, a distribution asset in FERC Account 365 with a current installed cost of $500 (2015) would have had an installed cost of $50[3] in 1962 (which is the average life of the account). A removal cost of $50 for the asset calculated (incorrectly) on current installed cost would only have a negative 10 percent removal cost ($50/$500). However, a correct removal cost calculation would show a negative 100 percent removal cost for that asset ($50/$50). Inflation from the time of installation of the asset until the time of its removal must be taken into account in the calculation of the removal cost percentage because the depreciation rate, which includes the removal cost percentage, will be applied to the original installed cost of assets.

Since Liberty acquired these assets from Atmos, they have maintained net salvage data in their records from 2013-2015. No data was available for years 2011 and 2012 during Atmos' ownership. Alliance Consulting and Liberty diligently attempted to obtain such information but it was not provided to either group. For 2005-2010, historic net salvage was available from two states- Illinois and Missouri. Again, we attempted to obtain net salvage for Iowa for 2005-2010 but we did not receive any information. To compile net salvage history, Illinois and Missouri were

combined in 2005-2010, and all three states were combined in 2013-2015. Those results are shown in Appendix D. Thus, removal cost in 2005-2010 may be understated since to information from Iowa is excluded.

3 Using the Handy-Whitman Bulletin No. 165, E-4, line 45, $55 = $500 x 54/ 537,

Gas Transmission Accounts, FERC Accounts 366.0-370.0

FERC Account 366.0 Structures and Improvements (-5% net salvage)

This account consists of any gross salvage and removal cost associated with buildings and other related structures and improvements related to transmission operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is a small amount of removal cost in removing structures and improvements. To model net salvage in the future, this study recommends negative five percent net salvage for this account.

FERC Account 366.1 Other Structures (-5% net salvage)

This account consists of any gross salvage and removal cost associated with primarily structures and assets related to control of the transmission system. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is a small amount of removal cost in removing structures and improvements. To model net salvage in the future, this study recommends negative five percent net salvage for this account.

FERC Account 367.0 Transmission Mains Cathodic Protection (0% net salvage)

This account consists of any gross salvage and removal cost associated with transmission mains such as anodes, ground beds, and rectifiers. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 367.1 Transmission Mains Steel (-20% net salvage)

This account consists of any gross salvage and removal cost associated with steel transmission mains and related assets. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been limited retirement or net salvage activity over the study period. Generally there is some removal cost in removing mains. To model net salvage in the future, this study recommends negative 20 percent net salvage for this account.

FERC Account 367.2 Transmission Mains Plastic (see Acct 367.1)

This account consists of any gross salvage and removal cost associated with plastic transmission mains and related assets. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is some removal cost in removing mains. All existing plant in this account will be transferred to account 367.1 and no future plant assets will be booked in this account.

FERC Account 369.0 M & R Station Equipment (-10% net salvage)

This account consists of any gross salvage and removal cost associated with transmission metering and regulating station equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been limited retirement or net salvage activity over the study period. Generally there is some removal cost in station equipment. To model net salvage in the future, this study recommends negative 20 percent net salvage for this account.

FERC Account 370.0 Communication Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with microwave and radio communication equipment and related assets. The approved

net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

Gas Distribution Accounts, FERC Accounts 374.2- 387.0

FERC Account 374.2 Distribution Land Rights (0% net salvage)

This account consists of any gross salvage and removal cost associated with land rights associated with distribution operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is no removal cost associate with land rights. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 375.0 Structures and Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with structures and controls related to distribution operations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage activity over the study period. Generally there is no removal cost associate with structures and improvements. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 376.0 Distribution Mains Cathodic Protection (0% net salvage)

This account consists of any gross salvage and removal cost associated with cathodic protection equipment for distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Removal cost has been charged to this account over many years. Generally there is little removal cost associated with cathodic protection equipment. To model net salvage in the future, this study recommends zero percent net salvage for this account

FERC Account 376.1 Distribution Mains Steel (-20% net salvage)

This account consists of any gross salvage and removal cost associated with steel distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 18 and 21 percent net salvage for the six through eight year moving averages in 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative 20 percent net salvage for this account

FERC Account 376.2 Distribution Mains Plastic (-5% net salvage)

This account consists of any gross salvage and removal cost associated with plastic distribution mains and associated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 4 and 5 percent net salvage for the seven through nine year moving averages in 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative five percent net salvage for this account

FERC Account 378.0 M & R Station Equipment – General (-10% net salvage)

This account consists of any gross salvage and removal cost associated with M&R station piping, regulators, controls, odorizers and other equipment used in distribution measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is negative 13 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account

FERC Account 379.0 M & R Station Equipment – City Gate (-10% net salvage)

This account consists of any gross salvage and removal cost associated with M&R station piping, regulators, controls, odorizers and other equipment used in city

gate distribution measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is negative 30 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account, which is the same recommendation for account 378.0.

FERC Account 380.0 Services (-50% net salvage)

This account consists of any gross salvage and removal cost associated with assets related to distribution services. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is between negative 56 and 28 percent net salvage for 2015, as shown in Appendix D. To model net salvage in the future, this study recommends negative 50 percent net salvage for this account.

FERC Account 381.0 Meters (-35% net salvage)

This account consists of any gross salvage and removal cost associated with electromechanical distribution meters. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is varies between negative 33 and negative 54 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends negative 35 percent net salvage for this account.

FERC Account 382.0 Meter Installations (-35% net salvage)

This account consists of any gross salvage and removal cost associated with equipment and installation costs related to meter installations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account varies between negative 54 percent net salvage to negative 349 percent as shown in Appendix D. To model net salvage in the future, this study recommends negative 35

percent net salvage for this account.

FERC Account 383.0 House Regulators (0% net salvage)

This account consists of any gross salvage and removal cost associated with house regulators. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Generally there is little or no removal coast associated with house regulators. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 384.0 House Regulators Installations (0% net salvage)

This account consists of any gross salvage and removal cost associated with house regulator installations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 385.0 Industrial M&R Station Equip (-10% net salvage)

This account consists of any gross salvage and removal cost associated with industrial measuring and regulating stations. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. Generally there is a small amount of removal cost associate with these assets. To model net salvage in the future, this study recommends negative 10 percent net salvage for this account.

FERC Account 387.0 Other Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with other distribution equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To

model net salvage in the future, this study recommends zero percent net salvage for this account.

Gas General Accounts, FERC Accounts 390.0-399.5

FERC Account 390.0 General Structures & Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with general office structures. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.1 General Structure Frame (0% net salvage)

This account consists of any gross salvage and removal cost associated with structure frames. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.2 General Improvements (0% net salvage)

This account consists of any gross salvage and removal cost associated with general improvements. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 390.3 General Improvements Leased Premise (0% net salvage)

This account consists of any gross salvage and removal cost associated with general improvements on leased property. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends zero percent net

salvage for this account.

FERC Account 391.0 Office Furniture & Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with general office furniture and equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 392.0 Transportation Equipment (6% net salvage)

This account consists of any gross salvage and removal cost associated with transportation equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is six percent net salvage for the eight and nine year bands, as shown in Appendix D. To model net salvage in the future, this study recommends six percent net salvage for this account.

FERC Account 392.1 Transportation Equipment <12,000 LB (6% net salvage)

This account consists of any gross salvage and removal cost associated with transportation equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. There has been no retirement or net salvage experienced over the study period. To model net salvage in the future, this study recommends six percent net salvage for this account. This is the same recommendation for account 392.0.

FERC Account 393.0 Stores Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with stores equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving

average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 394.0 Tools, Shop, & Garage Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with various tools and shop equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 395.0 Laboratory Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with laboratory equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 396.0 Power Operated Equipment (10% net salvage)

This account consists of any gross salvage and removal cost associated with power operated equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is varies from 8 percent positive net salvage to positive 64 percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.1 General - Ditchers (10% net salvage)

This account consists of any gross salvage and removal cost associated with

general equipment like ditchers. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.2 General - Backhoes (10% net salvage)

This account consists of any gross salvage and removal cost associated with general equipment like backhoes. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 396.3 General - Welders (10% net salvage)

This account consists of any gross salvage and removal cost associated with general equipment like welders. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. This account was combined with all other 396 accounts as shown in Appendix D. To model net salvage in the future, this study recommends 10 percent net salvage for this account.

FERC Account 397.0 Communication Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.1 General Communication Eq Mob Radios (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as mobile radios. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.2 General Communication Eq Fixed Radios (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as fixed radios. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 397.3 General Communication Eq Telemetering (0% net salvage)

This account consists of any gross salvage and removal cost associated with general plant communications equipment such as telemetering. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 398.0 Miscellaneous Equipment (0% net salvage)

This account consists of any gross salvage and removal cost associated with miscellaneous general plant equipment. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent

net salvage for this account.

FERC Account 399.3 Oth Tang Prop – Network – H/W (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as network hardware. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 399.4 Oth Tang Prop – PC Hardware (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as PC hardware. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

FERC Account 399.5 Oth Tang Prop – PC Software (0% net salvage)

This account consists of any gross salvage and removal cost associated with other tangible property such as PC software. The approved net salvage for this account is unknown, since the current accrual rates did not specify any net salvage parameters. The overall moving average for this account is zero percent net salvage as shown in Appendix D. To model net salvage in the future, this study recommends zero percent net salvage for this account.

APPENDIX A

Proposed Depreciation Rates

LIBERTY UTILITIES MID-STATES
Missouri Assets

Computation of Proposed Depreciation Accrual Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance	Allocated Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Average Remaining Life	Annual Accrual Amount	Proposed Annual Accrual Rate
3660	T&D-Structures & Improvements	3,379.86	2,658.44	-5.00%	(168.99)	890.41	21.27	41.85	1.24%
3661	T&D-Other Structures	61,081.38	6,058.81	-5.00%	(3,054.07)	58,076.64	46.50	1,248.96	2.04%
3670	T&D-Mains-STL-PLST-CI-Mixed	84,488.89	70,886.45	0.00%	0.00	13,602.44	5.42	2,511.85	2.97%
3671	T&D-Mains-STL	9,576,094.38	5,831,169.61	-20.00%	(1,915,218.88)	5,660,143.64	43.68	129,583.32	1.35%
3690	T&D-M&R Station Equipment	559,893.74	361,364.02	-10.00%	(55,989.37)	254,519.09	22.19	11,468.64	2.05%
3700	Communication Equipment	5,037.94	4,548.18	0.00%	0.00	489.76	7.77	63.00	1.25%
3742	T&D-Land Rights	256,590.15	64,905.87	0.00%	0.00	191,684.28	43.61	4,395.17	1.71%
3750	Strucutures and Improvements	79,892.55	23,983.08	0.00%	0.00	55,909.47	24.87	2,248.17	2.81%
3760	Mains	2,276,824.58	1,196,876.60	0.00%	0.00	1,079,947.98	5.42	199,425.07	8.76%
3761	T&D-Mains-STL	18,864,181.61	5,416,039.77	-20.00%	(3,772,836.32)	17,220,978.16	40.54	424,817.10	2.25%
3762	T&D-Mains-PLST	28,931,224.77	6,445,580.75	-5.00%	(1,446,561.24)	23,932,205.26	44.45	538,444.25	1.86%
3780	Measuring & regulating stn eqt-General	1,620,088.23	707,312.91	-10.00%	(162,008.82)	1,074,784.14	16.34	65,772.41	4.06%
3790	Measuring & regulating stn eqt-City gate check stn	1,747,018.92	578,220.99	-10.00%	(174,701.89)	1,343,499.83	24.82	54,124.85	3.10%
3800	Services	28,017,763.14	9,662,186.62	-50.00%	(14,008,881.57)	32,364,458.09	21.69	1,491,884.77	5.32%
3810	Meters	8,344,254.98	2,365,299.76	-35.00%	(2,920,489.24)	8,899,444.46	21.30	417,819.45	5.01%
3820	Meters Installations	10,864,190.27	2,555,659.32	-35.00%	(3,802,466.59)	12,110,997.55	19.99	605,889.27	5.58%
3830	House regulators	2,268,925.38	610,180.31	0.00%	0.00	1,658,745.07	16.18	102,523.20	4.52%
3840	House Regulatory installations	731,832.78	172,879.02	0.00%	0.00	558,953.76	17.50	31,949.30	4.37%
3850	Industrial measuring & regulating stn eqt	520,775.60	144,911.11	-10.00%	(52,077.56)	427,942.05	28.04	15,264.01	2.93%
3870	Other Equipment	5,947.35	1,197.26	0.00%	0.00	4,750.09	7.00	678.58	11.41%
3900	General Structures & Improvmnt	1,907,422.63	490,454.33	0.00%	0.00	1,416,968.30	21.66	65,403.96	3.43%
3901	GEN-Structure Frame	21,504.12	7,355.40	0.00%	0.00	14,148.72	17.92	789.49	3.67%
3902	GEN-Improvements	0.00		0.00%	0.00	0.00			
3903	GEN-Improvements Leased Premise	51,707.76	10,048.43	0.00%	0.00	41,659.33	24.43	1,705.03	3.30%
3920	Transportation Equipment	267,292.67	101,040.54	6.00%	16,037.56	150,214.57	3.70	40,572.83	15.18%
3921	Transportation Equip<12,000 LB	2,263,476.48	221,396.86	6.00%	135,808.59	1,906,271.03	6.89	276,753.89	12.23%
				0.00%	0.00	0.00			
				0.00%	0.00	816,452.63			
				0.00%	0.00	0.00			
3960	Power Operated Equipment	656,440.87	84,789.90	10.00%	65,644.09	506,006.89	9.70	52,169.09	7.95%
3961	GEN- Ditchers	194,392.85	83,616.38	10.00%	19,439.29	91,337.18	5.10	17,892.77	9.20%
3962	GEN-Backhoes	256,543.57	46,242.61	10.00%	25,654.36	184,646.61	8.79	21,007.78	8.19%
3963	GEN- Welders	0.00		10.00%	0.00	0.00			

APPENDIX A-1

Proposed Amortization Rates

LIBERTY UTILITIES MID-STATES
Missouri

Computation of Proposed Depreciation Amortization Rates
Using Average Life Group Depreciation
As of September 30, 2015

Account	Description	Plant Balance 09/30/2015	Allocated Reserve 09/30/2015	Theoretical Reserve 09/30/2015	Reserve Difference	Remaining Life	Assets to Ret > ASL	Total Proposed Annual Accrual Rate
3910	Office Furniture & Improvement	739,576.11	159,989.49	195,791.53	(35,802.05)	11.89	53,391.37	6.67%
3930	Stores Equipment	9,224.68	9,224.68	9,224.68	0.00	0.00	9,224.68	5.56%
3940	Tools, Shop, and Garage Equipment	1,434,112.66	617,660.03	688,379.61	(70,719.58)	9.44	407,097.37	7.69%
3950	Laboratory Equipment	1,631.03	1,631.03	1,631.03	0.00	0.00	1,631.03	6.67%
					0.00			
3970	Communications Equipment	37,950.46	16,350.87	19,358.98	(3,008.10)	6.69	7,394.46	9.09%
3971	GEN-Comm Eq. Mob Radios	0.00			0.00			9.09%
3972	GEN-Comm Eq. Fixed Radios	13,940.12	5,006.52	6,524.43	(1,517.90)	6.06	487.07	9.09%
3973	GEN-Comm Eq. Telemetering	3,691.64	3,691.64	3,691.64	0.00	0.00	3,691.64	9.09%
3980	Misc. Equipment	925,550.01	295,042.26	392,366.23	(97,323.97)	9.27	5,266.86	6.25%
3993	OTH-Oth Tang Prop - Network - H/W	4,260.12	1,138.95	1,521.47	(382.53)	4.50		14.29%
3994	OTH-Oth Tang Prop - PC Hardware	68,681.24	11,151.01	14,896.18	(3,745.18)	5.48		14.29%
3995	OTH-Oth Tang Prop - PC Software	20,773.33	4,665.16	6,232.00	(1,566.84)	3.50		20.00%

After Retirement of Fully Accrued Assets

Account	Description	Balance 09/30/2015	Allocated Reserve 09/30/2015	Proposed Life	Annual Amortization	Accrual For Reserve Deficiency
3910	Office Furniture & Improvement	686,184.74	106,598.12	15	45,745.65	3,011.83
3930	Stores Equipment	0.00	0.00	18	0.00	0.00
3940	Tools, Shop, and Garage Equipment	1,027,015.29	210,562.66	13	79,001.18	7,491.86
3950	Laboratory Equipment	0.00	0.00	15	0.00	0.00
3970	Communications Equipment	30,556.00	8,956.41	11	2,777.82	449.45
3971	GEN-Comm Eq. Mob Radios	0.00	0.00	11	0.00	0.00
3972	GEN-Comm Eq. Fixed Radios	13,453.05	4,519.45	11	1,223.00	250.33
3973	GEN-Comm Eq. Telemetering	0.00	0.00	11	0.00	0.00
3980	Misc. Equipment	920,283.15	289,775.40	16	57,517.70	10,498.91
3993	OTH-Oth Tang Prop - Network - H/W	4,260.12	1,138.95	7	608.59	85.01
3994	OTH-Oth Tang Prop - PC Hardware	68,681.24	11,151.01	7	9,811.61	683.20
3995	OTH-Oth Tang Prop - PC Software	20,773.33	4,665.16	5	4,154.67	447.67

APPENDIX B

Comparison of Accrual Rates

LIBERTY UTILITIES MID-STATES
Missouri Assets

Comparison of Existing vs Proposed Depreciaton Rates
Using Average Life Group Depreciation
As of September 30, 2015

Acct	Description	Plant at 9/30/15	Current Rate	Annual Expense	Proposed Rate	Proposed Expense	Expense Change
3010	Intangible Plant-Organization	6,143.05	0.00%	0.00		0.00	0.00
3020	Intangible Plant-Franchise/Consents	75,761.08	0.00%	0.00		0.00	0.00
3030	Misc. Intangible Plant	17,584.47	0.00%	0.00		0.00	0.00
3650	Land - Transmission	200.00	0.00%	0.00		0.00	0.00
3651	Land & Land Rights	134,267.75	0.00%	0.00		0.00	0.00
3660	T&D-Structures & Improvements	3,379.86	3.24%	109.51	1.24%	41.85	(67.65)
3661	T&D-Other Structures	61,081.38	3.24%	1,979.04	2.04%	1,248.96	(730.08)
3670	T&D-Mains-STL-PLST-CI-Mixed	84,488.89	1.53%	1,292.68	2.97%	2,511.85	1,219.17
3671	T&D-Mains-STL	9,576,094.38	1.53%	146,514.24	1.35%	129,583.32	(16,930.92)
3690	T&D-M&R Station Equipment	559,893.74	1.53%	8,566.37	2.05%	11,468.64	2,902.27
3700	Communication Equipment	5,037.94	3.60%	181.37	1.25%	63.00	(118.37)
3740	Land and Land Rights	67,773.54	4.36%	2,954.93		0.00	(2,954.93)
3741	T&D-Land	179,143.91		0.00		0.00	0.00
3742	T&D-Land Rights	256,590.15	0.00%	0.00	1.71%	4,395.17	4,395.17
3750	Strucutures and Improvements	79,892.55	2.33%	1,861.50	2.81%	2,248.17	386.67
3760	Mains	2,276,824.58	1.53%	34,835.42	8.76%	199,425.07	164,589.66
3761	T&D-Mains-STL	18,864,181.61	1.53%	288,621.98	2.25%	424,817.10	136,195.12
3762	T&D-Mains-PLST	28,931,224.77	1.53%	442,647.74	1.86%	538,444.25	95,796.51
3780	Measuring & regulating stn eqt-General	1,620,088.23	3.00%	48,602.65	4.06%	65,772.41	17,169.77
3790	Measuring & regulating stn eqt-City gate check stn	1,747,018.92	3.21%	56,079.31	3.10%	54,124.85	(1,954.46)
3800	Services	28,017,763.14	5.00%	1,400,888.16	5.32%	1,491,884.77	90,996.61
3810	Meters	8,344,254.98	2.16%	180,235.91	5.01%	417,819.45	237,583.54
3820	Meters Installations	10,864,190.27	3.00%	325,925.71	5.58%	605,889.27	279,963.56
3830	House regulators	2,268,925.38	4.55%	103,236.10	4.52%	102,523.20	(712.91)
3840	House Regulatory installations	731,832.78	3.33%	24,370.03	4.37%	31,949.30	7,579.27
3850	Industrial measuring & regulating stn eqt	520,775.60	3.60%	18,747.92	2.93%	15,264.01	(3,483.91)
3870	Other Equipment	5,947.35	4.50%	267.63	11.41%	678.58	410.95
3890	Land and Land Rights	30,363.79	0.00%	0.00		0.00	0.00
3900	General Structures & Improvmnt	1,907,422.63	5.00%	95,371.13	3.43%	65,403.96	(29,967.17)
3901	GEN-Structure Frame	21,504.12	5.00%	1,075.21	3.67%	789.49	(285.72)
3902	GEN-Improvements	0.00	5.00%	0.00	0.00%	0.00	0.00
3903	GEN-Improvements Leased Premise	51,707.76	5.00%	2,585.39	3.30%	1,705.03	(880.36)
3910	Office Furniture & Improvement	686,184.74	4.75%	32,593.78	6.67%	45,745.65	13,151.87
3920	Transportation Equipment	267,292.67	10.39%	27,771.71	15.18%	40,572.83	12,801.13
3921	Transportation Equip<12,000 LB	2,263,476.48	10.39%	235,175.21	12.23%	276,753.89	41,578.68
3930	Stores Equipment	0.00	4.50%	0.00	5.56%	0.00	0.00
3940	Tools, Shop, and Garage Equipment	1,027,015.29	4.50%	46,215.69	7.69%	79,001.18	32,785.49
3950	Laboratory Equipment	0.00	4.00%	0.00	6.67%	0.00	0.00
3960	Power Operated Equipment	656,440.87	7.92%	51,990.12	7.95%	52,169.09	178.97
3961	GEN- Ditchers	194,392.85	7.92%	15,395.91	9.20%	17,892.77	2,496.85
3962	GEN-Backhoes	256,543.57	7.92%	20,318.25	8.19%	21,007.78	689.53
3963	GEN- Welders	0.00	7.92%	0.00		0.00	0.00
3970	Communications Equipment	30,556.00	4.55%	1,390.30	9.09%	2,777.82	1,387.52
3971	GEN-Comm Eq. Mob Radios	0.00	4.55%	0.00	9.09%	0.00	0.00
3972	GEN-Comm Eq. Fixed Radios	13,453.05	4.55%	612.11	9.09%	1,223.00	610.89
3973	GEN-Comm Eq. Telemetering	0.00	4.55%	0.00	9.09%	0.00	0.00
3980	Misc. Equipment	920,283.15	3.60%	33,130.19	6.25%	57,517.70	24,387.50
3993	OTH-Oth Tang Prop - Network - H/W	4,260.12	18.98%	808.57	14.29%	608.59	(199.98)
3994	OTH-Oth Tang Prop - PC Hardware	68,681.24	18.98%	13,035.70	14.29%	9,811.61	(3,224.09)
3995	OTH-Oth Tang Prop - PC Software	20,773.33	14.29%	2,968.51	20.00%	4,154.67	1,186.16
	Additional Accrual for Reserve Difference AR15					22,918.27	22,918.27
	Total Missouri	123,720,711.96		3,668,355.95		4,800,206.55	1,131,850.60

APPENDIX C

Depreciation Parameters

Appendix C

LIBERTY UTILITIES MID-STATES GAS
PROPOSED DEPRECIATION PARAMETERS
BY ACCOUNT AT SEPTEMBER 30, 2015

Acct	Description	Average Service Life	Iowa Curve	Net Salv Percentage
3010	Intangible Plant-Organization		Non-Depreciable	
3020	Intangible Plant-Franchise/Consents		Non-Depreciable	
3030	Misc. Intangible Plant		Non-Depreciable	
3650	Land - Transmission		Non-Depreciable	
3651	Land & Land Rights		Non-Depreciable	
3660	T&D-Structures & Improvements	50	S3	-5
3661	T&D-Other Structures	50	S3	-5
3670	T&D-Mains-STL-PLST-CI-Mixed	25	SQ	0
3671	T&D-Mains-STL	70	R2.5	-20
3672	T&D-Mains-PLST	N/A	N/A	N/A
3690	T&D-M&R Station Equipment	40	R2.5	-10
3700	Communication Equipment	25	S2.5	0
3740	Land and Land Rights		Non-Depreciable	
3741	T&D-Land		Non-Depreciable	
3742	T&D-Land Rights	70	R2.5	0
3750	Strucutures and Improvements	45	R2	0
3760	Mains	25	SQ	0
3761	T&D-Mains-STL	63	R1.5	-20
3762	T&D-Mains-PLST	65	R3	-5
3780	Measuring & regulating stn eqt-General	40	R4	-10
3790	Measuring & regulating stn eqt-City gate check stn	45	S2	-10
3800	Services	33	L0	-50
3810	Meters	31	L1	-35
3820	Meters Installations	27	L0.5	-35
3830	House regulators	27	L0.5	0
3840	House Regulatory installations	27	L0.5	0
3850	Industrial measuring & regulating stn eqt	45	R3	-10
3870	Other Equipment	10	R2	0
3890	Land and Land Rights		Non-Depreciable	
3900	General Structures & Improvmnt	33	L05	
3901	GEN-Structure Frame	33	L05	
3902	GEN-Improvements	33	L05	
3903	GEN-Improvements Leased Premise	33	L05	0
3910	Office Furniture & Improvement	15	L3	0
3920	Transportation Equipment	8	L3	6
3921	Transportation Equip<12,000 LB	8	L3	6
3930	Stores Equipment	18	L3	0
3940	Tools, Shop, and Garage Equipment	13	L0	0
3950	Laboratory Equipment	15	L3	0
3960	Power Operated Equipment	12	L0	10
3961	GEN- Ditchers	12	L0	10
3962	GEN-Backhoes	12	L0	10
3963	GEN- Welders	12	L0	10
3970	Communications Equipment	11	L2	0
3971	GEN-Comm Eq. Mob Radios	11	L2	0
3972	GEN-Comm Eq. Fixed Radios	11	L2	0
3973	GEN-Comm Eq. Telemetering	11	L2	0
3980	Misc. Equipment	16	R1.5	0
3993	OTH-Oth Tang Prop - Network - H/W	7	SQ	0
3994	OTH-Oth Tang Prop - PC Hardware	7	SQ	0
3995	OTH-Oth Tang Prop - PC Software	5	SQ	0

APPENDIX D

Net Salvage Analysis

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3010	2005	0.00	0.00	0.00	0.00	NA								
3010	2006	0.00	0.00	0.00	0.00	NA	NA							
3010	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3010	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3010	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3010	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3010	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3010	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3010	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3020	2005	0.00	0.00	0.00	0.00	NA								
3020	2006	0.00	0.00	0.00	0.00	NA	NA							
3020	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3020	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3020	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3020	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3020	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3020	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3020	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3030	2005	0.00	0.00	0.00	0.00	NA								
3030	2006	0.00	0.00	0.00	0.00	NA	NA							
3030	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3030	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3030	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3030	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3030	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3030	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3030	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3650	2005	0.00	0.00	0.00	0.00	NA								
3650	2006	0.00	0.00	0.00	0.00	NA	NA							
3650	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3650	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3650	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3650	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3650	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3650	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3650	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3651	2005	0.00	0.00	0.00	0.00	NA								
3651	2006	0.00	0.00	0.00	0.00	NA	NA							
3651	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3651	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3651	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3651	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3651	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3651	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3651	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3660	2005	0.00	0.00	0.00	0.00	NA								
3660	2006	0.00	0.00	0.00	0.00	NA	NA							
3660	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3660	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3660	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3660	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3660	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3660	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3660	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3661	2005	0.00	0.00	0.00	0.00	NA								
3661	2006	0.00	0.00	0.00	0.00	NA	NA							
3661	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3661	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3661	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3661	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3661	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3661	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3661	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3670	2005	0.00	0.00	0.00	0.00	NA								
3670	2006	0.00	0.00	0.00	0.00	NA	NA							
3670	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3670	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3670	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3670	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3670	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3670	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3670	2015	1,476.25	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3671	2005	0.00	0.00	0.00	0.00	NA								
3671	2006	0.00	0.00	0.00	0.00	NA	NA							
3671	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3671	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3671	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3671	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3671	2013	10,981.52	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3671	2014	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3671	2015	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3672	2005	0.00	0.00	0.00	0.00	NA								
3672	2006	0.00	0.00	0.00	0.00	NA	NA							
3672	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3672	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3672	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3672	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3672	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3672	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3672	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3690	2005	0.00	0.00	0.00	0.00	NA								
3690	2006	0.00	0.00	0.00	0.00	NA	NA							
3690	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3690	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3690	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3690	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3690	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3690	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3690	2015	9,834.21	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3700	2005	0.00	0.00	0.00	0.00	NA								
3700	2006	0.00	0.00	0.00	0.00	NA	NA							
3700	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3700	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3700	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3700	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3700	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3700	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3700	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3740	2005	0.00	0.00	0.00	0.00	NA								
3740	2006	0.00	0.00	0.00	0.00	NA	NA							
3740	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3740	2008	1,045.00	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3740	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3740	2010	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%			
3740	2013	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%		
3740	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	
3740	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
3741	2005	0.00	0.00	0.00	0.00	NA								
3741	2006	0.00	0.00	0.00	0.00	NA	NA							
3741	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3741	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3741	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3741	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3741	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3741	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3741	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3742	2005	0.00	0.00	0.00	0.00	NA								
3742	2006	0.00	0.00	0.00	0.00	NA	NA							
3742	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3742	2008	470.00	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3742	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3742	2010	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%			
3742	2013	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%		
3742	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	
3742	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
3750	2005	0.00	0.00	0.00	0.00	NA								
3750	2006	0.00	0.00	0.00	0.00	NA	NA							
3750	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3750	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3750	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3750	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3750	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3750	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3750	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3760	2005	212.87	0.00	64.00	(64.00)	-30.07%								
3760	2006	1,755.22	0.00	390.00	(390.00)	-22.22%	-23.07%							

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3760	2007	104.57	0.00	717.00	(717.00)	-685.67%	-59.52%	-56.50%						
3760	2008	1,513.20	0.00	239.00	(239.00)	-15.79%	-59.09%	-39.91%	-39.32%					
3760	2009	0.00	0.00	23.00	(23.00)	NA	-17.31%	-60.52%	-40.59%	-39.96%				
3760	2010	0.00	0.00	0.00	0.00	NA	NA	-17.31%	-60.52%	-40.59%	-39.96%			
3760	2013	1,206.07	0.00	13,667.19	(13,667.19)	-1133.20%	-1133.20%	-1135.11%	-512.24%	-518.66%	-328.37%	-315.12%		
3760	2014	0.00	0.00	2,214.59	(2,214.59)	NA	-1316.82%	-1316.82%	-1318.73%	-593.68%	-597.09%	-376.73%	-361.33%	
3760	2015	0.00	0.00	0.00	0.00	NA	NA	-1316.82%	-1316.82%	-1318.73%	-593.68%	-597.09%	-376.73%	-361.33%
3761	2005	49,704.84	0.00	294.00	(294.00)	-0.59%								
3761	2006	293,871.68	0.00	13,801.00	(13,801.00)	-4.70%	-4.10%							
3761	2007	188,168.85	0.00	36,790.00	(36,790.00)	-19.55%	-10.50%	-9.57%						
3761	2008	102,728.08	0.00	178,836.00	(178,836.00)	-174.09%	-74.12%	-39.23%	-36.21%					
3761	2009	265,607.03	0.00	30,748.00	(30,748.00)	-11.58%	-56.90%	-44.27%	-30.60%	-28.94%				
3761	2010	328,665.67	0.00	67,610.00	(67,610.00)	-20.57%	-16.55%	-39.77%	-35.47%	-27.80%	-26.70%			
3761	2013	51,259.22	0.00	39,909.99	(39,909.99)	-77.86%	-28.30%	-21.42%	-42.38%	-37.79%	-29.89%	-28.75%		
3761	2014	2,553.89	0.00	33,796.27	(33,796.27)	-1323.33%	-136.97%	-36.95%	-26.55%	-46.74%	-41.29%	-32.57%	-31.33%	
3761	2015	1,220,041.29	0.00	47,590.07	(47,590.07)	-3.90%	-6.66%	-9.52%	-11.79%	-11.76%	-20.22%	-20.16%	-18.31%	-17.96%
3762	2005	10,826.10	0.00	539.00	(539.00)	-4.98%								
3762	2006	28,163.67	0.00	3,744.00	(3,744.00)	-13.29%	-10.98%							
3762	2007	36,478.51	0.00	11,540.00	(11,540.00)	-31.64%	-23.64%	-20.97%						
3762	2008	27,295.08	0.00	7,379.00	(7,379.00)	-27.03%	-29.67%	-24.65%	-22.58%					
3762	2009	107,331.05	0.00	5,216.00	(5,216.00)	-4.86%	-9.36%	-14.11%	-13.99%	-13.53%				
3762	2010	46,743.00	0.00	1,799.00	(1,799.00)	-3.85%	-4.55%	-7.94%	-11.90%	-12.06%	-11.77%			
3762	2013	400,542.95	0.00	0.00	0.00	0.00%	-0.40%	-1.26%	-2.47%	-4.19%	-4.59%	-4.60%		
3762	2014	2,704.02	0.00	0.00	0.00	0.00%	0.00%	-0.40%	-1.26%	-2.46%	-4.18%	-4.57%	-4.58%	
3762	2015	113,768.29	0.00	4,716.08	(4,716.08)	-4.15%	-4.05%	-0.91%	-1.16%	-1.75%	-2.74%	-4.17%	-4.51%	-4.51%
3780	2005	0.00	0.00	9,252.00	(9,252.00)	NA								
3780	2006	0.00	0.00	(6,178.00)	6,178.00	NA	NA							
3780	2007	1,927.98	0.00	10,637.00	(10,637.00)	-551.72%	-231.28%	-711.16%						
3780	2008	0.00	0.00	11,704.00	(11,704.00)	NA	-1158.78%	-838.34%	-1318.22%					
3780	2009	145,612.04	0.00	(5,268.00)	5,268.00	3.62%	-4.42%	-11.57%	-7.38%	-13.66%				
3780	2010	0.00	0.00	0.00	0.00	NA	3.62%	-4.42%	-11.57%	-7.38%	-13.66%			
3780	2013	0.00	0.00	0.00	0.00	NA	NA	3.62%	-4.42%	-11.57%	-7.38%	-13.66%		
3780	2014	0.00	0.00	0.00	0.00	NA	NA	NA	3.62%	-4.42%	-11.57%	-7.38%	-13.66%	
3780	2015	8,043.30	0.00	816.08	(816.08)	-10.15%	-10.15%	-10.15%	-10.15%	2.90%	-4.72%	-11.50%	-7.53%	-13.47%
3790	2005	0.00	0.00	0.00	0.00	NA								
3790	2006	0.00	0.00	0.00	0.00	NA	NA							
3790	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3790	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3790	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3790	2010	1,964.02	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3790	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3790	2014	0.00	0.00	614.08	(614.08)	NA	NA	-31.27%	-31.27%	-31.27%	-31.27%	-31.27%	-31.27%	
3790	2015	98.27	0.00	0.00	0.00	0.00%	-624.89%	-624.89%	-29.78%	-29.78%	-29.78%	-29.78%	-29.78%	-29.78%
3800	2005	1,842,077.78	4,911.00	48,250.00	(43,339.00)	-2.35%								
3800	2006	3,251,975.14	0.00	364,756.00	(364,756.00)	-11.22%	-8.01%							
3800	2007	1,537,989.30	301.00	474,094.00	(473,793.00)	-30.81%	-17.51%	-13.30%						
3800	2008	1,542,400.75	4.00	689,507.00	(689,503.00)	-44.70%	-37.76%	-24.13%	-19.22%					
3800	2009	2,043,706.89	0.00	17,711.00	(17,711.00)	-0.87%	-19.72%	-23.05%	-18.45%	-15.55%				
3800	2010	929,087.94	0.00	1,096,016.00	(1,096,016.00)	-117.97%	-37.46%	-39.94%	-37.62%	-28.39%	-24.09%			

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3800	2013	114,098.28	0.00	180,766.36	(180,766.36)	-158.43%	-122.39%	-41.94%	-42.86%	-39.85%	-29.97%	-25.45%		
3800	2014	61,463.58	0.00	203,348.37	(203,348.37)	-330.84%	-218.79%	-133.99%	-47.58%	-46.63%	-42.72%	-31.92%	-27.11%	
3800	2015	349,767.78	0.00	197,492.21	(197,492.21)	-56.46%	-97.47%	-110.71%	-115.35%	-48.46%	-47.31%	-43.45%	-32.79%	-27.99%
3810	2005	0.00	0.00	10,289.00	(10,289.00)	NA								
3810	2006	162,276.91	0.00	200,805.00	(200,805.00)	-123.74%	-130.08%							
3810	2007	178,164.99	0.00	357,498.00	(357,498.00)	-200.66%	-163.99%	-167.02%						
3810	2008	220,367.09	0.00	116,811.00	(116,811.00)	-53.01%	-119.01%	-120.38%	-122.22%					
3810	2009	167,255.80	0.00	13,557.00	(13,557.00)	-8.11%	-33.63%	-86.23%	-94.59%	-96.00%				
3810	2010	494,446.44	0.00	124,484.00	(124,484.00)	-25.18%	-20.86%	-28.89%	-57.76%	-66.52%	-67.36%			
3810	2013	495,805.08	0.00	125,754.23	(125,754.23)	-25.36%	-25.27%	-22.79%	-27.62%	-47.43%	-54.64%	-55.24%		
3810	2014	495,805.08	0.00	151,350.94	(151,350.94)	-30.53%	-27.94%	-27.02%	-25.11%	-28.39%	-43.35%	-49.24%	-49.71%	
3810	2015	495,805.08	0.00	303,207.40	(303,207.40)	-61.15%	-45.84%	-39.01%	-35.56%	-33.43%	-35.25%	-46.81%	-51.42%	-51.80%
3820	2005	405,644.22	0.00	62,100.00	(62,100.00)	-15.31%								
3820	2006	695,842.20	0.00	216,435.00	(216,435.00)	-31.10%	-25.29%							
3820	2007	292,682.04	0.00	47,122.00	(47,122.00)	-16.10%	-26.66%	-23.36%						
3820	2008	438,939.47	0.00	308,652.00	(308,652.00)	-70.32%	-48.63%	-40.09%	-34.60%					
3820	2009	317,680.67	0.00	60,581.00	(60,581.00)	-19.07%	-48.80%	-39.68%	-36.26%	-32.31%				
3820	2010	161,228.86	0.00	563,428.00	(563,428.00)	-349.46%	-130.30%	-101.61%	-80.94%	-62.75%	-54.43%			
3820	2013	0.00	0.00	0.00	0.00	NA	-349.46%	-130.30%	-101.61%	-80.94%	-62.75%	-54.43%		
3820	2014	0.00	0.00	0.00	0.00	NA	NA	-349.46%	-130.30%	-101.61%	-80.94%	-62.75%	-54.43%	
3820	2015	0.00	0.00	0.00	0.00	NA	NA	NA	-349.46%	-130.30%	-101.61%	-80.94%	-62.75%	-54.43%
3830	2005	0.00	0.00	0.00	0.00	NA								
3830	2006	0.00	0.00	0.00	0.00	NA	NA							
3830	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3830	2008	0.00	0.00	(6,393.00)	6,393.00	NA	NA	NA	NA					
3830	2009	12,045.30	0.00	(803.00)	803.00	6.67%	59.74%	59.74%	59.74%	59.74%				
3830	2010	0.00	0.00	1,440.00	(1,440.00)	NA	-5.29%	47.79%	47.79%	47.79%	47.79%			
3830	2013	0.00	0.00	0.00	0.00	NA	NA	-5.29%	47.79%	47.79%	47.79%	47.79%		
3830	2014	0.00	0.00	0.00	0.00	NA	NA	NA	-5.29%	47.79%	47.79%	47.79%	47.79%	
3830	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-5.29%	47.79%	47.79%	47.79%	47.79%
3840	2005	0.00	0.00	0.00	0.00	NA								
3840	2006	0.00	0.00	0.00	0.00	NA	NA							
3840	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3840	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3840	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3840	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3840	2013	468.09	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3840	2014	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3840	2015	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3850	2005	0.00	0.00	0.00	0.00	NA								
3850	2006	0.00	0.00	0.00	0.00	NA	NA							
3850	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3850	2008	0.00	0.00	(4,786.00)	4,786.00	NA	NA	NA	NA					
3850	2009	1,988.54	0.00	(2,824.00)	2,824.00	142.01%	382.69%	382.69%	382.69%	382.69%				
3850	2010	0.00	0.00	(83.00)	83.00	NA	146.19%	386.87%	386.87%	386.87%	386.87%			
3850	2013	0.00	0.00	0.00	0.00	NA	NA	146.19%	386.87%	386.87%	386.87%	386.87%		
3850	2014	0.00	0.00	0.00	0.00	NA	NA	NA	146.19%	386.87%	386.87%	386.87%	386.87%	
3850	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	146.19%	386.87%	386.87%	386.87%	386.87%

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3870	2005	0.00	0.00	0.00	0.00	NA								
3870	2006	0.00	0.00	0.00	0.00	NA	NA							
3870	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3870	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3870	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3870	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3870	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3870	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3870	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3890	2005	0.00	0.00	0.00	0.00	NA								
3890	2006	0.00	0.00	0.00	0.00	NA	NA							
3890	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3890	2008	39,000.00	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3890	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3890	2010	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%			
3890	2013	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%		
3890	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	
3890	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
3900	2005	0.00	0.00	0.00	0.00	NA								
3900	2006	0.00	0.00	0.00	0.00	NA	NA							
3900	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3900	2008	575,969.88	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3900	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3900	2010	105,601.53	0.00	(10,818.00)	10,818.00	10.24%	10.24%	1.59%	1.59%	1.59%	1.59%			
3900	2013	0.00	0.00	0.00	0.00	NA	10.24%	10.24%	1.59%	1.59%	1.59%	1.59%		
3900	2014	3,236.32	0.00	0.00	0.00	0.00%	0.00%	9.94%	9.94%	1.58%	1.58%	1.58%	1.58%	
3900	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	9.94%	9.94%	1.58%	1.58%	1.58%	1.58%
3901	2005	0.00	0.00	0.00	0.00	NA								
3901	2006	0.00	0.00	0.00	0.00	NA	NA							
3901	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3901	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3901	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3901	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3901	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3901	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3901	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3902	2005	0.00	0.00	0.00	0.00	NA								
3902	2006	0.00	0.00	0.00	0.00	NA	NA							
3902	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3902	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3902	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3902	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3902	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3902	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3902	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3903	2005	0.00	0.00	0.00	0.00	NA								
3903	2006	0.00	0.00	0.00	0.00	NA	NA							
3903	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3903	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3903	2009	5,539.85	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3903	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3903	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3903	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3903	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
3910	2005	0.00	0.00	0.00	0.00	NA								
3910	2006	158,936.68	0.00	0.00	0.00	0.00%	0.00%							
3910	2007	10,256.20	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3910	2008	58,917.32	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3910	2009	36,439.51	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3910	2010	2,923.04	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3910	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3910	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3910	2015	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3920	2005	29,100.81	4,000.00	(897.00)	4,897.00	16.83%								
3920	2006	766,825.49	26,700.00	(4,379.00)	31,079.00	4.05%	4.52%							
3920	2007	136,472.15	27,841.00	(5,130.00)	32,971.00	24.16%	7.09%	7.39%						
3920	2008	96,562.89	11,667.00	801.00	10,866.00	11.25%	18.81%	7.49%	7.76%					
3920	2009	244,625.09	0.00	0.00	0.00	0.00%	3.18%	9.18%	6.02%	6.27%				
3920	2010	48,355.07	11,780.00	14,673.00	(2,893.00)	-5.98%	-0.99%	2.05%	7.78%	5.57%	5.82%			
3920	2013	0.00	0.00	0.00	0.00	NA	-5.98%	-0.99%	2.05%	7.78%	5.57%	5.82%		
3920	2014	0.00	0.00	0.00	0.00	NA	NA	-5.98%	-0.99%	2.05%	7.78%	5.57%	5.82%	
3920	2015	0.00	0.00	0.00	0.00	NA	NA	NA	-5.98%	-0.99%	2.05%	7.78%	5.57%	5.82%
3921	2005	0.00	0.00	0.00	0.00	NA								
3921	2006	0.00	0.00	0.00	0.00	NA	NA							
3921	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3921	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3921	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3921	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3921	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3921	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3921	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3930	2005	0.00	0.00	0.00	0.00	NA								
3930	2006	13,692.66	0.00	0.00	0.00	0.00%	0.00%							
3930	2007	2,082.65	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3930	2008	15,137.70	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3930	2009	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%				
3930	2010	3,086.24	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3930	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3930	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3930	2015	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3940	2005	0.00	0.00	0.00	0.00	NA								
3940	2006	421,530.14	0.00	0.00	0.00	0.00%	0.00%							
3940	2007	93,667.55	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3940	2008	72,122.30	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3940	2009	196,449.11	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3940	2010	175,452.88	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3940	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3940	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3940	2015	4,741.26	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3950	2005	0.00	0.00	0.00	0.00	NA								
3950	2006	45,833.63	0.00	0.00	0.00	0.00%	0.00%							
3950	2007	88.14	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3950	2008	2,170.42	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3950	2009	7,899.04	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3950	2010	3,682.30	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3950	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3950	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3950	2015	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3960	2005	0.00	0.00	0.00	0.00	NA								
3960	2006	104,703.25	0.00	0.00	0.00	0.00%	0.00%							
3960	2007	65,594.27	1,600.00	0.00	1,600.00	2.44%	0.94%	0.94%						
3960	2008	8,412.14	32.00	13.00	19.00	0.23%	2.19%	0.91%	0.91%					
3960	2009	106,182.14	0.00	0.00	0.00	0.00%	0.02%	0.90%	0.57%	0.57%				
3960	2010	8,593.93	0.00	5,839.00	(5,839.00)	-67.94%	-5.09%	-4.72%	-2.24%	-1.44%	-1.44%			
3960	2013	0.00	0.00	0.00	0.00	NA	-67.94%	-5.09%	-4.72%	-2.24%	-1.44%	-1.44%		
3960	2014	0.00	0.00	0.00	0.00	NA	NA	-67.94%	-5.09%	-4.72%	-2.24%	-1.44%	-1.44%	
3960	2015	0.00	0.00	0.00	0.00	NA	NA	NA	-67.94%	-5.09%	-4.72%	-2.24%	-1.44%	-1.44%
3961	2005	0.00	0.00	0.00	0.00	NA								
3961	2006	2,265.82	0.00	0.00	0.00	0.00%	0.00%							
3961	2007	0.00	1,500.00	0.00	1,500.00	NA	66.20%	66.20%						
3961	2008	50,477.92	18,365.00	(487.00)	18,852.00	37.35%	40.32%	38.59%	38.59%					
3961	2009	138,918.92	500.00	(1,083.00)	1,583.00	1.14%	10.79%	11.58%	11.44%	11.44%				
3961	2010	7,006.10	0.00	4,760.00	(4,760.00)	-67.94%	-2.18%	7.98%	8.74%	8.65%	8.65%			
3961	2013	0.00	0.00	0.00	0.00	NA	-67.94%	-2.18%	7.98%	8.74%	8.65%	8.65%		
3961	2014	0.00	0.00	0.00	0.00	NA	NA	-67.94%	-2.18%	7.98%	8.74%	8.65%	8.65%	
3961	2015	18,160.56	5,944.50	0.00	5,944.50	32.73%	32.73%	32.73%	4.71%	1.69%	10.08%	10.78%	10.66%	10.66%
3962	2005	0.00	0.00	0.00	0.00	NA								
3962	2006	161,280.55	0.00	0.00	0.00	0.00%	0.00%							
3962	2007	105,717.44	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3962	2008	1,088.00	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3962	2009	82,215.29	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3962	2010	58,774.04	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3962	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3962	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3962	2015	50,733.84	37,958.40	0.00	37,958.40	74.82%	74.82%	74.82%	34.66%	19.80%	19.69%	12.72%	8.26%	8.26%
3963	2005	0.00	0.00	0.00	0.00	NA								
3963	2006	0.00	0.00	0.00	0.00	NA	NA							
3963	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3963	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3963	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3963	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3963	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3963	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3963	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3964	2005	0.00	0.00	0.00	0.00	NA								
3964	2006	0.00	0.00	0.00	0.00	NA	NA							

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Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3964	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3964	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3964	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3964	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3964	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3964	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	
3964	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
3970	2005	0.00	0.00	0.00	0.00	NA								
3970	2006	0.00	0.00	0.00	0.00	NA	NA							
3970	2007	81,706.76	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3970	2008	116,322.59	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3970	2009	17,684.27	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3970	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3970	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3970	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3970	2015	93.29	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3971	2005	0.00	0.00	0.00	0.00	NA								
3971	2006	0.00	0.00	0.00	0.00	NA	NA							
3971	2007	62,810.71	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3971	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3971	2009	35,877.47	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3971	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3971	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3971	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3971	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
3972	2005	0.00	0.00	0.00	0.00	NA								
3972	2006	0.00	0.00	0.00	0.00	NA	NA							
3972	2007	56,620.05	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3972	2008	10,666.10	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3972	2009	814.58	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3972	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3972	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3972	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	
3972	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
3973	2005	0.00	0.00	0.00	0.00	NA								
3973	2006	0.00	0.00	0.00	0.00	NA	NA							
3973	2007	8,791.07	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3973	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3973	2009	11,148.45	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3973	2010	13,539.35	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
3973	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3973	2014	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3973	2015	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3980	2005	0.00	0.00	0.00	0.00	NA								
3980	2006	0.00	0.00	0.00	0.00	NA	NA							
3980	2007	3,102.89	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3980	2008	205,385.36	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%					
3980	2009	1,477.30	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3980	2010	6,275.23	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

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Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3980	2013	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
3980	2014	49,059.29	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3980	2015	18,487.83	18,900.00	0.00	18,900.00	102.23%	27.98%	27.98%	25.60%	25.10%	6.73%	6.66%	6.66%	6.66%
3990	2005	0.00	0.00	0.00	0.00	NA								
3990	2006	0.00	0.00	0.00	0.00	NA	NA							
3990	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3990	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3990	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3990	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3990	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3990	2014	730.24	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3990	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3991	2005	0.00	0.00	0.00	0.00	NA								
3991	2006	0.00	0.00	0.00	0.00	NA	NA							
3991	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3991	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3991	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3991	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3991	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3991	2014	5,012.44	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3991	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3992	2005	0.00	0.00	0.00	0.00	NA								
3992	2006	0.00	0.00	0.00	0.00	NA	NA							
3992	2007	0.00	0.00	0.00	0.00	NA	NA	NA						
3992	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA					
3992	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA				
3992	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA			
3992	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA		
3992	2014	2,294.08	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3992	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3993	2005	0.00	0.00	0.00	0.00	NA								
3993	2006	0.00	0.00	0.00	0.00	NA	NA							
3993	2007	78,666.76	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3993	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3993	2009	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%				
3993	2010	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%			
3993	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%		
3993	2014	4,682.58	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3993	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3994	2005	0.00	0.00	0.00	0.00	NA								
3994	2006	0.00	0.00	0.00	0.00	NA	NA							
3994	2007	18,708.92	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3994	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3994	2009	2,418.26	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%				
3994	2010	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
3994	2013	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%		
3994	2014	798,914.26	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3994	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Liberty Utilities
Net Salvage Total

Acct	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salvage %	2 Yr Salvage %	3 Yr Salvage %	4 Yr Salvage %	5 Yr Salvage %	6 Yr Salvage %	7 Yr Salvage %	8 Yr Salvage %	9 Yr Salvage %
3995	2005	0.00	0.00	0.00	0.00	NA								
3995	2006	0.00	0.00	0.00	0.00	NA	NA							
3995	2007	2,508.02	0.00	0.00	0.00	0.00%	0.00%	0.00%						
3995	2008	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%					
3995	2009	0.00	0.00	0.00	0.00	NA	NA	0.00%	0.00%	0.00%				
3995	2010	0.00	0.00	0.00	0.00	NA	NA	NA	0.00%	0.00%	0.00%			
3995	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00%	0.00%	0.00%		
3995	2014	93,990.02	0.00	0.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
3995	2015	0.00	0.00	0.00	0.00	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Note: Data from 2011-2012 was not available from the predecessor company.

AFFIDAVIT OF DANE WATSON

STATE OF ALASKA)
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MATANUSKA SUSITNA BOROUGH)

On the 26th day of September, 2017, before me appeared Dane Watson, to me personally known, who, being by me first duly sworn, states that he a partner at Alliance Consulting Group and acknowledges that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Dane A. Watson
Dane Watson

Subscribed and sworn to before me this 26th day of September, 2017.

Dawn M. Baham
Notary Public

My commission expires: 5/25/20