BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

IN THE MATTER OF THE APPLICATION	**)**	
OF ATMOS ENERGY CORPORATION	**)**	**Docket No.**
FOR REVIEW AND ADJUSTMENT OF ITS	**)**	**23-ATMG-359-RTS**
NATURAL GAS RATES	**)**	

DIRECT TESTIMONY OF DANE A. WATSON

SEPTEMBER 9, 2022

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dane A. Watson. My business address is 101 E Park Blvd., Suite 220, Plano, Texas 75074.

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

A. I am the Managing Partner for Alliance Consulting Group. Alliance Consulting Group provides depreciation consulting and expert services to the utility industry. Alliance Consulting Group has specialized education and expertise in this area and has been serving clients for over 18 years.

Q. WHAT ARE YOUR JOB RESPONSIBILITIES?

A. As Managing Partner, I oversee and conduct depreciation studies for utilities across North America.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I received a Bachelor of Science degree in Electrical Engineering from the University of Arkansas at Fayetteville in 1985. I also received a Masters degree in Business Administration from Amber University in 1991. I am a Certified Depreciation Professional, and a registered Professional Engineer in the State of Texas.

Q. ARE YOU A MEMBER OF ANY PROFESSIONAL ORGANIZATIONS?

A. Yes. I am a member and served in numerous leadership capacities of the Society of Depreciation Professionals and currently serve as a faculty member in their training program. I am a member of the American Gas Association and Edison

Electrical Institute Property Accounting Committee, where I have served in numerous leadership capacities and served as general editor for industry publications. I am also a senior member of the Institute of Electronics and Electrical Engineers, where I have served for several years as an officer of the Executive Board of the Dallas Section of IEEE as well as Regional and word-wide offices.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes, I have conducted depreciation studies, filed written testimony, and testified before this Commission in numerous cases. Specifically, I provided written testimony in Atmos Energy's recent Kansas rate cases, Docket No. 16-ATMG-079-RTS and 19-ATMG-525-RTS. A complete listing of my Testimony Appearances is provided as Exhibit DAW-1.

Q. Have you testified on matters before other State regulatory Commissions?

A. Yes. A complete list of my testimony experience is provided as Exhibit DAW-1.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to discuss the depreciation studies performed by Alliance Consulting Group for Atmos Energy Corporation ("Atmos Energy" or "the Company") Colorado-Kansas ("COKS") General Office, and Shared Services Unit ("Shared Services") depreciable assets and to support the depreciation rate changes recommended for Atmos Energy's gas utility plant accounts based on the results of those depreciation studies.

Q. ARE YOU SPONSORING ANY EXHIBITS TO YOUR TESTIMONY?

A. Yes. I am sponsoring the following exhibits:

- Exhibit DAW-1 is a listing of my testimony experience.
- Exhibit DAW-2 is the Colorado-Kansas General Office Depreciation Rate Study as of September 30, 2021
- Exhibit DAW-3 is the Shared Services Unit Depreciation Rate Study as of September 30, 2019.

III. SUMMARY OF DEPRECIATION STUDY RESULTS

Q. WHAT RECOMMENDATIONS ARE YOU MAKING IN YOUR TESTIMONY?

A. I recommend that the Commission approve the depreciation rates developed for Atmos Energy's utility plant accounts as set forth in the depreciation rate studies, which are included as Exhibits DAW–2 and DAW-3. Based on the depreciation study year ending September 30, 2021, the recommended depreciation rates for the COKS General Office will result in a total annual depreciation expense of approximately $76 thousand per year. The annual depreciation expense for COKS General Office is allocated between Colorado and Kansas customers. The recommended depreciation rates for Shared Services will result in a total annual depreciation expense of approximately $25.5 million. Similar to COKS General Office, the annual depreciation expense for Shared Services is allocated to all Atmos Energy divisions and Kansas will be allocated its share. The specific allocation of annual depreciation expense specific to Kansas customers for COKS General Office and Shared Services can be found in the testimony of Company

Witness Mr. William Matthews. The calculated proposed depreciation rates at September 30, 2021, are shown in detail in Appendices A and B of Exhibit DAW-2 for COKS General Office and Appendices A and B of Exhibit DAW-3 for Shared Services Unit at September 30, 2019.

Q. HOW DOES THE ANNUAL DEPRECIATION EXPENSE REFLECTED IN THE DEPRECIATION RATE STUDIES RELATE TO WHAT ATMOS ENERGY IS PROPOSING WITH RESPECT TO DEPRECIATION AND AMORTIZATION EXPENSE IN THIS RATE CASE?

A. Mr. Matthews explains and supports Atmos Energy's proposals for depreciation expense based on the Company's test period ending March 31, 2022, in his direct testimony, and specifically requests the Commission's approval of the depreciation rates for Atmos Energy's utility plant accounts as recommended in the Depreciation Rate Studies. The Company's proposed annual depreciation expense for the test period is calculated using these same recommended depreciation rates but based on test year ending March 31, 2022 balances.

Q. WHAT IS THE GOAL IN PREPARING THE ESTIMATE OF TEST PERIOD PLANT IN SERVICE AND DEPRECIATION RESERVE?

A. The goal in preparing the test period amount is to define the level of plant in service, book depreciation reserve, and corresponding annual depreciation rates that will exist per the Company's books and records at the conclusion of the test period. The estimates are performed to identify the level of actual activity and resulting balances anticipated to occur from my study date of September 30, 2021 through to the test period ending March 31, 2022.

Q. WHAT IS THE PURPOSE OF INCLUDING AN ANNUALIZED DEPRECIATION EXPENSE LEVEL IN EXHIBITS DAW-2 AND DAW-3 AND TESTIMONY IF THE DEPRECIATION AMOUNT IS NOT USED AS A BASIS FOR REVENUE REQUIREMENTS?

A. The purpose for including an annualized depreciation expense amount is to illustrate the annual dollar impact of the proposed changes to the underlying depreciation parameters (*i.e.*, average service lives and net salvage percentage).

IV. DEPRECIATION STUDIES

Q. WHAT DO THE DEPRECIATION STUDIES ANALYZE?

A. The studies in Exhibits DAW-2 and DAW-3 analyze the Company's historical accounting database for life characteristics and net salvage percentages for Atmos Energy's assets at September 30, 2021, for COKS General Office and September 30, 2019, for Shared Services.

Q. WHAT PROPERTY IS INCLUDED IN THE DEPRECIATION STUDIES?

A. There is one class or functional group of depreciable property that is analyzed in the studies: General Plant property. General Plant property is not location specific, but is plant used to support Atmos Energy's overall operations (*e.g.*, office buildings, computers, and software). In the case of the COKS and Shared Services the costs are allocated a specific share among the Kansas customers.

Q. WHEN WERE THE EXISTING DEPRECIATION RATES APPROVED?

A. The existing depreciation rates for COKS General Office and Shared Services were last approved by Unanimous Settlement Agreement in 2016 by the Commission.[1]

[1] The State Corporation Commission of the State of Kansas Order, Docket No. 16-ATMG-079-RTS.

Q. WHAT IS THE IMPORTANCE OF CONDUCTING A NEW STUDY AND PROPOSING NEW DEPRECIATION RATES AT THIS TIME?

A. It is important that periodic review and approval be made to depreciation rates to reflect the changes in investment and the underlying life and net salvage parameters required to achieve intergenerational equity for Atmos Energy's customers based on current and future operations of its depreciable assets. It is important for the Commission to review and set depreciation rates at a new level now to ensure that intergenerational equity for Atmos Energy's customers is maintained.

Q. CAN YOU PLEASE EXPLAIN THE TERM INTERGENERATIONAL EQUITY?

A. Yes. The term intergenerational equity is a regulatory term and concept used to describe the fact that customer rates should be set to reflect an appropriate share of costs for the benefits received. Without periodic depreciation studies, more costs may be borne by customers who don't receive an equitable share of the benefit.

Q. CAN YOU PROVIDE A BRIEF DESCRIPTION OF THE DEPRECIATION STUDY PROCESS?

A. Yes. A depreciation study process encompasses four distinct phases. The first phase involves data collection and field interviews. The second phase is where the initial data analysis occurs. The third phase is where the information and analysis are evaluated. After the first three stages are complete, the fourth phase involves the calculation of deprecation rates and documenting the corresponding recommendations. I provide a more detailed discussion later in my testimony and

additional information can be found with the results of the study in Exhibits DAW-2 and DAW-3.

Q. ARE THERE STANDARD DEPRECIATION PROCESSES AND METHODOLOGIES THAT ARE FOLLOWED?

A. Yes. The depreciation study process and phases that I described above is a standard depreciation study approach. Inside each phase of the depreciation study process, standard life analysis, net salvage analysis, and rate calculation methodologies were utilized.

Q. DID YOU USE STANDARD PROCESSES AND METHODOLOGIES TO DETERMINE THE EXISTING DEPRECIATION RATES?

A. Yes. The depreciation system (straight-line method, equal life group procedure, and remaining life technique) were used in calculating the depreciation rates proposed in the depreciation studies and included in the revenue requirement in this proceeding.

Q. WHY IS DEPRECIATION IMPORTANT TO DETERMINING ATMOS ENERGY'S REVENUE REQUIREMENT?

A. Depreciation is important because, as the definition below describes, depreciation expense enables Atmos Energy to recover in a timely manner the capital costs related to its plant-in-service benefiting the Company's customers. Appropriate depreciation rates will allow recovery of investments in depreciable assets over a life that provides for full recovery of the investments, less net salvage.

Q. WHAT DEFINITION OF DEPRECIATION HAVE YOU USED FOR THE PURPOSES OF CONDUCTING THE DEPRECIATION STUDIES AND PREPARING YOUR TESTIMONY?

A. The term "depreciation," as used herein, 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. Depreciation is a process of allocation, not valuation. Depreciation expense allocates the cost of the asset, including any estimated net salvage necessary to remove the asset, as an ongoing cost of operations over the economic life of the asset. Depreciation 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. Thus, depreciation is considered an expense or cost of operations, rather than a loss or decrease in value. Atmos Energy 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 the net salvage amount, if any, is charged to the depreciation reserve.

Q. PLEASE DESCRIBE YOUR DEPRECIATION STUDY APPROACH IN MORE DETAIL.

A. With the assistance of my staff, I conducted the depreciation studies in four phases as broadly described previously and at pages 11-13 of Exhibit DAW-2 and pages 10-12 of Exhibit DAW-3. The four phases are: Data Collection, Analysis, Evaluation, and Calculation. During the initial phase of the study, I collected

historical data to be used in the analysis. After the data was assembled, I performed analyses to determine the life characteristics and net salvage percentage for the different property groups being studied. As part of this process, 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, were then evaluated to determine how the results of the historical asset activity analysis, in conjunction with the Company's expected future plans, and should be applied. Using all of these resources, I then calculated the depreciation rate for each function.

Q. WHAT DEPRECIATION SYSTEM DID YOU USE?

A. The straight-line (method), Equal Life Group ("ELG") (procedure), remaining-life (technique) depreciation system was used in these studies.

Q. HOW ARE THE DEPRECIATION RATES DETERMINED USING THE ELG PROCEDURE?

A. The annual depreciation expense for each group was computed by dividing the original cost of the asset, less allocated depreciation reserve, less estimated net salvage, by its respective equal life group remaining life. The resulting annual accrual amounts of all depreciable property within an account were accumulated, and the total was divided by the original cost of all depreciable property within the 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 net salvage characteristics of each depreciable

group. The formulas for the depreciation rate calculations by type of plant are shown in Exhibit DAW-2, page 15 and DAW-3, page 14. The individual account computations of the annual depreciation rates are shown in Appendices B of Exhibits DAW-2 and DAW-3.

Q. WHAT TIME PERIOD DID YOU USE TO DEVELOP THE PROPOSED DEPRECIATION RATES?

A. The depreciation rates were developed based on the depreciable property recorded on the Company's books at September 30, 2021, for COKS General Office and September 30, 2019, for Shared Services.

Q. PLEASE SUMMARIZE THE DEPRECIATION STUDY RESULTS WITH RESPECT TO DEPRECIATION RATES.

A. Based on the proposed depreciation rates indicated in the depreciation study, as applied to plant account balances as of September 30, 2021, the overall change in annual depreciation and amortization expense for COKS General Office annual depreciation expense is a decrease of approximately $65 thousand when compared to existing annual depreciation expense as reflected on Appendix A of Exhibit DAW-2. For Shared Services no comparison of annual depreciation expense is provided, but the proposed depreciation expense and rates are shown on Appendix A of Exhibit DAW-3. A more detailed discussion for each study will follow below.

A. Depreciation Study Results – Colorado-Kansas General Office

Q. WHAT FACTORS INFLUENCE THE DEPRECIATION RATES FOR THE COKS GENERAL OFFICE ACCOUNTS?

A. The primary factors that influence the depreciation rate for an account are the remaining investment to be recovered in the account, the depreciable life (ASL) of the account, and the net salvage for the account.

Q. DO YOU HAVE ANY INITIAL OBSERVATIONS ABOUT ATMOS ENERGY'S COKS GENERAL OFFICE DEPRECIATION RATES IN GENERAL?

A. Yes. COKS General Office's depreciation expense is decreasing from previously approved levels.

Q. WHY IS DEPRECIATION EXPENSE DECREASING FOR THE COKS GENERAL OFFICE PROPERTY?

A. The change in depreciation expense, a decrease of approximately $65 thousand, is primarily attributable to less investment, five account life increases, and the reserve position.

Q. WHAT DOES THE TERM RESERVE POSITION MEAN?

A. The term reserve position refers to the comparison of the calculated theoretical reserve to the existing book reserve.

Q. WHAT IS THE PURPOSE OF MAKING THE COMPARISON BETWEEN THE THEORETICAL RESERVE AND THE RECORDED BOOK RESERVE?

A. The theoretical reserve is used in a depreciation study to test the adequacy of the

existing book reserve level. In calculating remaining-life depreciation rates, this test assesses the difference between the calculated theoretical and actual book reserves necessary to recover the plant investment over its remaining life.

Q. WHAT IS THE BASIS OF THE THEORETICAL RESERVE CALCULATION?

A. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. Any difference between the theoretical and book reserve are calculated in the annual depreciation accrual and resulting depreciation rates.

Q. WHAT METHOD DID YOU USE TO ANALYZE HISTORICAL DATA FOR THE COKS GENERAL OFFICE TO DETERMINE LIFE CHARACTERISTICS?

A. All plant accounts were analyzed using actuarial analysis (retirement rate method) to estimate the life of the property in each account. In much the same manner as human mortality is analyzed by actuaries, depreciation analysts use models of property mortality characteristics that have been validated in research and empirical applications. Further detail of the life method used to analyze the historical data is found in Exhibit DAW-2 on page 7.

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

A. The appropriate average service lives for each account in the General Plant function

were determined by using actuarial analysis. Graphs and tables supporting the analysis and the chosen Iowa Curves used to determine the average service lives for analyzed accounts are found in the Life Analysis section of Exhibit DAW-2, pages16-29 and in the supporting workpapers to the study. A comparison of the existing and proposed depreciable lives is shown in Exhibit DAW-2, Appendix C.

Q. PLEASE DESCRIBE SOME OF THE CHANGES IN THE AVERAGE SERVICE LIVES FOR THE VARIOUS ACCOUNTS?

A. All accounts are classified as General Plant. There are five accounts with increasing lives, three accounts with decreasing lives, six accounts with no change. The detailed analysis of each account is described fully in Exhibit DAW-2, pages 16-29. The changes in average service lives are as follows:

- The increases in life were in Account 39009, which increased by 10 years, Account 39100 Office Furniture and Equipment, and Account 39200 Transportation Equipment, which each increased by five years.
- The decreases in life were in Account 39903, Network Hardware and 39906, PC Hardware, which decreased by one year and Account 39907, PC Software, which decreased by 2 years.

Q. HOW DID YOU DETERMINE THE NET SALVAGE PERCENTAGES FOR EACH ASSET GROUP?

A. The establishment of appropriate net salvage percentages for each account was determined by using the industry-standard method discussed above, which is also the same method used for the existing depreciation rates approved by the Commission. For the assets in COKS General Office there is zero net salvage,

which is typical for these types of assets. The net salvage analysis for each account is shown in Appendix D of Exhibit DAW-2. A comparison of the existing and proposed net salvage percentages is shown in Exhibit DAW-2, Appendix C.

Q. PLEASE DESCRIBE SOME OF THE CHANGES IN THE NET SALVAGE PERCENTAGES FOR THE VARIOUS ACCOUNTS?

A. The detailed analysis of each account is described fully in Exhibit DAW-2, starting at page 17. As referenced above there is no salvage and no cost of removal resulting in a zero percent net salvage, which is consistent with the existing net salvage percentages.

B. Depreciation Study Results – Shared Services

Q. DO THE SAME FACTORS, DESCRIBED PREVIOUSLY, INFLUENCE THE DEPRECIATION RATES FOR THE SHARED SERVICES ACCOUNTS?

A. Yes. The same factors would influence the depreciation rates for Shared Services accounts.

Q. WHAT METHOD DID YOU USE TO ANALYZE HISTORICAL DATA FOR THE SHARED SERVICES TO DETERMINE LIFE CHARACTERISTICS?

A. All plant accounts were analyzed using actuarial analysis (retirement rate method) to estimate the life of the property in each account. Further detail of the life method used to analyze the historical data is found in Exhibit DAW-3 on page 6.

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

A. The appropriate average service lives for each account in the General functions

were determined by using actuarial analysis. Graphs and tables supporting the analysis and the chosen Iowa Curves used to determine the average service lives for analyzed accounts are found in the Life Analysis section of Exhibit DAW-3, pages 15-31 and in the supporting workpapers to the study. A list of depreciable lives for Shared Services is shown in Exhibit DAW-3, Appendix C.

Q. HOW DID YOU DETERMINE THE NET SALVAGE PERCENTAGES FOR EACH ASSET GROUP?

A. The establishment of appropriate net salvage percentages for each account was determined by using the industry-standard method discussed above, which is also the same method used for the existing depreciation rates approved by the Commission. The net salvage as a percent of retirements for various bands (*i.e.*, groupings of years such as the five-year average) for each account is shown in Appendix D of Exhibit DAW-3. Judgment was used to select a net salvage percentage that represents the future expectations for each account.

Q. PLEASE DESCRIBE THE NET SALVAGE PERCENTAGES FOR THE VARIOUS ACCOUNTS?

A. The detailed analysis of each account is described fully in Exhibit DAW-3, starting at page 16. Typically for the type of assets in Shared Services there is no salvage and no cost of removal, resulting in a zero percent net salvage. However, Account 392, Transportation Equipment has a positive 10 percent net salvage recommended All other accounts have a zero percent net salvage recommendation.

V. CONCLUSION

Q. DO YOU HAVE ANY CONCLUDING REMARKS?

A. Yes. The depreciation studies and analysis performed under my supervision was performed using standard depreciation processes and methodologies. The studies followed standard depreciation rate calculation methods. Atmos Energy should continue to periodically review the annual depreciation rates for its property so that appropriate rates are included in its revenue requirements to ensure intergenerational equity to its customers. In this way, the Company's depreciation expense will more accurately reflect its cost of operations and the rates for all customers will include an appropriate share of the capital expended for their benefit. The proposed depreciation rates contained in the studies as of September 30, 2021, and September 2019, Exhibits DAW-2 and DAW-3, respectively, are the result of complete, comprehensive depreciation studies, are reasonable and appropriate given that they incorporate the service life and net salvage parameters currently anticipated for each of the property group investments over their average remaining lives, and should be approved.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

VERIFICATION

STATE OF TEXAS)
)
COUNTY OF COLLIN)

Dane A. Watson, being duly sworn upon his oath, deposes and states that he is Managing Partner of Alliance Consulting Group; that he has read and is familiar with the foregoing Direct Testimony filed herewith; and that the statements made therein are true to the best of his knowledge, information and belief.

Dane Watson

Dane A. Watson

Subscribed and sworn before me this 22nd day of July, 2022.

Teresa Stewart

Notary Public

My appointment expires: Dec. 6, 2023

TERESA CAY STEWART
Notary ID #132275553
My Commission Expires
December 6, 2023

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Colorado	Colorado Public Utilities Commission	22AL-0348G	Atmos Energy	2022	Gas Depreciation Study
New York	FERC	ER22-2581-000	New York Power Authority	2022	Transmission and General Depreciation Study
South Carolina	South Carolina Public Service Commission	2022-89-G	Piedmont Natural Gas	2022	Natural Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-22-034	Chugach Electirc Association	2022	Electric Depreciation Study
Georgia	Georgia Public Service Commission	44280	Georgia Power Company	2022	Electric Depreciation Study
Texas	Public Utility Commission of Texas	53719	Entergy Texas	2022	Electric Depreciation Study
California	California Public Utilities Commission	22-005-xxx	San Diego Gas and Electric	2022	Electirc Gas and Common Depreciation Study
California	California Public Utilities Commission	22-005-xxx	Southern California Gas	2022	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	22AL-0046G	Public Service of Colorado	2022	Gas Alternatives to Climate Goals
Texas	Public Utility Commission of Texas	53601	Oncor Electric Delivery	2022	Electric Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR2222040253	South Jersey Gas	2022	Gas Depreciation Study
Oklahoma	Coporation Commission of Oklahoma	PUD 202100163	Empire District Electric Company	2022	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-21176	Consumers Gas	2021	Gas Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR21121254	Elizabethtown Natural Gas	2021	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	TA116-118, TA115-97, TA160-37 and TA110-290	Fairbanks Water and Wastewater	2021	Water and Waste Water Depreciation Study
Alaska	Regulatory Commission of Alaska	U-21-025	Golden Valley Electric Association	2021	Electric Depreciation Study
Colorado	Public Utilities Commission of Colorado	21AL-0317E	Public Service of Colorado	2021	Electric and Common Depreciation Study
Wisconsin	Public Serice Commission of Wisconsin	5-DU-103	WE Energies	2021	Electric and Gas Depreciation Study
Kentucky	Public Service Commission of Kentucky	2021-00214	Atmos Kentucky	2021	Gas Depreciation Study
Missouri	Missouri Public Service Commission	ER-2021-0312	Empire District Electric Company	2021	Electric Depreciation Study
Louisiana	Louisiana Public Service Commission	U-35951	Atmos Louisiana	2021	Gas Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Minnesota	Minnesota Public Utilities Commission	E015-D-21-229	Allete Minnesota Power	2021	Intangible, Transmission, Distribution, and General Depreciation Study
Michigan	Michigan Public Service Commission	U-20849	Consumers Energy	2021	Electric and Common Depreciation Study
Texas	Texas Public Utility Commission	51802	Southwestern Public Service Company	2021	Electric Technical Update
MultiState	FERC	RP21-441-000	Florida Gas Transmission	2021	Gas Depreciation Study
New Mexico	New Mexico Public Regulation Commission	20-00238-UT	Southwestern Public Service Company	2021	Electric Technical Update
MultiState	FERC	ER21-709-000	American Transmission Company	2020	Electric Depreciation Study
Texas	Texas Public Utility Commission	51611	Sharyland Utilities	2020	Electric Depreciation Study
Texas	Texas Public Utility Commission	51536	Brownsville Public Utilities Board	2020	Electric Depreciation Study
New Jersey	New Jersey Board of Public Utilities	WR20110729	Suez Water New Jersey	2020	Water and Waste Water Depreciation Study
Idaho	Idaho Public Service Commission	SUZ-W-20-02	Suez Water Idaho	2020	Water Depreciation Study
Texas	Texas Public Utility Commission	50944	Monarch Utilities	2020	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-20844	Consumers Energy/DTE Electric	2020	Ludington Pumped Storage Depreciation Study
Tennessee	Tennessee Public Utility Commission	20-00086	Piedmont Natural Gas	2020	Gas Depreciation Study
Texas	Railroad Commission of Texas	OS-00005136	CoServ Gas	2020	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10988	EPCOR Gas Texas	2020	Gas Depreciation Study
Florida	Florida Public Service Commission	20200166-GU	People Gas System	2020	Gas Depreciation Study
Mississippi	Federal Energy Regulatory Commission	ER20-1660-000	Mississippi Power Company	2020	Electric Depreciation Study
Texas	Public Utility Commission of Texas	50557	Corix Utilities	2020	Water and Waste Water Depreciation Study
Georgia	Georgia Public Service Commission	42959	Liberty Utilities Peach State Natural Gas	2020	Gas Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR20030243	South Jersey Gas	2020	Gas Depreciation Study
Colorado	Colorado Public Utilities Commission	20AL-0049G	Public Service of Colorado	2020	Gas Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
New York	Federal Energy Regulatory Commission	ER20-716-000	LS Power Grid New York, Corp.	2019	Electric Transmission Depreciation Study
Mississippi	Mississippi Public Service Commission	2019-UN-219	Mississippi Power Company	2019	Electric Depreciation Study
Texas	Public Utility Commission of Texas	50288	Kerrville Public Utility District	2019	Electric Depreciation Study
Texas	Railroad Commission of Texas	GUD 10920	CenterPoint Gas	2019	Gas Depreciation Study and Propane Air Study
Texas, New Mexico	Federal Energy Regulatory Commission	ER20-277-000	Southwestern Public Service Company	2019	Electric Production and General Plant Depreciation Study
Alaska	Regulatory Commission of Alaska	U-19-086	Alaska Electric Light and Power	2019	Electric Depreciation Study
Delaware	Delaware Public Service Commission	19-0615	Suez Water Delaware	2019	Water Depreciation Study
Texas	Public Utility Commission of Texas	49831	Southwestern Public Service Company	2019	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	19-00170-UT	Southwestern Public Service Company	2019	Electric Depreciation Study
Georgia	Georgia Public Service Commission	42516	Georgia Power Company	2019	Electric Depreciation Study
Georgia	Georgia Public Service Commission	42315	Atlanta Gas Light	2019	Gas Depreciation Study
Arizona	Arizona Corporation Commission	G-01551A-19-0055	Southwest Gas Corporation	2019	Gas Removal Cost Study
New Hampshire	New Hampshire Public Service Commission	DE 19-064	Liberty Utilities	2019	Electric Distribution and General
New Jersey	New Jersey Board of Public Utilities	GR19040486	Elizabethtown Natural Gas	2019	Gas Depreciation Study
Texas	Public Utility Commission of Texas	49421	CenterPoint Houston Electric LLC	2019	Electric Depreciation Study
North Carolina	North Carolina Utilities Commission	Docket No. G-9, Sub 743	Piedmont Natural Gas	2019	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-18-121	Municipal Power and Light City of Anchorage	2018	Electric Depreciation Study
Various	FERC	RP19-352-000	Sea Robin	2018	Gas Depreciation Study
Texas New Mexico	Federal Energy Regulatory Commission	ER19-404-000	Southwestern Public Service Company	2018	Electric Transmission Depreciation Study
California	Federal Energy Regulatory Commission	ER19-221-000	San Diego Gas and Electric	2018	Electric Transmission Depreciation Study
Kentucky	Kentucky Public Service Commission	2018-00281	Atmos Kentucky	2018	Gas Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Alaska	Regulatory Commission of Alaska	U-18-054	Matanuska Electric Coop	2018	Electric Generation Depreciation Study
California	California Public Utilities Commission	A17-10-007	San Diego Gas and Electric	2018	Electric and Gas Depreciation Study
Texas	Public Utility Commission of Texas	48401	Texas New Mexico Power	2018	Electric Depreciation Study
Nevada	Public Utility Commission of Nevada	18-05031	Southwest Gas	2018	Gas Depreciation Study
Texas	Public Utility Commission of Texas	48231	Oncor Electric Delivery	2018	Depreciation Rates
Texas	Public Utility Commission of Texas	48371	Entergy Texas	2018	Electric Depreciation Study
Kansas	Kansas Corporation Commission	18-KCPE-480-RTS	Kansas City Power and Light	2018	Electric Depreciation Study
Arkansas	Arkansas Public Service Commission	18-027-U	Liberty Pine Bluff Water	2018	Water Depreciation Study
Kentucky	Kentucky Public Service Commission	2017-00349	Atmos KY	2018	Gas Depreciation Rates
Tennessee	Tennessee Public Utility Commission	18-00017	Chattanooga Gas	2018	Gas Depreciation Study
Texas	Railroad Commission of Texas	10679	Si Energy	2018	Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-17-104	Anchorage Water and Wastewater	2017	Water and Waste Water Depreciation Study
Michigan	Michigan Public Service Commission	U-18488	Michigan Gas Utilities Corporation	2017	Gas Depreciation Study
Texas	Railroad Commission of Texas	10669	CenterPoint South Texas	2017	Gas Depreciation Study
Arkansas	Arkansas Public Service Commission	17-061-U	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Kansas	Kansas Corporation Commission	18-EPDE-184-PRE	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Oklahoma	Oklahoma Corporation Commission	PUD 201700471	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Missouri	Missouri Public Service Commission	EO-2018-0092	Empire District Electric Company	2017	Depreciation Rates for New Wind Generation
Michigan	Michigan Public Service Commission	U-18457	Upper Peninsula Power Company	2017	Electric Depreciation Study
Florida	Florida Public Service Commission	20170179-GU	Florida City Gas	2017	Gas Depreciation Study
Michigan	FERC	ER18-56-000	Consumers Energy	2017	Electric Depreciation Study
Missouri	Missouri Public Service Commission	GR-2018-0013	Liberty Utilities	2017	Gas Depreciation Study

Dane Watson Testimony Appearances

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	Southwestern Public Service Company	2017	Electric Production 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
Mississippi	Mississippi Public Service Commission	2017-UN-041	Atmos Energy	2017	Gas Depreciation Study
Texas	Public Utility Commission of Texas	46957	Oncor Electric Delivery	2017	Electric Depreciation Study
Oklahoma	Oklahoma Corporation Commission	PUD 201700078	CenterPoint Oklahoma	2017	Gas Depreciation Study
New York	FERC	ER17-1010-000	New York Power Authority	2017	Electric Depreciation Study
Texas	Railroad Commission of Texas	GUD 10580	Atmos Pipeline Texas	2017	Gas Depreciation Study
Texas	Railroad Commission of Texas	GUD 10567	CenterPoint Texas	2016	Gas Depreciation Study
MultiState	FERC	ER17-191-000	American Transmission Company	2016	Electric Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR16090826	Elizabethtown Natural Gas	2016	Gas Depreciation Study
North Carolina	North Carolina Utilities Commission	Docket G-9 Sub 77H	Piedmont Natural Gas	2016	Gas Depreciation Study
Michigan	Michigan Public Service Commission	U-18195	Consumers Energy/DTE Electric	2016	Ludington Pumped Storage Depreciation Study
Alabama	FERC	ER16-2313-000	SEGCO	2016	Electric Depreciation Study
Alabama	FERC	ER16-2312-000	Alabama Power Company	2016	Electric Depreciation Study
Michigan	Michigan Public Service Commission	U-18127	Consumers Energy	2016	Natural Gas Depreciation Study
Mississippi	Mississippi Public Service Commission	2016 UN 267	Willmut Natural Gas	2016	Natural Gas Depreciation Study
Iowa	Iowa Utilities Board	RPU-2016-0003	Liberty-Iowa	2016	Natural Gas Depreciation Study
Illinois	Illinois Commerce Commission	GRM #16-208	Liberty-Illinois	2016	Natural Gas Depreciation Study
Kentucky	FERC	RP16-097-000	KOT	2016	Natural Gas Depreciation Study
Alaska	Regulatory Commission of Alaska	U-16-067	Alaska Electric Light and Power	2016	Generating Unit Depreciation Study
Florida	Florida Public Service Commission	160170-EI	Gulf Power	2016	Electric Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
California	California Public Utilities Commission	A 16-07-002	California American Water	2016	Water and Waste Water 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 Company of Colorado	2016	Electric Depreciation Study
Multi-State NE US	FERC	16-453-000	Northeast Transmission Development, LLC	2015	Electric Depreciation 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	Southwestern Public Service Company	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
Hawaii	NA	NA	Hawaii American Water	2015	Water/Wastewater 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
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	Southwestern Public Service Company	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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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	Southwestern Public Service Company	2013-2014	Electric Production, Transmission, Distribution and General Plant Depreciation Study
New Jersey	New Jersey Board of Public Utilities	GR13111137	South Jersey Gas	2013	Gas Depreciation Study
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Wisconsin	Public Service Commission of Wisconsin	4220-DU-108	Northern States Power Company - 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	Southwestern Public Service Company	2012	Electric Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1269ST	Public Service Company of Colorado	2012	Gas and Steam Depreciation Study
Colorado	Colorado Public Utilities Commission	12AL-1268G	Public Service Company 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	Northern States Power Company - Minnesota	2012	Electric, Gas and Common Transmission, Distribution and General
Texas	Railroad Commission of Texas	10170	Atmos Mid-Tex	2012	Gas Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Railroad Commission of Texas	10174	Atmos West Texas	2012	Gas Depreciation Study
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
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
Texas	Texas Railroad Commission	10041	Atmos Amarillo	2010	Gas Depreciation Study

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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
Colorado	Colorado Public Utilities Commission	09AL-299E	Public Service Company of Colorado	2009	Electric Depreciation Study
Louisiana	Louisiana Public Service Commission	U-30689	Cleco	2008	Electric Depreciation Study
Texas	Public Utility Commission of Texas	35763	Southwestern Public Service Company	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 Company - Minnesota	2008	Net Salvage
New Mexico	New Mexico Public Regulation Commission	07-00319-UT	Southwestern Public Service Company	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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Colorado	Colorado Public Utilities Commission	06-234-EG	Public Service Company 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
Texas, New Mexico	Public Utility Commission of Texas	32766	Southwestern Public Service Company	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
Texas	Public Utility Commission of Texas	15195	TXU	1996	Mining Company Depreciation 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

ATMOS ENERGY CORPORATION

COLORADO KANSAS GENERAL OFFICE PROPERTY

DEPRECIATION RATE STUDY

As of September 30, 2021

http://www.utilityalliance.com

ATMOS ENERGY CORPORATION
COLORADO KANSAS GENERAL OFFICE PROPERTY
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY

Atmos Energy Corporation ("Atmos" or "Company") engaged Alliance Consulting Group to conduct a depreciation study of the Company's Colorado Kansas General Office ("COKS General Office") depreciable assets as of fiscal year end September 30, 2021. COKS General Office provides support to Atmos Energy Corporation's regulated utility divisions, which at the year ended September 30, 2021, were:

- Colorado; and
- Kansas

The existing depreciation rates were based on the straight-line method, equal life group ("ELG") procedure, and remaining-life technique. The same method, procedure, and technique are retained in this study. This study recommends a decrease of approximately $65 thousand in annual depreciation expense when compared to the depreciation rates currently in effect. This study results in an annual depreciation expense accrual of approximately $76 thousand when applied to depreciable plant balances as of September 30, 2021. There were four accounts where lives increased and three accounts where lives decreased, while six accounts remained unchanged. There was no change in any account net salvage.

The depreciation study conducted, analyzed, and developed depreciation recommendations at an account level, resulting in annual depreciation accrual amounts and depreciation rates also at the account level. Appendix A demonstrates the calculation of annual depreciation expense.

ATMOS ENERGY CORPORATION
COLORADO KANSAS GENERAL OFFICE PROPERTY
DEPRECIATION RATE STUDY
As of September 30, 2021
Table of Contents

PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property as recorded on COKS General Office's books at September 30, 2021. The account-based depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of property on a straight-line basis. Non-depreciable property and property that is amortized, such as intangibles, were excluded from this study.

COKS General Office is a division of Atmos dedicated to providing various support services to two of its regulated gas utility operating companies in the states of Colorado and Kansas. COKS General Office serves over 240,000 customers across these states.

STUDY RESULTS

The existing and current study annual depreciation expense result from the use of Iowa Curve dispersion patterns with average service life, the equal life group ("ELG") procedure and remaining-life technique, and consideration of net salvage in the development of the study recommended depreciation rates. Detailed information for each of these factors will follow in this report.

Overall depreciation rates for COKS General Office depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual of $76 thousand based on depreciable investment at September 30, 2021. The annual equivalent depreciation expense calculated by the same method using the currently approved rates is $141 thousand. The primary driver for the decrease in the annual depreciation expense when compared to the existing is related to a net increase in lives and a change in the reserve position.

Appendix A presents a comparison of the composite existing rates versus the recommended study rates. Appendix B presents the development of the depreciation rates and annual accruals. Appendix C presents the mortality and net salvage parameters by account. Appendix D shows net salvage history by plant account.

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. On retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

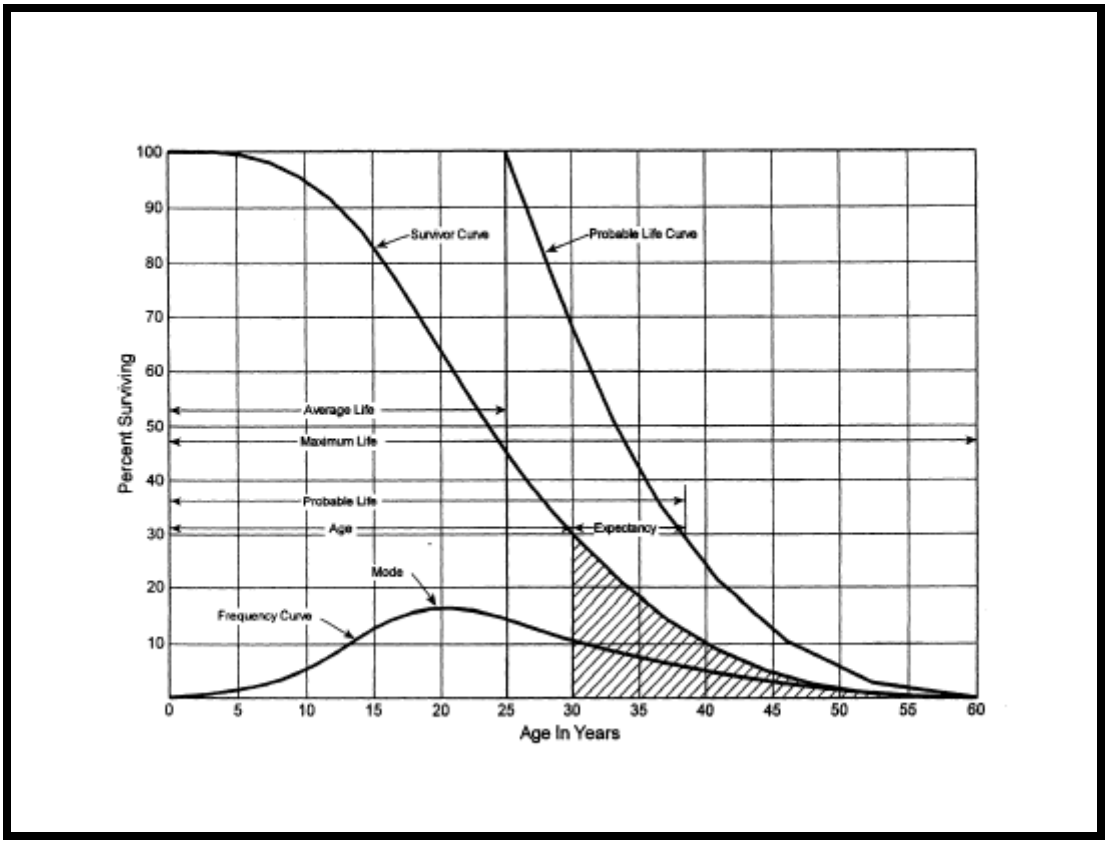
Basis of Depreciation Estimates

The straight-line, ELG, remaining-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset less allocated depreciation reserve less estimated net salvage by its respective ELG remaining life. The resulting annual accrual amounts of all depreciable property within a function were accumulated, and the total was divided by the original cost of all functional depreciable property 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. The computations of the annual depreciation rates are shown in Appendix B and remaining life calculations are provided in the workpapers.

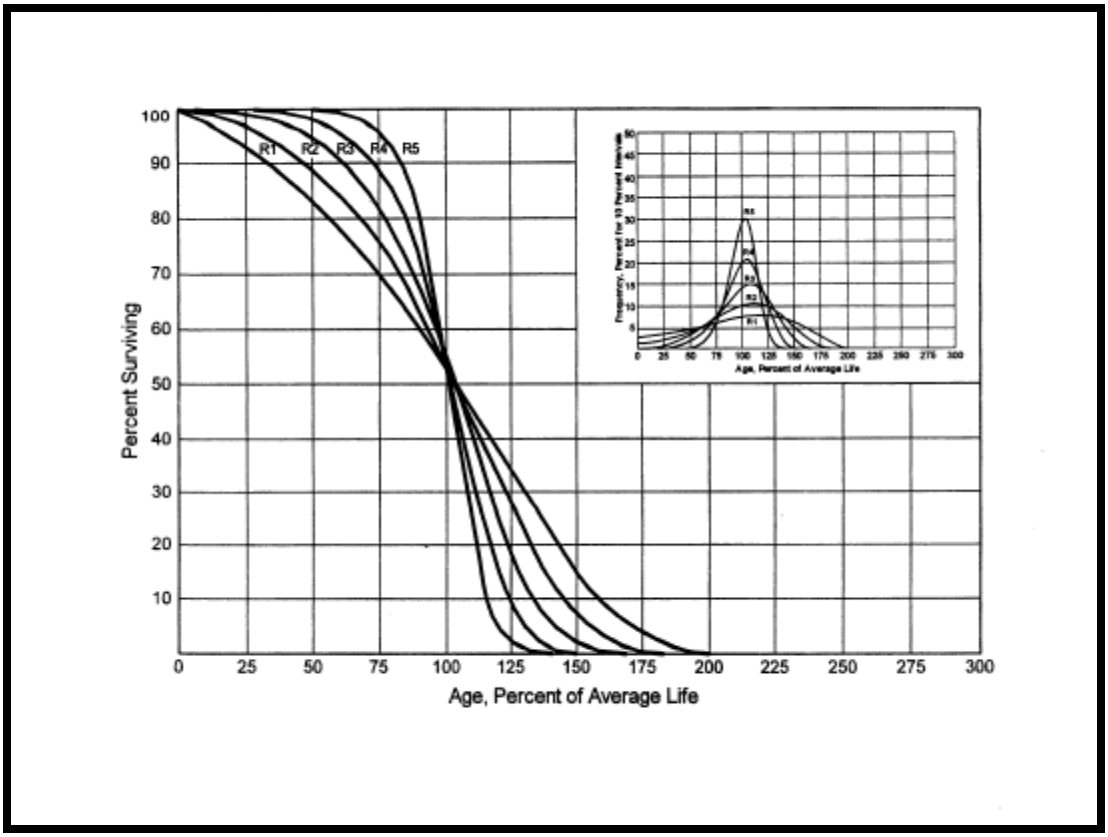
Actuarial analysis was used with each account within a function where sufficient data was available, and judgment was used to some degree on all accounts.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve, which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior 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 that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. 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.



Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. An "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. 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).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of 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.

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 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. Where data were available, 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. The results from these analyses for those accounts that had data sufficient to be analyzed using this method are shown in the Life Analysis section of this report.

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. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply reflect specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts, or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization 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 judgment. At the very least, for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for COKS General Office's accounts requires judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the Retirement Rate actuarial methods. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Equal Life Group Depreciation

Atmos agreed that the continued use of the ELG depreciation procedure was appropriate. This study uses the ELG depreciation procedure to group the assets within each account. After an average service life and dispersion were selected for each account, these parameters were used to estimate what portion of the surviving investment of each vintage was expected to retire. The depreciation of the group continues until all investment in the vintage group is retired. ELG groups are defined by their respective account dispersion, life, and net salvage estimates. A straight-line rate for each ELG group is computed and accumulated across each vintage. The resulting rate for each ELG group is designed to recover all retirements less net salvage as each vintage retires. The ELG procedure recovers net book cost over the life of each ELG group rather than averaging many components. It also closely matches the concept of component or item accounting found in almost all accounting textbooks.

Theoretical Depreciation Reserve

The Company's book depreciation reserves were reallocated based on the theoretical reserves for each account. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical

reserve ratio for each vintage. The equal life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the vintage is retired. Estimated average service lives and dispersion determine the amount within each equal life group. The equal life group-remaining-life theoretical reserve ratio (RRELG) is calculated as:

$$RRELG = 1 - \frac{(ELG\ Remaining\ Life)}{(ELG\ Life)} * (1 - Net\ Salvage\ Ratio)$$

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 were evaluated. Once the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and documentation of the corresponding recommendations.

During the Phase 1 data collection process, historical data were compiled from continuing property records and general ledger systems. Data were validated for accuracy by extracting and comparing to multiple financial system sources. 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 to put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Considerations Section of this study. Also, as part of the Phase 1 data collection process, numerous discussions were conducted with Company engineers and field operations personnel to obtain information that would assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company uses assets and the environment of those assets. Interviews with engineering and operations personnel are important tools that allow the analyst to obtain information that is beneficial 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 from these discussions is found both in the Detailed Discussion of this study in the life analysis and salvage analysis sections and also in workpapers.

Phase 2 is where the actuarial analysis is performed. Phases 2 and 3 overlap to a significant degree. The detailed property records information is used in Phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation process performed in Phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group 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 synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from Phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. Phases 2 and 3 allow the depreciation analyst to validate 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 B. 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, page 289, documents the same basic processes in performing a depreciation study, which are: statistical analyses, evaluation of statistical analysis, discussions with management, forecast assumptions, write logic supporting forecasts and estimation, and write final report.

[1] Public Utility Finance & Accounting, A Reader.

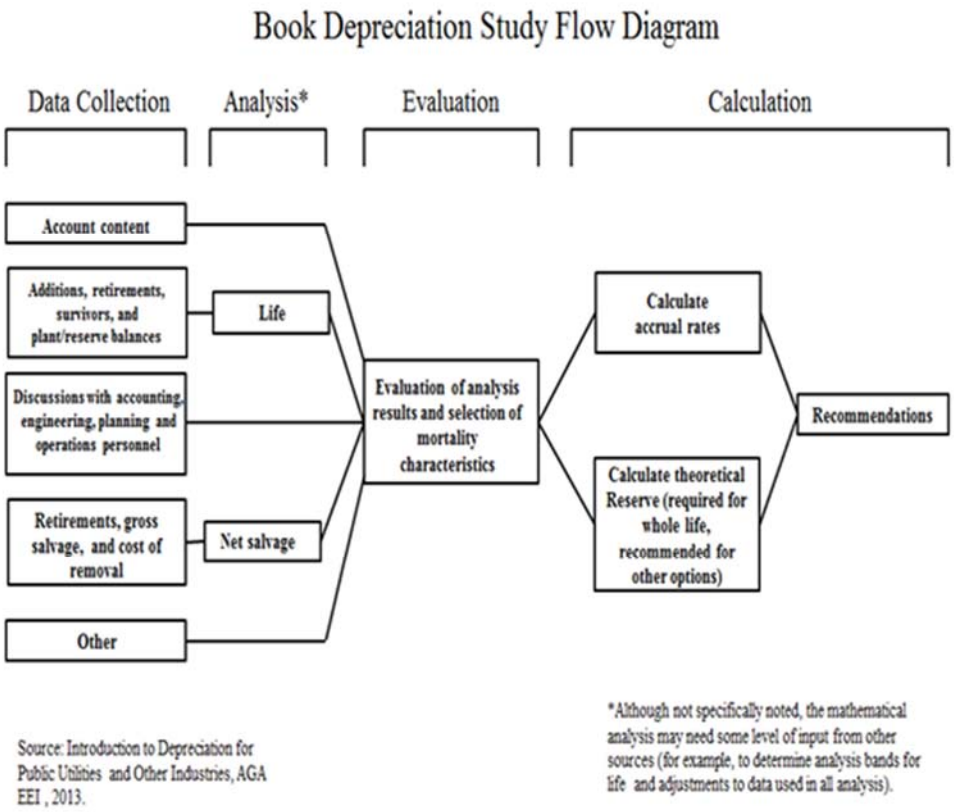


Figure 1

ATMOS COKS GENERAL OFFICE DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable property accounts of COKS General Office were calculated by the straight line, ELG, and remaining-life system. After an average service life and dispersion were selected for each account, those parameters were used to estimate what portion of the surviving investment of each vintage was expected to retire. The depreciation of the group continues until all investment in the vintage group is retired. ELG groups are defined by its account dispersion, life, and net salvage estimates. A straight-line rate for each ELG group is computed and accumulated across each vintage. The rate for each ELG group is designed to recover all retirements less net salvage as each vintage retires. The ELG procedure recovers net book cost over the life of each ELG group rather than averaging many components. It closely matches the concept of component or item accounting found in accounting textbooks. These calculations are shown in Appendix B.

Remaining Life Calculation

The establishment of appropriate average service lives and dispersions for each account, within a functional group, was based on judgment that incorporated available accounting information analyzed using the actuarial method. After establishment of appropriate average service lives and retirement dispersions, remaining lives were computed for each account. The theoretical depreciation reserve with zero net salvage (used in calculating remaining life) was calculated using theoretical reserve ratios, as defined in the general discussion section. The difference between plant balance and theoretical reserve was then spread over the ELG depreciation accruals. After accumulating the ELG accruals across each vintage, the annual accrual was divided into the net balance to compute remaining life. Details of the theoretical reserve computations, ELG accruals, and remaining life are found by account within each division in the study workpapers.

Calculation Process

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

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

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

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, equal life group system using Iowa Curves, composite remaining lives were calculated according to standard equal life group expectancy techniques, noted in the formula below:

$$\text{Composite Remaining Life} = \frac{\sum \text{Original Cost} - \text{Theoretical Reserve}}{\sum \text{Whole Life Annual Accrual}}$$

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 where the net salvage percent represents future net salvage.

$$\text{Annual Depreciation Expense} = \frac{\text{Original Cost} - \text{Book Reserve} - (\text{Original Cost}) * (1 - \text{Net Salvage \%})}{\text{Composite Remaining Life}}$$

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:

$$\text{Annual Depreciation Rate} = \frac{\sum \text{ Annual Depreciation Expense}}{\sum \text{Original Cost}}$$

These calculations are shown in Appendix B. The calculations of the

theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves were allocated to individual accounts and the theoretical reserve computation was used to compute a composite remaining life for each account.

LIFE AND NET SALVAGE

The retirement rate actuarial analysis method was applied to all accounts for COKS General Office. For each account, an actuarial retirement rate analysis was made with placement and experience bands of varying width. The historical observed life table was plotted and compared with various Iowa Curves to obtain the most appropriate match. A selected curve for each account is shown in the Life Analysis Section of this report. The observed life tables for all analyzed placement and experience bands are provided in workpapers.

For the overall band (i.e., placement from earliest vintage year, which varied for each account, through 2021) for each account, various dispersion curves were plotted. Frequently, visual matching would confirm one specific dispersion pattern (e.g., L, S, or R) as a better match than others. The next step would be to determine the most appropriate life using that dispersion pattern. Then, after looking at the overall experience band, different experience bands were plotted and analyzed, for instance 2000-2021, 2005-2021, etc. Next, placement bands of varying width were plotted with each experience band discussed above. Repeated matching usually pointed to a focus on one dispersion family and small range of service lives. The goal of visual matching was to minimize the differential between the observed life table and Iowa Curve in top and mid-range of the plots. These results are used in conjunction with all other factors that may influence asset lives.

NET SALVAGE CONSIDERATIONS

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).

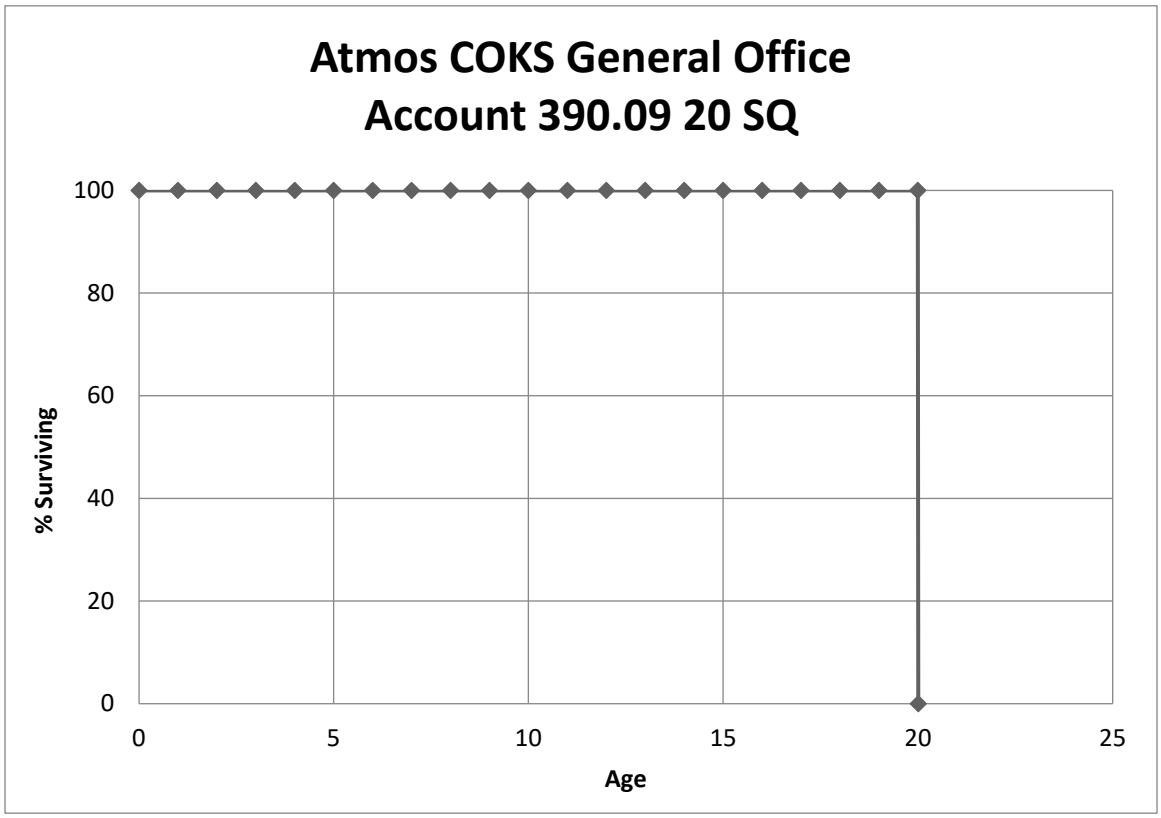
The net salvage analysis for each account is shown in Appendix D. Moving averages for intervals are also included in Appendix D. The assets of COKS General Office historically do not incur cost of removal, and salvage has declined over the years. In this study a zero percent net salvage is recommended for each account.

ACCOUNT LIFE AND NET SALVAGE ANALYSIS

390.09 – Improvements to Leased Premises (20 SQ)

This account includes the cost of improvements to leased premises. The balance is $280 thousand. The current life and curve are 10 SQ. Assets in this account are tied to the lease term, which has a renewal option. The Company has already renewed the lease once for a term of six years, which expires in 2026. The Company has indicated that, at this point in time, they plan to renew the lease again. Due to the remaining time on the current lease term and expectations of renewal for another six years, it is reasonable to move to 20 years and retain the SQ curve. The 20 SQ dispersion pattern is recommended. A representative graph of the life of the account is shown in the curve below.

Retention of the existing zero percent net salvage is recommended for this account.

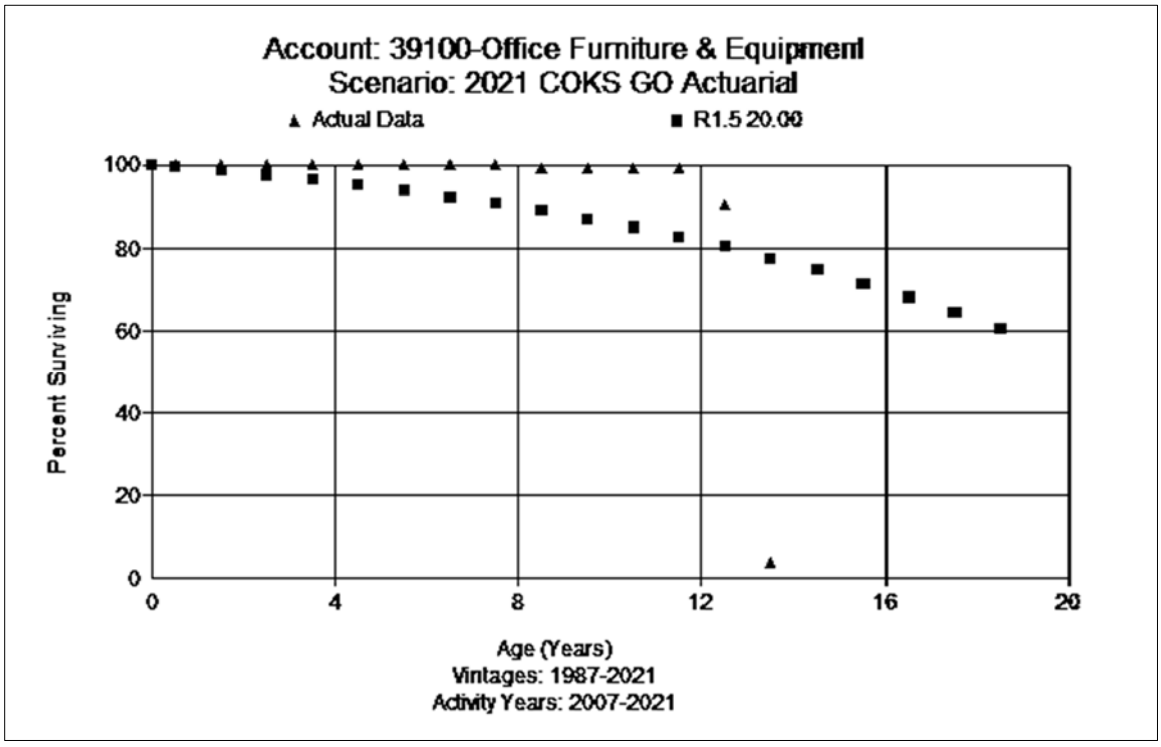

Atmos COKS General Office
Account 390.09 20 SQ
100
80
60
40
20
0
% Surviving
0
5
10
15
20
25
Age

391.00 & 391.03 – Office Furniture, Equipment & Office Machines (20 R1.5)

These accounts consist of modular furniture, desks, chairs, bookcases, credenzas, file cabinets, office machines, and other miscellaneous equipment. The balance is $399 thousand. The current life and curve are 15 R1.5.

An expected life range for the assets in these accounts is 10 to 25 years. The life analysis indicates a shorter life and steeper dispersion. However, discussions with Company personnel indicated that the life for General Office should be consistent with the Colorado Direct Study. This study recommends moving to the 20 R1.5. A graph of the observed life table and the recommended life and curve are shown below.

Retention of the existing zero percent net salvage is recommended for these accounts.

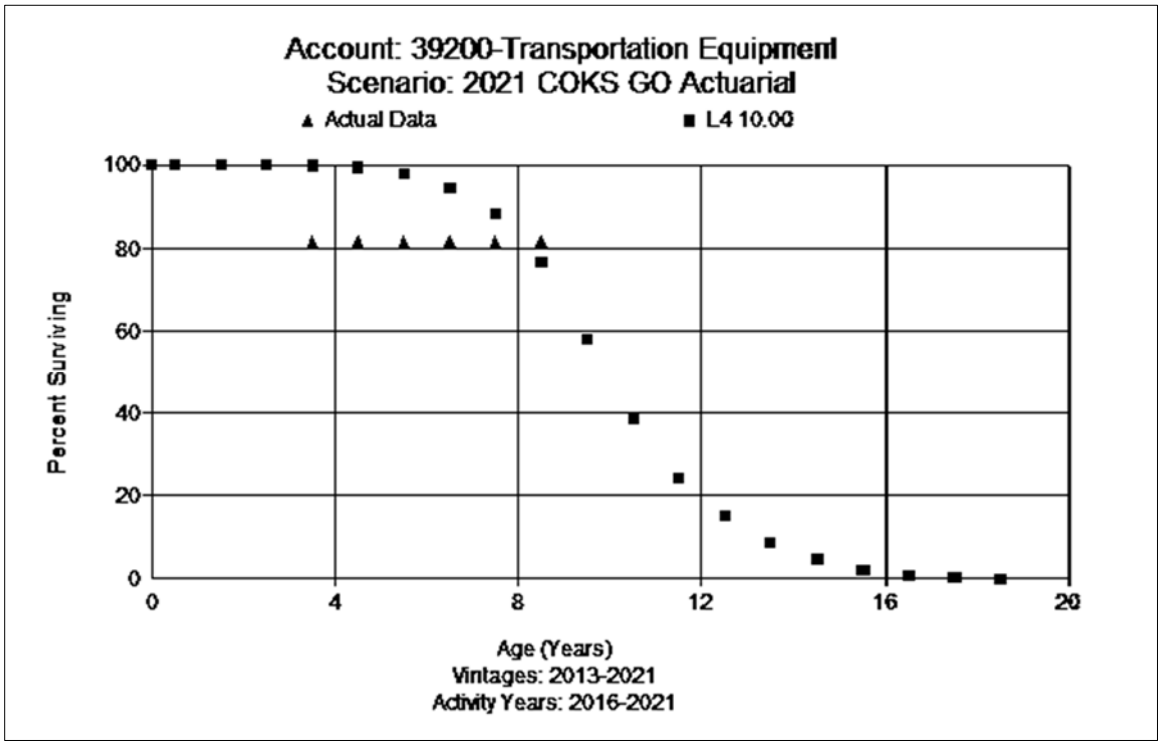


392.00 – Transportation Equipment (10 L4)

This account generally consists of transportation assets. Vehicles are currently leased, but there are some drive cam units that are recorded in this account. The balance is $26 thousand in this account. The existing life and curve are 5 SQ.

Discussions with Company personnel indicated nearly all transportation assets are currently leased and they plan to continue that approach. There is limited activity, but based on the age, type of assets, and discussions with Company personnel, this study recommends moving to 10 L4 at this time. A graph of the observed life table and the recommended life and curve are shown below.

This study recommends retention of the zero percent net salvage for this account.

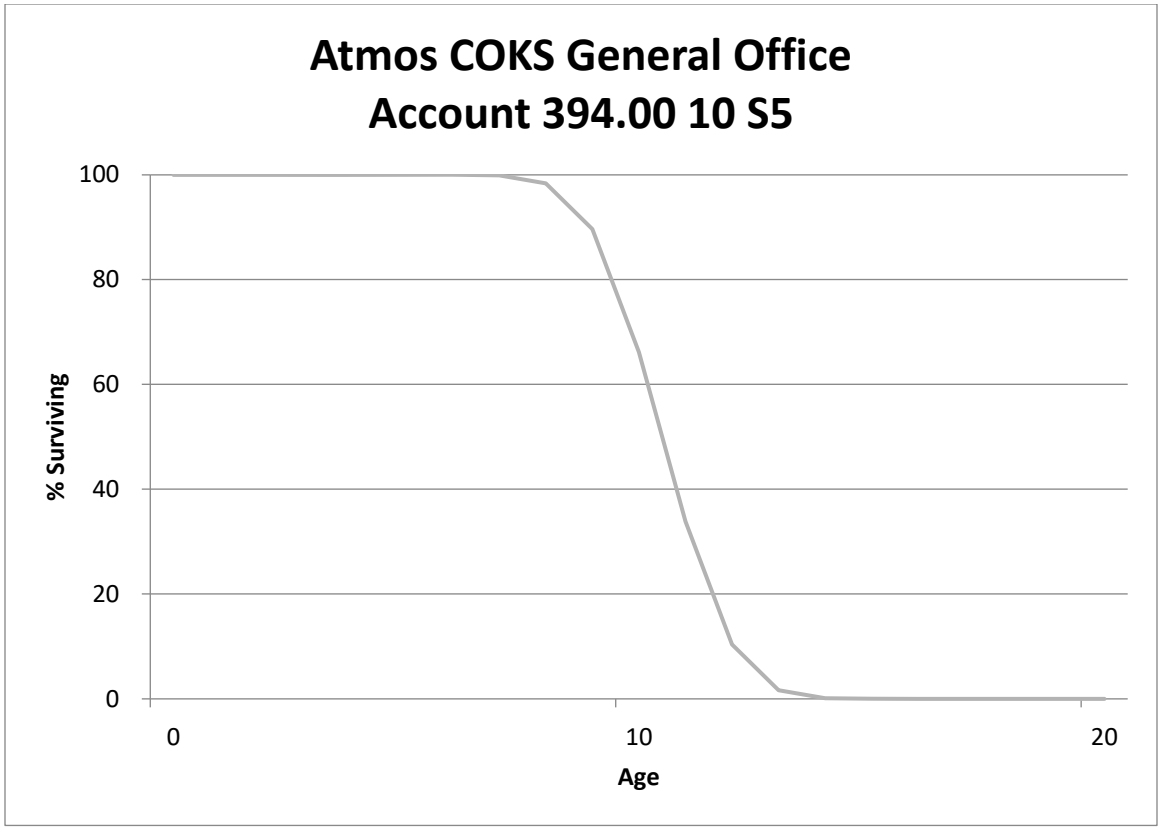


394.00 – Tools, Shop & Garage Equipment (10 S5)

This account consists of various small tools and equipment. Currently, there is no balance in this account. The existing dispersion is 9 S5.

Discussions with Company personnel indicated that 10 years for these types of assets is reasonable. Considering the type of assets and discussions with Company personnel, this study recommends moving the life out to 10 years with the S5 dispersion pattern. A representative graph of the life of the account is shown in the curve below.

This study recommends retention of the zero percent net salvage for this account.

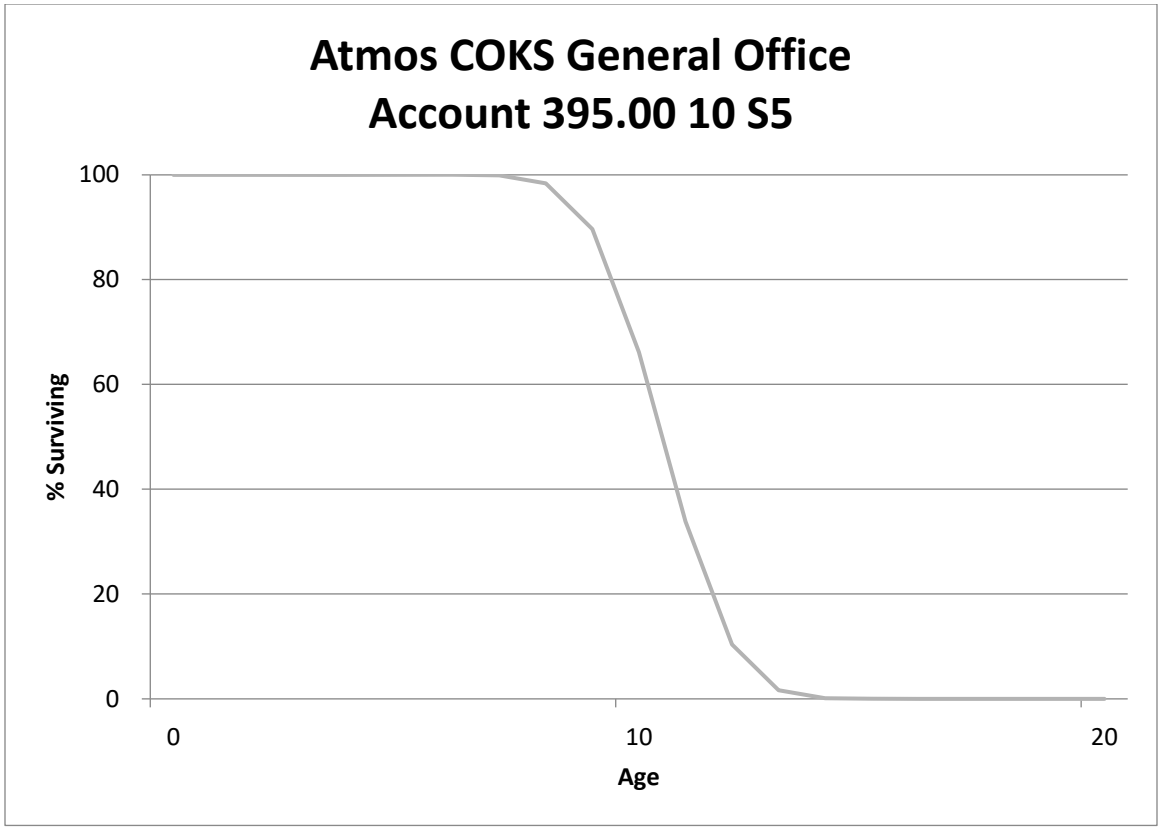


395.00 – Laboratory Equipment (10 S5)

This account consists of various laboratory tools and equipment. Currently, there is no balance in this account. The existing dispersion is 10 SQ.

Discussions with Company personnel indicated that 10 years for these types of assets is reasonable. Considering the type of assets and discussions with Company personnel, this study recommends retention of the life but moving to the S5 dispersion pattern. A representative graph of the life of the account is shown in the curve below.

This study recommends retention of the zero percent net salvage for this account.

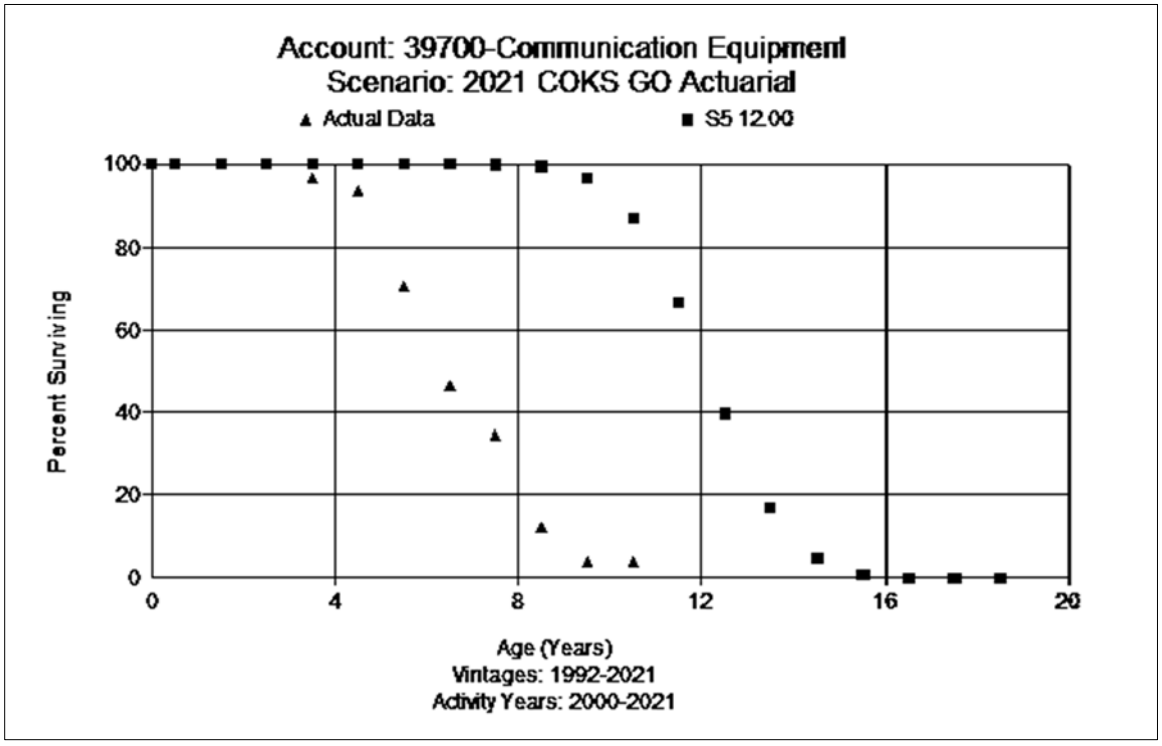


397.00 – Communications Equipment (12 S5)

The communications equipment account includes telephone, satellite dish, and radio equipment. The balance is $39 thousand in this account. The existing parameters are 12 S5. The current average age of investment is 6.83 years.

Assets in this account generally have a life range between 10 and 15 years. The analysis indicates a life around 7 years, which is shorter than expected for these types of assets. Considering the type of assets, discussions with Company personnel, the analysis, expectations, and judgment, this study recommends retention of the existing 12 S5. A graph of the observed life table and the recommended life and curve are shown below.

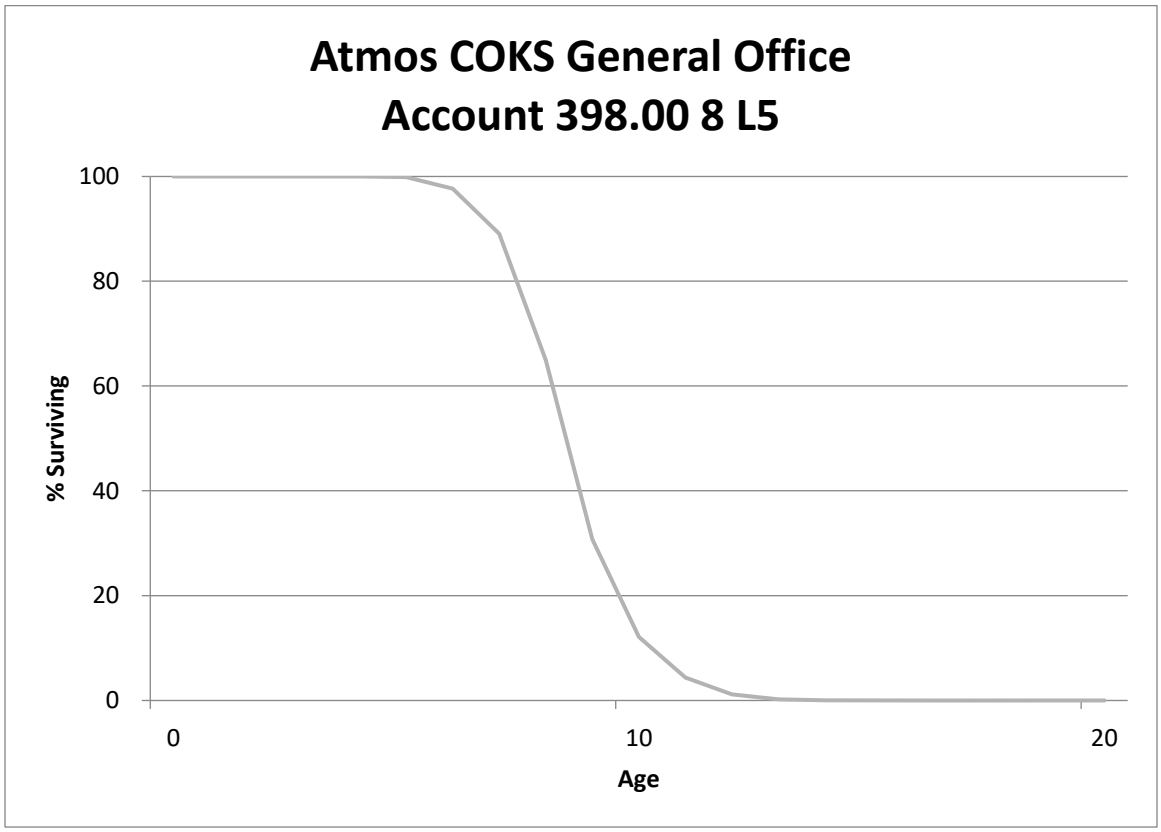
No salvage has been recorded but some cost of removal was recorded in 2008. However, there has been no recent removal cost recorded. This study recommends retention of the existing zero percent net salvage rate for this account.



Account 398.00 - Miscellaneous Equipment (8 L5)

This account consists of various small office equipment items, such as kitchen appliances, televisions, and audio/video equipment that are not homogeneous with other plant accounts. Currently, there is no balance in this account. The existing life is 8 years with the L5 dispersion and is retained. A representative graph of the life of the account is shown in the curve below.

This study recommends retention of the existing zero percent net salvage rate for this account.

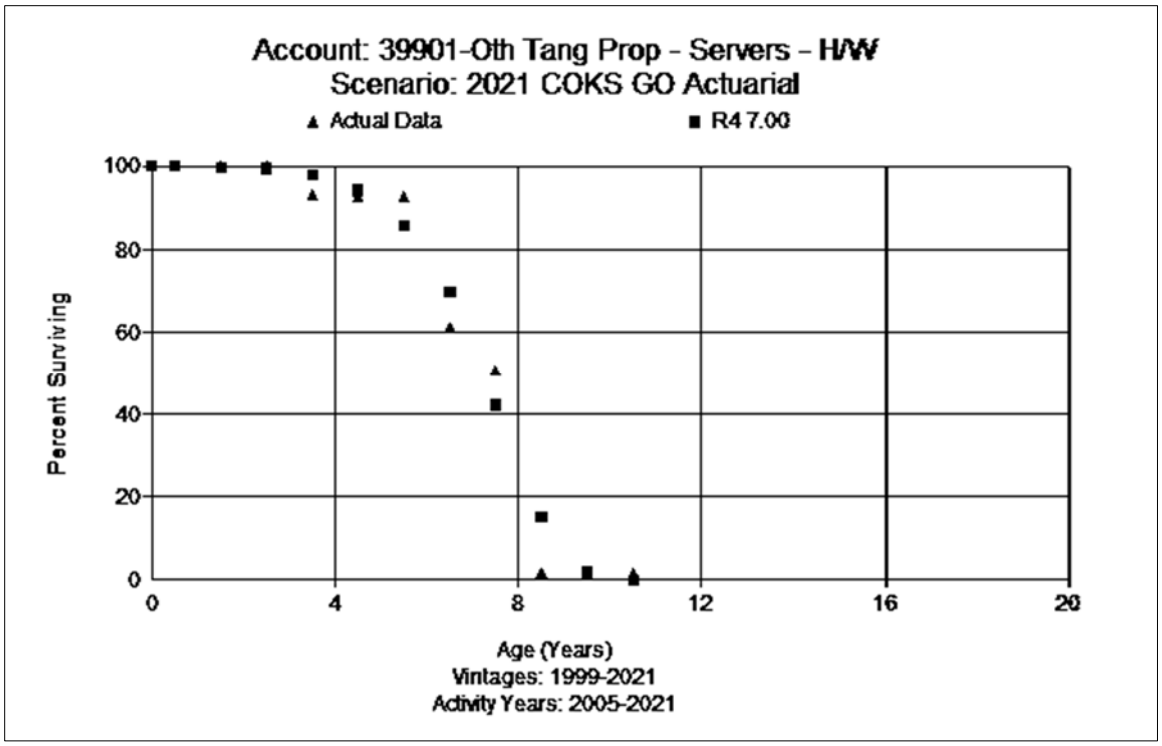


Account 399.01 – Servers Hardware (7 R4)

This account consists of assets various server hardware and equipment. The balance is $48 thousand. The current life and curve are 7 SQ.

Discussions with Company personnel indicated that the existing life is consistent with current expectations and matches the life of similar assets in the Colorado Direct Study as well. The study recommends retention of the existing 7-year life but moves to the R4 dispersion for this account. A graph of the observed life table and the recommended life and curve are shown below.

No salvage or cost of removal has been recorded and none is expected. The existing zero percent net salvage rate is retained for this account.

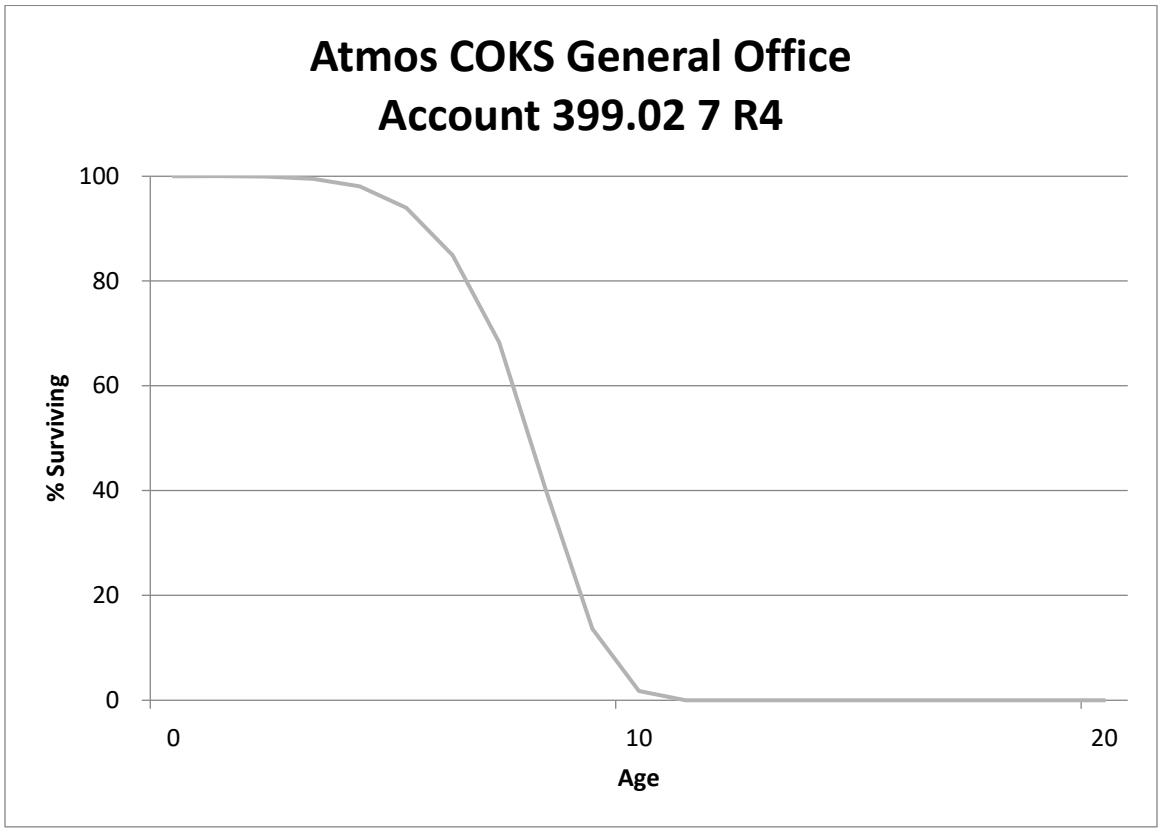


Account 399.02 – Servers Software (7 R4)

This account consists of assets various server hardware and equipment. Currently, there is no balance in this account. The current life and curve are 7 SQ.

Discussions with Company personnel indicated that the existing life is consistent with current expectations and matches the life of similar assets in the Colorado Direct Study as well. Should new assets be added in the future, this study recommends retention of the existing 7-year life but moves to the R4 dispersion for this account. A representative graph of the life of the account is shown in the curve below.

No salvage or cost of removal has been recorded and none is expected. The existing zero percent net salvage rate is retained for this account.

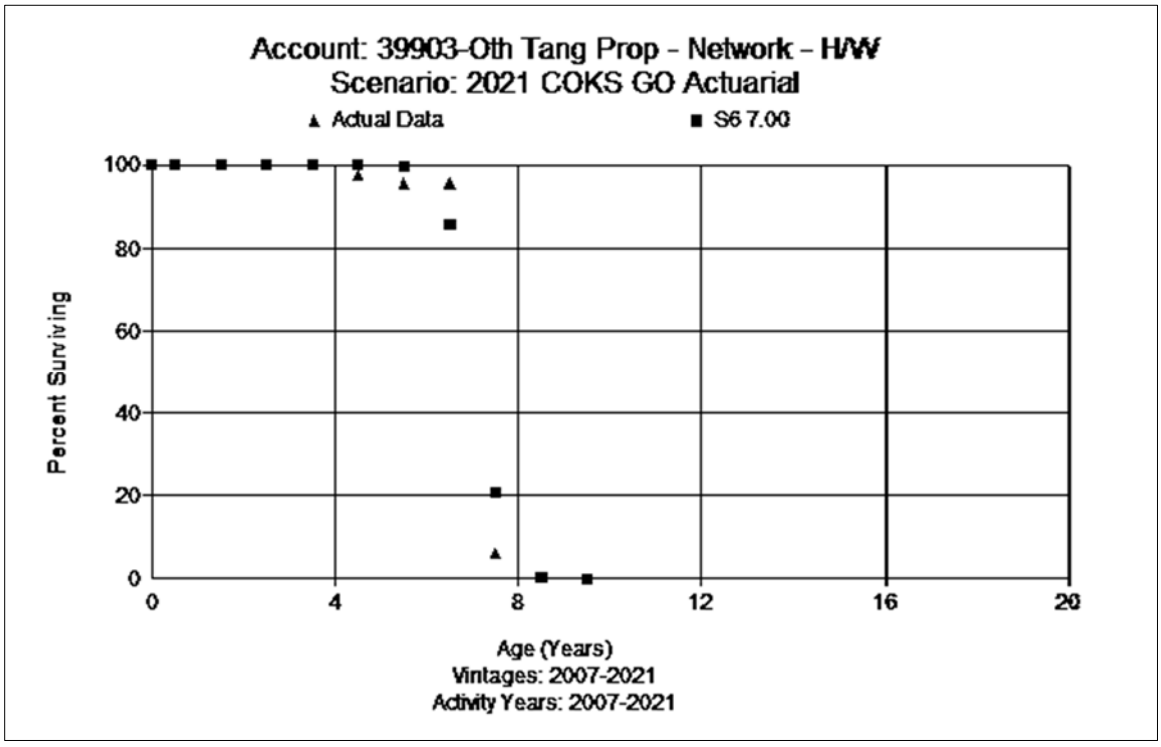


Account 399.03 – Network Hardware (7 S6)

This account consists of assets related to networking activities such as routers, switches, and miscellaneous networking equipment. The balance is $121 thousand. The current life is 8 SQ.

Discussions with Company personnel indicated that this equipment is the same and operated in the same way as the assets included in the Colorado Direct Study. The analysis has a mix of fits with 7 and 8 year lives. Considering the discussions with Company personnel, the analysis indications, type of assets, consistency with the Colorado Direct Study, and judgment, this study recommends moving to a 7-year average service life and S6 dispersion. A graph of the observed life table and the recommended life and curve are shown below.

No salvage or cost of removal has been recorded and none is expected. The existing zero percent net salvage rate is retained for this account.

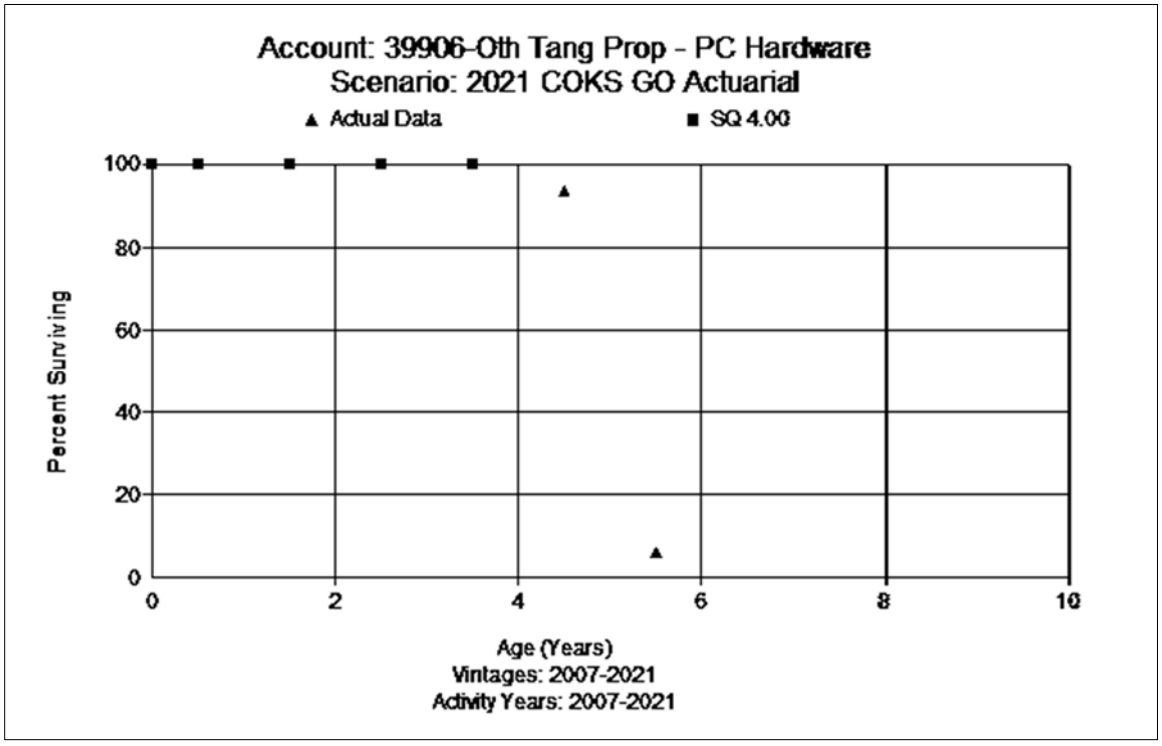


Account 399.06 – PC Hardware (4 SQ)

This account consists of costs for computer hardware, desktop and laptop computers, monitors, and printers. The balance is $122 thousand. The existing life is 5 years with the SQ dispersion. The average age of the surviving investment is nearly 3 years.

Discussions with Company personnel indicated that the COKS General Office assets should follow the same refresh cycle as that proposed in the Colorado Direct Study. Currently, the Company is on a refresh cycle of approximately 4 years for computers. The analysis shows most best fits to be around 5 years. Based on the discussions with Company personnel, analysis, consistency with Colorado Direct Study, and judgment, this study recommends moving to the 4 SQ. A graph of the observed life table and the recommended life and curve are shown below.

This study recommends retention of the existing zero percent net salvage rate for this account.

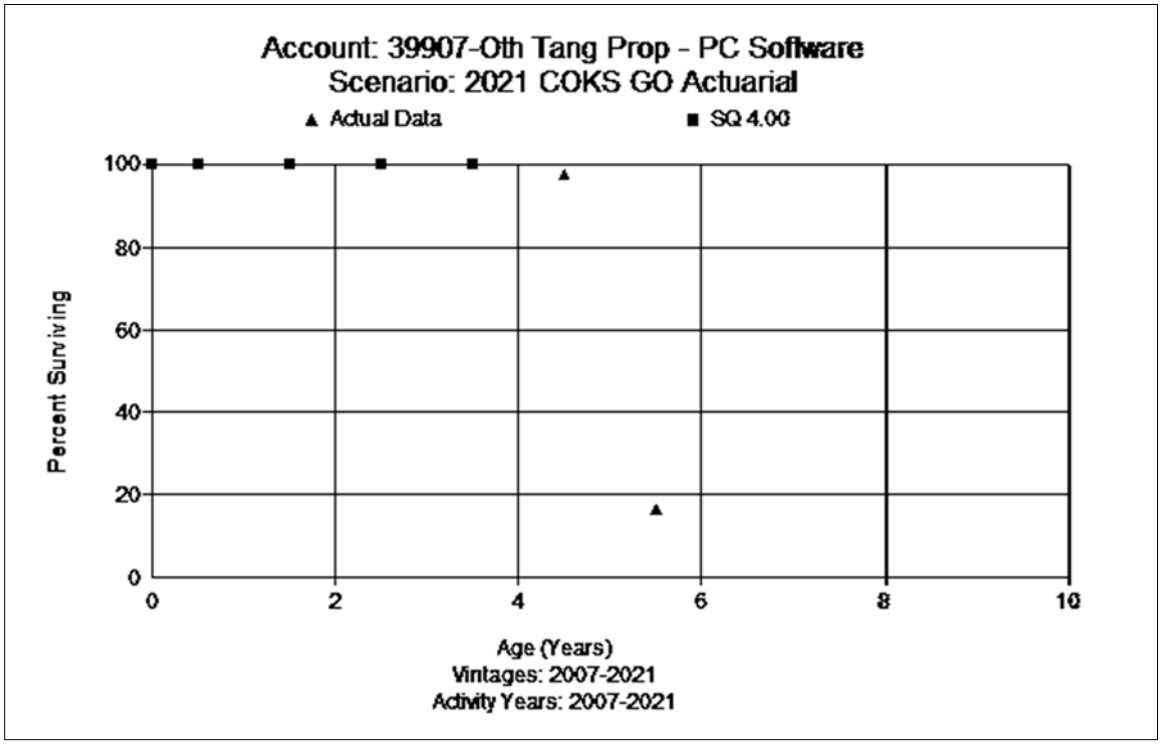


Account 399.07 – PC Software (4 SQ)

The PC software account holds investment for software assets including operating system software such as Windows, Microsoft Office, and other related application software. The balance is $32 thousand. The existing life is 6 SQ. The current average age of the surviving investment is 3 years.

Discussions with Company personnel indicated that, in the past, software was maintained longer, but it now follows the hardware refresh cycle. Some engineering and tech software is loaded with new computer equipment and the software license is often upgraded on an annual basis. The analysis indicates a slightly longer life than what is expected going forward and longer than the hardware in this study and the software in the Colorado Direct Study. Based on the type of assets, its link to hardware, the desire for consistency with Colorado Direct, and the analysis, this study recommends moving to 4 SQ.

This study recommends retention of the existing zero percent net salvage rate for this account.



APPENDIX A

Comparison of Annual Rate and Accrual

Appendix A

Atmos Energy - Colorado Kansas General Office
Depreciation Study as of September 30, 2021
Depreciation Study Annual Depreciation Rates and Accruals - ELG

			Existing Accrual		Proposed Accrual		Change in
Account	Description	Plant Balance	Rate %	Amount $	Rate %	Amount $	Depreciation Expense
(a)	(b)	(c)	(d)	(e)	(f)	(g)	[h]
39009	Improvements to Leased Premises	$ 280,309.53	12.07%	$ 33,833.36	3.54%	$ 9,922.96	$ (23,910.40)
39100	Office Furniture and Equipment	399,117.90	7.80%	31,131.20	3.65%	14,567.80	(16,563.39)
39200	Transportation Equipment	25,513.33	20.00%	5,102.67	3.94%	1,005.23	(4,097.44)
39700	Communication Equipment	39,177.35	10.67%	4,180.22	5.67%	2,221.36	(1,958.87)
39901	Servers Hardware	48,327.95	21.70%	10,487.17	5.85%	2,827.19	(7,659.98)
39903	Network Hardware	121,151.02	19.19%	23,248.88	10.61%	12,854.12	(10,394.76)
39906	PC Hardware	122,046.67	22.00%	26,850.27	20.50%	25,019.57	(1,830.70)
39907	PC Software	32,412.01	20.00%	6,482.40	24.14%	7,824.26	1,341.86
	Total Depreciable Plant in Study	**$ 1,068,055.76**	**13.23%**	**$ 141,316.16**	**7.14%**	**$ 76,242.48**	**$ (65,073.68)**

Note: Accounts below have zero balance. Recommend the following whole life (1-NS%/ASL) rates for new additions.

39400	Tools, Shop and Garage Equipment	10.00%
39800	Miscellaneous Equipment	12.50%

APPENDIX B

Annual Accrual Rate Calculations

Appendix B

Atmos Energy - Colorado Kansas General Office
Depreciation Study as of September 30, 2021
Calculation of Depreciation Accrual Remaining Life - ELG
With Reserve Reallocation

Account	Description	Plant Balance	Allocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Annual Accrual Amount $	Annual Accrual Rate %
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
39009	Improvements to Leased Premise	$ 280,309.53	$ 190,475.17	0%	$ -	$ 89,834.36	9.05	$ 9,924.21	3.54%
39100	Office Furniture and Equipmen	399,117.90	253,207.10	0%	-	145,910.80	10.02	14,565.01	3.65%
39200	Transportation Equipmen	25,513.33	22,545.90	0%	-	2,967.43	2.95	1,005.05	3.94%
39700	Communication Equipmen	39,177.35	28,094.69	0%	-	11,082.66	4.99	2,219.87	5.67%
39901	Servers Hardware	48,327.95	44,982.59	0%	-	3,345.36	1.18	2,827.67	5.85%
39903	Network Hardware	121,151.02	95,484.04	0%	-	25,666.98	2.00	12,854.74	10.61%
39906	PC Hardware	122,046.67	77,709.20	0%	-	44,337.47	1.77	25,021.46	20.50%
39907	PC Software	32,412.01	29,610.41	0%	-	2,801.60	0.36	7,825.25	24.14%
	Total Depreciable Plant	**$ 1,068,055.76**	**$ 742,109.10**		**$ -**	**$ 325,946.66**		**$ 76,243.26**	**7.14%**

Note: Accounts below have zero balance. Recommend the following whole life (1-NS%/ASL) rates for new additions.

39400	Tools, Shop and Garage Equipmer	10.00%
39800	Miscellaneous Equipmen	12.50%

APPENDIX C

Comparison of Mortality Characteristics

Appendix C

Atmos Energy - Colorado Kansas General Office
Depreciation Study as of September 30, 2021
Comparison of Parameters

		Approved Parameters					Proposed Parameters				
Account	Description	ASL	Curve	Salvage %	COR %	Net Salvage %	ASL	Curve	Salvage %	COR %	Net Salvage %
39009	Improvements to Leased Property	10	SQ	0%	0%	0%	20	SQ	0%	0%	0%
39100	Office Furniture and Equipment	15	R1.5	0%	0%	0%	20	R1.5	0%	0%	0%
39103	Office Machines	15	R1.5	0%	0%	0%	20	R1.5	0%	0%	0%
39200	Transportation Equipment	5	SQ	0%	0%	0%	10	L4	0%	0%	0%
39400	Tools, Shop, and Garage Equipment	9	S5	0%	0%	0%	10	S5	0%	0%	0%
39500	Laboratory Equipment	10	SQ	0%	0%	0%	10	S5	0%	0%	0%
39700	Communication Equipment	12	S5	0%	0%	0%	12	S5	0%	0%	0%
39800	Miscellaneous Equipment	8	L5	0%	0%	0%	8	L5	0%	0%	0%
39901	Servers Hardware	7	SQ	0%	0%	0%	7	R4	0%	0%	0%
39902	Servers Software	7	SQ	0%	0%	0%	7	R4	0%	0%	0%
39903	Network Hardware	8	SQ	0%	0%	0%	7	S6	0%	0%	0%
39905	Other Tangible Property - Mainframe	5	SQ	0%	0%	0%	5	SQ	0%	0%	0%
39906	PC Hardware	5	SQ	0%	0%	0%	4	SQ	0%	0%	0%
39907	PC Software	6	SQ	0%	0%	0%	4	SQ	0%	0%	0%

APPENDIX D

Net Salvage Analysis

Appendix D

Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39100	2000	331,706	0	0	0	0.00%									
39100	2001	0	0	0	0	NA	0.00%								
39100	2002	0	0	0	0	NA	NA	0.00%							
39100	2003	18,738	0	0	0	0.00%	0.00%	0.00%	0.00%						
39100	2004	2,035	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%					
39100	2005	135,792	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39100	2006	50,507	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39100	2007		0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39100	2008	106,287	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39100	2009	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2010	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2011	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2012	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2013	0	0	0	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2014	0	0	0	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
39100	2015	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
39100	2016	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%
39100	2017	5,169	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2020	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39100	2021	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39200	2015	0	0	0	0	NA									
39200	2016	0	0	0	0	NA	NA								
39200	2017	0	0	0	0	NA	NA	NA							
39200	2018	0	0	0	0	NA	NA	NA	NA						
39200	2019	2,142	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%					
39200	2020	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%				
39200	2021	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%			

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Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39400	2000	0	0	0	0	NA									
39400	2001	0	0	0	0	NA	NA								
39400	2002	0	0	0	0	NA	NA	NA							
39400	2003	0	0	0	0	NA	NA	NA	NA						
39400	2004	0	0	0	0	NA	NA	NA	NA	NA					
39400	2005	0	0	0	0	NA	NA	NA	NA	NA	NA				
39400	2006	14,990	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39400	2007	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39400	2008	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39400	2009	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2010	20,541	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2011	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2012	186,620	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2013	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2014	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2015	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2016	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2017	0	0	0	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2018	0	0	0	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
39400	2019	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
39400	2020	68,988	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39400	2021	4,069	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39700	2000	14,051	0	0	0	0.00%									
39700	2001	2,136	0	0	0	0.00%	0.00%								
39700	2002	0	0	0	0	NA	0.00%	0.00%							
39700	2003	0	0	0	0	NA	NA	0.00%	0.00%						
39700	2004	0	0	0	0	NA	NA	NA	0.00%	0.00%					
39700	2005	75,677	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39700	2006	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			

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Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39700	2007	391,995	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39700	2008	0	0	1,209	(1,209)	NA	-0.31%	-0.31%	-0.26%	-0.26%	-0.26%	-0.26%	-0.26%	-0.25%	
39700	2009	248,392	0	0	0	0.00%	-0.49%	-0.19%	-0.19%	-0.17%	-0.17%	-0.17%	-0.17%	-0.17%	-0.17%
39700	2010	0	0	0	0	NA	0.00%	-0.49%	-0.19%	-0.19%	-0.17%	-0.17%	-0.17%	-0.17%	-0.17%
39700	2011	16,713	0	0	0	0.00%	0.00%	0.00%	-0.46%	-0.18%	-0.18%	-0.17%	-0.17%	-0.17%	-0.17%
39700	2012	41,498	0	0	0	0.00%	0.00%	0.00%	0.00%	-0.39%	-0.17%	-0.17%	-0.16%	-0.16%	-0.16%
39700	2013	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	-0.39%	-0.17%	-0.17%	-0.16%	-0.16%
39700	2014	11,586	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.38%	-0.17%	-0.17%	-0.15%
39700	2015	97,099	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.29%	-0.15%	-0.15%
39700	2016	61,116	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.25%	-0.14%
39700	2017	14,895	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.25%
39700	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39700	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39700	2020	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39700	2021	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2000	0	0	0	0	NA									
39800	2001	0	0	0	0	NA	NA								
39800	2002	0	0	0	0	NA	NA	NA							
39800	2003	0	0	0	0	NA	NA	NA	NA						
39800	2004	0	0	0	0	NA	NA	NA	NA	NA					
39800	2005	53,964	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39800	2006	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39800	2007	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39800	2008	48,943	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39800	2009	19,774	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2010	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2011	242,386	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2012	137,217	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2013	43,136	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2014	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39800	2015	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2016	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2017	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2018	0	0	0	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2019	0	0	0	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
39800	2020	40,575	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39800	2021	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2000	0	0	0	0	NA									
39901	2001	0	0	0	0	NA	NA								
39901	2002	0	0	0	0	NA	NA	NA							
39901	2003	0	0	0	0	NA	NA	NA	NA						
39901	2004	0	0	0	0	NA	NA	NA	NA	NA					
39901	2005	120,692	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39901	2006	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39901	2007	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39901	2008	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39901	2009	96,220	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2010	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2011	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2012	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2013	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2014	12,094	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2015	50,298	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2016	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2017	272,055	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2020	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2021	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39902	2000	0	0	0	0	NA									
39902	2001	0	0	0	0	NA	NA								
39902	2002	0	0	0	0	NA	NA	NA							
39902	2003	0	0	0	0	NA	NA	NA	NA						
39902	2004	0	0	0	0	NA	NA	NA	NA	NA					
39902	2005	13,400	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39902	2006	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39902	2007	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39902	2008	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39902	2009	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39902	2010	0	0	0	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39902	2011	0	0	0	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
39902	2012	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
39902	2013	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%
39902	2014	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
39902	2015	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2016	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2017	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2018	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2019	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2020	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39902	2021	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39903	2000	0	0	0	0	NA									
39903	2001	0	0	0	0	NA	NA								
39903	2002	0	0	0	0	NA	NA	NA							
39903	2003	0	0	0	0	NA	NA	NA	NA						
39903	2004	0	0	0	0	NA	NA	NA	NA	NA					
39903	2005	0	0	0	0	NA	NA	NA	NA	NA	NA				
39903	2006	0	0	0	0	NA	NA	NA	NA	NA	NA	NA			

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Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39903	2007	463,486	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39903	2008	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39903	2009	9,641	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2010	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2011	9,587	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2012	16,174	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2013	26,414	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2014	15,369	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2015	312,821	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2016	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2017	18,201	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2020	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39903	2021	16,063	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2000	0	0	0	0	NA									
39906	2001	9,904	0	0	0	0.00%	0.00%								
39906	2002	167,492	0	0	0	0.00%	0.00%	0.00%							
39906	2003	61,151	0	0	0	0.00%	0.00%	0.00%	0.00%						
39906	2004	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%					
39906	2005	124,538	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
39906	2006	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
39906	2007	715,300	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39906	2008	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39906	2009	337,109	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2010	7,945	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2011	494,243	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2012	488,902	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2013	410,050	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2014	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Appendix D

Atmos Colorado Kansas General Office
Retirements, Gross Salvage, and Cost of Removal
Depreciation Study as of September 30, 2021

Description	Year	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39906	2015	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2016	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2017	24,651	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2020	16,226	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39906	2021	20,232	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2000	0	0	0	0	NA									
39907	2001	0	0	0	0	NA	NA								
39907	2002	0	0	0	0	NA	NA	NA							
39907	2003	80,908	0	0	0	0.00%	0.00%	0.00%	0.00%						
39907	2004	14,837	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%					
39907	2005	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%				
39907	2006	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%			
39907	2007	8,248	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
39907	2008	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39907	2009	75,692	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2010	12,077	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2011	18,586	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2012	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2013	21,370	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2014	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2015	60,850	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2016	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2017	24,425	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2018	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2019	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2020	24,930	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
39907	2021	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

ATMOS ENERGY CORPORATION

SHARED SERVICES UNIT

DEPRECIATION RATE STUDY

As of September 30, 2019

http://www.utilityalliance.com

ATMOS ENERGY CORPORATION - SHARED SERVICES UNIT
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY

Atmos Energy Corporation ("Atmos" or "Company") engaged Alliance Consulting Group to conduct a depreciation study of the Company's Shared Services Unit ("SSU" or "Shared Services") operations depreciable assets as of fiscal year end September 30, 2019. SSU provides support to Atmos Energy Corporation's regulated utility divisions.

The regulated natural gas utility divisions during the year ended September 30, 2019 were:

- Atmos Colorado-Kansas Division
- Atmos Louisiana Division
- Atmos Kentucky Mid-States (Kentucky, Tennessee, and Virginia) Division
- Atmos Mississippi Division
- Atmos Mid-Tex Division
- Atmos West Texas Division
- Atmos Pipeline Texas Division

The depreciation rates are based on the straight-line method, equal life group ("ELG") procedure, and remaining-life technique. This study results in an annual depreciation expense accrual of $25.5 million when applied to depreciable plant balances as of September 30, 2019.

The depreciation study we conducted analyzed and developed depreciation recommendations at an account level. The resulting annual depreciation accrual amounts and depreciation rates contained in this study are at the account level. The Company will accrue depreciation expense based on the account level depreciation rates developed in this study. Appendix A provides the annual depreciation expense.

ATMOS ENERGY CORPORATION
ATMOS SHARED SERVICES UNIT
DEPRECIATION RATE STUDY
As of September 30, 2019
Table of Contents

PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property as recorded on Shared Services' books at September 30, 2019. The account based depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of Shared Services' property on a straight-line basis. Non-depreciable property and property which is amortized, such as intangibles were excluded from this study.

Shared Services is a division of Atmos Corporation dedicated to providing various support services to its operating companies. Shared Services consists of two Divisions, Division 02 – General Office and Division 12 – Customer Support. For purposes of this study, Division 02 and Division 12 were combined for analysis and rate calculations. As of the study date, Shared Services supported regulated gas utility divisions operating in eight different states.

STUDY RESULTS

The existing and current study annual depreciation expense both result from the use of Iowa Curve dispersion patterns with average service lives over a straight-line basis as well as the equal life group ("ELG") procedure and remaining-life technique. Consideration was given to appropriate net salvage factors in the development of the study recommended depreciation rates. Detailed information for each of these factors will follow in this report.

Overall depreciation rates for Shared Services depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual of $25.5 million based on Shared Services' depreciable investment at September 30, 2019.

The recommended annual depreciation accrual rates and expense are shown in Appendix A. Appendix B presents the development of the depreciation rates and annual accruals. Appendix C presents the recommended study mortality and net salvage parameters by account. Appendix D shows net salvage history by plant account.

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 a particular period. The Company accrues depreciation based on original cost of all depreciable property included in each functional property group. On retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

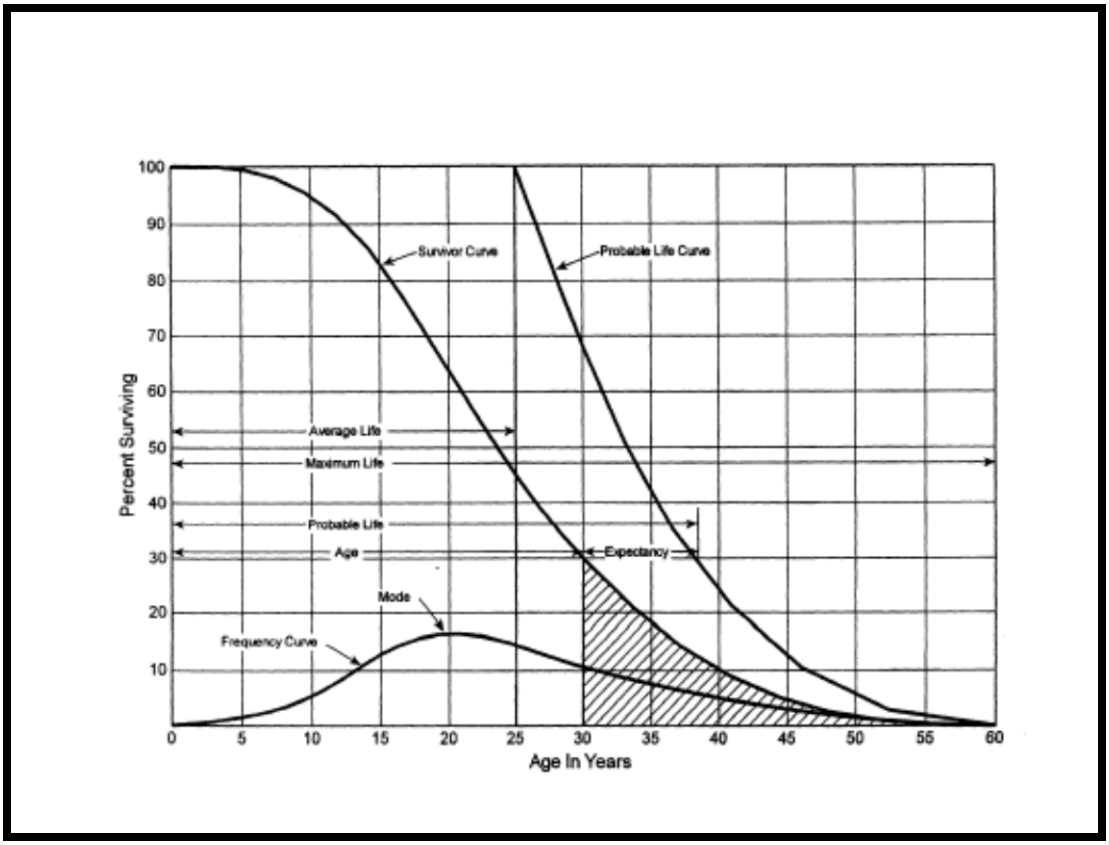
Basis of Depreciation Estimates

The straight-line, ELG, remaining-life depreciation system was employed to calculate annual and accrued depreciation in this study. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset less allocated depreciation reserve less estimated net salvage by its respective equal life group remaining life. The resulting annual accrual amounts of all depreciable property within a function were accumulated, and the total was divided by the original cost of all functional depreciable property 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. The computations of the annual depreciation rates are shown in Appendix B and remaining life calculations are provided in the workpapers.

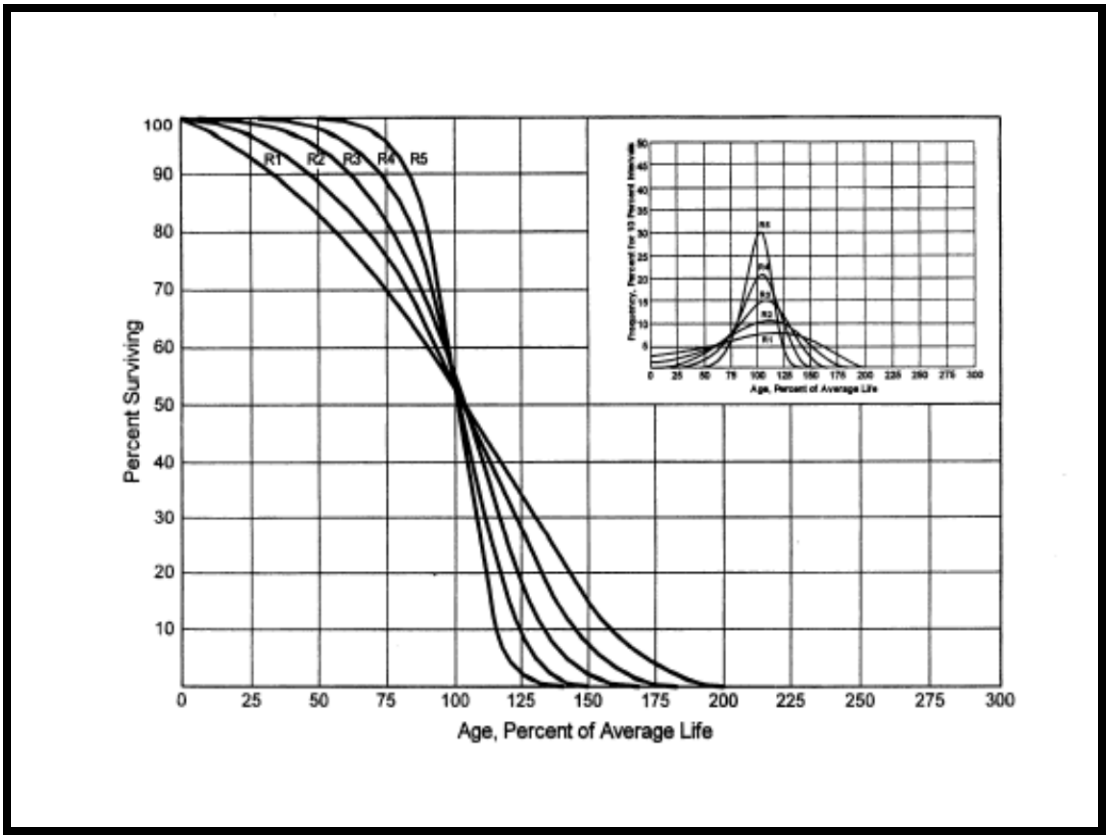
Actuarial analysis was used with each account within a function, where sufficient data was available, and judgment was used to some degree on all accounts.

Survivor Curves

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual property units within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by first constructing a survivor curve which is plotted as a percentage of the units surviving at each age. A survivor curve represents the percentage of property remaining in service at various age intervals. The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the prior 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 that are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. 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.



Similarly, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. An "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. 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).

Most property groups can be closely fitted to one Iowa Curve with a unique average service life. The blending of 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.

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 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. Where data was available, 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. The results from these analyses for those accounts which had data sufficient to be analyzed using this method are shown in the Life Analysis section of this report.

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. Judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and actuarial analysis.

Judgment is not defined as being used in cases where there are specific, significant pieces of information that influence the choice of a life or curve. Those cases would simply be a reflection of specific facts into the analysis. Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, implications of applying certain curves, property mix in accounts or a multitude of other considerations that impact the analysis (potentially in various directions), judgment is used to take all of these factors and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one factor in these cases may have a substantial impact on the analysis, but overall, may shed light on the utilization 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 judgment. At the very least for example, any analysis requires choosing which bands to place more emphasis.

The establishment of appropriate average service lives and retirement dispersions for Shared Services' accounts requires judgment to incorporate the understanding of the operation of the system with the available accounting information analyzed using the Retirement Rate actuarial methods. The appropriateness of lives and curves depends not only on statistical analyses, but also on how well future retirement patterns will match past retirements.

Current applications and trends in use of the equipment also need to be factored into life and survivor curve choices in order for appropriate mortality characteristics to be chosen.

Equal Life Group Depreciation

Atmos agreed that the continued use of the ELG depreciation procedure was appropriate. This study uses the ELG depreciation procedure to group the assets within each account. After an average service life and dispersion were selected for each account, those parameters were used to estimate what portion of the surviving investment of each vintage was expected to retire. The depreciation of the group continues until all investment in the vintage group is retired. ELG groups are defined by their respective account dispersion, life, and net salvage estimates. A straight-line rate for each ELG group is computed and accumulated across each vintage. The resulting rate for each ELG group is designed to recover all retirements less net salvage as each vintage retires. The ELG procedure recovers net book cost over the life of each ELG group rather than averaging many components. It also closely matches the concept of component or item accounting found in all accounting textbooks.

Theoretical Depreciation Reserve

The Company's book depreciation reserves were reallocated based on the theoretical reserves for each account. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates. The theoretical reserve of a group is developed from the estimated remaining life, total life of the property group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for

each vintage. The equal life group method requires an estimate of dispersion and service life to establish how much of each vintage is expected to be retired in each year until all property within the vintage is retired. Estimated average service lives and dispersion determine the amount within each equal life group. The equal life group-remaining-life theoretical reserve ratio (RRELG) is calculated as:

$$RRELG = 1 - \frac{(ELG\ Remaining\ Life)}{(ELG\ Life)} * (1 - Net\ Salvage\ Ratio)$$

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. Once 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. 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 to put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Considerations 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 assist in formulating life and salvage recommendations in this study. One of the most important elements of performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is beneficial 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 of this study in the life analysis and salvage analysis sections and also in workpapers.

Phase 2 is where the actuarial analysis is performed. Phase 2 and 3 overlap to a significant degree. The detailed property records information is used in Phase 2 to develop observed life tables for life analysis. These tables are visually compared to industry standard tables to determine historical life characteristics. It is possible that the analyst would cycle back to this phase based on the evaluation process performed in Phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group 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 synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from Phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. Phases 2 and 3 allow the depreciation analyst to validate 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 B. 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, page 289 documents the same basic processes in performing a depreciation study which are: Statistical analyses, evaluation of statistical analysis, discussions with management, forecast assumptions, write logic supporting forecasts and estimation, and write final report.

[1] Public Utility Finance & Accounting, A Reader

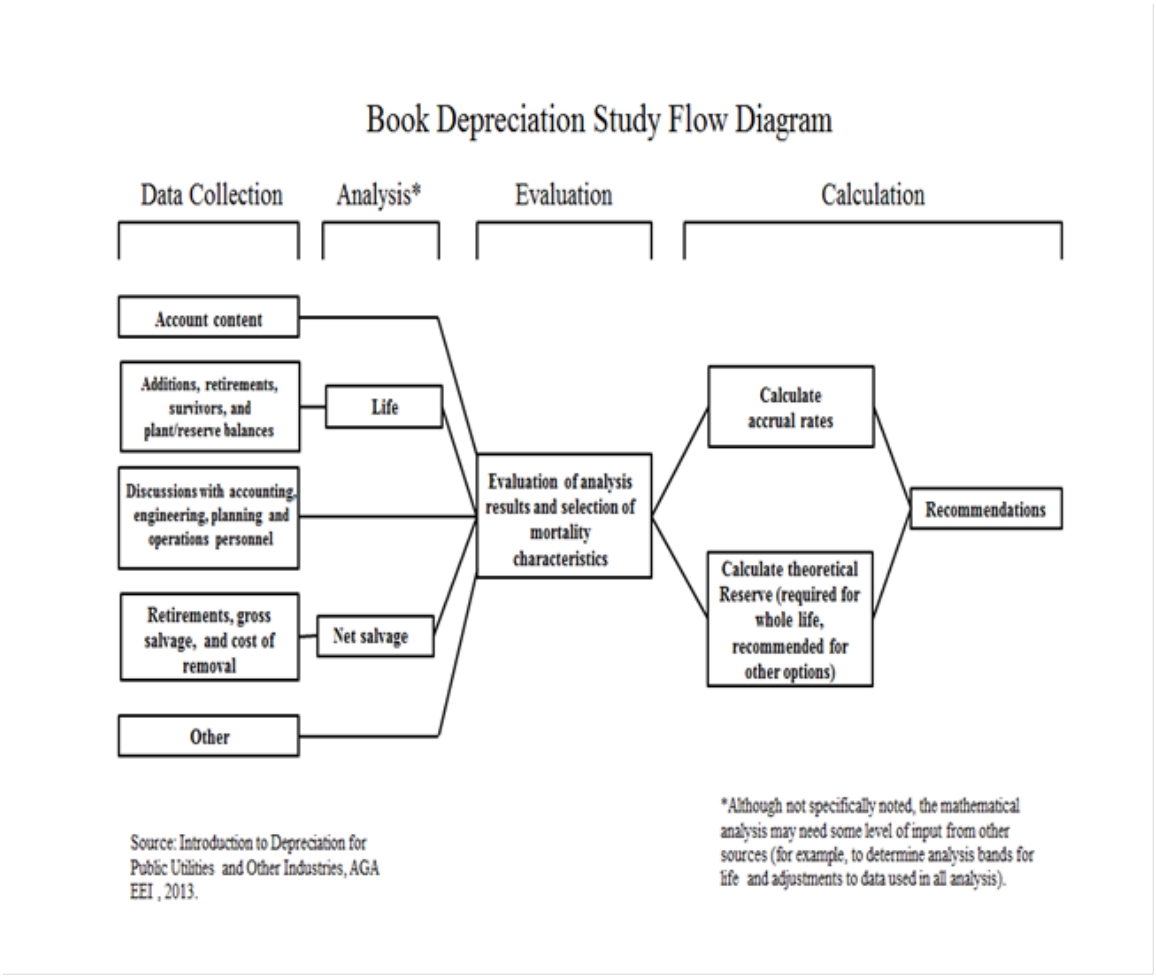


Figure 1

SHARED SERVICES DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable property accounts of Shared Services were calculated by the straight line, equal life group, and remaining-life system. With this approach, remaining lives were calculated according to standard ELG group expectancy techniques, using the Iowa Survivor Curves noted in the calculation. 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 average remaining life to yield the annual depreciation expense. These calculations are shown in Appendix B.

Remaining Life Calculation

The establishment of appropriate average service lives and retirement dispersions for each account within a functional group was based on engineering judgment that incorporated available accounting information analyzed using the actuarial methods. After establishment of appropriate average service lives and retirement dispersions, remaining lives were computed for each account. The theoretical depreciation reserve with zero net salvage (used in calculating remaining life) was calculated using theoretical reserve ratios as defined in the theoretical reserve portion of the general discussion section. The difference between plant balance and theoretical reserve was then spread over the ELG depreciation accruals. After accumulating the ELG accruals across each vintage, the annual accrual was divided into the net balance to compute remaining life. Details of the theoretical reserve computations, ELG accruals, and remaining life are found by account in the study workpapers.

Calculation Process

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

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

following equation,

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

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:

$$\text{Composite Remaining Life} = \frac{\sum \text{Original Cost} - \text{Theoretical Reserve}}{\sum \text{Whole Life Annual Accrual}}$$

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 where the net salvage percent represents future net salvage.

$$\text{Annual Depreciation Expense} = \frac{\text{Original Cost} - \text{Book Reserve} - (\text{Original Cost}) * (1 - \text{Net Salvage \%})}{\text{Composite Remaining Life}}$$

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:

$$\text{Annual Depreciation Rate} = \frac{\sum \text{Annual Depreciation Expense}}{\sum \text{Original Cost}}$$

These calculations are shown in Appendix B. The calculations of the theoretical depreciation reserve values and the corresponding remaining life calculations are shown in workpapers. Book depreciation reserves were allocated to individual accounts and the theoretical reserve computation was used to compute a composite remaining life for each account.

LIFE ANALYSIS

The retirement rate actuarial analysis method was applied to all accounts for Shared Services. For each account, an actuarial retirement rate analysis was made with placement and experience bands of varying width. The historical observed life table was plotted and compared with various Iowa Survivor Curves to obtain the most appropriate match. A selected curve for each account is shown in the Life Analysis Section of this report. The observed life tables for all analyzed placement and experience bands are provided in workpapers.

For the overall band (i.e. placement from earliest vintage year, which varied for each account through 2019) for each account, various dispersion curves were plotted. Frequently, visual matching would confirm one specific dispersion pattern (i.e. L, S. or R) as a better match than others. The next step would be to determine the most appropriate life using that dispersion pattern. Then, after looking at the overall experience band, different experience bands were plotted and analyzed, for instance 1996-2019, 2005-2019, etc. Next placement bands of varying width were plotted with each experience band discussed above. Repeated matching usually pointed to a focus on one dispersion family and small range of service lives. The goal of visual matching was to minimize the differential between the observed life table and Iowa curve in top and mid range of the plots. These results are used in conjunction with all other factors that may influence asset lives.

Due to the nature of the Shared Services Division and the allocation of costs among numerous entities and across various state regulatory jurisdictions, the study does not make a comparison of approved to proposed depreciation rates, due to timing differences and the possibility of changes from the various regulatory agencies approving rates. Instead, we will provide the proposed from the prior study (2014) and the current study (2019) in the account discussions below.

NET SALVAGE CONSIDERATIONS

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).

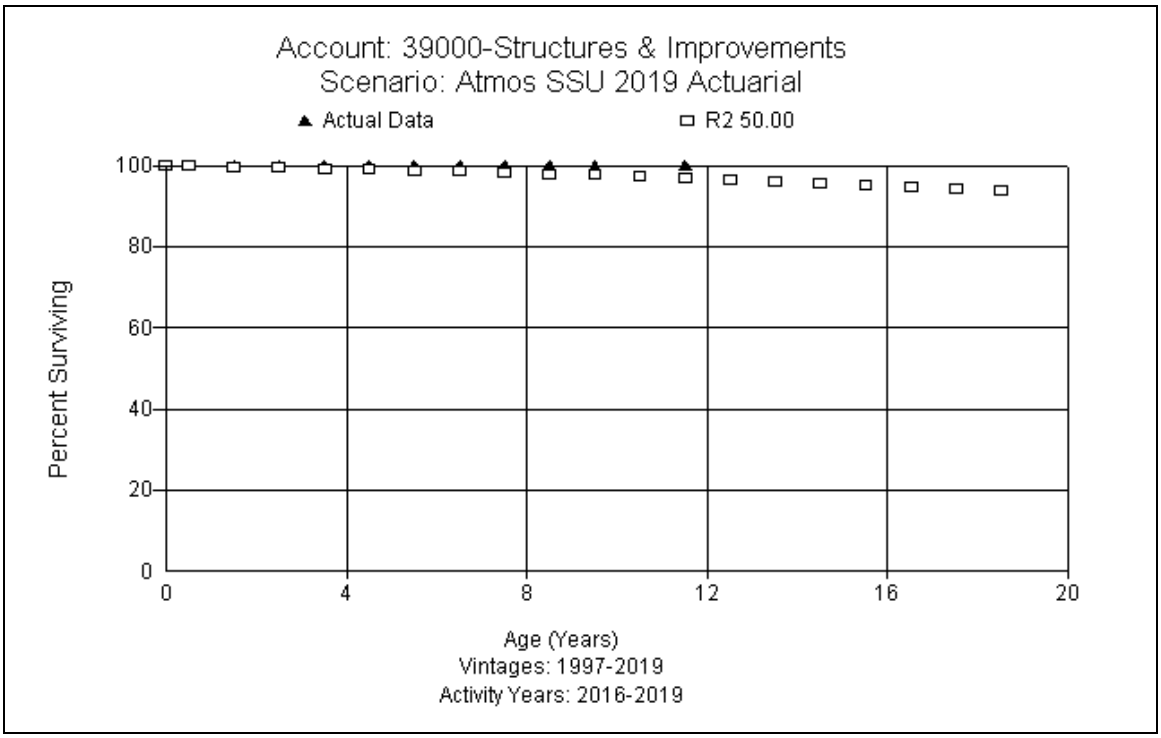
Net Salvage Characteristics

The net salvage analysis, for each account, is shown in Appendix D. Moving averages for intervals are also included in Appendix D. The assets of Shared Services generally do not incur cost of removal and salvage has declined in recent years. In this study a zero percent net salvage is recommended for each account, with the exception of Account 392, Transportation Equipment.

Account Life and Net Salvage Analysis

Account 39000 – Structures & Improvements

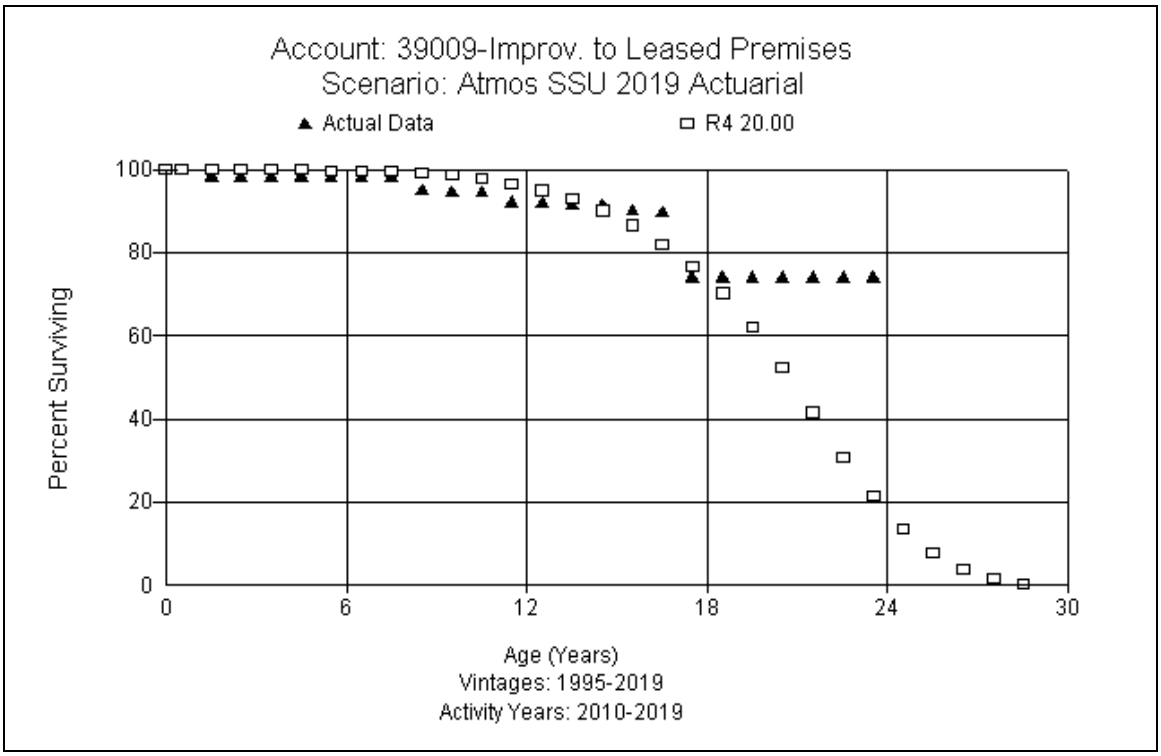
This account includes the cost of buildings and improvements including the Greenville operations center, the Charles K. Vaughn training center, and the call center in Waco. The account balance is $36 million. The current average age of investment is 9.05 years. There have been few retirements recorded and the mix of assets is weighted to the longer lived buildings. Based on judgment and type of assets this study recommends moving to a 50 year life with the R2 dispersion pattern. A graph of the observed life table and the recommended life and curve are shown below.



Little to no salvage is expected. However, some cost of removal, at the end of life, is expected for some of the assets but none has been recorded. Therefore, a zero percent net salvage is recommended at this time.

Account 39009 – Improvements to Leased Premises

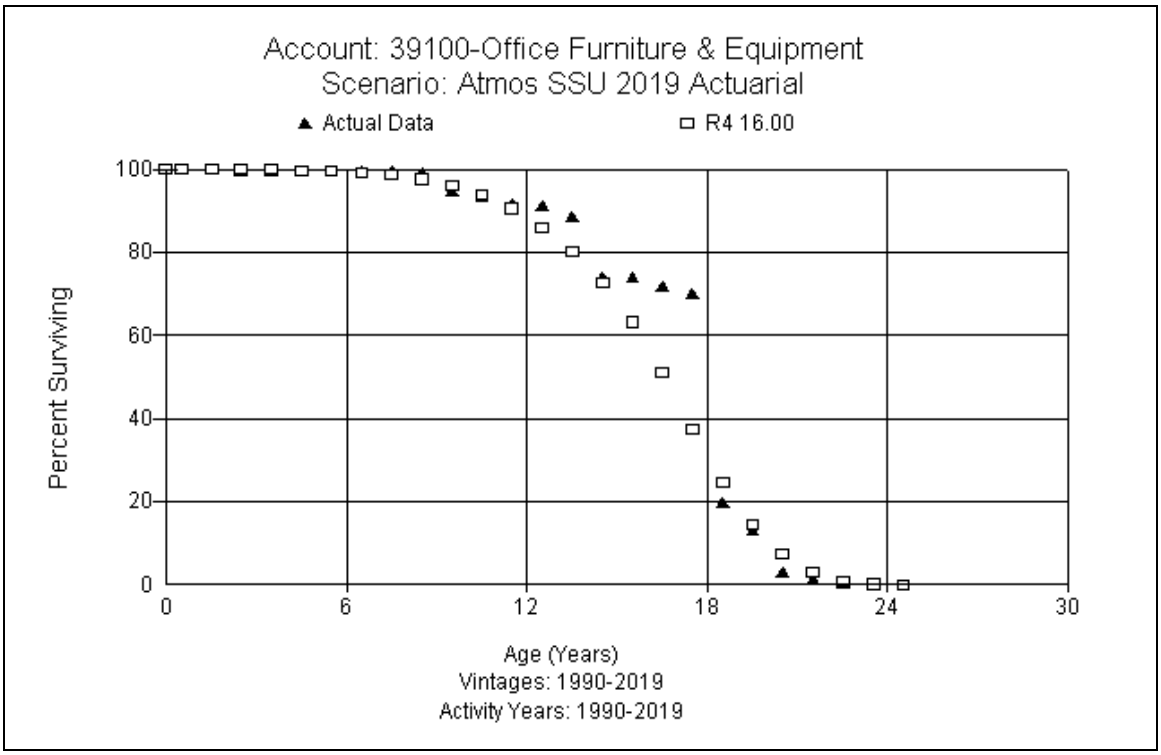
This account includes the cost of improvements to leased premises such as the Dallas office and call centers. The balance is $12 million. Assets in this account are tied to their lease term, which is 20 years with renewal options. There is no basis to change. This study recommends retaining the 20 R4 at this time. A graph of the observed life table and the recommended life and curve are shown below.



No salvage or removal cost has been recorded and none is expected in the future, therefore a zero percent net salvage is recommending for this account.

Account 39100 – Office Furniture and Equipment

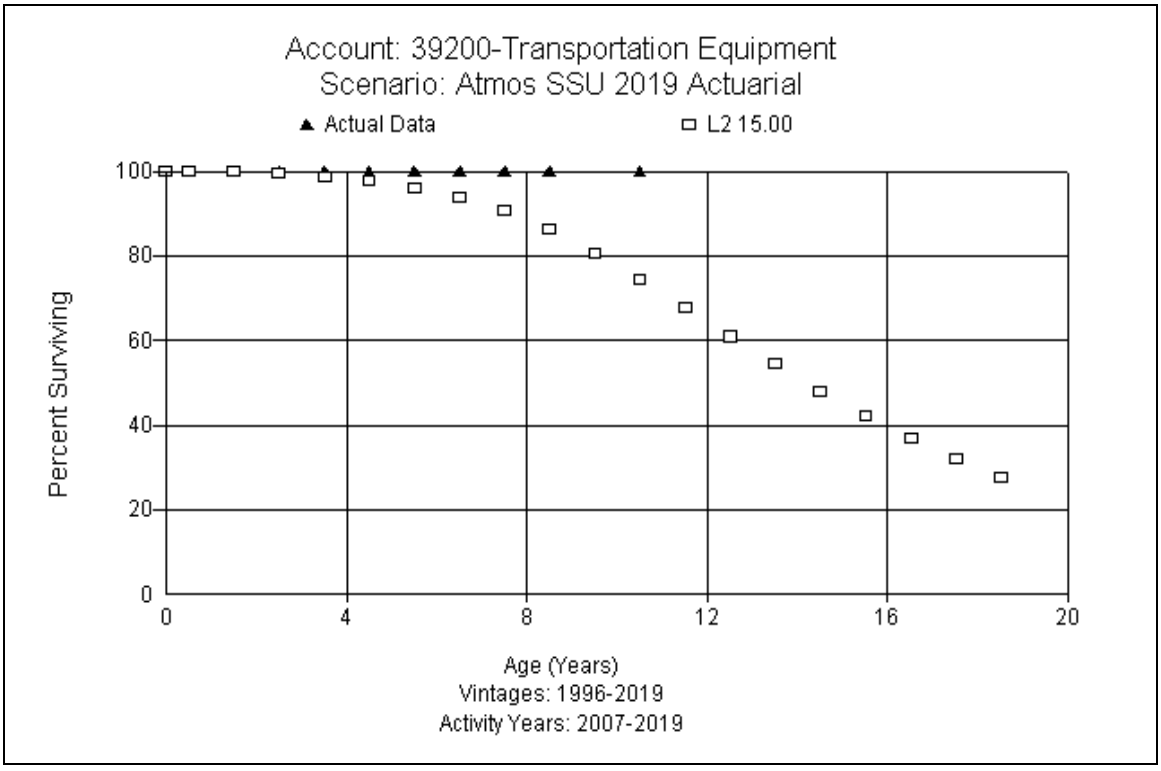
This account consists of modular furniture, desks, chairs, bookcases, credenzas, file cabinets, office machines and other miscellaneous equipment located at the various locations. The balance is $9.1 million. An expected life range for the assets in this account is 15 to 20 years or longer. However, the current study analysis indicates the assets in this account are experiencing a shorter life. Discussions with Company personnel indicated some offices had been renovated and more retirements have been made than would have been expected in the past. Based on Company input, the analysis, and future expectations, this study recommends moving to a 16 R4 dispersion pattern. A graph of the observed life table and the recommended life and curve are shown below.



There is no cost of removal and no salvage has been recorded since 1997. No salvage is expected at retirement in the future. A zero percent net salvage rate is recommended for this account.

Account 39200 – Transportation Equipment

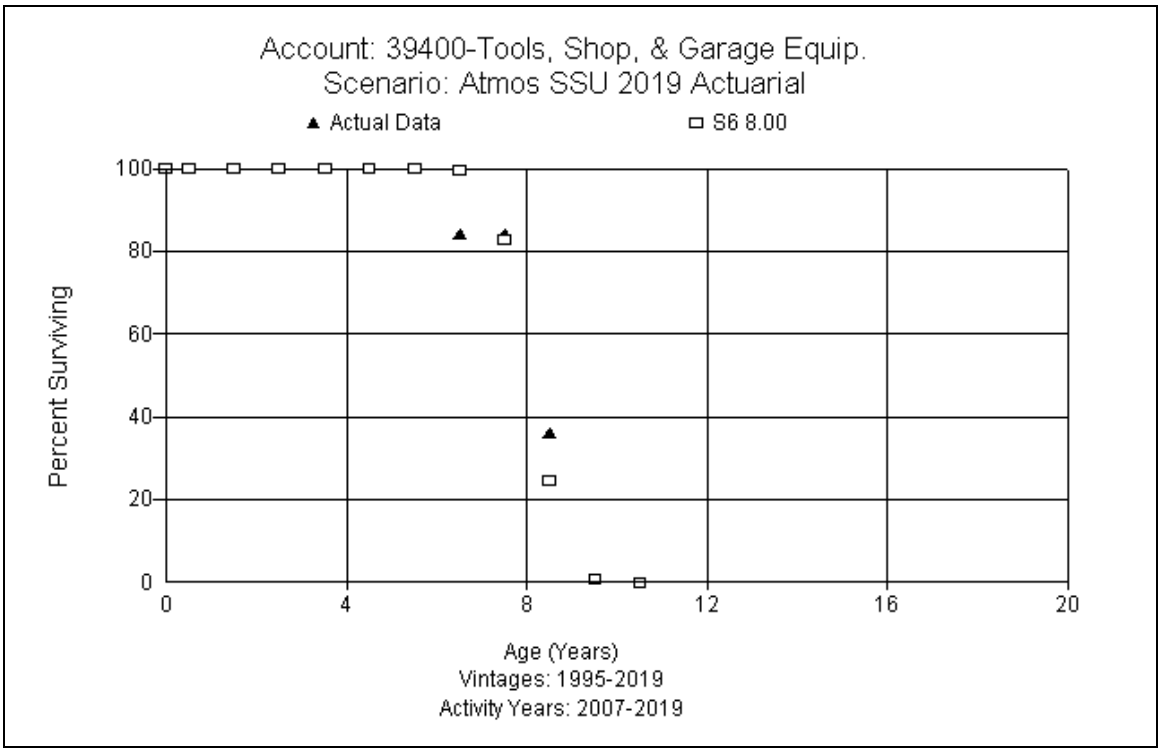
This account consists of all transportation equipment. The balance is $103 thousand. Depending on the type and mix of assets, this account can range from 5-15 years. The current average age of investment is 9.33 years. Only one retirement has been recorded. The Company leases most of its vehicles and surviving assets are golf carts, a trailer, and other miscellaneous equipment. Based on the surviving assets, this study recommends moving to a 15 L2. A graph of the observed life table and the recommended life and curve are shown below.



No cost of removal has been recorded and none is expected. There has been no salvage recorded over the analysis 2007-2019 historical experience. However, some salvage is expected and a 10 percent net salvage rate is recommended for this account.

Account 39400 – Tools, Shop & Garage Equipment

This account consists of various small tools and equipment used at the various locations. The balance is $606 thousand in this account. The average age of investment is 4.26 years. Due to the type and use of the assets and the analysis, this study recommends moving to an 8 S6 life and dispersion pattern. A graph of the observed life table and the recommended life and curve are shown below.



No salvage or cost of removal has been recorded over the analysis 2007-2019 historical experience. There is generally little or no salvage and no cost of removal expected at the time of retirement. This study recommends a zero percent net salvage rate for this account.

Account 39500 – Laboratory Equipment

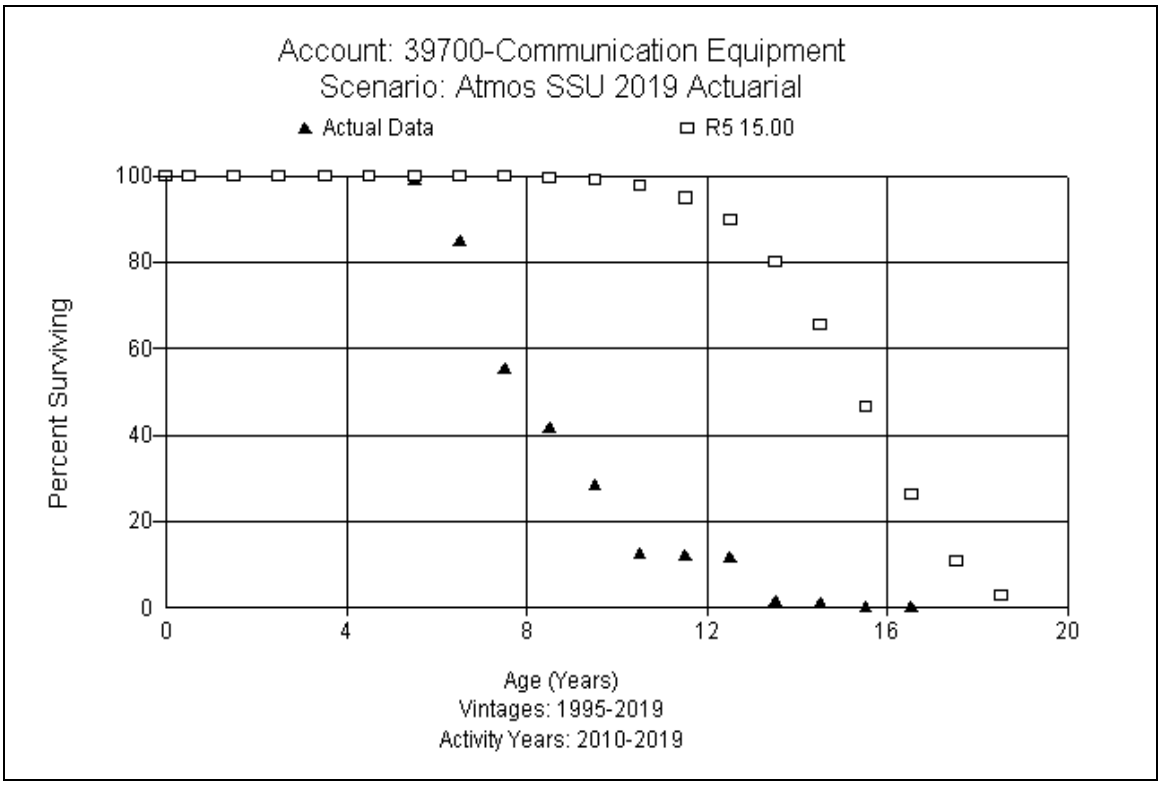
This account consists of laboratory equipment. The balance is $24 thousand in this account. The average age of investment is 8.01 years. No retirement activity has been recorded so no curve fits were made. Based on the type and use of the assets, this study recommends retention of the 10 R2. No graph is provided.

No salvage or cost of removal has been recorded. There is generally little or no salvage and no cost of removal related to the equipment in the account. This study recommends a zero percent net salvage rate for this account.

Account 39700 – Communications Equipment

The communications equipment account includes communication, computer hardware, telephone, and radio equipment used at the various locations. The balance is $3.3 million in this account. Discussions with Company personnel indicated that around 2009, there was a contact center built in Amarillo, of which the communication assets are still in service. The average age of the assets is around 10 years old and they have no specific plans to replace significant portions of the communications infrastructure at this point. The Company indicated within 6-9 months, all switches for the call center will be split between Greenville Data center (primary) and Lincoln (backup). All switches were replaced within the last 3 years, including the Lincoln telephone switch. Call center switches were 10-15 years old at retirement. A 15 year life is reasonable and the Company will replace pieces under O&M in the interim.

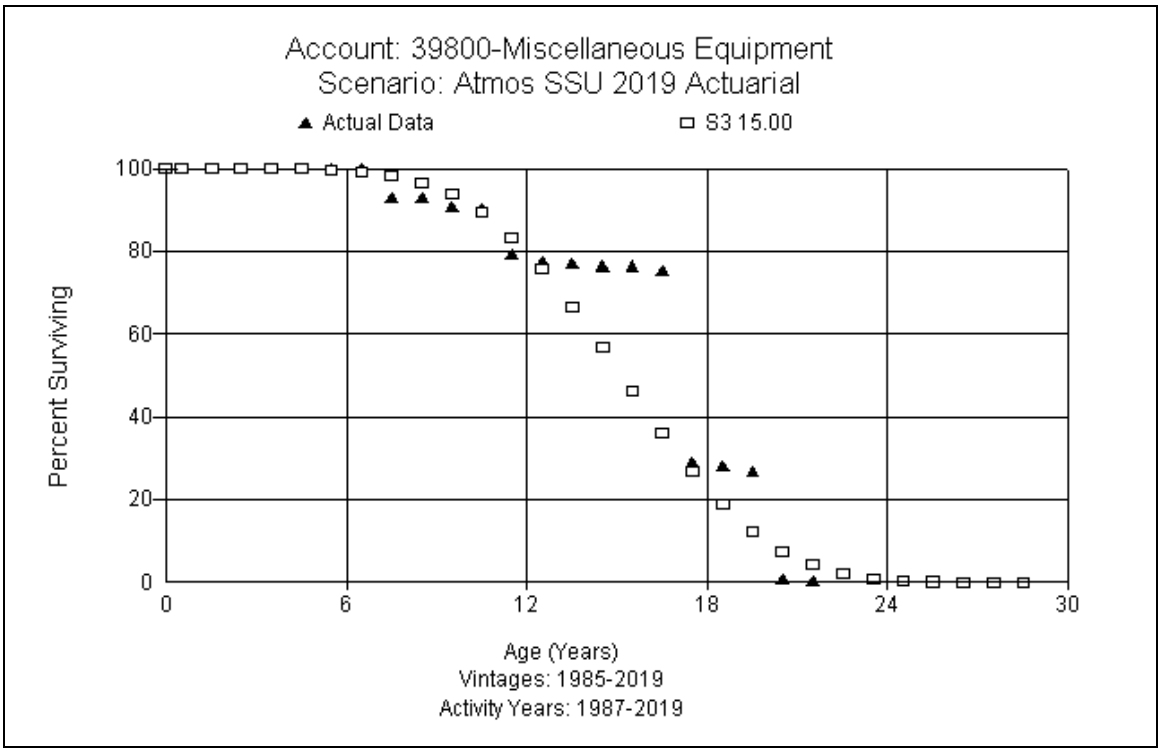
Based on the analysis, the best fits were indicating a life between 7-9 years, which is due to a large level of retirements in the last few years. The shorter life indication in the analysis is not reflective of Company expectations for these assets. Giving consideration to the type, mix, analysis, Company input and judgment, a 15 year life with the R2 dispersion is recommended. A graph of the observed life table and the recommended life and curve are shown below.



Both salvage and cost of removal were recorded in 2004, but none since. No salvage is expected in the future at time of retirement. Little, if any, cost of removal is expected to be recorded for the assets. This study recommends a zero percent net salvage rate for this account.

Account 39800 - Miscellaneous Equipment

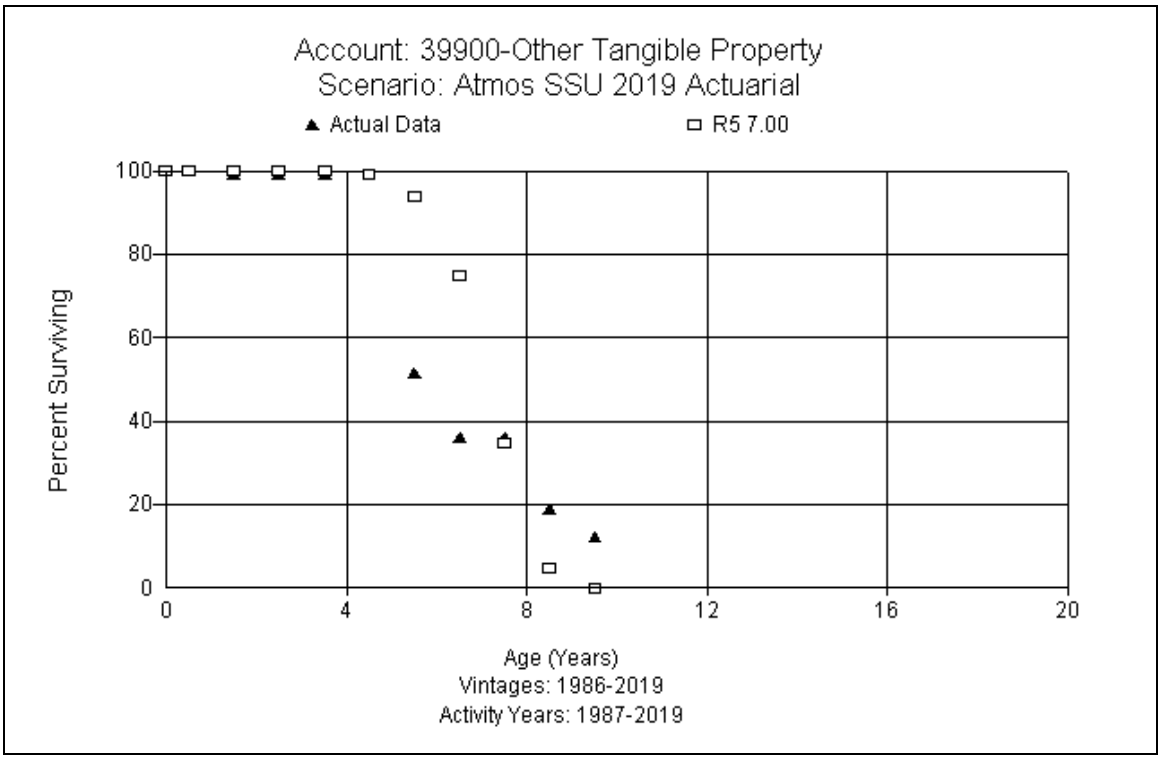
This account consists of various small office equipment items, such as kitchen appliances, televisions and audio/video equipment that are not homogeneous with other plant accounts and are at the various locations. The balance is $742 thousand. The majority of the fits, except the most recent bands, indicated a life around 15 years. The 15 year average service life with the S3 dispersion for assets in this account is a good fit and is recommended. A graph of the observed life table and the recommended life and curve are shown below.



No salvage or cost of removal has been recorded since 1996 and none is expected at the time of retirement. This study recommends a zero percent net salvage rate for this account.

Account 39900 – Other Tangible Property

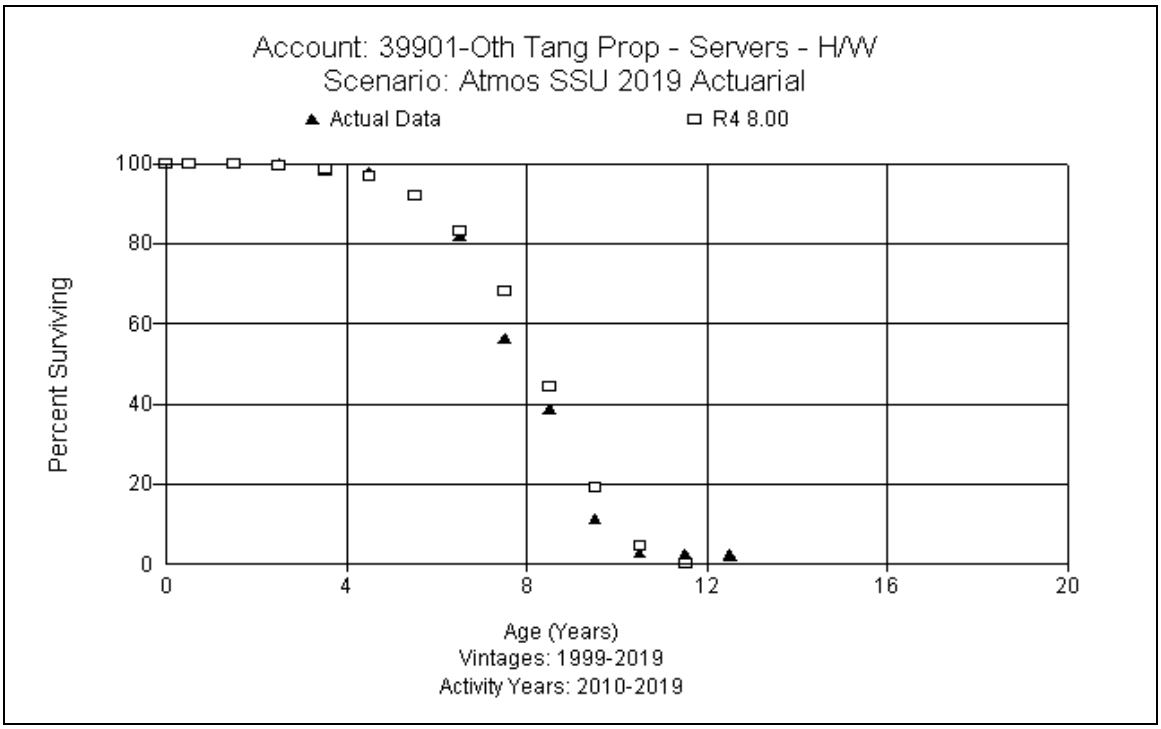
The other tangible property account holds miscellaneous equipment. The account balance is $296 thousand. The average age of the investment is 2.43 years and average age of retirements is 7.01 years. Best fits indicate a 7 year life, which is consistent with the expectations for this account. The study recommends a 7 year life with the R5 dispersion for this account. A graph of the observed life table and the recommended life and curve are shown below.



There has been no salvage or cost of removal recorded and none is expected in the future. This study recommends a zero percent net salvage rate for this account.

Account 39901 – Servers Hardware

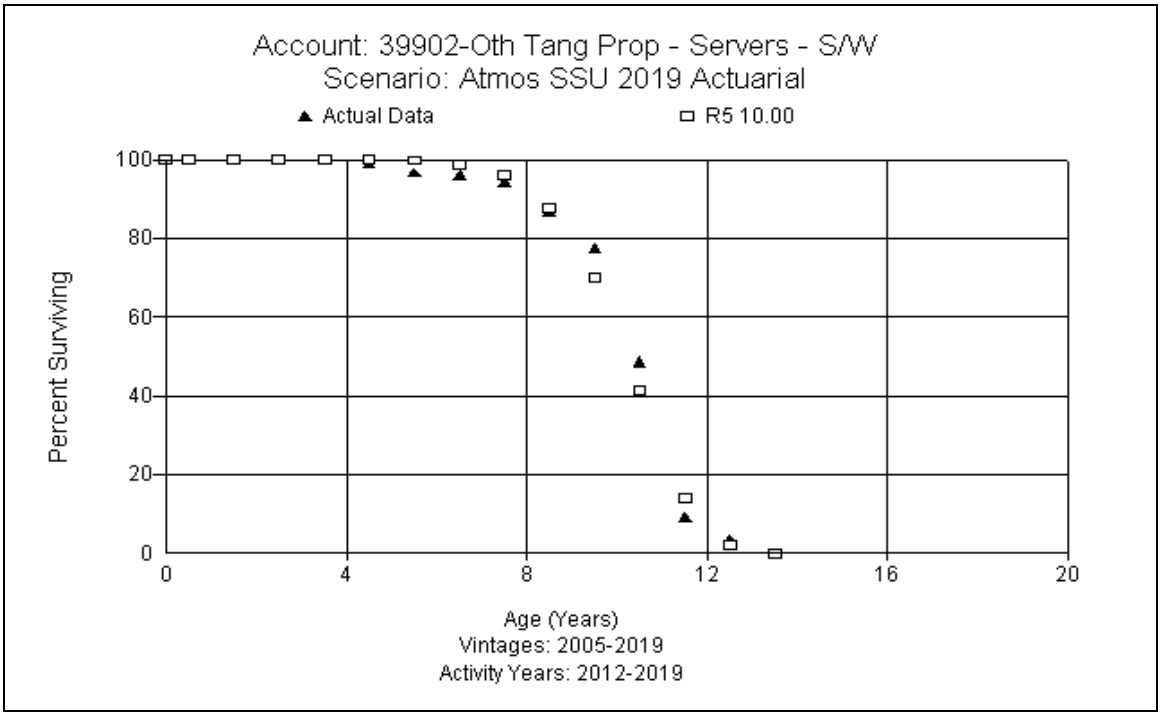
This account consists of assets such as server hardware and equipment used to serve the various locations. The balance is $33.3 million. The current average age of the surviving balance is 4.45 years and the average age at retirement is 8.97 years. Discussions with Company personnel indicated the initial manufacturer warranty is out after 3 years. The Company generally purchases an extended warranty, which carries them a few years longer. The servers running the SAP system are planned for replacement around 8 years on average. The current life analysis indicates a good fit with the 8 R4. Based on the analysis and Company input, this study recommends an 8 R4. A graph of the observed life table and the recommended life and curve are shown below.



Very little salvage or cost of removal has been recorded in the past and no salvage or cost of removal is expected. A zero percent net salvage rate is recommended for this account.

Account 39902 – Servers Software

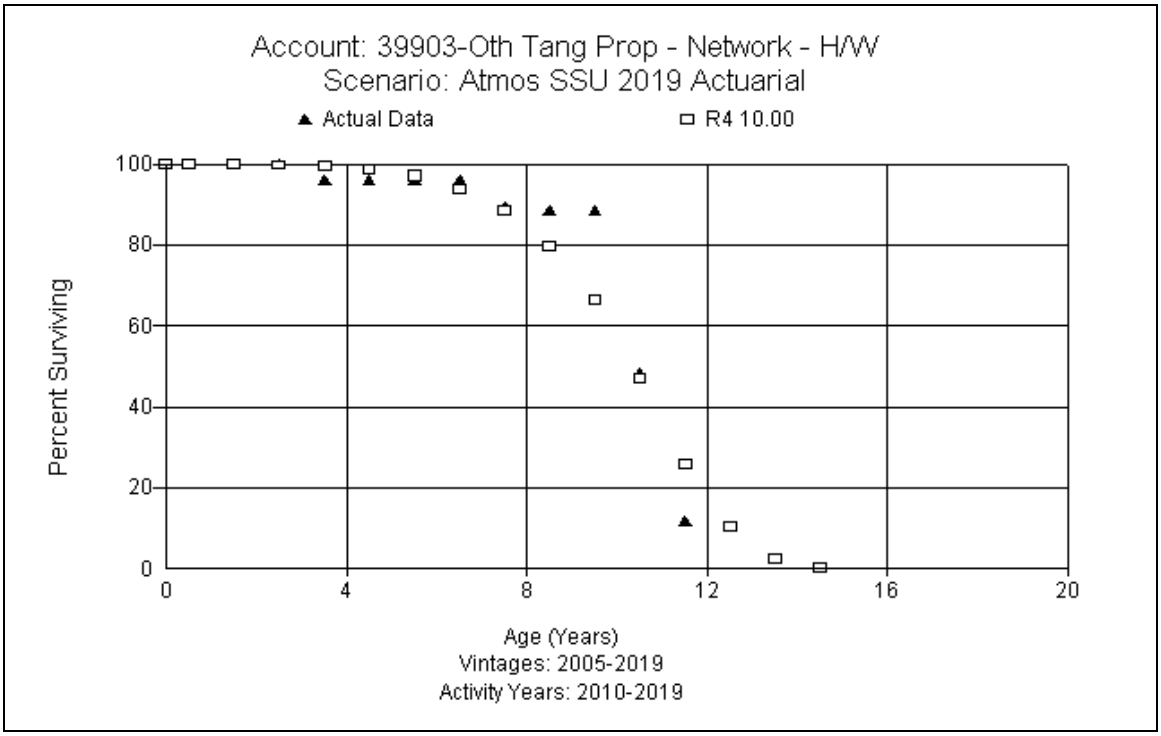
This account consists of assets such as Windows operating systems, Oracle, VMWare, Altiris and other server software. The balance is $12.4 million. The average age of investment is 5.52 years. The average age of retirements is 11.75 years. Discussions with Company personnel indicated that virtualization disconnects the software from the hardware to some degree and can extend the life of the software as compared to the hardware. There are some perpetual licenses within this category. The life analysis provides a consistent 10 year life indication. Even though technology changes are a driver for retirement and replacement, moving the life longer makes sense operationally. This study recommends a 10 year life with the R5 dispersion pattern. A graph of the observed life table and the recommended life and curve are shown below.



No salvage or cost of removal has been recorded and none is expected in the future. A zero percent net salvage rate is recommended for this account.

Account 39903 – Network Hardware

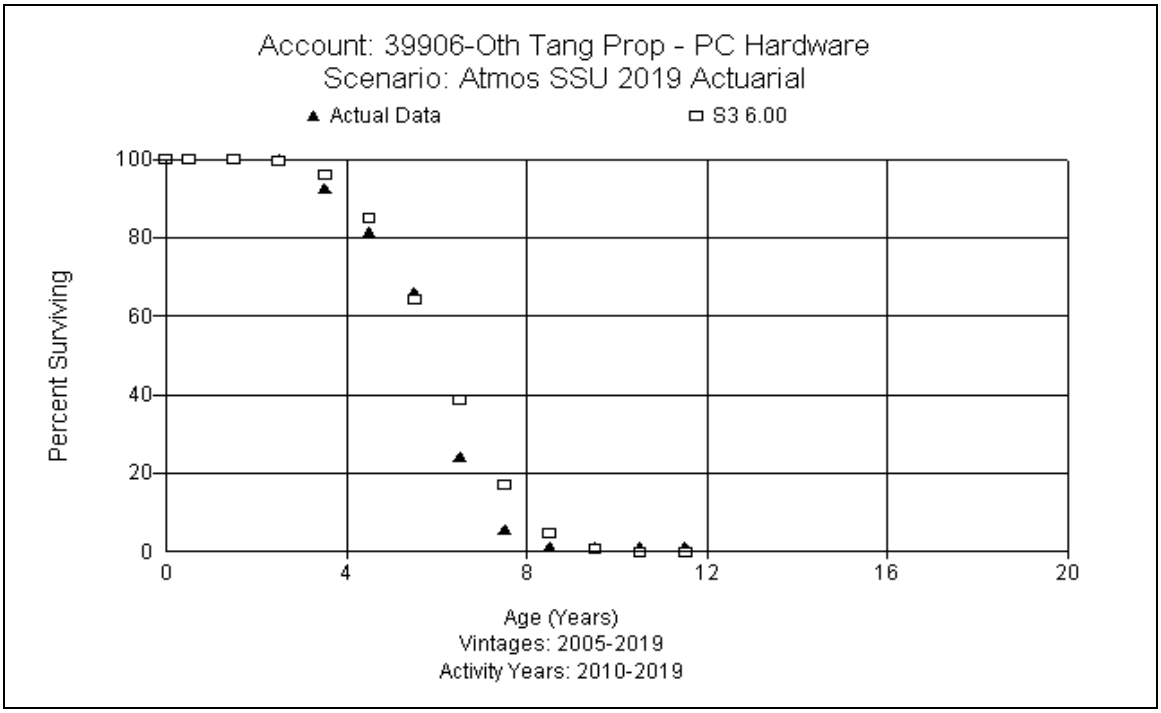
This account consists of assets related to networking activities such as routers, switches and miscellaneous equipment. The balance is $5.4 million. The average age of retirements is 9.82 years and the average age of investment is 6.15 years. Discussions with Company personnel indicated the 2009 investment was for the data center, which has been replaced this year at around 10 years of age. A 10 year life is generally what they experience and expect. The analysis indicates consistent fits at 10 years. This study recommends the 10 R4, which is slightly longer than server hardware. A graph of the observed life table and the recommended life and curve are shown below.



Cost of removal was recorded in 2012, but none since. No salvage or cost of removal is expected in the future. A zero percent net salvage rate is recommended for this account.

Account 39906 – PC Hardware

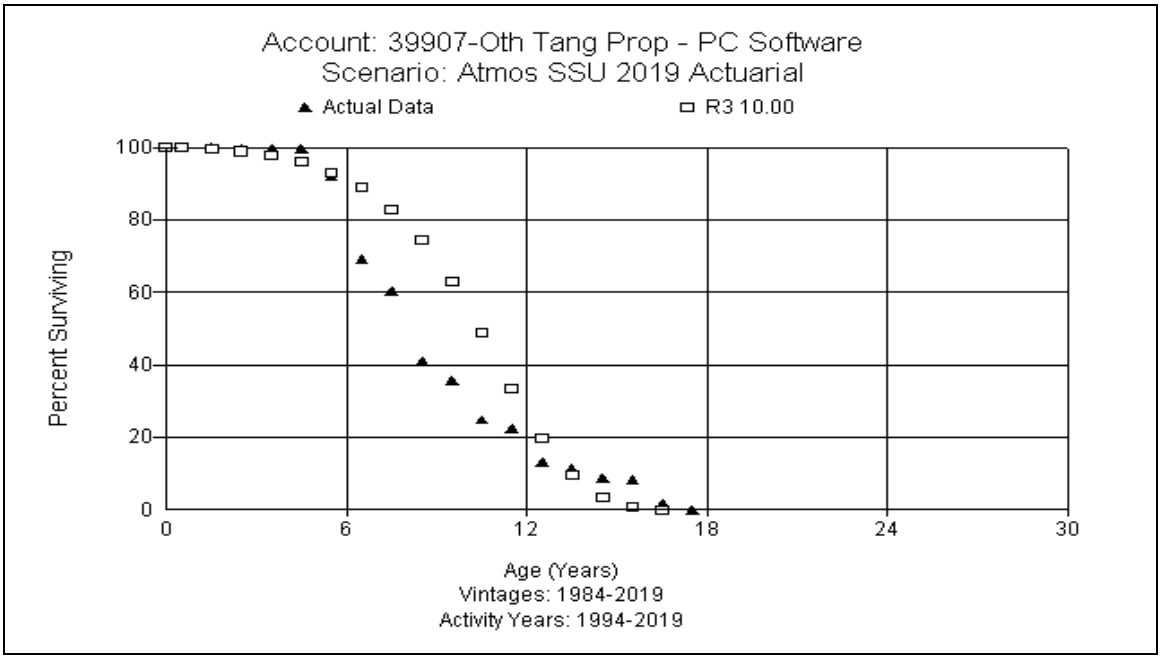
This account consists of costs for computer hardware, desktop and laptop computers, as well as peripherals. The balance is $3.2 million. The average age of investment is 2.93 years and average age of retirements is 7.18 years. Discussions with Company personnel indicated there has been no material change in the replacement policies or practices. There can be delays in retiring some computers due to prep for retiring or being kept as a spare or in inventory. Some peripherals may have a longer life as well. Operationally, a 6 year life is reasonable. The life indications in the actuarial analysis suggest a life between 6-7 years. Based on the life analysis, Company input, and judgment, this study recommends the 6 year life and S3 dispersion. A graph of the observed life table and the recommended life and curve are shown below.



Generally, the Company pays a third party to pick up old PCs but at a nominal cost. Some salvage has been recorded but overall is sporadic and minimal. This study recommends a zero percent net salvage rate for this account.

Account 39907 – PC Software

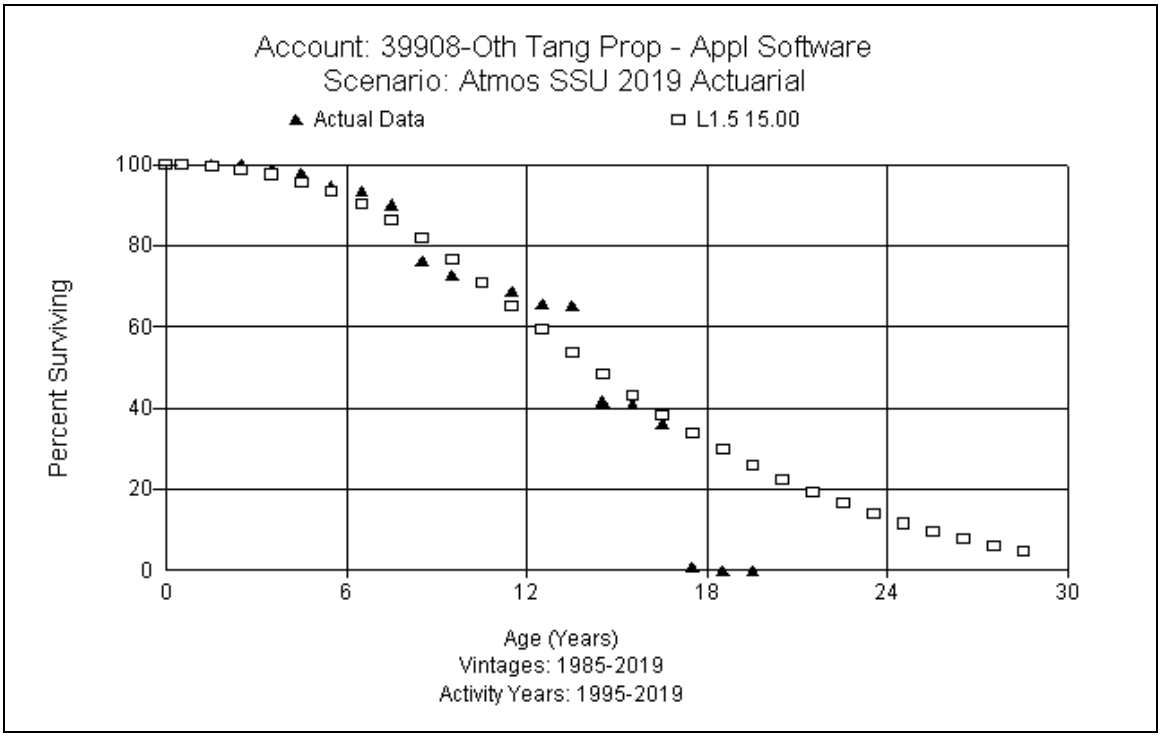
The PC software account consists of costs related to software assets and previously included operating system software. The balance is $1.5 million. The average age of investment is 7.46 years and average age of retirements is 9.12 years. Discussions with Company personnel indicated most software is now included with the hardware at purchase. However, there are numerous other types of software that are purchased and recorded to this account. Over the past 10 years, the Company indicated they had a few "one off" situations, such as the conversion of their contact center PC environment to a virtual desktop infrastructure (VDI) environment, so the recent historical additions and retirements may not reflect the true lifespan. The Company believes a 10 year life is reasonable. The analysis indicates a life between 7-9 years. Based on the analysis, Company input, type of assets, and judgment, this study recommends the 10 R3 dispersion at this time. A graph of the observed life table and the recommended life and curve are shown below.



No salvage or cost of removal has been recorded and none is expected. This study recommends a zero percent net salvage rate for this account.

Account 39908 – Application Software

The applications software account consists of costs related to large software assets including billing system software, electronic mapping and training software applications, Oracle upgrade, Banner, Data Mart System, PowerPlant System, Advantage System application and the Waco Call Center IT build. The balance is $212 million. The prior study dispersion pattern was 15 R5. The average age of the surviving investment is 6.47 years and average age of retirements is 12.44 years. Discussions with Company personnel indicated that their expectation for the major software platforms is that they can last 15 years or more. They will upgrade but not retire the original asset unless they moved to a different platform. Based on the analysis, numerous fits are between 13 to 15 years. Based on all the information and judgment, this study recommends the 15 year average service life with the L1.5 dispersion for this account. A graph of the observed life table and the recommended life and curve are shown below.



Some cost of removal was recorded in 2013 but is none is expected in the future. This study recommends a zero percent net salvage rate for this account.

APPENDIX A - Annual Accrual and Rate

Appendix A

Atmos Energy - Shared Services
Depreciation Study Annual Depreciation Rates and Accruals
At September 30, 2019

Account	Description	Plant Balance 09/30/2019	Annual Accrual Rate	Annual Accrual Amount
(a)	(b)	(c)	(d)	(e)
39000	Structures & Improvements	35,954,767.62	2.38%	857,131.21
39009	Improvements - Leased	12,035,696.09	5.13%	617,786.63
39100	Office Furniture & Equipment	9,098,412.62	6.60%	600,829.24
39200	Transportation Equipment	103,415.63	6.29%	6,507.87
39400	Tools Shop And Garage	606,029.27	13.04%	79,006.99
39500	Laboratory Equipment	23,632.07	9.70%	2,292.22
39700	Communication Equipment	3,269,128.21	6.72%	219,553.72
39800	Miscellaneous Equipmeent	741,799.79	7.24%	53,739.73
39900	Other Tangible Equipment	295,692.36	14.96%	44,240.66
39901	Servers-Hardware	33,275,868.85	13.30%	4,426,644.24
39902	Servers-Software	12,446,587.47	10.63%	1,323,467.74
39903	Network Hardware	5,427,397.84	10.34%	561,162.43
39906	PC Hardware	3,181,360.16	17.92%	570,020.36
39907	PC Software	1,511,356.80	10.75%	162,405.87
39908	Application Software	211,721,688.05	7.55%	15,989,991.28
	Total Depreciable Plant	329,692,832.83	7.74%	25,514,780.17

APPENDIX B - Calculation of Accrual and Rates

Appendix B

Atmos Energy - Shared Services
At September 30, 2019
Calculation of Depreciation Annual Accrual
With Reserve Reallocation

Account	Description	Plant Balance	Allocated Book Reserve	Net Salvage %	Net Salvage Amount	Unaccrued Balance	Remaining Life	Annual Accrual Amount	Accrual Rate
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
39000	Structures & Improvements	$ 35,954,767.62	$ 7,245,549.20	0%	$ -	$ 28,709,218.42	33.49	$ 857,131.21	2.38%
39009	Improvements - Leased	12,035,696.09	8,743,660.22	0%	-	3,292,035.87	5.33	617,786.63	5.13%
39100	Office Furniture & Equipment	9,098,412.62	4,488,607.00	0%	-	4,609,805.62	7.67	600,829.24	6.60%
39200	Transportation Equipment	103,415.63	53,933.77	10%	10,341.56	39,140.29	6.01	6,507.87	6.29%
39400	Tools Shop And Garage	606,029.27	301,752.22	0%	-	304,277.05	3.85	79,006.99	13.04%
39500	Laboratory Equipment	23,632.07	15,790.70	0%	-	7,841.37	3.42	2,292.22	9.70%
39700	Communication Equipment	3,269,128.21	1,869,500.29	0%	-	1,399,627.92	6.37	219,553.72	6.72%
39800	Miscellaneous Equipment	741,799.79	293,625.50	0%	-	448,174.29	8.34	53,739.73	7.24%
39900	Other Tangible Equipment	295,692.36	100,002.35	0%	-	195,690.01	4.42	44,240.66	14.96%
39901	Servers-Hardware	33,275,868.85	17,518,682.46	0%	-	15,757,186.39	3.56	4,426,644.24	13.30%
39902	Servers-Software	12,446,587.47	6,541,118.15	0%	-	5,905,469.32	4.46	1,323,467.74	10.63%
39903	Network Hardware	5,427,397.84	2,954,522.98	0%	-	2,472,874.86	4.41	561,162.43	10.34%
39906	PC Hardware	3,181,360.16	1,489,561.94	0%	-	1,691,798.22	2.97	570,020.36	17.92%
39907	PC Software	1,511,356.80	632,273.09	0%	-	879,083.71	5.41	162,405.87	10.75%
39908	Application Software	211,721,688.05	87,880,219.17	0%	-	123,841,468.88	7.74	15,989,991.28	7.55%
	Total Depreciable Plant	**$ 329,692,832.83**	**$ 140,128,799.05**		**$ 10,341.56**	**$ 189,553,692.22**		**$ 25,514,780.17**	**7.74%**

APPENDIX C - Parameters

Appendix C

Atmos Energy - Shared Services Unit
Proposed Depreciation Parameters
Depreciation Study as of September 30, 2019

		Proposed 2019				
Account	Description	ASL	Curve	Gross Salvage	Cost of Removal	Net Salvage
DIVISION 002 - SSU GENERAL OFFICE AND DIVISION 12 - SSU CUSTOMER SUPPORT						
39000	Structure & Improvements	50	R2	0%	0%	0%
39009	Improvements - Leased	20	R4	0%	0%	0%
39100	Office Furniture & Equipment	16	R4	0%	0%	0%
39200	Transportation Equipment	15	L2	10%	0%	10%
39400	Tools, Shop, & Garage Equipment	8	S6	0%	0%	0%
39500	Laboratory Equipment	10	R2	0%	0%	0%
39700	Communication Equipment	15	R2	0%	0%	0%
39800	Miscellaneous Equipment	15	S3	0%	0%	0%
39900	Other Tangible Equipment	7	R5	0%	0%	0%
39901	Servers-Hardware	8	R4	0%	0%	0%
39902	Servers-Software	10	R5	0%	0%	0%
39903	Network Hardware	10	R4	0%	0%	0%
39906	Pc Hardware	6	S3	0%	0%	0%
39907	Pc Software	10	R3	0%	0%	0%
39908	Application Software	15	L1.5	0%	0%	0%

APPENDIX D - Net Salvage Analysis

Appendix D

ATMOS ENERGY - SHARED SERVICES UNIT
Depreciation Study as of September 30, 2019
Net Salvage Analysis

Account and Description		Activity Year	Retirement	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
39000-Structures & Improvements		2007	0	-	-	0	NA									
	39000	2008	0	-	-	0	NA	NA								
	39000	2009	0	-	-	0	NA	NA	NA							
	39000	2010	0	-	-	0	NA	NA	NA	NA						
	39000	2011	0	-	-	0	NA	NA	NA	NA	NA					
	39000	2012	0	-	-	0	NA	NA	NA	NA	NA	NA				
	39000	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	NA			
	39000	2014	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA		
	39000	2015	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	39000	2016	32,330	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39000	2017	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39000	2018	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39000	2019	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39009-Improv. to Leased Premises		2000	270,911	-	-	0	0.0%									
	39009	2001	0	-	-	0	NA	0.0%								
	39009	2002	0	-	-	0	NA	NA	0.0%							
	39009	2003	0	-	-	0	NA	NA	NA	0.0%						
	39009	2004	0	-	-	0	NA	NA	NA	NA	0.0%					
	39009	2005	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
	39009	2006	178,757	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
	39009	2007	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
	39009	2008	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
	39009	2009	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2010	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2011	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2012	35,417	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2013	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2014	126,214	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2015	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2016	1,473,692	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2017	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2018	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39009	2019	437,956	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39100-Office Furniture & Equipment		1993	83,992	200	-	200	0.2%									
	39100	1994	7,848	-	-	0	0.0%	0.2%								
	39100	1995	852	-	-	0	0.0%	0.0%	0.2%							
	39100	1996	92,361	-	-	0	0.0%	0.0%	0.0%	0.1%						
	39100	1997	0	-	(5,108)	5,108	NA	5.5%	5.5%	5.1%	2.9%					
	39100	1998	6,852	-	-	0	0.0%	74.5%	5.1%	5.1%	4.7%	2.77%				
	39100	1999	0	-	-	0	NA	0.0%	74.5%	5.1%	5.1%	4.73%	2.77%			

ATMOS ENERGY - SHARED SERVICES UNIT
Depreciation Study as of September 30, 2019
Net Salvage Analysis

Account and Description		Activity Year	Retirement	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
	39100	2000	0	-	-	0	NA	NA	0.0%	74.5%	5.1%	5.10%	4.73%	2.77%		
	39100	2001	0	-	-	0	NA	NA	NA	0.0%	74.5%	5.15%	5.10%	4.73%	2.77%	
	39100	2002	0	-	-	0	NA	NA	NA	NA	0.0%	74.55%	5.15%	5.10%	4.73%	2.77%
	39100	2003	0	-	-	0	NA	NA	NA	NA	NA	0.00%	74.55%	5.15%	5.10%	4.73%
	39100	2004	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%	74.55%	5.15%	5.10%
	39100	2005	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%	74.55%	5.15%
	39100	2006	1,420,965	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.36%
	39100	2007	462,906	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2008	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2009	225,893	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2010	169,286	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2011	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2012	788,808	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2013	1,602,991	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2014	1,163	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2015	358,930	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2016	1,020,915	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2017	4,530,386	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2018	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39100	2019	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39200-Transportation Equipment		2007	18,885	-	-	0	0.0%									
	39200	2008	0	-	-	0	NA	0.0%								
	39200	2009	0	-	-	0	NA	NA	0.0%							
	39200	2010	0	-	-	0	NA	NA	NA	0.0%						
	39200	2011	0	-	-	0	NA	NA	NA	NA	0.0%					
	39200	2012	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
	39200	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%			
	39200	2014	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%		
	39200	2015	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
	39200	2016	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
	39200	2017	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39200	2018	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39200	2019	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39300-Stores Equipment		2007	0	-	-	0	NA									
	39300	2008	0	-	-	0	NA	NA								
	39300	2009	0	-	-	0	NA	NA	NA							
	39300	2010	0	-	-	0	NA	NA	NA	NA						
	39300	2011	0	-	-	0	NA	NA	NA	NA	NA					
	39300	2012	0	-	-	0	NA	NA	NA	NA	NA	NA				
	39300	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	NA			
	39300	2014	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA		

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	39300	2015	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	39300	2016	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39300	2017	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39300	2018	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39300	2019	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39400-Tools, Shop, & Garage Equip.		2007	7,683	-	-	0	0.0%									
	39400	2008	0	-	-	0	NA	0.0%								
	39400	2009	0	-	-	0	NA	NA	0.0%							
	39400	2010	0	-	-	0	NA	NA	NA	0.0%						
	39400	2011	0	-	-	0	NA	NA	NA	NA	0.0%					
	39400	2012	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
	39400	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%			
	39400	2014	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%		
	39400	2015	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
	39400	2016	28	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39400	2017	123,340	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39400	2018	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39400	2019	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39500-Laboratory Equipment		2007	0	-	-	0	NA									
	39500	2008	0	-	-	0	NA	NA								
	39500	2009	0	-	-	0	NA	NA	NA							
	39500	2010	0	-	-	0	NA	NA	NA	NA						
	39500	2011	0	-	-	0	NA	NA	NA	NA	NA					
	39500	2012	0	-	-	0	NA	NA	NA	NA	NA	NA				
	39500	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	NA			
	39500	2014	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA		
	39500	2015	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	39500	2016	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39500	2017	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39500	2018	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39500	2019	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
39700-Communication Equipment		1993	8,091	-	-	0	0.0%									
	39700	1994	0	-	-	0	NA	0.0%								
	39700	1995	0	-	-	0	NA	NA	0.0%							
	39700	1996	0	-	-	0	NA	NA	NA	0.0%						
	39700	1997	0	-	-	0	NA	NA	NA	NA	0.0%					
	39700	1998	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
	39700	1999	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%			
	39700	2000	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%		

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	39700	2001	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
	39700	2002	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
	39700	2003	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	39700	2004	34,015	26,609	3,107	23,502	69.1%	69.1%	69.1%	69.1%	69.1%	69.09%	69.09%	69.09%	69.09%	69.09%
	39700	2005	0	-	-	0	NA	69.1%	69.1%	69.1%	69.1%	69.09%	69.09%	69.09%	69.09%	69.09%
	39700	2006	792,568	-	-	0	0.0%	0.0%	2.8%	2.8%	2.8%	2.84%	2.84%	2.84%	2.84%	2.84%
	39700	2007	0	-	-	0	NA	0.0%	0.0%	2.8%	2.8%	2.84%	2.84%	2.84%	2.84%	2.84%
	39700	2008	16,530	-	-	0	0.0%	0.0%	0.0%	0.0%	2.8%	2.79%	2.79%	2.79%	2.79%	2.79%
	39700	2009	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	2.79%	2.79%	2.79%	2.79%	2.79%
	39700	2010	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	2.79%	2.79%	2.79%	2.79%
	39700	2011	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	2.79%	2.79%	2.79%
	39700	2012	24,247,440	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.09%	0.09%
	39700	2013	118,856	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.09%
	39700	2014	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39700	2015	34,412				0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39700	2016	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39700	2017	1,440,196	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39700	2018	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39700	2019	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39800-Miscellaneous Equipment		1996	149,090	9,000	-	9,000	6.0%									
	39800	1997	0	-	-	0	NA	6.0%								
	39800	1998	0	-	-	0	NA	NA	6.0%							
	39800	1999	0	-	-	0	NA	NA	NA	6.0%						
	39800	2000	0	-	-	0	NA	NA	NA	NA	6.0%					
	39800	2001	0	-	-	0	NA	NA	NA	NA	NA	6.04%				
	39800	2002	0	-	-	0	NA	NA	NA	NA	NA	NA	6.04%			
	39800	2003	56,637	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	4.37%		
	39800	2004	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	4.37%	
	39800	2005	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	4.37%
	39800	2006	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2007	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2008	419,274	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2009	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2010	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2011	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2012	25,971	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2013	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2014	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2015	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2016	190,238	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2017	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2018	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39800	2019	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%

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39900-Other Tangible Property	1994	219,471	-	-	0	0.0%									
39910-CKV-Other Tangible Property	1995	0	-	-	0	NA	0.0%								
39918-CKV-Other Tangible Property	1996	0	-	-	0	NA	NA	0.0%							
39924-Other Tangible Property General	1997	0	-	-	0	NA	NA	NA	0.0%						
39900	1998	0	-	-	0	NA	NA	NA	NA	0.0%					
39900	1999	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
39900	2000	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%			
39900	2001	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%		
39900	2002	8,143	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
39900	2003	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2004	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2005	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2006	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2007	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2008	224,866	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2009	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2010	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2011	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2011	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2012	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2013	23,172,326	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2014	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2015	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2016	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2017	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2018	649,727	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39900	2019	252,609	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39901-Oth Tang Prop - Servers - H/W	2007	0	-	-	0	NA									
39921-OthTang Prop-Servers-H/W-AEAM	2008	0	-	-	0	NA	NA								
39901	2009	0	-	-	0	NA	NA	NA							
39901	2010	0	-	-	0	NA	NA	NA	NA						
39901	2011	0	-	-	0	NA	NA	NA	NA	NA					
39901	2012	10,873,205	-	(129)	129	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
39901	2013	3,585,984	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
39901	2014	452,050	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
39901	2015	8,526,616	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
39901	2016	458,171	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2017	1,469,953	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2018	19,665,278	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39901	2019	106,175	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%

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39902-Oth Tang Prop - Servers - S/W	2007	0	-	-	0	NA									
39922-OthTang Prop-Servers-S/W-AEAM	2008	0	-	-	0	NA	NA								
39902	2009	0	-	-	0	NA	NA	NA							
39902	2010	0	-	-	0	NA	NA	NA	NA						
39902	2011	0	-	-	0	NA	NA	NA	NA	NA					
39902	2012	6,624,796	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
39902	2013	1,467,368	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
39902	2014	497,701	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
39902	2015	226,110	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
39902	2016	163,043	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39902	2017	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39902	2018	1,066,305	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39902	2019	10,688,604	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39903-Oth Tang Prop - Network - H/W	2006	11,472	-	-	0	0.0%									
39923-OthTang Prop-Network-H/W-AEAM	2007	0	-	-	0	NA	0.0%								
39903	2008	0	-	-	0	NA	NA	0.0%							
39903	2009	0	-	-	0	NA	NA	NA	0.0%						
39903	2010	0	-	-	0	NA	NA	NA	NA	0.0%					
39903	2011	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
39903	2012	886,044	-	1,278	(1,278)	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.14%	-0.14%			
39903	2013	110,059	-	-	0	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.13%	-0.13%	-0.13%		
39903	2014	237,149	-	-	0	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.10%	-0.10%	-0.10%	-0.10%	
39903	2015	1,348,505	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%
39903	2016	33,700	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%
39903	2017	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	-0.05%	-0.05%	-0.05%	-0.05%	-0.05%
39903	2018	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	-0.05%	-0.05%	-0.05%	-0.05%
39903	2019	192,678	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	-0.05%	-0.05%	-0.05%
39904-Oth Tang Prop - Mainframe - CPU	2007	0	-	-	0	NA									
39904	2008	0	-	-	0	NA	NA								
39904	2009	0	-	-	0	NA	NA	NA							
39904	2010	0	-	-	0	NA	NA	NA	NA						
39904	2011	0	-	-	0	NA	NA	NA	NA	NA					
39904	2012	1,095,465	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
39904	2013	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
39904	2014	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
39904	2015	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
39904	2016	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39904	2017	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
39904	2018	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
39904	2019	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%

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39905-Oth Tang Prop - Mainframe - H/W		2007	0	-	-	0	NA									
	39905	2008	0	-	-	0	NA	NA								
	39905	2009	0	-	-	0	NA	NA	NA							
	39905	2010	0	-	-	0	NA	NA	NA	NA						
	39905	2011	0	-	-	0	NA	NA	NA	NA	NA					
	39905	2012	1,159,964	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
	39905	2013	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
	39905	2014	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
	39905	2015	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
	39905	2016	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39905	2017	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
	39905	2018	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
	39905	2019	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
39906-Oth Tang Prop - PC Hardware		1994	97,832	-	-	0	0.0%									
39916-CKV-Oth Tang Prop-PC Hardware		1995	0	-	-	0	NA	0.0%								
	39906	1996	116,913	-	-	0	0.0%	0.0%	0.0%							
	39906	1997	0	-	-	0	NA	0.0%	0.0%	0.0%						
	39906	1998	0	-	-	0	NA	NA	0.0%	0.0%	0.0%					
	39906	1999	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%				
	39906	2000	2,832	3,000	45	2,955	104.3%	104.3%	104.3%	104.3%	2.5%	2.47%	1.36%			
	39906	2001	0	-	-	0	NA	104.3%	104.3%	104.3%	104.3%	2.47%	2.47%	1.36%		
	39906	2002	6,189,732	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.05%	0.05%	0.05%	0.05%	
	39906	2003	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.05%	0.05%	0.05%	0.05%	0.05%
	39906	2004	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.05%	0.05%	0.05%	0.05%	0.05%
	39906	2005	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.05%	0.05%	0.05%	0.05%	0.05%
	39906	2006	2,632,955	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.03%	0.03%	0.03%	0.03%
	39906	2007	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.03%	0.03%	0.03%
	39906	2008	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.03%	0.03%
	39906	2009	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.03%
	39906	2010	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2011	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2011	2,825,516	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2012	4,649,967	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2013	217,744	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2014	162,562	250	-	250	0.2%	0.1%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2015	1,660,308	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2016	696,097	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2017	18,020	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39906	2018	1,738,169	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.01%	0.00%	0.00%	0.00%	0.00%
	39906	2019	148,508	3,272	-	3,272	2.2%	0.2%	0.2%	0.1%	0.1%	0.08%	0.08%	0.04%	0.03%	0.03%

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39907-Oth Tang Prop - PC Software		1994	38,759	-	-	0	0.0%									
39917-CKV-Oth Tang Prop-PC Software		1995	0	-	-	0	NA	0.0%								
	39907	1996	0	-	-	0	NA	NA	0.0%							
	39907	1997	0	-	-	0	NA	NA	NA	0.0%						
	39907	1998	0	-	-	0	NA	NA	NA	NA	0.0%					
	39907	1999	0	-	-	0	NA	NA	NA	NA	NA	0.00%				
	39907	2000	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%			
	39907	2001	0	-	-	0	NA	NA	NA	NA	NA	NA	NA	0.00%		
	39907	2002	861,539	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
	39907	2003	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2004	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2005	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2006	16,495	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2007	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2008	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2009	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2010	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2011	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2011	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
	39907	2012	2,918,743	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2013	366,151	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2014	599,561	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2015	864,238	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2016	143,271	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2017	132,181	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2018	294,805	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39907	2019	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39908-Oth Tang Prop - Appl Software		1995	5,256	-	-	0	0.0%									
39928-Oth Tang Prop-Appl SW-AEAM		1996	0	-	-	0	NA	0.0%								
	39908	1997	0	-	-	0	NA	NA	0.0%							
	39908	1998	0	-	-	0	NA	NA	NA	0.0%						
	39908	1999	0	-	-	0	NA	NA	NA	NA	0.0%					
	39908	2000	8,032,596	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
	39908	2001	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
	39908	2002	9,573,067	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
	39908	2003	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
	39908	2004	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2005	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2006	731,136	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2007	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2008	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2009	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%

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	39908	2010	0	-	-	0	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2011	0	-	-	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2011	0	-	-	0	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
	39908	2012	2,603,072	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2013	60,097,599	-	206	(206)	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2014	(68,545)	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2015	4,526,869	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2016	53,544,165	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2017	4,718,848	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2018	205,742	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39908	2019	4,963,406	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
39909-Oth Tang Prop - Mainframe S/W		2007	0	-	-	0	NA									
	39909	2008	0	-	-	0	NA	NA								
	39909	2009	0	-	-	0	NA	NA	NA							
	39909	2010	0	-	-	0	NA	NA	NA	NA						
	39909	2011	0	-	-	0	NA	NA	NA	NA	NA					
	39909	2012	0	-	-	0	NA	NA	NA	NA	NA	NA				
	39909	2013	0	-	-	0	NA	NA	NA	NA	NA	NA	NA			
	39909	2014	1,604,387	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
	39909	2015	27,582	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
	39909	2016	0	-	-	0	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39909	2017	0	-	-	0	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39909	2018	0	-	-	0	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
	39909	2019	39,252	-	-	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%