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July 2, 2020

Via Email and U.S. Mail

Executive Director Earl Taylor
c/o Ectory Lawless
Tennessee Public Utility Commission
502 Deaderick Street, Fourth Floor
Nashville, Tennessee 37243

Re: Piedmont Natural Gas Company, Inc. Petition for an Adjustment of Rates, Charges, and Tariffs Applicable to Service in Tennessee; Docket No.: 20-_00086

Dear Mr. Taylor:

Enclosed please find for filing the original and four copies of the following documents:

1. Petition;
2. Direct testimony and exhibits of:
   a. Sasha Weintraub
   b. John Sullivan
   c. Brian Weisker
   d. Pia Powers
   e. Kally Couzens
   f. Quynh Bowman
   g. Dylan D'Ascendis
   h. Dane Watson
   i. Paul Normand (Cash Working Capital)
   j. Paul Normand (Cost of Service)
3. Redline of Revised Tariff included as Exhibit_(PKP-2) to the testimony of Pia K. Powers;
4. Minimum Filing Guidelines (some of which are being filed under seal); and
5. Proposed Procedural Schedule.

This material is also being filed today by way of email to the Tennessee Public Utility Commission docket manager, Ectory Lawless. Please file the original and provide a "filed" stamped copy of the same via our office courier.

A courtesy copy of this filing is being provided to the Consumer Advocate and Protection Division of the Office of the Attorney General and Reporter. Please be advised that Piedmont has

reached out to the Consumer Advocate's representatives and is working collaboratively with them on a proposed Protective Order for this proceeding which we hope to file with the Commission shortly.

Please do not hesitate to call me if you have any questions.

Very truly yours,

Paul S. Davidson

PSD:cdg
Enclosures

cc: David Foster
Michelle Mairs
Vance Broemel
Daniel Whitaker
Bruce Barkley
Pia Powers
James Jeffries
Melinda McGrath

Before the
Tennessee Public Utility Commission

Docket No. 20-00086

General Rate Case

Direct Testimony & Exhibits
of
Dane A. Watson

On Behalf Of
Piedmont Natural Gas Company, Inc.

Piedmont Natural Gas

July 2, 2020

I. INTRODUCTION AND BACKGROUND

Q. Please state your full name, position, and business address.

A. My name is Dane A. Watson. My business address is 101 E. Park Blvd., Suite 220, Plano, Texas 75074. I am a Partner in Alliance Consulting Group ("Alliance"). Alliance provides consulting and expert services to the utility industry.

Q. On whose behalf are you testifying in this proceeding?

A. I am testifying on behalf of Piedmont Natural Gas Company, Inc. ("PNG" or "Piedmont" or the "Company").

Q. What is your educational background?

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

Q. Do you hold any certification as a depreciation expert?

A. Yes. The Society of Depreciation Professionals ("SDP" or "the Society") has established national standards for depreciation professionals. The Society administers an examination and has certain required qualifications to become certified in this field. I have met all requirements and am a Certified Depreciation Professional.

Q. Please describe your involvement with the Society of Depreciation Professionals and other professional societies, associations or committees?

A. I have twice been Chair of the Edison Electric Institute ("EEI") Property Accounting and Valuation Committee and have been Chairman of EEI's

Depreciation and Economic Issues Subcommittee. I was the Industry Project Manager for the EEI/AGA effort around the electric and gas industries adoption of FAS 143 and testified before the Federal Energy Regulatory Commission ("FERC") in the hearings leading up to the release of FERC Order 631. I am a Registered Professional Engineer ("PE") in the State of Texas and a Certified Depreciation Professional. I have served as President of the SDP twice. I am a Senior Member of the Institute of Electrical and Electronics Engineers ("IEEE") and served for several years as an officer of the Executive Board of the Dallas Section of IEEE as well as national and worldwide offices.

Q. Please outline your experience in the field of depreciation.

A. Since graduation from college in 1985, I have worked in the area of depreciation and valuation. I founded Alliance Consulting Group in 2004 and am responsible for conducting depreciation, valuation and certain other accounting-related studies for utilities in various regulated industries. My duties related to depreciation studies include the assembly and analysis of historical and simulated data, conducting field reviews, determining service life and Net Salvage estimates, calculating annual depreciation, presenting recommended depreciation rates to utility management for its consideration, and supporting depreciation rates before regulatory bodies.

My prior employment from 1985 to 2004 was with Texas Utilities ("TXU"). During my tenure with TXU, I was responsible for, among other things, conducting valuation and depreciation studies for the domestic TXU companies.

During that time, I also served as Manager of Property Accounting Services and Records Management in addition to my depreciation responsibilities.

Q. Have you previously testified before the Tennessee Public Utility Commission ("TPUC" or "Commission") or any other regulatory agencies?

A. Yes. I have previously testified before the Tennessee Regulatory Authority ("TRA"), now the TPUC, and numerous other regulatory agencies on many occasions. A complete listing of my testimony experience is attached as Exhibit DAW-1.

Q. Do you sponsor any exhibits?

A. Yes. In addition to Exhibit DAW-1, I sponsor the 2019 PNG Tennessee Depreciation Study and the resulting depreciation rates attached to my direct testimony as Exhibit DAW-2.

Q. Were the exhibits you are sponsoring prepared by you or under your direct supervision?

A. Yes, they were.

Q. Please describe the depreciation study on which PNG has based its requested depreciation rates in this case.

A. The proposed depreciation rates for PNG's Tennessee assets are based on the results of my depreciation study. The study is based on property as of December 31, 2019, and it analyzes the lives and Net Salvage percentages for assets in PNG's four classes, or functional groups, of gas depreciable property: Storage, Transmission, Distribution and General Plant (Depreciated and Amortized).

The Storage functional group primarily consists of a storage tank, liquefaction and vaporization equipment, and other storage related assets. The Transmission functional group primarily consists of large diameter lines that operate at high pressure and associated facilities used to move gas from receipt points within Tennessee to parts of PNG's distribution system. The Distribution functional group primarily consists of mains, services, meters and associated facilities used to distribute gas to its customers in Tennessee. Last, General Plant property is not location specific but is used to support the overall distribution of gas to its customers. General Plant has been segregated into two groups - depreciated and amortized.

II. DEPRECIATION TERMS, DEFINITIONS AND BACKGROUND

Q. Are there various depreciation related terms and concepts that are referenced throughout your direct testimony?

A. Yes. The following is a preliminary and limited glossary of key terms that may be useful. A more detailed discussion of these and other terms and concepts can be found in PNG Exhibit DAW-2.

Average Service Life ("**ASL**") - The average service life is the average period of years from the original installation date of assets until the assets are retired from service.

Average Remaining Life ("ARL") - The average remaining life of the property group is equal to the average period of years from the average age of the property group at the depreciation study date until the average probable retirement date of

the group. Said another way, it is the average period of years that current surviving investments in the property group will continue to provide service.

Iowa Curves - A family of statistical curves (developed during the mid-1930's) that have been used extensively to represent the survival characteristics of utility property. The Iowa family of curves is fitted to actual historical experience generated from PNG's data enabling the identification of historical Life Indications and both smooths and extrapolates PNG's experience for use in depreciation rate calculation.

Life Indication - The indication of Average Service Life developed from the database of historical retirements from a property group being studied using one of the standard life analysis methods.

Gross Salvage - Gross receipts for the disposal of property retired from service. Although not considered salvage, for some companies in some instances, this data may include accounting entries for the return of assets to stores or the receipt of insurance reimbursements.

Cost of Removal - The cost expended by PNG to remove or retire property from service. PNG may either physically remove property from its service locations or retire/abandon the property in place. In the case of abandonment, there are costs that are routinely incurred to disconnect the property from PNG's operating system.

Mortality Characteristics – Mortality characteristics refer to the ASL, dispersion pattern (Curve), and Net Salvage. These characteristics are a necessary

component of developing annual depreciation expense and depreciation rates. Mortality Characteristics are determined for each depreciable account.

Net Salvage - Net Salvage is equal to Gross Salvage less Cost of Removal/Retirement. Positive Net Salvage occurs if Gross Salvage exceeds Cost of Removal/Retirement. Conversely, Negative Net Salvage occurs if Cost of Removal/Retirement exceeds Gross Salvage. Negative Net Salvage is more prevalent in the retirement of utility property because little residual value exists in the property being retired, especially when assets are abandoned in place.

Database (Service Life and Salvage) - A data file containing PNG's historical accounting activity related to the surviving investments as well as additions, retirements, transfers, adjustments that have been recorded on PNG's books and records in prior years. Similar information is also available related to accounting entries within PNG's book depreciation reserve. The Databases are used as part of standard depreciation study methods and procedures (along with operational factors and expectations) to develop estimates of ASLs and Net Salvage factors. The depreciation Databases are also used to calculate average remaining lives of PNG's current surviving investments.

Actuarial Life Analysis - Actuarial analysis (retirement rate method) is one of the commonly accepted life analysis approaches used in evaluating the Database of historical asset retirement experience where vintage data is available and sufficient retirement activity is present. It is this analysis that assists the depreciation analyst in making account life Mortality Characteristic recommendations.

Average Life Group ("ALG") – This is a calculation procedure used to calculate depreciation rates that recover net book cost over the life of each account by averaging many components.

Theoretical Reserve – A Theoretical Reserve is the calculated balance that would be in the accumulated depreciation account at a point in time using the proposed depreciation Mortality Characteristics. This is also referred to as "reserve requirement." The Theoretical Reserve is a critical component for the reserve allocation and adjusting for any reserve differences over the remaining life of the account.

Reserve Position – This is the difference between a Theoretical Reserve and the existing book reserve (accumulated depreciation), wherein the Theoretical Reserve is calculated based on the proposed study life and Net Salvage parameters. If the Theoretical Reserve is greater than the book reserve, past depreciation has been inadequate compared to the proposed depreciation parameters developed in the depreciation study, and an upward adjustment to the depreciation rate needs to be made in the remaining life calculation. If the opposite is true, a downward adjustment to the depreciation rate occurs based on the remaining life methodology.

Vintage Group Amortization – This is a process approved by FERC for certain general plant accounts to process timely retirement of assets by retiring assets from the books at the end of its amortized life. A reserve difference true up at implementation is also included.

Q. What definition of "depreciation" have you used for the purposes of conducting a depreciation study and preparing testimony?

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 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, rather than a loss or decrease in value. The Company 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.

III. DEPRECIATION STUDY

Q. Please describe your depreciation study approach.

A. I conducted the depreciation study in four phases as shown in my Exhibit DAW-2. 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 and Net Salvage percentage for the different property accounts 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 Net Salvage of the assets. The information obtained from field personnel, engineers, and managerial personnel, combined with the study results, was then evaluated to determine how the results of the historical asset activity analysis, in conjunction with the Company's expected future plans should be applied. Using these resources, I applied proposed life and Net Salvage parameters to calculate the depreciation rate for each account.

Q. What depreciation system did you use?

The straight-line (method), Average Life Group (procedure), remaining-life (technique) depreciation system was employed to calculate annual accrued depreciation expense in this study. This is the same depreciation system that was used to develop the depreciation rates that were previously approved by this Commission for Piedmont in Piedmont's last general rate proceeding.

Q. How are the depreciation rates determined using the Average Life Group procedure?

A. In this system, the annual depreciation expense for each account was computed by dividing the original cost of the asset, less actual account book depreciation reserve, less estimated Net Salvage, by its respective Average 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 the attained ages of the plant in service, the estimated service life, and

the Net Salvage characteristics of each depreciable group. The annual depreciation rates from these calculations are shown in Appendix A, pages 64-68, of my Exhibit DAW-2.

Q. When was the last depreciation study performed for Piedmont's Tennessee assets?

A. The last depreciation study developed depreciation rates based on Piedmont's Tennessee depreciable property at October 31, 2009. That last study, also prepared by Alliance Consulting Group under my direction, was included in PNG's last general rate case in Tennessee and the proposed depreciation rates and recommendations therein were approved by the TRA in Docket No.11-00144.

Q. What is the date of this depreciation study?

A. The account level depreciation rates that I am currently proposing were developed based on the depreciable Tennessee property recorded on the Company's books at December 31, 2019.

Q. Did you perform and prepare the depreciation study attached as Exhibit DAW-2 in accordance with the process that you have described in that exhibit and this testimony?

A. Yes, I did.

Q. Is this the study upon which PNG relies in this case to establish new depreciation rates for property?

A. Yes, it is.

Q. What are your findings and recommendations?

A. This study, consistent with Piedmont's last depreciation study for its Tennessee assets utilized the Average Life Group procedure with the remaining life technique. I found that changes are needed to the Mortality Characteristics for several accounts resulting in revised depreciation rates.

Q. How did the updated Mortality Characteristics change the depreciation rates?

A. The changes to various account Mortality Characteristics impact the depreciation rates needed to fully recover the cost of the assets over the remaining lives of the assets. A comparison of the existing annual depreciation accrual and the recommended annual depreciation accrual in the depreciation study for PNG can be found in Appendix A of Exhibit DAW-2. A summary comparison of the depreciation rates for each functional category is as follows:

Table 1

Piedmont Natural Gas Tennessee

Comparison of Functional Depreciation Rates

	Function	Existing		Proposed
(a)	**(b)**	**(c)**		**(d)**
1	Storage	2.75%		3.55%
2	Transmission	1.53%		1.46%
3	Distribution	2.52%		2.07%
4	General	2.79%		4.46%
5	**Total Plant in Study**	**2.31%**		**2.09%**

Q. Have you quantified the impact on annual depreciation expense due to your recommended depreciation rate changes?

A. Yes, I have. The above summaries were taken from Appendix A, pages 64-68, of Exhibit DAW-2. Using December 31, 2019 depreciable balances, the effect of the recommended depreciation rates on annual depreciation expense for PNG is a decrease of approximately $2.9 million. I refer you to the testimony of Piedmont witness Quynh Bowman for quantification of the impact of this depreciation rate change on the Attrition Period depreciation expense presented in the Company's general rate case application.

Q. What has changed since the Commission approved PNG's current depreciation rates?

A. The investment of PNG has more than doubled since its last depreciation study, which reflected investment at October 31, 2009. Also, in many instances, PNG is experiencing longer service lives for its assets than the existing lives and in some accounts, less negative Net Salvage is reflected in the study proposed depreciation rates. As a result, I am recommending a change in the service life for several accounts across all functions in order to accurately reflect the Company's expected retirement experience going forward. Additionally, both the Company's statistical data and field experience indicate that the accounts in Transmission and Distribution continue to demonstrate a mix of increased and decreased Cost of Removal. The depreciation rates I recommend for adoption in this case reflect the changing life and Net Salvage Mortality Characteristics for PNG. Finally, there is an amortization, to be recovered over a period of five years, for the overall

Reserve Position deficiency for General Plant Amortized Accounts, which I will discuss in more detail later.

Q. Please describe the results reflected in the table above for Storage Plant.

A. The functional depreciation rate for Storage Plant increased from 2.75% to 3.55%. There is approximately $63.2 million in investment in this function. The primary driver in the rate change is the level of new investment that has been added since the last study. Also, as noted in the study, Exhibit DAW-2, there are plans to replace some of the equipment within the next five years with more digital type assets, which are expected to have a shorter life going forward. The total effect upon annual depreciation expense for this function is an increase of approximately $502,000.

Q. Please describe the results reflected in the table above for Transmission Plant.

A. The functional depreciation rate for the Transmission Plant decreased from 1.53% to 1.46%. There is approximately $302.6 million in investment in this function. There has been only one change in life, Account 267 Mains, which increased by five years. Net Salvage remained the same. The change in life and the Reserve Position, result in an overall decrease in the function. The total effect upon annual depreciation expense for this function is a decrease of approximately $202,000.

Q. Please describe the results reflected in the table above for Distribution Plant.

A. The functional depreciation rate for Distribution Plant decreased from 2.52% to 2.07%. There is approximately $891.3 million in investment in this function.

The change in the depreciation rate is driven primarily by a decrease in experienced Cost of Removal for Account 280 - Services and increases in life for Accounts 276 – Distribution Mains and 280 – Services. There is also an effect due to the Reserve Position of the function. The total effect upon annual depreciation expense is a decrease of approximately $4.1 million.

Q. Please describe the results reflected in the table above for General Plant.

A. The functional depreciation rate for General Plant has increased from 2.79% to 4.46%. There is approximately $52.4 million in investment in this function. The primary driver for the increase in depreciation expense in this function is the increase in investment and the Reserve Position. The effect upon annual depreciation expense is an increase of approximately $871,000, which includes the annual amortization of $156,000 for five years, for the reserve difference associated with the General Plant Amortized accounts.

Q. Have you prepared a summary schedule comparing the currently approved depreciation rates and the new recommended depreciation rates and accrual for each account?

A. Yes. Exhibit DAW-2 Appendix A, pages 64-68, provides comparisons showing the rates, accrual expense, and resulting change between the currently approved and the proposed rates in the study, by account.

Q. What method did you use to analyze historical data to help determine life characteristics?

A. Accounts were analyzed to help determine the appropriate Average Service Lives using the actuarial (retirement rate) method to estimate the life of property. 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. Exhibit DAW-2, page 7 provides a detailed discussion on the actuarial method of life analysis. Additionally, I have provided detail in the life analysis section of Exhibit DAW-2, for each account and my proposed life recommendations. For actuarial accounts, where enough historical data was present, a graph of the observed life table with the study proposed life parameter is provided in the life analysis section of Exhibit DAW-2, beginning on page 16. Appropriate Average Service Lives for each account in all functions were established using the actuarial method where sufficient data existed. A comparison of the existing Average Service Life and Iowa curve for the approved and current study are provided in Appendix C, page 72, of Exhibit DAW-2.

Q. Please describe some of the changes in the average service lives for the various accounts?

A. The detailed analysis of each account is described fully in Exhibit DAW-2, pages 16-52. Examples of some of the changes in Average Service Lives are:

- The largest increases (10 or more years) in life were in Storage Account 262 - Gas Holders, Distribution Accounts 275 - M&R Equipment and 280 - Services, which were increases of 25 years, 10 years and 10 years, respectively;
- The largest decreases in life are in Storage Accounts 26300 – Purification Equipment, 26310 – Liquefaction Equipment, and 26320 – Vaporizing

Equipment, which were all decreases of five years and General Account 291 – Office Furniture and Equipment, also for five years; and

- Overall, five accounts experienced a decrease in life, 10 accounts an increase in life, 17 were unchanged, and there were six where the life parameter was not established in the prior study and no comparison can be made.

Q. Please describe Net Salvage in more detail.

A. While discussed more fully in the study itself, Net Salvage is the difference between the Gross Salvage (what the asset was sold for) and the Cost of Removal (cost to remove and dispose of the asset). Salvage and removal cost percentages are calculated by dividing the current cost of salvage or removal by the original installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the amounts of removal cost and the timing of the addition versus the retirement. A detailed discussion on the salvage analysis can be found in Exhibit DAW-2, starting on page 53, and the detailed data used in the analysis are provided in Appendix D.

Q. Is the Net Salvage calculation and approach you use and describe above supported by recognized texts or publications on depreciation practices and theory?

A. Yes. The "Public Utility Depreciation Practices" published by the National Association of Regulatory Utility Commissioners ("NARUC") supports the use of estimated salvage and removal cost when calculating depreciation rates. NARUC's 1996 Edition of the "Public Utility Depreciation Practices" states:

"Under presently accepted concepts, the amount of depreciation to be accrued over the life of an asset is its original cost less net salvage. Net salvage is the difference between the gross salvage that will be realized when the asset is disposed of and the cost of retiring it. Positive net salvage occurs when gross salvage exceeds cost of retirement, and negative net salvage occurs when cost of retirement exceeds gross salvage. Net salvage is expressed as a percentage of plant retired by dividing the dollars of net salvage by the dollars of original cost of plant. The goal of accounting for net salvage is to allocate the net cost of an asset to accounting periods, making due allowance for the net salvage, positive or negative, that will be obtained when the asset is retired. This concept carries with it the premise that property ownership includes the responsibility for the property's ultimate abandonment or removal. Hence, if current users benefit from its use, they should pay their pro rata share of the costs involved in the abandonment or removal of the property and also receive their pro rata share of the benefits of the proceeds realized.

This treatment of net salvage is in harmony with generally accepted accounting principles and tends to remove from the income statement any fluctuations caused by erratic, although necessary, abandonment and removal operations. It also has the advantage that current customers pay or receive a fair share of cost associated with the property devoted to their service, even though the costs may be estimated."[1]

[1] NARUC *Public Utility Depreciation Practices*, Page 18.

Two of the most widely regarded experts on depreciation, Frank Wolf and Chester Fitch, wrote and support the use of this calculation.[2] Other published texts such as the textbook "Accounting for Public Utilities" by Hahne/Aliff and industry published materials from the American Gas Association and the Edison Electric Institute also provides guidance and supports this approach.

Q. How did you determine the Net Salvage percentages for each asset group?

A. I determined appropriate Net Salvage percentages for each account by using the method as discussed above. The Net Salvage as a percent of retirements for various bands (i.e. groupings of years such as the three-year, 5-year and 10-year averages) for each account are shown in Appendix D, starting on page 74, of my Exhibit DAW-2. Judgment was used to select a Net Salvage percentage that represents the future expectations for each account. Depreciation professionals use judgment after considering numerous factors, such as an understanding of the different types and sizes of assets that might be recorded in an account, the age at which the assets are retiring, prevailing market conditions, and company policy and practices. During the course of conducting a study, I interview operations and accounting personnel to gain a better understanding of the assets and the Company's policy and practices in conjunction with the historical Net Salvage analysis, any observed trends, and the current approved Net Salvage percentages. A summary comparing the existing Net Salvage to the proposed Net Salvage percentages is shown in Appendix C, page 72, of Exhibit DAW-2. I discuss the

[2] *See* Depreciation Systems, page 53.

account Net Salvage analysis and my recommendations in Exhibit DAW-2, pages 54-63.

Q. Please describe some of the changes in PNG's Net Salvage percentages for the various accounts?

A. As noted above, the detailed analysis of each account is described fully in Exhibit DAW-2, pages 54-63. However, examples of some of the changes in Net Salvage are:

- The largest increase (i.e. more positive or less negative) in Net Salvage was in Distribution Plant Account 28000 - Services, which moved from a negative 125 percent to a negative 100 percent. There were also increases of 15 percent in General Transportation Accounts 29210, 29202, and 29203;
- The largest decreases (i.e. more negative) are in Distribution Accounts 27800 - M&R Equipment and 279 - City Gate Equipment, which moved from zero to a negative 10 percent. These changes were made to reflect the higher level of removal cost incurred in recent years.; and
- Overall, five accounts experienced some level of increased (more positive/less negative) Net Salvage percentage while 12 accounts experienced a decrease (more negative/less positive) in Net Salvage, 15 accounts were unchanged, and six where the Net Salvage percentage was not established in the prior study and no comparison was possible.

Q. Do you have any other items you have recommended in your study that you would like to discuss?

A. Yes. One last item, we refer to as Vintage Group Amortization, which is applied to certain General Plant accounts and follows FERC Accounting Release 15 ("AR-15"). Consistent with AR-15, the depreciation study attached as Exhibit DAW-2 to this testimony develops depreciation expense for Vintage Group Amortization in Accounts 291 through 299 (excluding Accounts 292 and 296). This process provides for the amortization of general plant over the same life as recommended in this study. Vintage Group Amortization recognizes timely retirement of assets by retiring property from the books at the end of their amortized life and simplifies the accounting for general property. Implementation of this approach did not affect the annual expense accrued by PNG. Both the FERC and this Commission have approved this approach. [3] The calculation of Vintage Group Amortization is found in Exhibit DAW-2, Appendix B, page 69.

IV. RECOMMENDATIONS AND CONCLUSION

Q. Does your depreciation study lead to you present specific recommendations for Piedmont at this time?

A. Yes, my recommendations are as follows:

First, I recommend that PNG adopt the depreciation rates provided on Appendix A, pages 64-68, of Exhibit DAW-2.

Second, I recommend implementation of FERC approved Vintage Group Amortization for certain General Plant Accounts (specifically, Accounts 291, 293-295 and 297-299).

[3] *Chattanooga Gas Company*, TPUC Docket No. 18-00017, Order dated January 11, 2019, at p. 34.

The depreciation study and analysis performed under my supervision followed standard depreciation processes and methodologies and is an accurate, comprehensive depreciation study. It gives appropriate recognition to historical experience, recent trends, and PNG specific experience, expectations, and plans. PNG should continue to periodically review the annual depreciation rates for its property so that appropriate rates are included in PNG's revenue requirements to ensure intergenerational equity to its customers. In this way, PNG's depreciation expense will accurately reflect its cost of operations and the rates for all customers will include an appropriate share of the capital expended for their benefit.

Q. Does this complete your pre-filed direct testimony?

A. Yes, it does.

EXHIBIT DAW-1

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
Texas	Railroad Commission of Texas	GUD 10432	CenterPoint- Texas Coast Division	2015	Gas Depreciation Study
Kansas	Kansas Corporation Commission	15-KCPE-116-RTS	Kansas City Power and Light	2015	Electric Depreciation Study
Alaska	Regulatory Commission of Alaska	U-14-120	Alaska Electric Light and Power	2014-2015	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43950	Cross Texas Transmission	2014	Electric Depreciation Study
New Mexico	New Mexico Public Regulation Commission	14-00332-UT	Public Service of New Mexico	2014	Electric Depreciation Study
Texas	Public Utility Commission of Texas	43695	Xcel Energy	2014	Electric Depreciation Study
Multi State – SE US	FERC	RP15-101	Florida Gas Transmission	2014	Gas Transmission Depreciation Study
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
Wisconsin	Public Service Commission of Wisconsin	4220-DU-108	Northern States Power Company - Wisconsin	2013	Electric, Gas and Common Transmission, Distribution and General

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

Dane Watson Testimony Appearances

Asset Location	Commission	Docket (If Applicable	Company	Year	Description
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

EXHIBIT DAW-2

PIEDMONT NATURAL GAS COMPANY

Tennessee

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2019

http://www.utilityalliance.com

PIEDMONT NATURAL GAS COMPANY
DEPRECIATION RATE STUDY
EXECUTIVE SUMMARY

Piedmont Natural Gas Company ("PNG", "Piedmont" or "Company") engaged Alliance Consulting Group to conduct a depreciation study of its Tennessee depreciable assets as of December 31, 2019.

This study recommends a decrease of $2.9 million in annual depreciation expense compared to the annual depreciation expense currently being recorded. Overall, the primary drivers of the decrease are changes in Distribution Plant and are due to a reduction in negative net salvage and an increase in life for Account 280 Services. The Storage function and General function both have a small increase, which provides some offset to the decreases in Distribution and Transmission functions.

Vintaged Group Amortization (general plant amortization) for certain General Plant accounts is based on FERC Accounting Release 15 ("AR-15") issued by the Federal Energy Regulatory Commission ("FERC"). This approach is reflected in this study.

Appendix A provides the comparison between existing and proposed annual depreciation expense accruals by account and function. Appendix B provides the annual depreciation accrual and rate calculations. Appendix C provides a comparison between the existing and study recommended depreciation parameters. Appendix D provides the net salvage analysis.

PIEDMONT NATURAL GAS COMPANY

NATURAL GAS OPERATIONS

DEPRECIATION RATE STUDY

AT DECEMBER 31, 2019

Table of Contents

PURPOSE

The purpose of this study is to develop depreciation rates for the depreciable property for Tennessee as recorded on PNG's books at December 31, 2019. The account based depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of PNG's Tennessee property on a straight-line basis. Non-depreciable property and property which is amortized such as intangibles were excluded from this study.

PNG is an energy service company primarily engaged in the distribution of natural gas to more than 190 thousand customers in the greater metropolitan Nashville, Tennessee area. PNG has been in operation for more than 60 years.

PNG owns and operates a complex system which begins at receipt points which are commonly referenced as city gates or measurement and regulating stations. This is where natural gas is delivered from suppliers, is metered, and is pressure controlled. Downstream of these receipt points is a network of transmission pipelines, a liquefied natural gas storage facility, and distribution pipelines. There are a number of regulator stations on the transmission and distributions systems located across the service area where the pressure of the natural gas is reduced in order to meet system volume requirements.

STUDY RESULTS

Overall depreciation rates for all PNG depreciable property are shown in Appendix A. These rates translate into an annual depreciation expense accrual of $27.4 million based on PNG's depreciable investment at December 31, 2019. The annual depreciation expense calculated by using the approved account level rates is $30.3 million. Appendix A presents a comparison of approved rates versus proposed rates by account. Appendix B demonstrates the development of the annual depreciation rates and accruals. Appendix C presents a summary of mortality and net salvage estimates by account. Appendix D presents the net salvage analysis by account.

Consistent with FERC Rule AR-15, this depreciation study develops depreciation expense for Vintaged Group Amortization in Accounts 391 through 398, excluding Accounts 392 and 396. This process provides for the amortization of general plant over the same life as recommended in this study (with a separate amortization to allocate deficit or excess reserve). At the end of the amortized life, property will be retired from the books. This approach provides for the timely retirement of assets and the simplification of accounting for general property.

While the study made adjustments, upward and downward, to the average service life for most accounts, it is the combination of life increases and change in cost of removal when compared to the existing that is driving the decrease. The largest account in Distribution Plant, Account 380 Services, reflects an increase (less negative) in net salvage factor and an increase of 10 years in life, which are the primary drivers for the change. These changes represent the most recent indications for these accounts.

RECOMMENDATIONS

In addition to the results described above and in the remainder of this report, we have the following recommendations in regard to book depreciation for PNG in Tennessee.

1. We recommend adoption of the annual depreciation rates shown on Appendix A for each property group.
2. We recommend the implementation of Vintage Amortization Accounting for certain accounts of the General Plant function.

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.

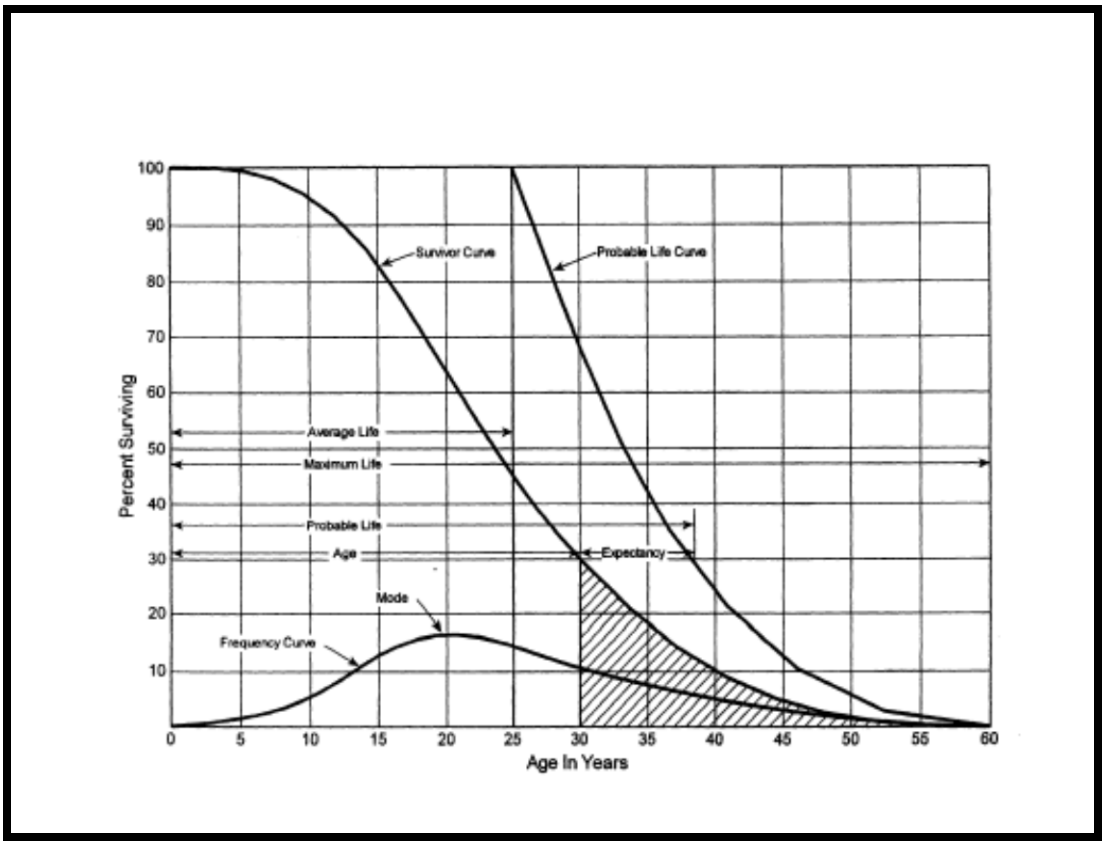
Basis of Depreciation Estimates

The straight-line, broad (average) life group, 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 depreciation reserve less estimated net salvage by its respective average 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 functional depreciation rates are shown in Appendix A and remaining life calculations are shown in Appendix B.

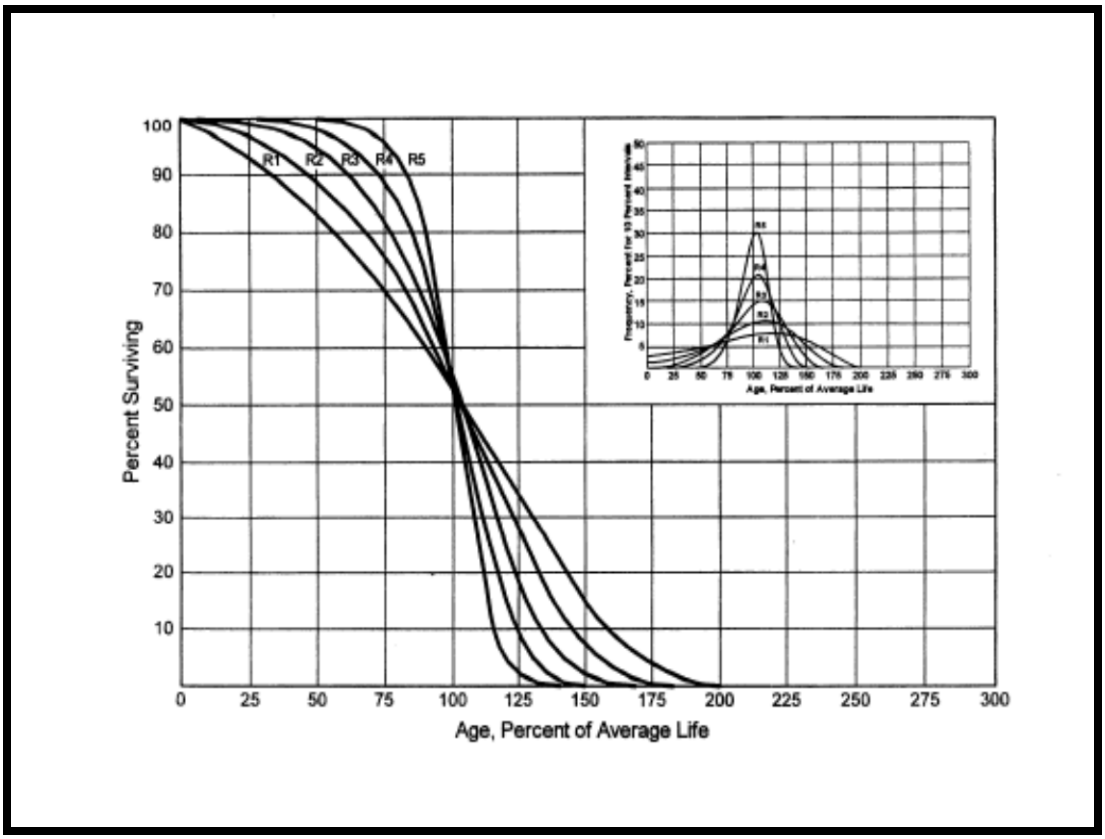
Actuarial analysis was used with each account within a function where sufficient data was available, and judgment was used to some degree on all accounts.

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 the Storage, Transmission, Distribution and General 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.

Average Life Group Depreciation

PNG's existing rates use the average life group ("ALG") depreciation procedure. At the request of PNG, this study continues to use the ALG 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. ALG groups are defined by their respective account dispersion, life, and net salvage estimates. A straight-line rate for each ALG group is calculated by computing a composite remaining life for each group across all vintages within the group, dividing the remaining investment to be recovered by the remaining life to find the annual depreciation expense and dividing the annual depreciation expense by the surviving investment. The resultant rate for each ALG group is designed to recover all investment less net salvage when the last unit retires. The ALG procedure recovers net book cost over the life of each account by averaging many components.

Theoretical Depreciation Reserve

The book depreciation reserve was derived from Company records where the provision for depreciation is applied at an account level. 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 average 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 group is retired.

Estimated average service lives and dispersion determine the amount within each average life group. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

$$RR = 1 - \frac{(Average\ Remaining\ Life)}{(Average\ Service\ Life)} * (1 - Net\ Salvage\ Ratio)$$

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 the documenting the corresponding recommendations.

During the Phase 1 data collection process, historical data was compiled from continuing property records and general ledger systems. The 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 it 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. As part of the Phase 1 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 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 circle 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 that 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 analysis, 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.

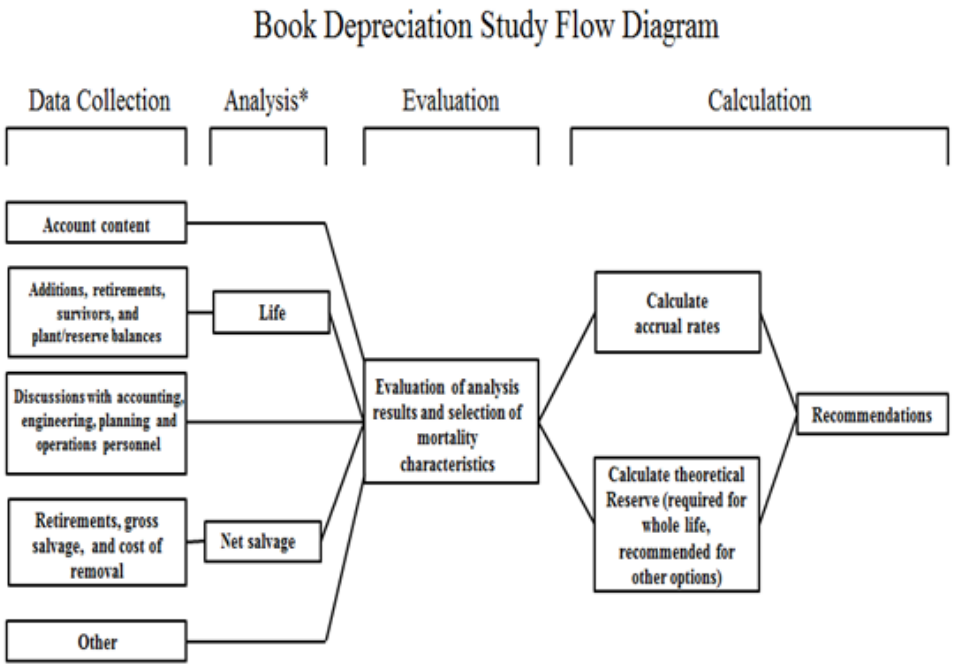


Figure 1

PNG DEPRECIATION STUDY PROCESS

Depreciation Rate Calculation

Annual depreciation expense amounts for the depreciable accounts of PNG Tennessee were calculated by the straight-line method, average life group procedure, and remaining-life technique. With this approach, remaining lives were calculated according to standard ALG group expectancy techniques, using the Iowa Curves noted in the calculation. For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the book depreciation reserve, was divided by the average remaining life to yield the annual depreciation expense.

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 Retirement Rate actuarial methods. After establishment of appropriate average service lives and retirement dispersion, remaining life was computed for each account. Theoretical depreciation reserve with zero net salvage 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 ALG depreciation accruals. Remaining life computations are found for each account in work papers.

LIFE ANALYSIS

The retirement rate actuarial analysis method was applied to all accounts for PNG. 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 each account different placement (i.e., placement from earliest vintage year, which varied for each account, through 2019) and experience bands were plotted. The approved survivor curves were used as a starting point. Then using the same average life, various dispersion curves were plotted. Frequently, visual matching would confirm one specific dispersion pattern (e.g., L, S, or R) as an obviously better match than others. 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. The next step would be to determine the most appropriate life using that dispersion pattern. These results are used in conjunction with all other factors that may influence asset lives.

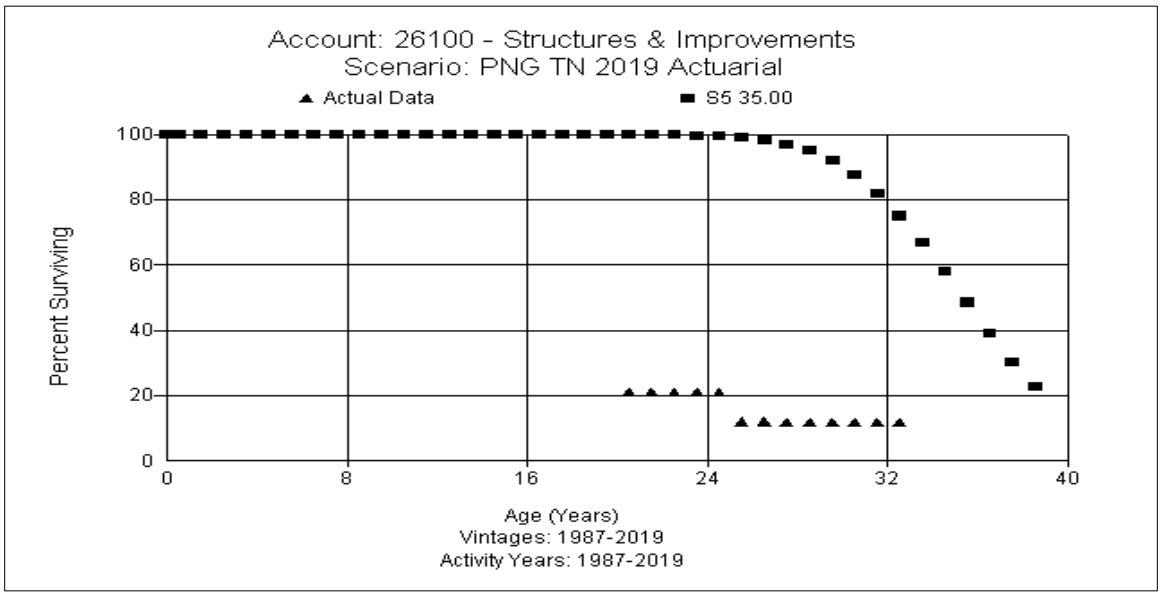
ACCOUNT SPECIFIC LIFE ANALYSIS RESULTS

Storage Plant

The Herbert S. Walters Liquefied Natural Gas (LNG) Facility began operation in 1972. It was the nation's 35th of its kind and designed to convert natural gas to a liquid during "off peak" (summer) and then back to natural gas during "on peak" (winter). The facility, located on 66 acres in northwest Nashville, is expected to undergo major upgrades and renovation to its equipment in an effort to enhance the safety of the operation, modernize controls, and increase operational flexibility in the next five years. The project includes investment of capital in many of the accounts, which will retire old assets, add new assets, and refurbish some of the existing assets.

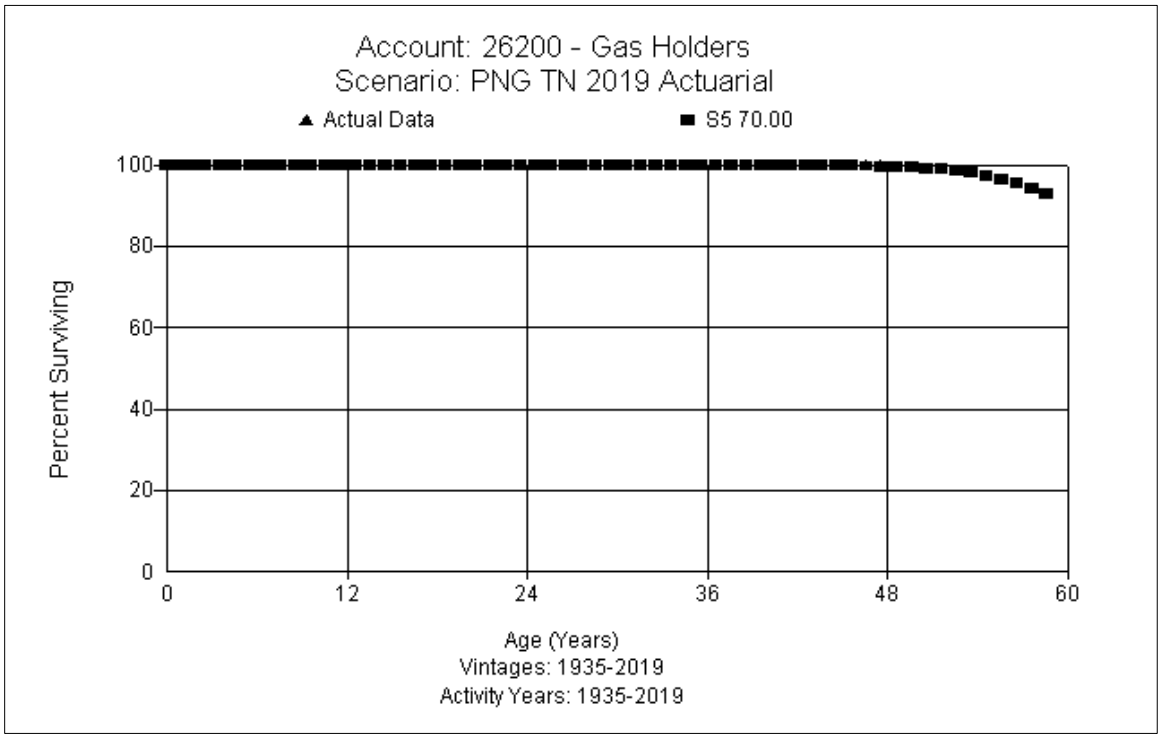
Account 261.00 Structures and Improvements (35 S5)

This account consists of metal buildings and fencing. There is approximately $11.6 million in this account. The approved life for this account is 35 years with the S5 dispersion. There has been limited activity. Based on the type of assets and input from Company personnel, this study proposes retaining the existing 35 S5. The proposed curve and observed life table for this account are shown below.



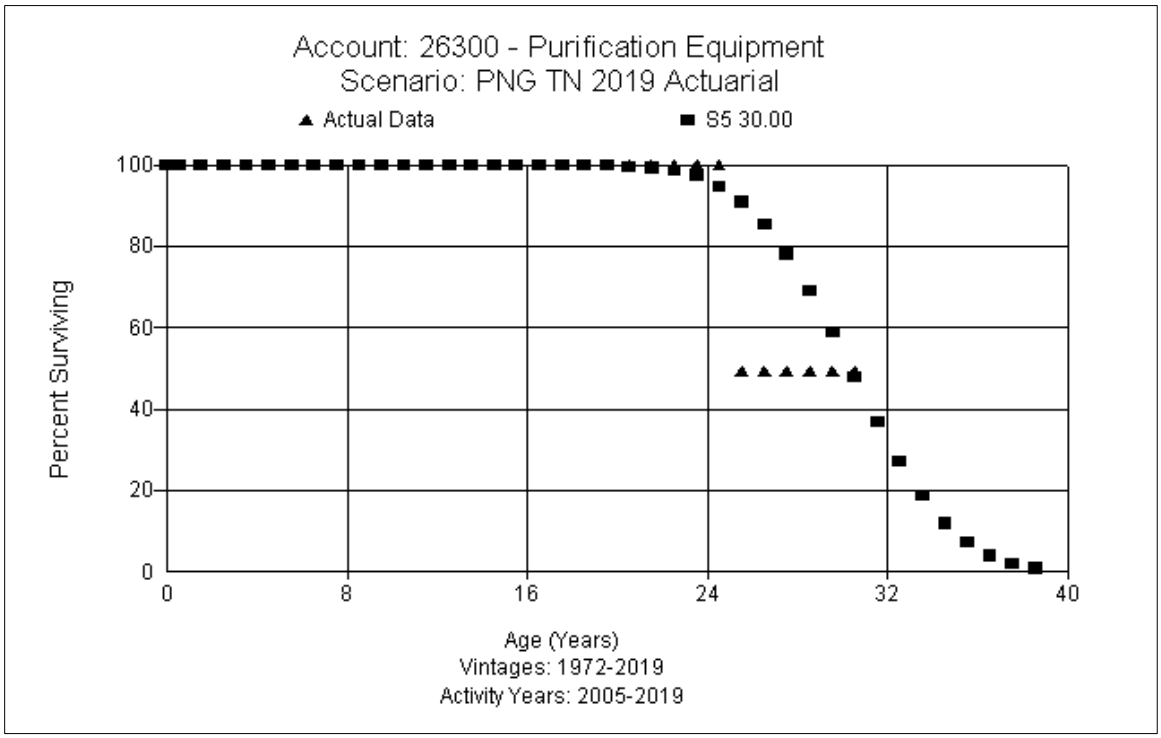
Account 262.00 Gas Holders (70 S5)

This account consists of gas holders. There is approximately $3.0 million in this account. The approved life for this account is 45 years with the S5 dispersion. Discussions with Company personnel indicated that the Company replaced the coating system, which has a life cycle of about 10-15 years, a couple of years ago. Based on the current age and expected age, the life should move out. This study proposes increasing the life to 70 years and retaining the S5 curve. The proposed curve and observed life table for this account are shown below.



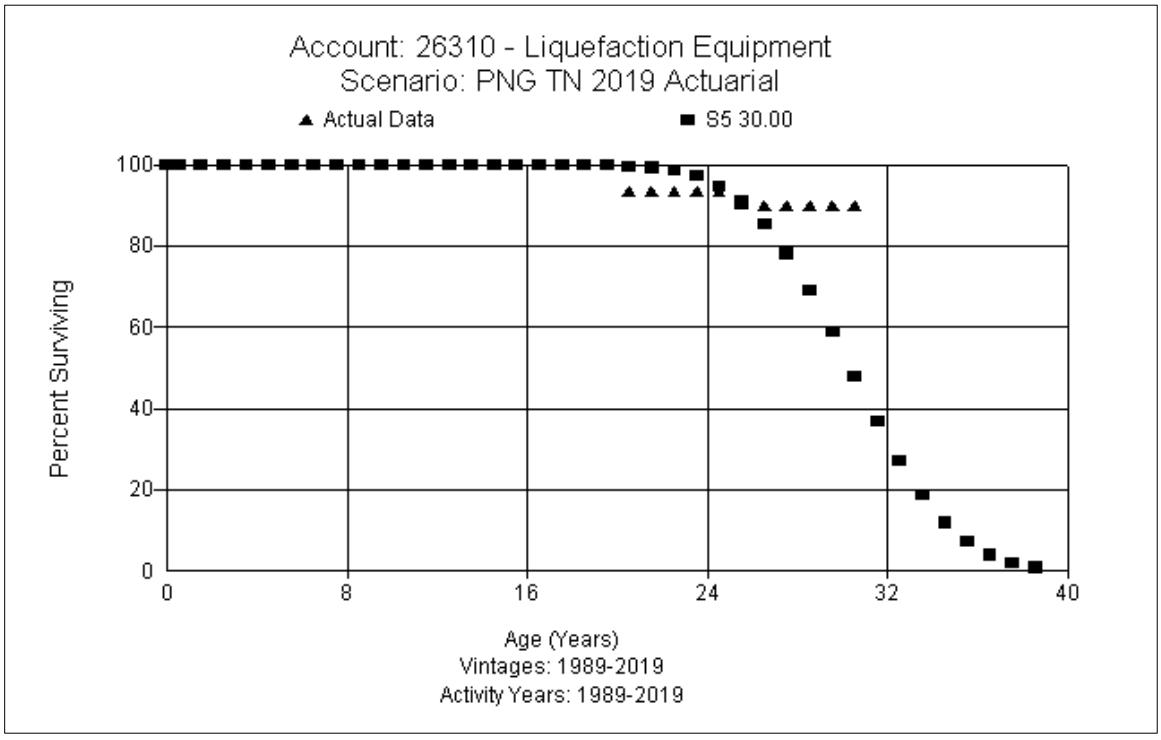
Account 263.00 Purification Equipment (30 S5)

This account consists of miscellaneous purification equipment. There is approximately $6.6 million in this account. The approved life for this account is 35 years with the S5 dispersion. Discussions with Company personnel indicated that some assets were replaced around 2010, but the rest of the equipment in the account is original. The 2010 additions were based on the plant's original 1972 design parameters. The Company anticipates replacing the whole system, including the 2010 additions, in the next 5 years. This is necessary because replacement parts are no longer available when an existing original part breaks and because changes in interstate gas quality since 2010 are requiring different equipment to be installed. The analysis continues to indicate a steep dispersion with some shortening of the life. Based on the analysis indications and discussions with Company personnel, this study proposes reducing the life to 30 years and retaining the S5 curve. The proposed curve and observed life table for this account are shown below.



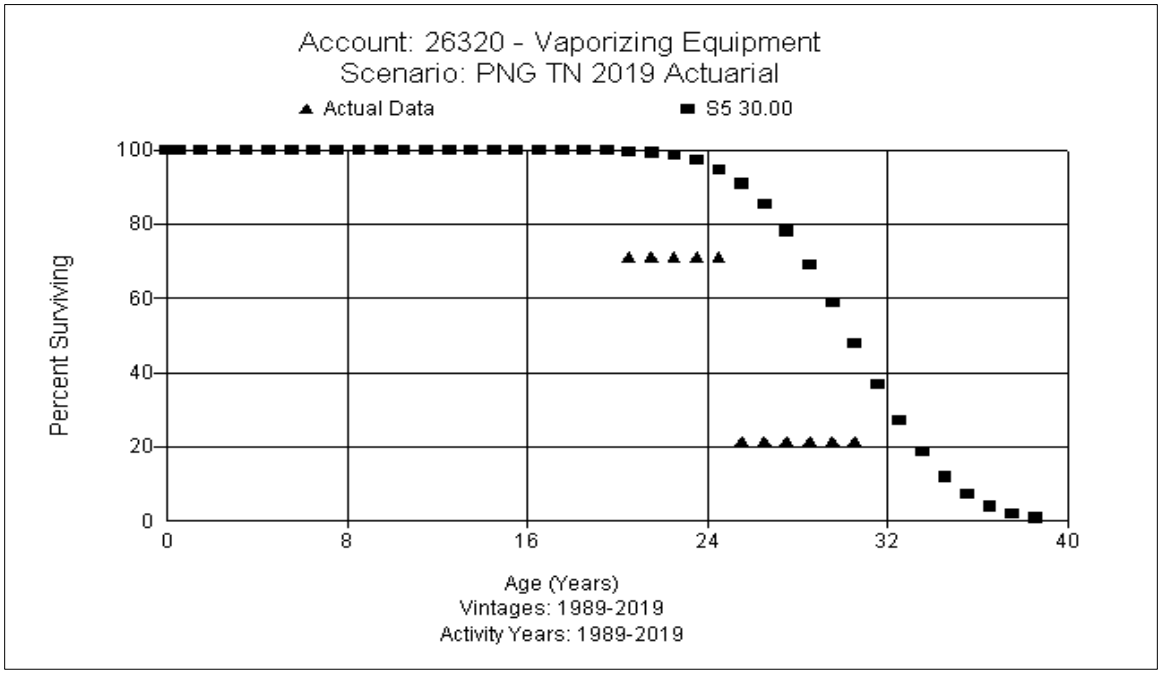
Account 263.10 Liquefaction Equipment (30 S5)

This account consists of miscellaneous liquefaction equipment. There is approximately $7.4 million in this account. The approved life for this account is 35 years with the S5 dispersion. Discussions with Company personnel indicated that the assets are from the original installation. Presently, the Company can only acquire for replacement used parts online or by having them custom made. The Company replaced part of the main compressor in 2019, and plans to replace the system in the next five years. There has been limited retirement activity, which does not produce definitive life indications. Nonetheless, by combining the analysis with information from the Company regarding the Company's short term plans, knowledge of the type of assets, and judgment, this study proposes reducing the life to 30 years and retaining the S5 curve. The proposed curve and observed life table for this account are shown below.



Account 263.20 Vaporizing Equipment (30 S5)

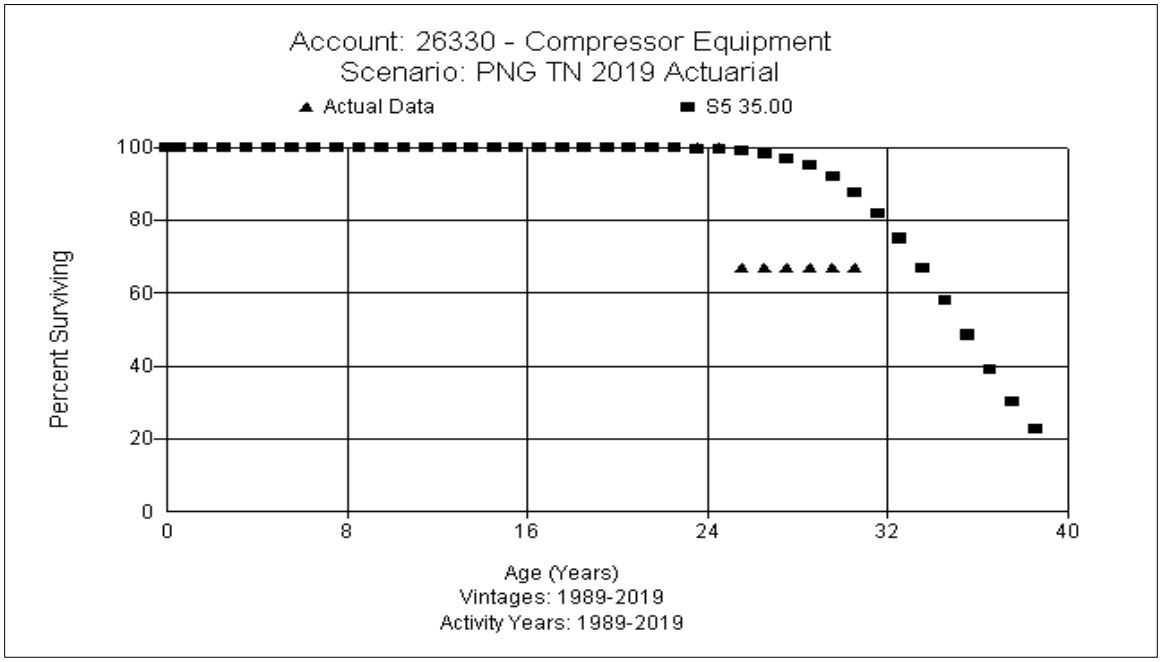
This account consists of miscellaneous vaporizing equipment. There is approximately $21.0 million in this account. The approved life for this account is 35 years with the S5 dispersion. Discussions with Company personnel indicated that they totally replaced the vaporizing equipment in 2012. The replacement equipment will have a shorter life due to the newer digital control technology (which inherently has a shorter life). The need to replace the control system more quickly will drive the replacement of the full system sooner that in previous generations. The PLCs (Allen-Bradley) are obsoleting at 8-10 years but can be found for several years beyond this period. The Company strongly believes that the life will be significantly shorter in the future because of the change to new digital technology, and Company personnel think that achieving a 25-year life or longer would be a challenge. The actuarial analysis indicates the same steep pattern, but some indications of a lower life. Based on the analysis, Company input, and type of assets, this study proposes reducing the life to 30 years at this point and retaining the S5 curve. The proposed curve and observed life table for this account are shown below.



Account 263.30 Compressor Equipment (35 S5)

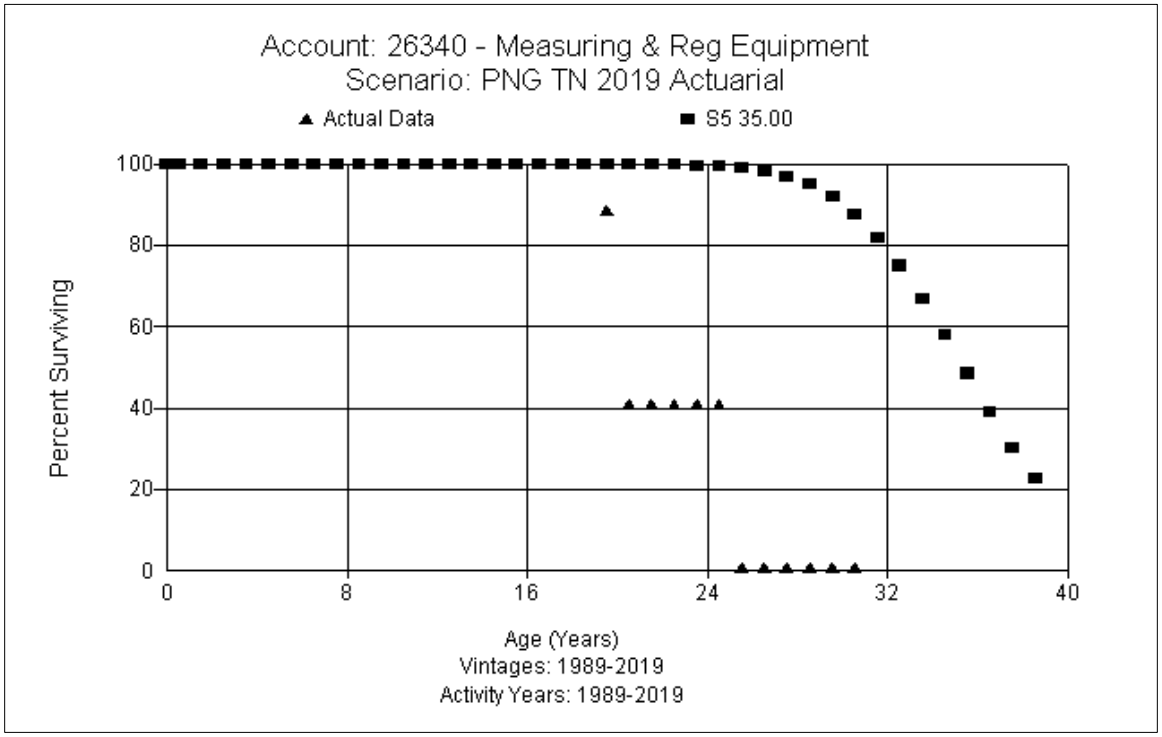
This account consists of miscellaneous compressor equipment. There is approximately $9.7 million in this account. The approved life for this account is 30 years with the S5 dispersion. Discussions with Company personnel indicated that the largest compressor, being part of the liquefaction process, will be replaced with the liquefaction equipment. There are also boil off compressors in the account. One boil off compressor was added in 2014, while the other two compressors are original equipment. The boil off compressors are electric driven reciprocating. Company personnel would have expected a life longer than 30 years for the compressors. In the past, the Company charged overhauls to O&M, but going forward that will change to retiring and replacing components in accordance with current accounting practices.

The actuarial analysis has limited activity but shows a steep dispersion with a life between 27 to 32 years. Giving consideration to the analysis indications, discussions with Company personnel, type of assets, and judgment, this study proposes increasing the life to 35 years while retaining the S5 curve. The proposed curve and observed life table for this account are shown below.



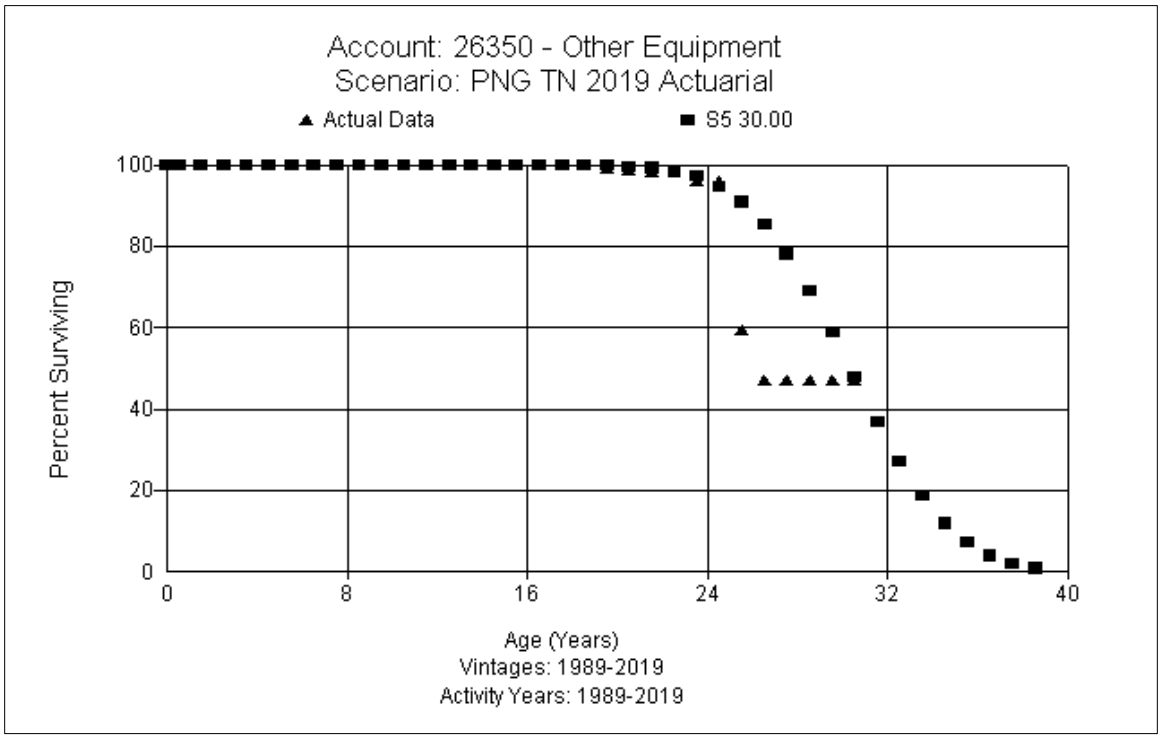
Account 263.40 Measuring & Regulating Equipment (35 S5)

This account consists of miscellaneous measuring and regulating equipment. There is approximately $28 thousand in this account. The approved life for this account is 35 years with the S5 dispersion. Discussions with Company personnel indicated that there are several meters in the process system. When replacing the liquefaction system, most of the meters will be replaced. One meter was replaced in 2012. There are a couple of orifice meters (with a fairly long life) and a Coriolis meter, (which is expected to have a 15-20 year life). The analysis has limited retirement activity. The steep dispersion pattern is consistent, but there is some indication of a life around 20-maybe 23 years depending on where you fit the data. Based on the analysis, discussions with Company personnel, and judgment, this study proposes to retain the existing 35 S5 at this time. The proposed curve and observed life table for this account are shown below.



Account 263.50 Other Equipment (30 S5)

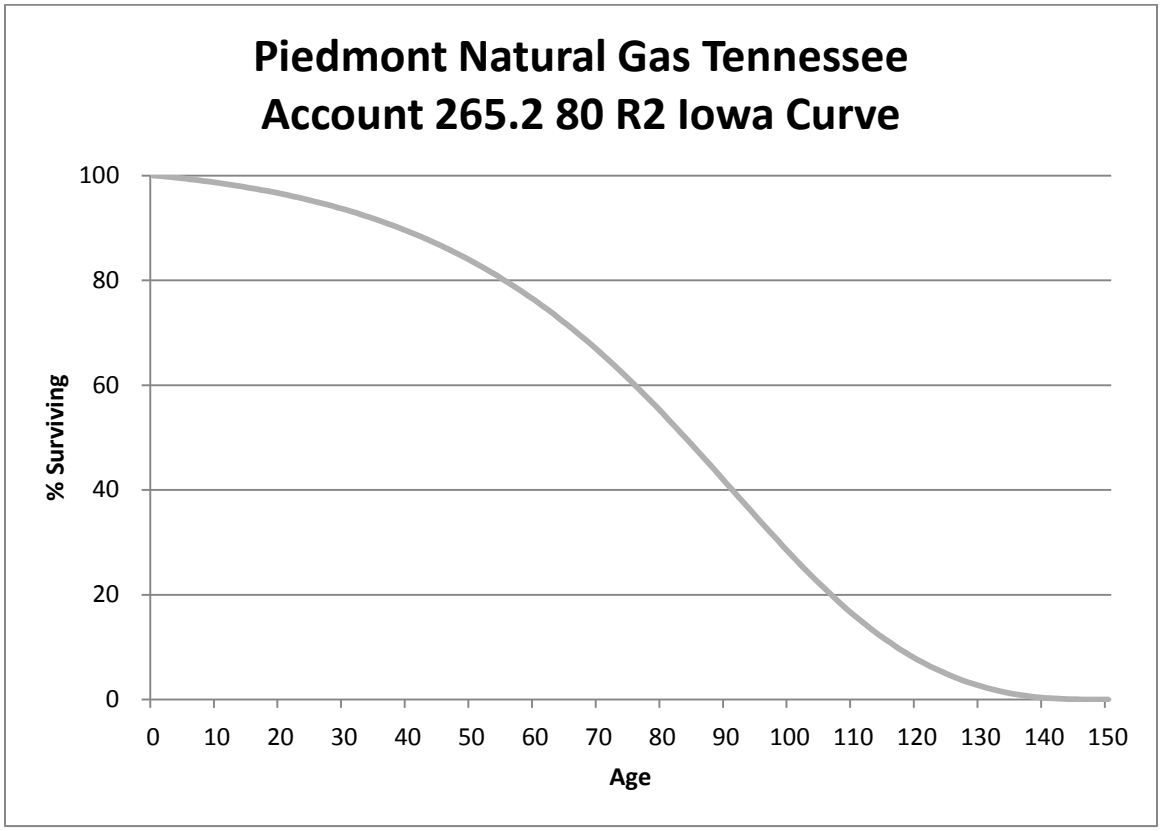
This account consists of other equipment. There is approximately $3.9 million in this account. The approved life for this account is 30 years with the S5 dispersion. There has been $1.2 million added to this account since the last depreciation study in 2014. Similar to the other accounts, there is little retirement activity recorded. Assets recorded here typically have shorter lives, and some retirements that have occurred indicate a life less than the existing life. Considering the analysis, type of assets, and judgment, this study proposes retaining the 30 S5. The proposed curve and observed life table for this account are shown below.



Transmission Plant

Account 265.2 Land Rights (80 R2)

This account consists of land rights used in connection with transmission operations and assets. There is approximately $17.9 million in this account. The approved life for this account is 80 years with the R2 dispersion. There have been no retirements and few are expected. Based on type of assets, expectations, and judgment, this study proposes a life that is tied to Account 367 Mains but slightly longer. The study recommends retaining the 80 year life with the R2 dispersion pattern. No observed life table is provided.

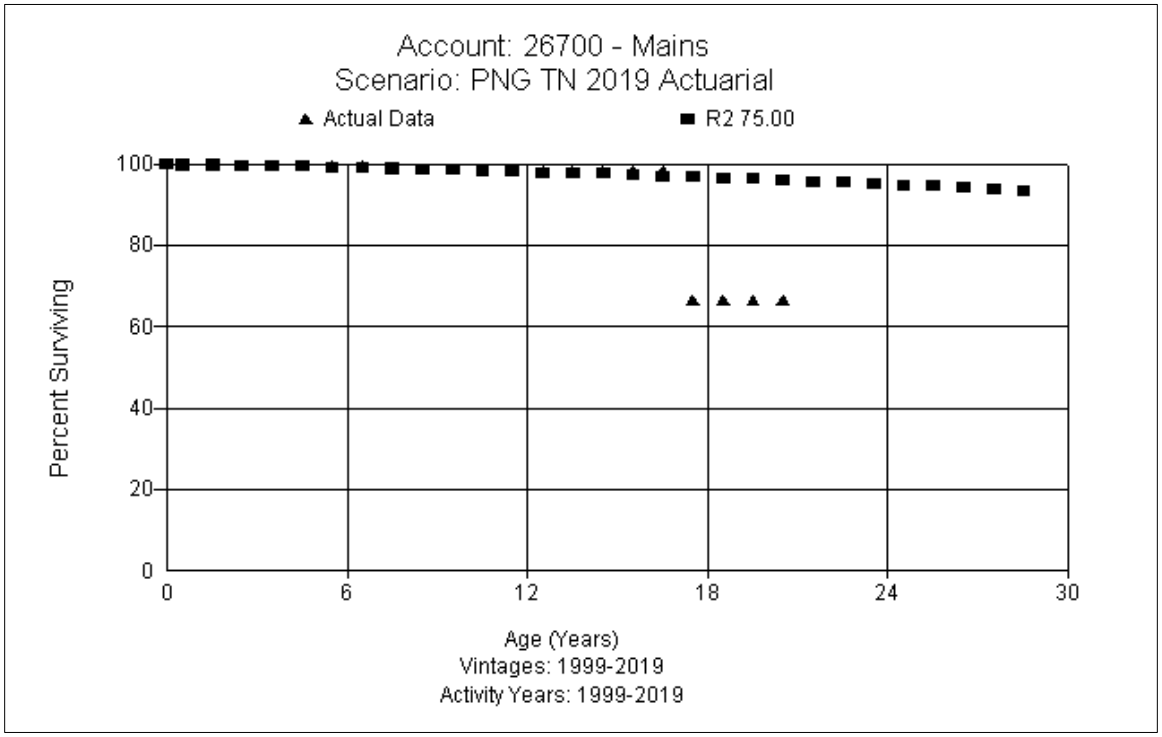


Account 267.00 Mains – (75 R2)

This account consists of mains of all sizes, fittings, equipment, cathodic protection, and other miscellaneous assets. There is approximately 61 miles of pipe on the system. The current account balance for this account is $246.2 million. The approved life for this account is 70 years with the R4 dispersion.

Discussions with Company personnel indicated that they are currently involved in replacement projects for vintage lines that were installed in the 1950s. Once the new lines have been placed into service, the older lines will be de-rated and converted into distribution main. Earlier replacement of some 1940s vintage pipe occurred around 2014. With these current replacements, the oldest transmission pipe will be from the mid 1960s. The replaced transmission pipelines are installed with in-line inspection capability that enables a more rigorous inspection program. The Company expects the life to be as long as, or longer, than existing.

The analysis has limited retirements with some at an early age. Cathodic protection was typically not applied to the pipelines until the 1960s or later and external corrosion degradation may have contributed to a shorter life. Overall, based on type of assets, the existing life, Company information, and expectations, this study proposes moving to a 75 year life and the R2 dispersion pattern. The proposed curve and observed life table for this account are shown below.



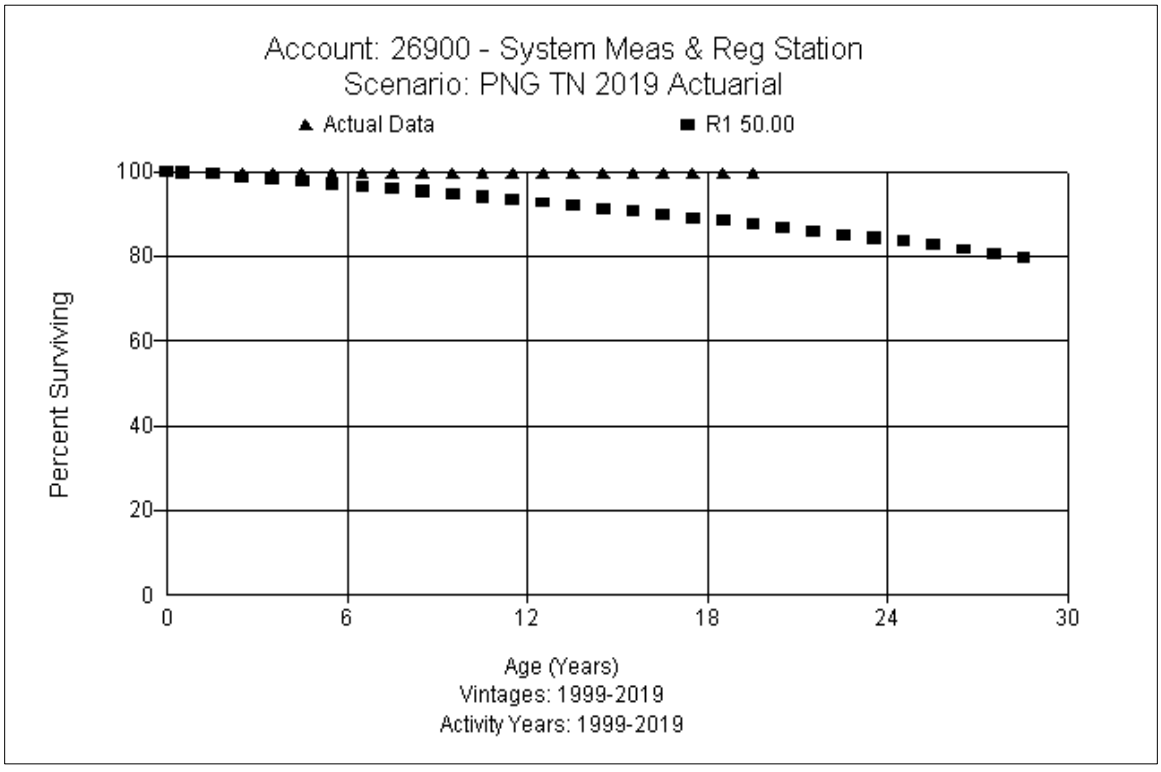
Account 269.00 System M&R Station Equipment – (50 R1)

This account consists of various structures, fencing, concrete, heaters, valves, pipe, RTUs, and other related equipment used on the Transmission system. There is approximately $38.6 million in this account. There is no approved life or dispersion curve for this account.

There has been over $20 million added since 2014. The South Natural Loop, which has four stations, was added in 2014. Discussions with Company personnel indicated that measurement stations, including both take stations

(purchase stations) and border stations, can have a small gas meter to supply gas to the station heaters. There is a generator to support back up power in case of power outage, but not all stations have generators. When generators are not present, however, there is a battery backup system to support the telemetry and communication systems. Heaters have a shorter life, around 25-30 years. RTUs and electronics may last 15-20 years. The pipe would have the same life as the pipeline itself. Valves may last 40 years or more. The Company performs annual inspections and would expect a minimum of 40 years, based in part on capacity needs.

The analysis does not have enough retirement activity to provide conclusive life indications. Based on the type of assets, use, Company input, and judgment, this study proposes a 50 year life and a R1 dispersion pattern. The proposed curve and observed life table for this account are shown below.

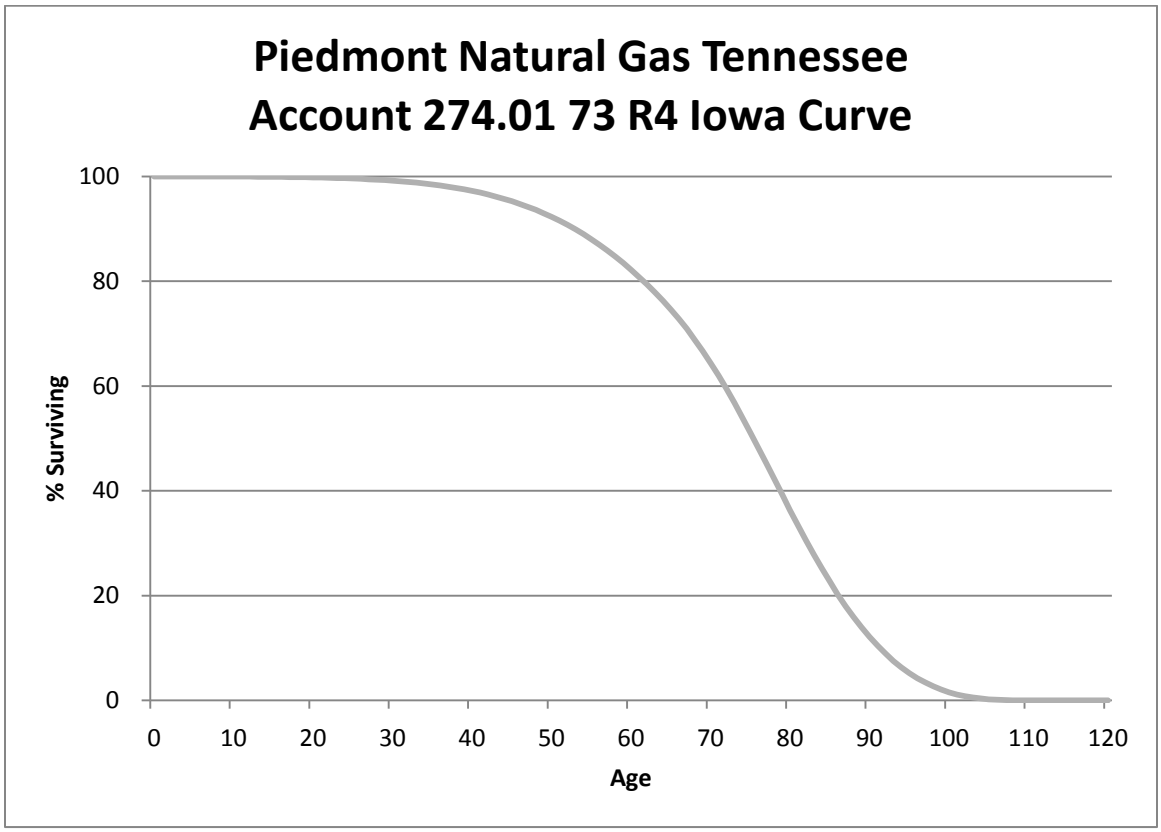


Distribution Plant

The Distribution system of PNG Tennessee began making infrastructure replacements, primarily related to Account 276 Mains, in 1990. As a result, most pipe older than 1950 vintage and essentially all the bare steel pipe has been replaced. The majority of the pipe and services are steel, but are coated and cathodically protected. The Company expects to continue addressing system needs and regulatory compliance as required in the future.

Account 274.01 Rights of Way (73 R4)

This account includes buildings. There is approximately $6.3 million in this account. There is no approved life or dispersion pattern for this account from the prior study. There is not enough activity in this account for analysis. However, the asset life is tied to Account 276 Mains. This study proposes using the life slightly longer than that of Account 276 Mains and the R4 dispersion. The proposed Iowa curve but no observed life table is provided.

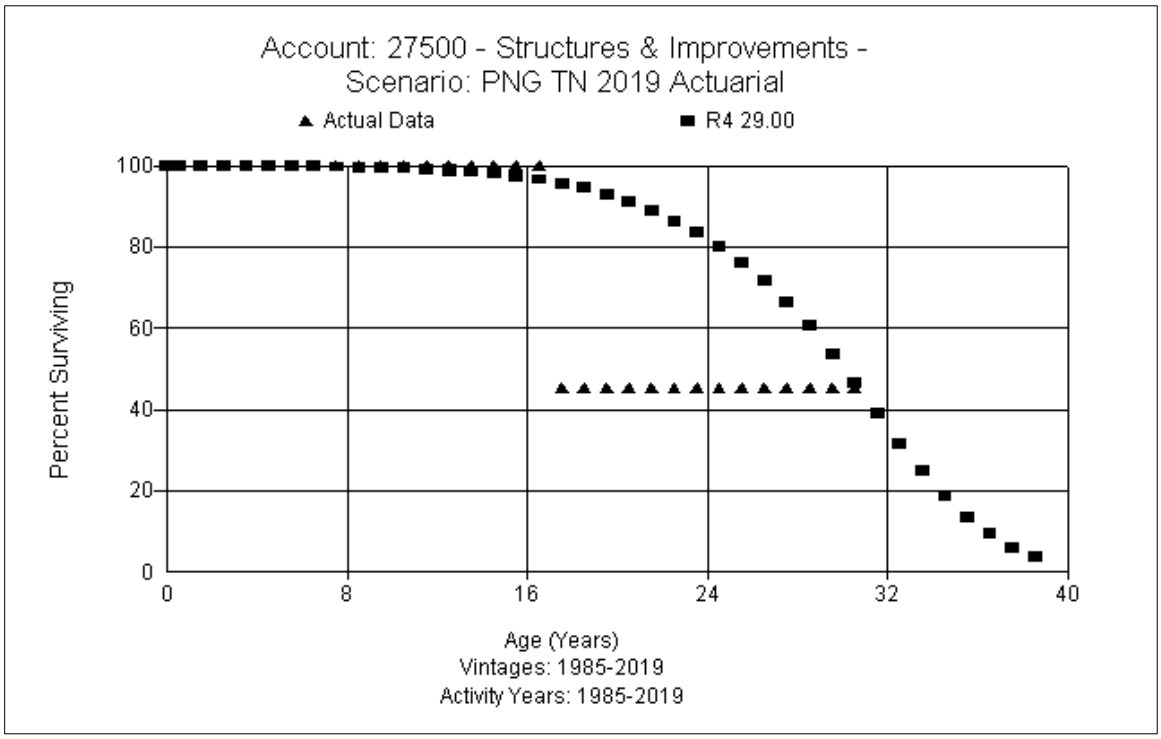


Account 275.00 Structures and Improvements (29 R4)

This account includes fencing, retaining walls, and a building. There is approximately $219 thousand in this account. The approved life for this account is 19 years with the R4 dispersion.

Discussions with Company personnel indicated that only one city gate had a building. There is fencing and retaining walls at most stations and there are a significant number of bollards in this account. In the past, approximately $2 million was retired around the age of 30 years.

This study proposed increasing the life to 29 years while retaining the R4 dispersion pattern. The proposed curve and observed life table for this account are shown below.

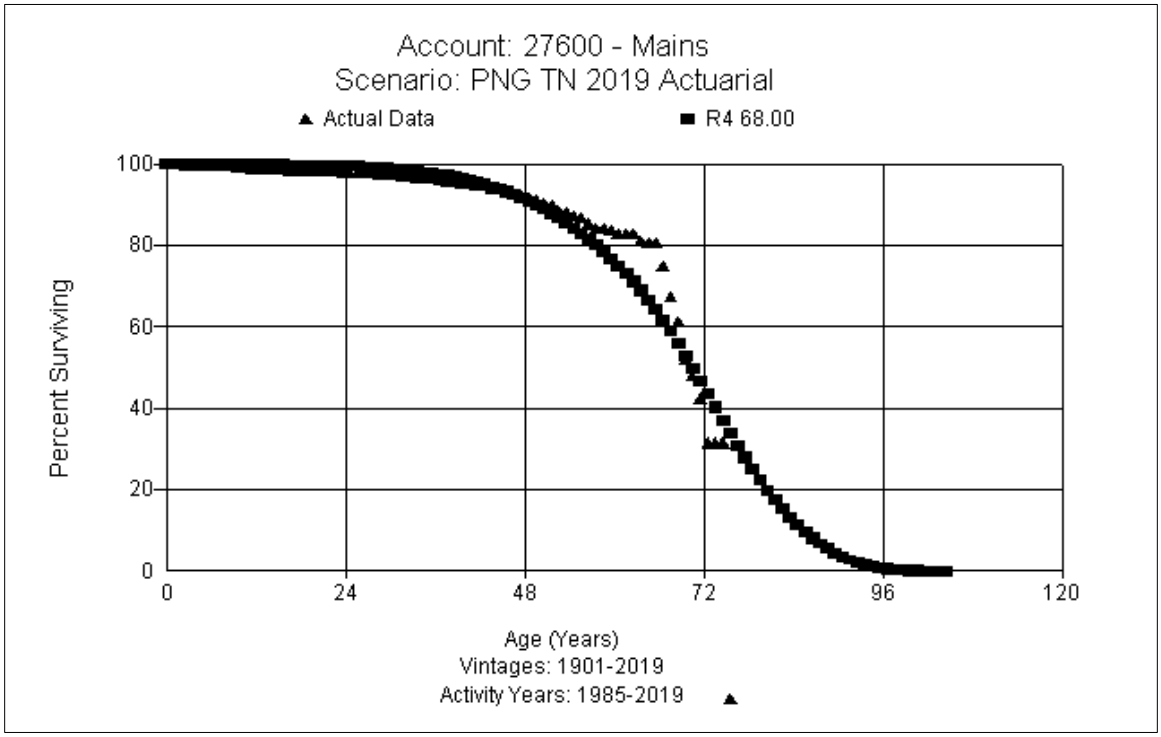


Account 276.00 Mains – All (68 R4)

This account consists of approximately 3,500 miles of various size distribution mains as well as miscellaneous fitting, equipment, and miscellaneous piping. Approximately 2,256 miles (65%) are coated and protected steel and the remainder is plastic pipe. There is approximately $501.5 million of investment in this account. The approved curve for this account is the 65 R4.

Discussions with Company personnel indicated that they had a cast iron program that ended in around 2005. Cathodic protection and coating design for steel pipe began to improve in the 1960s, but steel assets installed prior to that typically have poor coating and cannot be adequately cathodically protected. The Company is targeting replacing those earlier vintages, and the replacements they are focused on are from mains installed in the 1950s. The majority of the pipe is younger than 1960 due to significant system growth since that time. The oldest assets in the ground are some feeder lines from the late 1940s, which are minor and challenging to replace. The cathodic protection assets have merged back into the main account. There is a combination of anodes and rectifier beds. Company personnel would expect 15-20 years for anodes. The Company started installing plastic in 1979-1980. There is not enough experience to know if plastic will last longer than steel yet.

The actuarial analysis indicates that the life of mains is increasing. Continuing to move out some makes sense operationally. Based on the type of assets, discussions with Company personnel, and the analysis, this study recommends increasing the life to 68 years and retaining the R4 dispersion. The proposed curve and observed life table for this account are shown below.



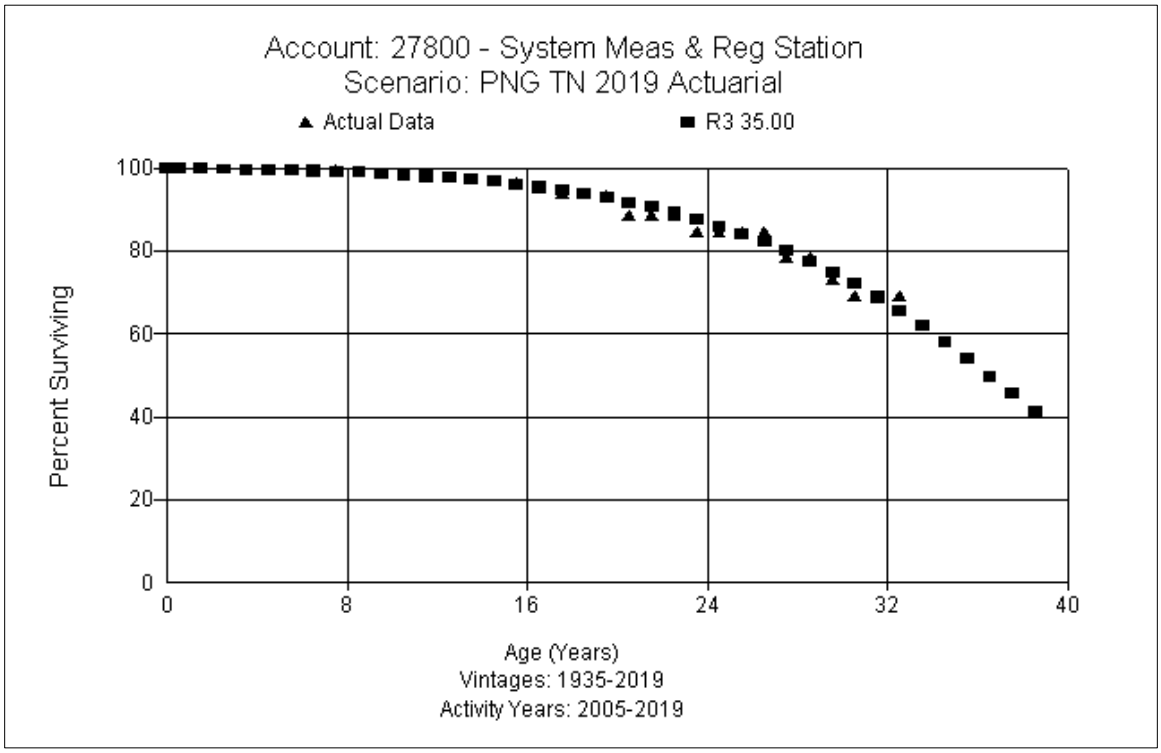
Account 278.00 Measuring & Regulating Station Equipment – (35 R3)

This account consists primarily of buildings, meter sets, filter/strainers, miscellaneous equipment, regulators, relief valves, station fittings, and equipment. There is approximately $16.5 million of investment in this account. The approved curve for this account is the 27 R3.

Discussions with Company personnel indicated that distribution district regulator stations ("DRS") are not built as robustly as transmission and as a

result they would expect a shorter life. When changing pressure in a transmission line (e.g., reduce to a high-pressure distribution), they will retire DRS when no longer needed. Technology is changing constantly and DRS should have a shorter life than the City Gates. At a point in the past, there was a lot of work done on DRS, which might have driven the life lower in the past. Many of the Company's DRS are on public right of way and are subject to having to move.

The actuarial analysis indicates a life in the low to mid-30s. A good fit is seen in the full placement with a recent experience band. Based on the analysis, type of assets and discussions with Company personnel, moving the life to around the mid-30s is reasonable. This study recommends increasing the life to 35 years and retaining the R3 curve. The proposed curve and observed life table for this account are shown below.

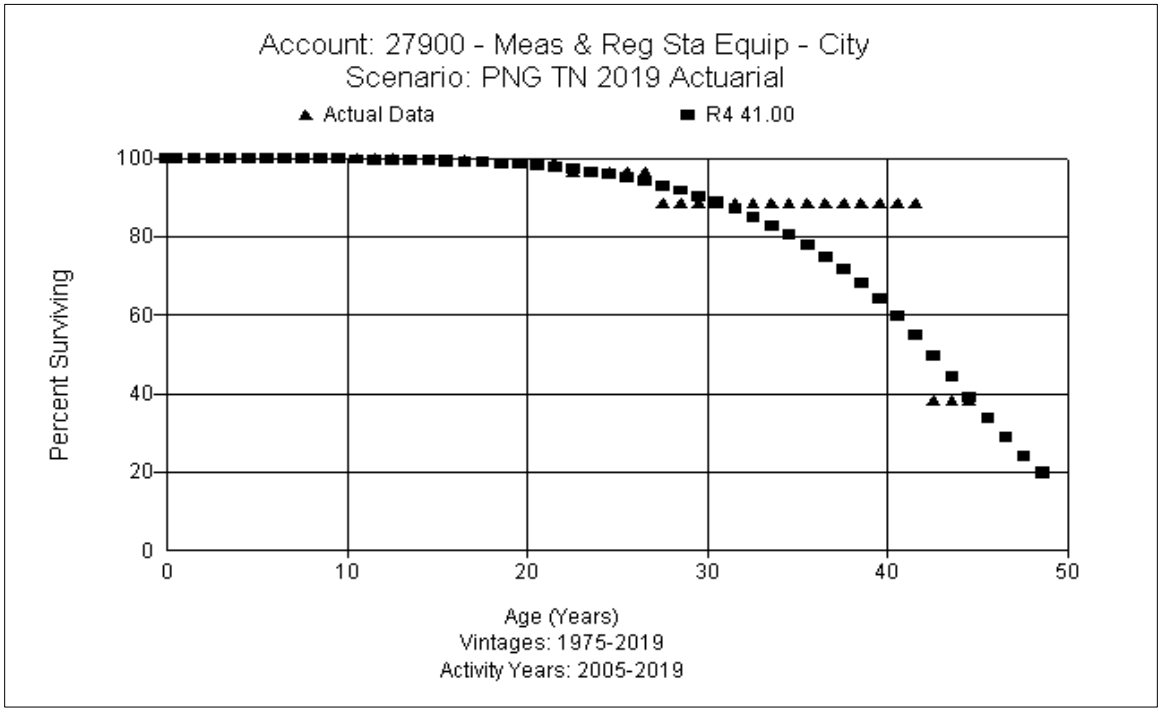


Account 279.00 Measuring & Regulating Station Equip. - City Gate (41 R4)

This account consists primarily of buildings, electronic correctors, meter sets, station fittings, and equipment. There is approximately $5.5 million of investment in this account. The approved curve for this account is the 45 R5.

Discussions with Company personnel indicated that they have rebuilt most of the city gates and transmission stations. During a rebuild everything past the tap would be replaced, including new electronics and controls. They generally will build a new station beside the old station and then retire the old station. City gates have been changed more frequently than transmission, as they are modified for capacity and other changes.

The actuarial analysis continues to indicate a steep dispersion but it has become slightly flatter. There is a significant drop in survivors around age 41. Because of the changing technology, the overall life of the city gates would be slightly shorter than in the past. Accordingly, this study recommends decreasing the life to 41 years and moving to a R4 curve at this time. The proposed curve and observed life table for this account are shown below.

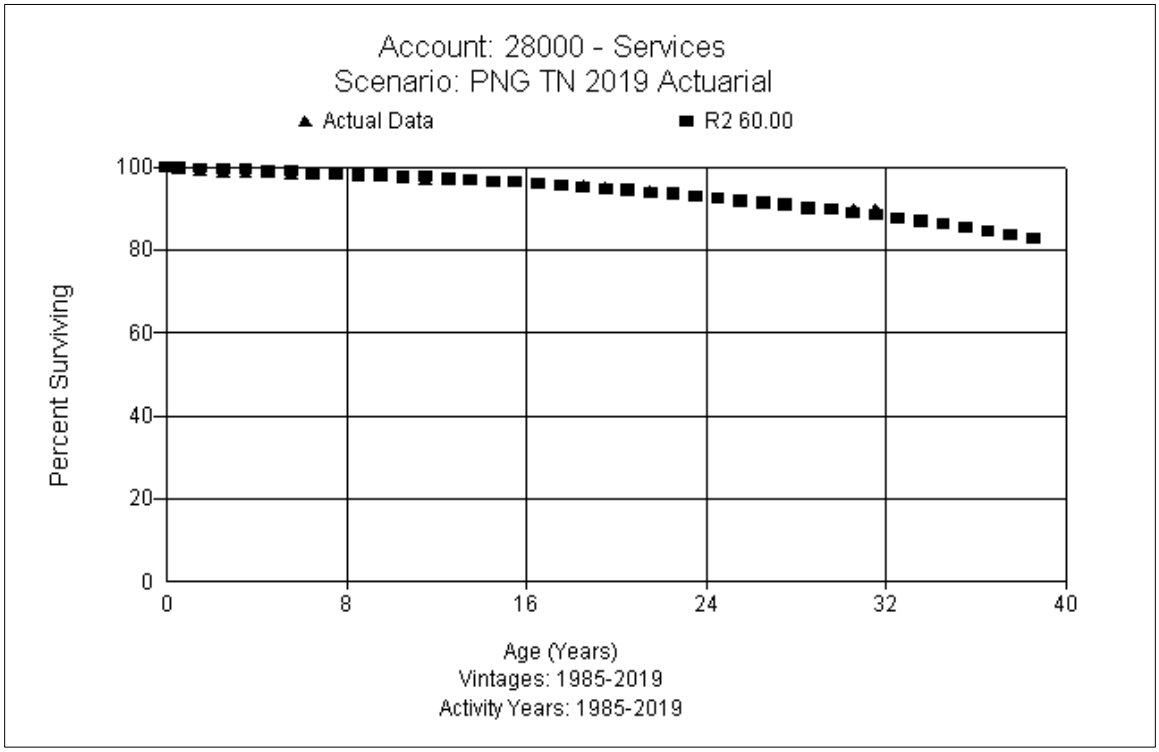


Account 280.00 Services (60 R2)

This account consists of approximately 108 thousand steel and 66 thousand plastic services. There is approximately $301.4 million of investment in this account. The approved curve for this account is the 50 R4.

Discussions with Company personnel indicated that many services have been replaced in a renewal program. Like mains, pre-1960 services are a focus of replacement. Company personnel would expect the life of services to be somewhat less than that of mains. There was a flood in 2010 which resulted in a large number of retirements. By 2015, most retirements are due to renewing older areas. The Company also has a program to retire services that have not been used in five years. Moving forward, there will be retirements related to damage caused by the 2020 tornadoes. The Company also has a Service Line Integrity Program ("SLIP") where they are replacing steel services on plastic mains.

The actuarial analysis indicates that the life is increasing and the dispersion pattern has become flatter. Based on the type of assets, the various programs past and present, the analysis, and discussions with Company personnel, this study proposes moving toward those indications by increasing the life to 60 years and moving to an R2 dispersion pattern. The proposed curve and observed life table for this account are shown below.

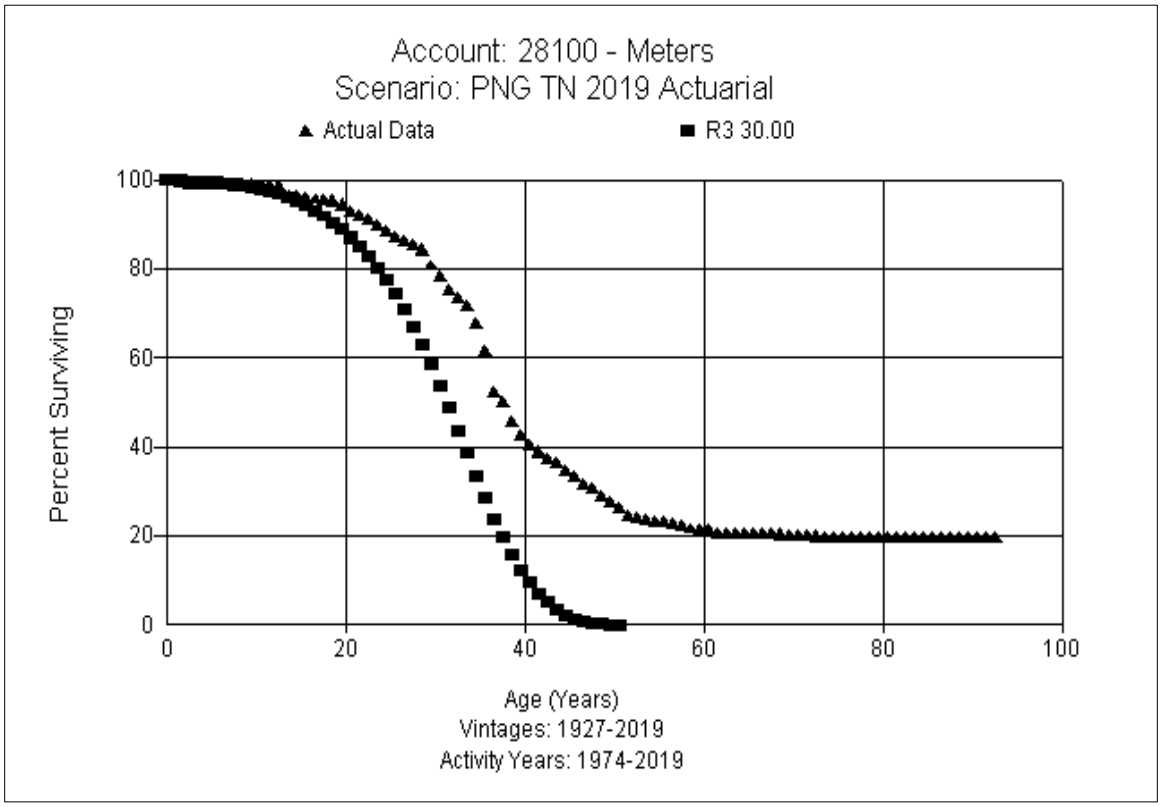


Account 281.00 Meters (30 R3)

This account includes all meters. There is approximately $21.4 million of investment in this account. The approved life is 30 years with the R3 dispersion.

Discussions with Company personnel indicated that in the 1980s and 1990s all meters were changed out to temperature adjusted meters. When a meter is put on a prover, Company personnel will decide if the meter is retired or kept. If kept, they will adjust it if necessary, repair it, and put a new ERT on the meter. If more than minor adjustment is necessary or if corrosion exists, the meter will be retired and junked. For many years Piedmont has operated a meter sampling and testing program in lieu of replacing all meters at fixed intervals. Some meter groups (meter families) have failed in the past and have been replaced, but Company personnel would not expect a materially different life from existing.

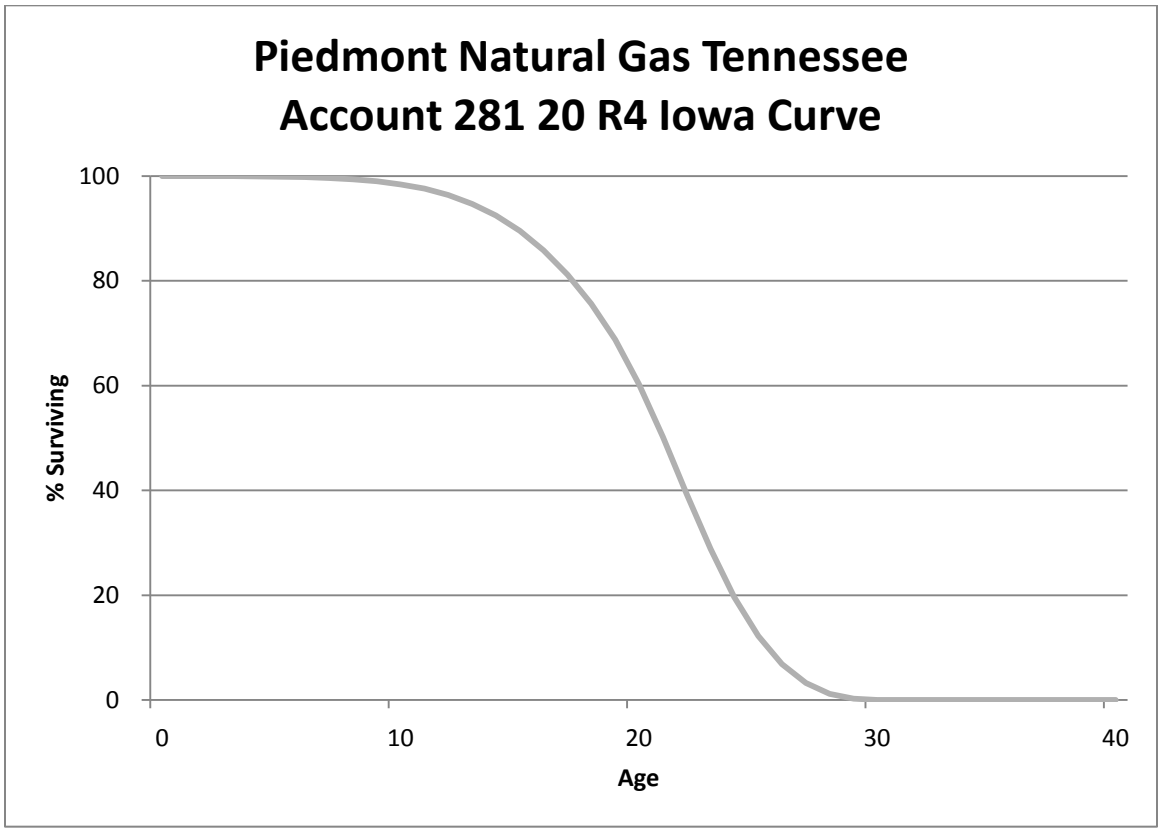
The actuarial analysis indicates a longer life. Based on the policies and practice, the historical indications are too long and the Company has indicated a disconnect of actual retirements and what is shown on the accounting books. Discussions with Company personnel indicated they are working to resolve this disconnect. Relying upon past experience, type of assets, regulatory requirements, testing program, and Company expectations for these assets, this study recommends retaining the 30 R3 dispersion curve. The proposed curve and observed life table for this account are shown below.



Account 281.02 Meters - AMI (20 R4)

This account includes the cost of automatic meter reading equipment. This is a new account and at the study date there was no investment.

Discussions with Company personnel indicated that a pilot investment of approximately 500 meters using Itron 500G technology is being considered by the Company. They expect the life for these "smart meters" to be around 20 years based on the internal battery life of the ERT. Technologically, this equipment is very different than the old design meters. Based on information from manufacturers, discussions with Company personnel, and knowledge of this type of equipment, these assets should have a life similar to Account 281.05 Meter Accessories, which is 20 R4, which is the study recommendation. The representative Iowa curve is provided.

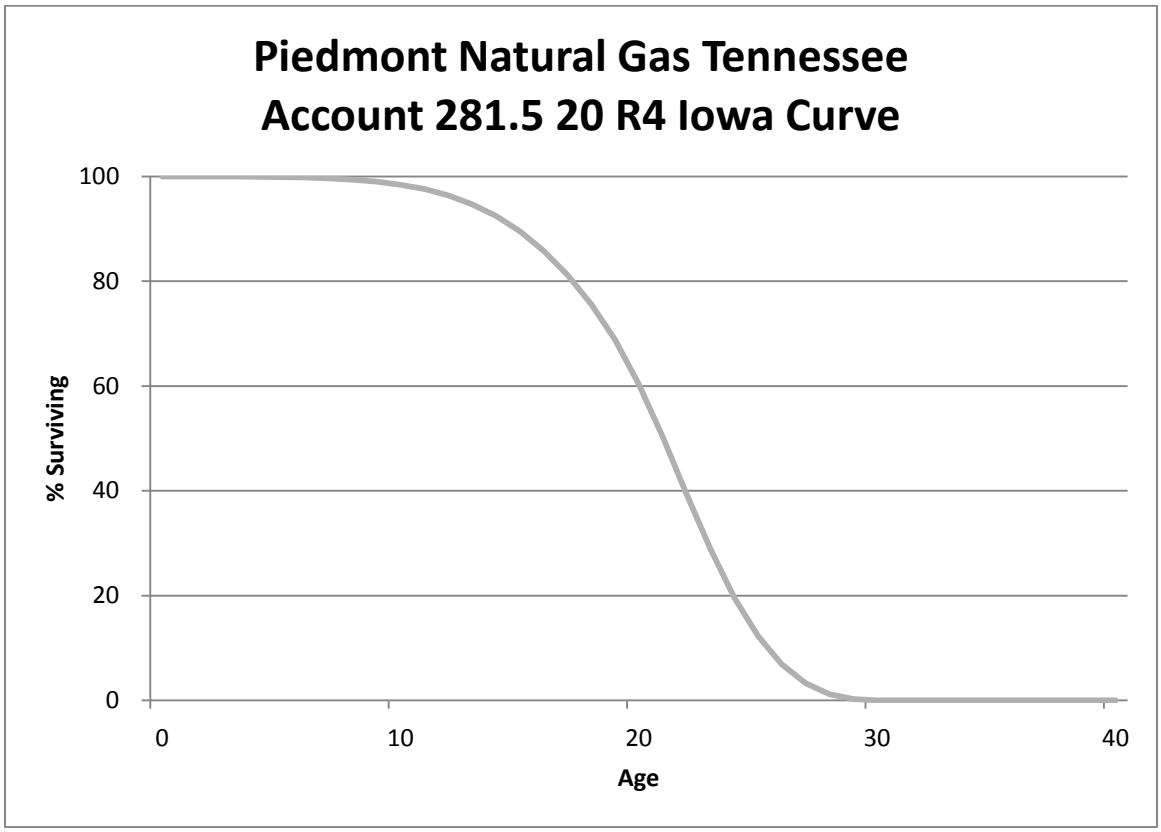


Account 281.50 Meter Accessories ERTS (20 R4)

This account includes the cost of ERTs and other meter related accessories. There is approximately $6.5 million of investment in this account. There is no approved life or dispersion curve for this account, as this was maintained at the Corporate level at the time of the last study.

Discussions with Company personnel indicated that when an ERT fails in the field, they will replace them there. During some periods, they have been replacing proactively prior to failure. Itron 100G is the standard but there are some 40G still in service. They do not replace batteries. ERTs have a lifespan of around 20 years based on battery life.

There is insufficient information on which to perform a meaningful life analysis. However, based on information from manufacturers, discussions with Company personnel, and knowledge of this type of equipment, this study recommends a 20 R4 dispersion curve for this account. The representative Iowa curve is provided.

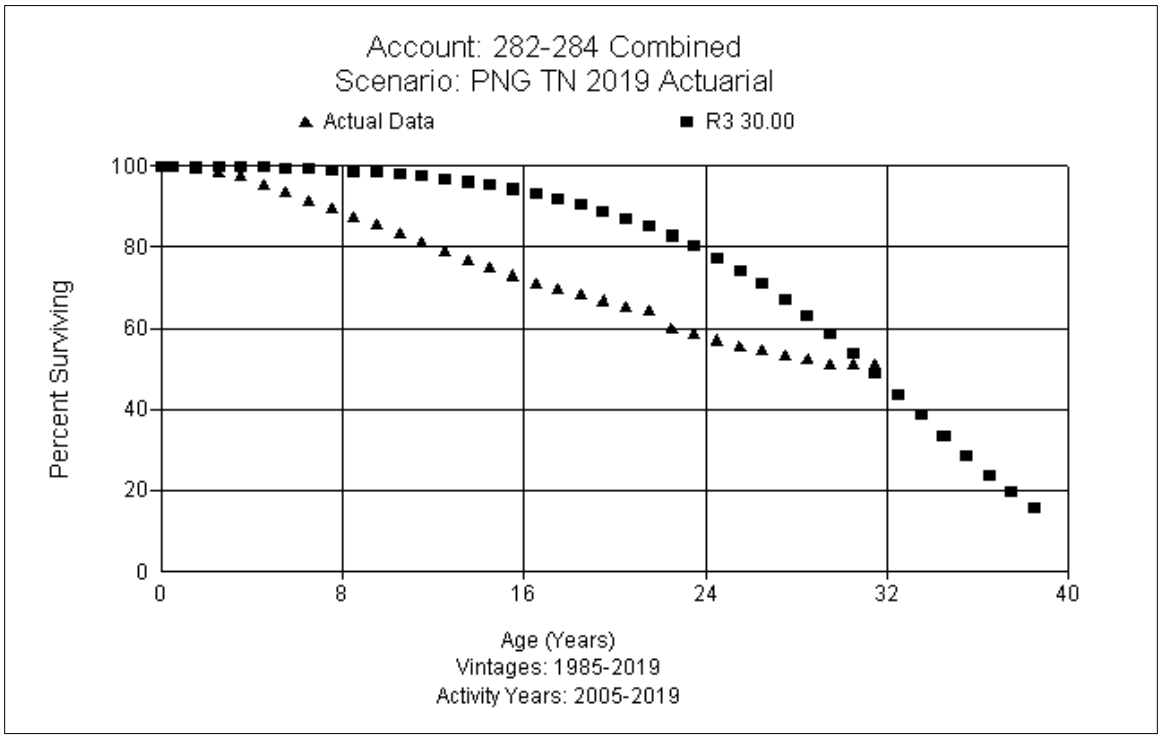


Account 282.00 Meter Installations (30 R3)

This account includes the cost related to the installation of meters. There is approximately $18.4 million of investment in this account. The approved life is 30 years with the R3 dispersion.

Discussions with Company personnel indicated that they more recently use pre-fabricated equipment on the inlet side. Based on their regulator failure rate, they would expect a longer life for the piping and regulator than for the meter. All parts other than the meter would probably be replaced at the same time. The Company implemented a process in 2010 that will retire a meter installation at the same time a meter (Account 281) is retired.

The combined actuarial analysis for more recent bands indicates a life at or shorter than the existing life with a flatter dispersion pattern. However, based on the processes, Company input, and the link to meters, this study recommends retention of the existing 30 R3. The proposed curve and observed life table for this account are shown below.

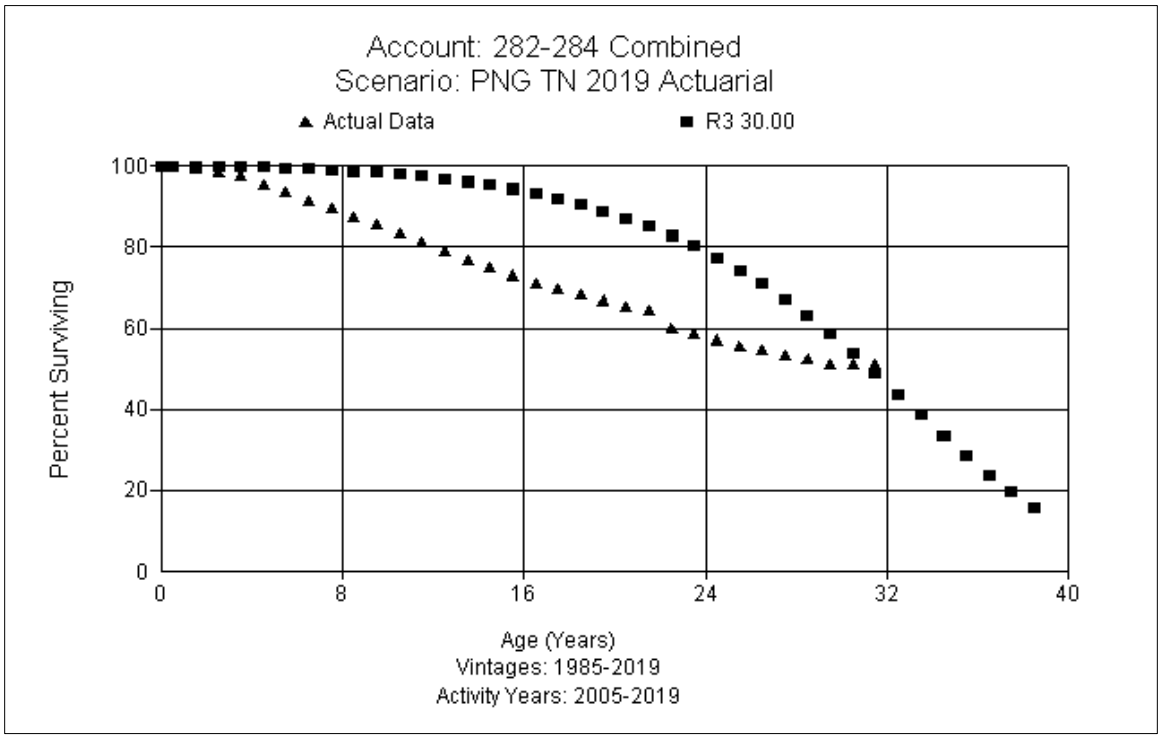


Account 283.00 House Regulators (30 R3)

This account includes the cost of house regulators. There is approximately $4.6 million of investment in this account. The approved life is 30 years with the R3 dispersion.

Discussions with Company personnel indicated that they more recently use pre-fabricated equipment on the inlet side. Based on their regulator failure rate, they would expect a longer life for the piping and regulator than for the meter. All parts other than the meter would probably be replaced at the same time. The Company implemented a process in 2010 that will retire a meter installation at the same time a meter (Account 281) is retired.

The combined actuarial analysis for more recent bands indicates a life at or shorter than the existing life with a flatter dispersion pattern. However, based on the processes, Company input, and the link to meters, this study recommends retention of the existing 30 R3 at this time. The proposed curve and observed life table for this account are shown below.

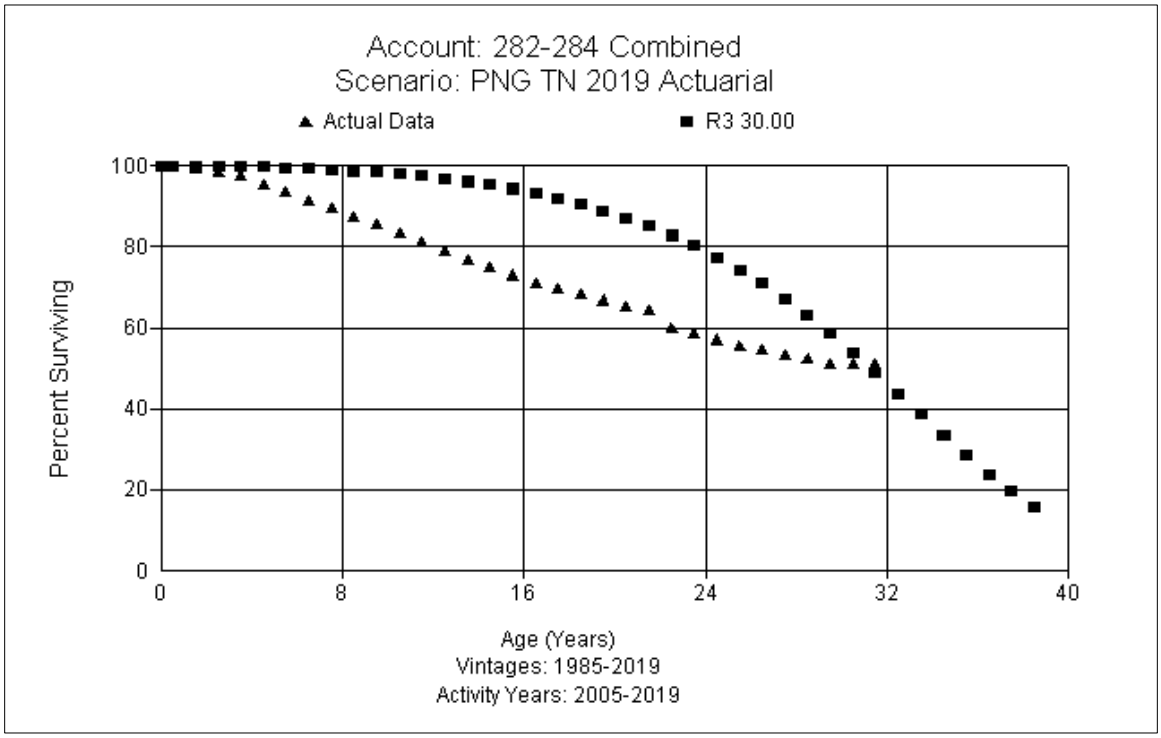


Account 284.00 House Regulator Installations (30 R3)

This account includes the cost of installing house regulating equipment. The current balance is $3.4 million. The approved life for this account is a 30 year life and R3 dispersion.

Discussions with Company personnel indicated they more recently use pre-fabricated equipment on the inlet side. Based on their regulator failure rate, they would expect a longer life for the piping and regulator than for the meter. All parts other than the meter would probably be replaced at the same time. The Company implemented a process in 2010 that will retire a meter installation at the same time a meter (Account 281) is retired.

The combined actuarial analysis for more recent bands indicates a life at or shorter than the existing life with a flatter dispersion pattern. However, based on the processes, Company input, and the link to meters, this study recommends retention of the existing 30 R3 at this time. The proposed curve and observed life table for this account are shown below.

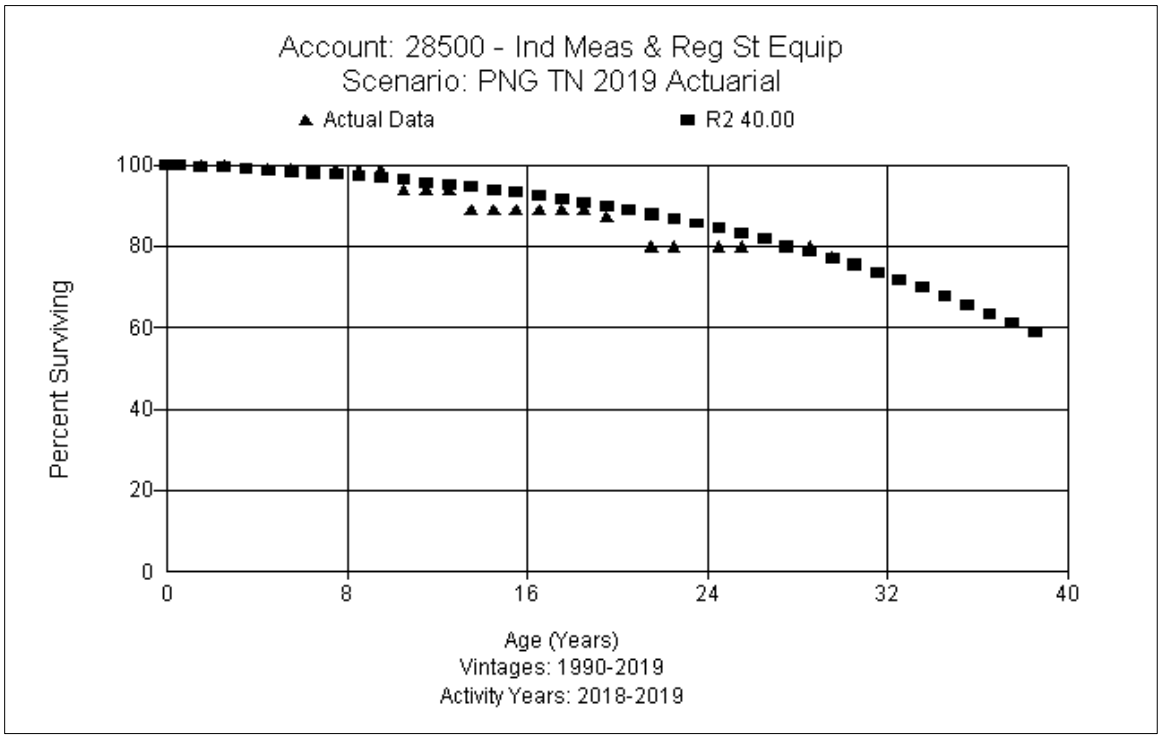


Account 285.00 Industrial M&R Station Equipment (40 R2)

This account includes electronic corrector, fences, filter/strainer, meter installation, meter sets, regulators, relief valves, electronic pressure recorders, valves, station fillings, and equipment. The current balance is $5.5 million. The approved life for this account is a 40 year life and R2 dispersion.

Discussions with Company personnel indicated that the M&R equipment at commercial/industrial locations is subject to the companies served. They would expect the life to be between the life for DRS and City Gates. It is similar equipment to that used in City Gates, but somewhat lighter weight. The inspection cycle is 2 years for Industrial equipment while DRS are inspected on an annual cycle.

The actuarial analysis fits do not drop below 80 percent surviving, but the indication is that the life is consistent with the existing. Based on the similarity of assets to DRS and City Gate, the analysis, and discussions with Company personnel, this study recommends retaining the 40 R2. The proposed curve and observed life table for this account are shown below.



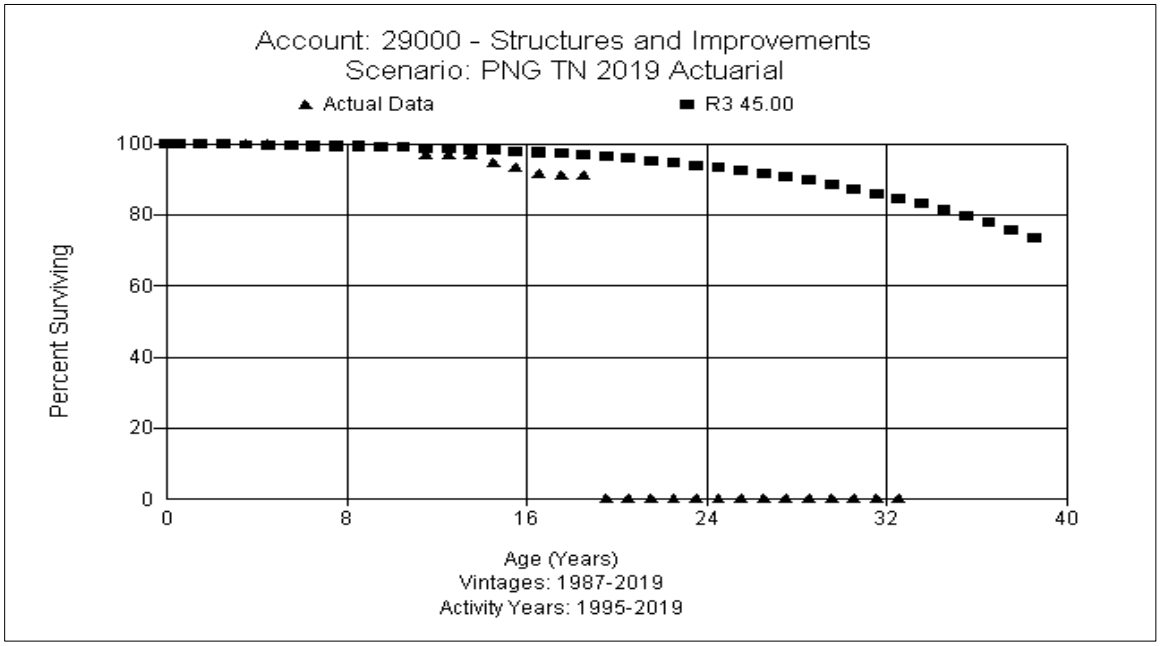
General Plant

Account 290.00 Structures & Improvements (45 R3)

This account includes buildings, elevator, crane, hoist system, structures & improvements, plumbing system, AC heating, roof, security system, roads, and parking areas. Currently, there is about $24.3 million in this account. The approved life for this account is a 45 R3.

Discussions with Company personnel indicated $20.7M was added to structures in 2010 for the Operations center, which consists of office space for personnel, a warehouse, a fabrication building, a fleet building, and a training building. The structure was designed to last at least 25 years before investing in the infrastructure. The shell may last more than 50 years but some of the outer structures would have a shorter life. Other components such as roofs, windows, HVAC, fences, and gates are all expected to have shorter lives than the building. The generator was replaced after 10 years due to EPA requirements. The parking lots over a specified square foot are replaced as capital on a 20-25 year cycle and they also capitalize seal coating used to extend the life of the parking lot.

The actuarial analysis was limited, but it indicated a lower life than existing and what is expected. Based on the type and mix of surviving assets and future expectations, this study proposes retaining the 45 year life and R3 dispersion pattern. The proposed and observed life table is shown below.



Account 290.02 CNG Equipment (25 R3)

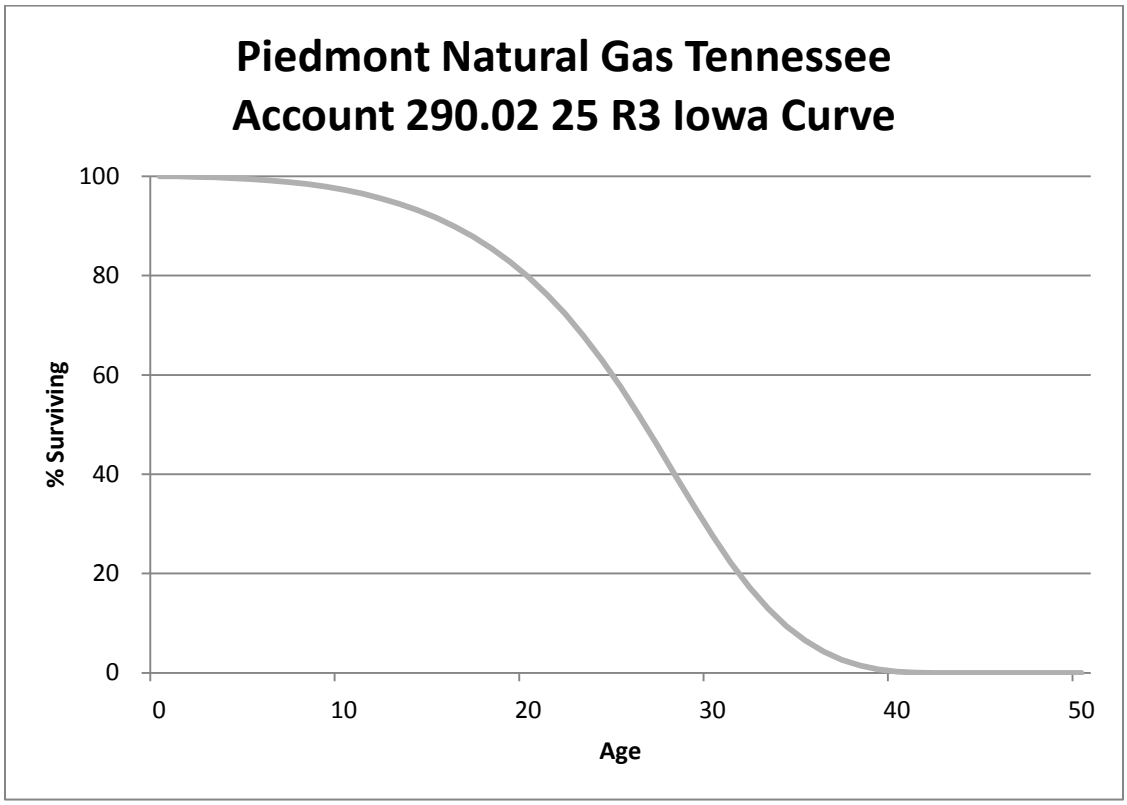
This account consists of station structures and improvements, storage cylinders, compressors, dryers, priority panels, and dispensers used at the Company's CNG refueling stations. Currently, there is about $5.1 million in this account, which includes only approved rate base assets.[2] There is no approved life or dispersion curve for this account.

Discussions with Company personnel indicated that there are two CNG stations - an older station at Century Blvd., which was installed between 2010 and 2012 at the Company's resource center, and a newer station on Spence Lane. The Century station is used exclusively by Company personnel for

2 TPUC Docket 14-00086 approved $4,738,298.91 of new investment, which was placed into service in 2012-2014. There was $327,662 related to a building that was placed into service June 2010

refueling Company-owned CNG vehicles. The Spence Lane station is open for use by the public. The fuel management system at Century has been replaced.

There has not been sufficient activity for life analysis, so reliance is based on the recent Piedmont Carolinas/Corporate asset study, which evaluated the projected lives for the individual components, and the input of Company personnel. An overall 25-year life was approved there and is reasonable for the Tennessee assets. This study proposes a 25 year life and the R3 dispersion pattern. A graph of the representative retirement pattern is provided.

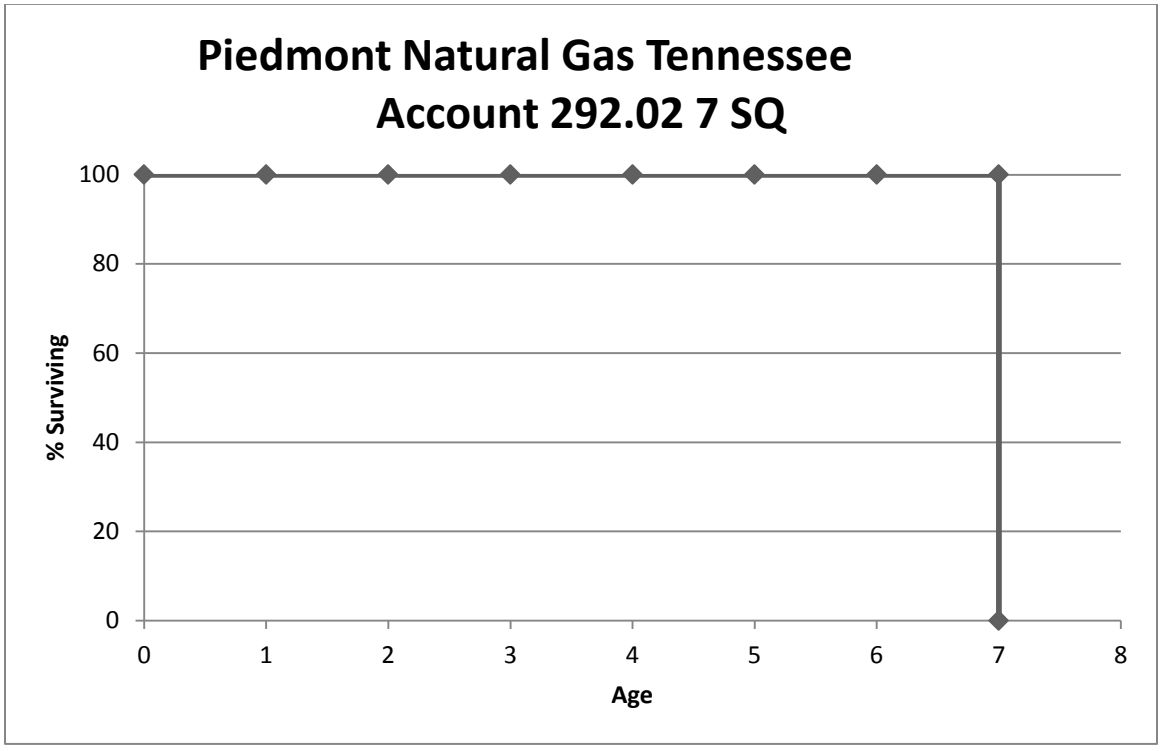


Account 292.02 Transportation Equipment – Urban Trucks (7 SQ)

This account consists of urban service trucks used in performing various general company operations. There is approximately $12.4 million in this account. The approved life for this account is 5 L2.

Discussions with Company personnel indicated that they target to retire vehicles at around 7 years. However, mileage is also checked, and vehicles should have 130 thousand miles before retirement. Gasoline vehicles would have around a 7 year life, with possible exception of a couple of meter reading vehicles that would have a shorter life. There are around 170-180 vehicles in Tennessee.

The Company has changed and segregated transportation accounts to better match with each jurisdiction and vehicles, so there is not enough information on this account to run an analysis. Based on the Company policy and practices, type of assets and use, this study recommends a 7 year life with a SQ dispersion curve. A graph of the representative retirement pattern is provided.

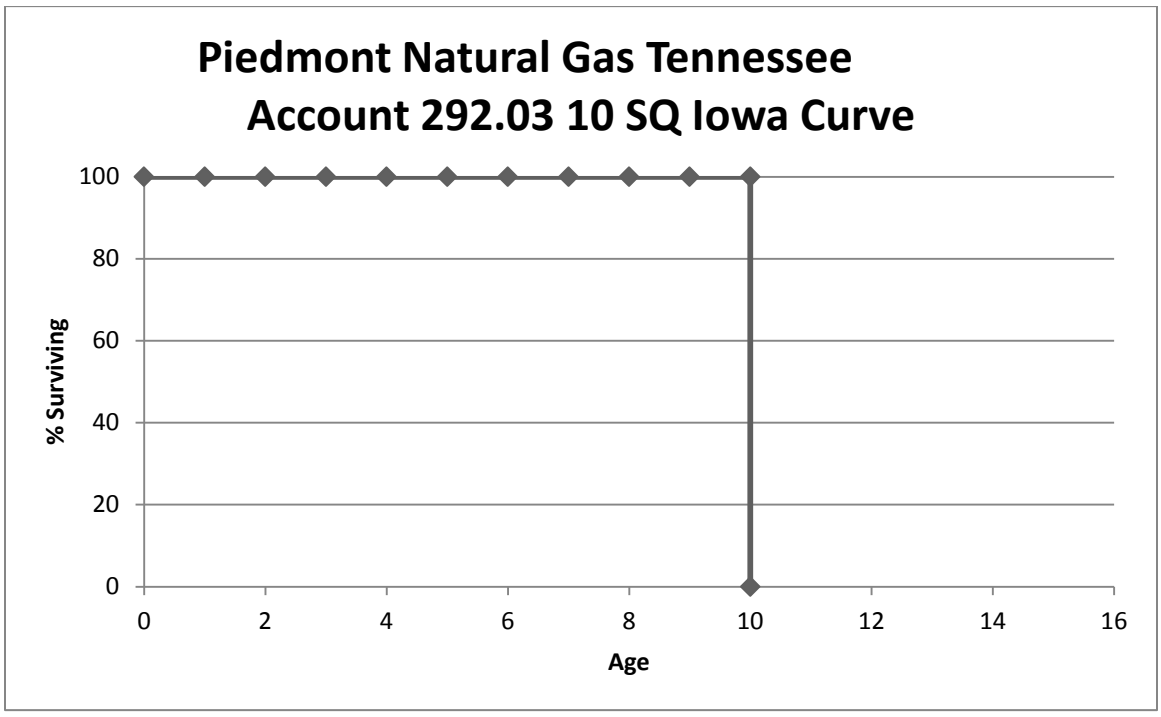


Account 292.03 Transportation Equipment – 10 Year Heavy Duty (10 SQ)

This account consists of heavy duty trucks used in performing various general company operations. There is approximately $1.1 million in this account. The approved life for this account is a 10 year life with a L2 dispersion curve.

Discussions with Company personnel indicated that they target to retire vehicles around 10 years. However, mileage is also checked. There are around 170-180 vehicles in Tennessee.

The Company has changed and segregated transportation accounts to better match with each jurisdiction and vehicles, so there is not enough information on this account to run an analysis. Based on the Company policy and practices, type of assets, and use, this study recommends a 10 year life with a SQ dispersion curve. A graph of the representative retirement pattern is provided.

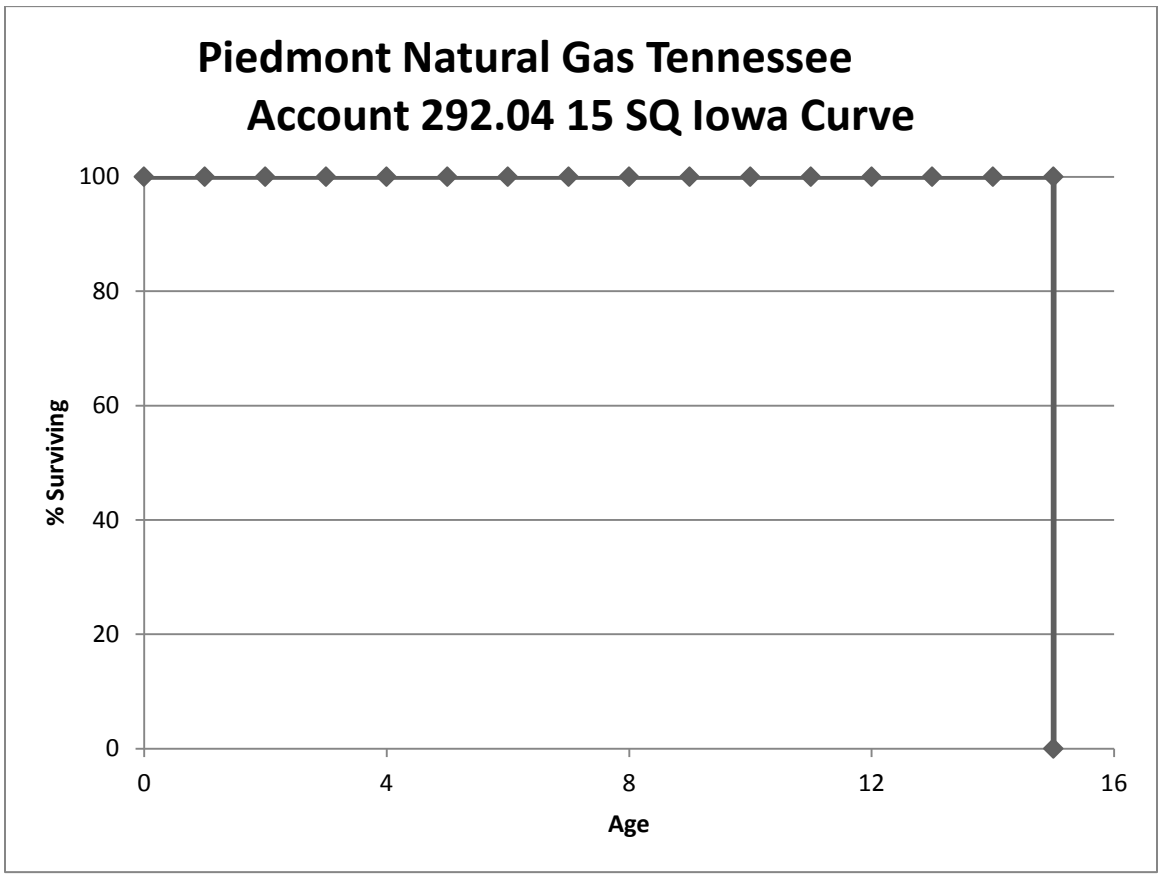


Account 292.04 Trailers & Others (15 SQ)

This account consists of trailers and other licensed assets used in performing various general company operations. There is approximately $117 thousand in this account. The approved life for this account is a 15 year life with an L2 dispersion curve.

Discussions with Company personnel indicated they target to retire trailers and other large vehicles recorded in this account around 15 years.

The Company has changed and segregated transportation accounts to better match with each jurisdiction and vehicles, so there is not enough information on this account to run an analysis. Based on the Company policy and practices, type of assets, and use, this study recommends a 15 year life with a SQ dispersion curve. A graph of the representative retirement pattern is provided.

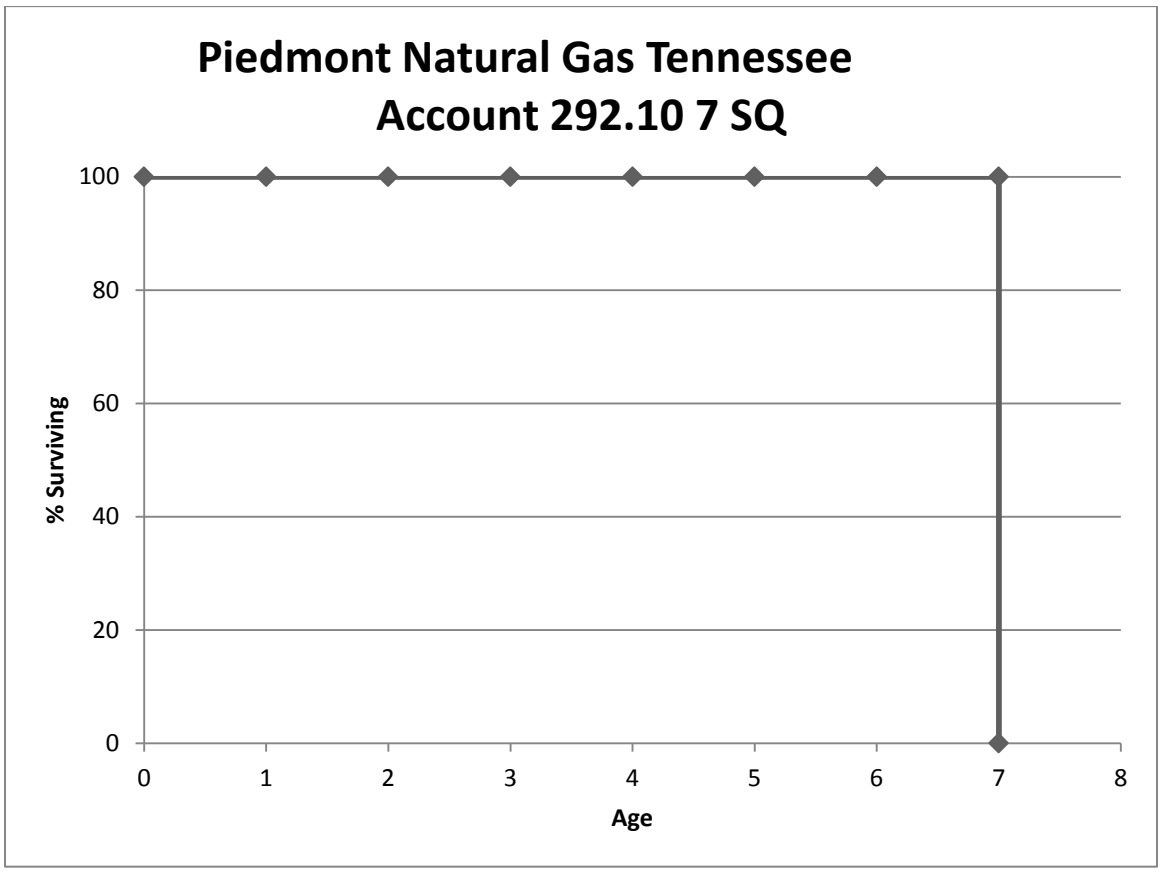


Account 292.10 Transportation – Passenger Cars & Station Wagons (7 SQ)

This account consists of automobiles, passenger vans, and light duty trucks. There is approximately $350 thousand in this account. The approved life for this account is 5 L2.

Discussions with Company personnel indicated they target to retire these passenger-type vehicles and other small trucks recorded in this account at around 7 years.

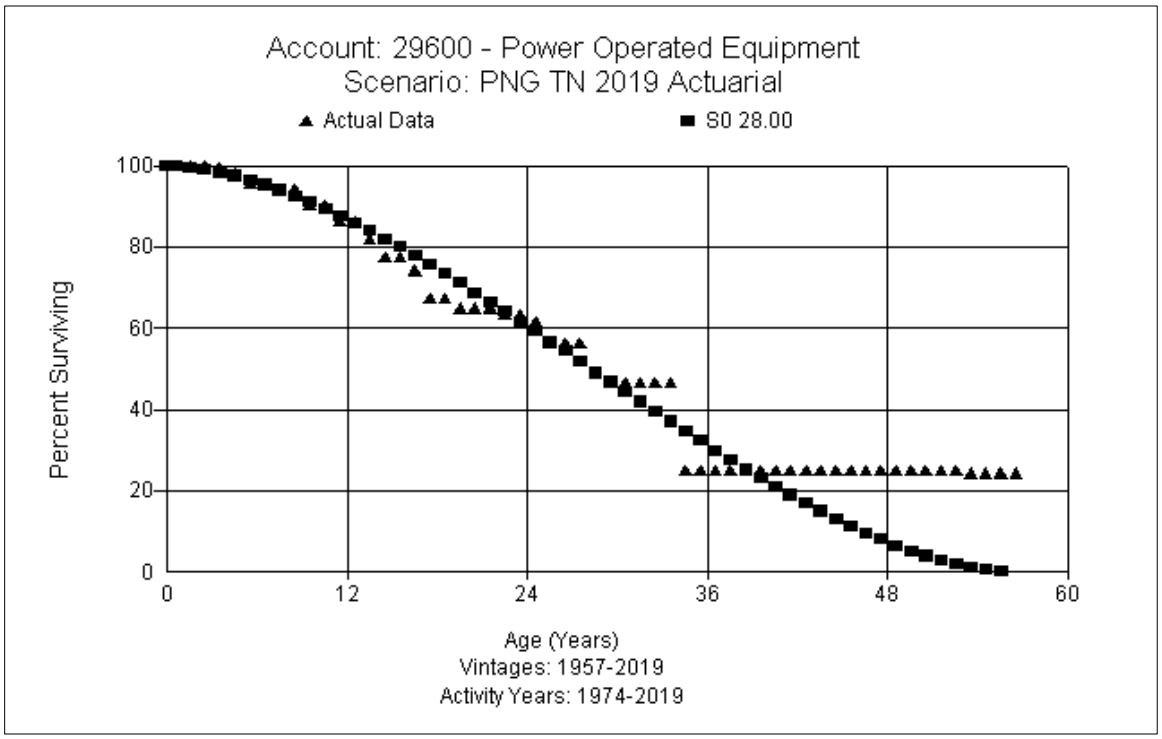
The Company has changed and segregated transportation accounts to better match with each jurisdiction and vehicles, so there is not enough information on this account to run an analysis. Based on the Company policy and practices, type of assets, and use, this study recommends a 7 year life with a SQ dispersion curve. A graph of the representative retirement pattern is provided.



Account 296.00 Power Operated Equipment (28 S0)

This account consists of backhoe, air compressor, ATV, back filling machines, boring machine, bush hog mower, crane, hoists, diggers, equipment, trailer, generator, power operated equipment, plow, tractor, trencher, and welder. There is approximately $1.5 million in this account. The approved curve for this account is the 25 R3.

The analysis indicated that the life is moving a little longer and to a flatter dispersion when compared to the existing curve. Based on the analysis indications and type of assets, this study recommends increasing the life to 28 years and changing to the S0 dispersion pattern. The proposed curve and observed life table for this account are shown below.



General Plant Amortized

The following accounts reflect balances that have been reduced due to the requirements of AR-15. In total $140,026.34 of assets will be retired from Account 291 Office Furniture and Equipment.

Account 291.00 Office Furniture & Equipment (20 SQ)

This account consists of tables, office equipment, floor covering, filing and storage cabinets, drafting equipment, cubical workstation, bookcases, and shelves. There is approximately $2.7 million after AR-15 retirements. The approved life for this account is a 25 SQ. Discussions with Company personnel indicated that office space is refreshed on a 20 year cycle. This study proposes moving from 25 years to 20 years, and retaining the SQ dispersion pattern. No graph is provided.

Account 293.00 Stores Equipment (30 SQ)

This account contains bins, storage, miscellaneous stores equipment, and storage cabinets used for general utility service. The approved curve for this account is the 30 SQ. There is no balance in this account. Based on type of assets and expectations, the study proposes retaining the 30 year life and the SQ dispersion pattern. No graph is provided.

Account 294.00 Tools, Shop & Garage Equipment (20 SQ)

This account consists of above ground lift, CNG compressor station, CNG stations, greasing tools, ladders, machine tools, miscellaneous equipment, motor driven tools, pipe threading, cutting tool, pneumatic tools, pumps, storage boxes, tire changer, vises, and welding apparatus. There is approximately $3.0 million in this account. The approved curve for this account is the 20 SQ. Based on the type, mix, and expectations of assets in this account, this study proposes retaining the life of 20 years with an SQ curve. No graph is provided.

Account 295.00 Laboratory Equipment (20 SQ)

This account consists of meter prover and miscellaneous laboratory equipment. There is approximately $106 thousand in this account. The approved curve for this account is the 20 SQ. Based on type of assets and judgment, this study recommends retention of the 20 SQ. No graph is provided.

Account 297.00 Communication Equipment (15 SQ)

This account consists of miscellaneous communication equipment, PBX, Remote Terminal Unit, and phone equipment. There is approximately $1.2 million in this account. The approved curve for this account is the 15 SQ. Based on the type of assets this study recommends retaining the 15 SQ. No graph is provided.

Account 298.00 Miscellaneous Equipment (20 SQ)

This account consists of miscellaneous equipment and refrigerator. There is approximately $800 thousand in this account. The approved curve for this account is the 20 SQ. Based on the type of assets the study recommends retaining the 20 SQ. No graph is provided.

SALVAGE ANALYSIS

When a capital asset is retired, physically removed from service and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset). Salvage and removal cost percentages are calculated by dividing the current cost of salvage or removal by the original installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the timing of the original addition versus the retirement. For example, a Distribution asset in FERC Account 376, Mains, with a current installed cost of $500 (2020) would have had an installed cost of $20.40[3] in 1952. A removal cost of $50 for the asset calculated (incorrectly) on current installed cost would only have a negative10 percent removal cost ($50/$500). However, a correct removal cost calculation would show a negative 245 percent removal cost for that asset ($50/$20.40). Inflation from the time of installation of the asset until the time of its removal must be taken into account in the calculation of the removal cost percentage because the depreciation rate, which includes the removal cost percentage, will be applied to the original installed cost of assets.

The net salvage analysis uses the history of the individual accounts to estimate the future net salvage that PNG can expect in its operations. As a result, the analysis not only looks at the historical experience of PNG, but also takes into account recent and expected changes in operations that could reasonably lead to future expectations different than those experienced in the past. In making net salvage recommendations, recent experience is more heavily weighted than older experience.

[3] Using the Handy-Whitman Bulletin No. 190, G-2, line 44, $20.40 = $500 x 35/858.

Salvage Characteristics

For each account, data for retirements, gross salvage, and cost of removal is derived from 1989-2009. Moving averages, which remove timing differences between retirement and salvage and removal cost, were analyzed over periods varying from one to 10 years.

Storage Plant

Account 261.0 Structures and Improvements (-5% NS)

This account includes any salvage and removal cost related to buildings used in connection with LNG storage operations. This account has an approved net salvage of 0%. The overall six year net salvage was a negative 13 percent. This study recommends moving toward the indications, and proposes a negative 5 percent net salvage at this time.

Account 262.00 Gas Holders (-5% NS)

This account consists of gas holders. This account has an approved net salvage of 0%. There has been no activity, but cost of removal is expected to exceed any salvage at end of life. This study recommends moving to a negative 5 percent net salvage at this time.

Account 263.0 Purification Equipment (-5% NS)

This account consists of salvage and removal cost associated with retirement of purification equipment used in the LNG storage operations. This account has an approved net salvage of 0%. The overall six year net salvage was a negative 128 percent net salvage. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Account 263.10 Liquefaction Equipment (-5% NS)

This account consists of any salvage and removal costs associated with liquefaction equipment used in the LNG storage operations. This account has an approved net salvage of 0%. The overall six year net salvage was a negative 103 percent net salvage. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Account 263.20 Vaporizing Equipment (-5% NS)

This account includes any salvage and removal cost related to vaporizing equipment used in connection with LNG storage operations. This account has an approved net salvage of 0%. The overall six year net salvage was a negative 128 percent net salvage. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Account 263.30 Compressor Station Equipment (-5% NS)

This account includes any salvage and removal cost related to compressor station equipment used in connection with LNG storage operations. This account has an approved net salvage of 0%. The overall six year net salvage was a negative 126 percent. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Account 263.40 Measuring & Regulating Equipment (-5% NS)

This account includes any salvage and removal cost related to measuring and regulating equipment used in connection with LNG storage operations. This

account has an approved net salvage of 0%. The overall six year net salvage was a negative 128 percent. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Account 263.50 Other Storage Equipment (-5% NS)

This account includes any salvage and removal cost related to other storage equipment used in connection with LNG storage operations. This account has an approved net salvage of 0 percent. The overall six year net salvage was a negative 112 percent. Cost of removal is expected to exceed any salvage at end of life. This study recommends moving toward the indications, but limiting the proposal to a negative 5 percent net salvage at this time.

Transmission Plant

Account 265.20 Land Rights (0% NS)

This account includes the cost of land rights used in connection with transmission operations and assets. This account has an approved net salvage of 0 percent. No salvage or cost of removal has been recorded and none is expected. This study recommends retaining the 0 percent net salvage.

Account 266.20 Structures & Improvements (0% NS)

This account includes any salvage and removal cost related to structures and improvements used in connection with transmission operations. This is a new account and no activity has been recorded. This study recommends a 0 percent net salvage.

Account 267.00 Transmission Mains (-5% NS)

This account includes any salvage and removal cost related to mains of all sizes, miscellaneous fittings, equipment, and piping. This account has an approved net salvage of negative 5 percent. Cost of removal is expected to exceed any salvage at end of life. Accordingly, this study recommends retaining the negative 5 percent net salvage at this time.

Account 269.00 System M & R Station Equipment (0% NS)

This account includes any salvage and removal cost related to measuring and regulating type equipment. This is a new account with no approved net salvage. Cost of removal is expected to exceed any salvage at end of life. Despite this expectation, this study recommends a 0 percent net salvage at this time.

Distribution Plant

Account 274.01 Rights of Way (0% NS)

This account includes any salvage and removal cost related to rights of way. This is a new account with no approved net salvage. No salvage or cost of removal is expected at time of retirement. This study recommends a 0 percent net salvage at this time.

Account 275.0 Structures and Improvements (-5% NS)

This account consists of any salvage and removal cost related to buildings used in distribution plant. The authorized net salvage is negative 5 percent. Some salvage may be realized at retirement, but this is unlikely. Cost of removal is expected to exceed any salvage. The most recent 10 year moving average indicates a negative 28 percent. This study recommends retention of the existing negative 5 percent net salvage factor for this account.

Account 276.00 Mains (-10% NS)

This account consists of any salvage and removal cost related to mains of all material types. The authorized net salvage is negative 5 percent. The most recent five and 10 year moving averages are a negative 53 percent and negative 48 percent, respectively. The analysis indicates that the last two years have an increase in activity, which is impacting the overall results. Timing differences are known to occur, so this study believes a moderated move is appropriate. The study recommendation for this account is to increase net salvage to a negative 10 percent.

Account 278.00 Measuring & Regulating Station Equipment (-10% NS)

This account includes any salvage and removal cost related to installed equipment used in regulating gas at entry points to the distribution system. The approved net salvage is 0 percent. The most recent experience indications suggest that the five and 10 year moving averages are a negative 48 percent. This study recommends moving toward the indications but limiting the change to a negative 10 percent net salvage at this time.

Account 279.00 City Gate Equipment (-10% NS)

This account includes any salvage and removal cost related to installed equipment used in regulating gas at city gate entry points to the distribution system. The approved net salvage is 0 percent. Similar to Account 278, cost of removal is increasing. The most recent five and 10 year moving averages are negative 121 percent. This study recommends moving toward the indications but limiting the change to a negative 10 percent net salvage at this time.

Account 280.00 Services (-100% NS)

This account includes any salvage and removal cost related to service lines on the distribution system. Service lines are the pipes and accessories leading from the main to the customer's premises. The authorized net salvage

rate for this account is negative 125 percent. The most recent analysis indicates a decline in cost of removal, but no cost of removal has been recorded for the last two years, which is an indicator of timing differences. Considering the potential of timing differences for the last two years, this study relies on the 10 year moving average in 2017, which is a negative 100 percent. This study recommends moving from negative 125 to a negative 100 percent net salvage for this account.

Account 281.00 Meters (0% NS)

This account includes any salvage and removal cost related to meters used in measuring gas to residential customers. The authorized net salvage rate is 0 percent. The Company expectations are that no salvage or cost of removal will be recorded in the future, so this study proposes to retain the 0 percent net salvage for this account.

Account 281.02 Meters- AMI (0% NS)

This account includes any salvage and removal cost related to the new account for the AMI meters pilot. There is no approved salvage for this account. This study recommends a 0 percent net salvage at this time.

Account 281.05 Meters- Meter Access & ERTs (0% NS)

This account includes any salvage and removal cost related to meter accessories used in measuring gas to customers. There is no approved salvage for this account. This study recommends a 0 percent net salvage at this time.

Account 282.00 Meter Installations (0% NS)

This account includes any salvage and removal cost related to meter installations used in measuring gas to customers. The authorized net salvage rate is 0 percent. No net salvage has been recorded in the past and there is no expectation that it will be recorded in the future. The 0 percent net salvage is retained in this study.

Account 283.00 House Regulators (0% NS)

This account includes any salvage and removal cost related to house regulators. The authorized net salvage rate is 0 percent. No net salvage has been recorded in the past and there is no expectation that it will be recorded in the future. The 0 percent net salvage is retained in this study.

Account 284.00 House Regulator Installations (0% NS)

This account includes any salvage and removal cost related to house regulator installations. The authorized net salvage rate is 0 percent. No net salvage has been recorded in the past and there is no expectation that it will be recorded in the future. The 0 percent net salvage is retained in this study.

Account 285.00 Industrial Meter & Regulator Equipment (-5% NS)

This account includes the salvage and removal costs related to measuring and regulating equipment used in industrial stations. The authorized net salvage rate is 0 percent. Very little net salvage had been recorded until the last two years. The most recent 10 year moving average is a negative 38 percent. Cost of removal is expected to exceed salvage at retirement, so this study recommends moving to a negative 5 net salvage.

General Plant Depreciated

Account 290.00 Structures and Improvements (-5% NS)

This account includes any salvage and removal cost related to structures and improvements used for general utility operations. The authorized net salvage rate for this account is negative 5 percent. Historically, salvage was recorded but it was related to the sale of a building, which is not expected to reoccur. Going forward very little, if any, salvage is expected and cost of removal is expected to exceed any salvage realized. This study recommends retaining the negative 5 percent net salvage rate for the account at this time.

Account 290.02 CNG Equipment (-2% NS)

This account consists of salvage and removal costs associated with CNG equipment. There is no approved net salvage for this account. Very little salvage is expected and cost of removal is expected to exceed. At end of life, costs for removal of the dryers and compressors will require additional costs to remove. This study recommends a negative 2 percent net salvage rate for this account

Account 292.10 Transportation – Cars & Station Wagons (20% NS)

This account consists of salvage and removal costs associated with autos and light trucks. The authorized net salvage rate for this account is positive 10 percent. Based upon discussions with Company personnel regarding recent experience the salvage values are higher than those seen in the past. This study recommends moving to a positive 20 percent net salvage rate for this account

Account 292.02 Transportation Equipment – Urban Trucks (25% NS)

This account consists of salvage and removal costs associated with urban duty trucks. The authorized net salvage rate for this account is positive 10 percent. Based upon discussions with Company personnel regarding recent experience, this study recommends a positive 25 percent net salvage.

Account 292.03 Transportation Equipment – 10 Year Heavy Duty (25% NS)

This account consists of salvage and removal costs associated with heavy duty trucks. The authorized net salvage rate for this account is positive 10 percent. Based on information provided by Company personnel, higher salvage has been experienced and is expected to continue in the future. This study recommends moving to a positive 25 percent net salvage rate for this account

Account 292.04 Trailers & Other (5% NS)

This account consists of salvage and removal costs associated with trailers and other licensed vehicles. There was no approved net salvage rate for this account. This study recommends a positive 5 percent net salvage rate for this account

Account 296.00 Power Operated Equipment (10% NS)

This account includes any salvage and removal cost related to backhoes, forklifts, trenchers, and other power operated equipment that cannot be licensed on roadways. The authorized net salvage rate for this account is positive 10 percent. The most recent five and 10 year moving averages are 0 and 5 percent positive net salvage, respectively. However, discussions with Company personnel indicated that 5 percent salvage is a somewhat low for the type of assets. This study recommends retaining the positive 10 percent net salvage at this time.

General Plant Amortized

Account 291.00 Office Furniture and Equipment (0% NS)

This account includes office furniture and equipment used for general utility operations. The authorized net salvage rate for this account is 0 percent, and recent experience suggests that no salvage will be realized in the future. This study recommends retaining the 0 percent net salvage rate.

Account 293.00 Stores Equipment (0% NS)

This account includes bins, shelving, and other miscellaneous equipment used for general utility operations. This account currently has no balance. The approved net salvage rate for this account is 0 percent and is retained.

Account 294.00 Tools, Shop & Garage Equipment (0% NS)

This account consists of salvage and removal costs associated with air compressors, grinders, mixers, hoists, and cranes. Past experience of realizing salvage has been sporadic and has now declined to nothing. The authorized net salvage rate for this account is 0 percent and is retained.

Account 295.00 Laboratory Equipment (0% NS)

This account consists of laboratory equipment. No net salvage has been recorded and none is expected, so this study recommends retention of 0 percent net salvage.

Account 297.00 Communication Equipment (0% NS)

This account consists of miscellaneous communication equipment used in general utility service. The authorized net salvage rate for this account is 0 percent and is retained.

Account 298.00 Miscellaneous Equipment (0% NS)

This account consists of miscellaneous equipment used in general utility service. The authorized net salvage rate for this account is 0 percent and is retained.

APPENDIX A

Depreciation Expense Comparison

PIEDMONT NATURAL GAS
TENNESSEE
COMPARISON OF EXISTING AND RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account Number	Description	Plant Balance 12/31/2019	EXISTING Rates %		EXISTING Annual Accrual	RECOMMENDED Rates %		RECOMMENDED Annual Accrual	Increase/ Decrease
	INTANGIBLE PLANT								
20100	Organization	30,035	0.00%		0	0.00%		0	0
20200	Franchises and Consents	109,186	10.00%		*1*	10.00%		*1*	*1*
	Total Intangible Plant	139,222			0			0	0
	STORAGE PLANT 2			*2*					
26000	Land and Land Rights	630,064	0.00%		0	0.00%		0	0
26100	Structures & Improvements	11,574,083	1.90%		219,908	3.68%		426,014	206,106
26200	Gas Holders	3,031,845	2.22%		67,307	0.19%		5,626	(61,681)
26300	Purification Equipment	6,616,076	2.86%		189,220	3.89%		257,693	68,474
26310	Liquefaction Equipment	7,422,153	2.86%		212,274	3.64%		270,397	58,124
26320	Vaporizing Equipment	20,992,590	2.86%		600,388	3.95%		828,750	228,362
26330	Compressor Equipment	9,651,405	3.33%		321,392	3.08%		297,214	(24,178)
26340	M&R Equipment	28,381	2.86%		812	6.61%		1,877	1,065
26350	Other Equipment	3,892,708	3.33%		129,627	4.00%		155,853	26,226
	Total Storage Plant (excludes land)	63,209,241	2.75%		1,740,927	3.55%		2,243,424	502,497
	TRANSMISSION PLANT								
26510	Land and Land Rights	1,788,418	0.00%		0	0.00%		0	0
26520	Land Rights	17,893,730	1.25%		223,672	1.25%		223,221	(450)
26620	Structures & Improvements M&R	0	2.14%	*3*	0	2.00%	*3*	0	0
26700	Mains	246,158,801	1.45%		3,569,303	1.39%		3,421,188	(148,115)
26900	M&R Equipment	38,585,645	2.14%	*4*	825,733	2.00%		772,179	(53,554)
27200	ARO Transmission Plant	1,968	0.00%		0	0.00%		0	0
	Total Transmission Plant (excludes land & ARO)	302,638,176	1.53%		4,618,707	1.46%		4,416,588	(202,119)

PIEDMONT NATURAL GAS
TENNESSEE
COMPARISON OF EXISTING AND RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account Number	Account Description	Plant Balance 12/31/2019	EXISTING Rates %		EXISTING Annual Accrual	RECOMMENDED Rates %		RECOMMENDED Annual Accrual	Increase/ Decrease
DISTRIBUTION PLANT									
27400	Land and Land Rights	4,564,046	0.00%		0	0.00%		0	0
27401	Rights of Way	6,291,512	1.25%	*5*	78,644	1.38%		87,131	8,488
27500	Structures & Improvements	219,208	5.00%	*6*	10,960	3.05%		6,687	(4,273)
27600	Mains	501,509,883	1.49%		7,472,497	1.58%		7,918,328	445,830
27800	M&R Equipment	16,544,829	3.08%		509,581	2.89%		478,959	(30,622)
27900	City Gate Equipment	5,522,943	2.08%		114,877	2.49%		137,279	22,402
28000	Services	301,406,221	4.08%		12,297,374	2.63%		7,938,380	(4,358,993)
28100	Meters	21,363,492	2.71%		578,951	3.28%		701,462	122,511
28102	Meters - AMI	0	0.00%		0	5.00%	*7*	0	0
28105	ERT's and Accessories	6,540,559	8.34%		545,483	3.55%		232,076	(313,406)
28200	Meter Installations	18,436,236	2.83%		521,745	3.10%		572,110	50,365
28300	House Regulators	4,574,792	2.68%		122,604	2.55%		116,641	(5,963)
28400	House Regulator Installations	3,404,579	2.75%		93,626	2.24%		76,203	(17,422)
28500	Industrial M&R Equipment	5,527,199	2.36%		130,442	2.70%		149,366	18,924
	Total Distribution Plant (excludes land)	891,341,451	2.52%		22,476,784	2.07%		18,414,624	(4,062,161)
GENERAL PLANT DEPRECIATED									
28900	Land and Land Rights	4,568,585	0.00%		0	0.00%		0	0
29000	Structures & Improvements	24,291,940	2.17%		527,135	1.93%		468,387	(58,748)
29002	Compressed Natural Gas	5,065,961	0.03%	*8*	1,520	4.95%		250,714	249,194
29202	Transportation Urban Trucks	12,356,274	4.55%	*9*	562,210	7.61%		940,678	378,468
29203	Transportation - Heavy Duty	1,082,378	6.11%		66,133	4.54%		49,171	(16,962)
29204	Trailers & Other	117,750	20.00%	*10*	23,550	3.62%		4,260	(19,290)

PIEDMONT NATURAL GAS
TENNESSEE
COMPARISON OF EXISTING AND RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account Number	Description	Plant Balance 12/31/2019	EXISTING Rates %		EXISTING Annual Accrual	RECOMMENDED Rates %		RECOMMENDED Annual Accrual	Increase/ Decrease
29210	Passenger Cars, Vans	176,893	4.55%		8,049	11.43%	*11*	20,216	12,168
29600	Power Operated Equipment	1,476,727	3.60%	*12*	53,162	2.35%		34,641	(18,521)
	Total General Plant Depreciated (excludes land)	44,567,922	2.79%		1,241,759	3.97%		1,768,068	526,308
	Total Depreciated Plant	1,301,756,790	2.31%		30,078,177	2.06%		26,842,702	(3,235,475)
GENERAL PLANT AMORTIZED *13*				*13*					
29100	Office Furniture & Equipment	2,668,060	5.04%		134,470	5.00%		133,403	(1,067)
29400	Tools, Shop & Garage Equipment	3,062,414	0.03%		919	5.00%		153,121	152,202
29500	Laboratory Equipment	105,879	1.18%		1,249	5.00%		5,294	4,045
29700	Communication Equipment	1,189,364	0.32%		3,806	6.67%		79,291	75,485
29800	Miscellaneous Equipment	799,453	10.24%		81,864	5.00%		39,973	(41,891)
	Total General Plant Amortized	7,825,170	2.84%		222,308	5.25%		411,081	188,773
	General Plant Reserve Amortization - 5 years							155,695	155,695
	Total General Depreciated & Amortized Plant	52,393,092	2.79%		1,464,068	4.46%		2,334,844	870,776
	Total Study (excludes land & Intangibles)	$ 1,309,581,960	2.31%		$ 30,300,486	2.09%		$ 27,409,478	$ (2,891,007)
	Total Plant with Land & Intangibles	$ 1,321,274,262							

1 = Franchises and Consents is fully accrued, so no calculation of expense is shown. The study did not analyze, so the existing rate is shown as "Recommended" as well.

2 = Storage Plant Accounts were fully accrued and a 0% rate was shown in the prior study, except for 26350. However, a separate rate was also provided for future additions, and is shown here.

3 = Account 26620 was not in the prior study. Company used the North Carolina rate for Account 26900, which is shown for existing. The study proposes a whole life rate of 2.00% (1/50) for possible future additions.

4 = Account 26900 was not in the prior study. Company used the North Carolina rate for Account 26900, which is shown as existing.

5 = Account 27401 was not in the prior study. Company used the rate for Account 26520, which is shown as existing.

6 = Account 275 was nearly fully accrued in the prior study. A separate rate of 5.00% was provided for future additions, which is shown here as existing.

PIEDMONT NATURAL GAS
TENNESSEE
COMPARISON OF EXISTING AND RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2019

Account		Plant Balance	EXISTING		RECOMMENDED		Increase/
Number	Description	12/31/2019	Rates %	Annual Accrual	Rates %	Annual Accrual	Decrease

7 = Account 28102 is a new account for AMI Meters. A rate of 5.00% (1/20)was provided for future additions, and is shown here.
8 = Majority of CNG assets were recorded in 294, which is the existing rate shown.
9 = Rate from prior study was for Account 29211 Medium Trucks
10 = Prior study did not include this category. However, a rate of 20% based on 5 years and no net salvage was used in fixed asset system and is shown here.
11 = Account is fully accrued. The study proposed rate for future additions is a whole life rate of 11.43% (1-20%/7=11.43%).
12 = Prior study had a 0.20% rate for nearly fully accrued and a rate of 3.60% for future additions, which is shown here.
13 = Prior study used remaining life rates. Vintage Group Amortization rates are 1-NS/Life and are reflected as study proposed. A separate amortization for any reserve difference, which is $155,694.79 annually, is proposed over a 5 year period.

Study Adjustments/Reconciling Items:

CNG Reclassed 294 to Non Utility	747,272
Transportation Retired	217,227
Top Side 26520	831,607
Retirements for GP Amortization	140,026
Total Study Adjustments	1,936,133
Total Plant in Service	1,323,210,395
Per Books at 12-31-2019	1,323,210,395
Unreconciled Difference	0

APPENDIX B

Depreciation Rate Calculations

PIEDMONT NATURAL GAS
TENNESSEE
COMPUTATION OF DEPRECIATION ACCRUAL RATE
AT DECEMBER 31, 2019

Account	Description	Original Cost at 12/31/19	Book Reserve at 12/31/19	Net Salvage %	Net Salvage Amount	Unrecovered Investment	Remaining Life	Annual Accrual Amount	Annual Accrual %
STORAGE PLANT									
26100	Structures & Improvements	$ 11,574,082.93	$ 63,635.13	-5%	$ (578,704.15)	$ 12,089,151.95	28.38	$ 426,013.52	3.68%
26200	Gas Holders	3,031,844.90	2,955,743.13	-5%	(151,592.25)	227,694.02	40.47	5,625.78	0.19%
26300	Purification Equipment	6,616,076.09	1,283,264.69	-5%	(330,803.80)	5,663,615.20	21.98	257,693.40	3.89%
26310	Liquefaction Equipment	7,422,152.77	2,297,720.41	-5%	(371,107.64)	5,495,540.00	20.32	270,397.11	3.64%
26320	Vaporizing Equipment	20,992,590.47	3,116,586.80	-5%	(1,049,629.52)	18,925,633.19	22.84	828,749.98	3.95%
26330	Compressor Equipment	9,651,405.24	1,925,745.75	-5%	(482,570.26)	8,208,229.75	27.62	297,213.65	3.08%
26340	M&R Equipment	28,380.60	-21,563.13	-5%	(1,419.03)	51,362.76	27.37	1,876.83	6.61%
26350	Other Equipment	3,892,707.57	652,553.12	-5%	(194,635.38)	3,434,789.83	22.04	155,853.31	4.00%
	Total Storage Plant	63,209,240.57	12,273,685.90		(3,160,462.03)	54,096,016.70		2,243,423.58	3.55%
TRANSMISSION PLANT									
26520	Land Rights	17,893,729.68	1,169,796.84	0%	0.00	16,723,932.84	74.92	223,221.19	1.25%
26700	Mains	246,158,801.43	19,748,156.40	-5%	(12,307,940.07)	238,718,585.10	69.78	3,421,187.62	1.39%
26900	M&R Equipment	38,585,645.20	2,150,968.06	0%	0.00	36,434,677.14	47.18	772,178.83	2.00%
	Total Transmission Plant	302,638,176.31	23,068,921.30		(12,307,940.07)	291,877,195.08		4,416,587.65	1.46%
DISTRIBUTION PLANT									
27401	Rights of Way	6,291,511.58	145,274.56	0%	0.00	6,146,237.02	70.54	87,131.42	1.38%
27500	Structures & Improvements	219,208.21	179,266.11	-5%	(10,960.41)	50,902.51	7.61	6,686.96	3.05%
27600	Mains	501,509,882.70	122,170,784.06	-10%	(50,150,988.27)	429,490,086.91	54.24	7,918,327.55	1.58%
27800	M&R Equipment	16,544,828.79	4,848,772.73	-10%	(1,654,482.88)	13,350,538.94	27.87	478,958.58	2.89%
27900	City Gate Equipment	5,522,943.19	2,589,527.39	-10%	(552,294.32)	3,485,710.12	25.39	137,279.42	2.49%
28000	Services	301,406,220.93	235,518,689.78	-100%	(301,406,220.93)	367,293,752.08	46.27	7,938,380.33	2.63%
28100	Meters	21,363,491.51	9,221,586.76	0%	0.00	12,141,904.75	17.31	701,462.06	3.28%
28105	ERT's and Accessories	6,540,558.83	4,497,438.95	0%	0.00	2,043,119.88	8.80	232,076.26	3.55%
28200	Meter Installations	18,436,235.94	7,637,381.01	0%	0.00	10,798,854.93	18.88	572,110.41	3.10%
28300	House Regulators	4,574,792.02	3,085,202.81	0%	0.00	1,489,589.21	12.77	116,641.37	2.55%
28400	House Regulator Installations	3,404,578.97	2,588,710.92	0%	0.00	815,868.05	10.71	76,203.47	2.24%
28500	Industrial M&R Equipment	5,527,198.54	719,825.89	-5%	(276,359.93)	5,083,732.58	34.04	149,365.80	2.70%
	Total Distribution Plant	891,341,451.21	393,202,460.97		(354,051,306.74)	852,190,296.98		18,414,623.63	2.07%
GENERAL PLANT DEPRECIATED									
29000	Structures & Improvements	24,291,939.56	8,241,243.32	-5%	(1,214,596.98)	17,265,293.22	36.86	468,387.32	1.93%
29002	CNG Equipment	5,065,960.88	379,067.06	-2%	(101,319.22)	4,788,213.04	19.10	250,713.51	4.95%
29202	Transportation Urban Trucks	12,356,273.80	6,547,562.29	25%	3,089,068.45	2,719,643.06	2.89	940,677.99	7.61%
29203	Transportation - Heavy Duty	1,082,377.58	440,604.79	25%	270,594.40	371,178.40	7.55	49,171.30	4.54%
29204	Trailers & Other	117,749.88	72,631.06	5%	5,887.49	39,231.33	9.21	4,259.70	3.62%

PIEDMONT NATURAL GAS
TENNESSEE
COMPUTATION OF DEPRECIATION ACCRUAL RATE
AT DECEMBER 31, 2019

Account	Description	Original Cost at 12/31/19	Book Reserve at 12/31/19	Net Salvage %	Net Salvage Amount	Unrecovered Investment	Remaining Life	Annual Accrual Amount	Annual Accrual %
29210	Passenger Cars	176,892.81	141,514.26	20%	35,378.56	(0.01)	0.50	(0.02)	0.00% *
29600	Power Operated Equipment	1,476,727.46	613,047.62	10%	147,672.75	716,007.09	20.67	34,641.47	2.35%
	Total General Depreciated Plant	44,567,921.97	16,435,670.40		2,232,685.45	25,899,566.12		1,747,851.26	3.92%
	Total Depreciated Plant	1,301,756,790.06	444,980,738.57						

***Note**: Account is fully accrued. Proposed rate for future additions is the whole life rate (1-20% / 7 = 11.43%).

COMPUTATION OF AMORTIZATION AMOUNT
FOR AMORTIZED GENERAL PROPERTY

Amortize AR 15

Account	Description	Plant Balance at 12/31/19	Book Reserve at 12/31/19	Theoretical Reserve at 12/31/19	Reserve (Surplus)/ Deficiency	Reserve Difference Amortization Period	Amortize 1 Reserve (Surplus)/ Deficiency	Assets > ASL to be Retired
29100	Office Furniture & Equipment	$ 2,808,085.88	$ 1,513,065.43	$ 1,251,706.10	$ 261,359.33	5	$ (52,271.87)	$ 140,026.34
29400	Tools, Shop & Garage Equipment	3,062,413.64	213,366.95	1,121,671.51	(908,304.56)	5	181,660.91	-
29500	Laboratory Equipment	105,879.31	80,044.65	70,452.28	9,592.37	5	(1,918.47)	-
29700	Communication Equipment	1,189,363.96	379,305.96	584,124.69	(204,818.73)	5	40,963.75	-
29800	Miscellaneous Equipment	799,453.48	170,664.31	106,966.68	63,697.63	5	(12,739.53)	-
	Total General Amortized	7,965,196.27	2,356,447.30	3,134,921.27	(778,473.97)		155,694.79	140,026.34

After Retirements of Assets With Age > Average Service Life

Account	Description	Plant Balance at 12/31/19	Book Reserve at 12/31/19	Amortization Life	Annual Amortization Amount	Accrual for 1 Reserve (Surplus)/ Deficiency	Total Amortization	Annual Amortization 2 Rate %
29100	Office Furniture & Equipment	2,668,059.54	1,373,039.09	20	133,402.98	(52,271.87)	81,131.11	5.00%
29400	Tools, Shop & Garage Equipment	3,062,413.64	213,366.95	20	153,120.68	181,660.91	334,781.59	5.00%
29500	Laboratory Equipment	105,879.31	80,044.65	20	5,293.97	(1,918.47)	3,375.49	5.00%
29700	Communication Equipment	1,189,363.96	379,305.96	15	79,290.93	40,963.75	120,254.68	6.67%
29800	Miscellaneous Equipment	799,453.48	170,664.31	20	39,972.67	(12,739.53)	27,233.15	5.00%
	Total General Amortized	7,825,169.93	2,216,420.96		411,081.23	**155,694.79**	566,776.02	5.25%
	Total Depreciated & Amortized	$ 1,309,581,959.99	$ 447,197,159.53					

1 = Reserve difference to be amortized over 5 years
2 = Annual Amortization rate excludes reserve difference

APPENDIX C

Depreciation Parameter Comparison

PIEDMONT NATURAL GAS TENNESSEE
DEPRECIATION STUDY AS OF DECEMBER 31, 2019
COMPARISON OF MORTALITY CHARACTERISTICS

Account		APPROVED			PROPOSED		
Number	Description	Average Life	Iowa Curve	Net Salvage	Average Life	Iowa Curve	Net Salvage
		Yrs		%	Yrs		%
	STORAGE PLANT						
261.00	Structures & Improvements	35	S5	0%	35	S5	-5%
262.00	Gas Holders	45	S5	0%	70	S5	-5%
263.00	Purification Equipment	35	S5	0%	30	S5	-5%
263.10	Liquefaction Equipment	35	S5	0%	30	S5	-5%
263.20	Vaporizing Equipment	35	S5	0%	30	S5	-5%
263.30	Compressor Equipment	30	S5	0%	35	S5	-5%
263.40	M&R Equipment	35	S5	0%	35	S5	-5%
263.50	Other Equipment	30	S5	0%	30	S5	-5%
	TRANSMISSION PLANT						
265.20	Land Rights	80	R2	0%	80	R2	0%
266.20	Structures & Improvements				50	R3	0%
267.00	Mains	70	R4	-5%	75	R2	-5%
269.00	System M&R Station Equipment				50	R1	0%
	DISTRIBUTION PLANT						
274.01	Rights of Way				73	R4	0%
275.00	Structures & Improvements	19	R4	-5%	29	R4	-5%
276.00	Mains	65	R4	-5%	68	R4	-10%
278.00	M&R Equipment	27	R3	0%	35	R3	-10%
279.00	M&R - City Gate Equipment	45	R5	0%	41	R4	-10%
280.00	Services	50	R4	-125%	60	R2	-100%
281.00	Meters	30	R3	0%	30	R3	0%
281.02	Meters - AMI				20	R4	0%
281.05	Meters - Meter Access & ERTs				20	R4	0%
282.00	Meter Installations	30	R3	0%	30	R3	0%
283.00	House Regulators	30	R3	0%	30	R3	0%
284.00	House Regulator Installations	30	R3	0%	30	R3	0%
285.00	Industrial M&R Equipment	40	R2	0%	40	R2	-5%
	GENERAL PLANT DEPRECIATED						
290.00	Structures & Improvements	45	R3	-5%	45	R3	-5%
290.02	CNG Equipment				25	R3	-2%
292.10	Transportation - Pass. Cars & Sta Wagons	5	L2	10%	7	SQ	20%
292.02	Transportation - Urban Trucks	5	L2	10%	7	SQ	25%
292.03	Transportation - 10 Year HD	10	L2	10%	10	SQ	25%
292.04	Trailers & Other				15	SQ	5%
296.00	Power Operated Equipment	25	R3	10%	28	S0	10%
	GENERAL PLANT AMORTIZED						
291.00	Office Furniture & Equipment	25	SQ	0%	20	SQ	0%
294.00	Tools, Shop & Garage Equipment	20	SQ	0%	20	SQ	0%
295.00	Laboratory Equipment	20	SQ	0%	20	SQ	0%
297.00	Communication Equipment	15	SQ	0%	15	SQ	0%
298.00	Miscellaneous Equipment	20	SQ	0%	20	SQ	0%

APPENDIX D

Net Salvage

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
26100 - Structures & Improvements	2014	216,033.70	0.00	275,260.22	(275,260.22)	-127.4%									
26100 - Structures & Improvements	2015	0.00	0.00	0.00	0.00	NA	-127.4%								
26100 - Structures & Improvements	2016	0.00	0.00	0.00	0.00	NA	NA	-127.4%							
26100 - Structures & Improvements	2017	0.00	0.00	0.00	0.00	NA	NA	NA	-127.4%						
26100 - Structures & Improvements	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-127.4%					
26100 - Structures & Improvements	2019	1,872,271.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	-13.18%				
26300 - Purification Equipment	2014	204,995.09	0.00	262,315.36	(262,315.36)	-128.0%									
26300 - Purification Equipment	2015	0.00	0.00	0.00	0.00	NA	-128.0%								
26300 - Purification Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	-128.0%							
26300 - Purification Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	-128.0%						
26300 - Purification Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-128.0%					
26300 - Purification Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-127.96%				
26310 - Liquefaction Equipment	2014	63,098.36	0.00	80,741.77	(80,741.77)	-128.0%									
26310 - Liquefaction Equipment	2015	5,359.10	0.00	45,722.95	(45,722.95)	-853.2%	-184.7%								
26310 - Liquefaction Equipment	2016	0.00	0.00	0.00	0.00	NA	-853.2%	-184.7%							
26310 - Liquefaction Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	-853.2%	-184.7%						
26310 - Liquefaction Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	-853.2%	-184.7%					
26310 - Liquefaction Equipment	2019	54,797.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	-76.0%	-102.60%				
26320 - Vaporizing Equipment	2014	927,815.42	0.00	1,187,249.07	(1,187,249.07)	-128.0%									
26320 - Vaporizing Equipment	2015	0.00	0.00	(251.66)	251.66	NA	-127.9%								
26320 - Vaporizing Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	-127.9%							
26320 - Vaporizing Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	-127.9%						
26320 - Vaporizing Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-127.9%					
26320 - Vaporizing Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-127.93%				
26330 - Compressor Equipment	2014	24,181.85	0.00	30,943.52	(30,943.52)	-128.0%									
26330 - Compressor Equipment	2015	0.00	0.00	(425.70)	425.70	NA	-126.2%								
26330 - Compressor Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	-126.2%							
26330 - Compressor Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	-126.2%						
26330 - Compressor Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-126.2%					
26330 - Compressor Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-126.20%				
26340 - Measuring & Reg Equipment	2014	28,308.28	0.00	36,223.77	(36,223.77)	-128.0%									
26340 - Measuring & Reg Equipment	2015	0.00	0.00	0.00	0.00	NA	-128.0%								
26340 - Measuring & Reg Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	-128.0%							
26340 - Measuring & Reg Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	-128.0%						
26340 - Measuring & Reg Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-128.0%					
26340 - Measuring & Reg Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-127.96%				

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
26350 - Other Equipment	2014	431,423.31	0.00	552,056.87	(552,056.87)	-128.0%									
26350 - Other Equipment	2015	137,822.24	0.00	97,865.46	(97,865.46)	-71.0%	-114.2%								
26350 - Other Equipment	2016	0.00	0.00	0.00	0.00	NA	-71.0%	-114.2%							
26350 - Other Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	-71.0%	-114.2%						
26350 - Other Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	-71.0%	-114.2%					
26350 - Other Equipment	2019	11,268.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	-65.6%	-111.96%				
26700 - Mains	2011	5,235.59	0.00	0.00	0.00	0.0%									
26700 - Mains	2012	0.00	0.00	0.00	0.00	NA	0.0%								
26700 - Mains	2013	0.00	0.00	0.00	0.00	NA	NA	0.0%							
26700 - Mains	2014	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%						
26700 - Mains	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%					
26700 - Mains	2016	1,319,718.91	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
26700 - Mains	2017	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
26700 - Mains	2018	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
26700 - Mains	2019	407,777.50	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
26900 - System Meas & Reg Station	2016	0.00	0.00	34,396.90	(34,396.90)	NA									
26900 - System Meas & Reg Station	2017	0.00	0.00	0.00	0.00	NA	NA								
26900 - System Meas & Reg Station	2018	30,212.37	0.00	0.00	0.00	0.0%	0.0%	-113.9%							
26900 - System Meas & Reg Station	2019	77,978.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	-31.8%						
27500 - Structures & Improvements	2006	73,813.20	94,479.00	4,426.00	90,053.00	122.0%									
27500 - Structures & Improvements	2007	0.00	0.00	0.00	0.00	NA	122.0%								
27500 - Structures & Improvements	2008	0.00	0.00	0.00	0.00	NA	NA	122.0%							
27500 - Structures & Improvements	2009	0.00	0.00	0.00	0.00	NA	NA	NA	122.0%						
27500 - Structures & Improvements	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	122.0%					
27500 - Structures & Improvements	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	122.00%				
27500 - Structures & Improvements	2012	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	122.00%			
27500 - Structures & Improvements	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	122.00%		
27500 - Structures & Improvements	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	122.00%	
27500 - Structures & Improvements	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	122.00%
27500 - Structures & Improvements	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27500 - Structures & Improvements	2017	176.86	0.00	49.56	(49.56)	-28.0%	-28.0%	-28.0%	-28.0%	-28.0%	-28.02%	-28.02%	-28.02%	-28.02%	-28.02%
27500 - Structures & Improvements	2018	0.00	0.00	0.00	0.00	NA	-28.0%	-28.0%	-28.0%	-28.0%	-28.02%	-28.02%	-28.02%	-28.02%	-28.02%
27500 - Structures & Improvements	2019	0.00	0.00	0.00	0.00	NA	NA	-28.0%	-28.0%	-28.0%	-28.02%	-28.02%	-28.02%	-28.02%	-28.02%
27600 - Mains	1994	149,304.60	0.00	1,426.30	(1,426.30)	-1.0%									
27600 - Mains	1995	155,416.20	0.00	2,449.50	(2,449.50)	-1.6%	-1.3%								
27600 - Mains	1996	126,309.30	0.00	369.40	(369.40)	-0.3%	-1.0%	-1.0%							
27600 - Mains	1997	0.00	0.00	8,228.30	(8,228.30)	NA	-6.8%	-3.9%	-2.9%						
27600 - Mains	1998	249,448.90	0.00	4,775.50	(4,775.50)	-1.9%	-5.2%	-3.6%	-3.0%	-2.5%					
27600 - Mains	1999	371,862.80	0.00	18,983.60	(18,983.60)	-5.1%	-3.8%	-5.1%	-4.3%	-3.9%	-3.44%				
27600 - Mains	2000	455,134.80	0.00	2,368.00	(2,368.00)	-0.5%	-2.6%	-2.4%	-3.2%	-2.9%	-2.74%	-2.56%			
27600 - Mains	2001	342,252.30	0.00	14,203.50	(14,203.50)	-4.2%	-2.1%	-3.0%	-2.8%	-3.4%	-3.17%	-3.02%	-2.85%		

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
27600 - Mains	2002	311,216.20	0.00	11,171.40	(11,171.40)	-3.6%	-3.9%	-2.5%	-3.2%	-3.0%	-3.45%	-3.24%	-3.11%	-2.96%	
27600 - Mains	2003	506,678.90	0.00	31,535.20	(31,535.20)	-6.2%	-5.2%	-4.9%	-3.7%	-3.9%	-3.71%	-4.08%	-3.88%	-3.74%	-3.58%
27600 - Mains	2004	468,359.90	0.00	23,654.90	(23,654.90)	-5.1%	-5.7%	-5.2%	-4.9%	-4.0%	-4.15%	-3.94%	-4.25%	-4.07%	-3.94%
27600 - Mains	2005	691,429.40	0.00	15,551.20	(15,551.20)	-2.2%	-3.4%	-4.2%	-4.1%	-4.1%	-3.55%	-3.73%	-3.60%	-3.84%	-3.71%
27600 - Mains	2006	1,052,206.30	0.00	1,772.30	(1,772.30)	-0.2%	-1.0%	-1.9%	-2.7%	-2.8%	-2.90%	-2.62%	-2.84%	-2.79%	-2.97%
27600 - Mains	2007	34,564.07	0.00	1,168.98	(1,168.98)	-3.4%	-0.3%	-1.0%	-1.9%	-2.7%	-2.77%	-2.91%	-2.63%	-2.84%	-2.79%
27600 - Mains	2008	109,096.44	0.00	0.00	0.00	0.0%	-0.8%	-0.2%	-1.0%	-1.8%	-2.57%	-2.67%	-2.82%	-2.55%	-2.77%
27600 - Mains	2009	9,199.92	0.00	10,766.58	(10,766.58)	-117.0%	-9.1%	-7.8%	-1.1%	-1.5%	-2.24%	-2.94%	-3.00%	-3.12%	-2.82%
27600 - Mains	2010	1,021.71	0.00	13,162.24	(13,162.24)	-1288.3%	-234.1%	-20.1%	-16.3%	-2.2%	-2.24%	-2.79%	-3.40%	-3.42%	-3.49%
27600 - Mains	2011	360,698.66	0.00	557.71	(557.71)	-0.2%	-3.8%	-6.6%	-5.1%	-5.0%	-1.75%	-1.90%	-2.44%	-3.04%	-3.08%
27600 - Mains	2012	1,148.82	0.00	21,373.23	(21,373.23)	-1860.5%	-6.1%	-9.7%	-12.3%	-9.5%	-9.12%	-3.11%	-2.85%	-3.23%	-3.70%
27600 - Mains	2013	6,233.69	0.00	0.00	0.00	0.0%	-289.5%	-6.0%	-9.5%	-12.1%	-9.41%	-9.01%	-3.10%	-2.84%	-3.22%
27600 - Mains	2014	245,065.87	0.00	98,875.57	(98,875.57)	-40.3%	-39.3%	-47.6%	-19.7%	-21.8%	-23.22%	-19.76%	-19.02%	-8.12%	-6.50%
27600 - Mains	2015	274,057.03	0.00	4,888.44	(4,888.44)	-1.8%	-20.0%	-19.8%	-23.8%	-14.2%	-15.63%	-16.67%	-14.87%	-14.48%	-7.29%
27600 - Mains	2016	116,036.47	0.00	0.00	0.00	0.0%	-1.3%	-16.3%	-16.2%	-19.5%	-12.53%	-13.83%	-14.76%	-13.33%	-13.03%
27600 - Mains	2017	211,827.26	0.00	48,589.24	(48,589.24)	-22.9%	-14.8%	-8.9%	-18.0%	-17.9%	-20.33%	-14.34%	-15.41%	-16.18%	-14.85%
27600 - Mains	2018	710,602.10	0.00	988,377.32	(988,377.32)	-139.1%	-112.4%	-99.9%	-79.4%	-73.2%	-72.95%	-74.26%	-60.38%	-61.03%	-61.29%
27600 - Mains	2019	1,715,850.29	(544.78)	561,951.74	(562,496.52)	-32.8%	-63.9%	-60.6%	-58.1%	-53.0%	-52.03%	-51.93%	-52.57%	-47.37%	-47.72%
27800 - System Meas & Reg Station	1994	22,755.00	0.00	4,419.40	(4,419.40)	-19.4%									
27800 - System Meas & Reg Station	1995	0.00	0.00	0.00	0.00	NA	-19.4%								
27800 - System Meas & Reg Station	1996	23,063.80	0.00	111.30	(111.30)	-0.5%	-0.5%	-9.9%							
27800 - System Meas & Reg Station	1997	0.00	0.00	0.00	0.00	NA	-0.5%	-0.5%	-9.9%						
27800 - System Meas & Reg Station	1998	2,012.50	0.00	0.00	0.00	0.0%	0.0%	-0.4%	-0.4%	-9.5%					
27800 - System Meas & Reg Station	1999	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	-0.4%	-0.4%	-9.47%				
27800 - System Meas & Reg Station	2000	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	-0.4%	-0.44%	-9.47%			
27800 - System Meas & Reg Station	2001	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	-0.44%	-0.44%	-9.47%		
27800 - System Meas & Reg Station	2002	0.00	0.00	1,294.50	(1,294.50)	NA	NA	NA	NA	-64.3%	-64.32%	-5.61%	-5.61%	-12.18%	
27800 - System Meas & Reg Station	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-64.32%	-64.32%	-5.61%	-5.61%	-12.18%
27800 - System Meas & Reg Station	2004	148,406.80	6,000.00	0.00	6,000.00	4.0%	4.0%	3.2%	3.2%	3.2%	3.17%	3.13%	3.13%	2.65%	2.65%
27800 - System Meas & Reg Station	2005	0.00	0.00	0.00	0.00	NA	4.0%	4.0%	3.2%	3.2%	3.17%	3.17%	3.13%	3.13%	2.65%
27800 - System Meas & Reg Station	2006	0.00	0.00	0.00	0.00	NA	NA	4.0%	4.0%	3.2%	3.17%	3.17%	3.17%	3.13%	3.13%
27800 - System Meas & Reg Station	2007	0.00	0.00	0.00	0.00	NA	NA	NA	4.0%	4.0%	3.17%	3.17%	3.17%	3.17%	3.13%
27800 - System Meas & Reg Station	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	4.0%	4.04%	3.17%	3.17%	3.17%	3.17%
27800 - System Meas & Reg Station	2009	323,841.83	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	1.27%	1.27%	1.00%	1.00%	1.00%
27800 - System Meas & Reg Station	2010	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	1.27%	1.27%	1.00%	1.00%
27800 - System Meas & Reg Station	2011	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	1.27%	1.27%	1.00%
27800 - System Meas & Reg Station	2012	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	1.27%	1.27%
27800 - System Meas & Reg Station	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	1.27%
27800 - System Meas & Reg Station	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
27800 - System Meas & Reg Station	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
27800 - System Meas & Reg Station	2016	156,338.27	0.00	137,084.30	(137,084.30)	-87.7%	-87.7%	-87.7%	-87.7%	-87.7%	-87.68%	-87.68%	-28.55%	-28.55%	-28.55%
27800 - System Meas & Reg Station	2017	62,401.89	0.00	17,487.86	(17,487.86)	-28.0%	-70.7%	-70.7%	-70.7%	-70.7%	-70.66%	-70.66%	-70.66%	-28.49%	-28.49%
27800 - System Meas & Reg Station	2018	32,158.18	0.00	6,690.14	(6,690.14)	-20.8%	-25.6%	-64.3%	-64.3%	-64.3%	-64.27%	-64.27%	-64.27%	-64.27%	-28.06%
27800 - System Meas & Reg Station	2019	89,690.87	(11.91)	2,076.58	(2,088.49)	-2.3%	-7.2%	-14.3%	-48.0%	-48.0%	-47.96%	-47.96%	-47.96%	-47.96%	-47.96%

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
27900 - Meas & Reg Sta Equip - City	2007	0.00	0.00	0.00	0.00	NA									
27900 - Meas & Reg Sta Equip - City	2008	0.00	0.00	0.00	0.00	NA	NA								
27900 - Meas & Reg Sta Equip - City	2009	29,225.65	0.00	0.00	0.00	0.0%	0.0%	0.0%							
27900 - Meas & Reg Sta Equip - City	2010	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%						
27900 - Meas & Reg Sta Equip - City	2011	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%					
27900 - Meas & Reg Sta Equip - City	2012	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%				
27900 - Meas & Reg Sta Equip - City	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%			
27900 - Meas & Reg Sta Equip - City	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%		
27900 - Meas & Reg Sta Equip - City	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	
27900 - Meas & Reg Sta Equip - City	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
27900 - Meas & Reg Sta Equip - City	2017	36,869.60	0.00	9,885.20	(9,885.20)	-26.8%	-26.8%	-26.8%	-26.8%	-26.8%	-26.81%	-26.81%	-26.81%	-14.96%	-14.96%
27900 - Meas & Reg Sta Equip - City	2018	0.00	0.00	0.00	0.00	NA	-26.8%	-26.8%	-26.8%	-26.8%	-26.81%	-26.81%	-26.81%	-26.81%	-14.96%
27900 - Meas & Reg Sta Equip - City	2019	41,573.61	0.00	85,031.06	(85,031.06)	-204.5%	-204.5%	-121.0%	-121.0%	-121.0%	-121.00%	-121.00%	-121.00%	-121.00%	-121.00%
28000 - Services	1994	237,062.50	0.00	8,628.40	(8,628.40)	-3.6%									
28000 - Services	1995	29,219.10	0.00	24,078.10	(24,078.10)	-82.4%	-12.3%								
28000 - Services	1996	74,139.00	0.00	5,597.90	(5,597.90)	-7.6%	-28.7%	-11.3%							
28000 - Services	1997	99,556.50	0.00	8,927.20	(8,927.20)	-9.0%	-8.4%	-19.0%	-10.7%						
28000 - Services	1998	192,724.60	0.00	888.90	(888.90)	-0.5%	-3.4%	-4.2%	-10.0%	-7.6%					
28000 - Services	1999	771,401.20	0.00	0.00	0.00	0.0%	-0.1%	-0.9%	-1.4%	-3.4%	-3.43%				
28000 - Services	2000	944,162.60	0.00	31,991.30	(31,991.30)	-3.4%	-1.9%	-1.7%	-2.1%	-2.3%	-3.39%	-3.41%			
28000 - Services	2001	482,354.70	0.00	55,037.70	(55,037.70)	-11.4%	-6.1%	-4.0%	-3.7%	-3.9%	-3.99%	-4.88%	-4.77%		
28000 - Services	2002	395,129.80	0.00	152,894.50	(152,894.50)	-38.7%	-23.7%	-13.2%	-9.3%	-8.6%	-8.66%	-8.63%	-9.35%	-8.93%	
28000 - Services	2003	485,450.10	0.00	212,515.70	(212,515.70)	-43.8%	-41.5%	-30.8%	-19.6%	-14.7%	-13.86%	-13.71%	-13.58%	-14.16%	-13.49%
28000 - Services	2004	455,793.90	0.00	293,979.00	(293,979.00)	-64.5%	-53.8%	-49.3%	-39.3%	-27.0%	-21.12%	-20.05%	-19.76%	-19.53%	-20.00%
28000 - Services	2005	350,748.70	0.00	366,136.10	(366,136.10)	-104.4%	-81.8%	-67.5%	-60.8%	-49.8%	-35.73%	-28.64%	-27.31%	-26.87%	-26.53%
28000 - Services	2006	370,841.90	0.00	372,051.00	(372,051.00)	-100.3%	-102.3%	-87.7%	-74.9%	-67.9%	-57.18%	-42.61%	-34.88%	-33.39%	-32.86%
28000 - Services	2007	174,910.75	0.00	307,070.10	(307,070.10)	-175.6%	-124.4%	-116.6%	-99.0%	-84.4%	-76.34%	-64.81%	-48.96%	-40.44%	-38.77%
28000 - Services	2008	234,852.88	0.00	355,102.26	(355,102.26)	-151.2%	-161.6%	-132.5%	-123.8%	-106.8%	-92.00%	-83.47%	-71.69%	-55.13%	-46.01%
28000 - Services	2009	213,349.59	0.00	284,942.34	(284,942.34)	-133.6%	-142.8%	-152.0%	-132.7%	-125.3%	-109.93%	-95.88%	-87.45%	-75.86%	-59.20%
28000 - Services	2010	92,941.51	0.00	283,569.74	(283,569.74)	-305.1%	-185.6%	-170.7%	-171.9%	-147.5%	-136.95%	-119.51%	-104.06%	-94.75%	-82.40%
28000 - Services	2011	1,372,268.03	0.00	428,456.90	(428,456.90)	-31.2%	-48.6%	-59.4%	-70.7%	-79.4%	-82.60%	-85.32%	-82.41%	-77.41%	-73.72%
28000 - Services	2012	904,355.97	0.00	462,450.66	(462,450.66)	-51.1%	-39.1%	-49.6%	-56.5%	-64.4%	-70.89%	-74.14%	-76.99%	-75.63%	-72.31%
28000 - Services	2013	762,660.63	0.00	739,132.47	(739,132.47)	-96.9%	-72.1%	-53.6%	-61.1%	-65.7%	-71.32%	-76.18%	-78.35%	-80.39%	-78.92%
28000 - Services	2014	1,283,042.61	0.00	847,991.90	(847,991.90)	-66.1%	-77.6%	-69.5%	-57.3%	-62.5%	-65.82%	-69.94%	-73.61%	-75.44%	-77.20%
28000 - Services	2015	1,008,516.56	0.00	960,847.24	(960,847.24)	-95.3%	-78.9%	-83.4%	-76.0%	-64.5%	-68.63%	-71.09%	-74.29%	-77.22%	-78.56%
28000 - Services	2016	1,266,488.60	0.00	1,568,788.14	(1,568,788.14)	-123.9%	-111.2%	-94.9%	-95.3%	-87.6%	-75.90%	-79.09%	-80.77%	-83.09%	-85.30%
28000 - Services	2017	841,216.90	0.00	2,014,306.76	(2,014,306.76)	-239.5%	-170.0%	-145.8%	-122.6%	-118.8%	-108.69%	-94.40%	-97.00%	-98.01%	-99.57%
28000 - Services	2018	1,062,816.85	0.00	0.00	0.00	0.0%	-105.8%	-113.0%	-108.7%	-98.7%	-98.50%	-92.49%	-82.60%	-85.00%	-86.18%
28000 - Services	2019	1,383,682.66	0.00	0.00	0.00	0.0%	0.0%	-61.3%	-78.7%	-81.7%	-78.76%	-80.58%	-77.45%	-71.04%	-73.22%
28100 - Meters	1994	148,203.40	0.00	0.00	0.00	0.0%									
28100 - Meters	1995	92,694.90	0.00	0.00	0.00	0.0%	0.0%								
28100 - Meters	1996	238,656.60	0.00	0.00	0.00	0.0%	0.0%	0.0%							
28100 - Meters	1997	112,158.40	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
28100 - Meters	1998	224,420.90	400.00	0.00	400.00	0.2%	0.1%	0.1%	0.1%	0.0%					
28100 - Meters	1999	34,870.30	0.00	0.00	0.00	0.0%	0.2%	0.1%	0.1%	0.1%	0.05%				
28100 - Meters	2000	0.00	0.00	0.00	0.00	NA	0.0%	0.2%	0.1%	0.1%	0.06%	0.05%			

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
28100 - Meters	2001	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.2%	0.1%	0.07%	0.06%	0.05%		
28100 - Meters	2002	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.2%	0.11%	0.07%	0.06%	0.05%	
28100 - Meters	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.15%	0.11%	0.07%	0.06%	0.05%
28100 - Meters	2004	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.15%	0.11%	0.07%	0.06%
28100 - Meters	2005	0.00	500.00	0.00	500.00	NA	NA	NA	NA	NA	NA	1.43%	0.35%	0.24%	0.15%
28100 - Meters	2006	0.00	(500.00)	0.00	(500.00)	NA	NA	NA	NA	NA	NA	NA	0.00%	0.15%	0.11%
28100 - Meters	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.15%
28100 - Meters	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
28100 - Meters	2009	1,549,119.38	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28100 - Meters	2010	378,905.87	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28100 - Meters	2011	66,230.02	1,108.66	78.72	1,029.94	1.6%	0.2%	0.1%	0.1%	0.1%	0.03%	0.05%	0.05%	0.05%	0.05%
28100 - Meters	2012	2,368.80	0.00	55.88	(55.88)	-2.4%	1.4%	0.2%	0.0%	0.0%	0.05%	0.02%	0.05%	0.05%	0.05%
28100 - Meters	2013	4,663.14	76.93	120.19	(43.26)	-0.9%	-1.4%	1.3%	0.2%	0.0%	0.05%	0.05%	0.02%	0.05%	0.05%
28100 - Meters	2014	0.00	0.00	0.00	0.00	NA	-0.9%	-1.4%	1.3%	0.2%	0.05%	0.05%	0.05%	0.02%	0.05%
28100 - Meters	2015	0.00	0.00	0.00	0.00	NA	NA	-0.9%	-1.4%	1.3%	0.21%	0.05%	0.05%	0.05%	0.02%
28100 - Meters	2016	0.00	0.00	0.00	0.00	NA	NA	NA	-0.9%	-1.4%	1.27%	0.21%	0.05%	0.05%	0.05%
28100 - Meters	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	-0.9%	-1.41%	1.27%	0.21%	0.05%	0.05%
28100 - Meters	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	-0.93%	-1.41%	1.27%	0.21%	0.05%
28100 - Meters	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	-0.93%	-1.41%	1.27%	0.21%
28105 - Meters - Meter Acc, ERTs	2010	0.00	0.00	0.00	0.00	NA									
28105 - Meters - Meter Acc, ERTs	2011	0.00	0.00	0.00	0.00	NA	NA								
28105 - Meters - Meter Acc, ERTs	2012	0.00	0.00	0.00	0.00	NA	NA	NA							
28105 - Meters - Meter Acc, ERTs	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA						
28105 - Meters - Meter Acc, ERTs	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA					
28105 - Meters - Meter Acc, ERTs	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA				
28105 - Meters - Meter Acc, ERTs	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA			
28105 - Meters - Meter Acc, ERTs	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA		
28105 - Meters - Meter Acc, ERTs	2018	300,802.94	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
28105 - Meters - Meter Acc, ERTs	2019	262,051.67	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	1994	60,192.60	0.00	0.00	0.00	0.0%									
28200 - Meter Installations	1995	0.00	0.00	0.00	0.00	NA	0.0%								
28200 - Meter Installations	1996	56,878.60	0.00	0.00	0.00	0.0%	0.0%	0.0%							
28200 - Meter Installations	1997	27,183.70	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
28200 - Meter Installations	1998	59,320.40	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%					
28200 - Meter Installations	1999	8,197.10	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
28200 - Meter Installations	2000	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
28200 - Meter Installations	2001	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
28200 - Meter Installations	2002	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
28200 - Meter Installations	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2004	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2005	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
28200 - Meter Installations	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%
28200 - Meter Installations	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
28200 - Meter Installations	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28200 - Meter Installations	2010	1,870,480.73	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
28200 - Meter Installations	2011	349,381.10	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2012	317,842.27	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2013	313,891.72	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2014	270,388.55	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2015	265,948.24	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2016	313,822.40	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2017	253,416.86	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2018	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28200 - Meter Installations	2019	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28300 - House Regulators	2010	747,855.75	0.00	0.00	0.00	0.0%									
28300 - House Regulators	2011	139,672.31	0.00	0.00	0.00	0.0%	0.0%								
28300 - House Regulators	2012	127,080.17	0.00	0.00	0.00	0.0%	0.0%	0.0%							
28300 - House Regulators	2013	125,500.72	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
28300 - House Regulators	2014	108,107.13	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%					
28300 - House Regulators	2015	106,331.79	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
28300 - House Regulators	2016	125,472.93	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
28300 - House Regulators	2017	101,321.61	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
28300 - House Regulators	2018	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
28300 - House Regulators	2019	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28400 - House Regulator Installatio	2010	640,097.00	0.00	0.00	0.00	0.0%									
28400 - House Regulator Installatio	2011	119,561.67	0.00	0.00	0.00	0.0%	0.0%								
28400 - House Regulator Installatio	2012	108,768.80	0.00	0.00	0.00	0.0%	0.0%	0.0%							
28400 - House Regulator Installatio	2013	107,416.88	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
28400 - House Regulator Installatio	2014	92,529.58	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%					
28400 - House Regulator Installatio	2015	91,010.01	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%				
28400 - House Regulator Installatio	2016	107,393.07	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%			
28400 - House Regulator Installatio	2017	86,721.81	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%		
28400 - House Regulator Installatio	2018	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	
28400 - House Regulator Installatio	2019	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
28500 - Ind Meas & Reg St Equip	2010	0.00	0.00	0.00	0.00	NA									
28500 - Ind Meas & Reg St Equip	2011	0.00	0.00	0.00	0.00	NA	NA								
28500 - Ind Meas & Reg St Equip	2012	0.00	0.00	53.80	(53.80)	NA	NA	NA							
28500 - Ind Meas & Reg St Equip	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA						
28500 - Ind Meas & Reg St Equip	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA					
28500 - Ind Meas & Reg St Equip	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA				
28500 - Ind Meas & Reg St Equip	2016	0.00	0.00	136.27	(136.27)	NA	NA	NA	NA	NA	NA	NA			
28500 - Ind Meas & Reg St Equip	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA		
28500 - Ind Meas & Reg St Equip	2018	1,352.89	0.00	0.00	0.00	0.0%	0.0%	-10.1%	-10.1%	-10.1%	-10.07%	-14.05%	-14.05%	-14.05%	
28500 - Ind Meas & Reg St Equip	2019	22,791.23	(260.17)	8,716.97	(8,977.14)	-39.4%	-37.2%	-37.2%	-37.7%	-37.7%	-37.75%	-37.75%	-37.97%	-37.97%	-37.97%
28600 - Installed on Customer Premise	1997	8,494.80	0.00	0.00	0.00	0.0%									

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
28700 - Other Equipment	2007	0.00	0.00	0.00	0.00	NA									
28700 - Other Equipment	2008	0.00	0.00	0.00	0.00	NA	NA								
28700 - Other Equipment	2009	157,241.16	0.00	0.00	0.00	0.0%	0.0%	0.0%							
29000 - Structures and Improvements	1995	60,867.30	88,959.90	41,535.10	47,424.80	77.9%									
29000 - Structures and Improvements	1996	0.00	0.00	0.00	0.00	NA	77.9%								
29000 - Structures and Improvements	1997	0.00	0.00	0.00	0.00	NA	NA	77.9%							
29000 - Structures and Improvements	1998	0.00	0.00	0.00	0.00	NA	NA	NA	77.9%						
29000 - Structures and Improvements	1999	0.00	0.00	0.00	0.00	NA	NA	NA	NA	77.9%					
29000 - Structures and Improvements	2000	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	77.92%				
29000 - Structures and Improvements	2001	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	77.92%			
29000 - Structures and Improvements	2002	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	77.92%		
29000 - Structures and Improvements	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	77.92%	
29000 - Structures and Improvements	2004	113,930.90	154,933.50	0.00	154,933.50	136.0%	136.0%	136.0%	136.0%	136.0%	135.99%	135.99%	135.99%	135.99%	115.77%
29000 - Structures and Improvements	2005	0.00	0.00	0.00	0.00	NA	136.0%	136.0%	136.0%	136.0%	135.99%	135.99%	135.99%	135.99%	135.99%
29000 - Structures and Improvements	2006	0.00	0.00	0.00	0.00	NA	NA	136.0%	136.0%	136.0%	135.99%	135.99%	135.99%	135.99%	135.99%
29000 - Structures and Improvements	2007	0.00	0.00	0.00	0.00	NA	NA	NA	136.0%	136.0%	135.99%	135.99%	135.99%	135.99%	135.99%
29000 - Structures and Improvements	2008	9,741,878.81	9,332,727.27	541,402.59	8,791,324.68	90.2%	90.2%	90.2%	90.2%	90.8%	90.77%	90.77%	90.77%	90.77%	90.77%
29000 - Structures and Improvements	2009	0.00	0.00	0.00	0.00	NA	90.2%	90.2%	90.2%	90.2%	90.77%	90.77%	90.77%	90.77%	90.77%
29000 - Structures and Improvements	2010	0.00	0.00	0.00	0.00	NA	NA	90.2%	90.2%	90.2%	90.24%	90.77%	90.77%	90.77%	90.77%
29000 - Structures and Improvements	2011	0.00	0.00	0.00	0.00	NA	NA	NA	90.2%	90.2%	90.24%	90.24%	90.77%	90.77%	90.77%
29000 - Structures and Improvements	2012	0.00	0.00	0.00	0.00	NA	NA	NA	NA	90.2%	90.24%	90.24%	90.24%	90.77%	90.77%
29000 - Structures and Improvements	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	90.24%	90.24%	90.24%	90.24%	90.77%
29000 - Structures and Improvements	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	90.24%	90.24%	90.24%	90.24%
29000 - Structures and Improvements	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	90.24%	90.24%	90.24%
29000 - Structures and Improvements	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	90.24%	90.24%
29000 - Structures and Improvements	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	90.24%
29000 - Structures and Improvements	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29000 - Structures and Improvements	2019	41,353.89	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	1994	50,071.30	0.00	0.00	0.00	0.0%									
29100 - Office Furniture and Equipm	1995	16.50	255.00	0.00	255.00	1545.5%	0.5%								
29100 - Office Furniture and Equipm	1996	0.00	0.00	0.00	0.00	NA	1545.5%	0.5%							
29100 - Office Furniture and Equipm	1997	312.40	0.00	0.00	0.00	0.0%	0.0%	77.5%	0.5%						
29100 - Office Furniture and Equipm	1998	668.10	0.00	0.00	0.00	0.0%	0.0%	0.0%	25.6%	0.5%					
29100 - Office Furniture and Equipm	1999	8,730.60	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	2.6%	0.43%				
29100 - Office Furniture and Equipm	2000	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	2.62%	0.43%			
29100 - Office Furniture and Equipm	2001	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	2.62%	0.43%		
29100 - Office Furniture and Equipm	2002	5,158.00	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	1.71%	0.39%	
29100 - Office Furniture and Equipm	2003	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	1.71%	0.39%
29100 - Office Furniture and Equipm	2004	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	1.71%
29100 - Office Furniture and Equipm	2005	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%
29100 - Office Furniture and Equipm	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
29100 - Office Furniture and Equipm	2012	621,836.72	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2013	650,792.95	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2014	295,099.18	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2015	23,648.27	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2016	24,293.26	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2017	22,127.06	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2018	10,660.37	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29100 - Office Furniture and Equipm	2019	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29110 - Mainframe Equipment	1997	67,566.60	0.00	0.00	0.00	0.0%									
29110 - Mainframe Equipment	1998	0.00	0.00	0.00	0.00	NA	0.0%								
29110 - Mainframe Equipment	1999	0.00	0.00	0.00	0.00	NA	NA	0.0%							
29110 - Mainframe Equipment	2000	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%						
29110 - Mainframe Equipment	2001	36,920.60	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%					
29110 - Mainframe Equipment	2002	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%				
29110 - Mainframe Equipment	2003	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%			
29110 - Mainframe Equipment	2004	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%		
29110 - Mainframe Equipment	2005	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	
29110 - Mainframe Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
29110 - Mainframe Equipment	2007	1,201.03	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29110 - Mainframe Equipment	2008	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29110 - Mainframe Equipment	2009	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29120 - PC Equipment	1999	3,567.00	0.00	0.00	0.00	0.0%									
29120 - PC Equipment	2000	0.00	0.00	0.00	0.00	NA	0.0%								
29120 - PC Equipment	2001	0.00	0.00	0.00	0.00	NA	NA	0.0%							
29120 - PC Equipment	2002	702,503.20	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
29120 - PC Equipment	2003	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%					
29120 - PC Equipment	2004	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%				
29120 - PC Equipment	2005	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%			
29120 - PC Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%		
29120 - PC Equipment	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	
29120 - PC Equipment	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%
29120 - PC Equipment	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%
29300 - Stores Equipment	1996	2,686.40	0.00	0.00	0.00	0.0%									
29300 - Stores Equipment	1997	0.00	0.00	0.00	0.00	NA	0.0%								
29300 - Stores Equipment	1998	0.00	0.00	0.00	0.00	NA	NA	0.0%							
29300 - Stores Equipment	1999	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%						
29300 - Stores Equipment	2000	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%					
29300 - Stores Equipment	2001	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%				
29300 - Stores Equipment	2002	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%			
29300 - Stores Equipment	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%		
29300 - Stores Equipment	2004	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
29300 - Stores Equipment	2005	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
29300 - Stores Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29300 - Stores Equipment	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
29300 - Stores Equipment	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29300 - Stores Equipment	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29300 - Stores Equipment	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29300 - Stores Equipment	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29300 - Stores Equipment	2012	3,964.51	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2013	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2014	4,299.50	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2015	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2017	6,654.20	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2018	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29300 - Stores Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29400 - Tools, Shop & Garage Equip	1994	47,361.30	400.00	0.00	400.00	0.8%									
29400 - Tools, Shop & Garage Equip	1995	16,656.80	0.00	0.00	0.00	0.0%	0.6%								
29400 - Tools, Shop & Garage Equip	1996	-5,895.00	0.00	0.00	0.00	0.0%	0.0%	0.7%							
29400 - Tools, Shop & Garage Equip	1997	676.30	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.7%						
29400 - Tools, Shop & Garage Equip	1998	12,556.30	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.6%					
29400 - Tools, Shop & Garage Equip	1999	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.56%				
29400 - Tools, Shop & Garage Equip	2000	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.56%			
29400 - Tools, Shop & Garage Equip	2001	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.56%		
29400 - Tools, Shop & Garage Equip	2002	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.56%	
29400 - Tools, Shop & Garage Equip	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.56%
29400 - Tools, Shop & Garage Equip	2004	9,885.50	601.00	0.00	601.00	6.1%	6.1%	6.1%	6.1%	6.1%	6.08%	2.68%	2.60%	3.49%	1.77%
29400 - Tools, Shop & Garage Equip	2005	0.00	0.00	0.00	0.00	NA	6.1%	6.1%	6.1%	6.1%	6.08%	6.08%	2.68%	2.60%	3.49%
29400 - Tools, Shop & Garage Equip	2006	0.00	0.00	0.00	0.00	NA	NA	6.1%	6.1%	6.1%	6.08%	6.08%	6.08%	2.68%	2.60%
29400 - Tools, Shop & Garage Equip	2007	26,134.56	10,891.70	0.00	10,891.70	41.7%	41.7%	41.7%	31.9%	31.9%	31.91%	31.91%	31.91%	31.91%	23.66%
29400 - Tools, Shop & Garage Equip	2008	0.00	0.00	0.00	0.00	NA	41.7%	41.7%	41.7%	31.9%	31.91%	31.91%	31.91%	31.91%	31.91%
29400 - Tools, Shop & Garage Equip	2009	0.00	0.00	0.00	0.00	NA	NA	41.7%	41.7%	41.7%	31.91%	31.91%	31.91%	31.91%	31.91%
29400 - Tools, Shop & Garage Equip	2010	0.00	0.00	0.00	0.00	NA	NA	NA	41.7%	41.7%	41.68%	31.91%	31.91%	31.91%	31.91%
29400 - Tools, Shop & Garage Equip	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	41.7%	41.68%	41.68%	31.91%	31.91%	31.91%
29400 - Tools, Shop & Garage Equip	2012	530,752.45	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	1.96%	1.96%	1.96%	2.03%	2.03%
29400 - Tools, Shop & Garage Equip	2013	85,851.86	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	1.69%	1.69%	1.69%	1.76%
29400 - Tools, Shop & Garage Equip	2014	170,796.13	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	1.34%	1.34%	1.34%
29400 - Tools, Shop & Garage Equip	2015	67,027.32	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	1.24%	1.24%
29400 - Tools, Shop & Garage Equip	2016	26,534.05	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	1.20%
29400 - Tools, Shop & Garage Equip	2017	110,345.96	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29400 - Tools, Shop & Garage Equip	2018	270,388.32	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29400 - Tools, Shop & Garage Equip	2019	70,171.21	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29600 - Power Operated Equipment	1994	84,202.00	0.00	0.00	0.00	0.0%									
29600 - Power Operated Equipment	1995	0.00	0.00	0.00	0.00	NA	0.0%								
29600 - Power Operated Equipment	1996	8,328.40	0.00	0.00	0.00	0.0%	0.0%	0.0%							
29600 - Power Operated Equipment	1997	23,850.30	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%						
29600 - Power Operated Equipment	1998	4,128.70	350.00	0.00	350.00	8.5%	1.3%	1.0%	1.0%	0.3%					
29600 - Power Operated Equipment	1999	0.00	0.00	0.00	0.00	NA	8.5%	1.3%	1.0%	1.0%	0.29%				
29600 - Power Operated Equipment	2000	62,224.20	0.00	0.00	0.00	0.0%	0.0%	0.5%	0.4%	0.4%	0.36%	0.19%			
29600 - Power Operated Equipment	2001	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.5%	0.4%	0.36%	0.36%	0.19%		

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
29600 - Power Operated Equipment	2002	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.5%	0.39%	0.36%	0.36%	0.19%	
29600 - Power Operated Equipment	2003	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.53%	0.39%	0.36%	0.36%	0.19%
29600 - Power Operated Equipment	2004	8,370.50	601.00	0.00	601.00	7.2%	7.2%	7.2%	7.2%	0.9%	0.85%	1.27%	0.96%	0.89%	0.89%
29600 - Power Operated Equipment	2005	0.00	0.00	0.00	0.00	NA	7.2%	7.2%	7.2%	7.2%	0.85%	0.85%	1.27%	0.96%	0.89%
29600 - Power Operated Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	7.2%	7.2%	7.2%	7.18%	0.85%	0.85%	1.27%	0.96%
29600 - Power Operated Equipment	2007	0.00	0.00	0.00	0.00	NA	NA	NA	7.2%	7.2%	7.18%	7.18%	0.85%	0.85%	1.27%
29600 - Power Operated Equipment	2008	15,526.53	7,420.00	0.00	7,420.00	47.8%	47.8%	47.8%	47.8%	33.6%	33.56%	33.56%	33.56%	9.31%	9.31%
29600 - Power Operated Equipment	2009	3,665.00	545.00	0.00	545.00	14.9%	41.5%	41.5%	41.5%	41.5%	31.08%	31.08%	31.08%	31.08%	9.54%
29600 - Power Operated Equipment	2010	0.00	0.00	0.00	0.00	NA	14.9%	41.5%	41.5%	41.5%	41.50%	31.08%	31.08%	31.08%	31.08%
29600 - Power Operated Equipment	2011	0.00	0.00	0.00	0.00	NA	NA	14.9%	41.5%	41.5%	41.50%	41.50%	31.08%	31.08%	31.08%
29600 - Power Operated Equipment	2012	0.00	0.00	0.00	0.00	NA	NA	NA	14.9%	41.5%	41.50%	41.50%	41.50%	31.08%	31.08%
29600 - Power Operated Equipment	2013	23,388.45	7,167.50	0.00	7,167.50	30.6%	30.6%	30.6%	30.6%	28.5%	35.54%	35.54%	35.54%	35.54%	30.88%
29600 - Power Operated Equipment	2014	81,181.81	0.00	0.00	0.00	0.0%	6.9%	6.9%	6.9%	6.9%	7.13%	12.23%	12.23%	12.23%	12.23%
29600 - Power Operated Equipment	2015	0.00	0.00	0.00	0.00	NA	0.0%	6.9%	6.9%	6.9%	6.85%	7.13%	12.23%	12.23%	12.23%
29600 - Power Operated Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	0.0%	6.9%	6.9%	6.85%	6.85%	7.13%	12.23%	12.23%
29600 - Power Operated Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	6.9%	6.85%	6.85%	6.85%	7.13%	12.23%
29600 - Power Operated Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	6.85%	6.85%	6.85%	6.85%	7.13%
29600 - Power Operated Equipment	2019	29,839.48	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	5.33%	5.33%	5.33%	5.33%
29700 - Communication Equipment	2000	144,440.70	0.00	0.00	0.00	0.0%									
29700 - Communication Equipment	2001	0.00	0.00	0.00	0.00	NA	0.0%								
29700 - Communication Equipment	2002	0.00	0.00	0.00	0.00	NA	NA	0.0%							
29700 - Communication Equipment	2003	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%						
29700 - Communication Equipment	2004	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%					
29700 - Communication Equipment	2005	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%				
29700 - Communication Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%			
29700 - Communication Equipment	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%		
29700 - Communication Equipment	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
29700 - Communication Equipment	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
29700 - Communication Equipment	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29700 - Communication Equipment	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29700 - Communication Equipment	2012	668,741.49	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2013	660,117.12	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2014	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2015	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2016	146,994.01	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2017	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29700 - Communication Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	1996	431.80	0.00	0.00	0.00	0.0%									
29800 - Miscellaneous Equipment	1997	0.00	0.00	0.00	0.00	NA	0.0%								
29800 - Miscellaneous Equipment	1998	0.00	0.00	0.00	0.00	NA	NA	0.0%							
29800 - Miscellaneous Equipment	1999	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%						
29800 - Miscellaneous Equipment	2000	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%					
29800 - Miscellaneous Equipment	2001	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%				
29800 - Miscellaneous Equipment	2002	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	0.00%			
29800 - Miscellaneous Equipment	2003	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	0.00%		

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
29800 - Miscellaneous Equipment	2004	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	0.00%	
29800 - Miscellaneous Equipment	2005	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00%
29800 - Miscellaneous Equipment	2006	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2007	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2008	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2009	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2010	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2011	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
29800 - Miscellaneous Equipment	2012	175,110.28	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2013	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2014	9,480.33	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2015	0.00	0.00	0.00	0.00	NA	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2016	0.00	0.00	0.00	0.00	NA	NA	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2017	0.00	0.00	0.00	0.00	NA	NA	NA	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29800 - Miscellaneous Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
TRANSPORTATION															
29200 - Transportation Equipment	2010	21,990.38	0.00	0.00	0.00	0.0%									
29200 - Transportation Equipment	2011	46,626.30	13,817.50	0.00	13,817.50	29.6%	20.1%								
29200 - Transportation Equipment	2012	126,737.79	26,681.50	0.00	26,681.50	21.1%	23.4%	20.7%							
29200 - Transportation Equipment	2013	452,438.22	106,617.50	0.00	106,617.50	23.6%	23.0%	23.5%	22.7%						
29200 - Transportation Equipment	2014	247,515.93	71,585.00	0.00	71,585.00	28.9%	25.5%	24.8%	25.0%	24.4%					
29200 - Transportation Equipment	2015	0.00	0.00	0.00	0.00	NA	28.9%	25.5%	24.8%	25.0%	24.43%				
29200 - Transportation Equipment	2016	587,715.47	211,762.50	0.00	211,762.50	36.0%	36.0%	33.9%	30.3%	29.5%	29.46%	29.03%			
29200 - Transportation Equipment	2017	190,554.86	46,525.00	0.00	46,525.00	24.4%	33.2%	33.2%	32.2%	29.5%	28.86%	28.88%	28.50%		
29200 - Transportation Equipment	2018	0.00	12,750.00	0.00	12,750.00	NA	31.1%	34.8%	34.8%	33.4%	30.39%	29.65%	29.65%	29.26%	
29200 - Transportation Equipment	2019	0.00	0.00	0.00	0.00	NA	NA	31.1%	34.8%	34.8%	33.40%	30.39%	29.65%	29.65%	29.26%
29204 - Trans Equip - Leased Buyout	2010	0.00	0.00	0.00	0.00	NA									
29204 - Trans Equip - Leased Buyout	2011	137,492.29	138,043.50	0.00	138,043.50	100.4%	100.4%								
29204 - Trans Equip - Leased Buyout	2012	25,543.15	(28,368.50)	0.00	(28,368.50)	-111.1%	67.3%	67.3%							
29204 - Trans Equip - Leased Buyout	2013	0.00	0.00	0.00	0.00	NA	-111.1%	67.3%	67.3%						
29204 - Trans Equip - Leased Buyout	2014	0.00	0.00	0.00	0.00	NA	NA	-111.1%	67.3%	67.3%					
29204 - Trans Equip - Leased Buyout	2015	0.00	0.00	0.00	0.00	NA	NA	NA	-111.1%	67.3%	67.27%				
29204 - Trans Equip - Leased Buyout	2016	57,573.71	29,648.50	0.00	29,648.50	51.5%	51.5%	51.5%	51.5%	1.5%	63.15%	63.15%			
29204 - Trans Equip - Leased Buyout	2017	0.00	0.00	0.00	0.00	NA	51.5%	51.5%	51.5%	51.5%	1.54%	63.15%	63.15%		
29204 - Trans Equip - Leased Buyout	2018	0.00	0.00	0.00	0.00	NA	NA	51.5%	51.5%	51.5%	51.50%	1.54%	63.15%	63.15%	
29204 - Trans Equip - Leased Buyout	2019	12,771.74	0.00	0.00	0.00	0.0%	0.0%	0.0%	42.1%	42.1%	42.15%	42.15%	1.33%	59.70%	59.70%
29210 - Pass. Cars & Sta Wagons	2010	0.00	0.00	0.00	0.00	NA									
29210 - Pass. Cars & Sta Wagons	2011	0.00	0.00	0.00	0.00	NA	NA								
29210 - Pass. Cars & Sta Wagons	2012	0.00	0.00	0.00	0.00	NA	NA	NA							
29210 - Pass. Cars & Sta Wagons	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA						
29210 - Pass. Cars & Sta Wagons	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA					
29210 - Pass. Cars & Sta Wagons	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA				

PIEDMONT NATURAL GAS - TENNESSEE
NET SALVAGE HISTORY AS OF DECEMBER 31, 2019

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. %
29210 - Pass. Cars & Sta Wagons	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA			
29210 - Pass. Cars & Sta Wagons	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA		
29210 - Pass. Cars & Sta Wagons	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
29210 - Pass. Cars & Sta Wagons	2019	34,937.19	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29202 - Urban Trucks	2010	0.00	0.00	0.00	0.00	NA									
29202 - Urban Trucks	2011	0.00	0.00	0.00	0.00	NA	NA								
29202 - Urban Trucks	2012	0.00	0.00	0.00	0.00	NA	NA	NA							
29202 - Urban Trucks	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA						
29202 - Urban Trucks	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA					
29202 - Urban Trucks	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA				
29202 - Urban Trucks	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA			
29202 - Urban Trucks	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA		
29202 - Urban Trucks	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
29202 - Urban Trucks	2019	716,169.68	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%
29203 - 10 Year Heavy Duty	2010	0.00	0.00	0.00	0.00	NA									
29203 - 10 Year Heavy Duty	2011	0.00	0.00	0.00	0.00	NA	NA								
29203 - 10 Year Heavy Duty	2012	0.00	0.00	0.00	0.00	NA	NA	NA							
29203 - 10 Year Heavy Duty	2013	0.00	0.00	0.00	0.00	NA	NA	NA	NA						
29203 - 10 Year Heavy Duty	2014	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA					
29203 - 10 Year Heavy Duty	2015	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA				
29203 - 10 Year Heavy Duty	2016	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA			
29203 - 10 Year Heavy Duty	2017	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA		
29203 - 10 Year Heavy Duty	2018	0.00	0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
29203 - 10 Year Heavy Duty	2019	57,855.60	0.00	0.00	0.00	0.0%	0.0%	0.0%	0.0%	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%