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December 29, 2022

Via Electronic Filing & U.S. Mail

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December 29, 2022 at 3:27 p.m.

Chairman Herbert H. Hilliard
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**

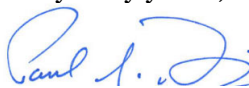
Dear Chairman Hilliard:

Enclosed for filing, please find Piedmont Natural Gas Company, Inc.'s ("Piedmont" or the "Company") Depreciation Rate Study of Piedmont's 3-State Common Property Assets as of December 31, 2021 ("Study"). On February 3, 2021, Piedmont and the Tennessee Attorney General, Consumer Advocate Unit filed a *Stipulation and Settlement Agreement* ("Settlement Agreement") in the above-referenced proceeding, which among other items stipulated that Piedmont would submit to the Commission a depreciation study of Piedmont common assets no later than December 31, 2022. Piedmont subsequently engaged an expert third-party, Alliance Consulting Group, to perform such depreciation study of Piedmont common assets. The enclosed Study is the result of their work and provided herein by the Company in compliance with paragraph 16.m. of the Settlement Agreement.

At this time, Piedmont is neither seeking any relief nor requesting that the Tennessee Public Utility Commission take any action on the Study. Piedmont plans to address utilization of the results of the Study within the context of the forthcoming proceeding for Piedmont's first Annual ARM Filing, which will be filed by the Company in May 2023. Accordingly, Piedmont will present its proposal regarding the results of the Study to the Commission as part of the forthcoming ARM proceeding.

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 to my assistant, at denise.guye@wallerlaw.com. Please do not hesitate to call me if you have any questions.

Very truly yours,



Paul S. Davidson

PSD:dg

December 29, 2022

Page 2

Enclosures

cc: David Foster
Michelle Mairs
Bruce Barkley
Pia Powers
James Jeffries
Karen Stachowski

PIEDMONT NATURAL GAS COMPANY
DEPRECIATION RATE STUDY OF
3-STATE COMMON PROPERTY ASSETS
AT DECEMBER 31, 2021

December 29, 2022



<http://www.utilityalliance.com>

**PIEDMONT NATURAL GAS COMPANY
DEPRECIATION RATE STUDY OF
3-STATE COMMON PROPERTY ASSETS
EXECUTIVE SUMMARY**

Piedmont Natural Gas Company, Inc. (“Company”, “Piedmont” or “PNG”) engaged Alliance Consulting Group to conduct a depreciation study of certain depreciable common assets, as of December 31, 2021. Specifically, this study focuses on such Piedmont common assets, sometimes also referred to as joint property assets or corporate assets, that support Piedmont’s utility operations across its three state jurisdictions: Tennessee, North Carolina, and South Carolina. These Piedmont common assets are referred to in this study as “3-State” assets and are also distinctly demarcated from other jurisdictional assets on the Company’s records and for state regulatory reporting/ratemaking purposes.¹

This study recommends a change to the PNG 3-State depreciation rates. The recommended depreciation rates, which are summarized in Appendix B to this study, yield an approximate \$1.8 million increase in annualized depreciation expense when applied to PNG 3-State asset balances as of December 31, 2021, compared to annualized depreciation expense on such balances utilizing the current depreciation rates. Overall, the primary driver to the change is the increase in General Plant that is partially offset by a decrease in the Distribution Plant function. The depreciation expense is impacted by the reserve position and the impact of the impairment related to the Company’s assets associated with its Piedmont Town Center lease (Piedmont headquarter office building), which are in the General Plant function.

This depreciation study is the first stand-alone study conducted for PNG 3-State assets. In the past, a combined depreciation study for the Company’s

¹ By contrast, a Piedmont asset that only supports the Company’s operations in one jurisdiction is often referred to as a direct asset, e.g. either a Tennessee direct asset, a North Carolina direct asset, or a South Carolina direct asset. Piedmont also has certain common assets that jointly support its operations in North Carolina and South Carolina; such type of Piedmont common assets is often referred to as a Piedmont Carolinas joint property asset or Piedmont 2-state asset. The specific jurisdictional applicability of Piedmont’s assets is distinctly demarcated on the Company’s records and for state regulatory reporting/ratemaking purposes.

“Carolinas and Corporate” assets had been performed. Consistent with that study, PNG has segregated its software assets to Intangible Plant, which is excluded from the study. This study recognizes and segregates Transportation assets into specific use and life accounts. These changes better align the depreciation rates with ongoing operations.

The continuation of Vintaged Group Amortization (general plant amortization) for certain General Plant accounts is recommended. This process provides for the efficient and timely recording of retirements for the General Plant function. There is also a component included for any account reserve difference to be amortized over a fixed 5-year period.

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

**PIEDMONT NATURAL GAS COMPANY
DEPRECIATION RATE STUDY OF
3-STATE COMMON PROPERTY ASSETS
AT DECEMBER 31, 2021**

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PURPOSE

The purpose of this study is to develop depreciation rates for depreciable property for 3-State assets as recorded on the Company's books at December 31, 2021. 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 property on a straight-line basis. Intangible assets were excluded from this study, as they are amortized on an individual basis.

PNG is engaged in the business of transporting, distributing, and selling natural gas to more than one million residential and non-residential (commercial, industrial, municipal, other) customers in Tennessee, North Carolina, and South Carolina. PNG has been in operation for more than 70 years.

PNG owns and operates a complex system of high and intermediate pressure transmission mains, liquefied natural gas storage, and intermediate and low pressure distribution networks across its service territories within Tennessee, North Carolina, and South Carolina. This study is solely focused on the Company's 3-State common assets, which includes Meters and Meter Accessories in Distribution Plant and General Plant assets.

STUDY RESULTS

Overall depreciation rates for 3 State depreciable property are shown in Appendix B. These recommended rates translate into an annualized depreciation expense accrual of approximately \$10.0 million based on PNG's depreciable investment at December 31, 2021. The annualized depreciation expense calculated by using the Company's current depreciation rates is approximately \$8.2 million. Appendix A demonstrates the development of such annualized depreciation accruals and rates. Appendix B presents a comparison of current rates versus proposed rates by account. Appendix C presents a comparison of life and net salvage estimates by account. Appendix D presents the net salvage analysis by account.

In this study an impairment related to Piedmont Town Center assets, in the General Plant function have been reflected.

In this study Transportation is segregated into five accounts (3 year Meter Reading, 5 year Rural Use, 7 year Urban Use, 10 year Heavy Duty, and Trailers and Other) to better match the future use and expected life of the assets.

This depreciation study reflects depreciation expense for Vintaged Group Amortization in Accounts 291 through 298, excluding Transportation 292 Accounts. This process provides for the amortization of general plant over the same life as recommended in this study (with a separate amortization over a fixed 5 year period to allocate any deficit or excess reserve). At the end of the amortized life, property will be retired from the books.

While the study made small adjustments to the average service life and net salvage parameters for only a few accounts, it is the combined changes along with the reserve position and impairment that are driving the overall increase of approximately \$1.8 million in the annual depreciation expense accrual for the 3-State assets.

RECOMMENDATIONS

In addition to the results described above and in the remainder of this report, we have the following recommendations regarding book depreciation for PNG as it pertains to the 3-State assets.

1. We recommend adoption of the annual depreciation rates shown on Appendix B for each property group.
2. Due to the reserve position, our study reflects the reallocation of the book reserve between accounts within each function.
3. It is our recommendation to perform a system study of all the Company's depreciable assets every three to five years to reflect changes in the mix and characteristics of assets and net salvage experience over time.
4. We have recognized and recommend the continued use of Vintage Amortization Accounting for certain accounts of the General Plant function. As part of the amortization, the true up of the reserve for these amortized accounts is necessary. A separate accrual amount has been reflected for each account over a fixed 5 year period where Vintage Amortization is implemented.

GENERAL DISCUSSION

Definition

The term "depreciation" as used in this study is considered in the accounting sense, that is, as 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 based on the original cost of all depreciable property included in each functional property group. At retirement the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

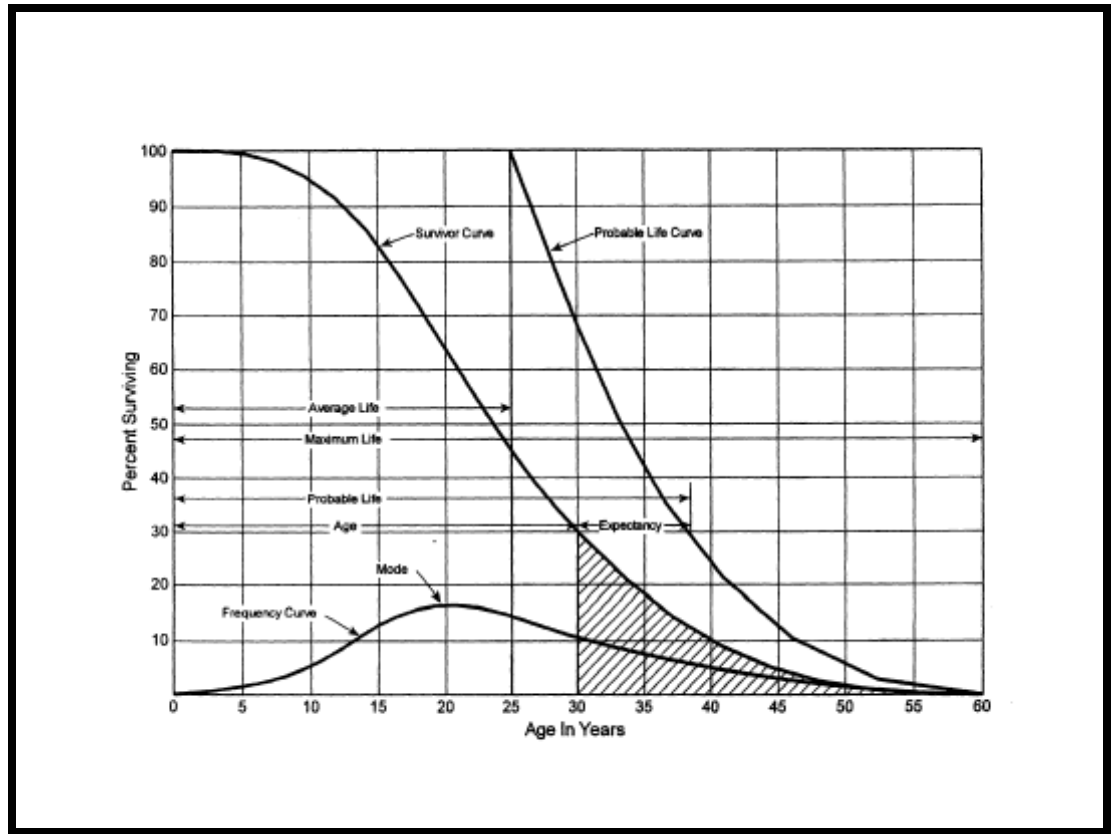
Basis of Depreciation Estimates

Annual and accrued depreciation rates were calculated in this study by the straight-line, broad group, remaining-life depreciation system. In this system, the annualized depreciation expense for each group is computed by dividing the original cost of the asset group, less allocated depreciation reserve, less estimated net salvage, by its respective average remaining life. The resulting annualized 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 and were computed in a direct weighting by multiplying each vintage or account balance times its remaining life and dividing by the plant investment in service as of December 31, 2021. The computations of the annual functional depreciation rates and the weighted remaining life calculations are shown in Appendix A.

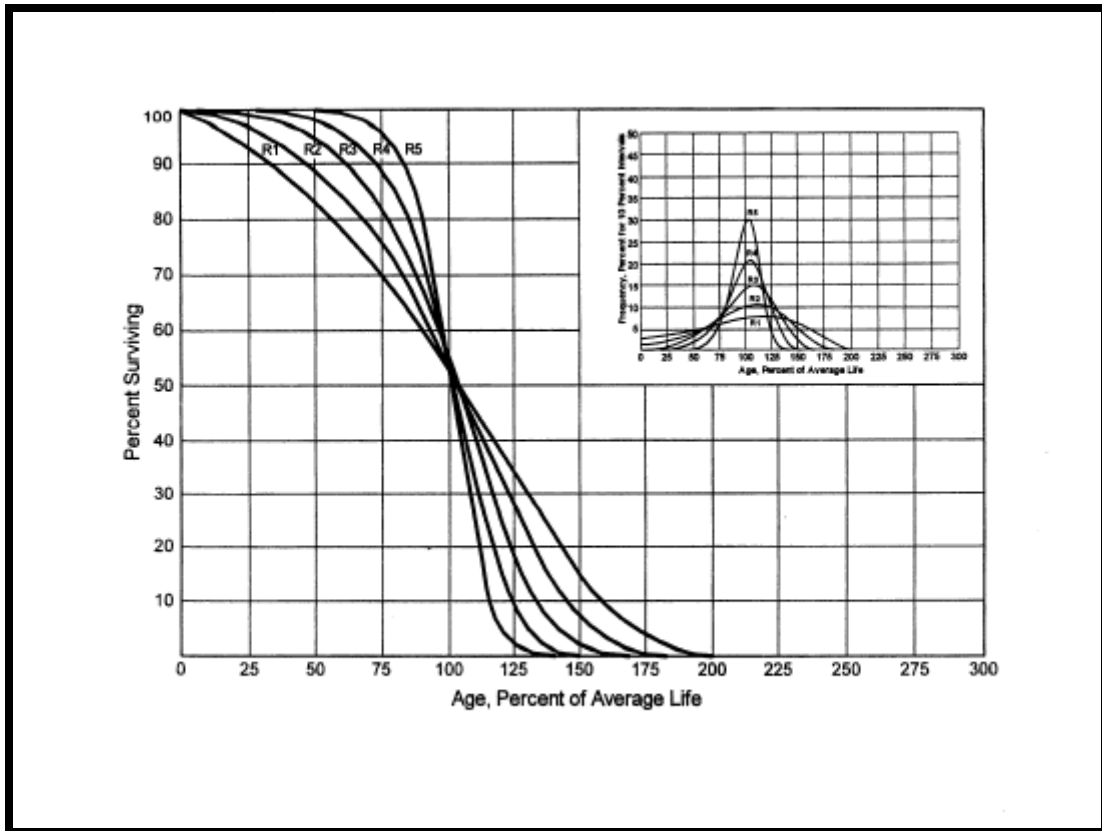
Actuarial analysis was used with each account within a function where sufficient data was available, and judgment was used to some degree on all accounts.

Survivor Curves

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



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



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

For Distribution, and General Property accounts, a survivor curve pattern was selected based on analysis of historical data, as well as other factors, such as general changes relevant to the Company's operations. 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. Iowa Curves were used to depict the estimated survivor curves for each account.

Actuarial Analysis

Actuarial analysis (retirement rate method) was used in evaluating historical asset retirement experience where vintage data were available and sufficient retirement activity was present. In 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 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 enough historical data existed, the accounts were analyzed using this method. Placement bands were used to illustrate the composite history over a specific era, and experience bands were used to focus on retirement history for all vintages during a set period. Matching data in observed life tables for each experience and placement band to an Iowa Curve requires visual examination. As stated in Depreciation Systems by Wolf and Fitch, "the analyst must decide which

points or sections of the curve should be given the most weight. Points at the end of the curve are often based on fewer exposures and may be given less weight than those points based on larger samples” (page 46). Some analysts choose to use mathematical fitting as a tool to narrow the population of curves using a least squares technique. Use of the least squares approach does not imply statistical validity, however, because the underlying data does not meet criteria for independence between vintages and the same average price for property units through time. Thus, Depreciation Systems cautions, “... the results of mathematical fitting should be checked visually and the final determination of best fit made by the analyst” (page 48). This study uses the visual matching approach to match Iowa Curves, since mathematical fitting produces theoretically possible curve matches. Visual examination and experienced judgment allow the depreciation professional to make the final determination as to the best curve type.

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

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 understanding of depreciation theory are needed to apply this informed judgment. In this depreciation study, judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, and actuarial analysis.

Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, property mix in accounts, or a multitude of other considerations that affect the analysis (potentially in various directions), judgment is used to take all these considerations and synthesize them into a general

direction or understanding of the characteristics of the property. Individually, no one consideration in these cases may have a substantial impact on the analysis, but overall, the collective effect of these considerations may shed light on the use and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment.

Theoretical Depreciation Reserve

The book accumulated provision for depreciation for 3 State within each function was allocated through the use of the theoretical depreciation reserve model. 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 property group is developed from the estimated remaining life of the group, the total life of the 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 straight-line remaining-life theoretical reserve ratio ("RR") at any given age is calculated as:

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

Average Life Group Depreciation

PNG's existing rates use the average life group ("ALG") depreciation procedure. Consistent with this methodology, 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, those parameters were used to estimate what portion of the surviving investment of each vintage was expected to retire. The depreciation of the group continues until all investment in the vintage group is retired. ALG groups are defined by their respective account dispersion, life, and 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 retirements 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.

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. After the first three stages were complete, the fourth phase began. This phase involved the calculation of depreciation rates and documenting the corresponding recommendations.

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

in relation to a company's actual asset utilization and environment. Information that was gleaned in these discussions with Company personnel for this study is found both in the Detailed Discussion portions of the Life Analysis and Salvage Analysis sections and in workpapers. In addition, Alliance personnel possess a significant understanding of the types of gas utility property, the forces of retirement due to years of day-to-day exposures, and operations of gas utility property.

Phase 2 is where the actuarial analysis is performed. Phase 2 and Phase 3 (to be discussed in the next paragraph) overlap to a significant degree. The detailed property records information is used in Phase 2 to develop observed life tables for life analysis. It is possible that an analyst would cycle back to this phase based on the evaluation process performed in Phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group and account to determine values and trends in gross salvage and removal cost. This information is then carried forward into Phase 3 for the evaluation process.

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

Finally, Phase 4 involves calculating of accrual rates, making recommendations, and documenting the conclusions in a final report. The calculation of accrual rates for this study is found in Appendix A. Recommendations for the various accounts are contained within the Detailed

Discussion of this report. The depreciation study flow diagram shown as Figure 1² documents the steps used in conducting this study. Depreciation Systems³ documents the same basic processes in performing a depreciation study, namely statistical analysis, evaluation of statistical analysis, discussions with management, forecast assumptions, and document recommendations.

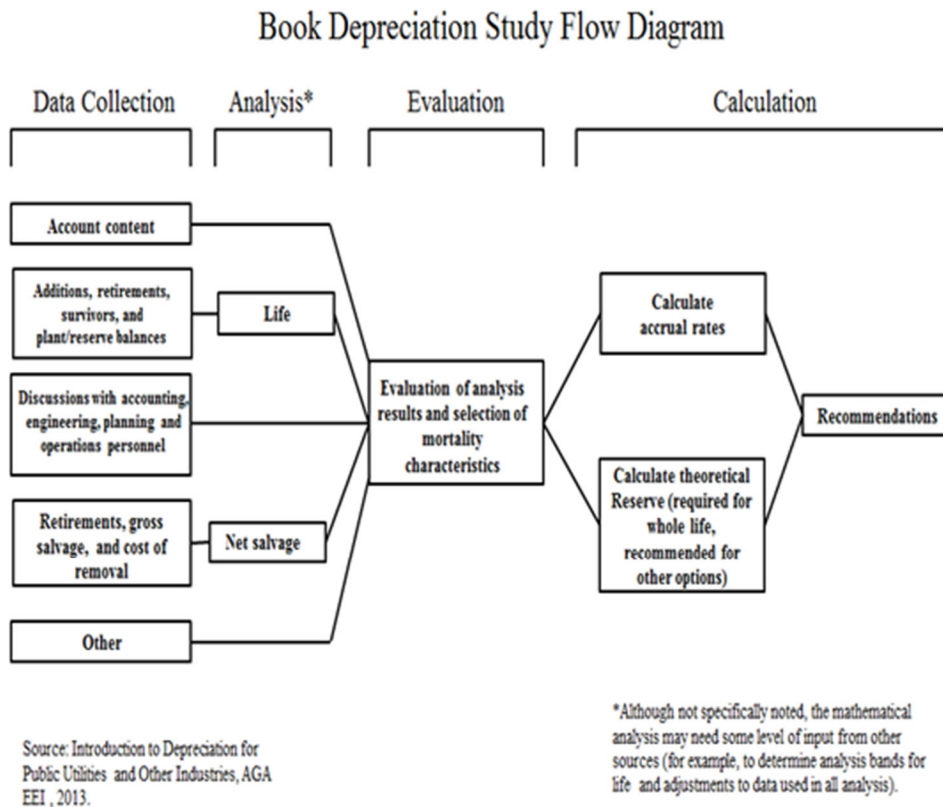


Figure 1

PNG 3-STATE DEPRECIATION STUDY PROCESS

² American Gas Association and Edison Electric Institute, *Introduction to Depreciation for Public Utilities and Other Industries* (2013).

³ W. C. Fitch and F. K. Wolf, *Depreciation Systems* 289 (Iowa State Press 1994).

Depreciation Rate Calculation

Annualized depreciation expense amounts for the depreciable accounts of PNG 3-State 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 Survivor Curves noted in the calculation. For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the average remaining life to yield the annualized 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 and 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 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 3-State where adequate historical information was available and contained placement and experience bands of varying width, where feasible. The historical observed life table was plotted and compared with various Iowa Survivor Curves

to obtain the most appropriate match. A selected curve 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 the overall band (*i.e.*, placement from earliest vintage year which varied for each account through 2021) is used as a starting point. Then, after looking at the overall experience band, different experience bands were plotted and analyzed: Repeated matching usually pointed to a focus on one dispersion family and small range of service lives. 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. The next step would be to determine the most appropriate life using that dispersion pattern. The goal of visual matching was to minimize the differential between the observed life table and Iowa curve in top and mid-range of the plots. These results are used in conjunction with all other factors that may influence asset lives.

ACCOUNT SPECIFIC LIFE ANALYSIS RESULTS

Distribution Plant

Account 28100 Meters (29 R1.5)

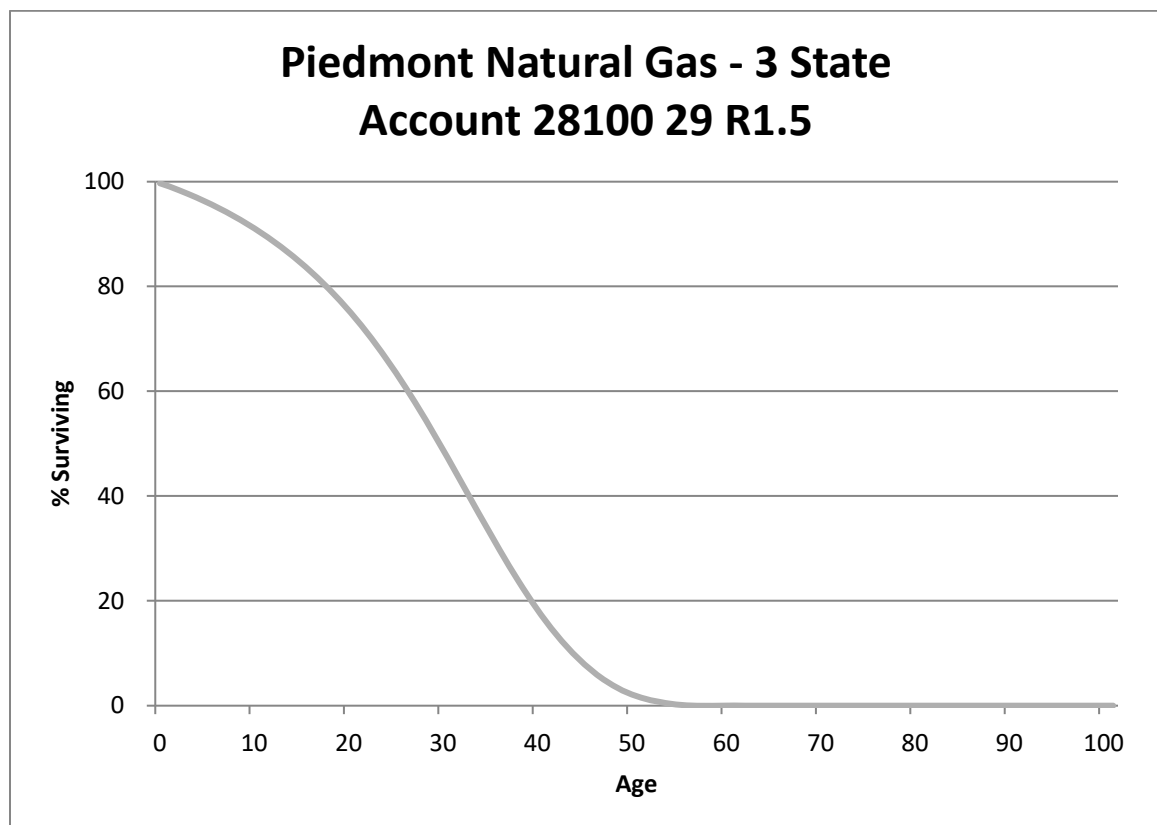
This account includes the cost of meters. There is approximately \$6.1 million of investment in this account. The approved life is 29 R1.5, which was based on the most recent “Carolinas and Corporate Study”.

Discussions with Company SMEs indicated there are three buckets associated with existing meters and the accessories (the encoder receiver transmitter “ERTs”). The existing automated meter reading (“AMR”) technology is expected to have a life around 30 years; ERTs are expected to have a life around 20 years, which is tied to the battery life; and labor for installation, which is tied to the 30 year life on the meter. Generally, they would replace a meter that is more than 30 years old if the ERT fails. For the ERTs, around 650,000 are anticipated to fail due to battery depletion in the next 7 years.

In 2021, the Company piloted new advanced metering infrastructure (“AMI”). The Company plans on replacing their oldest residential metering assets (residential premises with ERTs at least 16 years old and meters at least 30 years old) with AMI. The Company estimates that in the next 7 years, there are nearly 800,000 meters older than 30 years or will have failed ERT’s due to aged batteries across the three states out of a total of 1.2 million residential meters. The manufacturer suggests diaphragm meters would have a 30 year life and a 20 year life for the ERTs. The average age of retirement for existing meters will likely increase a little from the 30 year life as they move through the implementation and installation of the new AMI meters. Residential meters over 20 years old will be retired when brought in. The Company will perform end of life testing on meters removed from the field. The Company also plans to continue to test a percentage of meters per year that are not aged but exceed the 10 year age requirement. The

Company has used premanufactured loops for about 15 years. Where practical, they will replace the loop when replacing the meter. When a service is replaced, they will also replace the loop. ERTs are installed by the vendor before the meter is placed into service. If the meter is being replaced, the ERT has also been replaced. Company personnel believe a life of 25-30 years is reasonable. The new AMI meter is expected to have a 20 year life, and no separate ERTs are needed with AMI. The Company is proposing a new account, 28106, for new AMI meters with a 20 year life.

The limited retirement activity of this account does not allow for a meaningful life analysis. However, we did evaluate the various types of meters and expected life. Based on the mix and expectations and discussion with Company SMEs, this study recommends 29 R1.5. A representative graph of the proposed life and curve is shown below.

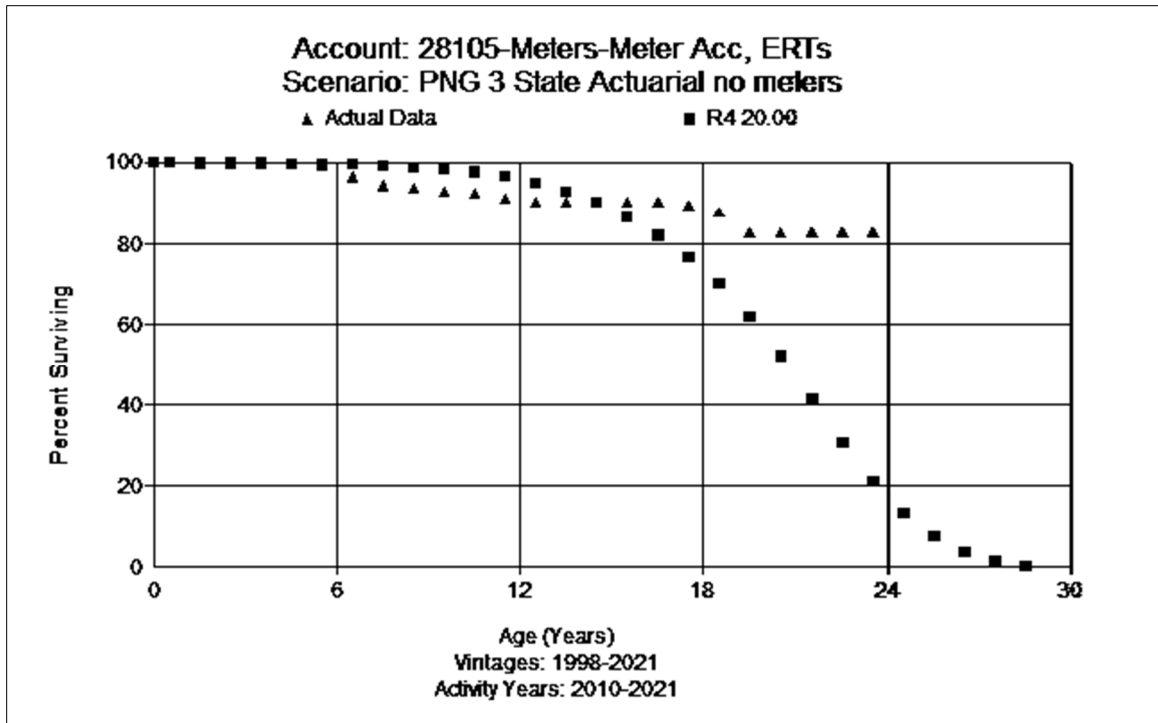


Account 28105 Meter Accessories & ERTs (20 R4)

This account includes the cost of automatic meter reading equipment. There is approximately \$17.6 million of investment in this account. The approved life is 15 years with the R4 dispersion for all entities. Technologically, this equipment is very different than the older designs.

Discussion with Company SMEs indicated if a meter is being replaced, the Company replaces the ERT at the same time but will not replace a meter if the ERT is replaced unless the meter has reached its age of retirement. The existing AMR meter technology is expected to have a life around 30 years, but the ERTs are expected to have a life around 20 years, which is tied to the battery life; and labor for installation.

Based on information from manufacturers, discussions with Company SMEs, the limited life analysis, and knowledge of this type of equipment, this study recommends moving to the 20 R4 dispersion curve at this time for all entities. The proposed curve and observed life table for this account are shown below.



General Plant - Depreciated

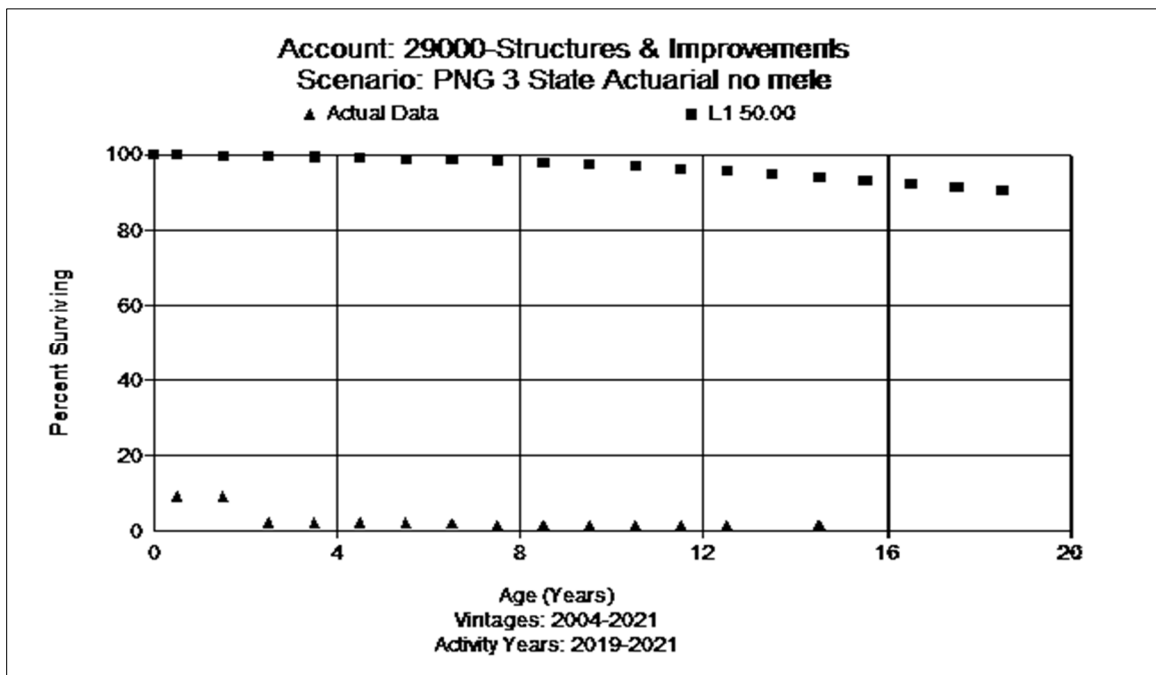
Account 29000 Structures & Improvements (L1 50)

This account includes AC heating, buildings, elevator, crane, hoist system, structures & improvements, plumbing system, roof, security system, roads, and parking areas. Currently, there is approximately \$5.1 million in this account. The approved life for this account is 50 L1.

Discussions with Company personnel indicated ASHRA is the standard for lives of assets related to buildings. There are two large structures in Nashville, an LNG facility that is not in the scope of this study (because it is a Tennessee Direct asset, not a 3-State asset) and an Operations Center. The superstructure could last 50 years but substructures like HVAC and roofs will have a lower life.

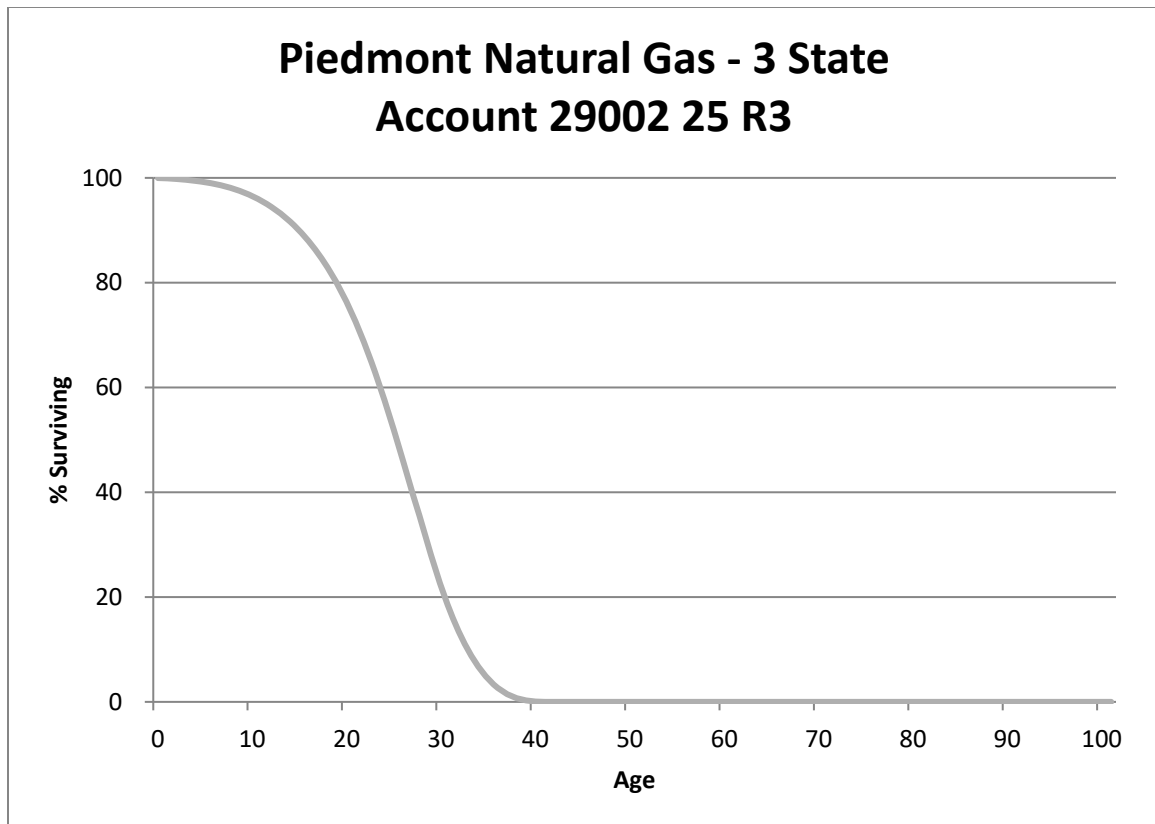
There is not enough historical data on a 3-State basis for a meaningful analysis. The analysis indicates a very short life due to very young retirements being recorded. Based on the analysis type of surviving assets and discussions with Company personnel, this study proposes retention of the existing L1 50. The

proposed curve and observed life table for this account are shown below.



Account 29002 CNG Station Equipment (25 R3)

This account consists of compressed natural gas (CNG) station equipment. There is approximately \$3 thousand in this account. The approved life is 25 R3. There is not enough activity for analysis. This study retains the existing 25 R3. A representative graph of the proposed life and curve is shown below.

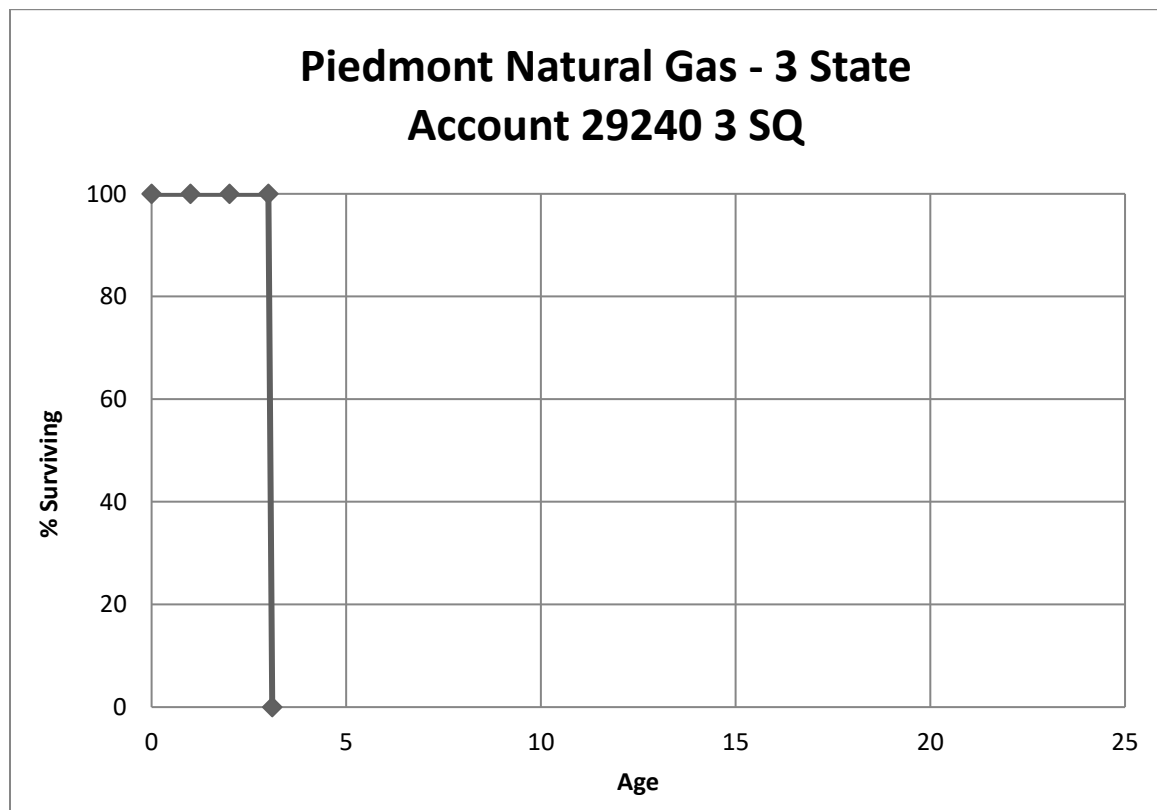


Transportation Equipment

Account 29240 Meter Reading Trucks 3 Year (3 SQ)

This account consists of meter reading service trucks used in performing various general company operations. There is approximately \$104 thousand in this account, and it is fully depreciated. The approved life is 3 SQ. The Company decided to segregate its transportation equipment into five distinct life classes for this study. These account segregations are new, so no life analysis was

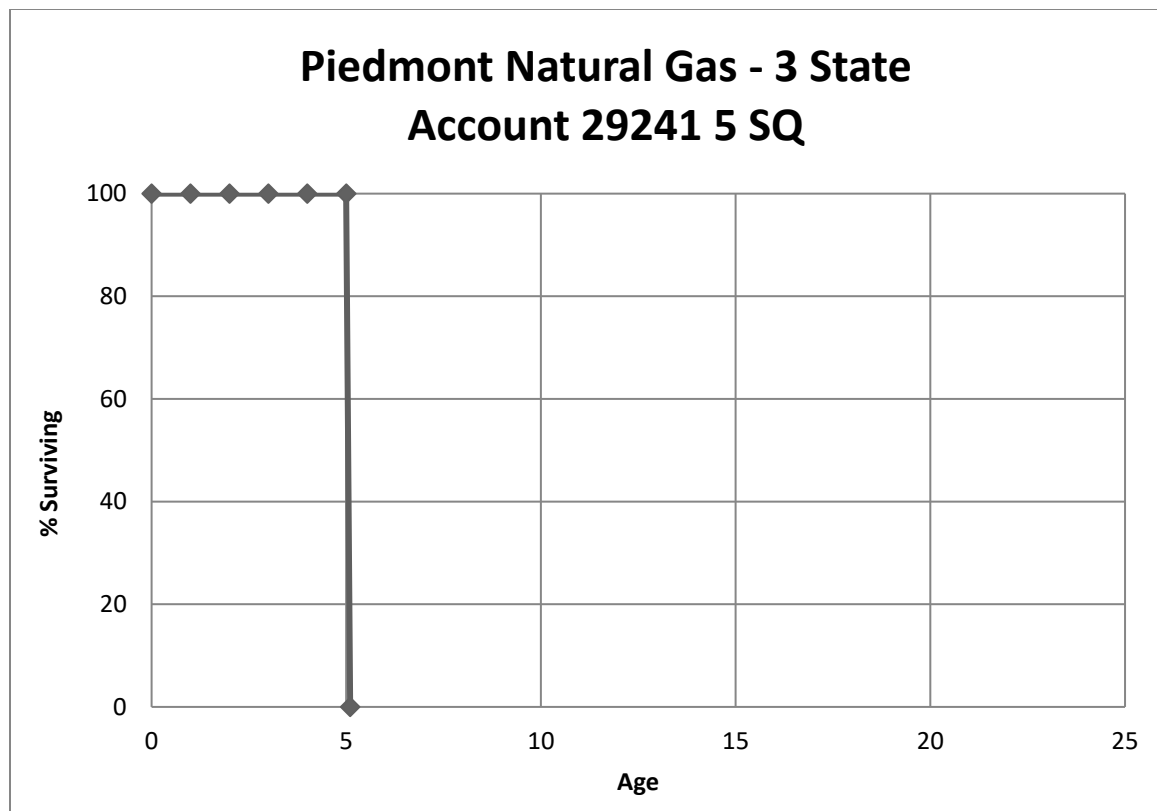
performed. Based on discussions with Company SMEs, meter reading vehicles generally last 3 years. They average between 40 and 50 thousand miles per year and will hit 150 thousand in three years. Based on Company input and policy, this study recommends retention of the existing 3 SQ. A representative graph of the proposed life and curve is shown below.



Account 29241 Rural Use 5 Year (5 SQ)

This account consists of primarily lighter duty trucks used by service technicians and operations personnel in performing various general company operations. There is approximately \$829 thousand in this account. The approved life is 5 SQ. The Company decided to segregate its transportation equipment into five distinct life classes for this study. These account segregations are new, so no life analysis was performed. Based on discussions with Company SMEs, Rural

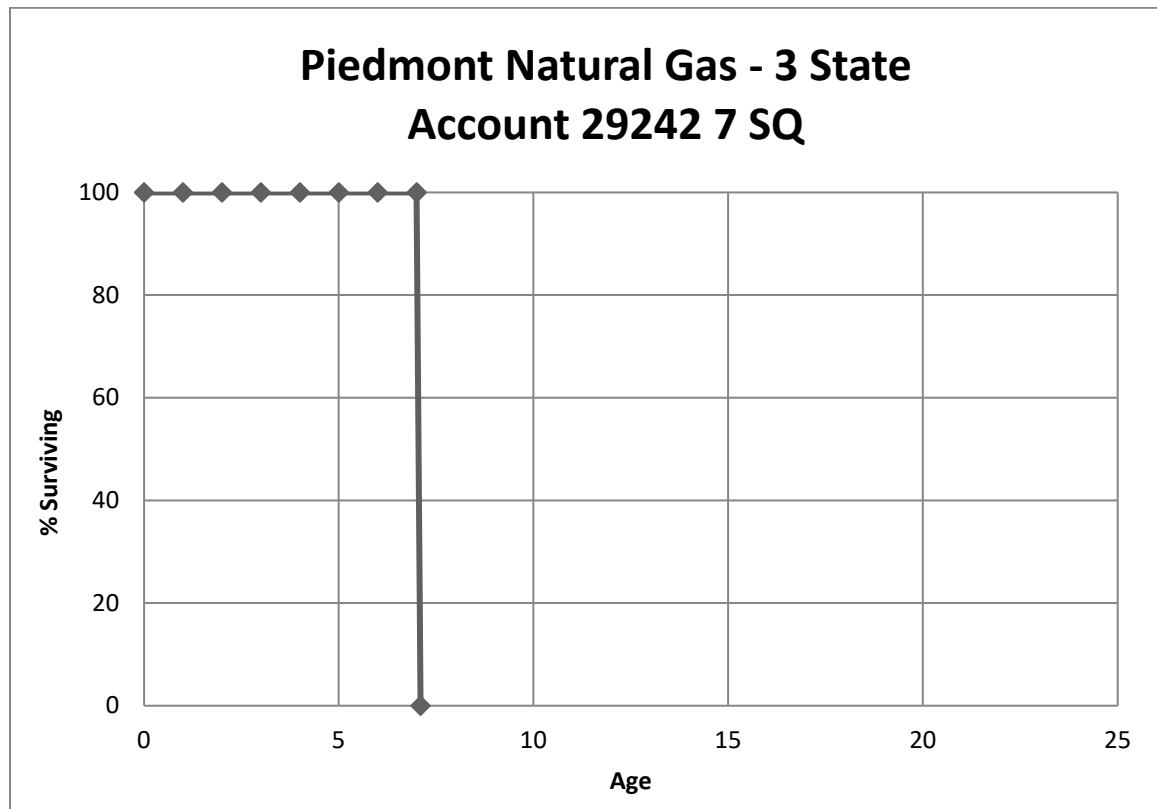
covers wider service areas and will put more miles on the vehicles and generally last 5 years. Based on Company input and policy, this study recommends retention of the existing 5 SQ. A representative graph of the proposed life and curve is shown below.



Account 29242 Urban Use 7 Year (7 SQ)

This account consists of a few automobiles, vans, and trucks used in general company operations. There is approximately \$1.4 million in this account. The approved life is 7 SQ. The Company decided to segregate its transportation equipment into five distinct life classes for this study. These account segregations are new, so no life analysis was performed. Based on discussions with Company SMEs, the Urban assets have a smaller footprint to drive and would put less miles

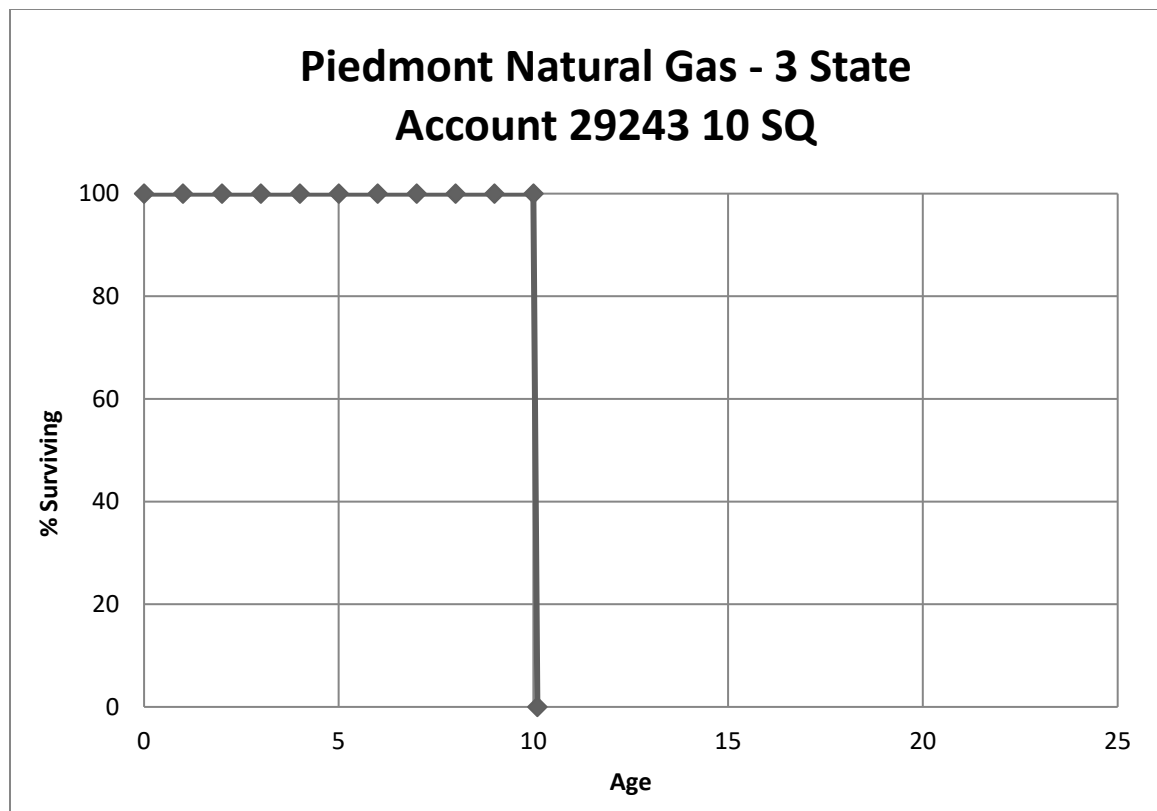
per year on the vehicles and generally last 7 years. Based on Company input and policy, this study recommends retention of the existing 7 SQ. A representative graph of the proposed life and curve is shown below.



Account 29243 Heavy Duty Trucks 10 Year (10 SQ)

This account consists of heavy duty trucks used in performing various general company operations. There is approximately \$130 thousand in this account and is fully depreciated. The Company decided to segregate its transportation equipment into five distinct life classes for this study. These account segregations are new, so no life analysis was performed. Based on discussions with Company SMEs, the heavy duty trucks don't incur as many miles as the

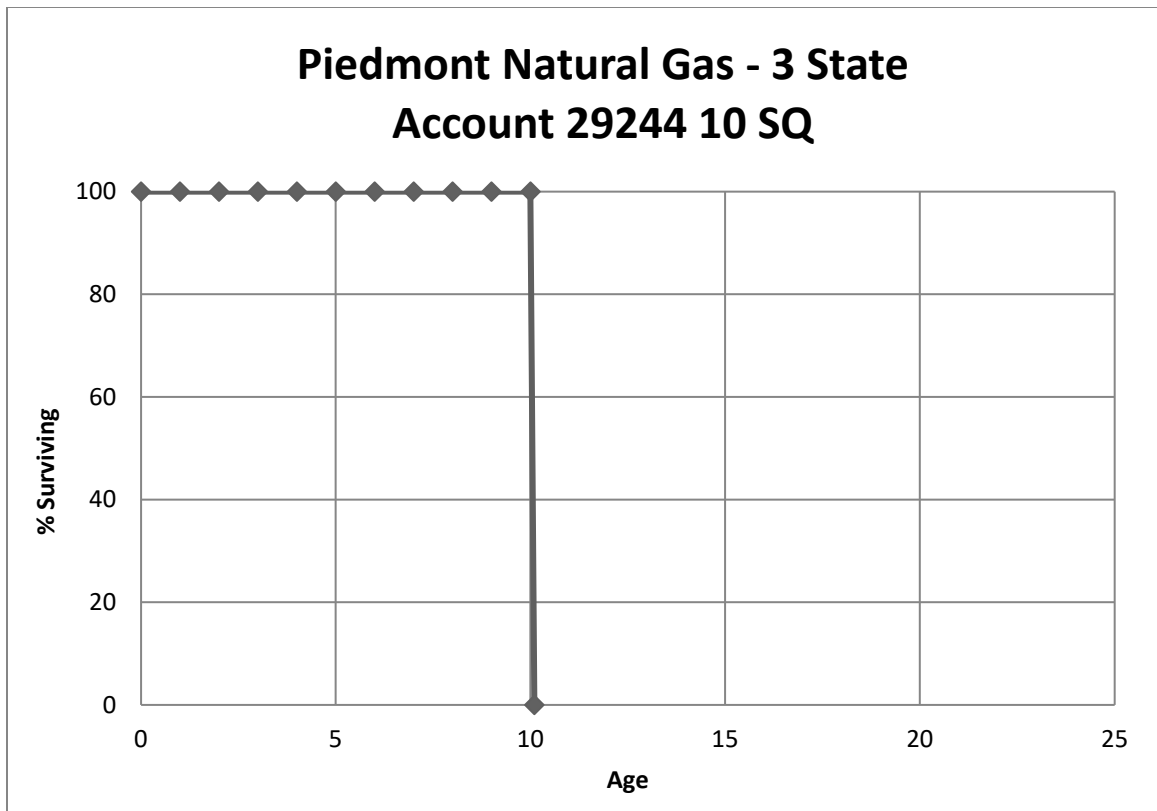
smaller vehicles. They also would stay at a single job site for much longer. These trucks generally last 10 years. Based on Company input and policy, this study recommends retention of the existing 10 SQ. A representative graph of the proposed life and curve is shown below.



Account 29244 Trailers and Other (10 SQ)

This account contains trailers and other miscellaneous equipment with longer life expectations. The current balance is approximately \$22 thousand. The Company decided to segregate its transportation equipment into five distinct life classes for this study. These account segregations are new, so no life analysis was performed. Based on discussions with Company SMEs, the trailers get wear and tear and are behind the heavy vehicles generally carrying a lot of weight on

them. In the past, they might have kept trailers for 15 years, but they are moving in the direction of replacing at 10 years for safety reasons. Based on Company input and policy, this study recommends retention of the existing 10 SQ. A representative graph of the proposed life and curve is shown below.

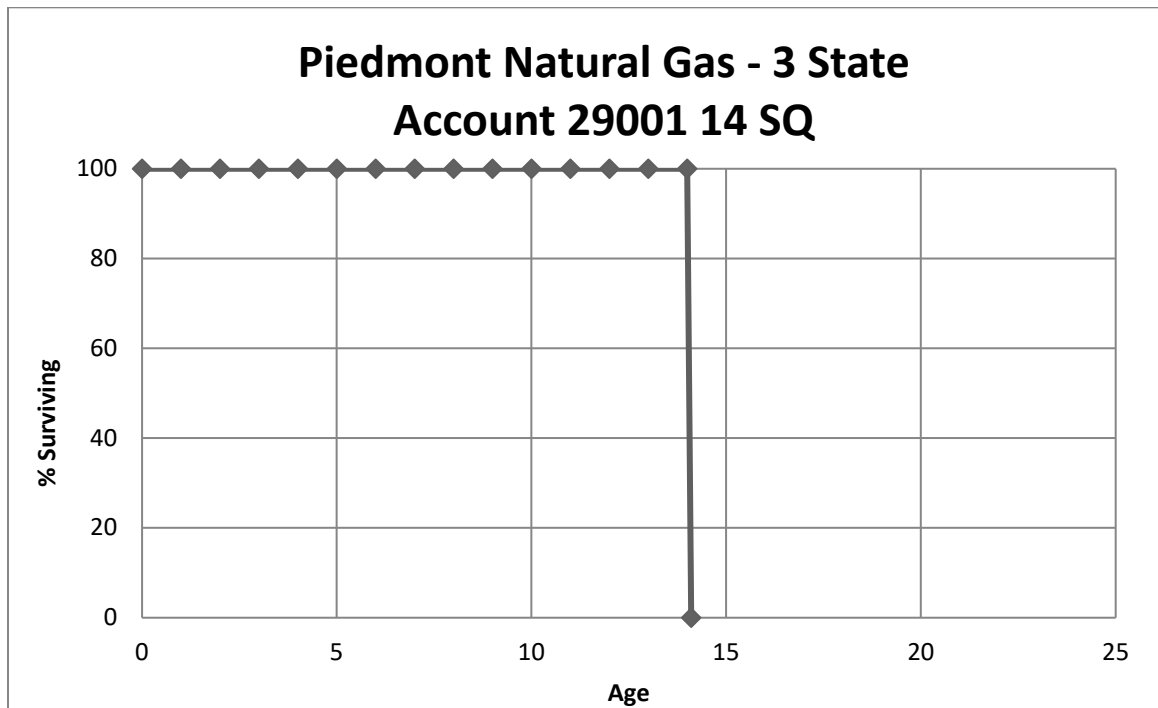


General Plant Amortized

The accounts listed below utilize vintage group amortization accounting. No analysis can be performed but discussions with Company personnel confirmed the following lives for these assets. Some of these accounts have also been impacted by the impairment related to Piedmont Town Center. A representative graph of the proposed life and curve is provided for each account shown below.

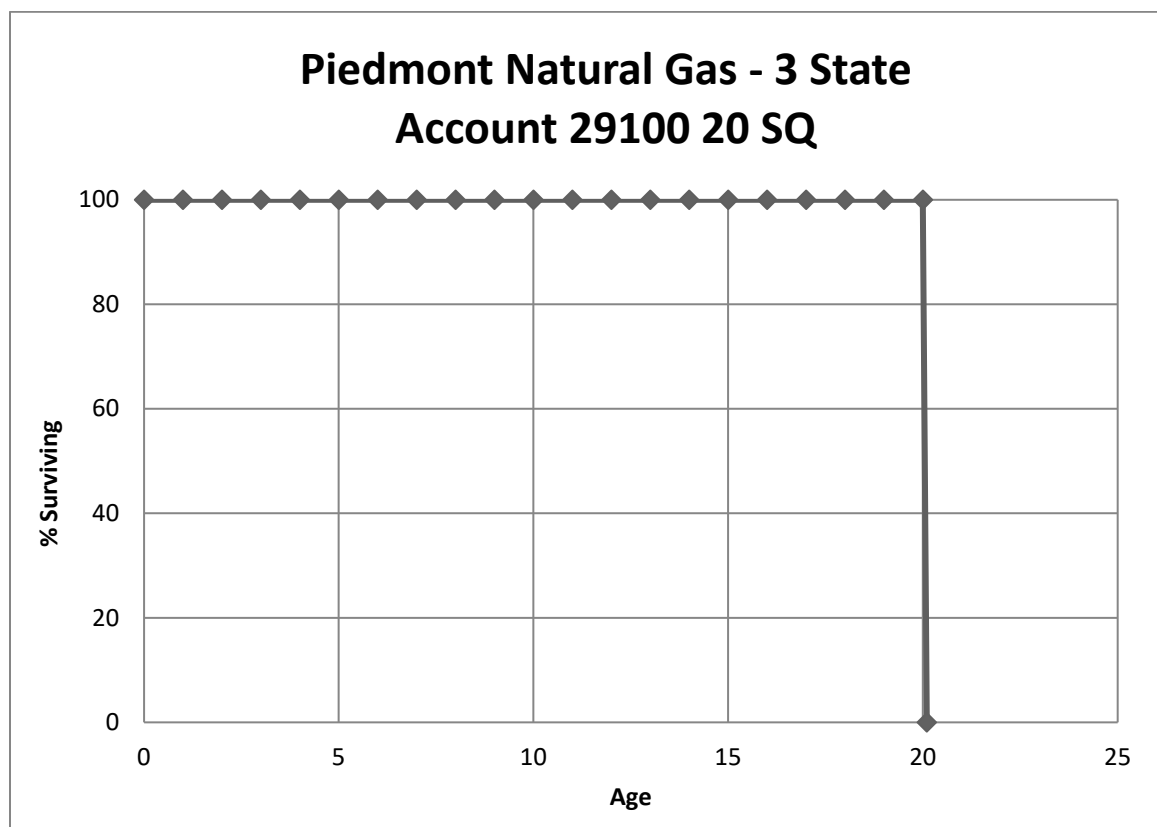
Account 29001 Leasehold Improvements (14 SQ)

This account has a balance of approximately \$5.9 million, after impairment and retirement of assets with an age greater than average service life (“ASL”), related to leasehold improvements. The existing life is 21 SQ. Discussions with Company personnel indicated many of the leases will not be renewed and the Company has determined some assets in this account are impaired. The analysis reflects a lower life due to the retirement of assets associated with lease termination. This study recommends a 14 SQ. A representative graph of the proposed life and curve is shown below.



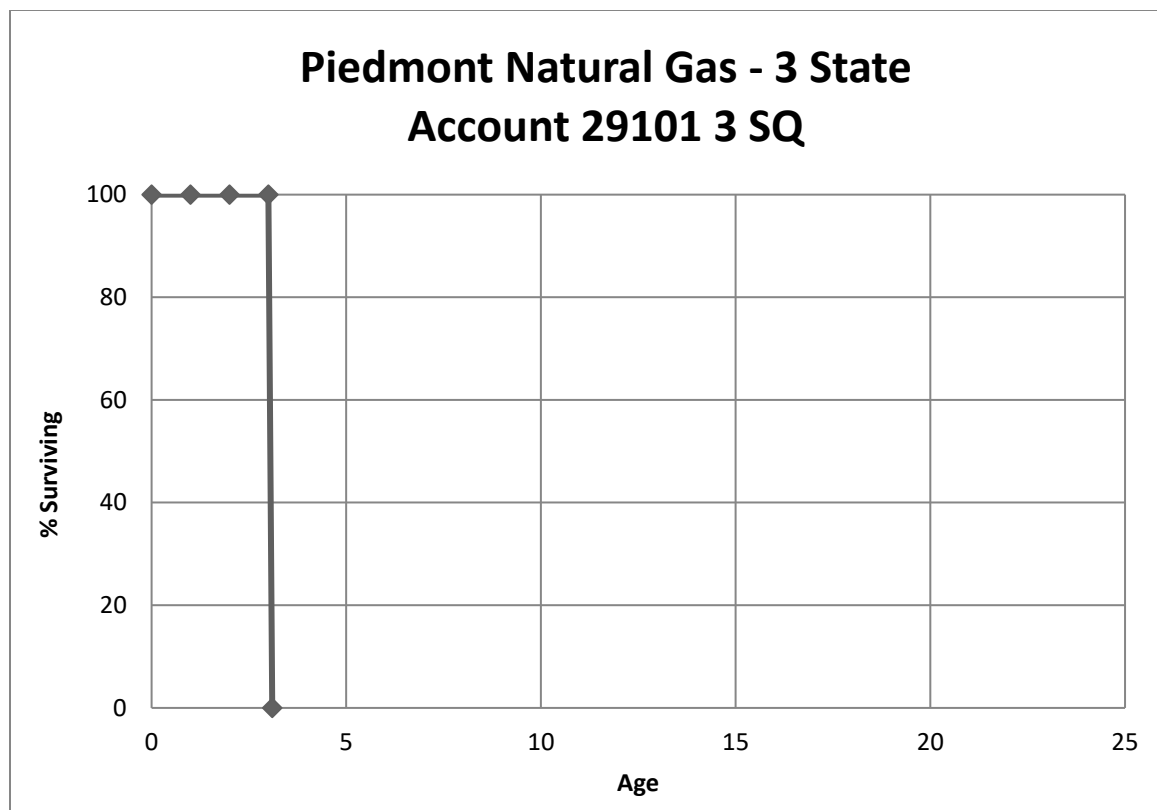
Account 29100 Office Furniture & Equipment (20 SQ)

This account consists of tables, safes, office equipment, floor covering, miscellaneous equipment, filing, storage cabinets, drafting room equipment, cubical workstation, bookcases, and shelves. There is approximately \$7.8 million, after impairment, in this account. The approved life for all three entities is a 20 SQ and is retained. Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.



Account 29101 Electronic Data Processing/Mainframe Equipment (3 SQ)

This account consists of mainframe and other computer hardware related to systems used for processing customer data and accounts. There is approximately \$2.4 million, after impairment, in this account. The approved life for this account is 5 SQ. Discussions with Company personnel indicated this equipment will be retired when the implementation of the SAP customer system is completed, which is expected in July 2024. Based on future expectations, this study recommends moving to 3 SQ. Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.

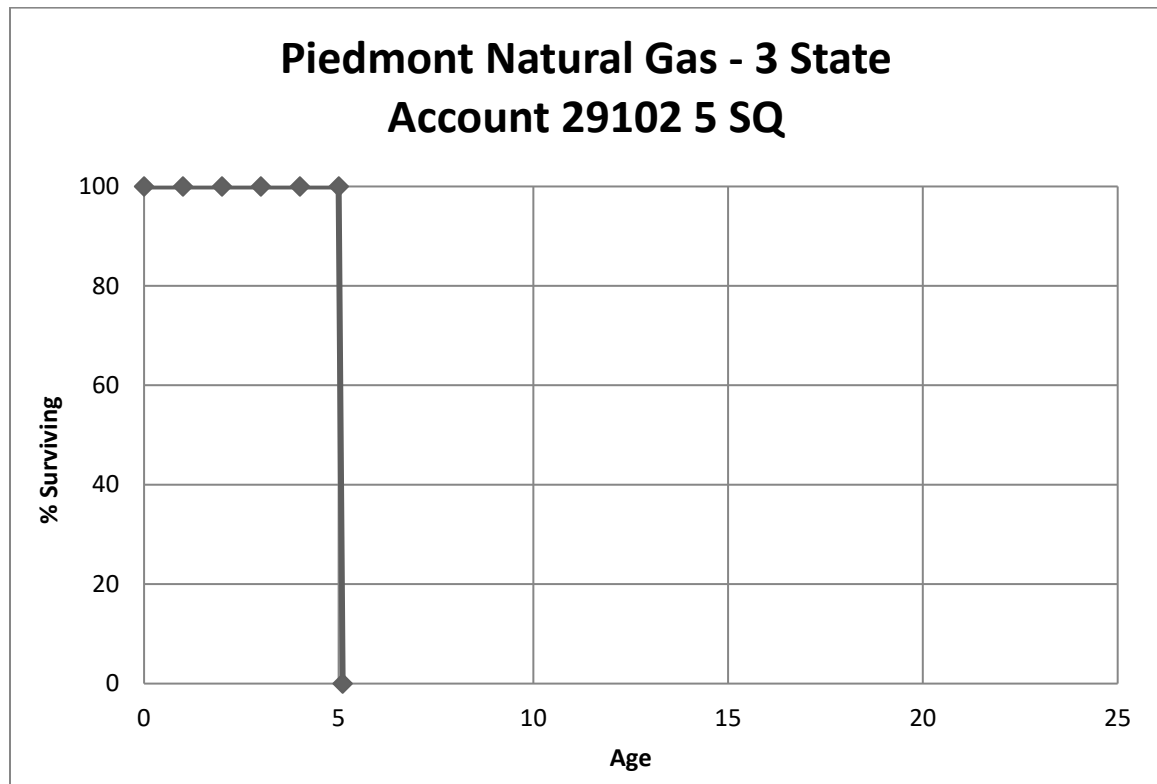


Account 29102 PC/Server Equipment (5 SQ)

This account consists of personal computer equipment and servers. There is approximately \$12.2 million, after impairment and retirement of assets with an age greater than ASL, in this account. The approved life for this account is 5 SQ.

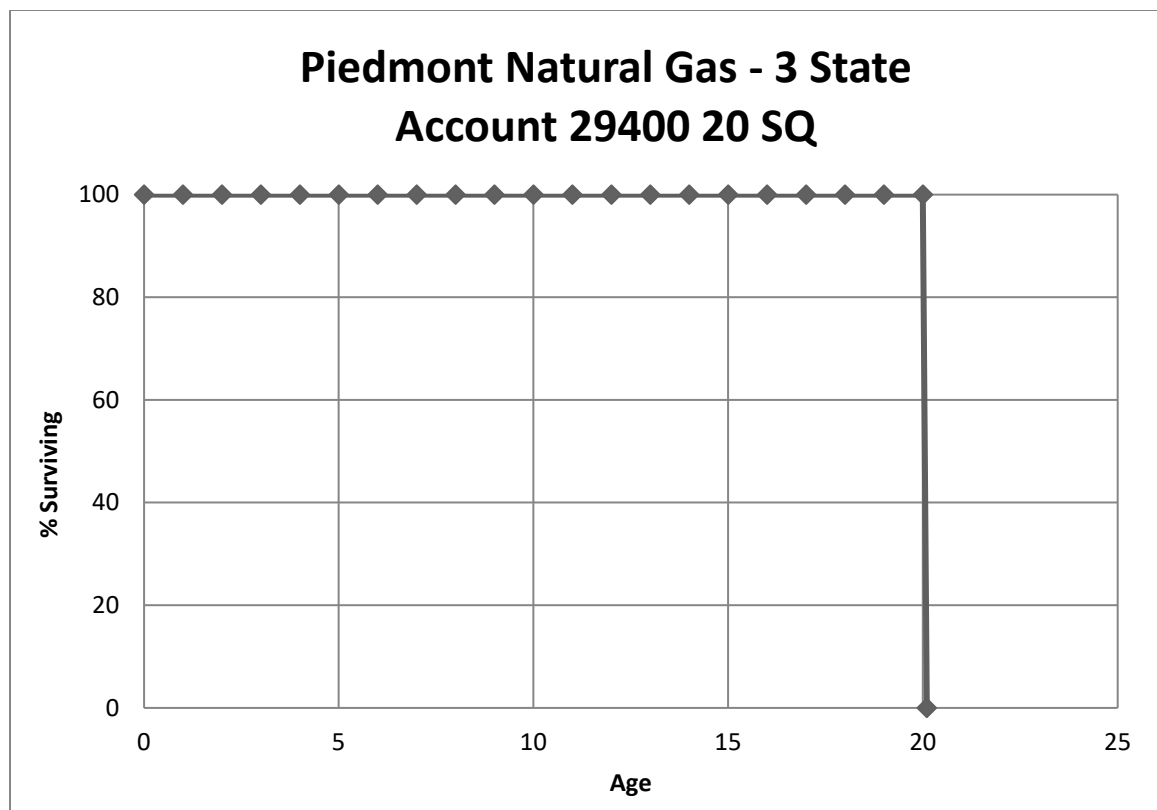
Discussions with Company personnel indicated there is an IT practice across the enterprise, which is a 5 year replacement cycle.

Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.



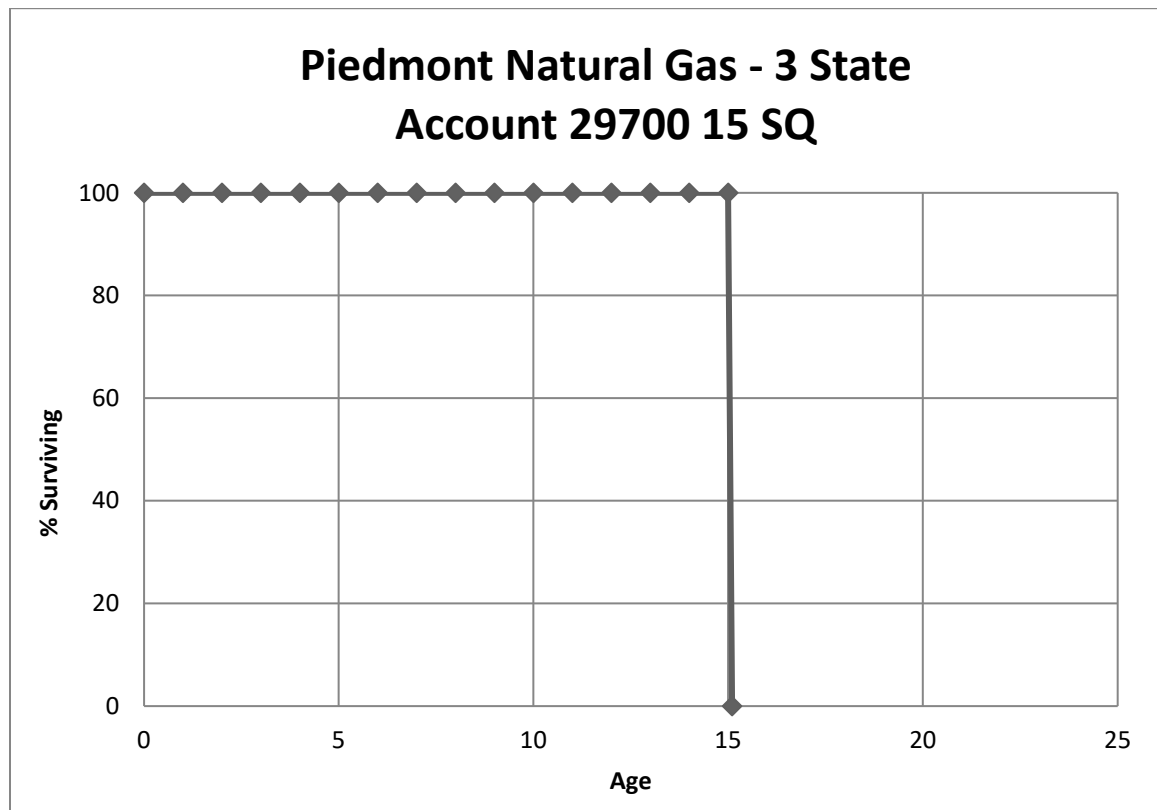
Account 29400 Tools, Shop & Garage Equipment (20 SQ)

This account consists of a vacuum excavation machine, tapping machines, electro fusion unit, pipe horn & pipe horn valve locators, mustang squeezer, roots transfer prover, air tools, various pipe squeezers, and other miscellaneous tools and equipment used in shop and garages. There is approximately \$3.5 million, after impairment in this account. The approved life is 20 SQ. The Company did not see any reason to change from the existing life at this time and is retained. Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.



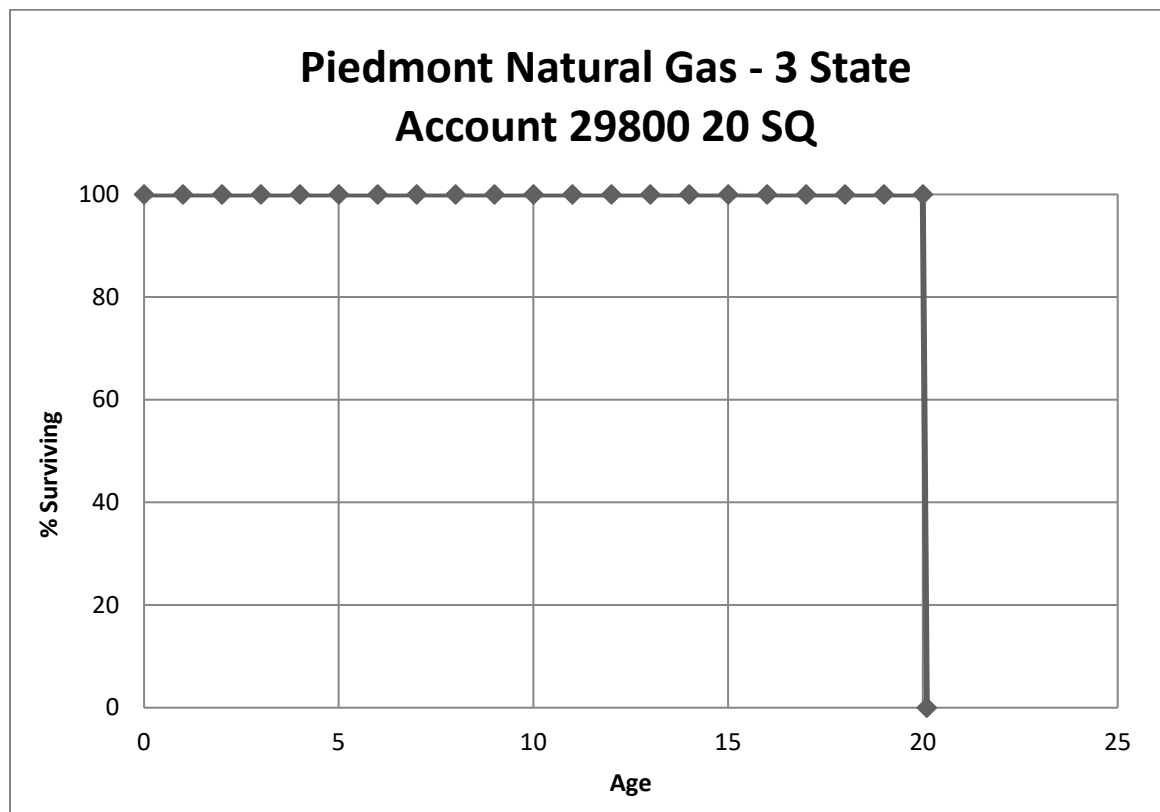
Account 29700 Communication Equipment (15 SQ)

This account consists of SCADA and other miscellaneous communication equipment used in general utility service. There is approximately \$21.8 million, after impairment and retirement of assets with an age greater than ASL, in this account. The existing mortality characteristic is an 18 SQ. Discussions with Company personnel indicated that most of the SCADA type assets exhibit shorter lives due to technology. Based on Company input, this study recommends moving the life to 15 SQ at this time. Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.



Account 29800 Miscellaneous Equipment (20 SQ)

This account consists of miscellaneous equipment used in general utility service. There is approximately \$222 thousand, after impairment, in this account. The existing mortality characteristic is a 20 SQ. After discussions with Company personnel, we do not see any reason to change from the existing life at this time and is retained. Due to vintage amortization, no analysis was performed. A representative graph of the proposed life and curve is shown below.



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.

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 considers recent and expected changes in operations that could reasonably lead to different future expectations than were experienced in the past.

Salvage Characteristics

For each account, data for retirements, gross salvage and cost of removal, is derived from 2009-2021. Moving averages, which remove timing differences between retirement and salvage and removal cost, were analyzed over periods varying from one to 10 years.

ACCOUNT SPECIFIC NET SALVAGE RESULTS

Distribution Plant

Account 28100 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 zero percent. Some salvage and cost of removal has been recorded from 2009-2021. The 5 and 10-year moving average is less than a negative 1 percent. There is no basis to change, this study recommends zero percent net salvage.

Account 28105 Meter Accessories & ERTs (0% NS)

This account includes any salvage and removal cost related to meter accessories and ERTs used in measuring gas to customers. The existing net salvage is zero percent. In the past several years some cost of removal has been recorded and has exceeded salvage. The 5 and 10 year moving average is less than a negative 1 percent. There is no basis to change. This study recommends zero percent net salvage.

Account 28106 Meter AMI (0% NS)

This is a new account that will include any salvage and removal cost related to the new AMI meters used in measuring gas to customers. No salvage is expected at end of life. Future studies will update to reflect actual experience for both salvage and cost of removal. For now, this study recommends zero percent net salvage.

General Plant - Depreciated

Account 29000 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 five percent. Based on experience, some salvage is possible, but the cost of removal will exceed any salvage. There is not enough experience to warrant a change. This study recommends retention of the existing negative five percent net salvage this time.

Account 29002 CNG Equipment (-2%)

This account consists of CNG station equipment. The authorized net salvage rate for this account is negative two percent. There is not enough historical experience to support a change currently. This study recommends retention of negative two percent net salvage.

Transportation Equipment

Account 29240 3 Year Meter Reading Trucks (35% NS)

This account consists of salvage and removal costs associated with meter reading trucks. This study segregates the assets based on type, use, and expected life. The existing net salvage is positive 20 percent. Based upon discussions with Company SMEs the residual values will be higher for the next few years but will be offset by the lower sales price. They have seen a 30 to 35 percent salvage value recently. Piedmont's electric affiliates use, for their 3 year meter reading trucks, 35 percent salvage for this account. This study recommends increasing to 35 percent net salvage for Piedmont.

Account 29241 5 Year Rural 1 ton or less (20% NS)

This account consists of salvage and removal costs associated with trucks that are 1 ton or less and used in rural areas. This study segregates the assets based on type, use, and expected life. The existing net salvage is positive 23 percent. Based upon discussions with Company SMEs the residual values will be less for this class of vehicle. Piedmont's electric affiliates use, for their 5 year vehicles, 20 percent salvage for this account. This study recommends moving to 20 percent net salvage for Piedmont.

Account 29242 7 Year Urban 1 ton or less (20% NS)

This account consists of salvage and removal costs associated with light duty trucks, autos, passenger vans, and SUVs used in urban areas. This study segregates the assets based on type, use, and expected life. The existing net salvage is positive 30 percent. Based upon discussions with Company SMEs the residual values will be less for this class of vehicle at end of life. Piedmont's electric affiliates use, for their 7 year trucks, 20 percent salvage for this account. This study recommends moving to 20 percent net salvage for Piedmont.

Account 29243 10 Year Heavy Duty Trucks (15% NS)

This account consists of salvage and removal costs associated with heavy duty trucks. This study segregates the assets based on type, use, and expected life. The existing net salvage is positive 25 percent. Based upon discussions with Company SMEs the residual values will be less for this class of vehicle at end of life. Piedmont's electric affiliates use, for their 10 year heavy duty trucks, 15 percent salvage for this account. This study recommends moving to 15 percent net salvage for Piedmont.

Account 29244 Trailers & Other (20% NS)

This account consists of salvage and removal costs associated with trailers and other transportation equipment. This study segregates the assets based on type, use, and expected life. The existing net salvage is positive 25 percent. Based upon discussions with Company SMEs the residual values will be less for this equipment at end of life. Piedmont's electric affiliates use, for their trailers and other equipment, 20 percent salvage. This study recommends moving to 20 percent net salvage for Piedmont.

General Plant Amortized**Account 29001 Leasehold Improvements (-5% NS)**

No salvage but some cost of removal is expected. The most recent 5 and 10 year moving average is a negative 4 percent. This study recommends moving to a negative 5 percent net salvage based on recent activity and expectations there will be negative net salvage at the end of a lease.

Account 29100 Office Furniture and Equipment (0% NS)

No salvage but some cost of removal was recorded in 2021. The most recent 5 and 10 year moving average is negative 18 percent and negative 4 percent net salvage, respectively. However, this is not expected to reoccur going forward, so this study recommends retention of the existing zero net salvage.

Account 29101 Electronic Data Processing/Mainframe Equipment (0% NS)

This account includes any salvage and removal cost related to computer hardware and software used for general utility operations. No salvage or cost of removal is expected for this account. This study recommends retention of the existing zero percent net salvage rate for this account.

Account 29102 PC/Server Equipment (0% NS)

This account includes any salvage and removal cost related to computer hardware and software used for general utility operations. One year, 2016 had some salvage, and some limited cost of removal was recorded in 2012 and 2021. The most recent 5 and 10 year moving average is less than negative 1 percent. This study recommends retention of the existing zero percent net salvage rate for this account.

Account 29400 Tools, Shop & Garage Equipment (0% NS)

This account consists of tools, shop, and garage equipment. No retirements have been recorded and there have been some salvage and cost of removal adjustments recorded in 2021. This is not expected to reoccur, and no salvage or cost of removal is expected at end of life for these assets. The approved zero net salvage is retained.

Account 29700 Communication Equipment (0% NS)

This account consists of communications equipment. No salvage or cost of removal has been recorded since 2009 until 2021 where some cost of removal was recorded. The most recent 5 and 10 year moving average is less than negative 1 percent. This study recommends retention of the existing zero percent net salvage rate for this account.

Account 29800 Miscellaneous Equipment (0% NS)

This account consists of miscellaneous equipment. No salvage or cost of removal has been recorded since 2009 until 2021 when some cost of removal was recorded. However, no retirements have been recorded yet. Very little to no salvage or cost of removal is expected in the future at time of retirement. The approved zero net salvage is retained.

APPENDIX A
Computation of Depreciation Accrual Rate

**PIEDMONT NATURAL GAS COMPANY
3-STATE COMMON PROPERTY ASSETS
COMPUTATION OF ANNUAL DEPRECIATION ACCRUAL AND RATES
DEPRECIATION STUDY AT DECEMBER 31, 2021**

Account	Description	Original Cost at 12/31/2021	Allocated Book Reserve at 12/31/2021	Net Salvage %	Net Salvage Amount	Unrecovered Investment	Remaining Life	Annual Accrual Amount	Annual Accrual %
DISTRIBUTION PLANT									
28100	Meters	\$ 6,056,805	\$ 212,937	0%	\$ -	\$ 5,843,868	26.28	\$ 222,333	3.67%
28105	Meters - Meter Accessories & ERTs	17,611,578	3,055,520	0%	-	14,556,058	10.76	1,353,101	7.68%
28106	AMI Meter	-	-	0%	-	-	-	-	5.00% *
Total Distribution		23,668,383	3,268,457		-	20,399,925		1,575,434	6.66%
GENERAL PLANT DEPRECIATED									
29000	Structures & Improvements	5,140,049	343,079	-5%	(257,002)	5,053,972	45.56	110,939	2.16%
29002	CNG Station Equipment	2,908	686	-2%	(58)	2,280	16.92	135	4.64%
29240	Transportation 3 Year Meter Reading Trucks	104,284	67,785	35%	36,499	-	-	-	21.67% **
29241	Transportation 5 Year Rural	828,717	332,021	20%	165,743	330,953	1.50	220,743	16.00%
29242	Transportation - 7 Year Urban Use	1,427,471	551,746	20%	285,494	590,231	2.27	259,812	18.20%
29243	Transportation - 10 Year Heavy Duty	130,042	110,536	15%	19,506	-	-	-	8.50% **
29244	Transportation - Trailers & Other	21,889	10,198	20%	4,378	7,313	1.86	3,936	17.98%
Total General Depreciated		7,655,360	1,416,050		254,560	5,984,749		595,563	7.78%
Total Depreciated Plant		\$ 31,323,742	\$ 4,684,507		\$ 254,560	\$ 26,384,675		\$ 2,170,998	6.93%

*Account is new. Proposed Rate is (1-NS%)/ASL years and will be applied to new AMI Meters.

**Account is fully depreciated. Proposed Rate is (1-NS%)/ASL years and is to be applied to new additions.

**PIEDMONT NATURAL GAS COMPANY
3-STATE COMMON PROPERTY ASSETS
COMPUTATION OF AMORTIZATION AMOUNT
FOR AMORTIZED GENERAL PROPERTY
DEPRECIATION STUDY AT DECEMBER 31, 2021**

<u>Amortize</u>		Plant	Allocated Book	Theoretical	Reserve	Reserve	Amortize	Assets with	Annual
Account	Description	Balance at 12/31/2021	Reserve at 12/31/2021	Reserve at 12/31/2021	Deficit/Surplus	Amortization Period	Reserve Deficit/(Surplus)	Age > Average Service Life	Amortization %
29001	Leasehold Improvements	\$ 7,295,750	\$ 2,843,888	\$ 3,975,867	\$ (1,131,979)	5.00	\$ 226,396	\$ 1,394,718	7.50%
29100	Office Furniture & Equipment	7,836,180	3,790,733	5,299,594	(1,508,861)	5.00	301,772	-	5.00%
29101	Electronic Data Processing/Mainframe Equipment	2,416,816	1,136,912	1,589,448	(452,536)	5.00	90,507	-	33.33%
29102	PC/Server Equipment	12,406,053	4,693,605	6,561,844	(1,868,239)	5.00	373,648	199,489	20.00%
29400	Tools, Shop & Garage Equipment	3,518,232	866,497	1,211,397	(344,900)	5.00	68,980	-	5.00%
29700	Communications Equipment	28,470,529	14,052,116	19,645,410	(5,593,294)	5.00	1,118,659	6,621,811	6.67%
29800	Miscellaneous Equipment	222,267	22,077	30,865	(8,788)	5.00	1,758	-	5.00%
	Total General Amortized	62,165,828	27,405,829	38,314,425	(10,908,596)		2,181,719	8,216,017	

<u>Amortize after Retirement of Assets with Age > Average Service Life</u>		Plant	Allocated Book	Annual (1)	Accrual (2)	Total (3)	Annual (4)
Account	Description	Balance at 12/31/2021	Reserve at 12/31/2021	Amortization Amount	For Reserve Deficit/(Surplus)	Amortization Amount	Amortization Rate
29001	Leasehold Improvements	5,901,032	1,449,170	442,577			7.50%
29001	Leasehold Improvements				226,396		
29001	Total Leasehold Improvements					668,973	
29100	Office Furniture & Equipment	7,836,180	3,790,733	391,809			5.00%
29100	Office Furniture & Equipment				301,772		
29100	Total Office Furniture & Equipment					693,581	
29101	Electronic Data Processing/Mainframe Equipment	2,416,816	1,136,912	805,605			33.33%
29101	Electronic Data Processing/Mainframe Equipment				90,507		
29101	Total Electronic Data Processing					896,112	
29102	PC/Server Equipment	12,206,565	4,494,116	2,441,313			20.00%
29102	PC/Server Equipment				373,648		
29102	Total PC Equipment					2,814,961	
29400	Tools, Shop & Garage Equipment	3,518,232	866,497	175,912			5.00%
29400	Tools, Shop & Garage Equipment				68,980		
29400	Total Tools, Shop & Garage Equipment					244,892	
29700	Communications Equipment	21,848,718	7,430,305	1,456,581			6.67%
29700	Communications Equipment				1,118,659		
29700	Total Communications Equipment					2,575,240	
29800	Miscellaneous Equipment	222,267	22,077	11,113			5.00%
29800	Miscellaneous Equipment				1,758		
29800	Total Miscellaneous Equipment					12,871	
	Total General Amortized after Retirements > ASL	53,949,811	19,189,812	5,724,911	2,181,719	7,906,630	14.66%
	Total General Depreciated & Amortized	61,605,170	20,605,862				
	Total Depreciated & Amortized (excludes land)	\$ 85,273,553	\$ 23,874,319				

(1) Annual Amortization Amount is balance-net salvage/life of asset group excluding Deficit/Surplus accrual.

(2) Accrual for Reserve Deficit/(Surplus) will be a fixed dollar amount over a 5 year amortization period.

(3) Total Amortization Amount is Annual Amortization plus Deficit/Surplus Annual Accrual.

(4) Rate is (1-Net Salvage %)/ASL of asset group.

RECONCILIATIONS TO GL		
General Ledger Balance at 12/31/21	319,802,639	174,234,279
Difference	(234,529,085)	(150,359,960)
Intangible Assets	221,734,071	142,143,943
Retirement of Assets with Age > Average Service Life	8,216,017	8,216,017
Impaired Assets	4,578,997	-
Difference	234,529,085	150,359,960

APPENDIX B
Comparison of Depreciation Rates

**PIEDMONT NATURAL GAS COMPANY
3-STATE COMMON PROPERTY ASSETS
COMPARISON OF EXISTING VERSUS RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2021**

Account		Plant Balance 12/31/2021	Existing		Recommended		Increase/ Decrease
Number	Description		Rate	Annual Accrual	Rate	Annual Accrual	
DISTRIBUTION PLANT DEPRECIATED							
28100	Meters	6,056,805	4.50%	272,556	3.67%	222,333	(50,223)
28105	Meters - Meter Accessories & ERTs	17,611,578	14.46%	2,546,634	7.68%	1,353,101	(1,193,533)
28106	Meters AMI	-	4.50%	0	5.00% *		
	Total Distribution	23,668,383	11.91%	2,819,190	6.66%	1,575,434	(1,243,756)
GENERAL PLANT DEPRECIATED							
29000	Structures & Improvements	5,140,049	2.10%	107,941	2.16%	110,939	2,998
29002	CNG Station Equipment	2,908	4.08%	119	4.64%	135	16
29240	Transportation 3 Year Meter Reading Trucks	104,284	26.67%	27,813	21.67% (1)	-	(27,813)
29241	Transportation 5 Year Rural	828,717	15.40%	127,622	16.00%	132,595	4,972
29242	Transportation - 7 Year Urban Use	1,427,471	8.83%	126,046	18.20%	259,812	133,766
29243	Transportation - 10 Year Heavy Duty	130,042	7.29%	9,480	8.50% (1)	-	(9,480)
29244	Transportation - Trailers & Other	21,889	4.94%	1,081	17.98%	3,936	2,854
	Total General Depreciated	7,655,360	5.23%	400,102	6.63%	507,415	107,314

**PIEDMONT NATURAL GAS COMPANY
3-STATE COMMON PROPERTY ASSETS
COMPARISON OF EXISTING VERSUS RECOMMENDED DEPRECIATION RATES
DEPRECIATION STUDY AS OF DECEMBER 31, 2021**

Account		Plant Balance	Existing		Recommended		
Number	Description	12/31/2021	Rate	Annual Accrual	Rate	Annual Accrual	Increase/ Decrease
GENERAL PLANT AMORTIZED							
29001	Leasehold Improvements	5,901,032	4.76%	280,889	7.50% (2)	668,973 (3)	388,084
29100	Office Furniture & Equipment	7,836,180	5.00%	391,809	5.00% (2)	693,581 (3)	301,772
29101	Electronic Data Processing/Mainframe Equipment	2,416,816	20.00%	483,363	33.33% (2)	896,112 (3)	412,749
29102	PC/Server Equipment	12,206,565	20.00%	2,441,313	20.00% (2)	2,814,961 (3)	373,648
29400	Tools, Shop & Garage Equipment	3,518,232	5.00%	175,912	5.00% (2)	244,892 (3)	68,980
29700	Communications Equipment	21,848,719	5.56%	1,214,789	6.67% (2)	2,575,240 (3)	1,360,451
29800	Miscellaneous Equipment	222,267	5.00%	11,113	5.00% (2)	12,871 (3)	1,758
Total General Amortized after Retirements > ASL		53,949,811	9.27%	4,999,188	14.66%	7,906,630	2,907,442
Total General Plant		61,605,170	8.76%	5,399,290	13.66%	8,414,046	3,014,756
Total Plant Depreciated & Amortized		\$ 85,273,553	9.64%	\$ 8,218,480	11.71%	\$ 9,989,480	\$ 1,771,000
ASSETS NOT INCLUDED IN STUDY							
20300	Misc Intangible Plant - 5 Year	63,267,066 (4)					
20310	Misc Intangible Plant - 10 Year	140,536,818 (4)					
29103	Customer Information System	17,721,735 (5)					
29105	SaaS - 3 Year contract	208,452 (5)					
Various	General Plant Assets Impaired	4,578,997 (6)					
Total Assets Not Included in Study		226,313,068					
Retirement of Assets > Average Service Life		8,216,017					
Total Plant Balance per General Ledger at 12/31/21		\$ 319,802,639					

*Denotes a whole life rate (1-NS%/ASL) is shown for future additions

(1) Account is fully depreciated. Proposed Rate is (1-NS%)/life and is to be applied to new additions.

(2) Rate is (1-Net Salvage %)/ASL of asset group.

(3) Accrual amount is annual amortization amount plus annual reserve true up amount.

(4) Intangible Assets are amortized and therefore not included in the study. Only depreciable assets are included in the study. Account 20300 has an annual amortization rate of 20%. Account 20310 has an annual amortization rate of 10%.

(5) Accounts 29103 and 29105 are fully amortized.

(6) Piedmont determined certain depreciable assets located at Piedmont Town Center to be impaired as a result of the business decision to terminate this lease prior to the lease termination date.

APPENDIX C
Comparison of Mortality Characteristics

**PIEDMONT NATURAL GAS COMPANY
3-STATE COMMON PROPERTY ASSETS
COMPARISON OF MORTALITY CHARACTERISTICS
DEPRECIATION STUDY AS OF DECEMBER 31, 2021**

Account		3 State Existing			3 State Recommended		
Number	Description	Life	Curve	NS	Life	Curve	NS
		Years		%	Years		%
DISTRIBUTION PLANT							
28100	Meters	29	R1.5	0%	29	R1.5	0%
28105	Meter Accessories, ERTs	15	R4	0%	20	R4	0%
28106	Meters AML	29	R1.5	0%	20	R2	0%
GENERAL PLANT DEPRECIATED							
29000	Structures & Improvements	50	L1	-5%	50	L1	-5%
29002	CNG Station Equipment	25	R3	-2%	25	R3	-2%
GENERAL PLANT AMORTIZED							
29001	Leasehold Improvements	21	SQ	0%	14	SQ	-5%
29100	Office Furniture & Equipment	20	SQ	0%	20	SQ	0%
29101	Electronic Data Processing/Mainframe	5	SQ	0%	3	SQ	0%
29102	PC/Server Equipment	5	SQ	0%	5	SQ	0%
29400	Tools, Shop & Garage Equipment	20	SQ	0%	20	SQ	0%
29700	Communications Equipment	18	SQ	0%	15	SQ	0%
29800	Miscellaneous Equipment	20	SQ	0%	20	SQ	0%
TRANSPORTATION EQUIPMENT							
29240	3 Year-Meter Reading Trucks	3	SQ	20%	3	SQ	35%
29241	5 Year-Rural 1 ton or less	5	SQ	23%	5	SQ	20%
29242	7 Year-Urban 1 ton or less	7	SQ	30%	7	SQ	20%
29243	10 Year-Heavy Duty	10	SQ	25%	10	SQ	15%
29244	Trailers & Other	15	SQ	25%	10	SQ	20%

APPENDIX D
Net Salvage

PIEDMONT NATURAL GAS COMPANY - 3-STATE COMMON PROPERTY ASSETS
NET SALVAGE HISTORY
DEPRECIATION STUDY AS OF DECEMBER 31, 2021

Account	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. %	11- yr Net Salv. %	12- yr Net Salv. %	13- yr Net Salv. %
28100	2009	-	-	-	-	NA												
28100	2010	3,677,618	-	-	-	0.00%	0.00%											
28100	2011	3,298,672	52,008	19,508	32,500	0.99%	0.47%	0.47%										
28100	2012	3,055,988	62,841	86,600	(23,759)	-0.78%	0.14%	0.09%	0.09%									
28100	2013	3,024,996	107,917	92,468	15,449	0.51%	-0.14%	0.26%	0.19%	0.19%								
28100	2014	2,623,056	65,604	57,152	8,452	0.32%	0.42%	0.00%	0.27%	0.21%	0.21%							
28100	2015	2,607,677	56,820	84,049	(27,229)	-1.04%	-0.36%	-0.04%	-0.24%	0.04%	0.03%	0.03%						
28100	2016	3,088,347	68,143	86,098	(17,955)	-0.58%	-0.79%	-0.44%	-0.19%	-0.31%	-0.07%	-0.06%	-0.06%					
28100	2017	2,509,605	30,067	97,496	(67,429)	-2.69%	-1.53%	-1.37%	-0.96%	-0.64%	-0.67%	-0.40%	-0.33%	-0.33%				
28100	2018	2,337,544	-	-	-	0.00%	-1.39%	-1.08%	-1.07%	-0.79%	-0.55%	-0.58%	-0.35%	-0.30%	-0.30%			
28100	2019	7,146,108	-	-	-	0.00%	0.00%	-0.56%	-0.57%	-0.64%	-0.51%	-0.38%	-0.43%	-0.27%	-0.24%	-0.24%		
28100	2020	4,547,196	-	(13,776)	13,776	0.30%	0.12%	0.10%	-0.32%	-0.36%	-0.44%	-0.36%	-0.27%	-0.32%	-0.19%	-0.17%	-0.17%	
28100	2021	-	-	-	-	NA	0.30%	0.12%	0.10%	-0.32%	-0.36%	-0.44%	-0.36%	-0.27%	-0.32%	-0.19%	-0.17%	-0.17%
28104	2009	-	-	-	-	NA												
28104	2010	109,783	-	-	-	0.00%	0.00%											
28104	2011	93,556	-	-	-	0.00%	0.00%	0.00%										
28104	2012	85,110	-	-	-	0.00%	0.00%	0.00%	0.00%									
28104	2013	84,053	-	-	-	0.00%	0.00%	0.00%		0.00%								
28104	2014	72,404	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							
28104	2015	71,215	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%						
28104	2016	84,034	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%					
28104	2017	67,859	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
28104	2018	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
28104	2019	-	-	-	-	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		
28104	2020	-	-	-	-	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
28104	2021	-	-	-	-	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
28105	2009	-	-	-	-	NA												
28105	2010	65,491	-	-	-	0.00%	0.00%											
28105	2011	203	4,724	29,937	(25,214)	-12450.68%	-38.38%	-38.38%										
28105	2012	2,375,279	-	10,050	(10,050)	-0.42%	-1.48%	-1.44%	-1.44%									
28105	2013	395,924	-	9,655	(9,655)	-2.44%	-0.71%	-1.62%	-1.58%	-1.58%								
28105	2014	240,904	-	3,531	(3,531)	-1.47%	-2.07%	-0.77%	-1.61%	-1.57%	-1.57%							
28105	2015	530,217	-	14,086	(14,086)	-2.66%	-2.28%	-2.34%	-1.05%	-1.77%	-1.73%	-1.73%						
28105	2016	-	-	-	-	NA	-2.66%	-2.28%	-2.34%	-1.05%	-1.77%	-1.73%	-1.73%					
28105	2017	1,016,149	-	2,328	(2,328)	-0.23%	-0.23%	-1.06%	-1.12%	-1.36%	-0.87%	-1.42%	-1.40%	-1.40%				
28105	2018	-	-	-	-	NA	-0.23%	-0.23%	-1.06%	-1.12%	-1.36%	-0.87%	-1.42%	-1.40%	-1.40%			
28105	2019	-	-	-	-	NA	NA	-0.23%	-0.23%	-1.06%	-1.12%	-1.36%	-0.87%	-1.42%	-1.40%	-1.40%		
28105	2020	-	-	-	-	NA	NA	NA	-0.23%	-0.23%	-1.06%	-1.12%	-1.36%	-0.87%	-1.42%	-1.40%	-1.40%	
28105	2021	-	-	-	-	NA	NA	NA	NA	-0.23%	-0.23%	-1.06%	-1.12%	-1.36%	-0.87%	-1.42%	-1.40%	-1.40%
29000	2009	-	-	-	-	NA												
29000	2010	-	-	-	-	NA	NA											
29000	2011	-	-	-	-	NA	NA	NA										
29000	2012	-	-	500	(500)	NA	NA	NA	NA									
29000	2013	-	-	-	-	NA	NA	NA	NA	NA								
29000	2014	-	-	-	-	NA	NA	NA	NA	NA	NA							
29000	2015	-	-	-	-	NA	NA	NA	NA	NA	NA	NA						
29000	2016	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA					
29000	2017	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA				
29000	2018	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			
29000	2019	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
29000	2020	222,334	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.22%	-0.22%	-0.22%	-0.22%	
29000	2021	1,268,199	-	130,711	(130,711)	-10.31%	-8.77%	-8.77%	-8.77%	-8.77%	-8.77%	-8.77%	-8.77%	-8.77%	-8.80%	-8.80%	-8.80%	-8.80%

PIEDMONT NATURAL GAS COMPANY - 3-STATE COMMON PROPERTY ASSETS
NET SALVAGE HISTORY
DEPRECIATION STUDY AS OF DECEMBER 31, 2021

Account	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. %	11- yr Net Salv. %	12- yr Net Salv. %	13- yr Net Salv. %
29010	2009	-	-	-	-	NA												
29010	2010	-	-	-	-	NA	NA											
29010	2011	-	-	-	-	NA	NA	NA										
29010	2012	-	-	-	-	NA	NA	NA	NA									
29010	2013	-	-	-	-	NA	NA	NA	NA	NA								
29010	2014	-	-	-	-	NA	NA	NA	NA	NA	NA							
29010	2015	-	-	-	-	NA	NA	NA	NA	NA	NA	NA						
29010	2016	-	-	-	-	NA	NA	NA	NA	NA	NA	NA	NA					
29010	2017	519,306	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29010	2018	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29010	2019	-	-	-	-	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29010	2020	-	-	-	-	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29010	2021	32,201	-	24,311	(24,311)	-75.50%	-75.50%	-75.50%	-75.50%	-4.41%	-4.41%	-4.41%	-4.41%	-4.41%	-4.41%	-4.41%	-4.41%	-4.41%
29100	2009	-	-	-	-	NA												
29100	2010	-	-	-	-	NA	NA											
29100	2011	-	-	-	-	NA	NA	NA										
29100	2012	-	-	-	-	NA	NA	NA	NA									
29100	2013	-	-	-	-	NA	NA	NA	NA	NA								
29100	2014	121,292	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							
29100	2015	57,282	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%						
29100	2016	5,562	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%					
29100	2017	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
29100	2018	-	-	-	-	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29100	2019	-	-	-	-	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29100	2020	-	-	-	-	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29100	2021	55,859	-	9,997	(9,997)	-17.90%	-17.90%	-17.90%	-17.90%	-17.90%	-16.28%	-8.42%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%	-4.17%
29101	2009	-	-	-	-	NA												
29101	2010	-	-	-	-	NA	NA											
29101	2011	-	-	-	-	NA	NA	NA										
29101	2012	-	-	-	-	NA	NA	NA	NA									
29101	2013	2,056,858	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%								
29101	2014	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%							
29101	2015	5,509,236	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%						
29101	2016	6,036,176	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%					
29101	2017	6,003	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				
29101	2018	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29101	2019	4,800,958	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29101	2020	-	-	-	-	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29101	2021	72,961	-	-	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29102	2009	5,150,338	-	-	-	0.00%												
29102	2010	981,493	-	-	-	0.00%	0.00%											
29102	2011	3,767,049	-	-	-	0.00%	0.00%	0.00%										
29102	2012	1,073,371	-	1,050	(1,050)	-0.10%	-0.02%	-0.02%	-0.01%									
29102	2013	377,059	-	-	-	0.00%	-0.07%	-0.02%	-0.02%	-0.01%								
29102	2014	-	-	-	-	NA	0.00%	-0.07%	-0.02%	-0.02%	-0.01%							
29102	2015	478,032	-	-	-	0.00%	0.00%	0.00%	-0.05%	-0.02%	-0.02%	-0.01%						
29102	2016	2,803,799	1,373	-	1,373	0.05%	0.04%	0.04%	0.04%	0.01%	0.00%	0.00%	0.00%					
29102	2017	3,532,490	-	-	-	0.00%	0.02%	0.02%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%				
29102	2018	930,094	-	-	-	0.00%	0.00%	0.02%	0.02%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29102	2019	-	-	-	-	NA	0.00%	0.00%	0.02%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
29102	2020	17,424,766	-	-	-	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
29102	2021	6,153,454	-	2,518	(2,518)	-0.04%	-0.01%	-0.01%	-0.01%	-0.01%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.01%

**PIEDMONT NATURAL GAS COMPANY - 3-STATE COMMON PROPERTY ASSETS
NET SALVAGE HISTORY
DEPRECIATION STUDY AS OF DECEMBER 31, 2021**

	Activity		Gross	Cost of	Net	Net	2- yr	3- yr	4- yr	5- yr	6- yr	7- yr	8- yr	9- yr	10- yr	11- yr	12- yr	13- yr
Account	Year	Retirement	Salvage	Removal	Salvage	Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %	Net Salv. %

*Note: Transportation Equipment 29200 was the original account with all transportation equipment, it now has a zero balance as transportation assets are segregated between the various classes of vehicles.
The new accounts are as follows and do not have any individual retirement activity or specific salvage recorded at this time.:

29240 - PNG GAS TRANSP-3 YR MTR RD
29241 - PNG GAS TRANSP - 5 YR RURAL
29242 - PNG GAS TRANSP - 7 YR URBAN
29243 - PNG GAS TRANSP - 10 YR HD
29244 - PNG GAS-TRAILER/OTHR