BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. G-9, SUB 781

In the Matter of	
Application of Piedmont Natural	)
Gas Company, Inc. for General	)
Rate Increase	)

DIRECT TESTIMONY OF

KEVIN W. O'DONNELL, CFA

ON BEHALF OF

CAROLINA UTILITY CUSTOMERS ASSOCIATION

August 11, 2021

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Kevin W. O'Donnell. I am President of Nova Energy Consultants, Inc. My business address is 1350 SE Maynard Rd., Suite 101, Cary, North Carolina 27511.

Q. ON WHOSE BEHALF ARE YOU PRESENTING TESTIMONY IN THIS PROCEEDING?

A. I am testifying on behalf of the Carolina Utility Customers Association ("CUCA"). CUCA represents industrial and manufacturing users before the North Carolina Utilities Commission ("NCUC" or "Commission").

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND RELEVANT EMPLOYMENT EXPERIENCE.

A. I have a Bachelor of Science in Civil Engineering from North Carolina State University and a Master of Business Administration from Florida State University. I earned the designation of Chartered Financial Analyst ("CFA") in 1988. I have worked in utility regulation since September 1984, when I joined the Public Staff of the North Carolina Utilities Commission. I left the Public Staff in 1991 and have worked continuously in utility consulting since that time, first with Booth & Associates, Inc. (until 1994), then as Director of Retail Rates for the North Carolina Electric Membership Corporation (1994-1995), and since then in my own consulting firm.

I have been accepted as an expert witness on rate of return, cost of capital, capital structure, cost of service, rate design, and other regulatory issues in general rate cases, fuel cost proceedings, and other proceedings before the North Carolina Utilities Commission, the South Carolina Public Service Commission, the Wisconsin Public Service Commission, the Virginia State Commerce Commission, the Minnesota Public Service Commission, the New Jersey Commission of Public Utilities, the Colorado Public Utilities Commission, the District of Columbia Public Service Commission, and the Florida Public Service Commission. In 1996, I testified before the U.S. House of Representatives' Committee on Commerce and Subcommittee on Energy and Power, concerning competition within the electric utility industry. Additional details regarding my education and work experience are set forth in **Appendix A**.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony in this proceeding is to present my findings and recommendations to the Commission as to the proper rate of return to allow Piedmont Natural Gas Company ("Piedmont" or "Company") in the current proceeding.

Q. WHAT RATE OF RETURN IS PIEDMONT REQUESTING AS PART OF THIS PROCEEDING?

A. According to the testimony of Piedmont's Witness Quynh P. Bowman, Piedmont is seeking an overall rate of return of 7.27% based on the capital structure and cost rates as set forth in **Table 1** below.

Table 1: Piedmont's Requested Cost of Capital[1]

Component	Ratio (%)	Cost Rate (%)	Weighted Cost Rate (%)
Long-Term Debt	47.45%	4.09%	1.94%
Short-Term Debt	0.55%	0.47%	0.00%
Common Equity	52.00%	10.25%	5.33%
Total Capitalization	**100.00%**		**7.27%**

Q. SHOULD THE COMMISSION ADOPT THE COMPANY'S COST OF CAPITAL CLAIM TO SET JUST AND REASONABLE RATES?

A. The Company's 10.25% equity cost rate is overstated when compared to my Cost of Common Equity Analyses (see **Section VII**: Cost of Common Equity). The Company determined that its equity ratio request of 10.25% was appropriate based on flawed cost of equity analyses that do not reflect market conditions (see **Section VIII**: Review of Cost of Equity Analysis of Witness D'Ascendis). As discussed in the remainder of this testimony, adoption of the Company's requested cost of capital claim would overburden ratepayers, especially in light of the current economic conditions brought on by the COVID-19 pandemic.

Q. PLEASE SUMMARIZE YOUR PRIMARY RECOMMENDATIONS IN THIS CASE.

A. My recommendations in this case are as follows:

- The proper capital structure to use in this proceeding is 50.00% common equity, 49.43% long-term debt, and 0.57% short-term debt;

[1] Witness Bowman's Direct Testimony, **Exhibit QPB-7**, page 2.

- I agree that the proper embedded cost of debt to use in this proceeding is Piedmont's recommended future cost of short-term debt of 0.47% and long-term debt of 4.09%;
- The proper return on equity on which to set rates for Piedmont in this proceeding is 9.00%. This 9.00% recommendation is a market-based cost of equity which will allow the Company to access capital markets, while also ensuring that the rate is fair to the Company's captive customers; and
- The return on equity recommended by Witness D'Ascendis for Piedmont of 10.25% is excessive, unreasonable, and not indicative of current market conditions.

My recommended capital structure, ROE, and overall return are shown below within **Table 2** as based upon the results and data shown within **Exhibit KWO-1**:

Table 2: CUCA Recommended Overall Rate of Return

Component	Ratio (%)	Cost Rate (%)	Weighted Cost
Long-Term Debt	49.43%	4.09%	2.02%
Short-Term Debt	0.57%	0.47%	0.00%
Common Equity	50.00%	9.00%	4.50%
Total Capitalization	**100.00%**		**6.52%**

II. CURRENT STATE OF THE FINANCIAL MARKETS AND CHANGES SINCE LAST PIEDMONT RATE CASE

Q. PLEASE DESCRIBE THE CURRENT STATE OF THE FINANCIAL MARKETS.

A. The equity market has rebounded strongly since the outbreak of the COVID-19 pandemic. Just prior to the pandemic, the S&P 500 index, which represents the 500 largest companies in the United States, was 3,386 as of February 19, 2020.[2] When the severity of the pandemic sank into the market, the S&P 500 index moved sharply downward to just above 2,237[3] as of March 23, 2020, representing roughly a 1/3 loss in the index. As of July 2, 2021, the S&P 500 index closed over 4,352,[4] representing roughly a 95% gain from the low value that occurred on March 23, 2020. Clearly, investors weathered the storm and are now expecting solid growth from the US and world economies in the near future.

The debt markets have also rebounded from the impact of COVID-19. The Federal Reserve stepped in to ensure adequate liquidity to the markets and, as a result, interest rates stabilized and utilities were able to obtain adequate debt capital during the pandemic.

[2] Yahoo! Finance, *S&P 500 Historical Data*, *available at* https://finance.yahoo.com/quote/%5EGSPC/history?p=%5EGSPC (last accessed July 6, 2021).
[3] *Id.*
[4] *Id.*

Q. DESCRIBE THE KEY ELEMENTS OF PIEDMONT'S RECENT RATE CASES.

A. The Company's most recently completed base rate case was filed on April 1, 2019 under Docket No. G-9, Sub 743. In that case, the Company requested an overall rate of return of 7.68%, inclusive of a cost of equity of 10.60%, a long-term cost of debt of 2.82%, a short-term cost of debt of 4.55%, and a capital structure weighted with 52.00% common equity, 47.18% long-term debt, and 0.82% short-term debt.[5]

Ultimately, the Commission approved a settlement of Piedmont's 2019 general rate case, which allowed Piedmont to increase rates. Piedmont was allowed an overall rate of return of 7.14%, inclusive of a 9.70% cost of equity, a 4.41% long-term cost of debt, a 0.85% short-term cost of debt, and a capital structure weighted with 52.00% common equity, 47.15% long-term cost of debt, and 0.85% short-term cost of debt.[6]

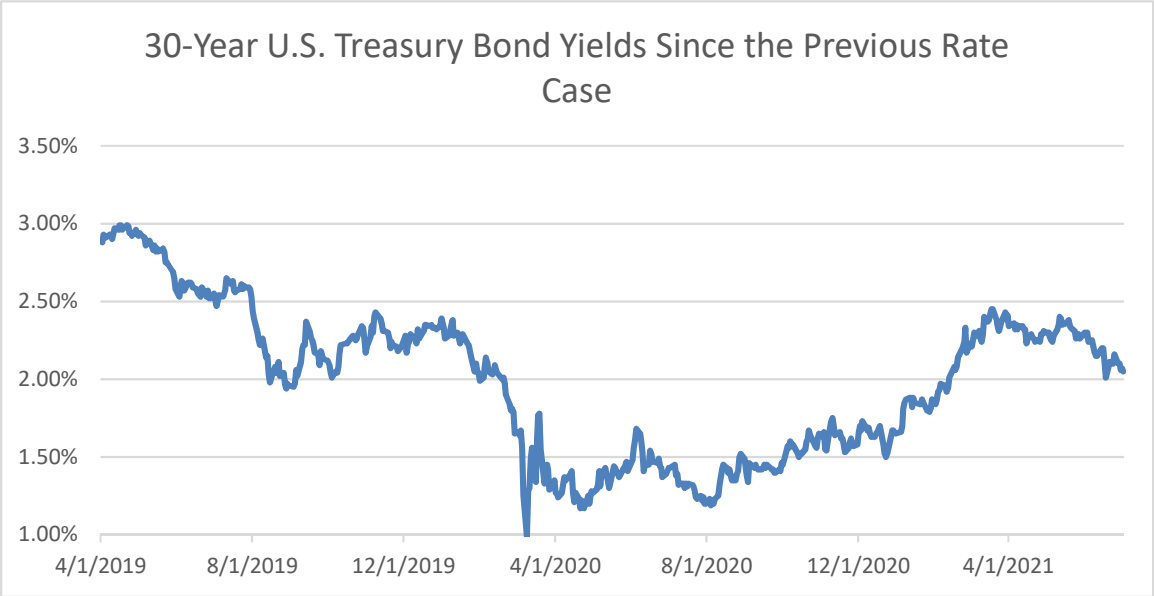
Q. HAS THE DEBT MARKET FOR PIEDMONT CHANGED SINCE THE COMPANY'S 2019 GENERAL RATE CASE?

A. Yes. The debt markets have changed since Piedmont filed its 2019 base rate case on April 1, 2019 as exhibited in **Chart 1** below. Within this chart, I have provided the change in the 30-year US Treasury Bond yields from April 1, 2019 to July 2, 2021. The maximum value over this period was 2.99%, the average value was 1.99%, and the minimum value was 0.99%. Refer to **Chart 1** below for further

[5] Direct Testimony of Witness Pia K. Powers, Docket No. G-9, Sub 743 (Apr. 1, 2019) (see Exhibit PKP-7).
[6], *Order Approving Stipulation*, Docket No. G-9, Sub 743 (Oct. 31, 2019).

details on the yield on 30-year US Treasury Bonds subsequent to the previous rate case.

Chart 1: Yield on 30-Year US Treasury Bonds[7]



Q. DOES CHART 1 ABOVE INDICATE THAT THE COMPANY'S COST OF DEBT IS HIGHER NOW THAN IT HAS BEEN HISTORICALLY?

A. No, not necessarily. When Piedmont's 2019 base rate case concluded on October 31, 2019, the yield on the 30-year US Treasury Bond was 2.17%.[8] The current yield on the 30-year US Treasury Bond yield of 2.05%, as of July 2, 2021,[9] is still significantly lower than what has been seen for the Company, and the market as a whole, in recent years. This would indicate that the cost of capital of Piedmont's

[7] U.S. Dep't of the Treasury, *Daily Treasury Yield Curves*, *available at* https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield (last accessed July 6, 2021).
[8] *Id.*
[9] *Id.*

parent company, Duke Energy Corporation, in relation to its ability to access debt markets, has still been lower on average than what has been seen in recent years.

Q. HOW ARE INTEREST RATES EXPECTED TO CHANGE OVER THE NEXT FEW YEARS?

A. The Federal Funds Rate is the interest rate that banks charge to one another to borrow or lend excess reserves on hand overnight. This rate plays an important role in the movement of interest rates, and the Federal Reserve's actions over the previous 18-months helps to showcase the steady decline in interest rates from 2018 to 2020. On March 15, 2020, in response to the COVID-19 outbreak and the disruptions to economic activity in this country across the globe, the Federal Reserve reduced the Federal Funds rate to 0.25%.[10]

The Federal Reserve has since stated that it does not expect to change the Federal Funds Rate at any time in the foreseeable future. Chairman Powell reinforced this view when he said in January 2021 that, "When the time comes to raise interest rates, we'll certainly do that, and that time, by the way, is no time soon."[11] Subsequent to the statements made by Chairman Powell in March 2021, the Federal Reserve explained that although they had sped up their overall expectation for economic growth, they continued to reinforce that they did not see

[10] *See* Commission of Governors of the Federal Reserve System, *Federal Reserve Issues FOMC Statement* (Mar. 15, 2020), *available at* https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a.htm.
[11] Jeff Cox, *Powell sees no interest rate hikes on the horizon as long as inflation stays low*, CNBC News (Jan. 14, 2021), *available at* https://www.cnbc.com/2021/01/14/powell-sees-no-interest-rate-hikes-on-the-horizon-as-long-as-inflation-stays-low.html.

any interest rate hikes likely through 2023.[12] This line of thinking by the Federal Reserve then carried into July 2021 as well.[13]

As noted above, while changes within the market have raised certain interest rate benchmarks during 2021, these interest rates still remain low in relation to historical interest rates. This lower interest rate environment has continued to provide a benefit to utilities from a borrowing perspective.

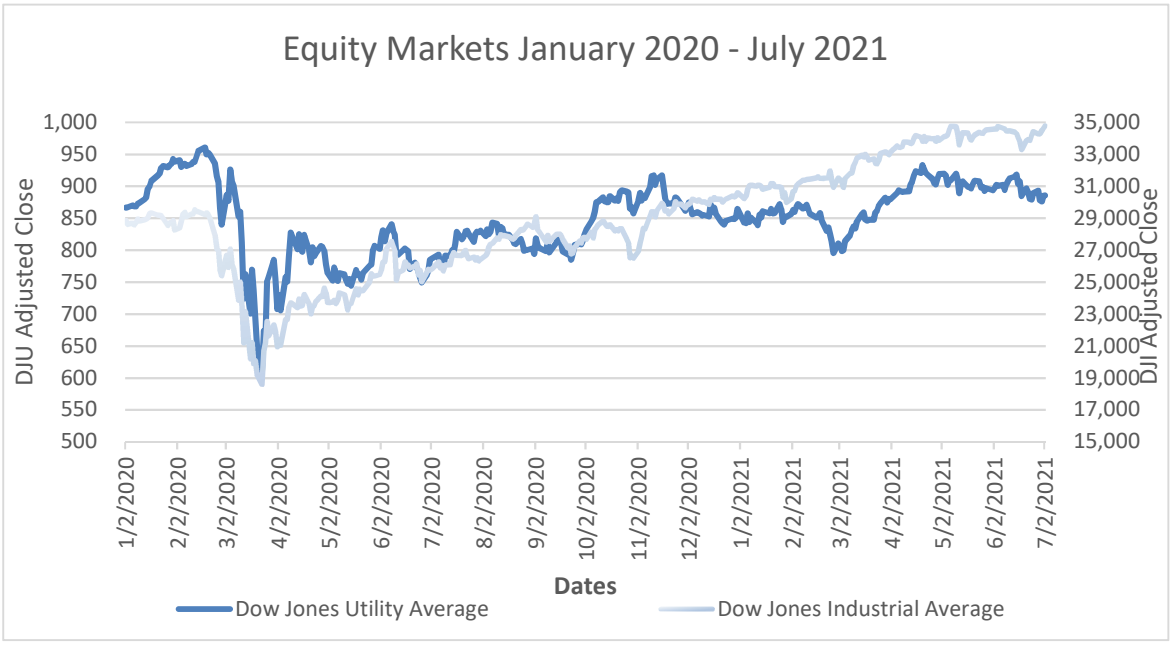
Q. HOW HAS THE STOCK MARKET FOR UTILITIES CHANGED OVER THE PAST YEAR AND A HALF?

A. Utilities have always been considered a safe harbor for investors during market turbulence or uncertainty, and the COVID-19 pandemic is no different. During times of economic uncertainty, individuals and businesses still require the essential services provided by utilities. As such, the market for utilities remained strong during the past year and a half, even during the COVID-19 pandemic and the associated economic shutdown.

Chart 2, which is a double y-axis graph, shows the change in the Dow Jones Utility Average ("DJUA") since the start of 2020 (*i.e.,* 1/2/2020 – 7/6/2021), as compared to the Dow Jones Industrial Average ("DJIA") over the same period.

[12] Jeff Cox, *Fed sees stronger economy and higher inflation, but no rate hikes*, CNBC News (Mar. 17, 2021), *available at* https://www.cnbc.com/2021/03/17/fed-decision-march-2021-fed-sees-stronger-economy-higher-inflation-but-no-rate-hikes.html.
[13] Taylor Tepper & Benjamin Curry, *July 2021 FOMC Meeting: Fed Keeps Policy Unchanged As Pressure To Taper Increases*, Forbes Advisor (Jul. 28, 2021), *available at* https://www.forbes.com/advisor/investing/fomc-meeting-federal-reserve/.

Chart 2: DJIA to DJUA Comparison[14]



Although the DJIA is now at a level greater than that of the DJUA, the DJUA initially rebounded much more quickly than the DJIA. This further enforces the fact that the utility equity market has remained stable and consistent. Thus, although all markets were obviously impacted by the COVID-19 pandemic, utilities such as Piedmont have not had an issue accessing the capital markets. In light of this, Piedmont simply does not require a 10.25% ROE to attract and compete for capital in the current economic environment, especially given the positive market movements in 2021 as the overall economic recovery continues.

[14] Yahoo! Finance, Dow Jones Utility Average, *available at* https://finance.yahoo.com/quote/%5EDJU/components/ (last accessed July 6, 2021); Yahoo! Finance, Dow Jones Industrial Average, *available at* https://finance.yahoo.com/quote/%5EDJI/history (last accessed July 6, 2021).

Q. DO YOU HAVE ANY OTHER SUPPORT FOR HOW UTILITIES LIKE PIEDMONT WERE STILL ABLE TO ACCESS THE CAPITAL MARKETS EVEN DURING THE COVID-19 PANDEMIC?

A. Yes. On April 2, 2020, S&P Global Market Intelligence published an article entitled "US utilities demonstrate access to capital with billions in debt offerings." This article described how utilities tapped into current credit markets to obtain low-cost debt during periods of financial turbulence as noted in the excerpt below:

> Several utilities, including Xcel Energy and NextEra Energy Inc. subsidiary Florida Power & Light Co., which issued $1.1 billion in first mortgage bonds, are "*using the opportunity to take advantage of attractive borrowing costs, so there does not appear to be an inability to access capital*," they said.
>
> "*Utilities are reporting that recent deals have been significantly (7x) oversubscribed, highlighting that the capital markets are open for investment grade-rated utilities*," the analysts wrote. "*At the same time, we have also observed some utility companies that have fully drawn their bank lines as a precaution to provide them with liquidity in the event that markets seize up*," such as Duke Energy Corp. and American Electric Power Co. Inc.[15]

Additionally, during the midst of the early stages of the COVID-19 pandemic on April 29, 2020, S&P Global Market Intelligence published an article entitled "Utility sector 'far and away' least impacted by EPS estimate cuts."[16] Note that on the date that this article was published, markets were at their most volatile during

[15] Ellen Meyers, *US utilities demonstrate access to capital with billions in debt offerings*, S&P Global Market Intelligence (Apr. 2 2020), *available at* https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/us-utilities-demonstrate-access-to-capital-with-billions-in-debt-offerings-57881534.

[16] Tom DiChristopher, *Utility sector 'far and away' least impacted by EPS estimate cuts*, S&P Global Market Intelligence (Apr. 29, 2020), *available at* https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/utility-sector-far-and-away-least-impacted-by-eps-estimate-cuts-58358458.

the early stages of the COVID-19 pandemic. The article provided the following observation:

> The S&P 500 utility sector has "far and away" experienced the least impact from earnings revisions since Feb. 28, the corporate bond research firm found. Despite market turmoil and the ongoing economic downturn, analysts have only cut earnings per share expectations for stocks in the utility sector by an average 1% for 2020 and 2021, according to CreditSights.
>
> By comparison, consumer staples, the next least-impacted sector, saw an average 5% decrease to EPS estimates for both years. Technology followed with a 9% estimate cut for 2020 and 2021.
>
> CreditSights pulled the data to measure the consensus view that utilities provide a safe harbor to investors. "*Water is wet, the sun will rise in the east and U.S. utilities are a defensive sector, but how defensive? Very defensive,*" CreditSights analysts Andrew DeVries and Nick Moglia wrote in an April 29 research note.[17]

The above referenced article noted the ability of utilities to continue to operate based upon the conditions of the debt and equity markets. This allowed many utilities to perform strongly even in the face of the COVID-19 pandemic as referenced in the December 9, 2020 article from S&P Global Market Intelligence, entitled "Resilient Utilities Post Notable EPS Gains, Solid ROEs Despite COVID-19 Pandemic." The S&P Global Market Intelligence article noted:

> Despite the significant challenges caused by an economy that continued to be negatively impacted by COVID-19, utilities overall posted solid earnings growth and earned returns on equity during the third quarter, illustrating the tenet that utility finances hold up comparatively well in challenging economic environments.[18]

[17] *Id.*
[18] Dennis Sperduto, *Resilient Utilities Post Notable EPS Gains, Solid ROEs Despite COVID-19 Pandemic*, S&P Global Market Intelligence (Dec. 9, 2020), *available at* https://platform.marketintelligence.spglobal.com/web/client?auth=inherit#news/articleabstract?id=61646964.

Although the utility sector was impacted by the COVID-19 pandemic just like the rest of the economy, utilities were much more resilient during this period than companies across other industries. The resilient performance of utilities, as well as their ability to continue to tap into debt markets, demonstrate that utilities were still able to access a variety of capital markets throughout 2020—which only continued into 2021 after the broader capital-market resurgence.

Q. WHAT HAVE BEEN THE IMPACTS ON THE EQUITY MARKETS AS A RESULT OF THE COVID-19 PANDEMIC?

A. As shown in **Chart 2**, equity markets were negatively impacted during the first two quarters of 2020, before later rebounding during the second half of 2020 and into 2021. During the majority of 2020, businesses were closed, and workers stayed home as the United States and world economies slowed dramatically prior to the beginning of phased reopening plans around the world. While I note that the economic recovery that began during the latter part of 2020 has continued into 2021, and that there is an expectation that the economy will continue its rebound throughout 2021, there is no current expectation that the economy will fully recover, or that the sustained civilian unemployment rate will reach pre-2020 levels, at any point in the near-term.

To that point, Federal Reserve Chairman Jerome Powell noted that although there was growth in the second half of 2020, the timeline for a full economic recovery across a variety of indicators remains uncertain as referenced within the following quote from December 1, 2020:

> Economic activity has continued to recover from its depressed second quarter level. The reopening of the economy led to a rapid rebound in activity, and real gross domestic product, or GDP, rose at an annual rate of 33 percent in the third quarter. In recent months, however, the pace of the improvement has moderated…The economic downturn has not fallen equally on all Americans, and those least able to shoulder the burden have been the hardest hit...The economic dislocation has upended many lives and created great uncertainty about the future…As we have emphasized throughout this pandemic, the outlook for the economy is extraordinarily uncertain….[19]

During a press conference on March 17, 2021, Chairman Powell then noted that:

> The overall recovery in economic activity since last spring is due importantly to unprecedented fiscal and monetary policy actions, which have provided essential support to households, businesses, and communities. The recovery has progressed more quickly than generally expected, and forecasts from FOMC participants for economic growth this year have been revised up notably since our December Summary of Economic Projections…As with overall economic activity, conditions in the labor market have turned up recently. Employment rose by 379,000 in February, as the leisure and hospitality sector recoupled about two-thirds of the jobs that were lost in December and January. Nonetheless, employment in this sector is more than 3 million below its level at the onset of the pandemic. For the economy as a whole, employment is 9.5 million below its pre-pandemic level. The unemployment rate remains elevated at 6.2 percent in February; this figure understates the shortfall in employment, particularly as participation in the labor market remains notably below pre-pandemic levels.[20]

Chairman Powell also noted on April 12, 2021 that, "The recovery, though here, remains uneven and incomplete. The burden is still falling on lower-income

[19] Jerome Powell, *Coronavirus Aid, Relief, and Economic Security Act*, Testimony before the U.S. Senate Committee on Bank, Housing, and Urban Affairs (Dec. 1, 2020), *available at* https://www.federalreserve.gov/newsevents/testimony/powell20201201a.htm.

[20] Jerome Powell, *Transcript of Chair Powell's Press Conference* (Mar. 17, 2021), *available at* https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20210317.pdf.

workers and the unemployment rate in the bottom quartile is still 20 percent."[21]

Additionally, Michelle Bowman (Federal Reserve Board Governor) stated on May 5, 2021 that:

> The economic recovery is not yet complete, and the uncertain course of the pandemic still presents risks in the near term…Despite the progress to date and the signs of acceleration in the recovery, employment is still considerably short of where it was when the pandemic disrupted the economy and it is well below where it should be, considering the pre-pandemic trend.[22]

To this same point, on May 11, 2021, Lael Brainard (Federal Reserve Board Governor) also noted:

> The latest jobs report reminds us that while there are good reasons to expect the number of jobs and the number of people wanting to work will make a full recovery, it is unlikely they will recover at the same pace…Job losses are disproportionately concentrated in low-wage, high-contact sectors, suggesting that workers least able to shoulder the economic effect of job loss have faced the greatest challenges.[23]

Chairman Powell reiterated this line of thinking as recently as July 2021, when he noted that more economic improvement and sustained stability was needed before the Fed would entertain doing anything that would negatively impact

[21] Radmilla Suleymanova, *Powell: Economy will not be confident until world is vaccinated*, Aljazeera (Apr. 8, 2021), *available at* https://www.aljazeera.com/amp/economy/2021/4/8/powell-economy-will-not-be-confident-until-world-is-vaccinated (emphasis added).
[22] Michelle W. Bowman, *The Economic Outlook and Implications for Monetary Policy* (May 5, 2021), *available at* https://www.federalreserve.gov/newsevents/speech/bowman20210505a.htm.
[23] Lael Brainard, *Patience and Progress as the Economy Reopens and Recovers* (May 11, 2021), *available at* https://www.federalreserve.gov/newsevents/speech/brainard20210511a.htm#fn13.

economic activity. Chairman Powell noted that this was the case given that the United State was still "8.5 million jobs from where we were in February of 2020."[24]

As referenced in the quotes above, although there has been considerable growth and recovery within the capital markets over the second half of 2020, and into 2021, the individuals within Piedmont's customer base that were most negatively impacted by the pandemic are still struggling with such issues. Even while economic growth within the markets has grown at a rate faster than anticipated as COVID-19 cases declined and economies began to reopen, there are key indicators (such as employment figures) that remain depressed. As such, any additional rate increases would only continue to exacerbate the negative economic circumstances encountered by this portion of Piedmont's consumer base.

Q. WHAT OTHER FACTORS SHOULD THE COMMISSION CONSIDER IN DETERMINING AN APPROPRIATE COST OF CAPITAL FOR PIEDMONT?

A. The ability of a utility to access the capital markets is just part of the determination of an appropriate cost of capital for rate setting. The Commission should also consider the position of ratepayers who must continue to make non-discretionary purchases, such as gas, electricity, or water from monopoly utilities, regardless of the impact of the COVID-19 pandemic.

Many consumers at the residential, commercial, and industrial levels have struggled to pay their utility bills as unemployment levels spiked during 2020 and

[24] Taylor Tepper & Benjamin Curry, *July 2021 FOMC Meeting: Fed Keeps Policy Unchanged As Pressure To Taper Increases*, Forbes Advisor (Jul 28, 2021), *available at* https://www.forbes.com/advisor/investing/fomc-meeting-federal-reserve/.

remained higher than average into the second half of 2020 and into 2021, with various businesses also shut down for extended time over this period.

For instance, while the financial markets began a rebound in the third quarter of 2020, the average civilian unemployment rate still exceeded what was common in prior periods. The unemployment rate was heightened at 6.77% in Q4 2020 and averaged 8.12% during the entirety of 2020.[25] For comparison purposes, the average monthly civilian unemployment rate from 2019 was 3.67%.[26] While the unemployment rate improved through the second half of 2020 and into 2021, it still averaged 6.17% for Q1 2021 and 5.93% for Q2 2021.[27]

The comparison of the unemployment rates between these time periods further reinforces that the Company's "business as usual" request is not appropriate in the current economic climate for its customers.

Q. WHY DO YOU BELIEVE THE COMPANY'S 10.25% ROE REQUEST IN THIS CASE IS NOT APPROPRIATE GIVEN THE CURRENT STATE OF THE FINANCIAL MARKETS?

A. In Piedmont's most recently concluded base rate case from 2019, Piedmont Witness Robert Hevert recommended a 10.60% market-based ROE.[28] In the current proceeding in 2021, Mr. D'Ascendis has recommended a 10.25% ROE as market-based.

[25] U.S. Bureau of Labor Statistics, *Civilian Unemployment Rate*, *available at* https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm.
[26] *Id.*
[27] *Id.*
[28] *Order Approving Stipulation*, Docket No. G-9, Sub 743 (Oct. 31, 2019).

Based upon my cost of equity analyses discussed below, a market-based cost of equity for Piedmont at the end of the fully projected future test year should be no higher than 9.00%. The Commission's determination of an appropriate cost of equity must consider the needs of the consumers, and not just the interests of Piedmont. Many of Piedmont's customers are still dealing with ongoing financial struggles linked to a variety of factors, such as higher than average unemployment numbers throughout 2020 and 2021. My recommended cost of capital for Piedmont is based upon a careful analysis of current financial data, disciplined application of cost of equity models to an appropriate proxy group of natural gas utilities, and identification of an appropriate capital structure for setting rates. My cost of capital recommendation for Piedmont balances the Company's need to access the markets and the interests of consumers who will be asked to pay the rates for essential natural gas distribution utility service.

Q. ARE THERE ANY CURRENT MARKET CONDITIONS THAT WOULD GIVE RISE TO CONCERNS ABOUT THE MARKET'S OVERALL PRICING?

A. I recognize that on July 13, 2021, the Consumer Price Index ("CPI") reported that inflation results had increased by 5.4% year to date through June 2021, which was higher than anticipated by economists and the market.[29] However, this report of inflation is too early to predict whether the United States economy will seriously

[29] *Prices Pop Again, and Fed and White House Seek to Ease Inflation Fears*, N.Y. Times (July 13, 2021), *available at* https://www.nytimes.com/2021/07/13/business/economy/consumer-price-index-june-2021.html.

suffer permanently in the long term due to rising prices. In order to capture as much of this change as possible, I have examined markets as close to the testimony filing deadline as possible in this case.

III. ECONOMIC AND REGULATORY POLICY GUIDELINES FOR A JUST AND REASONABLE RATE OF RETURN

Q. PLEASE BRIEFLY DESCRIBE THE ECONOMIC AND REGULATORY POLICY CONSIDERATIONS YOU HAVE TAKEN INTO ACCOUNT IN DEVELOPING YOUR RECOMMENDATION CONCERNING THE JUST AND REASONABLE RATE OF RETURN THAT UTILITY COMPANIES SHOULD HAVE AN OPPORTUNITY TO EARN.

A. The theory of utility regulation assumes that public utilities perform functions that are natural monopolies. Historically, it was believed or assumed that it was more efficient for a single firm to provide a particular utility service than multiple firms. Within the gas industry, the transmission and distribution of gas to utilities' end-use customers is still a monopolistic business and will, for the foreseeable future, be regulated. On this basis, state legislatures and state utility commissions/boards established exclusive franchised territories to public utilities in order for these utilities to provide services more efficiently and at the lowest reasonable cost. In exchange for the protection within its monopoly service area, the utility is obligated to provide service that is adequate and non-discriminatory at just and reasonable rates.

This trade-off logically leads to the question – what constitutes a just and reasonable rate? The generally accepted answer is that a prudently managed utility should be allowed to charge prices that allow the utility the opportunity to recover the reasonable and prudent costs of providing utility service and the opportunity to earn a just and reasonable rate of return on invested capital. The just and reasonable rate of return on capital should allow the utility, under prudent management, to provide adequate service and attract capital to meet future expansion needs in its service area. Since public utilities are capital-intensive businesses, the cost of capital is a crucial issue for utility companies, their customers, and regulators.

If the allowed rate of return is set too high, then consumers are burdened with excessive costs, current investors receive a windfall, and the utility has an incentive to overinvest. If the return is set too low, adequate service is jeopardized because the utility will not be able to raise capital on reasonable terms. As such, regulators are tasked with balancing the related interests of the interested parties (*i.e.,* the utility's equity investors, the utility itself, and the utility's customers at the varying residential, commercial, and industrial levels). This balancing act results in what regulators, analysts, and courts often refer to as setting rates within a "zone of reasonableness." Since every equity investor faces a risk-return tradeoff, the issue of risk is an important element in determining the just and reasonable rate of return for a utility.

As I previously referenced above, Piedmont filed its previous rate case in April 2019, and its current rate case in March 2021. In the time that lapsed between these two cases, the country experienced an economic recession spurred on by a

pandemic the likes of which have not been seen in this country for over a century. Accordingly, what a utility may have initially deemed as constituting just and reasonable rates during prior years may simply be construed as unreasonable today given the current economic climate absent any of the other particulars of their request.

Q. PLEASE EXPLAIN THE SIGNIFICANCE OF THE SUPREME COURT'S *HOPE* AND *BLUEFIELD* DECISIONS.

A. Regulatory law and policy recognize that utilities compete with other firms in the market for investor capital. The United States Supreme Court set the guidelines for a fair, just, and reasonable rate of return in two often-cited cases: *Bluefield Water Works and Improvement Co. v. Public Service Comm'n*, 262 U.S. 679 (1923), and *Federal Power Comm'n v. Hope Natural Gas Co*., 320 U.S. 591 (1944).

In the *Bluefield* case, the U.S. Supreme Court stated:

> A public utility is entitled to such rates as will permit it to earn a return upon the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit, and enable it to raise the money necessary for the proper discharge of its public duties.[30]

In the above finding, the Court found that utilities are entitled to earn a return on investments of comparable risks and that a corresponding return should be

[30] 262 U.S. at 692.

sufficient enough to support credit activities and to raise funds to carry out its mission.

In *Hope*, the U.S. Supreme Court recognized that utilities compete with other firms in the market for investor capital. Historically, this case has provided legal and policy guidance concerning the return which public utilities should be allowed to earn. The *Hope* court stated that the return to equity owners (or shareholders) of a regulated public utility should be commensurate to returns on investments in other enterprises whose risks correspond to those of the utility being examined:

> [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise so as to maintain credit and attract capital.[31]

IV. DEVELOPMENT OF PROXY GROUP

Q. PLEASE DESCRIBE HOW YOU SELECTED A PROXY GROUP FOR ESTIMATING PIEDMONT'S RETURN ON EQUITY.

A. The number of available gas utilities needed to develop a reasonably reliable comparable group is dwindling. Over the past several years, certain gas utilities have been acquired by large electric utility holding companies. These acquisitions make sense for electric utilities as they desire to grow their source of regulated earnings while, at the same time, gain natural gas infrastructure that allows them to control the distribution of natural gas.

[31] 320 U.S. at 603.

In regard to the composition of my proxy group, I opted to use the full group of gas utilities compiled and followed by *Value Line*. As such, each of the companies included by Mr. D'Ascendis within his proxy group are also included within my own proxy group. However, in contrast to Mr. D'Ascendis, I did not remove UGI Corporation from my proxy group. My reasoning for this is detailed in a below Q&A.

Additionally, unlike Mr. D'Ascendis, I have chosen to perform an analysis directly on Duke. Piedmont is a wholly owned subsidiary of Duke Energy. As such, I found it appropriate to perform a specific, singular analysis of Duke Energy, as it provides the most directly observable link between any company within the comparable proxy group and Piedmont.

Mr. D'Ascendis also opted to include a "Non-Price Regulated Companies" proxy group comprised of non-utility companies for comparison purposes to Piedmont within his Comparable Earnings Analysis as he noted that:

> Since the purpose of rate regulation is to be a substitute for marketplace competition, non-price regulated firms operating in the competitive marketplace make an excellent proxy group if they are comparable in total risk to the Utility Proxy Group being used to estimate the cost of common equity. The selection of such domestic, non-price regulated competitive firms theoretically and empirically results in a proxy group which is comparable in total risk to the Utility Proxy Group, since all of these companies compete for capital in the exact same markets.[32]

In contrast, I have not chosen to include a non-utility group within any of the analyses included within my testimony as, in my view, such non-regulated

[32] Witness D'Ascendis' Direct Testimony, page 42: lines 6 – 13.

companies are not truly comparable to Piedmont and should not be examined in regard to determining the proper ROE to grant a regulated utility such as Piedmont. Non-utilities are not comparable from a business risk or financial profile perspective; in particular, only regulated utilities have the ability to seek regulatory relief.

Piedmont is a regulated utility. The Company has a set of consumers at the residential, commercial, and industrial levels that are locked into purchasing natural gas distribution service from Piedmont. If Piedmont feels that they need to increase their ROE in order to result in a greater overall Rate of Return, they have the ability to request regulatory relief through a rate case in an effort to increase rates on captive customers. Unregulated entities and non-utilities do not have the ability to ask for rate relief like regulated utilities do. As such, these non-utilities operate in an unregulated environment, with a higher level of business risk, and therefore generally seek to employ a smaller amount of leverage. The ability of a utility, such as Piedmont, to seek rate relief is an integral part of the business model of a regulated utility and is not a practice that is available to any such non-utilities.

Q. WHY DID YOU CHOOSE TO INCLUDE UGI CORP WITHIN YOUR COMPARABLE GROUP, WHILE MR. D'ASCENDIS OMITTED THE COMPANY FROM HIS ANALYSIS?

A. Within his direct testimony, Mr. D'Ascendis stated that in developing his proxy group, he first began with the ten companies included in *Value Line's* Natural Gas

Utility industry.[33] However, he then subjected those ten companies to a subsequent six step screening process where he opted to remove Chesapeake Utilities and UGI Corp.

I have decided not to perform a similar removal of companies from my comparable proxy group because of the limited number of 10 companies provided for the natural gas industry through *Value Line*. Throughout my 36 years of experience providing rate of return testimony across the United States, I have always found analysts' removal of certain companies within a proxy group to be inherently subjective. In addition, removing companies from a group that is already small can result in data integrity issues. As such, I have consistently maintained that within the natural gas industry, unless a company is currently going through bankruptcy or a merger/acquisition, it should be included within a proxy group for transparency purposes.

Additionally, please note that in reference to my proxy group, I am aware UGI Corp. announced on December 30, 2020 their plan to purchase Mountaineer Gas in West Virginia.[34] As of July 21, 2021, the deal has not closed. Normally, I would not include a company in my proxy group that is in the middle of an acquisition. However, in this case, I am including UGI for the following two reasons: First, Mountaineer Gas is quite small relative to UGI (about 6% in total assets); and second, the natural gas proxy group is already small so eliminating a company may allow another entity to skew the results of the group.

[33] Witness D'Ascendis' Direct Testimony, page 14: lines 1 – 2.
[34] https://www.ugicorp.com/investors/press-releases/press-releases-details/2020/UGI-to-Acquire-Mountaineer-Gas-Company/default.aspx

Q. PLEASE EXPLAIN WHY YOU PERFORMED A COST OF EQUITY ANALYSIS SEPARATELY ON DUKE ENERGY.

A. Piedmont is owned by Duke Energy. As the owner of Piedmont, Duke therefore represents the most direct link to Piedmont, and an analysis performed specifically on Duke helps to provide a large body of knowledge of investor expectations.

V. CAPITAL STRUCTURE

Q. WHAT IS A CAPITAL STRUCTURE AND HOW DOES IT IMPACT THE REVENUES THAT PIEDMONT IS SEEKING?

A. The term "capital structure" refers to the relative percentage of debt, equity, and other financial components that are used to finance a company's investments. A company's capital structure typically includes some combination of three principal financing methods.

The first method is to finance an investment with common equity, which essentially represents ownership in a company and its investments. Common equity is comprised of all investments from investors, including common stock, retained earnings, and additional paid in capital. Returns on common equity, which in part take the form of dividends to stockholders, are not tax deductible. Therefore, on a pre-tax basis alone, common equity is about 21% more expensive than debt financing.

The second form of corporate financing is preferred stock, which is normally used to a much smaller degree in capital structures. Dividend Payments associated with preferred stock are not tax deductible.

Debt is the third major form of financing used in the corporate world. There are two basic types of corporate debt: long-term and short-term. Long-term debt is generally understood to be debt that matures in a period of more than one year. Short-term debt is debt that matures in a year or less. Long-term debt and short-term debt, both of which are "above the line" expenses for tax purposes, represent liabilities on the company's books that must be repaid prior to any common stockholders or preferred stockholders receiving a return on their investment.

Q. HOW IS A UTILITY'S TOTAL RETURN CALCULATED?

A. A utility's total return is developed by multiplying the component percentages of its capital structure, represented by the percentage ratios of the various forms of capital financing relative to the total financing on the company's books, by the cost rates associated with each form of capital and then totaling the results over all of the capital components. When these percentage ratios are applied to various cost rates, a total after-tax rate of return is developed. Because the utility must pay dividends associated with common equity and preferred stock with after-tax funds, the post-tax returns are then converted to pre-tax returns by grossing up the common equity and preferred stock dividends for taxes. The final pre-tax return is then multiplied by the Company's rate base in order to develop the amount of money that customers must pay to the utility for return on investment and tax payments associated with that investment.

Q. HOW DOES CAPITAL STRUCTURE IMPACT THIS CALCULATION?

A. Costs to consumers are greater when the utility finances a higher proportion of its rate base investment with common equity and preferred stock versus long-term

debt. However, long-term debt, which is first in line for repayment, imposes a contractual obligation to make fixed payments on a pre-established schedule, as opposed to common equity where no similar obligations exist.

Q. WHY SHOULD THE COMMISSION BE CONCERNED ABOUT HOW THE COMPANY FINANCES ITS RATE BASE INVESTMENT?

A. There are two reasons that the Commission should be concerned about how Piedmont finances its rate base investment. First, Piedmont's cost of common equity is higher than the cost of long-term debt, meaning that a relatively higher equity percentage will translate into higher costs to Piedmont's customers without any corresponding improvement in quality of service. Long-term debt is a financial promise made by a company and is carried as a liability on the company's books. Common stock is ownership in the company. Due to the contingent nature of an equity investment, common stockholders require higher rates of return to compensate them for the extra risk involved in owning part of the company versus having a more senior claim against the company's assets.

The second reason the Commission should be concerned about Piedmont's capital structure is due to the tax treatment of debt versus common equity. Corporations can deduct payments associated with debt financing. Corporations are not, however, allowed to deduct common stock dividend payments for tax purposes. All dividend payments must be made with after-tax funds, which are more expensive than pre-tax funds. The regulatory process allows utilities to recover reasonable and prudent expenses, including taxes, within their rates. Accordingly, if a utility is allowed to use a capital structure for ratemaking

purposes that is top-heavy in common stock, customers will be forced to cover the higher income tax burden, which can result in unjust, unreasonable, and unnecessarily high rates. Setting rates through the use of a capital structure that is weighted too heavily in common equity violates the fundamental principles of utility regulation: rates must be just and reasonable and only high enough to support the utility's provision of safe, adequate, and reliable service at a fair price.

Q. DOES A UTILITY SUBSIDIARY LIKE PIEDMONT SET ITS OWN CAPITAL STRUCTURE?

A. No. Piedmont's stock is owned by Duke, which is the parent holding company for several utilities.[35] Specifically, Duke owns Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Indiana, Duke Energy Ohio, and Piedmont Natural Gas.[36] As the owner of these utilities, Duke is able to set the capital structure of these utilities as it sees fit. For example, Duke, which had a common equity ratio at the conclusion of 2020 of 44.40%,[37] could issue debt and then infuse this debt into Piedmont and call it common equity. In such a circumstance, Duke could use the regulatory system to issue debt at an interest rate of approximately 3.5% and then invest those funds into Piedmont as common equity to produce a pre-tax rate of return for stockholders of over 9%. The alternative to Duke is to issue debt and then support that debt issuance with debt from Piedmont. In either event, the capital structure of Piedmont is, for the most part, at the discretion of its parent company, Duke.

[35] Witness D'Ascendis' Direct Testimony, page 13: line 11.
[36] https://www.duke-energy.com/Our-Company/About-Us/Businesses/Regulated-Utilities
[37] *The Value Line Investment Survey*, May 14, 2021 (Electric Utilities East).

Q. HOW DOES A UTILITY'S SELECTION OF EQUITY VERSUS DEBT IMPACT RATEPAYERS?

A. Entities in more competitive markets have a profit motive that provides an incentive for such entities to select the most efficient capitalization ratio. However, utilities operating in monopolistic, rate-regulated service territories have an incentive to maximize the amount of common equity in their capital structure, to increase revenues and, correspondingly, the utility profit. Rate-regulated utilities should only be allowed to recover in rates a revenue requirement derived from a capitalization ratio that allows the utility to provide reliable service at the least cost. Therefore, finding the right balance between debt and equity is critical.

If a utility issues more common equity and less debt for a certain project, the rates could potentially be set at an unbalanced debt to equity level. This could result in the ratepayer paying higher rates to support a capital structure that is neither prudent nor reasonable to support the company's current credit rating or the company's adequate access to the capital markets. It is also important to recognize how rate levels affect economic development. The reality in today's economy is that economic development opportunities for large loads occur in places where costs are lower. A utility with unduly high rates will, all else being equal, cause its service territory to lose out on economic development opportunities.

If, on the other hand, the utility incurs too much debt, the utility's capitalization ratios present excess financial risk to the capital markets, thereby driving up the costs required by the equity markets to compensate for the added risk. In this case, the consumer would also be negatively impacted because the cost

the consumer must pay the utility for accessing the capital markets would be higher than the cost would be using a less debt-leveraged capital structure.

One role of regulation is to balance the needs of the capital markets, including utility stockholders, with the needs of ratepayers. Either too much equity or too much debt can harm both the stockholders of the corporation, as well as the consuming public.

Q. HAVE YOU REVIEWED THE CAPITAL STRUCTURE REQUESTED BY THE COMPANY IN THIS PROCEEDING?

A. Yes, I have.

Q. WHAT CAPITAL STRUCTURE IS THE COMPANY PROPOSING IN THIS CASE?

A. Piedmont has proposed the following capital structure:

Table 3: Piedmont's Requested Capital Structure[38]

Component	Capital Structure Ratio (%)
Long-Term Debt	47.45%
Short-Term Debt	0.55%
Common Equity	52.00%
Total Capitalization	**100.00%**

Q. WHAT IS THE AVERAGE COMMON EQUITY RATIO OF THE COMPANIES IN YOUR PROXY GROUP?

A. **Table 4** below shows the average common equity ratio of each utility in my gas comparable company proxy group, as well as for Duke (*i.e.,* Piedmont's parent company).

[38] Witness Bowman's Direct Testimony, Exhibit QPB-7, page 2.

Table 4: Proxy Group Equity Ratio[39]

Company	2019 Ratio	2020 Ratio	2021E Ratio	2024E–2026E Ratio
Atmos Energy	62.00%	60.00%	52.00%	60.00%
Chesapeake Utilities	56.10%	57.80%	57.00%	60.00%
New Jersey Resources	50.20%	44.90%	46.00%	47.00%
NiSource Inc.	36.90%	32.90%	40.00%	40.00%
Northwest Natural	51.80%	50.80%	51.00%	57.00%
ONE Gas Inc	62.30%	58.50%	36.00%	53.00%
South Jersey Inds	40.80%	37.40%	37.00%	39.50%
Southwest Gas	52.10%	49.50%	49.50%	52.00%
Spire Inc	55.00%	51.00%	51.00%	55.00%
UGI Corp	39.80%	40.80%	43.50%	50.00%
Average	**50.70%**	**48.36%**	**46.30%**	**51.35%**
Duke Energy[40]	44.10%	44.40%	44.00%	43.50%

As can be seen in the table above, the average common equity ratio for the proxy group in 2019 was 50.70%, the average common equity ratio for 2020 was 48.36%, the average expected common equity ratio for 2021 is 46.30%, and the average expected common equity ratio from 2024–2026 is 51.35%. Additionally, the respective ratios for Duke for the same periods noted above are 44.10%, 44.40%, 44.00% and 43.50%, respectively. Each of these metrics is below the Company's requested equity ratio in this case of 52.00%

Q. WHAT IS THE AVERAGE COMMON EQUITY RATIO GRANTED BY UTILITY REGULATORS FOR GAS UTILITIES ACROSS THE UNITED STATES?

[39] *The Value Line Investment Survey*, May 28, 2021 (Natural Gas Utilities).
[40] *The Value Line Investment Survey*, May 14, 2021 (Electric Utilities East).

A. Note that I have sourced the average common equity ratio values granted by utility regulators for gas utilities from across the country from *S&P Global*. In my research into these numbers, I found that four states included within the overall average value of gas utilities across the country report their allowed common equity ratios on an all capital sources basis (*i.e.,* LT Debt, ST Debt, Common Equity, Preferred Stock, Customer Deposits, Deferred Income Taxes, Investment Tax Credits). As such, I have removed these four states (*i.e.,* Arkansas, Florida, Indiana and Michigan) from these numbers to ensure that each of the states included in this average report their allowed common equity ratio percentages only on investor sources of capital (*i.e.,* LT Debt, ST Debt, Common Equity). I wanted to remove these four states from the overall average to ensure that the average represented an appropriate comparison given that Piedmont's requested equity ratio in this case of 52.00% is based solely off of investor sources of capital.

The resulting average common equity ratio granted by regulators for natural gas utilities for all states on an investor sources basis 2020 was 52.34%.[41]

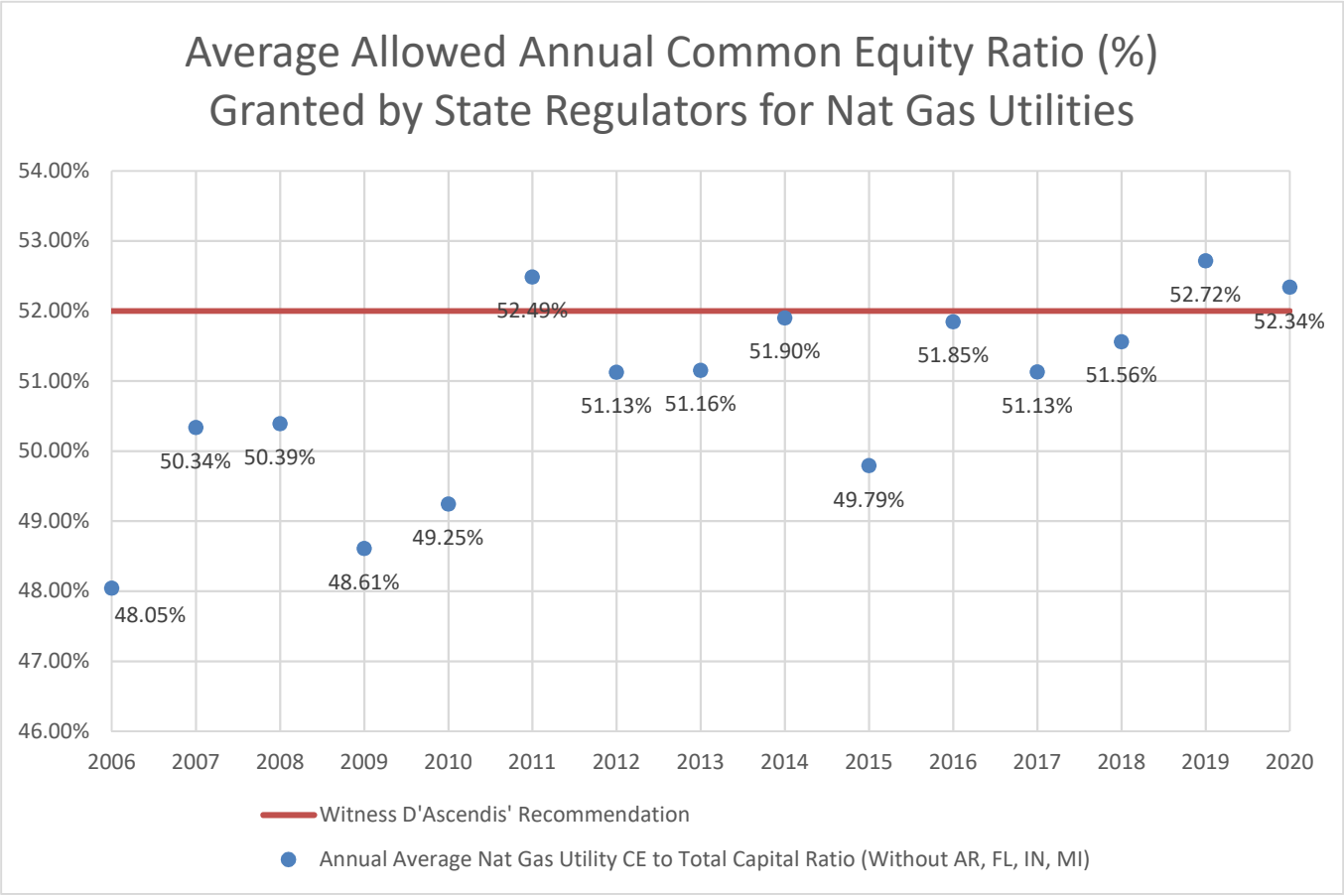
Q. WHAT COMMON EQUITY RATIOS HAVE STATE REGULATORS ACROSS THE UNITED STATES GRANTED TO NATURAL GAS UTILITIES OVER THE PAST 15 YEARS?

A. State regulators have been quite consistent in their rulings in natural gas cases for allowed common equity ratios based on investor sources of capital over the past 15 years. From 2006 through 2020, common equity ratios have ranged from 48.05%

[41] S&P Global Market Intelligence Rate Case Statistics; Date Range: 15 Years; Service Type: Natural Gas; Chart Items: Common Equity to Total Capital, Return on Equity (last accessed June 21, 2021).

to 52.71%, with an average of 50.85%. If one were to evaluate this data over the previous 12 years, the average common equity ratio over this period is 51.16%, the average ratio over the previous 10 years is 51.61%, and the average ratio over the previous 8 years is 51.56%. In **Chart 4** below I have presented the average annual common equity ratio granted by state regulators for each year over the past 15 years.

Chart 4: Common Equity Ratio Granted by State Regulators (2006–2020)[42]



[42] *Id.*

Q. WHAT IS THE CAPITAL STRUCTURE OF DUKE, THE PARENT HOLDING COMPANY OF PIEDMONT?

A. As shown in **Table 4** above, the Duke equity ratio for 2020 was 44.40%, and is expected by analysts to be at 43.50% through the 2024E-2026E time period.

Q. IS THE CAPITAL STRUCTURE OF PIEDMONT RELATED TO THE CAPITAL STRUCTURE OF DUKE?

A. Yes. Duke controls the amount of debt and equity in the Piedmont capital structure. The fact that Piedmont is asking for a 52.00% equity ratio, while Duke had a 44.40% equity ratio at the end of 2020,[43] indicates that the holding company is using double-leverage to increase profits from its regulated subsidiary, Piedmont.

Q. PLEASE EXPLAIN THE CONCEPT OF DOUBLE LEVERAGE.

A. Double leverage occurs when a utility parent company issues debt and then infuses that debt into the regulated subsidiary as common equity. The reason for such action is that equity is more expensive than debt and it is grossed up for taxes, meaning that the costs that Duke can collect from Piedmont is far greater than the cost of issuing the debt.

Q. PLEASE PROVIDE AN EXAMPLE OF DOUBLE-LEVERAGE.

A. An example would be a parent holding company issuing debt at 3.5% and then infusing the debt proceedings into the utility subsidiary as equity where the utility earns an allowed ROE of 9.0%. Keep in mind that the regulated utility is allowed to recover its income taxes so the 9.0% is actually grossed up to approximately

[43] *The Value Line Investment Survey*: 5/14/2021 (Electric Utilities East).

12.5% to pay for income taxes. As a result, through the regulatory process, Duke can issue debt at 3.5% and turn it into 12.5% through double-leverage through its relationship with its subsidiaries.

Q. PLEASE SUMMARIZE YOUR FINDINGS IN REGARD TO THE REQUESTED EQUITY RATIO IN THIS CASE RELATIVE TO THE EQUITY RATIO OF OTHER GAS UTILITIES.

A. **Table 5** below provides a summary of how Piedmont's request in this case compares to the average equity ratio of the proxy group companies, the common equity ratio of Piedmont's parent company, Duke, and the average equity ratio allowed by state regulators to gas utilities across the country in 2020 and the previous 15-year period.

Table 5: Common Equity Ratio Comparison

Piedmont's Eq Ratio Request	52.00%
CUCA Eq Ratio Recommendation	50.00%
2019 O'Donnell Proxy Group Actual Eq Ratio Average	50.70%
2020 O'Donnell Proxy Group Actual Eq Ratio Average	48.36%
2021E O'Donnell Proxy Group Expected Eq Ratio Average	46.30%
2024E – 2026E O'Donnell Proxy Group Expected Eq Ratio Average	51.35%
2019 Duke Actual Eq Ratio Average	44.10%
2020 Duke Actual Eq Ratio Average	44.40%
2021E Duke Expected Eq Ratio Average	44.00%
2024E – 2026E Duke Expected Eq Ratio Average	43.50%
2020 Average Annual Regulator Nat Gas Granted Eq Ratio	52.34%
2006 – 2020 Average Annual Regulator Nat Gas Granted Eq Ratio	50.85%

Q. GIVEN THE ABOVE, DO YOU BELIEVE THAT THE CAPITAL STRUCTURE PROPOSED BY PIEDMONT IN THIS CASE IS APPROPRIATE FOR RATEMAKING PURPOSES?

A. No. The requested capital structure for Piedmont of 52.00% is not as reasonable as a recommended capital structure of 50.00% for ratemaking purposes. Nothing in the make-up of Piedmont suggests that it requires an equity ratio in a range that would place it higher than that of the companies within its comparable proxy group. Indeed, some of the companies in the proxy group are involved in a wider array of business activities that involve more business risk than a utility's distribution of natural gas within its monopoly service territory. As such, if anything, the financial risk (as represented by the equity ratio) of the comparable company proxy group should be higher, not lower, than a traditional gas utility such as Piedmont. Customers of Piedmont should not pay higher rates associated with a capital structure that consists of so much common equity which, as previously discussed, is more expensive than debt.

Q. WHAT CAPITAL STRUCTURE DO YOU RECOMMEND THIS COMMISSION ADOPT FOR USE IN SETTING THE REVENUE REQUIREMENT IN THIS CASE?

A. My recommendation is for the Commission to employ a capital structure that contains an equity ratio that is more equivalent to 50%. Specifically, my recommended capital structure and embedded cost of debt is as follows:

Table 6: CUCA Recommended Capital Structure

Component	Capital Structure Ratio (%)
Long-Term Debt	49.43%
Short-Term Debt	0.57%
Common Equity	50.00%
Total Capitalization	100.00%

Note that the CUCA recommended overall debt ratio of 50% was split into a long-term debt ratio of 49.43% and short-term debt ratio of 0.57%. This split was based upon the same ratio used by the Company for its split of its recommended overall debt ratio of 48% into a long-term debt ratio of 47.45% and a short-term debt ratio of 0.55%. As such, I have used those same, specific ratios of long-term debt to total debt and short-term debt to total debt to split out CUCA's recommended overall 50% debt portion of the capital structure between short-term and long-term debt.

Q. HOW DID PIEDMONT DEVELOP ITS REQUESTED COMMON EQUITY RATIO OF 52.00%?

A. Company Witness Karl Newlin recommended that the capital structure of 52.00% and stated as follows:

> represents an appropriate amount of risk due to leverage (48% or lower) while minimizing the weighted average cost of capital…As of December 31, 2020, Piedmont's capital structure, including a thirteen-month average of natural gas inventory as a proxy for short-term debt, was 50.59% equity, 48.74% long-term debt and 0.67% short-term debt. Looking forward, the equity percentage of Piedmont's capital structure, as shown in Exhibit_(KWN-1) is projected to be 52.56% and 52.87% for year end 2021 and 2022, respectively.[44]

Q. IF THE COMMISSION ADOPTS THE COMPANY'S CAPITAL STRUCTURE FOR RATEMAKING, WHAT OTHER ADJUSTMENTS SHOULD IT MAKE?

A. Note that my specific equity recommendations in this proceeding based on the analyses performed is a capital structure weighted 50% to common equity, along

[44] Witness Newlin's Direct Testimony, page 5: lines 11 – 13, and page 6: lines 9 – 15.

with a 9.00% ROE, as shown in **Table 2**. However, if the Commission were to adopt a capital structure for Piedmont at the level requested by the Company of 52.00%, the Commission should recognize the lower financial risk applicable to Piedmont with such an equity ratio, and accordingly reduce the allowed ROE in this proceeding.

VI. COST OF DEBT

Q. DO YOU ACCEPT THE COMPANY'S COST OF DEBT?

A. Yes, I accept the Company's 4.56% overall cost of debt, based on 4.09% long-term[45] and 0.47% short-term debt cost rates.[46] If, however, there is an update to the cost of debt as we get closer to the hearing, I reserve the right to update my testimony.

VII. COST OF COMMON EQUITY

Q. PLEASE EXPLAIN HOW THE ISSUE OF DETERMINING AN APPROPRIATE RETURN ON A UTILITY'S COMMON EQUITY INVESTMENT FITS INTO A REGULATORY AUTHORITY'S DETERMINATION OF JUST AND REASONABLE RATES FOR THE UTILITY.

A. In North Carolina, as in virtually all regulatory jurisdictions, a utility's rates must be *"*just and reasonable."[47] Thus, regulation recognizes that utilities are entitled to an opportunity to recover the reasonable and prudent costs of providing service,

[45] Exhibit KWN-2
[46] Exhibit KWN-3.
[47] https://www.ncuc.net/Aboutncuc.html

and the opportunity to earn a just and reasonable rate of return on the capital invested in a utility's facilities, such as natural gas distribution equipment, buildings, vehicles, and similar long-lived capital assets.

Q. HOW DO REGULATORY AUTHORITIES DETERMINE WHAT WOULD CONSTITUTE A JUST AND REASONABLE RATE OF RETURN ON EQUITY FOR A UTILITY COMPANY?

A. Regulatory commissions and boards, as well as financial industry analysts, institutional investors, and individual investors, use different analytical models and methodologies to estimate/calculate reasonable rates of return on equity. Among the measures used are the Discounted Cash Flow ("DCF") Model, the Comparable Earnings Analysis ("CEA"), and the Capital Asset Pricing Model ("CAPM"). I believe the most useful methodology is the DCF analysis, but I have also presented the CEA and the CAPM within this testimony as checks for my DCF results.

Q. CAN YOU EXPLAIN WHY REGULATORY AUTHORITIES AND FINANCIAL ANALYSTS NEED TO USE THESE METHODOLOGIES TO DERIVE A COMPANY'S ESTIMATED RATE OF RETURN ON EQUITY?

A. Yes. There is no direct, observable way to determine the rate of return required by equity investors in any company or group of companies. Investors must make do with indications from market data and analyst predictions to estimate the appropriate price of a share. The principal and most reliable methodology for obtaining these indications is the DCF Model. Other procedures, such as the CEA and the CAPM, are less reliable than the DCF Model in my opinion.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THE DCF MODEL IS SUPERIOR TO THE CEA AND CAPM APPROACHES.

A. The DCF Model is an investor-driven model that incorporates current investor expectations based on daily and ongoing market prices. When a situation develops in a company that affects its earnings and/or perceived risk level, the price of the stock adjusts to reflect those developments. Since the stock price is a major component in the DCF Model, the change in risk level and/or earnings expectations is captured in the investor return requirement with either an upward or downward movement.

The CEA is based on earned returns from book equity, not market equity, as well as a comparison of what other commissions or boards across the country are awarding regulated utilities. There is no direct and immediate stockholder input into the CEA and, as a fault, that model lacks a clear and unmistaken link to stockholder expectations.

The CAPM suffers, in my opinion, from the same inherent issues as found within the CEA in that there is not a direct and immediate link from stock market prices to the CAPM result. The Beta in the CAPM can reflect changes in the ROE, but the delay can oftentimes make the CAPM results of little-or-no value.

Q. WHY DID YOU NOT USE THE RISK PREMIUM MODEL?

A. The Risk Premium Model is very similar in nature to the CAPM. In both models, one examines risk premiums, but from varying comparison points. The CAPM considers the risk premium relative to the risk-free rate whereas the risk premium model often develops the risk premium relative to utility bond yields.

Q. COULD YOU PERFORM A COST OF EQUITY ANALYSIS DIRECTLY ON PIEDMONT?

A. No. Piedmont is ultimately a subsidiary of Duke. Note however that while Duke is classified as an electric utility by *Value Line* within their industry groupings, it is also considered to be a holding company, which owns natural gas operations as well, such as those managed by Piedmont.

A. <u>Discounted Cash Flow ("DCF") Model</u>

Q. PLEASE EXPLAIN THE DISCOUNTED CASH FLOW MODEL.

A. The DCF Model is a widely used method for estimating an investor's required return on a firm's common equity. I have worked within the utility industry since 1984. In my experience, first with the Public Staff of the North Carolina Utilities Commission, and later as a consultant, I have seen the DCF Model used much more often than any other method for estimating the appropriate return on common equity. Consumer advocate witnesses, utility witnesses and other intervenor witnesses have used the DCF Model, either by itself or in conjunction with other methods such as the CEA or the CAPM, in their analyses.

The DCF Model is based on the concept that the price which the investor is willing to pay for a stock is the discounted present value (*i.e.,* its present worth) of what the investor expects to receive in the future as a result of purchasing that stock. This return to the investor is in the form of future dividends and price appreciation. However, price appreciation is only realized when the investor sells the stock, and subsequent purchasers are presumably also focused on dividend growth following their purchase of the stock. Mathematically, the relationship is:

Let D = dividends per share in the initial future period

g = expected growth rate in dividends

k = cost of equity capital

P = price of asset (or present value of a future stream of dividends)

$$\text{then } P = \frac{D}{(1+k)} + \frac{D(1+g)}{(1+k)^2} + \frac{D(1+g)}{(1+k)^3} + \ldots\ldots + \frac{D(1+g)}{(1+k)^t}$$

This equation represents the amount (P) an investor will be willing to pay *today* for a share of common equity with a given dividend stream over (t) periods.

Reducing the formula to an infinite geometric series, we have:

$$P = \frac{D}{k - g}$$

Solving for k yields:

$$k = \frac{D}{P} + g$$

Q. DO INVESTORS IN UTILITY COMMON STOCKS REALLY USE THE DCF MODEL IN MAKING INVESTMENT DECISIONS?

A. Yes, I believe that they do. There are two primary reasons for my conclusion. First, there is much literature that supports the fact that, while emotional or so-called

"irrational" behavior in the short term may affect (and has affected) share prices, over the long term, a company's financial fundamentals drive the market.[48] Secondly, analysts give great weight to earnings, dividend, and book value growth in formulating their recommendations to clients.

Thus, in today's market environment, investors will likely calculate (or seek a calculation of) the amount of funds they will receive relative to the initial investment, which is defined as the current dividend yield, as well as the amount of funds that the investor can expect in the future from the growth in the dividend. The combination of the current dividend yield and the future growth in dividends is central to the basic tenet of the DCF Model.

Q. IS THE DCF FORMULA STRAIGHTFORWARD?

A. Yes. While the DCF formula as outlined above may appear complicated, it is a relatively straightforward model. To determine the total rate of return one expects from investing in a particular equity security, the investor adds the dividend yield, which they expect to receive in the future, to the expected growth in dividends over time.

Q. CAN YOU PROVIDE AN EXAMPLE?

[48] *See*, *e.g.*, Tim Koller, Marc Goedhart, & David Wessels, *Valuation: Measuring and Managing the Value of Companies* (4th ed.); Tim Koller, Marc Goedhart, & David Wessels, *Do fundamentals—or emotions—drive the stock market?*, McKinsey & Company Inc. (Mar. 1, 2005) ("Provided that a company's share price eventually returns to its intrinsic value in the long run, managers would benefit from using a discounted-cash-flow approach for strategic decisions. What should matter is the long-term behavior of the share price of a company, not whether it is undervalued by 5 or 10 percent at any given time."), *available at* http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/do-fundamentalsor-emotionsdrive-the-stock-market (last accessed Mar. 2, 2016); *see also* Joe Weisenthal, *And Now We Know For Sure What's Really Been Driving The Market The Last Few Years...*, Business Insider (Apr. 15, 2021), *available at* http://www.businessinsider.com/what-drives-the-stock-market-2012-8 (last accessed March 2, 2016).

A. Yes. If investors expect a current dividend yield of 5%, and also expect that dividends will grow at 4%, then the DCF model indicates that investors would buy the utility's common stock if it provided an ROE of 9%.

Q. WHAT DIVIDEND YIELD DO YOU THINK IS APPROPRIATE FOR USE IN THE DCF MODEL?

A. I have calculated the appropriate dividend yield by averaging the dividend yield expected to be paid over the next 12 months for each comparable company, as reported by the *Value Line Investment Survey*. The period covered is from April 16, 2021, through July 9, 2021. To study the short-term, as well as long-term, movements in dividend yields, I examined the 13-week, 4-week, and 1-week dividend yields for my comparable group. These results appear in **Exhibit KWO-2** and show an average dividend yield for the 13-week period of 3.2%, the 4-week period of 3.3%, and the 1-week period of 3.3% for the comparable company proxy group. I have also presented the results for Duke within **Exhibit KWO-2** as Piedmont's parent company. The values for Duke over these same periods were 3.9%, 3.9%, and 3.9%, respectively.

Q. PLEASE EXPLAIN HOW YOU DEVELOPED THE DIVIDEND YIELD RANGES DISCUSSED ABOVE.

A. I developed the dividend yield range for my comparable company proxy group by averaging each company's *Value Line* forecasted 12-month dividend yield over the above-stated periods, as well as examining the most recent forecasted 12-month dividend yield reported by *Value Line* for each company. I averaged the dividend

yield over multiple time periods in order to minimize the possibility of an isolated event skewing the DCF results.

Q. HOW DID YOU DERIVE THE EXPECTED DIVIDEND GROWTH RATE?

A. I used several methods in determining the growth in dividends that investors expect. These methods are, (1) historical EPS, DPS, and BPS growth rates, (2) forecasted EPS, DPS, and BPS growth rates, and (3) the plowback ratio.

Q. PLEASE DESCRIBE THE FIRST METHOD YOU USED TO DEVELOP THE EXPECTED DIVIDEND GROWTH RATE.

A. A key component in the DCF Model is the expected growth in dividends. In analyzing the proper dividend growth rate to use in the DCF Model, the analyst must consider how dividends are created. Since over the long-term, dividends cannot be paid out without a corporation first earning the funds paid out, earnings growth is a key element in analyzing what if any growth can be expected in dividends. Similarly, what remains in a corporation after it pays its dividend is reinvested, or "plowed back," into a corporation in order to generate future growth. As a result, book value growth is another element that, in my opinion, must be considered in analyzing a corporation's expected dividend growth.

Therefore, to analyze the expected growth in dividends, I believe the analyst should also examine the historical record of past earnings, dividends, and book value. Hence, the first method I used to estimate the expected growth rate was to analyze the historical 10-year and 5-year compound annual rates of change for earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BPS") as reported by *Value Line* for each of the relevant companies. My

reasoning for also utilizing historical growth rates for EPS, DPS, and BPS, rather than solely relying upon forecasted growth rates is that historical growth rates capture the actual growth of the various rates over time based upon a Company's reported results. In contrast, forecasted growth rates are derived entirely from analyst projections, which vary from analyst to analyst, and which also have a tendency to be overstated. As such, I have always found it important to use both historical and forecasted growth rates.

Q. DO ALL ANALYSTS UTILIZE HISTORICAL GROWTH RATES WITHIN THEIR DCF MODELS?

A. No, certain analysts do not present historical growth rates in their DCF analyses. This is true for Mr. D'Ascendis, as evidenced through his DCF calculations on page 1 of his **Schedule DWD-2**, where Mr. D'Ascendis only factored forecasted growth rates from *Value Line*, *Zack's*, *Yahoo! Finance*, and *Bloomberg* into his DCF analysis.

I believe that analysts who do not present the readily available historical data fail to provide the full extent of information on which investors base their expectations. Both historical growth rates and forecasted growth rates provide valuable data for what one can expect the ultimate growth rate for an individual stock will be. To present the full breadth of the available information, both historical and forecasted growth rates should be used. I believe this to be even more important given the current economic climate and market uncertainty caused by the COVID-19 pandemic. By focusing his entire analysis on forecasted growth rates,

Mr. D'Ascendis is ignoring the value in historical growth rates that are readily available.

I note that *Value Line* is the most recognized investment publication in the industry and, as such, is used by professional money managers, financial analysts, and individual investors worldwide. A prudent investor tries to examine all aspects of an enterprise's performance when making a capital investment decision. As such, it is only practical to examine historical growth rates, in addition to the forecasted growth rates, for the corporation on which the analysis is being performed.

Exhibit KWO-2 lists the historical and forecasted growth rates for the comparable company proxy group, and **Exhibit KWO-5, page 1** lists the related calculations and results for this method, with the historical and forecasted growth rate values being added to the dividend yield averages for the time periods of 1-week, 4-weeks, and 13-weeks. Also note that **Exhibit KWO-6**, **page 1** shows these results should this analysis be performed directly on Piedmont's parent company, Duke.

Q. SHOULD ONLY EARNINGS ("EPS") GROWTH RATES BE CONSIDERED IN THE DCF METHODOLOGY?

A. No, I do not believe it is appropriate to strictly rely upon EPS growth rates on either an historical or forecasted basis. Since the DCF formula is dependent on future *dividend* growth, I believe that it would be inaccurate to use only earnings (*i.e.,* EPS) growth rates in the DCF. Doing so would produce unrealistically high return on equity numbers that cannot be sustained indefinitely, which I provide evidence

for and discuss in greater detail below within **Section VII-A**: "Review of Mr. D'Ascendis' DCF Analysis."

To mitigate this problem, I have presented EPS, DPS, and BPS figures and have explained my rationale for arriving at the corresponding growth rates. I believe it is incumbent upon every analyst to present such a robust analysis.

Q. PLEASE DESCRIBE THE SECOND METHOD YOU USED TO DEVELOP THE EXPECTED DIVIDEND GROWTH RATE.

A. The second method I used was forecasted growth rates. I obtained forecasted growth rates from the following data sources:

- Forecasted compound annual rates of change for EPS, DPS, and BPS as provided by *Value Line*;
- Average "plowback" percent retained to common equity as provided by *Value Line*;
- Forecasted 3-year projected rate of change for EPS as recorded by the *Center for Financial Research and Analysis* (*i.e., CFRA*), a publication of *S&P Global Market Intelligence*; and
- Forecasted LT 3-5-year EPS growth rates, as provided by *Charles Schwab & Co (i.e., Schwab).* This forecasted rate of change is not a forecast developed solely by *Schwab*, but is, instead, a compilation of forecasts by industry analysts.

As such, the data sources referenced above all represent forecasted growth rates, but are sourced from three separate financial evaluation agencies, *Value Line, CFRA,* and *Schwab*.

Exhibit KWO-2 lists the forecasted growth rates for the comparable company proxy group and **Exhibit KWO-5, page 1** lists the related calculations & results for this method with the forecasted growth rate values being added to the dividend yield averages for the time periods of 1-week, 4-weeks, and 13-weeks. Also note that **Exhibit KWO-6**, **page 1** shows these results should this analysis be performed directly on Piedmont's parent company, Duke. My ultimate DCF result range can be found on **Exhibit KWO-1**.

Q. PLEASE DESCRIBE THE THIRD METHOD YOU USED TO DEVELOP THE EXPECTED DIVIDEND GROWTH RATE.

A. The third method I used is an analysis commonly referred to as the "plowback ratio" method. If a company is earning a rate of return ("r") on its common equity, and it retains a percentage of these earnings ("b"), then each year a Company's earnings per share ("EPS") is expected to increase by the product ("br") of its EPS in the previous year. Therefore, "br" is a good measure of growth in dividends per share. For example, if a company earns 10% on its equity and retains 50% of that 10% (*i.e.,* with the other 50% of the 10% earnings on equity being paid out in dividends), then the expected growth rate in earnings and dividends is 5% (*i.e.,* 50% of 10%). To calculate a plowback for the comparable group, I used the following formula:

$$g = \frac{br(2019) + br(2020) + br(2021E) + br(2024E\text{-}2026E\ Avg)}{4}$$

The plowback estimates for all companies in the comparable company proxy group can be obtained from *The Value Line Investment Survey* under the title "percent retained to common equity." **Exhibit KWO-2** and **Exhibit KWO-3** list the plowback ratios for each company in the comparable company proxy group. **Exhibit KWO-5, page 2** shows the related calculations and results for this method with the plowback values being added to the dividend yield averages for the time periods of 1-week, 4-weeks, and 13-weeks. **Exhibit KWO-6, page 2** then shows these related calculations and results for Piedmont's parent company, Duke.

Q. WHAT IS THE INVESTOR RETURN REQUIREMENT FROM THE DCF ANALYSIS FROM A HISTORICAL GROWTH RATE PERSPECTIVE?

A. In terms of the proper dividend growth rate to employ for the comparable company proxy group in the DCF analysis, it is appropriate to examine the recent history of earnings and dividend growth to assess and provide the best estimate of the dividend growth that investors expect in the future.

Within **Exhibit KWO-2**, I have presented the complete set of data for the entirety of the comparable company proxy group without any of the companies removed from the comparable company proxy group as published by *Value Line*. The data and calculations shown therein at **Exhibit KWO-2** is the information that my recommendation was developed from.

An examination of the 10-year and 5-year historical growth rates for the comparable company proxy group within this exhibit show a difference between the average earnings and dividend growth rates. For the 10-year history, BPS (5.3%) grew faster than DPS (5.1%) and EPS (4.4%) in the comparable company

proxy group. For the 5-year history, DPS (5.9%) grew faster than BPS (5.3%) and EPS (5.1%).

Additionally, the historical growth rates for Duke ranged from a BPS of 2.0% to a DPS of 3.0% over the 10-year historical period and a BPS of 1.0% to a DPS of 3.5% over the 5-year historical period.

These growth rates indicate that the natural gas utility industry has historically experienced solid and steady growth in earnings, dividends, and book value. The DCF results based on the set of data previously mentioned for the entirety of the proxy group can be found in **Exhibit KWO-5, pages 1-2** and the related results for Duke can be found in **Exhibit KWO-6, pages 1-2**.

Q. WHAT IS THE INVESTOR RETURN REQUIREMENT FROM THE DCF ANALYSIS FROM A FORECASTED GROWTH RATE PERSPECTIVE?

A. The forecasted growth rates from *Value Line* for the proxy group range from 5.1% (DPS) to 7.5% (BPS). Additionally, the forecasted *Value Line* growth rates for Duke ranged from 2.0% (BPS and DPS) to 7.0% (EPS).

In addition to the above forecasted *Value Line* growth rates, the average plowback (retained to common equity) growth rate for the proxy group is 4.2% (**Exhibit KWO-2** and **Exhibit KWO-3**), the *CFRA* 3-year forecasted EPS growth rate is 6.0% (**Exhibit KWO-2**), and the *Schwab* LT Growth Rate 3-5 year forecasted EPS growth rate is 5.0% (**Exhibit KWO-2**). These values for Duke are 2.1%, 6.0%, and 5.0%, respectively.

These growth rates indicate that the natural gas utility industry is expecting solid and steady growth in earnings, dividends, and book value in the future. The

DCF results based on the set of data previously mentioned for the entirety of the proxy group can be found in **Exhibit KWO-5, pages 1-2** and the related results for Duke can be found in **Exhibit KWO-6, pages 1-2**.

Q. HOW DOES THE COVID-19 PANDEMIC IMPACT YOUR COST OF EQUITY FOR PIEDMONT IN THIS CASE?

A. I previously outlined the impacts of the COVID-19 pandemic across the overall market as a whole, as well as the utility industry, within **Section II**: "Current State of the Financial Markets."

With regard to Piedmont, the information used in my analysis herein encompasses the data from the initial onset of the COVID-19 pandemic, as well as the market's recovery that began in Q3 2020 and that continued into 2021. As a result, any change in the growth rates specific to the natural gas utility comparable group are already reflected in the growth rates utilized within my testimony, thereby recognizing that even though the recovery has begun, the US economy has significant headwinds ahead.

Q. PLEASE PROVIDE THE SPECIFIC RESULTS OF YOUR DCF ANALYSIS.

A. The average dividend yield for the comparable company proxy group for the 13-week period was 3.2%, the 4-week time period was 3.3%, and the 1-week period was 3.3%. Additionally, the average dividend yield for Duke for the 13-week period was 3.9%, the 4-week time period was 3.9%, and the 1-week time period was 3.9%. With the second portion of the DCF analysis relating to growth rates, I note that the historical growth rates range from 4.4% to 5.9% and the forecasted growth rates

range from 4.2% to 7.6%. For Duke, the historical range is from 1.0% to 3.5% and the forecasted range is from 2.0% to 7.0%.

I have included both historical and forecasted growth rate figures within my analysis as previously noted as shown within both **Exhibit KWO-5** and **Exhibit KWO-6** to present the full set of growth rate information applicable within this cost of capital analysis for both my comparable proxy group, as well as Piedmont's parent company Duke. **Table 7** below showcases the Dividend Yield Range values from the 13-week, 4-week, and 1-week dividend yield periods, plus the Historical Growth Rates from *Value Line*, the Forecasted Growth Rates from *Value Line*, *CFRA*, and *Schwab*, and the Plowback Growth Rates from *Value Line* for my comparable company proxy group, as well as for Piedmont's parent company, Duke.

Table 7: DCF Results

Natural Gas DCF Results: Proxy Group (as sourced from **Exhibit KWO-5**)			
	Minimum	Average	Maximum
Value Line Historical Growth Rate Averages + *Value Line* Div Yield Range	8.02%	8.47%	8.80%
Forecasted Growth Rate Averages + *Value Line* Div Yield Range	8.35%	9.53%	10.84%
Value Line Plowback Growth Rate Averages + *Value Line* Div Yield Range	7.49%	7.50%	7.53%
Average (Rx)	7.95%	8.50%	9.06%
DCF Results: Duke Parent Company (as sourced from **Exhibit KWO-6**)			
	Minimum	Average	Maximum
Value Line Historical Growth Rate Averages + *Value Line* Div Yield Range	5.35%	6.13%	7.15%
Forecasted Growth Rate Averages + *Value Line* Div Yield Range	5.85%	8.28%	10.90%
Value Line Plowback Growth Rate Averages + *Value Line* Div Yield Range	5.93%	5.95%	5.98%
Average (Rx)	5.71%	6.78%	8.01%

As shown in **Exhibit KWO-1**, I have utilized an ultimate DCF result range of 7.50% to 9.50%. This range was determined based upon a review of the values shown in the table above. My 7.50% to 9.50% range was positioned towards the high end of the range of values shown within **Table 7** above, with the low-end of the range of 7.50% being set below the average of the minimum values for the proxy group (7.95%), and the high-end of the range of 9.50% being set above the average of the maximum values for the proxy group (9.06%). As such, I have placed my overall DCF result at 9.00%, which is above the midpoint of my 7.50% to 9.50%

range in order to take into account the higher forecasted growth rates moving forward.

B. Comparable Earnings Analysis ("CEA")

Q. PLEASE EXPLAIN HOW YOU PERFORMED THE COMPARABLE EARNINGS ANALYSIS?

A. I have conducted two different Comparable Earnings Analyses. The first examines returns on book value equity for the comparable group. The second examines allowed natural gas utility returns over an extended period of time to evaluate the trend in returns for companies of similar risk. However, as I stated previously, I believe the CEA to be inferior to the DCF Model and that it should be given less weight in the determination of the ROE recommended in this case.

Q. PLEASE DESCRIBE YOUR FIRST COMPARABLE EARNINGS ANALYSIS.

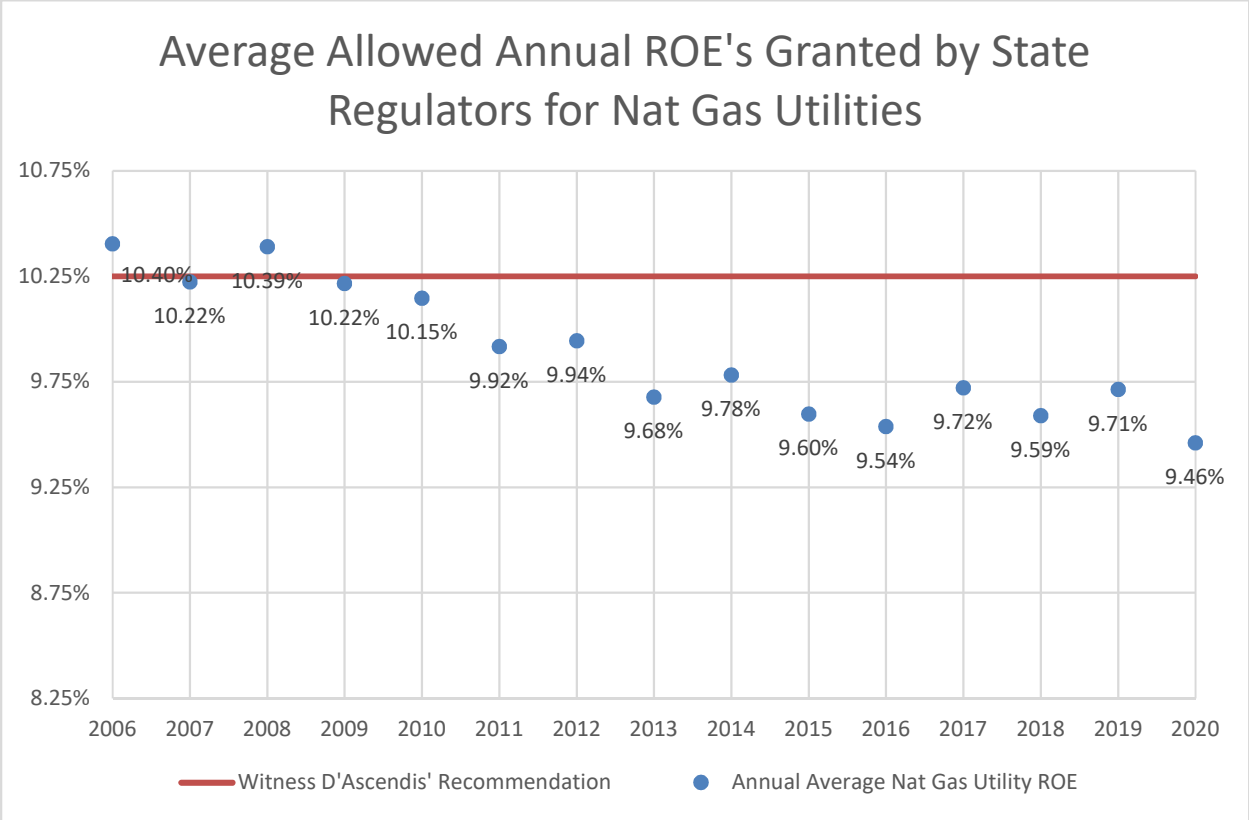
A. As noted above, an appropriate CEA should be applied to comparable companies of similar risk. **Exhibit KWO-4** presents a list of historic and forecasted earned returns *on book value equity* of the proxy group over the period from 2019 through 2026E. I picked this range to provide the Commission with at least two periods of historical returns (*i.e.,* 2019 and 2020) and a forecasted return period of at least 5 years (*i.e.,* 2021E through 2026E). As can be seen in this exhibit, the average earned returns on equity for the comparable company proxy group range from 9.2% (2019 and 2020) to 9.7% (2021E and 2024E–2026E). Additionally, for Piedmont's parent company Duke, this range was from 6.3% (2020) to 9.5% (2024E–2026E).

Q. PLEASE DESCRIBE YOUR SECOND COMPARABLE EARNINGS ANALYSIS.

A. It is important to understand what state regulatory commissions/boards across the country are allowing for authorized ROEs. Allowed ROEs are widely known and discussed in the financial community and investors take these regulatory decisions into account when they bid prices in the open market for which they are willing to purchase the stock of a regulated utility.

As this Commission is likely aware, regulated ROE's have trended down over the past 15 years. Below, **Chart 5** shows the ROEs authorized for gas utilities by state regulators across the United States from 2006 through 2020, which ranges from 9.46% (2020) to 10.40% (2006).

Chart 5: Allowed ROEs 2006 – 2020[49]



As for the most recent year, 2020, the overall allowed ROE for gas utilities was 9.46%, which is the lowest figure over the previous 15-year period, significantly down from the 9.71% allowed by state regulators for gas utilities in 2019, and a notable 79-basis points below Mr. D'Ascendis' recommendation of 10.25%.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR TWO COMPARABLE EARNINGS ANALYSES?

A. Based on the above-stated findings, I believe the proper rate of return using a CEA is in the range of 9.00% to 10.00%. The 9.00% low end of this range is aligned with

[49] *S&P Global Market Intelligence* Rate Case Statistics; Date Range: 15 Years; Service Type: Natural Gas; Chart Items: Common Equity to Total Capital, Return on Equity; **Date Accessed**: June 24, 2021.

the low end of the range of the comparable company proxy group from 2019–2026E shown in **Exhibit KWO-4** for 2019 and 2020 of 9.2%. The 10.00% high end of the range is above the high end of the range of the comparable company proxy group from 2019–2026E shown in **Exhibit KWO-4** for 2021E and 2024E-2026E of 9.7%. Note that the ROE granted by state regulators in 2020 of 9.46% (see **Chart 5**) and the average ROE granted by state regulators from 2006–2020 of 9.89% fit within this 9.00% to 10.00% CEA range as well.

I have completed the Comparable Earnings Analyses as referenced above to provide the relevant data for the comparable group's book value equity. However, as previously noted, it is my opinion that the DCF Model produces the most reliable results in determining an appropriate ROE. Furthermore, given the current volatile economic climate brought on by the COVID-19 pandemic, the CEA does not appropriately capture the economic impacts of the pandemic within the output of the model. As such, I believe that the CEA should be given much less weight in the determination of the ROE recommended in this case. Additionally, I view the CAPM as a model that is more appropriate to utilize as a check on the results of the DCF Model.

Q. PLEASE EXPLAIN WHY YOU BELIEVE THE COMPARABLE EARNINGS BASED ON ALLOWED ROE'S INCLUDED IN EXHIBIT KWO-4 ARE HIGHER THAN THE RESULTS OF YOUR DCF ANALYSIS.

A. As noted above, there has been a clear declining trend in the cost of capital and return on equity figures allowed by utility regulators, and this downward trend is continuing. However, market returns are much more dynamic and change every

day. Regulators may not move at the pace of the general market in terms of the decline in the market cost of capital, but regulators are, without a doubt, moving in that direction as exhibited by the decline in the annual allowed return national averages included in the Q&A's above and as exhibited in **Chart 5**.

C. Capital Asset Pricing Model ("CAPM")

Q. HAVE YOU PREVIOUSLY PRESENTED THE CAPM IN COST OF EQUITY TESTIMONIES?

A. Yes, but I have not given it as much weight in comparison to the DCF Model. I have long maintained the application of the CAPM can lead one to erroneous results when it is applied in an inaccurate manner, such as when forecasted risk premiums or forecasted interest rates are employed. However, I am aware that some commissions and boards around the country seek a review of models other than the DCF. As a result, I have included the CAPM in my analyses to supplement my DCF analysis, as well as the CEA to a lesser degree.

Q. PLEASE EXPLAIN THE CAPITAL ASSET PRICING MODEL.

A. The CAPM is a risk premium model that determines a firm's ROE relative to the overall market ROE. The formula for the CAPM is as follows:

$$ROE = Rf + Beta\ [E(RM) - Rf]$$

Where:

Rf is the risk-free rate;

Beta is the risk of the studied company relative to the overall market; and

E(RM) is the expected return on the market.

To be specific, the CAPM is a measure of firm-specific risk, known as unsystematic risk and measured by Beta, as well as overall market risk, otherwise known as systematic risk and measured by the expected return on the market.

The CAPM calculates ROE based on a company's risk and can be restated as follows:

$$ROE = Rf + (Beta * Risk\ Premium)$$

Where Risk Premium represents the adjusted company-specific risk of the company.

Q. HOW IS THE RISK-FREE RATE MEASURED?

A. The risk-free rate is designated as the yield on United States government bonds as the risk of default is seen as highly unlikely. Utility witnesses and consumer witnesses all use United States government bond yields as the risk-free rate in the CAPM. However, what is often debated in the risk-free portion of the CAPM is the term of those bonds. In my analysis for this case, I have developed risk premiums relative to the 30-year US Treasury bonds as this time period is the longest available in the marketplace, thereby affording consumers the longest protection at the risk-free rate. Chart 1, above, provides the yield on 30-year U.S. Treasury bonds over the period outlined in the chart.

Q. ARE INTEREST RATES, AT THEIR CURRENT LEVEL, EXPECTED TO CHANGE MATERIALLY IN THE FORESEEABLE FUTURE?

A. Economic forecasters, as well as the Federal Open Market Committee (FOMC), all believed in previous years that the current interest rate environment was expected to remain relatively stable for many years to come. However, the FOMC implemented rate cuts throughout the early stages of 2019 and then, in its December 2019 meeting, announced plans to keep interest rates at current levels throughout 2020.[50] This announcement occurred before the COVID-19 pandemic that played havoc on the markets throughout Q1 and Q2 2020 before the market began to rebound during Q3 and Q4 2020. In response to the impact the pandemic had on the market, on March 3, 2020 the FOMC decreased the Federal Funds Rates 50-basis points to a targeted range of between 1% and 1.25% in response to recent market conditions.[51] Additionally, on March 16, 2020 the FOMC dropped interest rates to near 0%.[52] As such, the interest rate market was unexpectedly turbulent during 2020 due largely to the COVID-19 pandemic.

Interest rates fluctuated throughout 2020 based on the overall response to the pandemic, but recently increased above 2.00% during the first half of 2021 (*i.e.,* 2.05% as of July 2, 2021). Despite these changes, the average yield value over the period beginning with the Company's most recently concluded case through the present (*i.e.,* average from April 1, 2019 through July 2, 2021) of 1.99% has still

[50] Christopher Rugaber, *Federal Reserve leaves interest rates unchanged and foresees no moves in 2020*, PBS News Hour (Dec. 11, 2019), *available at* https://www.pbs.org/newshour/economy/federal-reserve-leaves-interest-rates-unchanged-and-foresees-no-moves-in-2020.

[51] Jeff Cox, *Fed cuts rates by half a percentage point to combat coronavirus slowdown*, CNBC News (Mar. 3, 2020), *available at* https://www.cnbc.com/2020/03/03/fed-cuts-rates-by-half-a-percentage-point-to-combat-COVID-19-slowdown.html.

[52] Federal Reserve System, *Implementation Note*, Press Release (Mar. 15, 2020), *available at* https://www.federalreserve.gov/newsevents/pressreleases/monetary20200315a1.htm.

been much lower than that at the conclusion of the Company's most recently concluded rate case prior to 2020,[53] when the 30-year US Treasury Bond Yield on that date was 2.89%.[54] Even with the rise in rates above 2.00%, rates are not expected to rise back to, and then sustain, levels near 2.89% again at any time in the near term. As such, the market remains in a low overall interest rate environment.

Q. HOW IS BETA MEASURED IN THE CAPM?

A. Beta is a statistical calculation of a company's stock price movement relative to the overall stock movement. A company whose stock price is less volatile than the overall market will have a Beta less than 1.0. A company whose stock price is more volatile than the overall market will have a Beta more than 1.0. In consideration of the fact that utilities are generally viewed as more conservative equity investments, Betas for utilities are almost always less than 1.0 under normal economic circumstances.

Q. WHAT IS THE CURRENT MARKET RISK PREMIUM APPROPRIATE FOR USE IN THE CAPM?

A. The development of the current market risk premium is, undoubtedly, the most controversial aspect of the CAPM calculations. To gauge the historical risk premium, I turned to the Ibbotson database published by *Morningstar, Duff & Phelps,* and the *CFA Institute Research Foundation*. In **Table 8** below, I have

[53] *Order Approving Stipulation*, Docket No. G-9, Sub 743 (Oct. 31, 2019).
[54] U.S. Dep't of the Treasury, *Daily Treasury Yield Curves*, *available at* https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yield

presented both the long-term geometric mean and arithmetic mean returns for equities and fixed income securities and the resulting risk premiums.

Table 8: **Equity Risk Premium Calculations**[55]

Asset Class	Geometric Mean	Arithmetic Mean
Large Company Stocks	10.7%	12.1%
Long-Term Govt. Bonds	8.0%	8.7%
Resulting Risk Premium	2.7%	3.4%

Source: Ibbotson ® SBBI ®, 2020 Classic Yearbook: Stocks, Bonds, Bills and Inflation, 1972 – 2019 (Chicago: Morningstar, 2020).

Note that the data from **Table 8** above shows the statistics of annual total returns for large company stocks and long-term government bonds from 1972 to 2019. With this data being more recent than similar data provided by other sources and analysts over the period from 1926 to 2019, this data adds more credence to what a reasonable investor can expect for a return based upon more historically recent data.

Q. WHAT MARKET RETURNS ARE REPUTABLE PROFESSIONAL INVESTORS EXPECTING FOR THE FORESEEABLE FUTURE?

A. On January 20, 2021, Morningstar.com published an article entitled "Experts Forecast Stock and Bond Returns 2021 Edition."[56] This article was provided as part of Morningstar's annual stock and bond return forecast series. Note that by referring to future returns, the market experts referenced below are discussing the overall

[55] Roger Ibbotson & James Harrington, *Stocks, Bonds, Bills, and Inflation: 2021 Summary Edition*, Duff & Phelps, *available at* https://www.cfainstitute.org/-/media/documents/book/rf-publication/2021/sbbi-summary-edition-2021.ashx.

[56] Christine Benz, *Experts Forecast Stock and Bond Returns: 2021 Edition*, Morningstar (Jan. 20, 2021), *available at* https://www.morningstar.com/articles/1018261/experts-forecast-stock-and-bond-returns-2021-edition.

total market returns, and not just the equity risk premium. Below are some of the market return forecasts from the previously referenced article:

- **Blackrock:** 5% 10-year expected nominal return from US equities.[57]
- **Grantham Mayor Van Otterloo ("GMO"):** Negative 5.8% real (inflation-adjusted) returns for US large caps over the next seven years.[58]
- **JP Morgan:** 4.1% nominal returns for US equities over a 10–15-year horizon.[59]
- **Morningstar Investment Management:** Negative 0.1% 10-year nominal returns for US stocks.[60]
- **Research Affiliates:** 2% nominal (negative 0.2% real) returns for US large caps during the next 10 years.[61]
- **Vanguard:** Nominal US equity market returns of 3.7% to 5.7% range over the next decade.[62]

The above-stated equity returns display a very large range. On the low side is *GMO*, which forecasts that US large caps will, after inflation, lose 5.8% of their value annually over the next seven years. On the more positive side is *Vanguard* that expects nominal equity market returns ranging between 3.7% and 5.7% over the next decade. Note that the above forecasts were provided in January 2021, approximately 10 months after the beginning of the pandemic in March 2020.

[57] *Id.*
[58] *Id.*
[59] *Id.*
[60] *Id.*
[61] *Id.*
[62] *Id.*

As another point of reference, Charles Schwab published an article on May 3, 2021 titled "Why Market Returns May be Lower and Global Diversification More Important in the Future."[63] This article noted that "[m]arket returns on stocks and bonds over the next decade are expected to fall short of historical averages"[64] and that Schwab's "estimates show that, over the next 10 years, stocks and bonds will likely fall short of their historical returns from 1970 to December 2020. The estimated annual expected return for U.S. large-capitalization stocks from January 2021 to December 2030 is 6.6%, for example, compared with an annualized return of 10.8% during the historical period."[65] This article also includes a chart that shows the overall market return, and overall market premium, for US large capitalization stocks are expected to be 6.6% and 4.5%, respectively, and that the same figures for US small capitalization stocks are expected to be 7.1% and 5.0%, respectively.[66]

I also note that in 2018, and prior to the COVID-19 pandemic, Duke University finance professors published equity risk premium estimates that stated the expected average risk premium exhibited by a survey of U.S. Chief Financial Officers around the country was expected to be 4.42%.[67] The study stated the following:

> During the past 18 years, we have collected almost 25,000 responses to the survey. Panel A of Table 1 presents the date that the survey

[63] Veeru Perianan, *Why Market Returns May Be Lower and Global Diversification More Important in the Future*, Charles Schwab (May 3, 2021), *available at* https://www.schwab.com/resource-center/insights/content/why-market-returns-may-be-lower-in-the-future.
[64] *Id.*
[65] *Id.* (emphasis added).
[66] *Id.*
[67] John R. Graham and Campbell R Harvey, *The Equity Risk Premium in 2018*, Duke University (Mar. 28, 2018), at 3–4.

> window opened, the number of responses for each survey, the 10-year Treasury bond rate, as well as the average and median expected excess returns. There is relatively little time variation in the risk the historical risk premiums contained in Table 1. The current premium, 4.42%, is above the historical average of 3.64%. The December 2017 survey shows that the expected annual S&P 500 return is 6.79% (=4.42%+2.37%) which is slightly below the overall average of 7.11%.[68]

Q. WHAT IS YOUR CONCLUSION AS TO THE ESTIMATED EQUITY RISK PREMIUM FOR USE IN THE CAPM?

A. Using historical data, as well as ex ante (forecast) data, the evidence would suggest the equity risk premium is within the range of 4.25% to 6.25%.

Q. HOW DID YOU DETERMINE THE BETA YOU USED IN THE CAPM?

A. I used the *Value Line* derived Beta sourced from the most recent *Value Line* editions for each company in the comparable company proxy group.

Q. WHAT WERE YOUR CAPM RESULTS?

A. The actual calculations for the CAPM for my comparable company proxy group can be seen in **Exhibit KWO-7**.

As shown above in **Chart 1**, I provided the change in the 30-year US Treasury bonds since the beginning of Piedmont's most recently concluded rate case (*i.e.,* April 1, 2019 – July 2, 2021). Note that over this period, the yield on 30-year US Treasury bonds was 2.89% as of April 1, 2019 and was 2.05% as of July 2, 2021. The Maximum value over this period was 2.99%, the Average value was

[68] *Id*. (emphasis added).

1.99%, and the Minimum value was 0.99%. **Chart 1** above provides further details on these bond yields.

The average Beta for the comparable company proxy group is 0.90 which, when multiplied by the risk premium range of 4.25% to 6.25%, produces a Beta-adjusted risk premium of 3.80% to 5.59%. The 30-year US Treasury yield ("Rf") range of 0.99% to 2.99% is next added to the Beta-adjusted risk premium range of 3.80% to 5.59% to arrive at the comparable company proxy group CAPM result range of 4.8% (3.80% + 0.99% = 4.79%) to 8.6% (5.59% + 2.99% = 8.58%, rounded to 8.6%).

Additionally, the Beta for Piedmont's parent company Duke is 0.85 which, when multiplied by the risk premium range of 4.25% to 6.25%, produces a Beta-adjusted risk premium of 3.61% to 5.31%. The 30-year US Treasury yield (Rf) range of 0.99% to 2.99% is next added to the Beta-adjusted risk premium range of 3.61% to 5.31% to arrive at Duke's CAPM result range of 4.6% (3.61% + 0.99% = 4.60%, rounded to 4.6%) to 8.3% (5.31% + 2.99% = 8.30%, rounded to 8.3%).

Based on this range of results for the CAPM, as found in **Exhibit KWO-7**, I find the proper ROE derived from the CAPM is in the range of 6.00% to 8.00%. The low-end (6.00%) of this range is above the average of the comparable company proxy group CAPM results using the 4.25% equity risk premium (5.8%) and is also above the average of Duke's results using the 4.25% equity risk premium (5.6%) as well. The high end (8.00%) of the range is positioned above the average of the comparable company proxy group CAPM results using the 6.25% equity risk

premium (7.6%) and is also above the average of Duke's results using the 6.25% equity risk premium (7.3%) as well.

D. Return on Equity ("ROE") Summary

Q. MR. O'DONNELL, PLEASE SUMMARIZE THE RESULTS OF YOUR ROE ANALYSES IN THIS CASE.

A. **Table 9** below lists the results of my DCF, CEA, and CAPM analyses as outlined within **Exhibit KWO-1**.

Table 9: ROE Method Results

	ROE Results	
Method	Low	High
DCF	7.50%	9.50%
CEA	9.00%	10.00%
CAPM	6.00%	8.00%

Q. WHAT IS YOUR ROE RECOMMENDATION IN THIS PROCEEDING?

A. My recommendation in this case is shown in **Exhibit KWO-1**. This exhibit shows my recommendation that the Commission grant Piedmont a return on equity of 9.00%. This 9.00% ROE recommendation is above the 8.50% mid-point of my DCF result range, below the low-end of the CEA, and above the high-end of the CAPM results.

Q. WHAT IS YOUR OVERALL RECOMMENDED RATE OF RETURN IN THIS PROCEEDING?

A. The overall rate of return I am recommending is 6.52%, based upon a 50.00% common equity capital structure / 49.43% long-term debt / 0.57% short-term debt

capital structure, and a 9.00% ROE / 4.09% long-term cost of debt / 0.47% short-term cost of debt as summarized again in **Table 10**, below.

Table 10: CUCA Recommended Overall Rate of Return

Component	Ratio (%)	Cost Rate (%)	Weighted Cost
Long-Term Debt	49.43%	4.09%	2.02%
Short-Term Debt	0.57%	0.47%	0.00%
Common Equity	50.00%	9.00%	4.50%
Total Capitalization	**100.00%**		**6.52%**

VIII. REVIEW OF COST OF EQUITY ANALYSIS OF WITNESS D'ASCENDIS

Q. HOW DID MR. D'ASCENDIS DEVELOP HIS LIST OF COMPARABLE COMPANIES?

A. Mr. D'Ascendis developed his comparable company proxy "Gas Group" by first determining which gas utilities were followed by *The Value Line Investment Survey*.[69] However, as previously referenced earlier within my testimony, of the ten Natural Gas Utilities followed by *Value Line*, Mr. D'Ascendis opted to remove UGI Corporation ("UGI") and Chesapeake Utilities ("Chesapeake") from his comparable company proxy group at the conclusion of his seven step proxy group screening process, leaving his comparable company proxy group comprised of eight companies.

In such industries where there are a higher number of such comparable companies (such as the electric utility industry), I have historically taken a deeper look into which companies I believe are more appropriate than others to be included

[69] Witness D'Ascendis' Direct Testimony, page 14: lines 1 – 2.

within my proxy group. However, the number of companies within the natural gas industry is dwindling due to a variety of factors that I previously explained within **Section IV**: "Development of Proxy Group." As such, given that none of the ten companies within the Natural Gas industry grouping provided by *Value Line* were undergoing any sort of bankruptcy, legal issues, restructuring, or significant merger activities at the time when this direct testimony was filed, I utilized the full ten natural gas utilities provided by *Value Line*. As for UGI, I noted above my reasoning for including that company in my comparable group.

I have been submitting ROE testimony to this Commission for over 36 years. Experience has shown me that the critical factor in determining the market required ROE is not the development of the proxy group but is, instead, the application of the various models available to the analyst. The proxy groups of Mr. D'Ascendis and I are slightly different, but our use of the various models is vastly different.

A. Review of Mr. D'Ascendis' DCF Analysis

Q. WHAT ARE THE PRIMARY DIFFERENCES BETWEEN YOUR APPLICATION OF THE DCF MODEL AND MR. D'ASCENDIS' APPLICATION OF THE DCF?

A. My DCF analysis in this proceeding produced a range from 7.50% to 9.50%. Mr. D'Ascendis' DCF result was 9.46%.[70] The primary difference between my application of the DCF Model and Mr. D'Ascendis' application of the DCF Model

[70] Witness D'Ascendis' Direct Testimony, **Schedule DWD-1**.

is that Mr. D'Ascendis only utilized forecasted EPS growth rates in his analysis as included within page 1 of **Schedule DWD-2**, rather than performing his analysis utilizing a variety of historical and forecasted growth rates.[71]

Q. HOW DID MR. D'ASCENDIS PERFORM THE DCF CALCULATIONS FOR HIS COMPARABLE UTILITY GROUP?

A. As I mentioned previously, a DCF calculation is largely made up of two inputs, an average dividend yield and an average growth rate. To begin his DCF calculation, Mr. D'Ascendis determined the dividend yield across his comparable group within **Schedule DWD-2**. He took the dividend at January 29, 2021 and then divided this dividend by the average closing price of the last 60 trading days ending January 29, 2021 for each company.[72] Mr. D'Ascendis then performed an adjustment to these historical dividend yields by factoring in a growth rate component equal to one-half the conclusion of the growth rate (*i.e.,* Company's Historical Dividend Yield x (1 + (½ x Company's Average Projected EPS Growth Rate)).

In contrast, I utilized forecasted annual dividend yield for each company within my proxy group across three separate time periods (*i.e.,* 13-weeks, 4-weeks, and 1-week). While Mr. D'Ascendis' dividend yield approach afforded him the use of higher dividend yield averages to use within his DCF analysis, the primary reason that his DCF result approximates the high end of my DCF result range was due to his decision to only rely upon forecasted EPS growth rates.

[71] Witness D'Ascendis' Direct Testimony, **Schedule DWD-2**.
[72] Witness D'Ascendis' Direct Testimony, **Schedule DWD-2**.

Q. DO YOU AGREE WITH MR. D'ASCENDIS' EXCLUSIVE USE OF FORECASTED GROWTH RATES IN HIS DCF MODEL AND OMISSION OF HISTORICAL GROWTH RATES?

A. No. I previously noted in this testimony that I feel that analysts should present both the historical and forecasted growth rates within their DCF analysis for transparency purposes. By omitting the use of any historical growth rates within his testimony, Mr. D'Ascendis placed his full reliance on forecasted growth rates. By not utilizing any of the historical growth rate data in conjunction with his use of forecasted growth rates, Mr. D'Ascendis has ignored an entire group of data that is readily available.

As I noted previously in this testimony within the discussion of my own DCF results, I believe that it is important for an analyst to consider historical growth rates within their DCF analysis alongside the forecasted growth rates. Historical growth rates capture the actual growth of the various rates over time based upon a Company's reported results and performance. In contrast, forecasted growth rates are derived entirely from analyst projections, which can vary from analyst to analyst, and which also tend to be overstated.

Q. ARE THERE OTHERS WITHIN THE FINANCIAL COMMUNITY THAT CALL INTO QUESTION PLACING FULL RELIANCE UPON FORECASTED GROWTH RATES?

A. Yes. There are various academic articles and journals that specifically call into question the accuracy of earnings predictions and forecasts. For example, in November 2003, Louis K. C. Chan, Jason Karceski and Josef Lakonishok published

an article entitled "Analysts' Conflict of Interest and Biases in Earnings Forecasts" in the *Journal of Finance*. The conclusion of the paper stated:

> [I]t is commonly suggested that one group of informed participants, security analysts, may have some ability to predict growth. The dispersion in analysts' forecasts indicates their willingness to distinguish boldly between high- and low-growth prospects. IBES long-term growth estimates are associated with realized growth in the immediate short-term future. Over long horizons, however, there is little forecastability in earnings, and analysts' estimates tend to be overly optimistic.[73]

Additionally, an article written by Professors Rocco Ciciretti, Gerald P. Dwyer, and Iftekhar Hasan, "Investment Analysts' Forecasts of Earnings," noted that "there is strong support for average and median earnings forecasts being higher than actual earnings a year before the earnings announcement"[74]; and an article published by McKinsey & Company, Strategy & Corporate Finance entitled "Equity analysts: Still too bullish" noted that "[a]nalysts, we found, were typically overoptimistic, slow to revise their earnings forecasts to reflect new economic conditions, and prone to making increasingly inaccurate forecasts when economic growth declined."[75]

I recognize that there are other academic articles and journals that support the opposite viewpoint. However, given the fact that this remains a debated topic within the financial community, it is appropriate to include EPS, DPS, and BPS from both an historical and forecasted perspective, as well as plowback growth

[73] K. Chan, L., Karceski, J., & Lakonishok, J., *The Level and Persistence of Growth Rates*, Journal of Finance (2003), at 683 (emphasis added).
[74] Ciciretti, R., P. Dwyer, G., & Iftekhar, H., *Investment Analysts' Forecasts of Earnings*, Federal Reserve Bank of St. Louis Review (2009), at 545.
[75] Goedhart, M., Raj, R., & Saxena, A., *Equity analysts: Still too bullish*, McKinsey & Company Strategy & Corporate Finance (2010).

rates, and the associated DCF results for each, within my analysis. In contrast, placing undue reliance upon forecasted EPS growth rates produces unrealistically high returns on equity numbers that cannot be sustained indefinitely.

Q. DO YOU AGREE WITH MR. D'ASCENDIS' SELECTION OF FORECASTED GROWTH RATES?

A. No. Not only did Mr. D'Ascendis rely exclusively on forecasted growth rates, Mr. D'Ascendis sourced his forecasted growth rates from a date of November 27, 2020[76] from *Value Line*, a date of January 29, 2021 for *Yahoo! Finance* and *Zacks.*[77] As such, values sourced by Mr. D'Ascendis for his forecasted growth rates were between three and four months old by the time that his testimony was filed. These forecasts fail to account for the continued changes we have seen within the markets during Q1 2021 (and prior to the Company's base rate case filing on March 22, 2021). For example, *Value Line* publishes company-specific metrics and forecasts by industry on a quarterly basis. Yet, Mr. D'Ascendis' testimony utilized data from November 2020 and was never updated for the data published by *Value Line* during February 2021 prior to the filing of his testimony at the end of March 2021.

If an analyst places full reliance on forecasted growth rates (as opposed to basing any of their analysis on historical growth rates), then the analyst should not use forecasts that are between three and four months old.

Q. WOULD MR. D'ASCENDIS' DCF ANALYSIS HAVE RETURNED A LOWER RESULT HAD HE UTILIZED BOTH HISTORICAL AND

[76] Witness D'Ascendis Direct Testimony, **Schedule DWD-2**.
[77] *Id.*

FORECASTED GROWTH RATES FROM A VARIETY OF METRICS AS OPPOSED TO SIMPLY USING HISTORICAL EPS GROWTH RATES?

A. Yes. As shown in Mr. D'Ascendis' **Schedule DWD-2**, Mr. D'Ascendis' growth rates ranged from 2.00% to 12.50% for *Value Line*, 3.10% to 24.50% for *Zack's*, 1.65% to 24.50% for *Yahoo! Finance*, and 2.96% to 13.75% for *Bloomberg*.

However, as shown within **Exhibit KWO-2**, the historical growth rates for my proxy group ranged from 4.4% to 5.9% and for Duke Energy ranged from 1.0% to 3.5% and my forecasted growth rates for my proxy group ranged from 4.2% to 7.6% and for Duke Energy ranged from 2.0% to 7.0%. Clearly the forecasted growth rates relied upon by Mr. D'Ascendis led his ultimate DCF result to approximate the absolute high end of my overall DCF result range.

B. Review of Mr. D'Ascendis' CAPM Analysis

Q. WHAT ARE THE PRIMARY DIFFERENCES BETWEEN YOUR APPLICATION OF THE CAPM AND MR. D'ASCENDIS' APPLICATION OF THE CAPM?

A. My CAPM analysis in this proceeding produced a range from 6.00% to 8.00%. Mr. D'Ascendis' CAPM analysis produced a range from 11.83% to 12.05%.[78] The primary differences between my application of the CAPM and Mr. D'Ascendis' application of the CAPM are the following:

[78] Witness D'Ascendis' Direct Testimony, **Schedule DWD-1**.

- Mr. D'Ascendis utilized certain data points for his forecasted market return that inflated the overall Market Risk Premium used within his CAPM analysis;[79] and
- Mr. D'Ascendis employed the use of a Traditional CAPM and an Empirical CAPM, averaged the results of both, and then presented that value as his ultimate CAPM result.[80]

Q. PLEASE EXPLAIN HOW MR. D'ASCENDIS APPLIED THE CAPM.

A. In his analysis (as shown in **Schedule DWD-4**), Mr. D'Ascendis combined a Market Risk Premium, in conjunction with his estimated risk-free rate and company-specific Betas, to apply within his CAPM. Mr. D'Ascendis' decision to use certain forecasted market return values ultimately resulted in higher a CAPM result for his client in this proceeding.

Q WHAT IS THE RISK-FREE RATE THAT MR. D'ASCENDIS USES IN HIS CAPM ANALYSIS?

A. In his direct testimony, Mr. D'Ascendis cited various historical and forecasted interest rates and then concluded that 2.31% is a proper estimate for the risk-free rate in the CAPM.[81]

Q. DO YOU AGREE WITH MR. D'ASCENDIS' FORECASTED RISK-FREE RATE?

[79] Witness D'Ascendis' Direct Testimony, **Schedule DWD-4**.
[80] *Id.*
[81] Witness D'Ascendis' Direct Testimony, page 23: lines 11 – 12.

A. I do not take issue with the risk-free rate used by Mr. D'Ascendis in this proceeding of 2.31%.[82] As shown within **Exhibit KWO-7**, I have used the 30-year US Treasury Bond Yield to approximate what I deem to be appropriate to use for the risk-free rate for application within the CAPM. This yield over the period from April 1, 2019, to July 2, 2021, ranged from 0.99% to 2.99%, with an average of 1.99%.

Q. DO YOU AGREE WITH MR. D'ASCENDIS' BETAS USED WITHIN HIS CAPM ANALYSIS?

A. I do not take issue with the Beta values used by Mr. D'Ascendis in this proceeding. As shown within Mr. D'Ascendis' **Schedule DWD-4**, the average of the Mean and Median Betas sourced by Mr. D'Ascendis from Value Line and Bloomberg was 0.93.[83] As shown within **Exhibit KWO-7**, I used a 0.90 Beta as the average Beta for my comparable proxy group for application within the CAPM.

Q. WHAT EXPECTED MARKET RETURN DOES MR. D'ASCENDIS USE IN THE CAPM ANALYSIS HE EMPLOYS IN THIS CASE?

A. Mr. D'Ascendis utilized six different measures to determine the market premium, which, when averaged, resulted "in an average total market equity risk premium of 10.42%."[84]

To develop the six measures that Mr. D'Ascendis used to calculate his total market equity risk premium of 10.42%, he used the following data points:

[82] *Id.*
[83] Witness D'Ascendis' Direct Testimony, **Schedule DWD-4**.
[84] Witness D'Ascendis' Direct Testimony, page 40: lines 20 – 21.

- 7.01% based on *Ibbotson* Historical Data from 1926-2019;
- 9.98% based on the application of a regression analysis applied to *Ibbotson* Historical Data from 1926-2019;
- 10.76% based on the application of a Predictive Risk Premium Model ("PRPM") to *Ibbotson* Historical Data from January 1926 – January 2021;
- 7.52% calculated from *Value Line* projected inputs;
- 11.79% calculated from Value Line and S&P 500 projected inputs; and
- 15.47% based on Bloomberg projected data.

Q. HOW DOES MR. D'ASCENDIS' FORECASTED MARKET RETURN COMPARE TO FORECASTS FROM OTHER ANALYSTS?

A. As I indicated previously, well-known entities such as Morningstar and Vanguard forecasted market returns from -0.1% to 5.7% during January 2021.[85] Additionally, Charles Schwab published an article that included a chart that showed that the overall market return, and overall market premium, for US large capitalization stocks are expected to be 6.6% and 4.5%, respectively, and that the same figures for US small capitalization stocks are expected to be 7.1% and 5.0%, respectively.[86] Mr. D'Ascendis' Forecasted Market Return of 10.42% and Forecasted Market Premium of 8.11% (*i.e.,* 10.42% Market Risk Premium - 2.31% Risk-Free Rate), as referenced above are, to say the least, unrealistic.

[85] Christine Benz, *Experts Forecast Stock and Bond Returns: 2021 Edition*, Morningstar (Jan. 20, 2021), *available at* https://www.morningstar.com/articles/1018261/experts-forecast-stock-and-bond-returns-2021-edition.

[86] Veeru Perianan, *Why Market Returns May Be Lower and Global Diversification More Important in the Future*, Charles Schwab (May 3, 2021), *available at* https://www.schwab.com/resource-center/insights/content/why-market-returns-may-be-lower-in-the-future.

Whether the comparison is to forecasts from current day analysts or to historical returns, Mr. D'Ascendis' market return forecasts used within his CAPM analysis simply have no underlying fundamental support or reasoning.

Q. HOW DID MR. D'ASCENDIS APPLY BOTH THE TRADITIONAL CAPM AND THE ECAPM WITHIN HIS OVERALL CAPM ANALYSIS?

A. As shown in **Schedule DWD-4**, Mr. D'Ascendis utilized a both "Traditional CAPM Cost Rates" and "ECAPM Cost Rates" to derive his ultimate "Indicated Common Equity Cost Rate" through his CAPM analysis. Within his analysis, Mr. D'Ascendis explained his usage of the ECAPM where he noted:

> The empirical CAPM ("EC") reflects the reality that while the results of these tests support the notion that the Beta coefficient is related to security returns, the empirical Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicated SML. The ECAPM reflects this empirical reality.[87]

The ECAPM pricing model makes use of a weighted Risk Premium, with the Overall Market Risk Premium weighted by a factor of 25%, and a company-specific Beta-adjusted Risk Premium based on the stocks' relative volatility being weighted by 75%.[88] Essentially, this ECAPM method is utilized when an analyst feels as though the weighted risk premium will help to correct for returns produced that were too high or too low for stocks with low Betas (*i.e.,* those stocks that are deemed to be less risky than the overall market) or high Betas (*i.e.,* those stocks that are deemed to be more risky than the overall market), respectively. I have not historically found the need to utilize the ECAPM within my analyses as I place the

[87] Witness D'Ascendis' Direct Testimony: page 36: lines 16 – 19 – page 37: line 1.
[88] Witness D'Ascendis' Direct Testimony, page 38: line 5.

most weight upon the DCF model and only utilize the CE and CAPM methodologies as a check on the reasonableness of the return generated by the DCF.

C. Review of Mr. D'Ascendis' Risk Premium Method

Q. MR. O'DONNELL, PLEASE EXPLAIN THE DIFFERENCE BETWEEN THE RISK PREMIUM MODEL AND THE CAPM?

A. The CAPM and the Risk Premium models are both essentially risk premium models. The Risk Premium model's basis is in assuming that common stock and equity are riskier than debt, and that therefore investors would require a higher expected return on a stock in comparison to a bond. As such, in the Risk Premium model, the cost of equity is comprised of the cost of debt and a corresponding risk premium.

The primary difference between the CAPM and the Risk Premium model is that the CAPM is more company-specific due to its use of company-specific Betas to measure systematic risk. However, both models are fundamentally similar in that they compare market returns (either total market or utility markets) to bond yields.

Q. PLEASE EXPLAIN MR. D'ASCENDIS' APPLICATION OF HIS RISK-PREMIUM MODEL.

A. Mr. D'Ascendis' Risk Premium model produced a range from 9.64% to 10.11%.[89] These two results were computed as the average of two different methods, the Predictive Risk Premium Model and the Risk Premium Using an Adjusted Total Market Approach. However, each of these methods were applied against two

[89] Witness D'Ascendis' Direct Testimony, **Schedule DWD-1**.

different data sets, (1) Mr. D'Ascendis' proxy group of natural gas distribution companies using projected interest rates and (2) Mr. D'Ascendis' proxy group of natural gas distribution companies using current interest rates.

In his application of the Predictive Risk Premium Model, Mr. D'Ascendis combined the average Predictive Risk Premiums for his utility proxy group to Risk-Free Rates 2.31% on a projected interest rate basis and 1.70% on a current interest rate basis.[90] In his application of the Adjusted Total Market Approach, Mr. D'Ascendis combined Equity Risk Premiums of 6.74% and 7.13% to Adjusted Bond Yields of 3.66% and 2.94%.[91]

Q. DO YOU AGREE WITH MR. D'ASCENDIS' PRESENTATION OF THE RISK PREMIUM MODEL?

A. No. As I noted above, I have been providing ROE testimony to this Commission and other state regulators for many years. In my nearly four decades of this work, I have never seen such a convoluted model as presented by Mr. D'Ascendis in this case. Mr. D'Ascendis Risk Premium Model reminds me of the following quote:

Life is really simply, but we insist on making it complicated.[92]

Finance is likewise very simple. I contrast all the jumps and twists of Mr. D'Ascendis in his risk premium model with the simplicity of the DCF model where one simply adds a dividend yield and a growth rate to determine the market-required rate of return. Mr. D'Ascendis Risk Premium model is overly complex

[90] Witness D'Ascendis' Direct Testimony, **Schedule DWD-3**, page 2.
[91] Witness D'Ascendis' Direct Testimony, **Schedule DWD-3**, page 3.
[92] Helen Luc, April 21, 2017, https://www.yourtango.com/2017301914/16-inspiring-life-quotes-when-things-get-complicated.

and is not an analytical tool actually used by analysts or the investing public as a whole.

D. Other Adjustments Employed by Mr. D'Ascendis

Q. DID MR. D'ASCENDIS' APPLY ANY ADDITIONAL ADJUSTMENTS TO HIS COST OF CAPITAL RESULTS?

A. Yes. As shown in **Schedule DWD-1**, Mr. D'Ascendis developed overall cost of capital ranges based upon his DCF, Risk Premium, and CAPM analyses. However, he then applied an upward flotation cost adjustment of 0.12% to these ranges.

Q. DO YOU AGREE WITH THIS FLOTATION COST ADJUSTMENT APPLIED BY MR. D'ASCENDIS?

A. No, I do not. Mr. D'Ascendis chose to implement this upward adjustment to compensate stockholders by ensuring their desired rate of return. However, investors are sophisticated enough to understand that flotation costs should be expected, without the need to apply an adjustment factor as an upward adjustment to the Company's overall cost of equity.

Q. DOES MR. D'ASCENDIS MAKE AN ADJUSTMENT FOR NEW EQUITY ISSUANCES?

A. Yes. As explained within his testimony, Mr. D'Ascendis explained flotation costs as "those costs associated for new issuances of common stock. They include market pressure and the mandatory unavoidable costs of issuance."[93] He then later noted that his 0.12% flotation cost adjustment recognized "the actual costs of issuing

[93] Witness D'Ascendis' Direct Testimony, page 48: lines 9 – 12.

equity that were incurred by DUK in its last three equity issuances. Based on the issuance costs shown on page 1 of **Schedule DWD-8**, an adjustment of 0.12% is required to reflect the flotation costs applicable to the Utility Proxy Group."[94]

Q. WHY DO YOU NOT AGREE WITH ADJUSTING THE CALCULATED ROE FOR NEW EQUITY ISSUANCES?

A. Investors are well aware of the fact that public companies issue common stock from time-to-time. As a result, investors have factored this matter into the price they are willing to pay for that stock. Adjusting the ROE again through the machinations as proposed by Mr. D'Ascendis in this case would in effect result in double-counting for any new issuances.

Q. HAVE ANY REGULATORY BODIES PREVIOUSLY RULED UPON MR. D'ASCENDIS' FLOTATION COST ADJUSTMENT?

A. Within **CUCA Data Request No. 2-12**, Mr. D'Ascendis was asked to list all cases in which he testified in which the regulatory body accepted his recommended flotation cost adjustment. Within his response, Mr. D'Ascendis noted that he was "unaware of a regulatory body that has directly accepted his recommended flotation cost adjustment."[95] Additionally, note that the Commission previously ruled in Docket E-22, Sub 333 not to add a flotation cost in the manner as described by Mr. D'Ascendis.[96] I will agree, however, that verifiable costs, such as legal costs and brokerage costs, should be allowed to be recovered over time. Unfortunately for

[94] Witness D'Ascendis' Direct Testimony, page 51: lines 6 – 10.
[95] Witness D'Ascendis Response to **CUCA Data Request No. 2-10**.
[96] *Order Granting Partial Rate Increase*, Docket No. E-22, Subs 333 & 335 (Feb. 26, 1993), at 52.

Piedmont in this case, it did not provide such an analysis on which the Commission can base a decision.

IX. COST OF SERVICE STUDY AND RATE DESIGN

Q. WHICH PIEDMONT WITNESS PRESENTED THE COMPANY'S COST OF SERVICE STUDY AND PROPOSED RATE DESIGN IN THIS CASE?

A. Piedmont retained the services of Witness Cynthia Menhorn for the development of its cost of service study and its proposed rate design in this case.

Q. PLEASE EXPLAIN HOW MS. MENHORN PERFORMED THE COSS PRESENTED IN THIS CASE.

A. In her direct testimony, Ms. Menhorn presented an allocated cost of service study ("ACOSS") in which she used various allocation factors to apportion Piedmont's costs and investments amongst its customer classes. The end result is, in essence, an income statement and rate base for each customer class from which a rate of return per class can be determined. Based on the results of the ACOSS, an analyst can design rates that will more accurately reflect the actual cost to serve a particular customer class.

Q. WHAT IS THE KEY COMPONENT IN PERFORMING A NATURAL GAS COST OF SERVICE STUDY?

A. The key allocation for natural gas ACOSS is how the analyst allocates distribution mains, which are pipes through which the natural gas flows from the interstate pipelines to the street level of homes and business. These distribution mains are fixed costs incurred by Piedmont in the delivery of natural gas.

Q. HOW DID MS. MENHORN ALLOCATE DISTRIBUTION MAINS WITHIN HER ACOSS?

A. Ms. Menhorm used the peak and average cost allocation method for allocating fixed gas costs in his ACOSS. In this methodology, distribution mains are allocated at the ratio of 50% of the ratio of customer class usage at the time of the annual peak demand of the utility plus 50% of the ratio of the customer class usage (throughput) as compared to the total throughout for the entire year. Hence, the peak and average allocation factor gives equal weight to customer class usage at the time of the system peak and the customer class usage throughout the entire year.

Q. WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF USING THE PEAK AND AVERAGE METHODOLOGY FOR ALLOCATING DISTRIBUTION MAINS?

A. The Peak and Average ("P&A") methodology has been used by the Company and the Public Staff for quite some time. It is a methodology about which the Commission is fully aware. Along with familiarity, one advantage of the P&A is its simplicity. Adding 50% of the peak allocation and 50% of average use is a straightforward process. Another advantage is that this methodology gives weight to the peak contribution of each customer class as well as the average use of each class.

A disadvantage of the P&A methodology is that it is not, in my opinion, based on cost causation principles. Specifically, the P&A methodology does not reflect the manner in which the Piedmont gas system was constructed. The Piedmont system was built to meet peak demands, not average demands. As a

result, any reliance on the use of the average throughput does not send the proper price signal to customers.

Q. ARE THERE OTHER METHODOLOGIES AVAILABLE FOR ALLOCATING MAINS IN NATURAL GAS COST OF SERVICE STUDIES?

A. Yes, since natural gas distribution systems are built to meet peak demand, another methodology that could be employed would be to allocate distribution mains on each customer class' contribution to the peak demand in a given year. This methodology is, as the name implies, the Peak methodology.

Q. WHAT ARE THE ADVANTAGES AND DISADVANTAGES OF THE PEAK METHODOLOGY FOR ALLOCATING DISTRIBUTION MAINS?

A. The advantage of the peak allocation is that it reflects the manner in which the gas distribution system is constructed. In this sense, the Peak methodology is superior to the P&A method.

Some would object to the Peak method on the grounds that it does not reflect how certain customers use the gas distribution system. Specifically, the Peak allocation methodology allocates little, if any, distribution mains expense to the two interruptible classes that take service throughout the year but have relatively little distribution mains expense allocated to that class due to the classes' interruptible nature. When a design day allocation is used, as it has been in this case, interruptible customers are not allocated distribution mains expenses.

I disagree with this objection to the Peak method. From a cost-causation, perspective, interruptive customers should pay for a small portion of the

distribution mains. Piedmont constructed the distribution mains to handle peak capacity, and because the interruptive customers are subject to curtailment during peak demand, the interruptible customers contributed less to Piedmont's build out of capacity. Moreover, given that interruptive customers volunteer to be curtailed to make capacity available for other customers, interruptive customers should pay a lower-than-average rate for gas service.

Q. HOW WOULD THE CHANGE IN ALLOCATION FACTORS FROM PEAK AND AVERAGE TO PEAK DAY AFFECT THE ACOSS?

A. A gas utility system's primary requirement at the time of the system peak is to serve its firm customers that absolutely must have their natural gas supplies met. These customers are called high priority gas customers and are typically residential and commercial consumers. However, Piedmont's interruptible customers have agreed to have their service cut off at the time of the system peak so as to make capacity available for Piedmont's firm customers. These interruptible customers are typically manufacturers that are served at a lower rate with the expectation they will not be able to take natural gas service from Piedmont at the time of the system peak or on other high use days.

Based on the above, the peak method, as opposed to the peak and average method, is a more accurate cost-allocation methodology for interruptible customers. The peak method avoids allocating distribution-mains costs to interruptible customers, who might not take service on the day of peak demand, and accurately allocates those costs to firm customers, who take service on the day of the peak demand. This is appropriate because Piedmont invested in distribution

mains primarily to satisfy the demand of firm customers, not the interruptive customers. In contrast, the peak and average method assigns Piedmont's distribution-main costs to interruptible customers, despite Piedmont having made those investments primarily to serve firm customers.

Q. WHAT ARE THE CUSTOMER CLASS RATES OF RETURN USING THE PEAK AND AVERAGE ALLOCATION FACTOR FOR FIXED GAS COSTS VERSUS USING THE PEAK DAY ALLOCATION FACTOR FOR FIXED GAS COSTS?

A. **Table 11** below provides the customer class rates of return using these two different allocation factors for apportioning fixed gas costs.

Table 11: Customer Class Rates of Return
Based Upon Fixed Gas Cost Allocation

Customer Class	Customer Class RORs (%)	
	Peak & Average	Peak Day
Residential Rate 101	5.2%	5.4%
Small GS Rate 102	8.9%	9.2%
Medium GS Rate 152	15.0%	15.8%
Firm Large GS Sales Rate 103	-2.6%	-2.6%
Large GS Transport Rate 113	-3.0%	-3.0%
Interruptible Sales Rate 104	31.1%	101.9%
Interruptible Trans Rate 114	20.5%	85.9%
Military Trans Rate T-10	-2.8%	-2.7%
Special Contracts	13.7%	13.9%
Municipal Contracts	-2.2%	-2.2%
Power Gen Contracts	3.9%	4.3%

As can be seen in the table above, with the exception of the interruptible sales and interruptible transportation classes, there is not much of a difference in the class rates per the ACOSS. The obvious reason for the huge difference in the rate of return for the interruptible classes is that, with the peak method, these two rate classes are not being allocated any fixed gas costs. This table is informative for two reasons. First, by no longer allocating these costs to the interruptible customers, the excessive level of the interruptive customers' rates is highlighted. Second, this table shows that the cost-allocation correction to interruptible customers has only a modest impact on firm customers.

Q. WHAT ARE MS. MENHORN'S PROPOSED CUSTOMER CLASS RATE INCREASES AND THE RESULTING CLASS RATES OF RETURN USING THE SWPA METHODOLOGY?

A. **Table 12** below provides the requested customer class increases and the resulting class rates of return.

Table 12: Piedmont Proposed Class Rate Increases and Rates of Return

Customer Class	Requested Rate Increase (%)[97]	Cust Class Rate of Return(%)[98]
Residential - Rate 101	11.9%	7.6%
Small GS - Rate 102	11.9%	11.7%
Medium GS - Rate 152	10.9%	18.4%
Large GS Sales - Rate 103	5.3%	-1.5%
Large GS Trans. - Rate 113	19.5%	-1.6%
Int. Sales - Rate 104	1.4%	**34.2%**
Int Trans - Rate 114	5.6%	**23.1%**
Military Trans	17.5%	-1.8%

I have highlighted the Interruptible Sales (Rate 104) and Interruptible Transportation (Rate 114) class rates of return for the Commission's attention. Needless to say, such a high class rate of return is punitive and abusive. Manufacturers that use natural gas are already paying exorbitant rates and Ms. Menhorn's proposal is to make these rates even more expensive and unfair.

Furthermore, the proposed rate design of Ms. Menhorn conflicts with a statement in her own testimony. Specifically, in her direct testimony, Ms. Menhorn states:

[97] Witness Menhorn's Direct Testimony: CAM Table 1, page 13
[98] *Id.*

> The revenue allocation described above greatly improves the IRRs of the Company's rate schedules. When the proposed revenues are entered into the cost-of-service study, the IRRs of each rate schedule moves closer to the system average or remains the same. **Additionally, the extremely over-earning and under-earning rate schedules all have made significant movement towards the system average.**[99]

The above statement is incorrect. Under Ms. Menhorn's proposed rate design, the customer class rates of return for the 104 (Interruptible Sales) increases from 31.1% to 34.2%.[100] Similarly, the 114 (Interruptible Transportation) increases from 20.8% to 23.4%. Even though the 104/114 customers are already paying rates that result in excessive rates of return, Ms. Menhorn's proposal is to increase those rates even further. Such a recommendation to this Commission defies logic, is punitive to interruptible customers, harmful to the State's economy, and should be rejected.

Q. ARE YOU PRESENTING A RATE DESIGN AS PART OF YOUR ANALYSIS IN THIS CASE?

A. Yes, I am.

Q. PLEASE EXPLAIN HOW YOU DEVELOPED YOUR RECOMMENDED RATE DESIGN.

A. The basis of my rate design is the assumption that the sum of all my rate recommendations must allow Piedmont to earn my recommended overall cost of capital of 6.52%. I then made a second assumption that no customer class could sustain a rate increase or decrease of more than 10%. This last assumption is critical as, if we followed the details of the ACOSS results, interruptible sale and

[99] Witness Menhorn's Direct Testimony: page 15, lines 5-9 (emphasis added).
[100] *Id.*, CAM Table 1, page 13.

interruptible transportation customers would warrant a much greater rate reduction than 10%. My recommended rate change per customer class and the resulting class rates of return are found in **Table 13** below.

Table 13: Recommended Rate Change and Resulting Rates of Return

Customer Class	CUCA Rec Rate Increase (%)	Cust Class Rate of Return(%)
Residential - Rate 101	7.5%	7.1%
Small GS - Rate 102	-0.8%	8.7%
Medium GS - Rate 152	0.4%	15.2%
Large GS Sales - Rate 103	5.3%	-1.0%
Large GS Trans. - Rate 113	5.9%	-2.4%
Int. Sales - Rate 104	-8.4%	9.3%
Int Trans - Rate 114	-8.1%	16.0%
Military Trans	6.6%	-2.2%

In the above rate design, I attempted to balance the interests of all customer classes without allowing any one particular class to sustain excessive rate hikes while other classes enjoyed significant rate cuts. The customer class rates of return are still not cost-justified based on a risk/return basis, but the results are closer and more equitable than Ms. Menhorn's results. Indeed, the class rates of return for the interruptible customers is still well above the Piedmont overall rate of return of 6.52% and the large firm customers are below the overall rate of return. Although my proposed rate design does not fully correct the problem that I have identified,

my proposal offers a balance in the rate design that is not present in Ms. Menhorn's proposed rate design.

Q. PLEASE DESCRIBE HOW MS. MENHORN TREATS CONTRACT CUSTOMERS IN THIS RATE CASE.

A. In her prefiled direct testimony, Ms. Menhorn identifies contract customers as those

> who contract for service whereby the customer commits to pay rates over a multi-year period to provide the Company an appropriate revenue stream based upon the investments made at the customers' facilities to provide that service.[101]

Ms. Menhorn also states that the contracts in which Piedmont entered were approved by the NCUC prior to the commencement of service. In reviewing Ms. Menhorn's testimony, one cannot find the class rates of return for service to the Special Contracts class, the Municipal Contracts class, or the Power Generation class. I did locate these class rates of return in Ms. Menhorn's ACOSS and noticed they had the following class rates of return:

- Special Contracts: 11.75%
- Municipal Contracts: -2.22%
- Power Generation Contracts: 5.67%

Both the Municipal Contract class and the Power Generation Contract class are earning below my recommended class overall rate of 6.52% and should realize a rate hike in this proceeding. However, Ms. Menhorn is not recommending any such rate increases.

[101] Prefiled Direct Testimony of Cynthia Menhorn, p. page 12, line 20 through page 13, line 2.

Q. WHAT REVENUE CHANGES ARE YOU RECOMMENDING FOR THESE CONTRACT CUSTOMERS?

A. My recommended rate changes and associated class rates of return for these contract customers are as follows:

Table 14: Contract Customer Recommended Rate Changes

Customer Class	Rate Change	Class Rate of Return (%)
Special Contracts	0.00%	11.80%
Municipal Contracts	7.70%	-1.70%
Power Gen Contracts	4.70%	6.30%

I realize that the Municipal and Power Generation contracts may not end at the same time as the implementation of new rates in this case. If these contracts extend out for another 2 years beyond the implementation of the new rates in this case, I recommend the revenue deficiency as noted above be spread to all remaining non-contract rates. If, however, these contracts do not terminate in 2 years, I suggest Piedmont absorb the increases in Table 13 until the contracts can be re-negotiated and more cost-based rates enacted.

Q. WHY ARE YOU RECOMMENDING NON-CONTRACT CUSTOMERS ABSORB THE RATE CHANGE FOR THESE CONTRACT CUSTOMERS FOR A PERIOD NOT-TO-EXCEED TWO YEARS?

A. Piedmont, like any utility, grows its earnings by growing its rate base through new plant investment. Piedmont, undoubtedly, knew about its ongoing plant investments when it entered into these contracts with the Municipal Contracts and Power Generation Contracts customers. If these contracts do not allow for periodic

rate changes, non-contract customers should not be asked to indefinitely subsidize these customers. Piedmont should bear the risk of these contracts and absorb the revenue change itself after a period of two years.

Q. ARE YOU RECOMMENDING A RATE CHANGE FOR THE MUNICIPAL CONTRACTS AND POWER GENERATION CONTRACTS CLASSES?

A. No. A contract is a contract. If Piedmont has entered into a contract that is no longer as profitable as it first deemed feasible, it should absorb that price difference for the period of two years after the implementation of new rates in this case.

Q. DID YOU USE THE SWPA ACOSS METHOD OR THE PEAK DAY DEMAND ACOSS METHOD IN THE DEVELOPMENT OF THE ABOVE-STATED RATE CHANGES AND ACCOMPANYING CLASS RATES OF RETURN?

A. Yes, I used the SWPA ACOSS in the development of my recommended rate design. The reason is that use of the Peak Day ACOSS would not have altered my recommended rate design in any meaningful way. As noted in **Table 12** above, the class rates of return for both the SWPA ACOSS and the Peak Day ACOSS are, with the exception of interruptible sales and interruptible transportation, very close to one other. Since I limited the rate change of any customer class to +/-10%, the resulting class rates of return could not change to a point of risk/return parity amongst the customer classes.

X. SUMMARY

Q. MR. O'DONNELL, PLEASE SUMMARIZE YOUR TESTIMONY.

A. Piedmont's requested rate increase in this case is excessive, unnecessary, and burdensome on the ratepayers of North Carolina. My specific recommendations in this case are as follows:

- The proper capital structure to use in this proceeding is 50.00% common equity and 50.00% long-term debt.
- I accept the Company's recommended total cost of debt of 4.56%.
- The Company's allowed ROE should be set at 9.00%.
- The overall rate of return that Piedmont should be allowed to earn in this proceeding is 6.52%.
- The Company's requested capital structure and ROE are, both, unreasonable for ratemaking purposes.
- The recommended rate changes per customer class are as follows:
    - Residential – 7.5% increase
    - Small Gen. Svc – 0.8% decrease
    - Med. Gen Svc. – 0.4% decrease
    - Large Gen. Svc – Firm Sales – 5.3% increase
    - Large Gen Svs. – Firm Transpo – 5.9% increase
    - Large Gen Svc. – Int. Sales – 8.4% decrease
    - Large Gen Svc. – Int. Transpo – 8.1% decrease
    - Military Transpo – 6.6% increase

To the extent that contractual customers have contracts that terminate within two years of the implementation of the new rates in this case, the rate changes I

recommend in this rate case should be adjusted so that non-contract customers do not subsidize the contract class customers. If the contracts extend out past two years from the implementation date of the new rates, Piedmont should absorb the margin difference.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Certificate of Service

I hereby certify that a copy of the testimony and accompanying exhibits of Kevin W. O'Donnell has been served this day upon the parties of record in this proceeding by electronic mail.

This the 11th day of August, 2021.

BROOKS, PIERCE, McLENDON,
HUMPHREY & LEONARD, LLP

/s/ Craig D. Schauer

INDEX OF EXHIBITS

Kevin W. O'Donnell, CFA

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Kevin W. O'Donnell, is the founder of Nova Energy Consultants, Inc. in Cary, NC. Mr. O'Donnell's academic credentials include a B.S. in Civil Engineering - Construction Option from North Carolina State University as well as a MBA in Finance from Florida State University. Mr. O'Donnell is also a Chartered Financial Analyst ("CFA").

Mr. O'Donnell has experience working in the electric, natural gas, and water/sewer industries since 1984. He is very active in municipal power projects and has assisted numerous southeastern U.S. municipalities cut their wholesale cost of power by as much as 67%. On Dec. 12, 1998, ***The Wilson Daily Times*** made the following statement about O'Donnell.

> **Although we were skeptical of O'Donnell's efforts at first, he has shown that he can deliver on promises to cut electrical rates.**

Mr. O'Donnell has completed close to 30 wholesale power projects for municipal and university-owned electric systems throughout North and South Carolina. In May of 1996 Mr. O'Donnell testified before the U.S. House of Representatives, Committee on Commerce, Subcommittee on Energy and Power regarding the restructuring of the electric utility industry.

Mr. O'Donnell has appeared as an expert witness in over 120 regulatory proceedings before the North Carolina Utilities Commission, the South Carolina Public Service Commission, the Virginia Corporation Commission, the Minnesota Public Service Commission, the New Jersey Board of Public Utilities, the Colorado Public Service Commission, the Wisconsin Public Service Commission, the Maryland Public Service Commission, the District of Columbia Public Service Commission, the Pennsylvania Public Utility Commission, the Indiana Public Utility Commission, the California Public Service Commission, and the Florida Public Service Commission. His area of expertise has included rate design, cost of service, rate of return, capital structure, asset valuation analyses, fuel adjustments, merger transactions, holding company applications, as well as numerous other accounting, financial, and utility rate-related issues.

Mr. O'Donnell is the author of the following two articles: "Aggregating Municipal Loads: The Future is Today" which was published in the Oct. 1, 1995 edition of *Public Utilities Fortnightly;* and "Worth the Wait, But Still at Risk" which was published in the May 1, 2000 edition of *Public Utilities Fortnightly.* Mr. O'Donnell is also the co-author of "Small Towns, Big Rate Cuts" which was published in the January, 1997 edition of *Energy Buyers Guide.* All of these articles discuss how rural electric systems can use the wholesale power markets to procure wholesale power supplies.

Regulatory Cases of Kevin W. O'Donnell, CFA
Nova Energy Consultants, Inc.

Year	Name of Applicant	State Jusrisdiction	Docket No.	Client/ Employer	Case Issues
1985	Public Service Company of NC	NC	G-5, Sub 200	Public Staff of NCUC	Return on equity, capital structure
1985	Piedmont Natural Gas Company	NC	G-9, Sub 251	Public Staff of NCUC	Return on equity, capital structure
1986	General Telephone of the South	NC	P-19, Sub 207	Public Staff of NCUC	Return on equity, capital structure
1987	Public Service Company of NC	NC	G-5, Sub 207	Public Staff of NCUC	Return on equity, capital structure
1988	Piedmont Natural Gas Company	NC	G-9, Sub 278	Public Staff of NCUC	Return on equity, capital structure
1989	Public Service Company of NC	NC	G-5, Sub 246	Public Staff of NCUC	Return on equity, capital structure
1990	North Carolina Power	NC	E-22, Sub 314	Public Staff of NCUC	Return on equity, capital structure
1991	Duke Energy	NC	E-7, Sub 487	Public Staff of NCUC	Return on equity, capital structure
1991	North Carolina Natural Gas	NC	G-21, Sub 306	Public Staff of NCUC	Natural gas expansion fund
1991	North Carolina Natural Gas	NC	G-21, Sub 307	Public Staff of NCUC	Natural gas expansion fund
1991	Penn & Southern Gas Company	NC	G-3, Sub 186	Public Staff of NCUC	Return on equity, capital structure
1995	North Carolina Natural Gas	NC	G-21, Sub 334	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1995	Carolina Power & Light Company	NC	E-2, Sub 680	Carolina Utility Customers Assoc.	Fuel adjustment proceeding
1995	Duke Power	NC	E-7, Sub 559	Carolina Utility Customers Assoc.	Fuel adjustment proceeding
1996	Piedmont Natural Gas Company	NC	G-9, Sub 378	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1996	Piedmont Natural Gas Company	NC	G-9, Sub 382	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1996	Public Service Company of NC	NC	G-5, Sub 356	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1996	Cardinal Extension Company	NC	G-39, Sub 0	Carolina Utility Customers Assoc.	Capital structure, cost of capital
1997	Public Service Company of NC	NC	G-5, Sub 327	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1998	Public Service Company of NC	NC	G-5, Sub 386	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
1998	Public Service Company of NC	NC	G-5, Sub 386	Carolina Utility Customers Assoc.	Natural gas transporation rates
1999	Public Service Company of NC/SCANA Corp	NC	G-5, Sub 400	Carolina Utility Customers Assoc.	Merger case
1999	Public Service Company of NC/SCANA Corp	NC	G-43	Carolina Utility Customers Assoc.	Merger Case
1999	Carolina Power & Light Company	NC	E-2, Sub 753	Carolina Utility Customers Assoc.	Holding company application
1999	Carolina Power & Light Company	NC	G-21, Sub 387	Carolina Utility Customers Assoc.	Holding company application
1999	Carolina Power & Light Company	NC	P-708, Sub 5	Carolina Utility Customers Assoc.	Holding company application
2000	Piedmont Natural Gas Company	NC	G-9, Sub 428	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
2000	NUI Corporation	NC	G-3, Sub 224	Carolina Utility Customers Assoc.	Holding company application
2000	NUI Corporation/Virginia Gas Company	NC	G-3, Sub 232	Carolina Utility Customers Assoc.	Merger application
2001	Duke Power	NC	E-7, Sub 685	Carolina Utility Customers Assoc.	Emission allowances and environmental compliance costs
2001	NUI Corporation	NC	G-3, Sub 235	Carolina Utility Customers Assoc.	Tariff change request.
2001	Carolina Power & Light Company/Progress E	NC	E-2, Sub 778	Carolina Utility Customers Assoc.	Asset transfer case
2001	Duke Power	NC	E-7, Sub 694	Carolina Utility Customers Assoc.	Restructuring application
2002	Piedmont Natural Gas Company	NC	G-9, Sub 461	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
2002	Cardinal Pipeline Company	NC	G-39, Sub 4	Carolina Utility Customers Assoc.	Cost of capital, capital structure
2002	South Carolina Public Service Commission	SC	2002-63-G	South Carolina Energy Users Committee	Rate of return, accounting, rate design, cost of service
2003	Piedmont Natural Gas/North Carolina Natura	NC	G-9, Sub 470	Carolina Utility Customers Assoc.	Merger application
2003	Piedmont Natural Gas/North Carolina Natura	NC	G-9, Sub 430	Carolina Utility Customers Assoc.	Merger application
2003	Piedmont Natural Gas/North Carolina Natura	NC	E-2, Sub 825	Carolina Utility Customers Assoc.	Merger application
2003	Carolina Power & Light Company	NC	E-2, Sub 833	Carolina Utility Customers Assoc.	Fuel case
2004	South Carolina Electric & Gas	SC	2004-178-E	South Carolina Energy Users Committee	Return on equity, capital structure, rate design, cost of service
2005	Carolina Power & Light Company	NC	E-2, Sub 868	Carolina Utility Customers Assoc.	Fuel case
2005	Piedmont Natural Gas Company	NC	G-9, Sub 499	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
2005	South Carolina Electric & Gas	SC	2005-2-E	South Carolina Energy Users Committee	Fuel application
2005	Carolina Power & Light Company	SC	2006-1-E	South Carolina Energy Users Committee	Fuel application
2006	IRP in North Carolina	NC	E-100, Sub 103	Carolina Utility Customers Assoc.	Submitted rebuttal testimony in investigation of IRP in NC.
2006	Piedmont Natural Gas Company	NC	G-9, Sub 519	Carolina Utility Customers Assoc.	Creditworthiness issue
2006	Public Service Company of NC	NC	G-5, Sub 481	Carolina Utility Customers Assoc.	Return on equity, capital structure, rate design, cost of service
2006	Duke Power	NC	E-7, 751	Carolina Utility Customers Assoc.	App to share net revenues from certain wholesale pwr trans

Regulatory Cases of Kevin W. O'Donnell, CFA
Nova Energy Consultants, Inc.

Year	Name of Applicant	State Jusrisdiction	Docket No.	Client/ Employer	Case Issues
2006	South Carolina Electric & Gas	SC	2006-192-E	South Carolina Energy Users Committee	Fuel application
2007	Duke Power	NC	E-7, Sub 790	Carolina Utility Customers Assoc.	Application to construct generation
2007	South Carolina Electric & Gas	SC	2007-229-E	South Carolina Energy Users Committee	Rate of return, accounting, rate design, cost of service
2008	South Carolina Electric & Gas	SC	2008-196-E	South Carolina Energy Users Committee	Base load review act proceeding
2009	Western Carolina University	NC	E-35, Sub 37	Western Carolina University	Rate of return, accounting, rate design, cost of service
2009	Duke Power	NC	E-7, Sub 909	Carolina Utility Customers Assoc.	Cost of service, rate design, return on equity, capital structure
2009	South Carolina Electric & Gas	SC	2009-261-E	South Carolina Energy Users Committee	DSM/EE rate filing
2009	Duke Power	SC	2009-226-E	South Carolina Energy Users Committee	Return on equity, capital structure, rate design, cost of service
2009	Tampa Electric	FL	080317-EI	Florida Retail Federation	Return on equity, capital structure
2010	Duke Power	SC	2010-3-E	South Carolina Energy Users Committee	Fuel application - assisted in settlement
2010	South Carolina Electric & Gas	SC	2009-489-E	South Carolina Energy Users Committee	Return on equity, capital structure, rate design, cost of service
2010	Virginia Power	VA	PUE-2010-00006	Mead Westvaco	Rate design
2011	Duke Energy	SC	2011-20-E	South Carolina Energy Users Committee	Nuclear construction financing
2011	Northern States Power	MN	E002/GR-10-971	Xcel Large Industrials	Return on equity, capital structure
2011	Virginia Power	VA	PUE-2011-0027	Mead Westvaco	Capital structure, revenue requirement
2011	Duke Energy	NC	E-7, Sub 989	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2011	Duke Energy	SC	2011-271-E	South Carolina Energy Users Committee	Accounting, cost of service, rate design, ROE, capital structure
2011	Dominion Virginia Power	VA	PUE-2011-00073	Mead Westvaco	Rate design
2012	Town of Smithfield/Partners Equity Group	NC	ES-160, Sub 0	Partners Equity Group	Rate design, asset valuation
2012	Florida Power & Light	FL	120015-EI	Florida Office of Public Counsel	Capital structure
2012	South Carolina Electric & Gas	SC	2012-218-E	South Carolina Energy Users Committee	Accounting, cost of service, rate design, ROE, capital structure
2013	Progress Energy Carolinas	NC	E-2, Sub 1023	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2013	Duke Energy Carolinas	NC	E-7, Sub 1026	Carolina Utility Customers Assoc.	Rate design
2013	Jersey Central Power & Light	NJ	BPU ER12111052	Gerdau Ameristeel	Return on equity, capital structure
2013	Duke Energy Carolinas	SC	2013-59-E	South Carolina Energy Users Committee	Accounting, cost of service, rate design, ROE, capital structure
2013	Tampa Electric	FL	130040-EI	Florida Office of Public Counsel	Capital structure and financial integrity
2013	Piedmont Natural Gas	NC	G-9, Sub 631	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2014	Dominion Virginia Power	VA	PUE-2014-00033	Mead Westvaco	Recoverable fuel costs, hedging strategies
2014	Public Service Company of Colorado	CO	14AL-0660E	Colorado Healthcare Electric Coordinating Council	Return on equity, capital structure
2015	WEC Acquisition of Integrys	WI	9400-YO-100	Staff of Wisconsin Public Service Commission	Merger analysis
2015	Dominion Virginia Power	VA	PUE-2015-00027	Federal Executive Agencies	Return on equity
2015	South Carolina Electric & Gas	SC	2015-103-E	South Carolina Energy Users Committee	Return on equity
2015	Western Carolina University	NC	E-35, Sub 45	Western Carolina University	Accounting, cost of service, rate design, ROE, capital structure
2016	Sandpiper Energy	MD	9410	Maryland Office of People's Counsel	Return on equity, capital structure
2016	Washington Gas Light	DC	FC 1137	Washington, DC Office of People's Counsel	Return on equity, capital structure
2016	Florida Power & Light	FL	160021-EI	Florida Office of Public Counsel	Capital Structure
2016	Jersey Central Power & Light	NJ	EM15060733	NJ Division of Rate Counsel	Asset valuation
2016	Rockland Electric Company	NJ	ER16050428	NJ Division of Rate Counsel	Rate design
2016	Dominon NC Power	NC	E-22, Sub 532	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2017	Potomac Electric Power	DC	FC 1139	Healthcare Council of the National Capitol Area (HCNCA)	ROE and capital structure
2017	Columbia Gas of Maryland	MD	FC 9447	Maryland Office of People's Counsel	ROE and capital structure
2017	Washington Gas Light	DC	FC 1142	Washington, DC Office of People's Counsel	Merger analysis
2017	Duke Energy Progress	NC	E-2, Sub 1142	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2018	Public Service Electric & Gas	NJ	GR17070776	NJ Division of Rate Counsel	ROE and capital structure
2018	Duke Energy Carolinas	NC	E-7, Sub 1146	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE, capital structure
2018	Elkton Gas/SJI	MD	FC 9475	Maryland Office of People's Counsel	Merger analysis
2018	Entergy Texas	TX	PUC 48371	Entergy Texas Cities	ROE
2018	Duke Energy Carolinas	SC	2018-3-E	South Carolina Energy Users Committee	Fuel case

Regulatory Cases of Kevin W. O'Donnell, CFA
Nova Energy Consultants, Inc.

Year	Name of Applicant	State Jusrisdiction	Docket No.	Client/ Employer	Case Issues
2018	Elkton Gas Company	MD	FC 9488	Maryland Office of People's Counsel	Accounting, ROE, capital structure
2018	Baltimore Gas & Electric	MD	FC9484	Maryland Office of People's Counsel	ROE, capital structure
2018	South Carolina Electric & Gas	SC	2017-370-E	South Carolina Energy Users Committee	Creditworthiness issue
2018	Jersey Central Power & Light	NJ	EO18070728	NJ Division of Rate Counsel	ROE and capital structure
2019	Duke Energy Carolinas	SC	2018-319-E	South Carolina Energy Users Committee	Accounting, rate design
2019	Duke Energy Progress	SC	2018-318-E	South Carolina Energy Users Committee	Accounting, rate design
2019	Public Service Electric and Gas	NJ	EO18060629	NJ Division of Rate Counsel	ROE and capital structure
2019	Potomac Electric Power	MD	FC 9602	Maryland Office of People's Counsel	ROE, capital structure
2019	Oklahoma Gas and Electric	OK	PUD 201800140	Sierra Club	Creditworthiness issue
2019	Peoples Natural Gas	PA	R-2018-3006818	Pennsylvania Office of Consumer Advocate	ROE, capital structure
2019	UGI Natural Gas	PA	R-2018-3006814	Pennsylvania Office of Consumer Advocate	ROE, capital structure
2019	Dominion Virginia Power	VA	PUR-2019-00050	Federal Executive Agencies	Return on Equity
2019	Piedmont Natural Gas	NC	G-9, Sub 743	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE
2019	Pacific Gas & Electric, Southern California Edison, San Diego Gas & Electric	CA	A-1904014, et al	Federal Executive Agencies	ROE, capital structure
2019	Duke Energy Indiana	IN	Cause 45253	Federal Executive Agencies	ROE, capital structure
2020	Duke Energy Carolinas	NC	E-7 Sub 1214	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE
2020	Duke Energy Progress	NC	E-2 Sub 1219	Carolina Utility Customers Assoc.	Accounting, cost of service, rate design, ROE
2020	Dominion Virginia Power	VA	PUR-2019-00154	Southern Environmental Law Center	Financial analysis of plant investment
2020	Southwest Electric Power Company	LA	U-35324	Alliance for Affordable Energy	Financial analysis of plant investment
2020	Texas Gas Company	TX	PUC 10928	Texas Gas Cities	ROE, capital structure
2020	Potomac Electric Power	DC	FC 1156	District of Columbia Office of Peoples Counsel	ROE, capital structure
2020	UGI Gas	PA	R-2019-3015162	Pennsylvania Office of Consumer Advocate	ROE, capital structure, creditworthiness
2020	Columbia Gas of Maryland	MD	FC 9644	Maryland Office of People's Counsel	ROE, capital structure
2020	Columbia Gas of Pennsylvania	PA	R-2020-3018835	Pennsylvania Office of Consumer Advocate	ROE, capital structure
2020	New Mexico Gas Company	NM	19-00317-UT	Federal Executive Agencies	ROE, capital structure, accounting, rate design, cost of service
2020	Washington Gas Light	DC	FC 1162	District of Columbia Office of Peoples Counsel	ROE, capital structure
2020	Dominion Energy South Carolina	SC	2020-125-E	South Carolina Energy Users Committee	Accounting, rate design
2021	Suez Water Company	NJ	BPU WR2011	NJ Division of Rate Counsel	ROE, capital structure, rate design
2021	Columbia Gas of Pennsylvania	PA	R-2021-3024296	Pennsylvania Office of Consumer Advocate	ROE, capital structure
2021	Florida Power & Light	FL	20210015-EI	Florida Office of Public Counsel	Capital structure, financial rate analysis

CUCA Recommended Overall Rate of Return

O'Donnell Financial Analyses ROE Results		
DCF	7.50%	9.50%
CEA	9.00%	10.00%
CAPM	6.00%	8.00%
Recommendation	**9.00%**	

CUCA Overall Recommendation			
Component	Capital Structure Ratio (%)	Cost Rate (%)	Weighted Cost Rate (%)
Long-Term Debt	49.43%	4.09%	2.02%
Short-Term Debt	0.57%	0.47%	0.00%
Common Equity	50.00%	9.00%	4.50%
Total Capitalization	100.00%		6.52%

O'Donnell Proxy Group
DCF Summary

Company	Forecasted Annualized Dividend Yield			Value Line									Average Plowback Growth Rate [4]	CFRA 3-Year Projected EPS CAGR [5]	Schwab LT Growth Rate 3-5 Years EPS (AEE) [6]
				10-Year			5-Year			Forecasted (Est'd '18-'20 to '24-'26)					
	13-Wks [1]	4-Wks [2]	Current [3]	EPS [4]	DPS [4]	BPS [4]	EPS [4]	DPS [4]	BPS [4]	EPS [4]	DPS [4]	BPS [4]	Exhibit KWO-3		
Atmos Energy	2.6%	2.7%	2.7%	8.0%	5.0%	7.5%	9.0%	7.5%	10.0%	7.0%	7.5%	10.5%	4.1%	8.0%	7.2%
Chesapeake Utilities	1.6%	1.6%	1.6%	9.5%	6.5%	9.5%	9.0%	7.5%	11.0%	8.5%	8.0%	6.5%	6.7%	3.6%	-
New Jersey Resources	3.1%	3.2%	3.3%	6.0%	7.0%	7.5%	5.5%	6.5%	8.5%	2.0%	5.5%	5.5%	4.1%	8.0%	6.0%
NiSource Inc	3.5%	3.5%	3.5%	2.0%	-1.5%	-3.0%	0.5%	-3.0%	-5.0%	9.5%	4.5%	4.5%	3.9%	5.0%	3.5%
Northwest Natural	3.5%	3.6%	3.6%	-1.5%	1.5%	1.0%	1.5%	0.5%	-	5.5%	0.5%	8.5%	1.9%	4.0%	3.8%
ONE Gas Inc	3.1%	3.2%	3.2%	-	-	-	10.0%	14.5%	3.0%	6.5%	7.0%	10.5%	3.5%	5.0%	5.0%
South Jersey Inds	4.9%	4.7%	4.8%	1.5%	6.5%	5.5%	-1.5%	4.0%	2.5%	11.5%	4.5%	6.5%	3.6%	6.0%	4.8%
Southwest Gas	3.5%	3.7%	3.7%	7.5%	8.5%	6.0%	5.5%	8.0%	7.0%	9.0%	4.5%	6.0%	4.4%	6.0%	4.0%
Spire Inc	3.5%	3.6%	3.6%	1.5%	4.5%	7.0%	4.5%	6.0%	5.5%	10.0%	4.5%	9.0%	3.2%	4.0%	7.3%
UGI Corp	3.0%	2.9%	2.9%	5.5%	8.0%	7.0%	7.0%	7.5%	5.5%	6.0%	4.5%	7.0%	7.0%	8.0%	7.7%
AVERAGE	**3.2%**	**3.3%**	**3.3%**	**4.4%**	**5.1%**	**5.3%**	**5.1%**	**5.9%**	**5.3%**	**7.6%**	**5.1%**	**7.5%**	**4.2%**	**5.8%**	**5.5%**
Duke Energy	3.9%	3.9%	3.9%	2.5%	3.0%	2.0%	1.5%	3.5%	1.0%	7.0%	2.0%	2.0%	2.1%	6.0%	5.0%

Notes:

EPS = earnings per share
DPS = dividends per share
BPS = book value per share
Est'd '18-'20 to '24-'26

Sources:

[1]	The Value Line Investment Survey, Summary and Index:	4/16/2021	4/23/2021	4/30/2021	5/7/2021	5/14/2021	5/21/2021	5/28/2021	6/4/2021	6/11/2021	
		6/18/2021	6/25/2021	7/2/2021	7/9/2021						
[2]	The Value Line Investment Survey, Summary and Index:	6/18/2021	6/25/2021	7/2/2021	7/9/2021						
[3]	The Value Line Investment Survey, Summary and Index:	7/9/2021									
[4]	The Value Line Investment Survey:5/28/2021 (Nat Gas), 5/14/2021 (Electric Utilities East)										
[5]	CFRA Stock Report earnings estimates as of7/6/2021 as provided by Schwab.com										
[6]	Schwab Equity Report earnings estimates as of7/6/2021 as provided by Schwab.com										

O'Donnell Proxy Group
Plowback Ratios

Company	2019	2020	2021E*	2024E* - 2026E*	AVERAGE Exhibit KWO-2, Exhibit KWO-5 pg. 2
Atmos Energy	4.6%	4.4%	4.0%	3.5%	4.1%
Chesapeake Utilities	6.5%	6.2%	6.5%	7.5%	6.7%
New Jersey Resources	4.6%	4.3%	4.0%	3.5%	4.1%
NiSource Inc	3.8%	3.7%	2.5%	5.5%	3.9%
Northwest Natural	1.4%	1.7%	2.0%	2.5%	1.9%
ONE Gas Inc	3.8%	3.7%	3.5%	3.0%	3.5%
South Jersey Inds	NMF	2.9%	3.0%	5.0%	3.6%
Southwest Gas	3.9%	4.0%	4.0%	5.5%	4.4%
Spire Inc	2.7%	NMF	4.0%	3.0%	3.2%
UGI Corp	5.6%	7.0%	8.0%	7.5%	7.0%
AVERAGE	**4.1%**	**4.2%**	**4.2%**	**4.7%**	**4.2%**
Duke Energy	2.4%	0.4%	2.0%	3.5%	2.1%

*E = expected
Plowback = Percent retained to common equity
The Value Line Investment Survey: 5/28/2021 (Nat Gas), 5/14/2021 (Electric Utilities East)

O'Donnell Proxy Group
Returns on Book Value

Company	2019	2020	2021E*	2024E* - 2026E*
Atmos Energy	8.9%	8.6%	8.0%	7.5%
Chesapeake Utilities	10.9%	10.1%	11.0%	12.0%
New Jersey Resources	11.3%	10.6%	10.5%	10.5%
NiSource Inc	9.7%	10.5%	9.0%	11.5%
Northwest Natural	7.5%	7.9%	7.5%	7.0%
ONE Gas Inc	8.8%	8.8%	8.5%	6.5%
South Jersey Inds	7.2%	9.8%	10.0%	11.5%
Southwest Gas	8.5%	8.7%	9.0%	10.0%
Spire Inc	7.9%	3.2%	9.5%	7.5%
UGI Corp	10.8%	13.6%	14.0%	12.5%
AVERAGE	**9.2%**	**9.2%**	**9.7%**	**9.7%**
Duke Energy	8.3%	6.3%	8.5%	9.5%

*E = expected

The Value Line Investment Survey: 5/28/2021 (Nat Gas), 5/14/2021 (Electric Utilities East)

O'Donnell: Proxy Group
DCF Results

O'Donnell DCF Calculation

	VL 13-Weeks **a**	VL 4-Weeks **b**	VL 1-Week **c**
	Exhibit KWO-2 →		
VL DIVIDEND YIELD AVERAGES	3.2%	3.3%	3.3%

Growth Rates	VL EPS **d**	VL DPS **e**	VL BPS **f**
	Exhibit KWO-2 →		
10-Year Growth Rate Averages	4.4%	5.1%	5.3%
5-Year Growth Rate Averages	5.1%	5.9%	5.3%
VL HISTORICAL GROWTH RATE AVERAGES	**4.8%**	**5.5%**	**5.3%**

	VL EPS **g**	VL DPS **h**	VL BPS **i**	CFRA EPS **j**	Schwab EPS **k**
	Exhibit KWO-2 →				
FORECASTED GROWTH RATE AVERAGES	**7.6%**	**5.1%**	**7.5%**	**5.8%**	**5.5%**

	13-Weeks VL EPS **= a + d**	13-Weeks VL DPS **= a + e**	13-Weeks VL BPS **= a + f**
	Rx →		
VL HISTORICAL GROWTH RATE AVERAGES + VL DIV YIELD AVERAGES	8.0%	8.8%	8.6%
	4-Weeks VL EPS **= b + d**	4-Weeks VL DPS **= b + e**	4-Weeks VL BPS **= b + f**
	Rx →		
	8.0%	8.8%	8.6%
	1-Week VL EPS **= c + d**	1-Week VL DPS **= c + e**	1-Week VL BPS **= c + f**
	Rx →		
	8.1%	8.8%	8.6%

	MIN **ABOVE** →	**AVG**	**MAX**
VL HISTORICAL GROWTH RATE AVERAGES + VL DIV YIELD RANGE	**8.0%**	**8.5%**	**8.8%**

	13-Weeks VL EPS **= a + g**	13-Weeks VL DPS **= a + h**	13-Weeks VL BPS **= a + i**	13-Weeks CFRA EPS **= a + j**	13-Weeks Schwab EPS **= a + k**
	Rx →				
FORECASTED GROWTH RATE AVERAGES + VL DIV YIELD AVERAGES	10.8%	8.3%	10.7%	9.0%	8.7%
	4-Weeks VL EPS **= b + g**	4-Weeks VL DPS **= b + h**	4-Weeks VL BPS **= b + i**	4-Weeks CFRA EPS **= b + j**	4-Weeks Schwab EPS **= b + k**
	Rx →				
	10.8%	8.4%	10.7%	9.0%	8.7%
	1-Week VL EPS **= c + g**	1-Week VL DPS **= c + h**	1-Week VL BPS **= c + i**	1-Week CFRA EPS **= c + j**	1-Week Schwab EPS **= c + k**
	Rx →				
	10.8%	8.4%	10.7%	9.1%	8.8%

	MIN **ABOVE** →	**AVG**	**MAX**
FORECASTED GROWTH RATE AVERAGES + VL DIV YIELD RANGE	**8.3%**	**9.5%**	**10.8%**

O'Donnell: Proxy Group
DCF Results

O'Donnell DCF Calculation (cont'd)

VL DIV YIELD AVERAGES	13-Weeks	4-Weeks	1-Week
	a	b	c
	Exhibit KWO-2 →		
Atmos Energy	2.6%	2.7%	2.7%
Chesapeake Utilities	1.6%	1.6%	1.6%
New Jersey Resources	3.1%	3.2%	3.3%
NiSource Inc	3.5%	3.5%	3.5%
Northwest Natural	3.5%	3.6%	3.6%
ONE Gas Inc	3.1%	3.2%	3.2%
South Jersey Inds	4.9%	4.7%	4.8%
Southwest Gas	3.5%	3.7%	3.7%
Spire Inc	3.5%	3.6%	3.6%
UGI Corp	3.0%	2.9%	2.9%
AVERAGE	**3.2%**	**3.3%**	**3.3%**

VL PLOWBACK	d
Exhibit KWO-3 →	
Atmos Energy	4.1%
Chesapeake Utilities	6.7%
New Jersey Resources	4.1%
NiSource Inc	3.9%
Northwest Natural	1.9%
ONE Gas Inc	3.5%
South Jersey Inds	3.6%
Southwest Gas	4.4%
Spire Inc	3.2%
UGI Corp	7.0%
AVERAGE	**4.2%**

VL PLOWBACK + VL DIV YIELD AVERAGES	= a + d	= b + d	= c + d
	Rx →		
	6.7%	6.8%	6.8%
	8.3%	8.3%	8.3%
	7.2%	7.3%	7.4%
	7.3%	7.3%	7.4%
	5.4%	5.5%	5.5%
	6.6%	6.7%	6.7%
	8.6%	8.4%	8.4%
	7.9%	8.0%	8.1%
	6.8%	6.8%	6.8%
	10.0%	10.0%	9.9%
	7.5%	**7.5%**	**7.5%**

MIN	AVG	MAX
ABOVE →		
7.5%	7.5%	7.5%

O'Donnell: Duke Parent Company
DCF Results

O'Donnell DCF Calculation

	VL 13-Weeks a	VL 4-Weeks b	VL 1-Week c
	Exhibit KWO-2 →		
VL DIVIDEND YIELD AVERAGES	3.9%	3.9%	3.9%

Growth Rates	VL EPS d	VL DPS e	VL BPS f
	Exhibit KWO-2 →		
10-Year Growth Rate Averages	2.5%	3.0%	2.0%
5-Year Growth Rate Averages	1.5%	3.5%	1.0%
VL HISTORICAL GROWTH RATE AVERAGES	**2.0%**	**3.3%**	**1.5%**

	VL EPS g	VL DPS h	VL BPS i	CFRA EPS j	Schwab EPS k
	Exhibit KWO-2 →				
FORECASTED GROWTH RATE AVERAGES	**7.0%**	**2.0%**	**2.0%**	**6.0%**	**5.0%**

	13-Weeks VL EPS = a + d	13-Weeks VL DPS = a + e	13-Weeks VL BPS = a + f
	Rx →		
VL HISTORICAL GROWTH RATE AVERAGES + VL DIV YIELD AVERAGES	5.9%	7.1%	5.4%
	4-Weeks VL EPS = b + d	4-Weeks VL DPS = b + e	4-Weeks VL BPS = b + f
	Rx →		
	5.9%	7.1%	5.4%
	1-Week VL EPS = c + d	1-Week VL DPS = c + e	1-Week VL BPS = c + f
	Rx →		
	5.9%	7.2%	5.4%
	MIN **ABOVE** →	**AVG** →	**MAX** →
VL HISTORICAL GROWTH RATE AVERAGES + VL DIV YIELD RANGE	**5.4%**	**6.1%**	**7.2%**

	13-Weeks VL EPS = a + g	13-Weeks VL DPS = a + h	13-Weeks VL BPS = a + i	13-Weeks CFRA EPS = a + j	13-Weeks Schwab EPS = a + k
	Rx →				
FORECASTED GROWTH RATE AVERAGES + VL DIV YIELD AVERAGES	10.9%	5.9%	5.9%	9.9%	8.9%
	4-Weeks VL EPS = b + g	4-Weeks VL DPS = b + h	4-Weeks VL BPS = b + i	4-Weeks CFRA EPS = b + j	4-Weeks Schwab EPS = b + k
	Rx →				
	10.9%	5.9%	5.9%	9.9%	8.9%
	1-Week VL EPS = c + g	1-Week VL DPS = c + h	1-Week VL BPS = c + i	1-Week CFRA EPS = c + j	1-Week Schwab EPS = c + k
	Rx →				
	10.9%	5.9%	5.9%	9.9%	8.9%
	MIN **ABOVE** →	**AVG** →	**MAX** →		
FORECASTED GROWTH RATE AVERAGES + VL DIV YIELD RANGE	**5.9%**	**8.3%**	**10.9%**		

O'Donnell: Duke Parent Company

DCF Results

O'Donnell DCF Calculation (cont'd)

VL DIV YIELD AVERAGES			
	13-Weeks	4-Weeks	1-Week
	a	b	c
	Exhibit KWO-2 →		
Duke Energy	3.9%	3.9%	3.9%

VL PLOWBACK	
	d
Exhibit KWO-3 →	
Duke Energy	2.1%

VL PLOWBACK + VL DIV YIELD AVERAGES		
= a + d	= b + d	= c + d
Rx →		
6.0%	5.9%	6.0%

MIN ABOVE →	AVG	MAX
5.9%	6.0%	6.0%

O'Donnell Proxy Group
CAPM Results

Natural Gas Utility Proxy Comparable Group

	30-Yr. Risk-Free Rate [1]	Average Proxy Group Beta [2]	Equity Risk Premium	Beta Adjusted Equity Risk Premium	Equity Cost Rate	Rounded Equity Cost Rate	
	a	b	c	d = b * c	= a + d	Rnd	
Treasury - Maximum	2.99%	0.90	4.25%	3.80%	6.79%	6.8%	
Treasury - Average	1.99%	0.90	4.25%	3.80%	5.79%	5.8%	
Treasury - Minimum	0.99%	0.90	4.25%	3.80%	4.79%	4.8%	LOW

	30-Yr. Risk-Free Rate [1]	Average Proxy Group Beta [2]	Equity Risk Premium	Beta Adjusted Equity Risk Premium	Equity Cost Rate	Rounded Equity Cost Rate	
	a	b	c	d = b * c	= a + d	Rnd	
Treasury - Maximum	2.99%	0.90	6.25%	5.59%	8.58%	8.6%	HIGH
Treasury - Average	1.99%	0.90	6.25%	5.59%	7.58%	7.6%	
Treasury - Minimum	0.99%	0.90	6.25%	5.59%	6.58%	6.6%	

Source:

[1] US Treasury Yields, July 2, 2020 through July 2, 2021
https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?

[2] The Value Line Investment Survey: 5/28/2021 (Nat Gas)

Duke

	30-Yr. Risk-Free Rate [1]	Duke Beta [2]	Equity Risk Premium	Beta Adjusted Equity Risk Premium	Equity Cost Rate	Rounded Equity Cost Rate	
	a	b	c	d = b * c	= a + d	Rnd	
Treasury - Maximum	2.99%	0.85	4.25%	3.61%	6.60%	6.6%	
Treasury - Average	1.99%	0.85	4.25%	3.61%	5.60%	5.6%	
Treasury - Minimum	0.99%	0.85	4.25%	3.61%	4.60%	4.6%	LOW

	30-Yr. Risk-Free Rate [1]	Duke Beta [2]	Equity Risk Premium	Beta Adjusted Equity Risk Premium	Equity Cost Rate	Rounded Equity Cost Rate	
	a	b	c	d = b * c	= a + d	Rnd	
Treasury - Maximum	2.99%	0.85	6.25%	5.31%	8.30%	8.3%	HIGH
Treasury - Average	1.99%	0.85	6.25%	5.31%	7.30%	7.3%	
Treasury - Minimum	0.99%	0.85	6.25%	5.31%	6.30%	6.3%	

Source:

[1] US Treasury Yields, July 2, 2020 through July 2, 2021
https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?

[2] The Value Line Investment Survey: 5/14/2021 (Electric Utilities East)