

FILE

OCC EXHIBIT NO _____

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Duke Energy Ohio, Inc. For an Increases in Electric Rates.	)	Case No. 08-0709-EL-AIR
	)	
In the Matter of the Application of Duke Energy Ohio, Inc. For Tariff Approval.	)	Case No. 08-0710-EL-ATA
	)	
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval To Change Accounting Methods.	)	Case No. 08-0711-EL-AAM
	)	

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**DIRECT TESTIMONY
OF
DAVID C. PARCELL**

**ON BEHALF OF THE
OFFICE OF THE OHIO CONSUMERS' COUNSEL
10 West Broad Street, Suite 1800
Columbus, OH 43215**

February 26, 2009

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1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS***
4 ***ADDRESS.***

5 ***A1.*** My name is David C. Parcell. I am President and Senior Economist of Technical
6 Associates, Inc. My business address is Suite 601, 1051 East Cary Street,
7 Richmond, Virginia 23219.

8

9 ***Q2. PLEASE BRIEFLY DESCRIBE YOUR BACKGROUND AND EXPERIENCE.***

10 ***A2.*** I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia
11 Polytechnic Institute and State University (Virginia Tech) and a M.B.A. (1985)
12 from Virginia Commonwealth University. I have been a consulting economist
13 with Technical Associates since 1970. The majority of my consulting experience
14 has involved the provision of cost of capital testimony in public utility ratemaking
15 proceedings. I have previously testified in more than 400 utility proceedings
16 before over 40 regulatory agencies in the United States and Canada, including this
17 Commission. Attachment DCP-1 provides a more complete description of my
18 education and relevant business experience.

19

20 ***Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS***
21 ***PROCEEDING?***

22 ***A3.*** My testimony will support certain Ohio Consumers' Counsel ("OCC") Objections
23 to the Staff Report filed by the Staff of the Public Utilities Commission of Ohio

1 ("PUCO" or "Commission") and address the issues raised by those objections.
2 Specifically, I will evaluate the cost of capital aspects of the current application of
3 Duke Energy of Ohio, Inc. ("DE-Ohio" or "the Company"). I have performed
4 independent studies and am making recommendations on the cost of capital for
5 DE-Ohio. In addition, since DE-Ohio is a subsidiary of Duke Energy Corporation
6 ("Duke Energy"), I have also considered this entity in my analyses.
7

8 ***Q4. HAVE YOU PREPARED SCHEDULES IN SUPPORT OF YOUR***
9 ***TESTIMONY?***

10 ***A4.*** Yes, I have prepared the schedules attached to my testimony and identified as
11 Schedule DCP-1 through Schedule DCP-14. These were prepared either by me or
12 under my direction. The information contained in these schedules is correct to the
13 best of my knowledge and belief.
14

15 ***Q5. WHAT DOCUMENTS HAVE YOU REVIEWED IN THE PREPARATION OF***
16 ***YOUR TESTIMONY?***

17 ***A5.*** I have reviewed the portions of DE-Ohio's Rate Case Application that relate to
18 cost of capital issues, including the testimony of the Company's cost of capital
19 witness. I have also reviewed DE-Ohio's responses to discovery from the OCC
20 and data requests from the Staff of the PUCO ("Staff") that relate to cost of
21 capital issues. I have further reviewed financial information for DE-Ohio, Duke
22 Energy and the groups of proxy companies used in my cost of equity analyses.
23 Finally, I have reviewed the Staff Report filed in this proceeding.

II. RECOMMENDATIONS AND SUMMARY

Q6. WHAT ARE YOUR RECOMMENDATIONS IN THIS PROCEEDING?

A6. My overall cost of capital recommendation for DE-Ohio is shown on Schedule DCP-1 and can be summarized as follows:

	Percent	Cost	Return
Long-term Debt	41.72%	6.45%	2.69%
Common Equity	58.28%	8.25-10.75%	4.81-6.27%
Total	100.00%		7.50-8.96%
		8.23% with 9.5% ROE	

As explained in my testimony, I recommend the Commission approve an 8.23 percent cost of capital for DE-Ohio in the rate case, based on my recommendation of a 9.5 percent return on equity.

This contrasts with DE-Ohio's requested cost of capital of 9.10 percent, which reflects an 11.0 percent cost of equity, and with Staff's recommended cost of capital of 8.34 percent to 8.87 percent, which reflects a 10.12 percent to 11.14 percent cost of common equity.

Q7. PLEASE SUMMARIZE YOUR ANALYSES AND CONCLUSIONS.

A7. This proceeding is concerned with DE-Ohio's regulated electric utility operations in Ohio. My analyses are concerned with the Company's total cost of capital. The first step in performing these analyses is the development of the appropriate capital structure. DE-Ohio's proposed capital structure is the March 31, 2008

1 capital structure of the Company. I have used this capital structure in my
2 testimony.

3
4 The second step in a cost of capital calculation is a determination of the embedded
5 cost rate of debt. DE-Ohio's Rate Case Application requests a 6.45 percent cost
6 rate.¹ I have used this cost rate in my analyses.

7
8 The third step in the cost of capital calculation is the estimation of the cost of
9 common equity. I have employed two recognized methodologies to estimate the
10 cost of equity for DE-Ohio: the Discounted Cash Flow Model ("DCF") and the
11 Capital Asset Pricing Model ("CAPM"). Each of these methodologies is applied
12 to four groups of proxy electric utilities. These two methodologies and my
13 findings are:

Methodology	Range	
Discounted Cash Flow	10.5-11.0%	(10.75% Mid-Point)
Capital Asset Pricing Model	8.0-8.5%	(8.25% Mid-Point)

14
15
16
17 Based upon these findings, it is my conclusion that the cost of common equity for
18 the proxy group is within a broad range from 8.25 percent to 10.75 percent. The
19 mid-point of this range is 9.5 percent.

¹ See Company Application, Schedule D-1A, Page 1 of 1.

Combining these three steps into a weighted cost of capital results in an overall cost of capital of 7.50 percent to 8.96 percent (i.e., rate of return of 8.23 percent that incorporates a cost of common equity of 9.50 percent).

III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

Q8. WHAT ARE THE PRIMARY ECONOMIC AND LEGAL PRINCIPLES THAT ESTABLISH THE STANDARDS FOR DETERMINING A FAIR RATE OF RETURN FOR A REGULATED UTILITY?

A8. Public utility rates are generally established in a manner designed to allow the recovery of costs, including capital costs. This is frequently referred to as “cost of service” ratemaking. Rates for regulated public utilities traditionally have been primarily established using the “rate base - rate of return” concept. Under this method, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets utilized (i.e., rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility’s balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners’ equity side of the balance sheet as a percentage. Thus, the revenue impact of the cost of capital is derived by multiplying the rate base by the rate of return, including income taxes.

1 The rate of return is developed from the cost of capital, which is estimated by
2 weighting the capital structure components (i.e., debt, preferred stock, and
3 common equity) by their percentages in the capital structure and multiplying these
4 values by their cost rates after multiplying and then adding the individual capital
5 items' weighted percentages. This is also known as the weighted cost of capital.
6 Technically, a "fair rate of return" is a legal and accounting concept that refers to
7 an *ex post* (after the fact) earned return on an asset base, while the cost of capital
8 is an economic and financial concept which refers to an *ex ante* (before the fact)
9 expected or required return on a liability base (*i.e.*, capitalization). In regulatory
10 proceedings, however, the two terms are often used interchangeably. I have
11 equated the two concepts in my testimony.

12
13 From an economic standpoint, a fair rate of return is normally interpreted to mean
14 that an efficient and economically managed utility will be able to maintain its
15 financial integrity, attract capital, and establish comparable returns for similar risk
16 investments. These concepts are derived from economic and financial theory and
17 are generally implemented using financial models and economic concepts.

18
19 Although I am not a lawyer and I do not offer a legal opinion, my testimony is
20 based on my understanding, based on my experience in regulatory proceedings,
21 that two United States Supreme Court decisions provide the controlling standards
22 for a fair rate of return. The first decision is *Bluefield Water Works and*

1 *Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679
2 (1923)(“*Bluefield* decision”). In this decision, the Court stated:

3 What annual rate will constitute **just compensation** depends upon
4 many circumstances and must be **determined by the exercise of**
5 **fair and enlightened judgment**, having regard to all relevant
6 facts. A **public utility** is entitled to such rates as will permit it to
7 **earn a return** on the value of the property which it employs for
8 the convenience of the public equal to that **generally being made**
9 at the same time and in the same general part of the country on
10 **investments in other business undertakings** which are **attended**
11 **by corresponding risks and uncertainties**; but it has no
12 **constitutional right to profits** such as are realized or anticipated
13 in **highly profitable enterprises or speculative ventures**. The
14 **return** should be reasonably sufficient to assure confidence in the
15 **financial soundness** of the utility, and should be adequate, **under**
16 **efficient and economical management**, to maintain and **support**
17 **its credit and enable it to raise the money** necessary for the
18 proper discharge of its public duties. A rate of return may be
19 reasonable at one time, and become too high or too low by changes
20 affecting opportunities for investment, the money market, and
21 business conditions generally. **[Emphasis added.]**

1 It is my understanding that the *Bluefield* decision established the
2 following standards for a fair rate of return: comparable earnings,
3 financial integrity, and capital attraction. It also noted the
4 changing level of required returns over time as well as an
5 underlying assumption that the utility be operated in an efficient
6 manner.

7
8 The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.*, 320
9 U.S. 591 (1944) ("*Hope* decision"). In this decision, the Court stated:

10 The rate-making process under the [Natural Gas] Act, i.e., the
11 fixing of 'just and reasonable' rates, involves a **balancing** of the
12 **investor and consumer interests** From the investor or
13 company point of view it is important that there be enough revenue
14 not only for operating expenses but also for the capital costs of the
15 business. These include service on the debt and dividends on the
16 stock. By that standard the **return** to the equity **owner** should be
17 **commensurate with returns on investments in other enterprises**
18 **having corresponding risks**. That return, moreover, should be
19 sufficient to assure confidence in the **financial integrity** of the
20 enterprise, so as to **maintain its credit** and to **attract capital**.

21 **[Emphasis added.]**

1 The *Hope* decision is also frequently credited with establishing the “end result”
2 doctrine, which maintains that the methods utilized to develop a fair return are not
3 important as long as the end result is reasonable.

4
5 The three economic and financial parameters in the *Bluefield* and *Hope* decisions
6 - comparable earnings, financial integrity, and capital attraction - reflect the
7 economic criteria encompassed in the “opportunity cost” principle of economics.
8 The opportunity cost principle provides that a utility and its investors should be
9 afforded an opportunity (not a guarantee) to earn a return commensurate with
10 returns they could expect to achieve on investments of similar risk. The
11 opportunity cost principle is consistent with the fundamental premise, on which
12 regulation rests, namely, that it is intended to act as a surrogate for competition.

13
14 ***Q9. HOW CAN THESE PARAMETERS BE EMPLOYED TO ESTIMATE THE***
15 ***COST OF CAPITAL FOR A UTILITY?***

16 ***A9.*** Neither the courts nor economic/financial theory have developed exact and
17 mechanical procedures for precisely determining the cost of capital. This is the
18 case because the cost of capital is an opportunity cost and is prospective-looking,
19 which dictates that it must be estimated.

20
21 There are several useful models that can be employed to assist in estimating the
22 cost of equity capital, which is the capital structure item that is the most difficult
23 to determine. These include the DCF, the CAPM, comparable earnings (“CE”)

1 and risk premium ("RP") methods. Each of these methods (or models) differs
2 from the others and each, if properly employed, can be a useful tool in estimating
3 the cost of common equity for a regulated utility.
4

5 ***Q10. WHICH METHODS HAVE YOU EMPLOYED IN YOUR ANALYSES OF***
6 ***THE COST OF COMMON EQUITY IN THIS PROCEEDING?***

7 ***A10.*** I have utilized two methodologies to determine DE-Ohio's cost of common
8 equity: the DCF and CAPM methods. I note that I frequently employ a
9 comparable earnings method in my cost of equity analyses, but have not done so
10 in this proceeding since this Commission appears to rely exclusively on the DCF
11 and CAPM methodologies. I have also not employed a RP model in my analyses
12 although, as discussed below, CAPM analysis is a form of the RP methodology.
13

14 **IV. GENERAL ECONOMIC CONDITIONS**
15

16 ***Q11. WHY ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN***
17 ***DETERMINING THE COSTS OF CAPITAL?***

18 ***A11.*** The costs of capital, for both fixed-cost (debt and preferred stock) components
19 and common equity, are determined in part by current and prospective economic
20 and financial conditions. At any given time, each of the following factors has an
21 influence on the costs of capital: the level of economic activity (*i.e.*, growth rate
22 of the economy), the stage of the business cycle (*i.e.*, recession, expansion, or
23 transition), the level of inflation, and expected economic conditions. My

1 understanding is that this position is consistent with the *Bluefield* decision that
2 noted “[a] rate of return may be reasonable at one time, and become too high or
3 too low by changes affecting opportunities for investment, the money market, and
4 business conditions generally.”

5
6 ***Q12. WHAT INDICATORS OF ECONOMIC AND FINANCIAL ACTIVITY HAVE***
7 ***YOU EVALUATED IN YOUR ANALYSES?***

8 ***A12.*** I have examined several sets of economic statistics from 1975 to the present. I
9 chose this time period because it permits the evaluation of economic conditions
10 over three full business cycles plus the current cycle to date, allowing for an
11 assessment of changes in long-term trends. This period also approximates the
12 beginning and continuation of active rate case activities by public utilities.
13 A business cycle is commonly defined as a complete period of expansion
14 (recovery and growth) and contraction (recession). A full business cycle is a
15 useful and convenient period over which to measure levels and trends in long-
16 term capital costs because it incorporates the cyclical (*i.e.*, stage of business
17 cycle) influences, and thus, permits a comparison of structural (or long-term)
18 trends.

19
20 ***Q13. PLEASE DESCRIBE THE TIMEFRAME OF THE THREE PRIOR***
21 ***BUSINESS CYCLES AND THE MOST RECENT CYCLE.***

22 ***A13.*** The three prior complete cycles and most recent cycle cover the following
23 periods:

	<u>Business Cycle</u>	<u>Expansion Cycle</u>	<u>Contraction Period</u>
1	1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
2	1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
3	1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001
4	Current	Dec. 2001-Nov. 2007	Dec. 2007-Present

5
6 Source: National Bureau of Economic, Research, "Business Cycle Expansions and Contractions."

7
8 ***Q14. DO YOU HAVE ANY GENERAL OBSERVATIONS CONCERNING THE***
9 ***RECENT TRENDS IN ECONOMIC CONDITIONS AND THEIR IMPACT***
10 ***ON CAPITAL COSTS OVER THIS BROAD PERIOD?***

11 ***A14.*** Yes, I do. As I will describe below, until recently the U.S. economy enjoyed
12 general prosperity and stability over the period since the early 1980s. This period
13 has been characterized by longer economic expansions, relatively tame
14 contractions, relatively low and declining inflation, and declining interest rates
15 and other capital costs. The current business cycle began in late 2001, following a
16 somewhat modest recession earlier in the year.

17
18 Over the past two years, on the other hand, the economy has slowed significantly,
19 initially as a result of the 2007 collapse of the "sub-prime" mortgage market and
20 related liquidity crises in the financial sector of the economy. Subsequently, this
21 financial crisis intensified with a more broad-based decline initially based on an
22 intensive increase in petroleum prices and an increasing decline in the U.S.
23 financial sector culminating with the collapse and/or bailouts of a substantial
24 number of long-standing institutions such as Bear Stearns, Lehman Brothers,

1 Merrill Lynch, Freddie Mac, Fannie Mae, AIG and Wachovia. This crisis has
2 recently been described as the worst financial crisis since the Great Depression.
3 The U.S. government is in the process of implementing unprecedented actions to
4 attempt to correct or minimize this crisis. As of this time the effects of these
5 potential actions are unclear. There is presently a universal acceptance that the
6 economy is already in a recession. Should the economic recession become
7 severe, the impacts on cost of capital would likely be characterized by lower
8 utility growth and declining capital costs due to a decline in corporate profits and
9 expected earnings growth. It is clear that a serious recession would also have
10 negative impacts on DE-Ohio's customers, in terms of income levels,
11 unemployment and higher poverty levels. In addition, it is likely that DE-Ohio's
12 business customers are experiencing lower profits as a result of the recession.
13 Clearly, this is no environment in which to increase the profit levels for a
14 regulated monopoly such as DE-Ohio.

15
16 ***Q15. PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND***
17 ***FINANCIAL CONDITIONS AND THEIR IMPACT ON THE COSTS OF***
18 ***CAPITAL.***

19 ***A15.*** Schedule DCP-2 shows several sets of economic data. Pages 1 and 2 contain
20 general macroeconomic statistics while Pages 3 through 6 contain financial
21 market statistics. Pages 1 and 2 show that the U.S. economy ended 2007 as the
22 sixth year of an economic expansion although, as indicated previously, the
23 economy was then entering a decline. This is indicated by the growth in real (*i.e.*,

1 adjusted for inflation) Gross Domestic Product ("GDP"), industrial production,
2 and the increase in the unemployment rate. This most recent expansion was
3 characterized as slower growth, in comparison to prior expansions which resulted
4 in lower inflationary pressures and interest rates.

5
6 The rate of inflation is also shown on Pages 1 and 2. As is reflected in the
7 Consumer Price Index ("CPI"), for example, inflation rose significantly during the
8 1975-1982 business cycle and reached double-digit levels in 1979-1980. The rate
9 of inflation declined substantially in 1981 and remained at or below 6.1 percent
10 during the 1983-1991 business cycle. Since 1991, the CPI has been 4.1 percent or
11 lower. The 4.1 percent rate of inflation in 2007 was slightly above the levels
12 since 2000, but is well below the levels of the past thirty years. Inflation
13 increased in the first half of 2008, largely as a result of a significant increase in
14 petroleum costs. Since then, consistent with an economic contraction and lower
15 equity returns, both petroleum prices and inflation in general have dramatically
16 declined in recent months.

17
18 ***Q16. WHAT HAVE BEEN THE TRENDS IN INTEREST RATES?***

19 ***A16.*** Schedule DCP-2, pages 3 and 4 show several series of interest rates. Rates rose
20 sharply to record levels in 1975-1981 when the inflation rate was high and
21 generally rising. Interest rates declined substantially in conjunction with inflation
22 rates throughout the remainder of the 1980s and throughout the 1990s. Interest

1 rates declined even further from 2000-2005 and generally recorded their lowest
2 levels since the 1960s.

3
4 During the past several years, long-term interest rates have remained low by
5 historic standards. During the 2001 recession and early in the succeeding
6 expansion, the Federal Reserve lowered interest rates (*i.e.*, Federal Funds rate) 11
7 times in 2001 and twice in 2003 in an effort to stimulate the economy. Following
8 this, the Federal Reserve increased short-term interest rates on 17 occasions
9 between 2004 and 2006,² although each time by only 0.25 percent, in an attempt
10 to ensure that any perceived inflationary expectations will not stifle continued
11 economic growth. Nevertheless, the Federal Reserve actions did not result in a
12 pronounced increase in long-term rates. Most recently, however, the Federal
13 Reserve has lowered the Federal Funds rate (*i.e.*, short-term rate) on several
14 occasions and as February 20, 2009 it is 0.25 percent, an all-time low. Over the
15 past several years, long-term interest rates have remained relatively stable, by
16 historic standards. The year 2008 experienced a pronounced decline in short-term
17 rates, a little decline in long-term U.S. Treasury Securities, and an increase in
18 utility bond yields.

19
20 **Q17. WHAT HAVE BEEN THE TRENDS IN COMMON SHARE PRICES?**

² See Federal Reserve Bank of New York, "Historical Changes of the Target Federal Funds and Discount Rates," www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html.

1 **A17.** Pages 5 and 6 show several series of common stock prices and ratios. These
2 ratios indicate that share prices were essentially stagnant during the high
3 inflation/interest rate environment of the late 1970s and early 1980s. On the other
4 hand, the 1983-1991 business cycle and the most recent cycles witnessed a
5 significant upward trend in stock prices. Since the beginning of the current
6 financial crisis, on the other hand, stock prices have declined precipitously and
7 have been very volatile. Stock prices in 2008 and early 2009 are down
8 significantly from 2007 levels, reflecting the financial/economic crises.

9
10 **Q18. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR DISCUSSION OF**
11 **ECONOMIC AND FINANCIAL CONDITIONS?**

12 **A18.** It is apparent that capital costs remain low in comparison to the levels that have
13 prevailed over the past three decades in spite of the current financial crisis. In
14 addition, the current weakness in the economy has resulted in a decline in capital
15 costs. Therefore, it can reasonably be expected that cost of equity models indicate
16 returns that are lower than returns experienced in prior years. As noted elsewhere
17 in my testimony, this is a factor that should be considered in establishing the
18 current cost of equity for DE-Ohio.

19
20 **V. DE-OHIO'S OPERATIONS AND RISKS**

21
22 **Q19. PLEASE SUMMARIZE DE-OHIO AND ITS OPERATIONS.**

1 **A19.** DE-Ohio (formerly known as Cincinnati Gas & Electric Co.) is a combination
2 electric and natural gas distribution public utility that provides service in the
3 southwestern portion of Ohio and, through its subsidiary Duke Energy Kentucky
4 (formerly known as Union Light, Heat and Power Company), in nearby areas of
5 Kentucky. DE-Ohio is a wholly-owned subsidiary of Cinergy Corp. (which was
6 formed by the 1994 merger of Cincinnati Gas & Electric and PSI Energy), which
7 in turn is a subsidiary of Duke Energy. In the second quarter of 2006, Duke
8 Energy and Cinergy consummated a merger which combined the Duke Energy
9 and Cinergy regulated operations as well as deregulated generation in the
10 Midwestern United States.

11
12 **Q20. PLEASE DESCRIBE DUKE ENERGY.**

13 **A20.** Duke Energy Corporation ("Duke Energy"), in its present form, was created in
14 connection with the 2006 merger with Cinergy. Currently, it is an energy holding
15 company whose primary subsidiaries are:

- 16 • Duke Energy Carolinas – a regulated utility that delivers electricity in
17 North Carolina and South Carolina;
- 18 • Duke Energy Ohio – a regulated utility that provides electric and gas
19 delivery in Ohio;
- 20 • Duke Energy Indiana – a regulated electric utility that provides electric
21 energy in Indiana; and,
- 22 • Duke Energy Kentucky – a regulated utility that provides electric service
23 in Kentucky.

1 **Q21. PLEASE PROVIDE A BRIEF HISTORY OF DUKE ENERGY'S BUSINESS**
2 **AND ORGANIZATIONAL STRUCTURE.**

3 **A21.** Prior to 1997, Duke Energy operated as Duke Power Company and was primarily
4 an electric utility. In June of 1997, Duke Power Company and PanEnergy Corp.
5 merged to form Duke Energy, a move that transformed Duke Power Company
6 from being primarily an electric utility to a diversified energy company also
7 engaged in pipelines, independent power plants, real estate, and the
8 trading/marketing of electricity and natural gas. In 2002, Duke Energy acquired
9 Westcoast Energy, which further moved Duke Energy's focus away from its
10 traditional electric utility dominated operations.

11
12 Over the past several years, Duke Energy has divested itself of most of its non-
13 utility operations. In addition, in 2006 it merged with Cinergy, thus acquiring
14 additional electric and gas utility operations. In January of 2007, Duke Energy
15 completed its non-utility divesting by spinning-off its mainstream gas operations
16 into a new company Spectra Energy. As a result, Duke Energy is now again
17 primarily an electric utility holding company.

18
19 **Q22. HOW DID THE RATING AGENCIES RESPOND TO DUKE ENERGY'S**
20 **DIVERSIFICATION AND MORE RECENT DIVESTITURES OF ITS NON-**
21 **REGULATED OPERATIONS?**

22 **A22.** As is shown on Schedule DCP-4, page 2, the ratings of Duke Power Company
23 declined in the early 2000s as it engaged in non-utility diversification. More

recently, in 2007, Duke Energy's ratings were upgraded in conjunction with the spin-off of Spectra, its remaining non-utility operation.

Q23. WHAT ARE THE BUSINESS SEGMENT RATIOS OF DUKE ENERGY?

A23. Duke Energy currently organizes its operations into three business segments: 1) U.S. Franchised Electric & Gas, 2) Commercial Power, and 3) International Energy. The relative importance of each segment is shown on Schedule DCP-3 for the period 2005-2007. As this indicates, the utility segments have accounted for the following percentages:

Year	U.S. Electric & Gas		
	Revenues	Net Income ³	Assets
2005	78.7%	117.9%	34.2%
2006	76.4%	118.4%	50.0%
2007	76.6%	103.2%	72.3%

This demonstrates that the U.S. utility segment of Duke Energy is the largest and most profitable segment.

Q24. WHAT ARE THE CURRENT BOND RATINGS OF DE-OHIO?

A24. As is shown on Schedule DCP-4, the most recent bond ratings of DE-Ohio are:

Moody's	Baa1
Standard & Poor's	A-

³ These percentages exceed 100 percent since certain other subsidiaries have negative net income, as well as reconciling eliminations, as shown on DCP-Schedule 3.

1 As this indicates, DE-Ohio's bonds presently carry high triple B to low single A
2 ratings by the two major rating agencies who rate the Company's debt. Those
3 ratings are consistent with the other subsidiaries of Duke Energy.

4
5 **Q25. WHAT HAS BEEN THE TREND IN DE-OHIO'S DEBT RATINGS?**

6 **A25.** As Schedule DCP-4 indicates, the Company's debt ratings were raised from BBB
7 to A- in 2007.

8
9 **Q26. HOW HAVE THE RATING AGENCIES RECENTLY DESCRIBED DE-**
10 **OHIO?**

11 **A26.** In an October 3, 2008 RatingsDirect report on DE-Ohio, Standard & Poor's
12 stated:

13 **Rationale**

14 The ratings on Duke Energy Ohio reflect the credit profile of the
15 parent Duke Energy Corp, Duke Energy's 'excellent' business risk
16 profile is characterized by stable regulated utility operations that
17 provide more than 85 percent of consolidated operating income
18 with operations in five states.

19 Duke Energy Ohio is an electric and natural gas utility with
20 operations in southwestern Ohio. Its business risk profile is
21 'excellent.' The company contributes about 15 percent of Duke
22 Energy's total operating income and service a service territory with
23 670,000 electric and 511,000 gas customers that demonstrates

1 modest growth. About 90 percent of Duke Energy Ohio's
2 revenues come from regulated and quasi-regulated electric utility
3 operations, while the balance is from regulated natural gas
4 operations.

5
6 ***Q27. WHAT ARE YOUR CONCLUSIONS REGARDING THE PERCEIVED***
7 ***CREDIT QUALITY OF DE-OHIO, BASED UPON THE PREVIOUSLY-***
8 ***CITED MOODY'S AND S&P REPORTS?***

9 ***A27.*** From these reports, I believe that the outlook of DE-Ohio is strong and stable, as
10 evidenced by its high triple-B and low single-A ratings.

11
12 **VI. CAPITAL STRUCTURE AND COST OF DEBT**
13

14 ***Q28. WHAT IS THE IMPORTANCE OF DETERMINING A PROPER CAPITAL***
15 ***STRUCTURE IN A REGULATORY FRAMEWORK?***

16 ***A28.*** A utility's capital structure is important since the concept of rate base - rate of
17 return regulation requires that a utility's capital structure be determined and
18 utilized in estimating the total cost of capital. Within this framework, it is proper
19 to ascertain whether the utility's capital structure is appropriate relative to its level
20 of business risk and relative to other comparable utilities.

21
22 As discussed in Section III of my testimony, the purpose of determining the
23 proper capital structure for a utility is to help ascertain the capital costs of the

1 company. The rate base - rate of return concept recognizes the assets which are
2 employed in providing utility services and provides for a return on these assets by
3 identifying the liabilities and common equity (and their cost rates) which are used
4 to finance the assets. In this process, the rate base is derived from the asset side
5 of the balance sheet and the cost of capital is derived from the liabilities/owners'
6 equity side of the balance sheet. The inherent assumption in this procedure is that
7 the dollar values of the capital structure and the rate base are approximately equal
8 and the former is utilized to finance the latter.

9 The common equity ratio (i.e., the percentage of common equity in the capital
10 structure) is the capital structure item which normally receives the most attention.
11 This is the case because common equity: (1) usually commands the highest cost
12 rate; (2) generates associated income tax liabilities; and (3) causes the most
13 controversy because its cost cannot be precisely determined.

14
15 **Q29. HOW HAVE YOU EVALUATED THE CAPITAL STRUCTURE OF DE-**
16 **OHIO?**

17 **A29.** I have examined the five year historic (2003-2007) capital structure ratios of DE-
18 Ohio and Duke Energy. These are shown on Schedule DCP-5.

19
20 Page 1 shows the capital structure ratios of DE-Ohio. The common equity ratios
21 are shown below, depending on whether the short-term ("S-T") debt is included
22 or excluded from the total capital:

<u>Year</u>	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
2003	51.9%	54.4%
2004	49.4%	54.3%
2005	50.9%	54.9%
2006	76.2%	80.2%
2007	77.1%	78.5%
2008	56.0%	58.3%

Page 2 shows Duke Energy's capital structure ratios, when common equity ratios are:

<u>Year</u>	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
2003	38.4%	39.8%
2004	46.6%	49.3%
2005	50.6%	53.1%
2006	56.4%	59.0%
2007	64.3%	69.1%

***Q30. HOW DO THESE CAPITAL STRUCTURE RATIOS COMPARE TO THE
ELECTRIC UTILITY INDUSTRY?***

A30. I prepared Schedule DCP-6 to make this comparison. This shows the 2003-2007 capital structure ratios of the two groups of electric utilities followed by AUS Utility Reports, including short-term debt. The average common equity ratios are:

<u>Year</u>	<u>Electric</u>	<u>Electric & Gas</u>
2003	42%	38%
2004	47%	43%
2005	44%	47%
2006	45%	44%
2007	47%	46%

1 These common equity ratios are significantly lower than those of DE-Ohio and
2 Duke Energy. This indicates lower financial risk for DE-Ohio.

3

4 ***Q31. WHAT CAPITAL STRUCTURE RATIO HAS DE-OHIO REQUESTED IN***
5 ***THIS PROCEEDING?***

6 ***A31.*** The Company requests use of the following capital structure:

7	<u>Capital Item</u>	<u>Percentage</u>
8	Long-Term Debt	41.72%
9	Common Equity	58.28%

10 According to DE-Ohio witnesses De May and Smith, these values are the March
11 31, 2008 consolidated capital structure ratios of DE-Ohio after certain
12 adjustments to remove the impact of purchase accounting related to the Duke
13 Energy/Cinergy merger and to eliminate the impact of the generation assets
14 contributed to DE-Ohio by Duke Energy North America ("DENA").

15

16 ***Q32. WHAT CAPITAL STRUCTURE DO YOU PROPOSE TO USE IN THIS***
17 ***PROCEEDING?***

18 ***A32.*** I propose to use the same capital structure proposed by DE-Ohio.

19

20 ***Q33. HOW DOES YOUR PROPOSED CAPITAL STRUCTURE COMPARE TO***
21 ***THE CAPITAL STRUCTURE PROPOSED IN THE STAFF REPORT?***

22 ***A33.*** The Staff Report proposes a capital structure comprised of 48.41 percent long-
23 term debt and 51.59 percent common equity. This capital structure reflects the

1 average capital structure of the "comparable group" used by the Staff to estimate
2 DE-Ohio's cost of equity.
3

4 ***Q34. WHAT IS THE COST OF LONG-TERM DEBT IN THE COMPANY'S***
5 ***APPLICATION?***

6 ***A34.*** The Company's Application cites a long-term debt cost of 6.45 percent. Company
7 Witness De May cites this as the actual cost of long-term debt to DE-Ohio as of
8 March 31, 2008, the date certain for this case.
9

10 ***Q35. WHAT COST OF LONG-TERM DEBT DO YOU USE IN YOUR COST OF***
11 ***CAPITAL CALCULATIONS?***

12 ***A35.*** I use the 6.45 percent cost of debt as proposed by DE-Ohio.
13

14 ***Q36. HOW DOES THIS COMPARE TO THE COST OF DEBT PROPOSED IN***
15 ***THE STAFF REPORT?***

16 ***A36.*** The Staff Report accepts the 6.45 percent cost of debt proposed by DE-Ohio.
17

18 ***Q37. DO YOU HAVE ANY ADDITIONAL COMMENTS CONCERNING THE***
19 ***STAFF REPORT'S CAPITAL STRUCTURE AND COST OF DEBT***
20 ***COMPONENTS?***

21 ***A37.*** The Staff Report utilizes a hypothetical capital structure which is the average book
22 value capital structure of a group of electric utilities. This is not consistent with the
23 cost of debt used in the Staff Report, which adopts the debt cost rate of DE-Ohio. I

1 have two concerns with this combination of capital structure and cost of debt. First,
2 the concept of rate of return – rate base regulation implies that the capitalization used
3 for rate making purposes should reflect the capital structure used to attract and raise
4 capital for the Company. In this case, the appropriate capital structure is DE-Ohio's
5 capital structure, and not a hypothetical capital structure. Second, there should be a
6 matching of the utility's capital structure and its cost of debt capital. The Staff
7 Report, in using the capital structure for the proxy companies and DE-Ohio's debt
8 cost rate, has not properly combined capital structure and debt cost rate.

9 In addition, the hypothetical capital structure developed in the Staff Report appear
10 to be inconsistent with Commission precedent.⁴ The Commission has stated:

11 A hypothetical capital structure produces distorted results because
12 the costs associated with the various components of the capital
13 structure are a function of the existing capitalization.

14 * * *

15 In addition, because a potential investor considers actual capital
16 structure in making his or her investment decisions, the use of a
17 *hypothetical capital* structure, which does not necessarily

⁴ *In re Toledo Edison Company*, Case No. 81-620-EL-AIR, Order (June 9, 1982) ("To treat the exchange as if it had not occurred . . . would require us to determine the weighted cost of capital with reference to a *hypothetical capital* structure, a measure we have consistently rejected Further, such an approach runs afoul of the provision of §4909.15(D)(2)(a), Revised Code, which requires the commission to employ a cost rate for debt which reflects the actual embedded cost of debt of the utility in question for purposes of the rate of return determination." Emphasis sic.).

1 correspond to the applicant's capital structure at any point in time,
2 is inappropriate.⁵

3
4 **VII. SELECTION OF COMPARISON GROUPS**

5
6 ***Q38. HOW HAVE YOU ESTIMATED THE COST OF COMMON EQUITY FOR***
7 ***DE-OHIO?***

8 ***A38.*** DE-Ohio is not a publicly traded company. Duke Energy is a publicly-traded
9 company. Consequently, it is possible to directly apply cost of equity models to
10 Duke Energy. However, it is customary to analyze groups of comparable or
11 “proxy” companies to determine the cost of common equity for public utilities.

12
13 I have examined four such groups for comparison to DE-Ohio. The companies of
14 the first group are shown on Schedule DCP-7. This proxy group is derived from
15 the group of publicly-traded electric utilities using the following criteria:

- 16 (1) Currently pays dividends;
17 (2) Market cap of \$10 billion or greater;
18 (3) Electric revenues of 50 percent or greater;
19 (4) Common equity ratio of 40 percent or greater;
20 (5) S&P stock ranking of A or B;
21 (6) S&P and/or Moody's bond ratings of single A; and,

⁵ *In re Dayton Power and Light Company*, Case No. 81-1256-EL-AIR, Order (December 22, 1982), 50 P.U.R.4th 457, 472-473.

1 (7) Value Line safety of 1, 2, or 3.

2
3 I chose these criteria in order to focus on companies that are primarily electric
4 utilities with similar risk and operating characteristics of DE-Ohio and Duke
5 Energy.

6
7 The second and third proxy groups I examined are the groups of S&P and
8 Moody's electric utilities DE-Ohio witness Dr. Morin utilized in his testimony.

9 The fourth group is the seven electric proxy companies used in the Staff Report.
10 By developing my own group of proxy companies, used in conjunction with the
11 groups of proxy companies utilized by DE-Ohio witness Dr. Morin and the Staff
12 Report, I have given consideration to the Company's and Staff's view as to the
13 composition of the proper proxy companies for DE-Ohio and Duke Energy.

14
15 **VIII. DISCOUNTED CASH FLOW ANALYSIS**

16
17 ***Q39. WHAT IS THE THEORY AND METHODOLOGICAL BASIS OF THE***
18 ***DISCOUNTED CASH FLOW MODEL?***

19 ***A39.*** The DCF model is one of the oldest, as well as the most commonly-used, models
20 for estimating the cost of common equity for public utilities. It is my
21 understanding that the PUCO uses the DCF method as a primary model, along
22 with the CAPM, to establish the cost of equity for the utilities it regulates. The

1 DCF model is based on the financial theory which maintains that the value (price)
2 of any security is derived from the present value of all future cash flows.

3

4 The DCF equation is as follows:

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

5

6

where: P = current price

7

D = current dividend rate

8

K = discount rate (cost of capital)

9

g = constant rate of expected growth

10

11 This formula essentially states that the return expected or required by investors is
12 comprised of two factors: the dividend yield (current income) and expected
13 growth in dividends (future income).

14

15 **A. Recommended DCF Analysis**

16

17 **Q40. PLEASE EXPLAIN HOW YOU HAVE EMPLOYED THE DCF MODEL.**

18 **A40.** I have utilized the constant growth DCF model. In doing so, I have combined the
19 current dividend yield for each group of comparable utility stocks described in the
20 previous section with several indicators of expected dividend growth.

21

22 **Q41. HOW DID YOU DERIVE THE DIVIDEND YIELD COMPONENT OF THE**
23 **DCF MODEL?**

1 **A41.** There are several methods which can be used for calculating the dividend yield
2 component. These methods generally differ in the manner in which the dividend
3 rate is employed, i.e., current versus future dividends or annual versus quarterly
4 compounding of dividends. I believe the most appropriate dividend yield
5 component is the following formula:

$$\text{Yield} = \frac{D_0(1 + 0.5g)}{P_0}$$

6
7
8 This dividend yield component recognizes the timing of dividend payments and
9 dividend increases. This formula essentially recognizes that, on average, each
10 proxy company is expected to increase its dividend by the expected growth rate at
11 the middle of the next year, which is a reasonable assumption given that
12 individual companies will increase dividends at various times throughout the year.
13 As such, this yield calculation provides for a proper mechanism for estimating the
14 expected dividend yield in the next year.

15
16 The P_0 in my yield calculation is the average (of high and low) stock price for
17 each company for the most recent three-month period (October-December, 2008).

18 The D_0 is the current annualized dividend rate for each company.

19
20 **Q42. HOW HAVE YOU ESTIMATED THE DIVIDEND GROWTH COMPONENT**
21 **OF THE DCF EQUATION?**

1 **A42.** The dividend growth rate component of the DCF model is usually the most
2 crucial and controversial element involved in this methodology. The objective of
3 estimating the dividend growth component is to reflect the growth expected by
4 investors which is embodied in the price (and yield) of a company's stock. As
5 such, it is important to recognize that individual investors have different
6 expectations and consider alternative indicators in deriving their expectations. A
7 wide array of techniques exists for estimating the growth expectations of
8 investors. As a result, it is evident that no single indicator of growth is always
9 used by all investors. Therefore it is necessary to consider alternative indicators
10 of dividend growth in deriving the growth component of the DCF model.

11 I have considered five indicators of growth in my DCF analyses. These are:

- 12 (1) 5-year (2003-2007) average earnings retention, or fundamental growth;⁶
13 (2) 5-year (2003-2007) average of historic growth in earnings per share
14 ("EPS"), dividends per share ("DPS"), and book value per share
15 ("BVPS");
16 (3) Value Line projections of earnings retention growth;
17 (4) Value Line projections of EPS, DPS, and BVPS; and
18 (5) 5-year (2008-2012) projections of EPS growth as reported in First Call
19 (formerly I/B/E/S).

⁶ This is also known as the internal growth, or BxR.

The combination of these five growth indicators is a representative and appropriate set with which to estimate investor expectations of dividend growth for the groups of comparison companies.

Q43. PLEASE DESCRIBE YOUR DCF CALCULATIONS.

A43. Schedule DCP-8 presents my DCF analysis. Page 1 shows the calculation of the “raw” (i.e., prior to adjustment for growth) dividend yield. Pages 2-3 show the growth rate for the groups of comparison companies. Page 4 shows the DCF calculations, which are presented on several bases: mean, median and range of low-high values. These results can be summarized as follows:

	Mean	Median	Mean Range	Median Range
Parcell Proxy Group	11.0%	10.6%	10.8-12.0%	8.0-10.7%
S&P Electric Group	10.8%	10.6%	10.1-11.6%	8.5-12.6%
Moody's Electric Group	10.8%	10.6%	9.7-12.5%	7.9-11.4%
Staff Report	10.6%	10.3%	9.5-12.7%	8.1-11.9%

I note that these calculations should not be interpreted as my DCF conclusions, but rather as numeric values that form the basis of my quantitative and qualitative analyses of the cost of capital at the current time.

Q44. WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?

A44. Based upon my analyses, I believe a range of 10.5 percent to 11 percent (10.75 percent mid-point) represents the current DCF cost of equity for the comparison groups. This is approximated by the mean and median DCF calculations for the

1 electric utility groups examined in the previous analysis. I have given little
2 weight to the lower end of the DCF results, as well as little weight to the high
3 DCF results, which reflects only one growth rate.
4

5 **B. Critique of Dr. Morin's DCF Analysis**

7 ***Q45. WHAT IS YOUR UNDERSTANDING OF DR. MORIN'S DCF ANALYSES?***

8 ***A45.*** Dr. Morin performs several sets of DCF analyses for two groups of electric
9 utilities. In these analyses, he uses "spot" dividend yields for each company as of
10 May 2008. For the growth rates, he used two indicators of projected EPS growth
11 – Zacks 5-year EPS growth projections and Value Line projections of EPS
12 growth.
13

14 The major problem with Dr. Morin's DCF analyses is the fact that he has used
15 only one indicator of growth – projections of EPS growth. As I indicated in my
16 DCF analysis, it is customary and proper to use alternative measures of growth,
17 including DPS growth.
18

19 Dr. Morin's DCF analyses implicitly assume that investors rely exclusively on
20 EPS projections in making investment decisions. This is a very dubious
21 assumption and Dr. Morin has offered no evidence that it is correct. I note, for
22 example, that Value Line – one of the sources of his growth rate estimates –
23 contains many statistics, both of a historic and projected nature, for the benefit of

1 investors who subscribe to this publication and presumably make investment
2 decisions based at least in part from the information contained in Value Line.
3 Yet, Dr. Morin would have us believe that Value Line subscribers and investors
4 focus exclusively on one single number from this publication.

5
6 ***Q46. IS DR. MORIN PROPOSING A FLOTATION COST ADJUSTMENT?***

7 ***A46.*** Yes, he is proposing a 30 basis point flotation cost adjustment to his DCF and
8 other results for flotation costs.

9
10 ***Q47. WHAT COMMENTS DO YOU HAVE CONCERNING DR. MORIN'S***
11 ***FLOTATION COST ADJUSTMENT?***

12 ***A47.*** Dr. Morin increases each of his cost of equity estimates by 30 basis points as a
13 flotation cost adjustment. There is no need to make a flotation adjustment, as Dr.
14 Morin recommends. A utility should only be allowed to recover from ratepayers
15 its actual, quantifiable levels of issuance costs. Neither Dr. Morin, nor DE-Ohio
16 has demonstrated that the Company has incurred any issuance costs.

17
18 **C. Critique of Staff Report DCF Analysis**
19

20 ***Q48. HOW DO YOUR DCF RESULTS DIFFER FROM THE STAFF REPORT'S***
21 ***DCF RESULTS?***

1 **A48.** My DCF conclusion is a range of 10.5 percent to 11 percent, with a mid-point of
2 10.75 percent. This is less than the 12.56 percent DCF conclusion in the Staff
3 Report.⁷ I disagree with the following aspects of the Staff Report's DCF analysis:

- 4 • The Staff Report's short-term (5 years) growth rate relies exclusively on a
5 single indicator of growth – analysts' forecasts of EPS.⁸ Such a reliance
6 on a single statistic does not reflect investor behavior and is not proper.
- 7 • The Staff Report's reliance on EPS forecasts (i.e., short-term growth)
8 contrasts with the historic growth of gross domestic product ("GDP") as
9 the long-term growth.⁹ It is inconsistent to rely exclusively on historic
10 data for one statistic (long-term growth) and then ignore historic data for
11 another statistic (short-term growth).
- 12 • The Staff Report's long-term (25 plus years) DCF rate is 6.73 percent,¹⁰
13 which reflects the historic growth of GDP. If GDP growth is maintained
14 as an indicator of investor expectations, it is more appropriate to consider
15 projections of GDP.
- 16 • The Staff Report's equity issuance cost adjustment is not appropriate and
17 should be rejected.

⁷ Staff Report at 16.

⁸ Staff Report at 15.

⁹ Staff Report at 15-16.

¹⁰ Staff Report at 130.

**Q49. WHY IS IT IMPROPER TO RELY EXCLUSIVELY ON EPS PROJECTIONS
AS THE GROWTH RATE IN A DCF ANALYSIS?**

A49. A major problem with the Staff Report's DCF analyses is the fact that it has used only one indicator of short-term growth--projections of EPS. As I indicated in my DCF analysis, it is customary and proper to use alternative measures of growth, not just EPS projections.

The Staff Report's DCF analyses implicitly assume that investors rely exclusively on EPS projections when making short-term investment decisions. This is a very dubious assumption, and the Staff Report has offered no evidence that it is correct. As I have already noted, for example, the Value Line publication – one of the sources of the growth rate estimates – contains many statistics, of both a historic and projected nature, for the benefit of Value Line subscribers, who presumably make investment decisions based at least in part from the information contained in Value Line. For example, Value Line publishes both historic and projected growth rates in numerous financial indicators such as EPS, DPS, BVPS, and retention growth. Yet, in a manner similar to Company Witness Morin, the Staff Report would have us believe that Value Line subscribers and investors focus exclusively on one single number from this publication.

I note in this regard that the DCF model is a “cash flow” model. The cash flow to investors in a DCF framework is dividends. The Staff Report DCF analysis, in contrast, does not even consider dividend growth rates.

1 ***Q50. THE STAFF REPORT USED GDP GROWTH AS AN INDICATOR OF DCF***
2 ***GROWTH. DO YOU HAVE ANY COMMENTS ON THIS?***

3 ***A50.*** Yes, I do. The Staff Report uses historic growth of GDP as the long-term growth
4 component in its DCF model. I note that this is inconsistent with its use of
5 projected EPS (and not considering historic growth) in the short-term portion of
6 its DCF model.

7
8 ***Q51. ARE YOU AWARE OF ANY PROJECTIONS OF GDP GROWTH?***

9 ***A51.*** Yes, I am. There are at least two sources of projections of GDP growth. These
10 are:

- 11 • Social Security Administration ("SSA"), and
- 12 • Energy Information Administration ("EIA").

13
14 The two organizations cited above are U.S. government-sponsored organizations.
15 As shown on Schedule DCP-9, the projections of GDP growth by these two
16 organizations were:

17 SSA - 2008-2082 – 4.6 percent

18 EIA – 2005-2030 – 4.4 percent

19
20 Each of these projections is at least 190 basis points below the 6.77 percent GDP
21 figure used in the Staff Report. An adjustment to the Staff Report DCF analysis
22 to correct for the more proper GDP projection would reduce the DCF results of
23 the Staff Report.

1 ***Q52. WHY DO YOU DISAGREE WITH THE EQUITY ISSUANCE COST***

2 ***ADJUSTMENT PROPOSED IN THE STAFF REPORT?***

3 ***A52.*** The Staff Report proposes an equity issuance cost adjustment factor of 1.01904,
4 which reflects a 3.50 percent “generic issuance cost.”¹¹ I disagree with this
5 adjustment. There has been no demonstration by either DE-Ohio or in the Staff
6 Report that the Company has or will incur any common equity issuance costs. As
7 a result, any addition to the cost of equity, as proposed in the Staff Report, simply
8 results in an increment to the return on equity that exceeds the actual cost of
9 equity.

10

11 ***IX. CAPITAL ASSET PRICING MODEL ANALYSIS***

12

13 ***Q53. PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF***
14 ***THE CAPITAL ASSET PRICING MODEL.***

15 ***A53.*** The Capital Asset Pricing Model (“CAPM”) is a version of the risk premium
16 method. The CAPM describes and measures the relationship between a security's
17 investment risk and its market rate of return. The CAPM was developed in the
18 1960s and 1970s as an extension of modern portfolio theory (“MPT”), which
19 studies the relationships among risk, diversification, and expected returns. It is
20 also my understanding that the Commission uses the CAPM model as a primary
21 method with which to establish cost of equity.

¹¹ Staff Report at 16, Schedule D-1.1.

1 ***Q54. HOW IS THE CAPM DERIVED?***

2 ***A54.*** The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

3
4 where: K = cost of equity

5 R_f = risk free rate

6 R_m = return on market

7 β = beta

8 $R_m - R_f$ = market risk premium

9

10 As noted previously, the CAPM is a variant of the risk premium method. I
11 believe the CAPM is generally superior to the simple risk premium method
12 because the CAPM specifically recognizes the risk of a particular company or
13 industry, whereas the simple risk premium method does not.

14

15 ***A. Recommended CAPM Analysis***

16

17 ***Q55. WHAT GROUPS OF COMPANIES HAVE YOU UTILIZED TO PERFORM***
18 ***YOUR CAPM ANALYSES?***

19 ***A55.*** I have performed CAPM analyses for the same four groups of utilities evaluated
20 in my DCF analyses.

21

22 ***Q56. WHAT RATE DID YOU USE FOR THE RISK-FREE RATE?***

23 ***A56.*** The first term of the CAPM is the risk free rate (R_f). The risk-free rate reflects the
24 level of return that can be achieved without accepting any risk.

1 In reality, a truly riskless asset does not exist. In CAPM applications, the risk-
2 free rate is generally recognized by use of U.S. Treasury securities. This follows
3 because Treasury securities are default-free as a result of the government's ability
4 to print money and/or raise taxes to pay its debts.

5
6 Two types of Treasury securities are often utilized as the R_f component - short-
7 term U.S. Treasury bills and long-term U.S. Treasury bonds. I have performed
8 CAPM calculations using the three-month average yield (October-December,
9 2008) for 20-year U.S. Treasury bonds. Over this three-month period, these
10 bonds had an average yield of 3.97 percent.

11
12 ***Q57. WHAT BETAS DID YOU EMPLOY IN YOUR CAPM?***

13 ***A57.*** I utilized the most recent Value Line betas for each company in the groups of
14 comparison utilities. The individual beta values are shown on Schedule DCP-11.

15
16 ***Q58. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM***
17 ***COMPONENT?***

18 ***A58.*** The market risk premium component ($R_m - R_f$) represents the investor-expected
19 premium of common stocks over the risk-free rate, or government bonds. For the
20 purpose of estimating the market risk premium, I considered returns of the S&P
21 500 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury
22 bonds.

Schedule DCP-10 shows the return on equity for the S&P 500 group for the period 1978-2007 (all available years reported by S&P). Schedule DCP-10 also indicates the annual yields on 20-Year U.S. Treasury bonds, as well as the annual differentials (i.e., risk premiums) between the S&P 500 and U.S. Treasury 20-Year bonds. Based upon these returns, I conclude that the risk premium is approximately 6.4 percent.

I have also considered the total returns for the S&P 500 group as well as for long-term government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and geometric means. I have considered the total returns for the entire 1926-2007 period, which are as follows:

	<u>S&P 500</u>	<u>L-T Gov't Bonds</u>	<u>Risk Premium</u>
Arithmetic	12.3%	5.8%	6.5%
Geometric	10.4%	5.5%	4.9%

I conclude from this that the expected risk premium is approximately 5.7 percent (i.e., average of two long-term risk premiums). I believe that a combination of arithmetic and geometric means is appropriate to use for measuring investor expectations.

Q59. WHY IS IT NECESSARY AND PROPER TO CONSIDER BOTH THE ARITHMETIC AND GEOMETRIC AVERAGES?

A59. This is the case since investors have access to, and presumably rely upon, both types of averages. In fact, it is likely that more information is provided to

investors in the form of geometric averages than arithmetic averages. For example, mutual funds report returns based on geometric averages. In addition, Value Line reports both historic and projected growth rates on a geometric basis.

Q60. PLEASE DESCRIBE THE RESULTS OF YOUR CAPM ANALYSIS.

A60. Schedule DCP-11 shows my CAPM results. The results are as follows:

	<u>Mean</u>	<u>Median</u>
Parcell Proxy Group	8.2 percent	8.2 percent
S&P Electric Group	8.1 percent	8.4 percent
Moody's Electric Group	8.3 percent	8.4 percent
Staff Report Group	8.0 percent	8.1percent

Q61. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COST OF EQUITY?

A61. The CAPM results collectively indicate a cost of about 8 percent to 8.5 percent for the four groups of comparison utilities.

B. Critique of Dr. Morin's CAPM Analysis

Q62. WHAT IS YOUR UNDERSTANDING OF COMPANY WINTERSS MORIN'S CAPM ANALYSES?

A62. Dr. Morin performs CAPM analyses for a group of electric utilities (0.82 average beta). He combines a 0.82 beta with a 4.7 percent level cost of long-term (30-

1 year) Treasury bonds (as of July) and a 7.4 percent risk premium to get the
2 following CAPM results:

3
$$K = RF + \beta(RP) = 4.7\% + 0.82 (7.4\%) = 10.8\%$$

4 He then adds a 0.3 percent flotation costs adjustment to this to get an 11.1 percent
5 CAPM result.

6
7 **Q63. DO YOU AGREE WITH THIS CAPM ANALYSIS?**

8 **A63.** No, I do not. I disagree with Dr. Morin's risk-free rate and risk premium
9 components.

10
11 **Q64. WHY DO YOU DISAGREE WITH THE RISK FREE RATE?**

12 **A64.** Dr. Morin uses a risk-free rate of 4.7 percent, which compares to the 3.97 percent
13 rate I used or to the 3.84 percent used by Staff.¹² He describes his risk-free rate as
14 the level of U.S. Treasury 30-year long-bond yields prevailing in "May 2008." I
15 have one primary concern with Dr. Morin's risk-free component.

16
17 The latest three-month average of 20-year Treasury bonds is 3.97 percent. The
18 latest month's yield (i.e., December, 2008) is 3.18 percent. I believe that 3.97
19 percent more properly reflects the risk-free rate than 4.7 percent. I note that even
20 30-year Treasury bonds are less than the 4.7 percent rate used by Dr. Morin. Over
21 the past three months, 30-year Treasury bonds had an average yield of 3.68
22 percent, while the average yield in December, 2008 was 2.87 percent.

¹² Staff Report at 118.

1 **Q65. WHAT IS YOUR DISAGREEMENT WITH DR. MORIN'S MARKET RISK**
2 **PREMIUM COMPONENT?**

3 **A65.** Dr. Morin's 7.4 percent risk premium is derived from two studies: (1) the 1926-
4 2007 Morningstar study showing a 7.1 percent differential between common
5 stocks and the "income component" of Treasury bonds, and (2) a DCF analysis he
6 performed for Value Line's aggregate stock market index and growth forecasts
7 versus long-term Treasury bonds that produced a 7.8 percent differential. I
8 disagree with both of his studies.

9
10 I disagree with the first study since Dr. Morin improperly used "income returns"
11 from the Morningstar study rather than "total returns." What Dr. Morin did was
12 compare the differential between total returns for common stocks (*i.e.*, dividends
13 and capital gains) and only income returns for Treasury bonds. As such, he has
14 ignored the capital gains component of the Treasury bonds return. As I indicated
15 in my earlier testimony, the differential between total returns of common stocks
16 and Treasury bonds is 6.5 percent. In addition, Dr. Morin's use of the
17 Morningstar study only used half of the reported data (arithmetic means) and
18 ignored the other half of the reported data (geometric means).

19
20 Dr. Morin's second study relies upon his conclusion that the "expected return on
21 the aggregate equity market" is 11.99 percent, which he derives by performing
22 DCF analyses for the Value Line aggregate market. He combines a 1.78 percent
23 dividend yield with a projected growth rate of 10.21 percent to arrive at an 11.99

1 percent return. He then adjusts the dividend yield by the growth rate to arrive at
2 his 12.37 percent DCF cost, which he in turn compares to the 4.7 percent 30-year
3 Treasury bond yields to arrive at a 7.67 percent risk premium.

4
5 I do not believe this is an appropriate method by which to estimate the risk
6 premium. Dr. Morin has not demonstrated that the Value Line group of some
7 1,800 stocks is an appropriate standard for the risk premium (which is normally
8 performed by using a smaller sample of large companies, such as the S&P 500).
9 In fact, it is reasonable to conclude that the Value Line group is more risky than
10 the S&P 500 and thus had a higher cost of equity.

11
12 **Q66. PLEASE DESCRIBE DR. MORIN'S "EMPIRICAL" CAPM ANALYSIS.**

13 **A66.** Dr. Morin also employs what he describes as an "empirical" CAPM analysis.
14 This form of the CAPM assumes that beta for an industry understates the
15 industry's volatility and thus risk and it is necessary to substitute the overall
16 market's beta (*i.e.*, 1.0) for one-fourth of the industry's actual beta. Dr. Morin
17 assumed that the appropriate beta in a CAPM analysis is a combination of the
18 actual industry beta with a 75 percent weight and a beta of 1 with a 25 percent
19 weight.

20
21 The use of an empirical CAPM overstates the cost of equity for companies with
22 betas below that of the market. What the empirical CAPM actually does is inflate
23 the CAPM cost for the selected company or industry on one-fourth of its equity

1 and assumes that one-fourth of the company has the risk of the overall market.

2 This essentially creates a hypothetical beta and CAPM result which is not
3 appropriate for DE-Ohio or for other utilities.

4
5 **C. Critique of Dr. Morin's Risk Premium Analysis**

6
7 ***Q67. PLEASE DESCRIBE YOUR UNDERSTANDING OF DR. MORIN'S RISK***
8 ***PREMIUM ANALYSIS.***

9 ***A67.*** Dr. Morin performs two risk premium analyses. Each of these analyses involves
10 the estimation of an equity risk premium over the 4.7 percent long-term Treasury
11 bond yields used as the risk-free rate in his CAPM analyses. The two risk
12 premiums he developed are:

13 Historic risk premium for the electric utility industry; and,

14 Allowed risk premiums for the electric utility industry.

15
16 ***Q68. PLEASE DESCRIBE DR. MORIN'S HISTORIC RISK PREMIUM FOR THE***
17 ***ELECTRIC UTILITY INDUSTRY.***

18 ***A68.*** Dr. Morin's historic risk premium for the electric utility industry involves an
19 examination of the total returns of 20-year Treasury bonds (capital gains/losses
20 plus interest) and Moody's Electric Utilities Index (capital gains/losses plus
21 dividend yield) over the period 1932-2006. The average historical difference
22 between the electric utility returns and the Treasury bond returns was 5.7 percent.
23 To obtain his historic risk premium for the electric utility industry he simply

1 added the 4.7 percent current Treasury bond yield to the 5.7 percent historic risk
2 premium to get a 10.4 percent result. To this he added 0.3 percent for flotation
3 cost to derive his 10.7 percent conclusion.
4

5 ***Q69. DO YOU AGREE WITH THIS METHODOLOGY FOR ESTIMATING THE***
6 ***COST OF EQUITY FOR DE-OHIO?***

7 ***A69.*** No, I do not. Dr. Morin's historic risk premium of 5.7 percent is simply an
8 examination of historical events going back to 1932. He has made no
9 demonstration that economic and financial conditions in 2008 are similar to those
10 over the past seventy plus years. The use of such a methodology implicitly
11 assumes that the events of each of these years can have the same influences at the
12 current time.
13

14 In addition, the risk premiums developed by Dr. Morin are generally dominated
15 by the influence of capital gains in many years. For example, the year 2000 stock
16 return of 71.74 percent reflects a 65.40 percent capital gain component. This high
17 return is sandwiched between two years with negative premiums. I do not believe
18 it is proper to assign DE-Ohio's cost of equity based directly upon a methodology
19 which is dominated by stock market changes and bond market changes.
20

21 It is also apparent that the risk premium level has been very volatile over the
22 1932-2007 period. The highest risk premium was 74.78 percent in 1935 and the
23 lowest was -40.42 percent in 1937. The averages by decade have also been quite

1 different, as is shown on my Schedule DCP-14. This indicates that the decade of
2 the 1950's dominates the risk premium averages with a 14.17 percent premium.
3 The most recent decade (*i.e.*, the 1990's), in contrast, shows a 0.03 percent risk
4 premium. Dr. Morin's methodology weights these equally. It is doubtful that
5 investors place equal weight on events in the 1930's and 1990's in making
6 investment decisions, yet Dr. Morin's risk premium analysis implicitly assumes
7 this is the case.

8
9 ***Q70. PLEASE DESCRIBE DR. MORIN'S ANALYSIS OF ALLOWED RISK***
10 ***PREMIUMS FOR THE ELECTRIC UTILITY INDUSTRY.***

11 ***A70.*** In this phase of his risk premium testimony, Dr. Morin compares the differential
12 between allowed returns on equity for electric utilities and long-term Treasury
13 bonds over the 1999-2008 period (*i.e.*, last 10 years). The average spread over
14 this period was 5.6 percent. Dr. Morin's risk premium analysis is based on
15 authorized returns, as reported by Regulatory Research Associates. This source
16 indicates a declining trend in recent years:

17	2002	11.16%
18	2003	10.97%
19	2004	10.75%
20	2005	10.54%
21	2006	10.36%
22	2007	10.30%
23	2008	10.51%

1 This also has implications for Dr. Morin's risk premium analysis. When the
2 10.51 percent average authorized returns on equity for 2008 is compared to the
3 yields on long-term Treasury bonds for the year 2008 (*i.e.*, 4.84 percent), the 2008
4 "risk premium" is 5.46 percent (*i.e.*, 10.51 percent less 4.84 percent). Combining
5 this with the current yield on long-term Treasury bonds (*i.e.*, 4.49 percent) results
6 in a "risk premium" return on equity of 9.95 percent.

7
8 ***Q71. PLEASE SUMMARIZE YOUR CAPM CONCLUSIONS.***

9 ***A71.*** My CAPM conclusions are a range of 8.0 percent to 8.5 percent.

10
11 **D. Critique of the Staff Report's CAPM Analysis**

12
13 ***Q72. HOW DO YOUR CAPM RESULTS COMPARE TO THE STAFF REPORT'S***
14 ***CAPM RESULTS?***

15 ***A72.*** The Staff Report reaches an 8.30 percent CAPM conclusion,¹³ which is very
16 similar to my CAPM findings. The primary difference in my CAPM analyses and
17 the Staff Report is the Staff Report relies exclusively on arithmetic growth rates
18 from Morningstar,¹⁴ whereas I use both arithmetic and geometric growth rates.

¹³ Staff Report at 16.

¹⁴ Staff Report at 16.

1 **X. RETURN ON EQUITY RECOMMENDATION**

2

3 ***Q73. PLEASE SUMMARIZE THE RESULTS OF YOUR COST OF EQUITY***
4 ***ANALYSES.***

5 ***A73.*** My two methodologies produce the following:

6	<u>Methodology</u>	<u>Range</u>	
7	Discounted Cash Flow	10.5-11.0%	(10.75% Mid-Point)
8	Capital Asset Pricing Model	8.0-8.5%	(8.25% Mid-Point)

8

9 This generally reflects a cost of equity range of 8.25 percent to 10.75 percent.

10

11 ***Q74. WHAT IS YOUR COST OF EQUITY RECOMMENDATION FOR DE-OHIO?***

12 ***A74.*** My recommendation for DE-Ohio is 8.25 percent to 10.75 percent. My specific
13 recommendation for DE-Ohio is 9.5 percent, which is the mid-point of my cost of
14 equity range for the proxy groups.

15

16 ***Q75. PLEASE EXPLAIN HOW THE RECENT AND CURRENT ECONOMIC AND***
17 ***FINANCIAL CRISIS IMPACTS THE COST OF EQUITY FOR DE-OHIO.***

18 ***A75.*** It is well chronicled that, over the past year and especially over the past few
19 months, the United States and global financial markets have been in turmoil. The
20 impacts of this have been far-reaching and extreme, with global credit markets
21 virtually coming to a standstill. This crisis and its impact, however, do not imply
22 that the cost of equity for electric utilities such as DE-Ohio has increased. I say
23 this for the following reasons.

1 First, it must be emphasized that depressed economic conditions and the financial
2 crisis affects virtually all sectors of the economy – households, small businesses,
3 larger commercial and industrials – and, for most of these groups, the impact is
4 greater than it is for DE-Ohio. DE-Ohio is a regulated utility selling a product
5 that has no real substitutes and a product that consumers are limited in what they
6 can do to control the amount they use. As such, DE-Ohio and utilities are
7 partially, if not largely, insulated from the impacts of depressed economic
8 conditions.

9
10 Second, if there is a significant recession, the major impact is to depress the
11 profits of most enterprises. As a result, it is expected that capital costs will
12 decrease if a significant recession occurs which is currently the case. There is no
13 justification for increasing the profit level of a regulated utility such as DE-Ohio
14 at the same time that other enterprises are experiencing lower profits.

15
16 Third, even if DE-Ohio were to incur in the future higher costs of debt and/or
17 other capital costs, these costs would be recognized in rates set in future rate
18 proceeding. Unregulated firms cannot do this.

19
20 Fourth, the United States and global governments are taking extraordinary
21 measures to avoid a further worsening of the current market turmoil. Most of
22 these measures are designed to put liquidity into the credit markets and make
23 credit more accessible again and, in the process, restore more confidence to the

1 financial markets. All of these measures are clearly designed to lower the cost of
2 capital. In this environment, it would be counter-productive to make any claim
3 that DE-Ohio should have a higher return at this time due to the above-cited
4 market turmoil.

5
6 **XI. TOTAL COST OF CAPITAL**

7
8 ***Q76. WHAT IS THE TOTAL COST OF CAPITAL FOR DE-OHIO?***

9 ***A76.*** Schedule DCP-1 reflects the total cost of capital for the Company using my
10 proposed capital structure and cost of long-term debt and my common equity cost
11 recommendation. The resulting total cost of capital is a range of 7.50 percent to
12 8.96 percent, with my recommended cost of capital of 8.23 percent attributable to
13 a 9.50 percent cost of equity.

14
15 ***Q77. DOES YOUR COST OF CAPITAL RECOMMENDATION PROVIDE THE***
16 ***COMPANY WITH A SUFFICIENT LEVEL OF EARNINGS TO MAINTAIN***
17 ***ITS FINANCIAL INTEGRITY?***

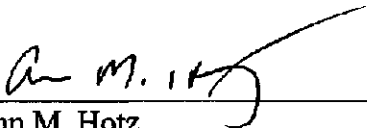
18 ***A77.*** Yes, it does. Schedule DCP-13 shows the pre-tax coverage that would result if
19 DE-Ohio earned my cost of capital recommendation. As the results indicate, the
20 mid-point of my recommended range would produce a coverage level which is
21 above the benchmark range for an A rated utility. In addition, the debt ratio
22 (which reflects the capital structure as proposed by the company) is above that
23 benchmark for an A-rated utility.

1 **Q78. DOES THIS CONCLUDE YOUR TESTIMONY?**

2 **A78.** Yes, it does at this time. However, I reserve the right to incorporate new
3 information that may subsequently become available. I also reserve the right to
4 supplement my testimony to the extent that the PUCO Staff fails to support the
5 recommendations made in the Staff Report and/or changes made in the Staff
6 Report.

CERTIFICATE OF SERVICE

It is hereby certified that a true copy of the foregoing *Direct Testimony of David C. Parcell* was served by Regular U.S. Mail Service, postage prepaid, to the below parties this 26th day of February, 2009.



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DUKE ENERGY OF OHIO

TOTAL COST OF CAPITAL

ITEM	PERCENT	COST RATE		WEIGHTED COST	
Long-Term Debt	41.72%	6.45%		2.69%	
Common Equity	58.28%	8.25%	10.75%	4.81%	6.27%
Total	100.00%			7.50%	8.96%
				8.23%	With 9.5% ROE
				8.23%	

ECONOMIC INDICATORS

Year	Real GDP Growth*	Industrial Production Growth	Unemploy- ment Rate	Consumer Price Index	Producer Price Index
1975 - 1982 Cycle					
1975	-1.1%	-8.9%	8.5%	7.0%	6.6%
1976	5.4%	10.8%	7.7%	4.8%	3.7%
1977	5.5%	5.9%	7.0%	6.8%	6.9%
1978	5.0%	5.7%	6.0%	9.0%	9.2%
1979	2.8%	4.4%	5.8%	13.3%	12.8%
1980	-0.2%	-1.9%	7.0%	12.4%	11.8%
1981	1.8%	1.9%	7.5%	8.9%	7.1%
1982	-2.1%	-4.4%	9.5%	3.8%	3.6%
1983 - 1991 Cycle					
1983	4.0%	3.7%	9.5%	3.8%	0.6%
1984	6.8%	9.3%	7.5%	3.9%	1.7%
1985	3.7%	1.7%	7.2%	3.8%	1.8%
1986	3.1%	0.9%	7.0%	1.1%	-2.3%
1987	2.9%	4.9%	6.2%	4.4%	2.2%
1988	3.8%	4.5%	5.5%	4.4%	4.0%
1989	3.5%	1.8%	5.3%	4.6%	4.9%
1990	1.8%	-0.2%	5.6%	6.1%	5.7%
1991	-0.5%	-2.0%	6.8%	3.1%	-0.1%
1992 - 2001 Cycle					
1992	3.0%	3.1%	7.5%	2.9%	1.6%
1993	2.7%	3.3%	6.9%	2.7%	0.2%
1994	4.0%	5.4%	6.1%	2.7%	1.7%
1995	2.5%	4.8%	5.6%	2.5%	2.3%
1996	3.7%	4.3%	5.4%	3.3%	2.8%
1997	4.5%	7.2%	4.9%	1.7%	-1.2%
1998	4.2%	5.9%	4.5%	1.6%	0.0%
1999	4.5%	4.3%	4.2%	2.7%	2.9%
2000	3.7%	4.2%	4.0%	3.4%	3.6%
2001	0.8%	-3.4%	4.7%	1.6%	-1.6%
Current Cycle					
2002	1.6%	-0.1%	5.8%	2.4%	1.2%
2003	2.5%	1.2%	6.0%	1.9%	4.0%
2004	3.6%	2.5%	5.5%	3.3%	4.2%
2005	2.9%	3.3%	5.1%	3.4%	5.4%
2006	2.8%	2.2%	4.6%	2.5%	1.1%
2007	2.0%	1.7%	4.6%	4.1%	6.2%
2008			5.8%		

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issues.

ECONOMIC INDICATORS

Year	Real GDP Growth*	Industrial Production Growth	Unemploy- ment Rate	Consumer Price Index	Producer Price Index
2002					
1st Qtr.	2.7%	-3.8%	5.6%	2.8%	4.4%
2nd Qtr.	2.2%	-1.2%	5.9%	0.9%	-2.0%
3rd Qtr.	2.4%	0.8%	5.8%	2.4%	1.2%
4th Qtr.	0.2%	1.4%	5.9%	1.6%	0.4%
2003					
1st Qtr.	1.2%	1.1%	5.8%	4.8%	5.6%
2nd Qtr.	3.5%	-0.9%	6.2%	0.0%	-0.5%
3rd Qtr.	7.5%	-0.9%	6.1%	3.2%	3.2%
4th Qtr.	2.7%	1.5%	5.9%	-0.3%	2.8%
2004					
1st Qtr.	3.0%	2.8%	5.6%	5.2%	5.2%
2nd Qtr.	3.5%	4.9%	5.6%	4.4%	4.4%
3rd Qtr.	3.6%	4.6%	5.4%	0.8%	0.8%
4th Qtr.	2.5%	4.3%	5.4%	3.6%	7.2%
2005					
1st Qtr.	3.0%	3.8%	5.3%	4.4%	5.6%
2nd Qtr.	2.6%	3.0%	5.1%	1.6%	-0.4%
3rd Qtr.	3.8%	2.7%	5.0%	8.8%	14.0%
4th Qtr.	1.3%	2.9%	4.9%	-2.0%	4.0%
2006					
1st Qtr.	4.8%	3.4%	4.7%	4.8%	-0.2%
2nd Qtr.	2.7%	4.5%	4.6%	4.8%	5.6%
3rd Qtr.	0.8%	5.2%	4.7%	0.4%	-4.4%
4th Qtr.	1.5%	3.5%	4.5%	0.0%	3.6%
2007					
1st Qtr.	0.1%	2.5%	4.5%	4.8%	6.4%
2nd Qtr.	4.8%	1.6%	4.5%	5.2%	6.8%
3rd Qtr.	4.8%	1.8%	4.6%	1.2%	1.2%
4th Qtr.	-0.2%	2.2%	4.8%	6.4%	10.8%
2008					
1st Qtr.	0.9%	1.8%	4.9%	2.8%	9.6%
2nd Qtr.	2.8%	0.2%	5.4%	7.6%	14.0%
3rd Qtr.	-0.5%	-3.0%	6.1%	2.8%	-0.4%
4th Qtr.			6.9%		

Source: Council of Economic Advisors, Economic Indicators, various Issues.

INTEREST RATES

Year	Prime Rate	US Treas T Bills 3 Month	US Treas T Bonds 10 Year	Utility Bonds Aaa	Utility Bonds Aa	Utility Bonds A	Utility Bonds Baa
1975 - 1982 Cycle							
1975	7.86%	5.84%	7.99%	9.03%	9.44%	10.09%	10.96%
1976	6.84%	4.99%	7.61%	8.63%	8.92%	9.29%	9.82%
1977	6.83%	5.27%	7.42%	8.19%	8.43%	8.61%	9.06%
1978	9.06%	7.22%	8.41%	8.87%	9.10%	9.29%	9.62%
1979	12.67%	10.04%	9.44%	9.86%	10.22%	10.49%	10.96%
1980	15.27%	11.51%	11.46%	12.30%	13.00%	13.34%	13.95%
1981	18.89%	14.03%	13.93%	14.64%	15.30%	15.95%	16.60%
1982	14.86%	10.69%	13.00%	14.22%	14.79%	15.86%	16.45%
1983 - 1991 Cycle							
1983	10.79%	8.63%	11.10%	12.52%	12.83%	13.66%	14.20%
1984	12.04%	9.58%	12.44%	12.72%	13.66%	14.03%	14.53%
1985	9.93%	7.48%	10.62%	11.68%	12.06%	12.47%	12.96%
1986	8.33%	5.98%	7.68%	8.92%	9.30%	9.58%	10.00%
1987	8.21%	5.82%	8.39%	9.52%	9.77%	10.10%	10.53%
1988	9.32%	6.69%	8.85%	10.05%	10.26%	10.49%	11.00%
1989	10.87%	8.12%	8.49%	9.32%	9.56%	9.77%	9.97%
1990	10.01%	7.51%	8.55%	9.45%	9.65%	9.86%	10.06%
1991	8.46%	5.42%	7.86%	8.85%	9.09%	9.36%	9.55%
1992 - 2001 Cycle							
1992	6.25%	3.45%	7.01%	8.19%	8.55%	8.69%	8.86%
1993	6.00%	3.02%	5.87%	7.29%	7.44%	7.59%	7.91%
1994	7.15%	4.29%	7.09%	8.07%	8.21%	8.31%	8.63%
1995	8.83%	5.51%	6.57%	7.68%	7.77%	7.89%	8.29%
1996	8.27%	5.02%	6.44%	7.48%	7.57%	7.75%	8.16%
1997	8.44%	5.07%	6.35%	7.43%	7.54%	7.60%	7.95%
1998	8.35%	4.81%	5.26%	6.77%	6.91%	7.04%	7.26%
1999	8.00%	4.66%	5.65%	7.21%	7.51%	7.62%	7.88%
2000	9.23%	5.85%	6.03%	7.88%	8.06%	8.24%	8.36%
2001	6.91%	3.45%	5.02%	7.47%	7.59%	7.78%	8.02%
Current Cycle							
2002	4.67%	1.62%	4.81%	[1]	7.19%	7.37%	8.02%
2003	4.12%	1.02%	4.01%		6.40%	6.58%	6.84%
2004	4.34%	1.36%	4.27%		6.04%	6.16%	6.40%
2005	6.19%	3.16%	4.29%		5.44%	5.65%	5.93%
2006	7.96%	4.73%	4.80%		5.84%	6.07%	6.32%
2007	8.05%	4.41%	4.83%		5.94%	6.07%	6.33%
2008	5.09%	1.48%	3.66%		6.18%	6.53%	7.25%

[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal Reserve Bulletin; various issues.

INTEREST RATES

Year	Prime Rate	US Treas T Bills 3 Month	US Treas T Bonds 10 Year	Utility Bonds Aaa [1]	Utility Bonds Aa	Utility Bonds A	Utility Bonds Baa
2003							
Jan	4.25%	1.17%	4.06%	[1]	6.87%	7.06%	7.47%
Feb	4.25%	1.16%	3.90%		6.66%	6.93%	7.17%
Mar	4.25%	1.13%	3.81%		6.56%	6.79%	7.05%
Apr	4.25%	1.14%	3.96%		6.47%	6.84%	6.94%
May	4.25%	1.08%	3.57%		6.20%	6.36%	6.47%
June	4.00%	0.95%	3.33%		6.12%	6.21%	6.30%
July	4.00%	0.90%	3.98%		6.37%	6.57%	6.87%
Aug	4.00%	0.96%	4.45%		6.48%	6.78%	7.08%
Sept	4.00%	0.95%	4.27%		6.30%	6.56%	6.87%
Oct	4.00%	0.93%	4.29%		6.28%	6.43%	6.79%
Nov	4.00%	0.94%	4.30%		6.28%	6.37%	6.89%
Dec	4.00%	0.90%	4.27%		6.18%	6.27%	6.51%
2004							
Jan	4.00%	0.89%	4.15%		6.06%	6.15%	6.47%
Feb	4.00%	0.92%	4.06%		6.10%	6.15%	6.28%
Mar	4.00%	0.94%	3.83%		5.93%	5.97%	6.12%
Apr	4.00%	0.94%	4.36%		6.33%	6.35%	6.46%
May	4.00%	1.04%	4.72%		6.66%	6.62%	6.75%
June	4.00%	1.27%	4.73%		6.30%	6.46%	6.84%
July	4.25%	1.35%	4.60%		6.09%	6.27%	6.67%
Aug	4.50%	1.48%	4.28%		5.85%	6.14%	6.45%
Sept	4.75%	1.65%	4.13%		5.79%	5.98%	6.27%
Oct	4.75%	1.75%	4.10%		5.74%	5.94%	6.17%
Nov	5.00%	2.06%	4.19%		5.79%	5.97%	6.16%
Dec	5.25%	2.20%	4.23%		5.78%	5.92%	6.10%
2005							
Jan	5.25%	2.32%	4.22%		5.69%	5.78%	5.95%
Feb	5.50%	2.63%	4.17%		5.55%	5.61%	5.76%
Mar	5.75%	2.75%	4.50%		5.76%	5.83%	6.01%
Apr	5.75%	2.75%	4.34%		5.56%	5.64%	5.95%
May	6.00%	2.86%	4.14%		5.39%	5.53%	5.88%
June	6.25%	2.96%	4.00%		5.05%	5.40%	5.70%
July	6.25%	3.22%	4.18%		5.18%	5.51%	5.81%
Aug	6.50%	3.45%	4.26%		5.23%	5.50%	5.80%
Sept	6.75%	3.47%	4.20%		5.27%	5.52%	5.83%
Oct	6.75%	3.70%	4.48%		5.50%	5.79%	6.08%
Nov	7.00%	3.90%	4.54%		5.69%	5.88%	6.19%
Dec	7.25%	3.89%	4.47%		5.65%	5.80%	6.14%
2006							
Jan	7.50%	4.20%	4.42%		5.50%	5.75%	6.06%
Feb	7.50%	4.41%	4.57%		5.55%	5.82%	6.11%
Mar	7.75%	4.51%	4.72%		5.71%	5.98%	6.26%
Apr	7.75%	4.50%	4.99%		6.02%	6.29%	6.54%
May	8.00%	4.72%	5.11%		6.16%	6.42%	6.59%
June	8.25%	4.76%	5.11%		6.16%	6.40%	6.81%
July	8.25%	4.96%	5.06%		6.13%	6.37%	6.81%
Aug	8.25%	4.96%	4.88%		5.97%	6.20%	6.43%
Sept	8.25%	4.82%	4.72%		5.81%	6.00%	6.26%
Oct	8.25%	4.89%	4.73%		5.80%	5.98%	6.24%
Nov	8.25%	4.96%	4.60%		5.61%	5.80%	6.04%
Dec	8.25%	4.85%	4.56%		5.62%	5.81%	6.05%
2007							
Jan	8.25%	4.96%	4.76%		5.78%	5.96%	6.16%
Feb	8.25%	5.02%	4.72%		5.73%	5.90%	6.10%
Mar	8.25%	4.97%	4.56%		5.66%	5.85%	6.10%
Apr	8.25%	4.88%	4.69%		5.83%	5.97%	6.24%
May	8.25%	4.77%	4.75%		5.86%	5.99%	6.23%
June	8.25%	4.63%	5.10%		6.18%	6.30%	6.54%
July	8.25%	4.84%	5.00%		6.11%	6.25%	6.49%
Aug	8.25%	4.34%	4.67%		6.11%	6.24%	6.51%
Sept	7.75%	4.01%	4.52%		6.10%	6.18%	6.45%
Oct	7.50%	3.97%	4.53%		6.04%	6.11%	6.36%
Nov	7.50%	3.46%	4.16%		5.87%	5.97%	6.27%
Dec	7.25%	3.08%	4.10%		6.03%	6.16%	6.51%
2008							
Jan	6.00%	2.86%	3.74%		5.87%	6.02%	6.35%
Feb	6.00%	2.21%	3.74%		6.04%	6.21%	6.60%
Mar	5.25%	1.38%	3.51%		5.99%	6.21%	6.68%
Apr	5.00%	1.32%	3.68%		5.99%	6.29%	6.82%
May	5.00%	1.71%	3.88%		6.07%	6.27%	6.70%
June	5.00%	1.90%	4.10%		6.19%	6.38%	6.93%
July	5.00%	1.72%	4.01%		6.13%	6.40%	6.97%
Aug	5.00%	1.78%	3.69%		6.09%	6.37%	6.98%
Sept	6.00%	1.46%	3.69%		6.13%	6.48%	7.15%
Oct	4.00%	0.84%	3.81%		6.95%	7.56%	8.58%
Nov	4.00%	0.30%	3.53%		6.83%	7.60%	8.96%
Dec	3.25%	0.04%	2.42%		5.93%	6.54%	8.13%
2009							
Jan					6.01%	6.38%	7.90%

[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal Reserve Bulletin, various issues.

STOCK PRICE INDICATORS

Year	S&P Composite [1]	NASDAQ Composite [1]	DJIA	S&P D/P	S&P E/P
1975 - 1982 Cycle					
1975			802.49	4.31%	9.15%
1976			974.92	3.77%	8.90%
1977			894.63	4.62%	10.79%
1978			820.23	5.28%	12.03%
1979			844.40	5.47%	13.46%
1980			891.41	5.26%	12.66%
1981			932.92	5.20%	11.96%
1982			884.36	5.81%	11.60%
1983 - 1991 Cycle					
1983			1,190.34	4.40%	8.03%
1984			1,178.48	4.64%	10.02%
1985			1,328.23	4.25%	8.12%
1986			1,792.76	3.49%	6.09%
1987			2,275.99	3.08%	5.48%
1988	[1]	[1]	2,060.82	3.64%	8.01%
1989	322.84		2,508.91	3.45%	7.41%
1990	334.59		2,678.94	3.61%	6.47%
1991	376.18	491.69	2,929.33	3.24%	4.79%
1992 - 2001 Cycle					
1992	415.74	599.26	3,284.29	2.99%	4.22%
1993	451.21	715.16	3,522.08	2.78%	4.46%
1994	460.42	751.65	3,793.77	2.82%	5.83%
1995	541.72	925.19	4,493.76	2.56%	6.09%
1996	670.50	1,164.96	5,742.89	2.19%	5.24%
1997	873.43	1,469.49	7,441.15	1.77%	4.57%
1998	1,085.50	1,794.91	8,625.52	1.49%	3.46%
1999	1,327.33	2,728.15	10,464.88	1.25%	3.17%
2000	1,427.22	3,783.67	10,734.90	1.15%	3.63%
2001	1,194.18	2,035.00	10,189.13	1.32%	2.95%
Current Cycle					
2002	993.94	1,539.73	9,226.43	1.61%	2.92%
2003	965.23	1,647.17	8,993.59	1.77%	3.84%
2004	1,130.65	1,986.53	10,317.39	1.72%	4.89%
2005	1,207.23	2,099.32	10,547.67	1.83%	5.36%
2006	1,310.46	2,263.41	11,408.67	1.87%	5.78%
2007	1,477.19	2,578.47	13,169.98	1.86%	5.29%
2008	1,220.04	2,161.65	11,252.62	2.37%	

[1] Note: this source did not publish the S&P Composite prior to 1988 and the NASDAQ Composite prior to 1991.

Source: Council of Economic Advisors, Economic Indicators, various issues.

STOCK PRICE INDICATORS

YEAR	S&P Composite	NASDAQ Composite	DJIA	S&P D/P	S&P E/P
2002					
1st Qtr.	1,131.56	1,879.85	10,105.27	1.39%	2.15%
2nd Qtr.	1,068.45	1,641.53	9,912.70	1.49%	2.70%
3rd Qtr.	894.65	1,308.17	8,487.59	1.76%	3.68%
4th Qtr.	887.91	1,346.07	8,400.17	1.79%	3.14%
2003					
1st Qtr.	860.03	1,350.44	8,122.83	1.89%	3.57%
2nd Qtr.	938.00	1,521.92	8,684.52	1.75%	3.55%
3rd Qtr.	1,000.50	1,765.96	9,310.57	1.74%	3.87%
4th Qtr.	1,056.42	1,934.71	9,856.44	1.69%	4.38%
2004					
1st Qtr.	1,133.29	2,041.95	10,488.43	1.64%	4.62%
2nd Qtr.	1,122.87	1,984.13	10,289.04	1.71%	4.92%
3rd Qtr.	1,104.15	1,872.90	10,129.85	1.79%	5.18%
4th Qtr.	1,162.07	2,050.22	10,362.25	1.75%	4.83%
2005					
1st Qtr.	1,191.98	2,056.01	10,848.48	1.77%	5.11%
2nd Qtr.	1,181.65	2,012.24	10,382.35	1.85%	5.32%
3rd Qtr.	1,225.91	2,144.61	10,532.24	1.83%	5.42%
4th Qtr.	1,262.07	2,246.09	10,827.79	1.86%	5.60%
2006					
1st Qtr.	1,283.04	2,287.97	10,996.04	1.85%	5.61%
2nd Qtr.	1,281.77	2,240.46	11,188.84	1.90%	5.86%
3rd Qtr.	1,288.40	2,141.97	11,274.49	1.91%	5.88%
4th Qtr.	1,389.48	2,390.26	12,175.30	1.81%	5.75%
2007					
1st Qtr.	1,425.30	2,444.85	12,470.97	1.84%	5.85%
2nd Qtr.	1,496.43	2,552.37	13,214.26	1.82%	5.65%
3rd Qtr.	1,490.81	2,609.68	13,488.43	1.86%	5.15%
4th Qtr.	1,494.09	2,701.59	13,502.95	1.91%	4.51%
2008					
1st Qtr.	1,350.19	2,332.91	12,383.86	2.11%	4.57%
2nd Qtr.	1,371.65	2,426.26	12,508.59	2.10%	4.01%
3rd Qtr.	1,251.94	2,290.87	11,322.40	2.29%	3.94%
4th Qtr.	909.80	1,599.64	8,795.61	2.98%	

[1] Note: this source did not publish the S&P Composite prior to 1988 and the NASDAQ Composite prior to 1991.

Source: Council of Economic Advisors, Economic Indicators, various issues.

DUKE ENERGY CORP
SEGMENT RATIOS
2005 -- 2007
(\$millions)

Segment	Operating Revenues	Income From Continuing Operations	Total Assets
2005			
U.S. Franchised Electric & Gas	\$5,432 78.66%	\$1,495 117.90%	\$18,739 34.24%
Commercial Power	\$148 2.14%	-\$118 -9.31%	\$1,419 2.59%
International Energy	\$727 10.53%	\$309 24.37%	\$1,962 3.59%
Duke Energy Consolidated	\$6,906	\$1,268	\$54,723
2006			
U.S. Franchised Electric & Gas	\$8,098 76.35%	\$1,811 118.37%	\$34,346 49.99%
Commercial Power	\$1,331 12.55%	\$47 3.07%	\$6,826 9.94%
International Energy	\$943 8.89%	\$163 10.65%	\$3,332 4.85%
Duke Energy Consolidated	\$10,607	\$1,530	\$68,700
2007			
U.S. Franchised Electric & Gas	\$9,740 76.57%	\$2,305 103.18%	\$35,950 72.33%
Commercial Power	\$1,881 14.79%	\$278 12.44%	\$6,844 13.77%
International Energy	\$1,060 8.33%	\$388 17.37%	\$3,707 7.46%
Duke Energy Consolidated	\$12,720	\$2,234	\$49,704

Note: Totals may not add to 100% due to Reconciling Eliminations and rounding.

Source: Duke Energy Company, Form 10-K.

**DUKE ENERGY AND SUBSIDIARIES
CREDIT RATINGS**

Date	Moody's	Standard & Poor's
Duke Energy Ohio	Baa1	A-
Duke Energy Carolinas	A3	A-
Cinergy Corp	Baa2	BBB+
Duke Energy Indiana	Baa1	A-
Duke Energy Kentucky	Baa1	A-
Duke Energy Corporation	Baa2	A-

Source: Duke Energy Corp., Form 10-K.

**HISTORY OF CREDIT RATINGS
SENIOR UNSECURED**

Year	S&P	Moody's
2003	BBB	Baa1
2004	BBB	Baa1
2005	BBB	Baa1
2006	BBB	Baa1
2007	A-	Baa1
2008	A-	Baa1

Source: Response to OCC-POD-06-046.

**DUKE ENERGY OF OHIO
CAPITAL STRUCTURE RATIOS
2003 - 2008
(\$000)**

YEAR	COMMON EQUITY	PREFERRED STOCK	LONG-TERM DEBT	SHORT-TERM DEBT
2003	\$1,930,708 51.9% 54.4%	\$20,485	\$1,596,767 42.9% 45.0%	\$171,308 4.6%
2004	\$1,918,713 49.4% 54.3%	\$20,485	\$1,591,600 41.0% 45.1%	\$352,912 9.1%
2005	\$1,975,729 50.9% 54.9%	\$20,485	\$1,602,422 41.3% 44.5%	\$282,322 7.3%
2006	\$6,379,243 76.2% 80.2%	\$0	\$1,570,960 18.8% 19.8%	\$423,169 5.1%
2007	\$6,534,087 77.1% 78.5%	\$0	\$1,786,932 21.1% 21.5%	\$153,689 1.8%
2008	\$2,497,379 56.0% 58.3%	\$0	\$1,787,742 40.1% 41.7%	\$173,615 3.9%

Note: Percentages may not total 100.0% due to rounding.

Source: Responses to OCC-POD-04-044 and OCC-INT-11-171.

DUKE ENERGY CORP
CAPITAL STRUCTURE RATIOS
2003 - 2007
(\$000)

YEAR	COMMON EQUITY	PREFERRED STOCK	LONG-TERM DEBT	SHORT-TERM DEBT
2003	\$13,748 38.4% 39.8%	\$134 0.4% 0.4%	\$20,622 57.5% 59.8%	\$1,330 3.7%
2004	\$16,441 46.6% 49.3%	0.0% 0.0%	\$16,932 48.0% 50.7%	\$1,900 5.4%
2005	\$16,439 50.6% 53.1%	0.0% 0.0%	\$14,547 44.8% 46.9%	\$1,483 4.6%
2006	\$26,102 56.4% 59.0%	0.0% 0.0%	\$18,118 39.2% 41.0%	\$2,055 4.4%
2007	\$21,199 64.3% 69.1%	0.0% 0.0%	\$9,498 28.8% 30.9%	\$2,268 6.9%

Note: Percentages may not total 100.0% due to rounding.

Source:

Schedule DCP-6

**AUS UTILITY REPORTS
ELECTRIC UTILITY GROUPS
AVERAGE COMMON EQUITY RATIOS**

Year	Electric	Combination Electric and Gas
2003	42%	38%
2004	47%	43%
2005	44%	47%
2006	45%	44%
2007	47%	46%

Note: Averages include short-term debt.

Source: AUS Utility Reports.

COMPARISON COMPANIES BASIS FOR SELECTION

Company	Market Cap (\$000)	Percent Revenues Electric	Common Equity Ratio	Value Line Safety	S&P Stock Ranking	S&P Bond Rating	Moody's Bond Rating
Duke Energy Corp.	\$24,000,000	71%	69%	2	B	A	A3
Proxy Group*							
Consolidated Edison	\$11,400,000	62%	53%	1	B+	A	A1
Edison International	\$17,000,000	80%	46%	3	B	A	A2
Exelon	\$58,000,000	55%	46%	1	B+	A-	A3
PPL Corp	\$19,000,000	62%	44%	2	B+	A-	A3
Progress Energy	\$11,100,000	100%	49%	2	B	A-	A2
Public Service Enterprise Group	\$22,300,000	66%	46%	3	B+	A-	A3
Southern Co.	\$28,000,000	99%	45%	1	A-	A	A2

* Selected using following criteria:

Market cap of \$10 billion or greater

Electric Revenues of 50% or greater.

Common Equity Ratio of 40% or higher

Value Line Safety of 1, 2 or 3.

S&P Stock Ranking of A or B.

Moody's and S&P bond ratings of A/A.

Currently pays dividends.

Not presently involved in an an aquisition by another company or entity.

Sources: C.A. Turner Utility Reports, Standard & Poor's Stock Guide, Value Line Investment Survey.

**COMPARISON COMPANIES
DIVIDEND YIELD**

COMPANY	DPS	October - December, 2008			YIELD
		HIGH	LOW	AVERAGE	
Proxy Group					
Consolidated Edison	\$2.34	\$44.86	\$34.11	\$39.49	5.9%
Duke Energy	\$0.92	\$17.99	\$13.50	\$15.75	5.8%
Edison International	\$1.24	\$40.94	\$28.73	\$33.84	3.7%
Exelon	\$2.10	\$63.84	\$41.23	\$52.54	4.0%
PPL Corp	\$1.34	\$37.88	\$26.84	\$32.36	4.1%
Progress Energy	\$2.46	\$45.60	\$32.60	\$39.10	6.3%
Public Service Enterprise Group	\$1.29	\$33.72	\$22.09	\$27.91	4.6%
Southern Company	\$1.68	\$38.18	\$29.82	\$34.00	4.9%
Average					4.9%
S&P Electric Distribution Utilities					
American Electric Power	\$1.64	\$37.28	\$25.54	\$31.41	5.2%
Ameren	\$2.54	\$39.15	\$25.51	\$32.33	7.9%
CH Energy Group	\$2.16	\$52.36	\$33.39	\$42.88	5.0%
Consolidated Edison	\$2.34	\$44.86	\$34.11	\$39.49	5.9%
Energy East					
Exelon	\$2.10	\$63.84	\$41.23	\$52.54	4.0%
FirstEnergy	\$2.20	\$66.69	\$41.20	\$53.95	4.1%
Northeast Utilities	\$0.85	\$26.11	\$17.16	\$21.64	3.9%
Nstar	\$1.40	\$36.94	\$25.67	\$31.31	4.5%
Pepco Holdings	\$1.08	\$23.93	\$15.27	\$19.60	5.5%
PPL Corp	\$1.34	\$37.88	\$26.84	\$32.36	4.1%
Public Service Enterprise Group	\$1.29	\$33.72	\$22.09	\$27.91	4.6%
Average					5.0%
Moody's Electric Utilities					
American Electric Power	\$1.64	\$37.28	\$25.54	\$31.41	5.2%
CH Energy Group	\$2.16	\$52.36	\$33.39	\$42.88	5.0%
Consolidated Edison	\$2.34	\$44.86	\$34.11	\$39.49	5.9%
Constellation Energy	\$1.91	\$30.17	\$21.70	\$25.94	7.4%
DPL Inc.	\$1.10	\$24.75	\$18.52	\$21.64	5.1%
DTE Energy	\$2.12	\$40.92	\$27.82	\$34.37	6.2%
Dominion Resources	\$1.58	\$44.46	\$31.26	\$37.86	4.2%
Duke Energy	\$0.92	\$17.99	\$13.50	\$15.75	5.8%
Energy East Corp					
Exelon	\$2.10	\$63.84	\$41.23	\$52.54	4.0%
FirstEnergy	\$2.20	\$66.69	\$41.20	\$53.95	4.1%
IDACORP	\$1.20	\$30.66	\$21.88	\$26.27	4.6%
NiSource Inc.	\$0.92	\$15.59	\$10.35	\$12.97	7.1%
OGE Energy	\$1.39	\$31.41	\$19.56	\$25.49	5.5%
PPL Corp	\$1.34	\$37.88	\$26.84	\$32.36	4.1%
Progress Energy	\$2.46	\$45.60	\$32.60	\$39.10	6.3%
Public Service Enterprise Group	\$1.29	\$33.72	\$22.09	\$27.91	4.6%
Southern Company	\$1.68	\$38.18	\$29.82	\$34.00	4.9%
TECO Energy	\$0.80	\$16.05	\$10.50	\$13.28	6.0%
Xcel Energy	\$0.95	\$20.21	\$15.32	\$17.77	5.4%
Average					5.3%
Staff Report Comparable Group					
Dominion Resources	\$1.58	\$44.46	\$31.26	\$37.86	4.2%
Duke Energy	\$0.92	\$17.99	\$13.50	\$15.75	5.8%
FPL Group	\$1.78	\$51.87	\$33.81	\$42.84	4.2%
PPL Corp	\$1.34	\$37.88	\$26.84	\$32.36	4.1%
Progress Energy	\$2.46	\$45.60	\$32.60	\$39.10	6.3%
Southern Company	\$1.68	\$38.18	\$29.82	\$34.00	4.9%
Xcel Energy	\$0.95	\$20.21	\$15.32	\$17.77	5.4%
Average					5.0%

Source: Yahoo! Finance.

**COMPARISON COMPANIES
RETENTION GROWTH RATES**

COMPANY	2004	2005	2006	2007	2008	Average	2009	2011-2013	Average
Proxy Group									
Consolidated Edison	0.8%	2.6%	2.6%	3.9%	2.0%	2.4%	2.5%	2.5%	2.5%
Duke Energy	-	-	4.1%	2.0%	1.0%	2.4%	2.0%	2.0%	2.0%
Edison International	-	12.3%	10.1%	9.2%	9.0%	10.2%	8.5%	7.0%	7.8%
Exelon	10.7%	11.9%	13.0%	15.3%	12.0%	12.6%	10.5%	14.5%	12.5%
PPL Corp	9.3%	8.8%	9.3%	10.0%	5.5%	8.6%	2.0%	10.5%	6.3%
Progress Energy	2.6%	1.7%	-	0.7%	1.5%	1.6%	2.0%	2.5%	2.3%
Public Service Enterprise Group	3.5%	5.3%	5.3%	9.9%	10.5%	6.9%	11.0%	10.0%	10.5%
Southern Company	4.7%	4.6%	3.8%	4.3%	3.5%	4.2%	4.0%	4.5%	4.3%
Average						6.1%			6.0%
S&P Electric Distribution Utilities									
American Electric Power	5.7%	5.2%	5.7%	5.1%	6.0%	5.5%	6.0%	5.0%	5.5%
Ameren	0.9%	1.7%	0.2%	1.3%	1.0%	1.0%	2.0%	3.5%	2.8%
CH Energy Group	1.7%	2.0%	1.2%	1.6%	-	1.6%	1.0%	2.0%	1.5%
Consolidated Edison	0.8%	2.6%	2.6%	3.9%	2.0%	2.4%	2.5%	2.5%	2.5%
Energy East									
Exelon	10.7%	11.9%	13.0%	15.3%	12.0%	12.6%	10.5%	14.5%	12.5%
FirstEnergy	4.9%	4.2%	7.4%	7.7%	6.5%	6.1%	7.5%	8.0%	7.8%
Northeast Utilities	1.6%	1.5%	0.3%	4.3%	5.5%	2.6%	5.0%	4.5%	4.8%
Nstar	4.8%	4.6%	4.9%	4.9%	5.0%	4.8%	5.0%	5.5%	5.3%
Pecco Holdings	2.5%	2.4%	1.5%	2.3%	3.5%	2.4%	3.0%	4.0%	3.5%
PPL Corp	9.3%	8.8%	9.3%	10.0%	5.5%	8.6%	2.0%	10.5%	6.3%
Public Service Enterprise Group	3.5%	5.3%	5.3%	9.9%	10.5%	6.9%	11.0%	10.0%	10.5%
Average						5.0%			5.7%

Moody's Electric Utilities

COMPARISON COMPANIES PER SHARE GROWTH RATES

COMPANY	5-Year Historic Growth Rates				Est'd '05-'07 to '11-'13 Growth Rates			
	EPS	DPS	BVPS	Average	EPS	DPS	BVPS	Average
Proxy Group								
Consolidated Edison	0.5%	1.0%	3.0%	1.5%	1.0%	1.0%	3.0%	1.7%
Duke Energy	-	-	-	-	4.0%	4.5%	2.0%	3.5%
Edison International	-	-	17.5%	17.5%	5.0%	7.0%	9.0%	7.0%
Exelon	12.5%	23.0%	4.0%	13.2%	8.0%	6.5%	9.0%	7.8%
PPL Corp	6.5%	13.0%	15.0%	11.5%	12.0%	13.0%	8.5%	11.2%
Progress Energy	-4.5%	2.5%	3.0%	0.3%	5.0%	1.0%	2.0%	2.7%
Public Service Enterprise Group	2.5%	1.0%	7.0%	3.5%	10.5%	6.5%	9.5%	8.8%
Southern Company	3.5%	2.5%	3.0%	3.0%	5.5%	4.5%	6.0%	5.3%
Average				7.2%	6.0%			
S&P Electric Distribution Utilities								
American Electric Power	3.0%	-9.0%	-	-3.0%	5.0%	4.0%	6.0%	5.0%
Ameren	-1.5%	-	5.5%	2.0%	4.5%	0.0%	2.0%	2.2%
CH Energy Group	-0.5%	-	1.5%	0.5%	0.5%	0.0%	1.0%	0.5%
Consolidated Edison	0.5%	1.0%	3.0%	1.5%	1.0%	1.0%	3.0%	1.7%
Energy East								
Exelon	12.5%	23.0%	4.0%	13.2%	8.0%	6.5%	9.0%	7.8%
FirstEnergy	6.0%	4.5%	4.5%	5.0%	10.0%	8.5%	7.0%	8.5%
Northeast Utilities	8.5%	9.5%	2.5%	6.8%	12.0%	7.0%	5.5%	8.2%
Nstar	3.5%	3.5%	4.0%	3.7%	7.5%	7.0%	5.5%	6.7%
Pepco Holdings	-4.5%	-	1.0%	-1.8%	13.0%	15.0%	3.0%	10.3%
PPL Corp	6.5%	13.0%	15.0%	11.5%	12.0%	13.0%	8.5%	11.2%
Public Service Enterprise Group	2.5%	1.0%	7.0%	3.5%	10.5%	6.5%	9.5%	8.8%
Average				3.9%	6.4%			

Moody's Electric Utilities

COMPARISON COMPANIES
DCF COST RATES

COMPANY	ADJUSTED YIELD	HISTORIC RETENTION GROWTH	PROSPECTIVE RETENTION GROWTH	HISTORIC PER SHARE GROWTH	PROSPECTIVE PER SHARE GROWTH	FIRST CALL EPS GROWTH	AVERAGE GROWTH	DCF RATES
Proxy Group								
Consolidated Edison	6.0%	2.4%	2.5%	1.5%	1.7%	2.1%	2.0%	8.0%
Duke Energy	3.7%	2.4%	2.0%	-	3.5%	4.5%	3.1%	6.8%
Edison International	4.2%	10.2%	7.8%	17.5%	7.0%	6.6%	9.0%	14.0%
Exelon	4.2%	12.6%	12.5%	13.2%	7.8%	8.4%	10.3%	15.1%
PPL Corp	4.3%	8.5%	6.3%	11.5%	11.2%	12.3%	10.0%	14.3%
Progress Energy	6.4%	1.6%	2.3%	0.3%	2.7%	5.9%	2.5%	8.9%
Public Service Enterprise Group	4.8%	6.5%	10.5%	3.5%	8.8%	6.0%	7.1%	11.9%
Southern Company	4.7%	4.2%	4.3%	3.0%	5.2%	5.5%	4.5%	9.2%
Mean	4.8%	6.1%	6.0%	7.2%	6.8%	6.4%	6.2%	11.0%
Median	4.5%	5.5%	5.3%	3.5%	6.2%	5.9%	5.6%	10.8%
Mean Composite		10.9%	10.8%	12.0%	10.8%	11.2%	11.0%	
Median Composite		10.1%	9.8%	8.8%	10.7%	10.5%	10.3%	
S&P Electric Distribution Utilities								
American Electric Power	5.4%	5.5%	5.5%	-	5.0%	5.1%	5.3%	10.6%
Anheuser	0.0%	1.0%	2.8%	2.0%	2.2%	4.0%	2.4%	10.3%
CH Energy Group	5.1%	1.6%	1.5%	0.5%	0.5%	-	1.0%	8.1%
Consolidated Edison	6.0%	2.4%	2.5%	1.5%	1.7%	2.1%	2.0%	8.0%
Energy East	-	-	-	-	-	-	-	-
Exelon	4.2%	12.6%	12.5%	13.2%	7.8%	8.4%	10.3%	15.1%
FirstEnergy	4.2%	6.1%	7.8%	6.0%	6.5%	9.3%	7.3%	11.6%
Northeast Utilities	4.1%	2.6%	4.8%	6.8%	6.2%	7.2%	5.9%	10.0%
Norfolk	4.6%	4.8%	5.3%	3.7%	6.7%	6.7%	5.4%	10.0%
Pepco Holdings	5.6%	2.4%	3.5%	-	10.3%	4.8%	5.1%	10.7%
PPL Corp	4.3%	8.5%	6.3%	11.5%	11.2%	12.3%	10.0%	14.3%
Public Service Enterprise Group	4.8%	6.5%	10.5%	3.5%	8.8%	6.0%	7.1%	11.9%
Mean	6.1%	6.0%	6.7%	6.3%	6.4%	6.5%	6.7%	10.3%
Median	4.8%	4.8%	5.3%	3.7%	7.8%	6.3%	5.4%	10.6%
Mean Composite		10.1%	10.8%	10.4%	11.5%	11.5%	10.8%	
Median Composite		9.6%	10.0%	8.5%	12.6%	11.1%	10.2%	
Moody's Electric Utilities								
American Electric Power	5.4%	5.5%	5.5%	-	5.0%	5.1%	5.3%	10.6%
CH Energy Group	5.1%	1.6%	1.5%	0.5%	0.5%	-	1.0%	8.1%
Consolidated Edison	6.0%	2.4%	2.5%	1.5%	1.7%	2.1%	2.0%	8.0%
Consolidation Energy	7.6%	8.4%	7.7%	0.0%	13.9%	7.5%	15.1%	15.1%
DPL Inc.	5.3%	7.0%	8.8%	0.8%	6.2%	10.3%	7.2%	12.5%
DTE Energy	6.3%	2.0%	3.0%	1.0%	3.5%	6.0%	5.1%	8.4%
Dominion Resources	4.3%	4.9%	7.3%	2.0%	9.3%	8.2%	6.3%	10.6%
Duke Energy	5.9%	2.4%	2.0%	-	3.5%	4.5%	3.1%	8.0%
Energy East Corp	-	-	-	-	-	-	-	-
Exelon	4.2%	12.6%	12.5%	13.2%	7.8%	8.4%	10.3%	15.1%
FirstEnergy	4.2%	6.1%	7.8%	6.0%	6.5%	9.3%	7.3%	11.6%
IQACORP	4.8%	2.7%	3.5%	-	1.3%	5.0%	3.1%	7.8%
NISource Inc.	7.2%	1.6%	2.0%	2.0%	2.8%	3.0%	2.3%	6.9%
OGE Energy	5.6%	5.2%	5.3%	7.0%	4.8%	6.0%	5.7%	11.3%
PPL Corp	4.3%	8.5%	6.3%	11.5%	11.2%	12.3%	10.0%	14.3%
Progress Energy	6.4%	1.6%	2.3%	0.3%	2.7%	5.9%	2.5%	8.9%
Public Service Enterprise Group	4.8%	6.5%	10.5%	3.5%	8.8%	6.0%	7.1%	11.9%
Southern Company	5.1%	4.2%	4.3%	3.0%	5.3%	5.6%	4.5%	9.5%
TECO Energy	6.2%	3.5%	5.0%	-	5.5%	7.4%	5.0%	11.5%
Xcel Energy	5.5%	3.4%	4.3%	-	4.8%	6.9%	4.8%	10.3%
Mean	5.6%	4.8%	5.3%	4.2%	6.0%	7.0%	5.3%	10.8%
Median	5.4%	4.2%	4.8%	2.5%	4.8%	6.0%	5.3%	10.6%
Mean Composite		10.3%	10.8%	9.2%	10.5%	12.5%	10.8%	
Median Composite		9.5%	10.1%	7.9%	10.2%	11.4%	10.6%	
Staff Report Comparable Group								
Dominion Resources	4.3%	4.9%	7.3%	2.0%	9.3%	8.2%	6.3%	10.6%
Duke Energy	5.9%	2.4%	2.0%	-	3.5%	4.5%	3.1%	8.0%
FPL Group	4.2%	5.5%	7.5%	6.8%	7.8%	9.7%	7.5%	11.7%
PPL Corp	4.3%	8.5%	6.3%	11.5%	11.2%	12.3%	10.0%	14.3%
Progress Energy	6.4%	1.6%	2.3%	0.3%	2.7%	5.9%	2.5%	8.9%
Southern Company	5.1%	4.2%	4.3%	3.0%	5.3%	5.6%	4.5%	9.5%
Xcel Energy	5.5%	3.4%	4.3%	-	4.8%	6.9%	4.8%	10.3%
Mean	5.1%	4.4%	4.8%	4.7%	5.4%	7.0%	5.8%	10.6%
Median	5.1%	4.2%	4.3%	3.0%	5.3%	6.9%	4.8%	10.3%
Mean Composite		9.5%	9.9%	9.8%	11.5%	12.7%	10.6%	
Median Composite		9.2%	9.3%	8.1%	10.4%	11.9%	9.9%	

Note: Negative average values not considered.

Sources: Prior pages of this schedule.

LONG-TERM PROJECTIONS OF GROSS DOMESTIC PRODUCT GROWTH

Social Security Administration

Year	Real GDP	GDP Index	Nominal GDP	Year	Real GDP	GDP Index	Nominal GDP
2008	2.3%	2.0%	4.3%	2049	2.2%	2.4%	4.6%
2009	2.8%	2.1%	4.9%	2050	2.1%	2.4%	4.5%
2010	2.7%	2.4%	5.1%	2051	2.1%	2.4%	4.5%
2011	2.5%	2.4%	4.9%	2052	2.1%	2.4%	4.5%
2012	2.5%	2.4%	4.9%	2053	2.1%	2.4%	4.5%
2013	2.5%	2.4%	4.9%	2054	2.1%	2.4%	4.5%
2014	2.4%	2.4%	4.8%	2055	2.1%	2.4%	4.5%
2015	2.3%	2.4%	4.7%	2056	2.1%	2.4%	4.5%
2016	2.3%	2.4%	4.7%	2057	2.1%	2.4%	4.5%
2017	2.3%	2.4%	4.7%	2058	2.1%	2.4%	4.5%
2018	2.3%	2.4%	4.7%	2059	2.1%	2.4%	4.5%
2019	2.3%	2.4%	4.7%	2060	2.1%	2.4%	4.5%
2020	2.2%	2.4%	4.6%	2061	2.1%	2.4%	4.5%
2021	2.2%	2.4%	4.6%	2062	2.1%	2.4%	4.5%
2022	2.2%	2.4%	4.6%	2063	2.1%	2.4%	4.5%
2023	2.2%	2.4%	4.6%	2064	2.1%	2.4%	4.5%
2024	2.2%	2.4%	4.6%	2065	2.1%	2.4%	4.5%
2025	2.1%	2.4%	4.5%	2066	2.1%	2.4%	4.5%
2026	2.1%	2.4%	4.5%	2067	2.1%	2.4%	4.5%
2027	2.1%	2.4%	4.5%	2068	2.1%	2.4%	4.5%
2028	2.1%	2.4%	4.5%	2069	2.1%	2.4%	4.5%
2029	2.1%	2.4%	4.5%	2070	2.1%	2.4%	4.5%
2030	2.1%	2.4%	4.5%	2071	2.1%	2.4%	4.5%
2031	2.1%	2.4%	4.5%	2072	2.1%	2.4%	4.5%
2032	2.1%	2.4%	4.5%	2073	2.1%	2.4%	4.5%
2033	2.1%	2.4%	4.5%	2074	2.1%	2.4%	4.5%
2034	2.1%	2.4%	4.5%	2075	2.1%	2.4%	4.5%
2035	2.2%	2.4%	4.6%	2076	2.1%	2.4%	4.5%
2036	2.2%	2.4%	4.6%	2077	2.1%	2.4%	4.5%
2037	2.2%	2.4%	4.6%	2078	2.1%	2.4%	4.5%
2038	2.2%	2.4%	4.6%	2079	2.1%	2.4%	4.5%
2039	2.2%	2.4%	4.6%	2080	2.1%	2.4%	4.5%
2040	2.2%	2.4%	4.6%	2081	2.1%	2.4%	4.5%
2041	2.2%	2.4%	4.6%	2082	2.1%	2.4%	4.5%
2042	2.2%	2.4%	4.6%				
2043	2.2%	2.4%	4.6%				
2044	2.2%	2.4%	4.6%				
2045	2.2%	2.4%	4.6%				
2046	2.2%	2.4%	4.6%				
2047	2.2%	2.4%	4.6%	Average			4.6%
2048	2.2%	2.4%	4.6%				

Source: 2007 OASDI Trustees Report.

**LONG-TERM PROJECTIONS OF
GROSS DOMESTIC PRODUCT GROWTH**

Energy Information Administration

Annual Growth (2005-2030):

Real GDP	2.4%
GDP Chain-type Price Index	2.0%
Nominal GDP Growth	4.4%

Source: Energy Information Administration, Annual Energy Outlook
2008 with Projections to 2030.

**STANDARD & POOR'S 500 COMPOSITE
20-YEAR U.S. TREASURY BOND YIELDS
RISK PREMIUMS**

Year	EPS	BVPS	ROE	20-YEAR T-BOND	RISK PREMIUM
1977		\$79.07			
1978	\$12.33	\$85.35	15.00%	7.90%	7.10%
1979	\$14.86	\$94.27	16.55%	8.86%	7.69%
1980	\$14.82	\$102.48	15.06%	9.97%	5.09%
1981	\$15.36	\$109.43	14.50%	11.55%	2.95%
1982	\$12.64	\$112.46	11.39%	13.50%	-2.11%
1983	\$14.03	\$116.93	12.23%	10.38%	1.85%
1984	\$16.64	\$122.47	13.90%	11.74%	2.16%
1985	\$14.61	\$125.20	11.80%	11.25%	0.55%
1986	\$14.48	\$126.82	11.49%	8.98%	2.51%
1987	\$17.50	\$134.04	13.42%	7.92%	5.50%
1988	\$23.75	\$141.32	17.25%	8.97%	8.28%
1989	\$22.87	\$147.26	15.85%	8.81%	7.04%
1990	\$21.73	\$153.01	14.47%	8.19%	6.28%
1991	\$16.29	\$158.85	10.45%	8.22%	2.23%
1992	\$19.09	\$149.74	12.37%	7.26%	5.11%
1993	\$21.89	\$180.88	13.24%	7.17%	6.07%
1994	\$30.60	\$193.06	16.37%	6.59%	9.78%
1995	\$33.96	\$215.51	16.62%	7.60%	9.02%
1996	\$38.73	\$237.08	17.11%	6.18%	10.93%
1997	\$39.72	\$249.52	16.33%	6.64%	9.69%
1998	\$37.71	\$266.40	14.62%	5.83%	8.79%
1999	\$48.17	\$290.68	17.29%	5.57%	11.72%
2000	\$50.00	\$325.80	16.22%	6.50%	9.72%
2001	\$24.70	\$338.37	7.44%	5.53%	1.91%
2002	\$27.59	\$321.72	8.36%	5.59%	2.77%
2003	\$48.73	\$367.17	14.15%	4.80%	9.35%
2004	\$58.55	\$414.75	14.98%	5.02%	9.96%
2005	\$69.93	\$453.06	16.12%	4.69%	11.43%
2006	\$81.51	\$504.39	17.03%	4.68%	12.35%
2007	\$66.17	\$529.59	12.80%	4.86%	7.94%
Average					6.46%

Sources: Standard & Poor's Analysts' Handbook and Ibbotson Associates 2008 Yearbook.

**COMPARISON COMPANIES
CAPM COST RATES**

COMPANY	RISK-FREE RATE	BETA	MARKET PREMIUM	CAPM RATES
Proxy Group				
Consolidated Edison	3.97%	0.65	5.90%	7.8%
Duke Energy	3.97%	0.60	5.90%	7.5%
Edison International	3.97%	0.85	5.90%	9.0%
Exelon	3.97%	0.90	5.90%	9.3%
PPL Corp	3.97%	0.80	5.90%	8.7%
Progress Energy	3.97%	0.60	5.90%	7.5%
Public Service Enterprise Group	3.97%	0.85	5.90%	9.0%
Southern Company	3.97%	0.55	5.90%	7.2%
Mean				8.2%
Median				8.2%
S&P Electric Distribution Utilities				
American Electric Power	3.97%	0.75	5.90%	8.4%
Ameren	3.97%	0.80	5.90%	8.7%
CH Energy Group	3.97%	0.70	5.90%	8.1%
Consolidated Edison	3.97%	0.65	5.90%	7.8%
Energy East	3.97%		5.90%	
Exelon	3.97%	0.90	5.90%	9.3%
FirstEnergy	3.97%	0.85	5.90%	9.0%
Northeast Utilities	3.97%	0.75	5.90%	8.4%
Nstar	3.97%	0.70	5.90%	8.1%
Pepper Holdings	3.97%	0.75	5.90%	8.4%
PPL Corp	3.97%	0.80	5.90%	8.7%
Public Service Enterprise Group	3.97%	0.00	5.90%	4.0%
Mean				8.1%
Median				8.4%
Moody's Electric Utilities				
American Electric Power	3.97%	0.75	5.90%	8.4%
CH Energy Group	3.97%	0.70	5.90%	8.1%
Consolidated Edison	3.97%	0.65	5.90%	7.8%
Constellation Energy	3.97%	0.75	5.90%	8.4%
DPL Inc.	3.97%	0.65	5.90%	7.8%
DTE Energy	3.97%	0.70	5.90%	8.1%
Dominion Resources	3.97%	0.70	5.90%	8.1%
Duke Energy	3.97%	0.60	5.90%	7.5%
Energy East Corp	3.97%		5.90%	
Exelon	3.97%	0.90	5.90%	9.3%
FirstEnergy	3.97%	0.85	5.90%	9.0%
IDACORP	3.97%	0.85	5.90%	9.0%
NiSource Inc.	3.97%	0.75	5.90%	8.4%
OGE Energy	3.97%	0.75	5.90%	8.4%
PPL Corp	3.97%	0.80	5.90%	8.7%
Progress Energy	3.97%	0.60	5.90%	7.5%
Public Service Enterprise Group	3.97%	0.85	5.90%	9.0%
Southern Company	3.97%	0.55	5.90%	7.2%
TECO Energy	3.97%	0.75	5.90%	8.4%
Xcel Energy	3.97%	0.75	5.90%	8.4%
Mean				8.3%
Median				8.4%
Staff Report Comparable Group				
Dominion Resources	3.97%	0.70	5.90%	8.1%
Duke Energy	3.97%	0.60	5.90%	7.5%
FPL Group	3.97%	0.80	5.90%	8.7%
PPL Corp	3.97%	0.80	5.90%	8.7%
Progress Energy	3.97%	0.60	5.90%	7.5%
Southern Company	3.97%	0.55	5.90%	7.2%
Xcel Energy	3.97%	0.75	5.90%	8.4%
Mean				8.0%
Median				8.1%

Sources: Value Line Investment Survey, Standard & Poor's Analysts' Handbook, Federal Reserve.

Company	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FINANCIAL STRENGTH		S&P STOCK RANKING	
Proxy Group						
Consolidated Edison	1	0.65	A+	4.33	B+	3.33
Duke Energy	1	0.60	A	4.00	B	3.00
Edison International	3	0.85	B++	3.67	B	3.00
Exelon	1	0.90	A+	4.33	B+	3.33
PPL Corp	3	0.60	B++	3.67	B+	3.33
Progress Energy	2	0.60	B++	3.67	B	3.00
Public Service Enterprise Group	3	0.85	B++	3.67	B+	3.33
Southern Company	1	0.55	A	4.00	A-	3.67
Average	1.9	0.73	A	3.92	B+	3.25
S&P Electric Distribution Utilities						
American Electric Power	3	0.75	B++	3.67	B	3.00
Ameren	2	0.80	A	4.00	A-	3.67
CH Energy Group	1	0.70	A	4.00	A-	3.67
Consolidated Edison	1	0.65	A+	4.33	B+	3.33
Energy East					B+	3.33
Exelon	1	0.9	A+	4.33	B+	3.33
FirstEnergy	2	0.85	A+	4.00	A-	3.67
Northeast Utilities	3	0.75	B+	3.33	B	3.00
Nstar	1	0.70	A	4.00	A-	3.67
Pepco Holdings	3	0.75	B	3.00	B	3.00
PPL Corp	3	0.8	B++	3.67	B+	3.33
Public Service Enterprise Group	3	0.85	B++	3.67	B+	3.33
Average	2.1	0.77	A-	3.82	B+	3.36
Moody's Electric Utilities						
American Electric Power	3	0.75	B++	3.67	B	3.00
CH Energy Group	1	0.7	A	4	A-	3.67
Consolidated Edison	1	0.65	A+	4.33	B+	3.33
Constellation Energy	3	0.75	B+	3.33	B+	3.33
DPL Inc.	3	0.65	B++	3.67	B+	3.33
DTE Energy	3	0.7	B+	3.33	B	3.00
Dominion Resources	2	0.7	B++	3.67	B+	3.33
Duke Energy	1	0.6	A	4	B	3.00
Energy East Corp					B+	3.33
Exelon	1	0.9	A+	4.33	B+	3.33
FirstEnergy	2	0.85	A+	4	A-	3.67
IDACORP	3	0.85	B+	3.33	B	3.00
NISource Inc.	3	0.75	B+	3.33	B	3.00
OGE Energy	2	0.75	A	4	A-	3.67
PPL Corp	3	0.8	B++	3.67	B+	3.33
Progress Energy	2	0.6	B++	3.67	B+	3.33
Public Service Enterprise Group	3	0.85	B++	3.67	B+	3.33
Southern Company	1	0.55	A	4	A-	3.67
TECO Energy	3	0.75	B	3	B	3.00
Xcel Energy	2	0.75	B++	3.67	B	3.00
Average	2.2	0.73	B++	3.72	B+	3.28
Staff Report Comparable Group						
Dominion Resources	2	0.70	B++	3.67	B+	3.33
Duke Energy	1	0.80	A	4	B	3
FPL Group	1	0.80	A+	4.33	A-	3.67
PPL Corp	3	0.80	B++	3.67	B+	3.33
Progress Energy	2	0.60	B++	3.67	B+	3.33
Southern Company	1	0.55	A	4	A-	3.67
Xcel Energy	2	0.75	B++	3.67	B	3.00
Average	1.7	0.69	B++	3.86	B+	3.33

Source: Value Line Investment Survey.

RISK INDICATORS

GROUP	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FIN STR	S & P STK RANK
S & P's 500 Composite	2.7	1.05	B++	B+
Proxy Group	1.9	0.73	A	B+
S&P Electric Distribution Utilities	2.1	0.77	A-	B+
Moody's Electric Utilities	2.2	0.73	B++	B+
Staff Comparable Group	1.7	0.69	B++	B+

Sources: Value Line Investment Survey, Standard & Poor's Stock Guide.

Definitions:

Safety rankings are in a range of 1 to 5, with 1 representing the highest safety or lowest risk.

Beta reflects the variability of a particular stock, relative to the market as a whole. A stock with a beta of 1.0 moves in concert with the market, a stock with a beta below 1.0 is less variable than the market, and a stock with a beta above 1.0 is more variable than the market.

Financial strengths range from C to A++, with the latter representing the highest level.

Common stock rankings range from D to A+, with the latter representing the highest level.

DUKE ENERGY OF OHIO RATING AGENCY RATIOS

ITEM	PERCENT	COST RATE	WEIGHTED COST	PRE-TAX COST
Long-Term Debt	41.72%	6.45%	2.69%	2.69%
Common Equity	<u>58.28%</u>	9.50%	<u>5.54%</u>	<u>9.23%</u>
TOTAL CAPITAL	100.00%		8.23%	11.92%

$$\text{Pre-tax coverage} = \frac{11.92\% / (2.69\%)}{4.43 \times}$$

Standard & Poor's Utility Benchmark Ratios:

A

Pre-tax coverage (X)
Business Position:

5

3.5 - 4.3x

Total Debt to Total Capital (%)
Business Position

5

42 - 50%

Note: Since 2004, S&P no longer uses the ratio "Pre-tax Coverage" as one of its benchmark ratios. The benchmark levels shown above reflect the 1999 levels cited by S&P.

**RISK PREMIUM BY DECADE AS
DERIVED BY DE-OHIO WITNESS MORIN**

Year	Risk Premium	Risk Premium By Decade	Year	Risk Premium	Risk Premium By Decade
1932	-21.32%		1970	-0.93%	
1933	-22.79%		1971	-10.38%	
1934	-31.59%		1972	-2.27%	
1935	72.01%		1973	-13.87%	
1936	14.27%		1974	-28.22%	
1937	-37.48%		1975	44.15%	
1938	13.62%		1976	11.66%	
1939	3.51%	-1.22%	1977	12.32%	
1940	-25.08%		1978	-2.88%	
1941	-34.06%		1979	5.74%	1.53%
1942	20.33%		1980	12.25%	
1943	55.10%		1981	15.63%	
1944	4.01%		1982	3.61%	
1945	43.97%		1983	10.64%	
1946	9.91%		1984	8.87%	
1947	-14.14%		1985	-1.27%	
1948	5.33%		1986	2.89%	
1949	16.16%	8.15%	1987	-5.07%	
1950	7.15%		1988	6.97%	
1951	20.72%		1989	10.99%	6.55%
1952	16.32%		1990	-2.20%	
1953	6.62%		1991	9.61%	
1954	22.43%		1992	-3.65%	
1955	9.27%		1993	-4.82%	
1956	8.24%		1994	-7.31%	
1957	1.09%		1995	0.98%	
1958	42.03%		1996	3.11%	
1959	7.79%	14.17%	1997	6.25%	
1960	7.17%		1998	8.62%	
1961	33.94%		1999	-10.32%	0.03%
1962	-6.66%		2000	50.09%	
1963	8.50%		2001	-11.34%	
1964	13.16%		2002	-28.38%	
1965	2.20%		2003	22.25%	
1966	-7.93%		2004	20.51%	
1967	4.38%		2005	10.95%	
1968	9.92%		2006	17.25%	11.62%
1969	-10.60%	5.41%			

Source: Calculations made from data contained on Attachment RAM-3.

BACKGROUND AND EXPERIENCE PROFILE
DAVID C. PARCELL, MBA, CRRA
PRESIDENT/SENIOR ECONOMIST

EDUCATION

1985	M.B.A., Virginia Commonwealth University
1970	M.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)
1969	B.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)

POSITIONS

2007-Present	President, Technical Associates, Inc.
1995-2007	Executive Vice President and Senior Economist, Technical Associates, Inc.
1993-1995	Vice President and Senior Economist, C. W. Amos of Virginia
1972-1993	Vice President and Senior Economist, Technical Associates, Inc.
1969-1972	Research Economist, Technical Associates, Inc.
1968-1969	Research Associate, Department of Economics, Virginia Polytechnic Institute and State University

ACADEMIC HONORS

Omicron Delta Epsilon - Honor Society in Economics
Beta Gamma Sigma - National Scholastic Honor Society of Business Administration
Alpha Iota Delta - National Decision Sciences Honorary Society
Phi Kappa Phi - Scholastic Honor Society

PROFESSIONAL DESIGNATIONS

Certified Rate of Return Analyst - Founding Member
Member of Association for Investment Management and Research (AIMR)

RELEVANT EXPERIENCE

Financial Economics -- Advised and assisted many Virginia banks and savings and loan associations on organizational and regulatory matters. Testified approximately 25 times before the Virginia State Corporation Commission and the Regional Administrator of National Banks on matters related to branching and organization for banks, savings and loan associations, and consumer finance companies. Advised financial institutions on interest rate structure and loan maturity. Testified before Virginia State Corporation Commission on maximum rates for consumer finance companies.

Testified before several committees and subcommittees of Virginia General Assembly on numerous banking matters.

Clients have included First National Bank of Rocky Mount, Patrick Henry National Bank, Peoples Bank of Danville, Blue Ridge Bank, Bank of Essex, and Signet Bank.

Published articles in law reviews and other periodicals on structure and regulation of banking/financial services industry.

Utility Economics -- Performed numerous financial studies of regulated public utilities. Testified in over 300 cases before some thirty state and federal regulatory agencies.

Prepared numerous rate of return studies incorporating cost of equity determination based on DCF, CAPM, comparable earnings and other models. Developed procedures for identifying differential risk characteristics by nuclear construction and other factors.

Conducted studies with respect to cost of service and indexing for determining utility rates, the development of annual review procedures for regulatory control of utilities, fuel and power plant cost recovery adjustment clauses, power supply agreements among affiliates, utility franchise fees, and use of short-term debt in capital structure.

Presented expert testimony before federal regulatory agencies Federal Energy Regulatory Commission, Federal Power Commission, and National Energy Board (Canada), state regulatory agencies in Alabama, Alaska, Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Ontario (Canada), Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, West Virginia, Washington, Wisconsin, and Yukon Territory (Canada).

Published articles in law reviews and other periodicals on the theory and purpose of regulation and other regulatory subjects.

Clients served include state regulatory agencies in Alaska, Arizona, Delaware, Missouri, North Carolina, Ontario (Canada), and Virginia; consumer advocates and attorneys general in Alabama, Arizona, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maryland, Nevada, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, and West Virginia; federal agencies including Defense Communications Agency, the Department of Energy, Department of the Navy, and General Services Administration; and various organizations such as Bath Iron Works, Illinois Citizens' Utility Board, Illinois Governor's Office of Consumer Services, Illinois Small Business Utility Advocate, Wisconsin's Environmental Decade, Wisconsin's Citizens Utility Board, and Old Dominion Electric Cooperative.

Insurance Economics -- Conducted analyses of the relationship between the investment income earned by insurance companies on their portfolios and the premiums charged for insurance. Analyzed impact of diversification on financial strength of Blue Cross/Blue Shield Plans in Virginia.

Conducted studies of profitability and cost of capital for property/casualty insurance industry. Evaluated risk of and required return on surplus for various lines of insurance business.

Presented expert testimony before Virginia State Corporation Commission concerning cost of capital and expected gains from investment portfolio. Testified before insurance bureaus of Maine, New Jersey, North Carolina, Rhode Island, South Carolina and Vermont concerning cost of equity for insurance companies.

Prepared cost of capital and investment income return analyses for numerous insurance companies concerning several lines of insurance business. Analyses used by Virginia Bureau of Insurance for purposes of setting rates.

Special Studies -- Conducted analyses which evaluated the financial and economic implications of legislative and administrative changes. Subject matter of analyses include returnable bottles, retail beer sales, wine sales regulations, taxi-cab taxation, and bank regulation. Testified before several Virginia General Assembly subcommittees.

Testified before Virginia ABC Commission concerning economic impact of mixed beverage license.

Clients include Virginia Beer Wholesalers, Wine Institute, Virginia Retail Merchants Association, and Virginia Taxicab Association.

Franchise, Merger & Anti-Trust Economics -- Conducted studies on competitive impact on market structures due to joint ventures, mergers, franchising and other business restructuring. Analyzed the costs and benefits to parties involved in mergers. Testified in federal courts and before banking and other regulatory bodies concerning the structure and performance of markets, as well as on the impact of restrictive practices.

Clients served include Dominion Bankshares, asphalt contractors, and law firms.

Transportation Economics -- Conducted cost of capital studies to assess profitability of oil pipelines, trucks, taxicabs and railroads. Analyses have been presented before the Federal Energy Regulatory Commission and Alaska Pipeline Commission in rate proceedings. Served as a consultant to the Rail Services Planning Office on the reorganization of rail services in the U.S.

Economic Loss Analyses -- Testified in federal courts, state courts, and other adjudicative forums regarding the economic loss sustained through personal and business injury whether due to bodily harm, discrimination, non-performance, or anticompetitive practices. Testified on economic loss to a

commercial bank resulting from publication of adverse information concerning solvency. Testimony has been presented on behalf of private individuals and business firms.

MEMBERSHIPS

American Economic Association
Virginia Association of Economists
Richmond Society of Financial Analysts
Financial Analysts Federation
Society of Utility and Regulatory Financial Analysts
 Board of Directors 1992-2000
 Secretary/Treasurer 1994-1998
 President 1998-2000

RESEARCH ACTIVITY

Books and Major Research Reports

"Stock Price As An Indicator of Performance," Master of Arts Thesis, Virginia Tech, 1970

"Revision of the Property and Casualty Insurance Ratemaking Process Under Prior Approval in the Commonwealth of Virginia," prepared for the Bureau of Insurance of the Virginia State Corporation Commission, with Charles Schotta and Michael J. Ileo, 1971

"An analysis of the Virginia Consumer Finance Industry to Determine the Need for Restructuring the Rate and Size Ceilings on Small Loans in Virginia and the Process by which They are Governed," prepared for the Virginia Consumer Finance Association, with Michael J. Ileo, 1973

State Banks and the State Corporation Commission: A Historical Review, Technical Associates, Inc., 1974

"A Study of the Implications of the Sale of Wine by the Virginia Department of Alcoholic Beverage Control", prepared for the Virginia Wine Wholesalers Association, Virginia Retail Merchants Association, Virginia Food Dealers Association, Virginia Association of Chain Drugstores, Southland Corporation, and the Wine Institute, 1983.

"Performance and Diversification of the Blue Cross/Blue Shield Plans in Virginia: An Operational Review", prepared for the Bureau of Insurance of the Virginia State Corporation Commission, with Michael J. Ileo and Alexander F. Skirpan, 1988.

The Cost of Capital - A Practitioners' Guide, Society of Utility and Regulatory Financial

Analysts, 1997 (previous editions in 1991, 1992, 1993, 1994, and 1995).

Papers Presented and Articles Published

"The Differential Effect of Bank Structure on the Transmission of Open Market Operations," Western Economic Association Meeting, with Charles Schotta, 1971

"The Economic Objectives of Regulation: The Trend in Virginia," (with Michael J. Ileo), William and Mary Law Review, Vol. 14, No. 2, 1973

"Evolution of the Virginia Banking Structure, 1962-1974: The Effects of the Buck-Holland Bill", (with Michael J. Ileo), William and Mary Law Review, Vol. 16, No. 3, 1975

"Banking Structure and Statewide Branching: The Potential for Virginia", William and Mary Law Review, Vol. 18, No. 1, 1976

"Bank Expansion and Electronic Banking: Virginia Banking Structure Changes Past, Present, and Future," William and Mary Business Review, Vol. 1, No. 2, 1976

"Electronic Banking - Wave of the Future?" (with James R. Marchand), Journal of Management and Business Consulting, Vol. 1, No. 1, 1976

"The Pricing of Electricity" (with James R. Marchand), Journal of Management and Business Consulting, Vol. 1, No. 2, 1976

"The Public Interest - Bank and Savings and Loan Expansion in Virginia" (with Richard D. Rogers), University of Richmond Law Review, Vol. 11, No. 3, 1977

"When Is It In the 'Public Interest' to Authorize a New Bank?", University of Richmond Law Review, Vol. 13, No. 3, 1979

"Banking Deregulation and Its Implications on the Virginia Banking Structure," William and Mary Business Review, Vol. 5, No. 1, 1983

"The Impact of Reciprocal Interstate Banking Statutes on The Performance of Virginia Bank Stocks", with William B. Harrison, Virginia Social Science Journal, Vol. 23, 1988

"The Financial Performance of New Banks in Virginia", Virginia Social Science Journal, Vol. 24, 1989

"Identifying and Managing Community Bank Performance After Deregulation", with William B. Harrison, Journal of Managerial Issues, Vol. II, No. 2, Summer 1990

"The Flotation Cost Adjustment To Utility Cost of Common Equity - Theory, Measurement and Implementation," presented at Twenty-Fifth Financial Forum, National Society of Rate of Return Analysts, Philadelphia, Pennsylvania, April 28, 1993.

Biography of Myon Edison Bristow, Dictionary of Virginia Biography, Volume 2, 2001.