OCC EXHIBIT NO _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Vectren Energy Delivery of Ohio, Inc., for	)	Case No. 07-1080-GA-AIR
Authority to Amend its Filed Tariffs to	)	
Increase the Rates and Charges for Gas	)	
Services and Related Matters.	)	

In the Matter of the Application of	)	
Vectren Energy Delivery of Ohio, Inc., for	)	
Approval of An Alternative Rate Plan for	)	Case No. 07-1081-GA-ALT
a Distribution Replacement Rider to	)	
Recover the Costs of a Program for the	)	
Accelerated Replacement of Cast Iron	)	
Mains and Bare Steel Mains and Service	)	
Lines, a Sales Reconciliation Rider to	)	
Collect Difference Between Actual and	)	
Approved Revenues, and Inclusion in	)	
Operating Expense of the Costs of Certain	)	
Reliability Programs.	)	

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

July 23, 2008

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Direct Testimony of David C. Parcell
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No 07-1080-GA-AIR et al.

1   *I.*   *INTRODUCTION*

2

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

4   *A1.*   My name is David C. Parcell. I am President and Senior Economist of Technical

5   Associates, Inc. My business address is Suite 601, 1051 East Cary Street, Richmond,

6   Virginia 23219.

7

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

9   *A2.*   I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic

10   Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia

11   Commonwealth University. I have been a consulting economist with Technical

12   Associates since 1970. The majority of my consulting experience has involved the

13   provision of cost of capital testimony in public utility ratemaking proceedings. I have

14   previously testified in more than 400 utility proceedings before about 40 regulatory

15   agencies in the United States and Canada, including this Commission. Attachment DCP-

16   1 provides a more complete description of my education and relevant business

17   experience.

18

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

20   *A3.*   My testimony will support certain Ohio Consumers' Counsel ("OCC") objections to the

21   Staff Report filed by the Staff of the Public Utilities Commission of Ohio ("PUCO" or

22   "Commission") and address the issues raised by those objections. Specifically, I will

23   evaluate the cost of capital aspects of the current filing of Vectren Energy Delivery of

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1   Ohio, Inc. ("VEDO" "Vectren" or "the Company"). I have performed independent

2   studies and am making recommendations of the current cost of capital for VEDO. In

3   addition, since VEDO is a subsidiary of Vectren Utility Holdings, Inc. ("VUHI") and is

4   an ultimate subsidiary of Vectren Corporation ("Vectren"), I have also evaluated these

5   entities in my analyses.

6

7   **Q4.** *HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY?*

8   *A4.* Yes, I have prepared one exhibit, identified as DCP-Schedule 1 through DCP-Schedule

9   13. This exhibit was prepared either by me or under my direction. The information

10   contained in this exhibit is correct to the best of my knowledge and belief.

11

12   **Q5.** *WHAT DOCUMENTS HAVE YOU REVIEWED IN THE PREPARATION OF YOUR*

13   *TESTIMONY?*

14   *A5.* I have reviewed the portions of VEDO's Rate Case Application that relate to cost of

15   capital issues, including relevant testimonies. I have also reviewed VEDO's responses to

16   Data Requests and Requests For Production of Documents from the OCC, Staff and

17   Eagle Consulting that relate to cost of capital issues. I have further reviewed financial

18   information for VEDO, VUHI, Vectren and the group of proxy companies used in my

19   cost of equity analyses. Finally, I have reviewed the Staff Report filed in this proceeding.

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1   *II.*   **RECOMMENDATIONS AND SUMMARY**

2

3   *Q6.*   ***WHAT ARE YOUR RECOMMENDATIONS IN THIS PROCEEDING?***

4   *A6.*   My overall cost of capital recommendation for VEDO is shown on DCP-Schedule 1 and

5   can be summarized as follows:

6

	Percent	Cost	Return
Long-term Debt	50.30%	6.41%	3.22%
Common Equity	49.70%	9.5-10.25%	4.72-5.09%
Total	100.00%		7.95-8.32%

10   8.13% mid-point

11   This contrasts with VEDO's requested cost of capital of 9.36 percent, which reflects an

12   11.50 percent cost of equity, and with Staff's recommended cost of capital of 8.45 to 8.98

13   percent, which reflects a 9.80 to 10.84 percent cost of equity.

14

15   My recommendation above does not reflect any recognition for the potential Commission

16   approval of VEDO's straight fixed variable ("SFV") rate design and decoupling riders--

17   SRR-A and/or SRR-B. However, should either the SRR-A, SRR-B or SFV be adopted

18   in some form, the Company's cost of equity should be reduced by 0.25-0.50 percent to

19   reflect the reduced risk faced by the Company's shareholders. This reduction reflects the

20   fact that any single one of these risk reducing mechanisms should be acknowledged as a

21   reduction in the cost of equity.

22

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1   *Q7.   PLEASE SUMMARIZE YOUR ANALYSES AND CONCLUSIONS.*

2   *A7.*   This proceeding is concerned with VEDO's regulated natural gas distribution utility

3   operations in Ohio. My analyses are concerned with the Company's total cost of capital.

4   The first step in performing these analyses is the development of the appropriate capital

5   structure. VEDO's proposed capital structure is the consolidated adjusted August 31,

6   2007 capital structure of Vectren. I have used the actual (unadjusted) test period capital

7   structure of Vectren in my testimony.

8

9   The second step in a cost of capital calculation is a determination of the embedded cost

10   rate of debt. VEDO's Rate Case Application requests a 7.02 percent cost rate,[1] which

11   reflects two (of several) debt issues of VUHI. I have used the 6.41 percent cost rate for

12   long-term debt for Vectren on a consolidated basis, which reflects a consistent

13   combination of Vectren's capital structure and cost of debt.

14

15   The third step in the cost of capital calculation is the estimation of the cost of common

16   equity. I have employed two recognized methodologies to estimate the cost of equity for

17   VEDO. Each of these methodologies is applied to three groups of proxy natural gas

18   utilities. These two methodologies and my findings are:

19

Methodology	Range	
Discounted Cash Flow	9.5-10.25%	(9.875% Mid-Point)
Capital Asset Pricing Model	9.5-9.7%	(9.6% Mid-Point)

20

21

---

[1] See Company Filing, Schedule D-3B, Page 2 of 2.

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1   Based upon these findings, it is my conclusion that the cost of common equity for VEDO

2   is within a range from 9.50 percent to 10.25 percent.

3

4   Combining these three steps into a weighted cost of capital results in an overall cost of

5   capital of 7.95 percent to 8.32 percent (i.e., mid-point rate of return of 8.13 percent that

6   incorporates a cost of common equity of 9.90 percent).

7

8   *Q8.*   *ARE YOU RECOMMENDING ANY ADJUSTMENTS TO THESE RESULTS?*

9   *A8.*   Yes. As OCC Witness Novak testifies, the Company is requesting adoption of several

10   regulatory mechanisms, any one of which will be extremely favorable to the Company, if

11   approved.   These mechanisms include an SFV rate design and two decoupling

12   mechanisms (SRR-A and SRR-B) in the interim. It is my understanding that these

13   proposals if adopted in part or whole will reduce the risk of revenue recovery for the

14   company. Thus, I would recommend that the cost of common equity be reduced by 0.25

15   percent per mechanism if the PUCO adopts any one or more of these mechanisms for a

16   maximum reduction in the cost of common equity of 0.50 percent.

17

18   *Q9.*   *ARE YOU AWARE OF OTHER JURISDICTIONS THAT HAVE USED SUCH AN*

19   *APPROACH WHEN SIMILAR REGULATORY MECHANISMS HAVE BEEN*

20   *APPROVED?*

21   *A9.*   Yes. I am personally aware of utility proceedings in which various types of decoupling

22   mechanisms have been accompanied by a reduction in the cost of common equity to

23   reflect the lower risk resulting from the implementation of the mechanisms. One is a

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1   2007 Potomac Electric Power Company proceeding before the Maryland Public Service

2   Commission (Case No. 9092), in which the Company proposed a Bill Stabilization

3   Adjustment ("BSA"), which was in essence a decoupling adjustment intended to insulate

4   the Company from any variation of distribution revenues attributed to conservation,

5   weather effects or price responses by the customer. In its Decision, the Maryland

6   Commission approved the BSA and correspondingly reduced the Company's cost of

7   common equity by 50 basis points. I was a cost of capital witness in that proceeding.

8

9   In addition, in a 2007 CenterPoint Energy Arkansas proceeding before the Arkansas

10   Public Service Commission (Docket No. 06-161-U), the Company proposed a Trial

11   Billing Determinate Adjustment Clause ("TBDAC"), which is also a form of decoupling

12   that is designed to provide an enhanced level of revenues recovery. In this proceeding,

13   CenterPoint Arkansas proposed that the Company's cost of equity should be reduced by

14   35 basis points if the TBDAC was adopted. In a stipulation and settlement in that case, a

15   partial decoupling mechanism was approved and a 10 basis point reduction in the cost of

16   equity was agreed to reflect the risk adjustment. I was also a cost of capital witness in

17   that proceeding.

18

19   *Q10.*   *DOES VEDO'S ANALYSIS ALREADY TAKE INTO ACCOUNT THE IMPACT OF*

20   *THESE RISK REDUCING REGULATORY MECHANISMS?*

21   *A10.* No. VEDO witness Moul recommends an 11.25 percent cost of equity for VEDO, based

22   upon his proxy group of natural gas utilities. The majority of his proxy group companies

23   do not have SFV rate design and/or the level of decoupling requested by VEDO. As a

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1   result, the cost of equity results derived from his models over-state the cost of equity for

2   VEDO if any one or more of these mechanisms are approved.

3

4   **III.**   **_ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES_**

5

6   **_Q11._**   **_WHAT ARE THE PRIMARY ECONOMIC AND LEGAL PRINCIPLES THAT_**

7   **_ESTABLISH THE STANDARDS FOR DETERMINING A FAIR RATE OF_**

8   **_RETURN FOR A REGULATED UTILITY?_**

9   *A11.*   Public utility rates are generally established in a manner designed to allow the recovery

10   of costs, including capital costs. This is frequently referred to as "cost of service"

11   ratemaking. Rates for regulated public utilities traditionally have been primarily

12   established using the "rate base - rate of return" concept. Under this method, utilities are

13   allowed to recover a level of operating expenses, taxes, and depreciation deemed

14   reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of

15   return on the assets utilized (i.e., rate base) in providing service to their customers.

16

17   The rate base is derived from the asset side of the utility's balance sheet as a dollar

18   amount and the rate of return is developed from the liabilities/owners' equity side of the

19   balance sheet as a percentage. Thus, the revenue impact of the cost of capital is derived

20   by multiplying the rate base by the rate of return, including income taxes.

21

22   The rate of return is developed from the cost of capital, which is estimated by weighting

23   the capital structure components (i.e., debt, preferred stock, and common equity) by their

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1   percentages in the capital structure and multiplying these values by their cost rates after

2   multiplying and then adding the individual capital items' weighted percentages. This is

3   also known as the weighted cost of capital.

4

5   Technically, "fair rate of return" is a legal and accounting concept that refers to an *ex*

6   *post* (after the fact) earned return on an asset base, while the cost of capital is an

7   economic and financial concept which refers to an *ex ante* (before the fact) expected or

8   required return on a liability base (i.e., capitalization). In regulatory proceedings,

9   however, the two terms are often used interchangeably. I have equated the two concepts

10   in my testimony.

11

12   From an economic standpoint, a fair rate of return is normally interpreted to mean that an

13   efficient and economically managed utility will be able to maintain its financial integrity,

14   attract capital, and establish comparable returns for similar risk investments. These

15   concepts are derived from economic and financial theory and are generally implemented

16   using financial models and economic concepts.

17

18   Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on

19   my understanding, based on my experience in regulatory proceedings, that two United

20   States Supreme Court decisions provide the controlling standards for a fair rate of return.

21   The first decision is *Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n*

22   *of West Virginia*, 262 U.S. 679 (1923). In this decision, the Court stated:

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

21 a fair rate of return: comparable earnings, financial integrity, and capital attraction. It

22 also noted the changing level of required returns over time as well as an underlying

23 assumption that the utility be operated in an efficient manner.

24

25 The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.,* 320 U.S. 591

26 (1944). In that decision, the Court stated:

27 The rate-making process under the [Natural Gas] Act, i.e., the fixing of
28 'just and reasonable' rates, involves a **balancing** of the **investor and**
29 **consumer interests** . . . . From the investor or company point of view it is
30 important that there be enough revenue not only for operating expenses
31 but also for the capital costs of the business. These include service on the
32 debt and dividends on the stock. By that standard the **return** to the equity
33 owner should be **commensurate** with **returns on investments in other**
34 **enterprises having corresponding risks.** That return, moreover, should
35 be sufficient to assure confidence in the **financial integrity** of the
36 enterprise, so as to **maintain its credit** and to **attract capital. [Emphasis**
37 **added.]**
38

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1   The *Hope* case is also frequently credited with establishing the "end result" doctrine,

2   which maintains that the methods utilized to develop a fair return are not important as

3   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 economic

7   criteria encompassed in the "opportunity cost" principle of economics. The opportunity

8   cost principle provides that a utility and its investors should be afforded an opportunity

9   (not a guarantee) to earn a return commensurate with returns they could expect to achieve

10   on investments of similar risk. The opportunity cost principle is consistent with the

11   fundamental premise, on which regulation rests, namely, that it is intended to act as a

12   surrogate for competition.

13

14   *Q12.   HOW CAN THESE PARAMETERS BE EMPLOYED TO ESTIMATE THE COST*

15   *OF CAPITAL FOR A UTILITY?*

16   *A12.*   Neither the courts nor economic/financial theory have developed exact and mechanical

17   procedures for precisely determining the cost of capital. This is the case because the cost

18   of capital is an opportunity cost and is prospective-looking, which dictates that it must be

19   estimated.

20

21   There are several useful models that can be employed to assist in estimating the cost of

22   equity capital, which is the capital structure item that is the most difficult to determine.

23   These include the discounted cash flow ("DCF"), capital asset pricing model ("CAPM"),

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1   comparable earnings ("CE") and risk premium ("RP") methods. Each of these methods

2   (or models) differs from the others and each, if properly employed, can be a useful tool in

3   estimating the cost of common equity for a regulated utility.

4

5   *Q13.* ***WHICH METHODS HAVE YOU EMPLOYED IN YOUR ANALYSES OF THE***

6   ***COST OF COMMON EQUITY IN THIS PROCEEDING?***

7   *A13.* I have utilized two methodologies to determine VEDO's cost of common equity: the

8   DCF and CAPM methods. I note that I frequently employ a comparable earnings method

9   in my cost of equity analyses, but have not done so in this proceeding since this

10   Commission appears to rely exclusively on the DCF and CAPM methodologies. I have

11   also not employed a RP model in my analyses although, as discussed below, CAPM

12   analysis is a form of the RP methodology.

13

14   *IV.* *GENERAL ECONOMIC CONDITIONS*

15

16   *Q14.* ***WHY ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN***

17   ***DETERMINING THE COSTS OF CAPITAL?***

18   *A14.* The costs of capital, for both fixed-cost (debt and preferred stock) components and

19   common equity, are determined in part by current and prospective economic and

20   financial conditions. At any given time, each of the following factors has an influence on

21   the costs of capital: the level of economic activity (i.e., growth rate of the economy), the

22   stage of the business cycle (i.e., recession, expansion, or transition), and the level of

23   inflation. My understanding is that use of these factors is consistent with the Supreme

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1   Court's *Bluefield* decision, which noted that "[a] rate of return may be reasonable at one

2   time, and become too high or too low by changes affecting opportunities for investment,

3   the money market, and business conditions generally."

4

5   **Q15. *WHAT INDICATORS OF ECONOMIC AND FINANCIAL ACTIVITY HAVE YOU***

6   ***EVALUATED IN YOUR ANALYSES?***

7   *A15.* I have examined several sets of economic statistics from 1975 to the present. I chose this

8   time period because it permits the evaluation of economic conditions over three full

9   business cycles plus the current cycle to date, allowing for an assessment of changes in

10   long-term trends. This period also approximates the beginning and continuation of active

11   rate case activities by public utilities.

12

13   A business cycle is commonly defined as a complete period of expansion (recovery and

14   growth) and contraction (recession). A full business cycle is a useful and convenient

15   period over which to measure levels and trends in long-term capital costs because it

16   incorporates the cyclical (i.e., stage of business cycle) influences, and thus, permits a

17   comparison of structural (or long-term) trends.

18

19   **Q16. *PLEASE DESCRIBE THE TIMEFRAME OF THE THREE PRIOR BUSINESS***

20   ***CYCLES AND THE MOST CURRENT CYCLE.***

21   *A16.* The three prior complete cycles and current cycle cover the following periods:

Business Cycle	Expansion Cycle	Contraction Period
1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991

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	1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001
1	Current	Dec. 2001-Present (?)	

2

3 *Q17.* **DO YOU HAVE ANY GENERAL OBSERVATIONS CONCERNING THE**

4 **CHANGING TRENDS IN ECONOMIC CONDITIONS AND THEIR IMPACT ON**

5 **COSTS OVER THIS BROAD PERIOD?**

6 *A17.* Yes, I do. As I will describe below, the U.S. economy has enjoyed general prosperity

7 and stability since the early 1980s. This period has been characterized by longer

8 economic expansions, relatively tame contractions, relatively low and declining inflation,

9 and declining interest rates and other capital costs. The current business cycle began in

10 late 2001, following a somewhat modest recession earlier in the year. This expansion has

11 been characterized by relatively low interest rates and capital costs. Over the past several

12 months, the economy has slowed, initially as a result of the collapse of the "sub-prime"

13 mortgage market and related financial market ramifications, including the collapse of a

14 major investment institution (Bear Stearns), and more recently the difficulties of the

15 mortgage/housing sector in general, including the recent need for the federal government

16 to provide support to the Federal National Mortgage Association and the Federal Home

17 Loan Mortgage Corp. There is some concern that the economy may slide into (or is

18 already in) a recession, but this is unclear at this time. Should the economy incur a

19 recession, the impacts on cost of capital would likely be characterized by lower utility

20 growth and declining capital costs.

21

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1 *Q18. **PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND FINANCIAL***

2 ***CONDITIONS AND THEIR IMPACT ON THE COSTS OF CAPITAL.***

3 *A18.* DCP-Schedule 2 shows several sets of economic data. Pages 1 and 2 contain general

4 macroeconomic statistics while Pages 4 through 6 contain financial market statistics.

5 Pages 1 and 2 of DCP-Schedule 2 show that the U.S. economy is currently beginning the

6 seventh year of an economic expansion although, as indicated previously, the economy is

7 currently slowing and may be in a recession. This is indicated by the growth in real (i.e.,

8 adjusted for inflation) Gross Domestic Product, industrial production, and the

9 unemployment rate. This current expansion has generally been characterized as slower

10 growth, in comparison to prior expansions. This has resulted in lower inflationary

11 pressures and interest rates. In addition, the current slowing of the economy has resulted

12 in a significant lowering of interest rates.

13

14 The rate of inflation is also shown on Pages 1 and 2 of DCP-Schedule 2. As is reflected

15 in the Consumer Price Index ("CPI"), for example, inflation rose significantly during the

16 1975-1982 business cycle and reached double-digit levels in 1979 and 1980. The rate of

17 inflation declined substantially in 1981 and remained at or below 6.1 percent during the

18 1983-1991 business cycle. Since 1991, the annual CPI has been 4.1 percent or lower.

19 The 4.1 percent rate of inflation in 2007 was slightly above the levels since 2000, but is

20 well below the average level of the past thirty years. I note that even if a moderate

21 increase in the inflation rate were to occur, it would still result in interest rates below that

22 of much of the past three business cycles. In addition, such increases would not compare

23 to the very high levels of inflation that prevailed in the 1970s and early 1980s.

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1   *Q19.   WHAT HAVE BEEN THE TRENDS IN INTEREST RATES?*

2   *A19.*   Pages 3 and 4 of DCP-Schedule 2 show several series of interest rates. Rates rose

3   sharply to record levels in 1975-1981 when the inflation rate was high and generally

4   rising. Interest rates declined substantially in conjunction with inflation rates throughout

5   the remainder of the 1980s throughout the 1990s. Interest rates declined even further

6   from 2000-2005 and generally recorded their lowest levels since the 1960s. After 2005,

7   interest rates have shown some upward movement, but are still below their 2002 levels.

8

9   During the past several years, long-term interest rates have remained low by historic

10   standards. During the 2001 recession and early in the succeeding expansion, the Federal

11   Reserve lowered interest rates (i.e., Federal Funds rate) 11 times in 2001 and twice in

12   2003 in an effort to stimulate the economy. Subsequent to these declines, the Federal

13   Reserve increased short-term interest rates on 17 occasions between 2004 and 2006,

14   although each time the increase was only 0.25 percent, in an attempt to ensure that any

15   perceived inflationary expectations would not stifle continued economic growth.

16   Nevertheless, this did not result in a pronounced increase in long-term rates. Most

17   recently, however, the Federal Reserve has lowered the Federal Funds rate (i.e., short-

18   term rate) on several occasions. The Federal Reserve is presently focusing on the

19   somewhat conflicting goals of stimulating the economy and controlling inflation.

20

21   *Q20.   WHAT HAVE BEEN THE TRENDS IN COMMON SHARE PRICES?*

22   *A20.*   Pages 5 and 6 of DCP-Schedule 2 show several series of common stock prices and ratios.

23   These indicate that share prices were essentially stagnant during the high

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1   inflation/interest rate environment of the late 1970s and early 1980s. On the other hand,

2   the 1983-1991 business cycle and the most recent cycle have witnessed a significant

3   upward trend in stock prices. During the initial years of the current expansion, however,

4   stock prices were volatile and declined substantially from their highs reached in 1999 and

5   early 2000. Share prices have increased somewhat since 2003 but have been volatile.

6   Over the past several months, stock prices have experienced a substantial "correction."

7

8   *Q21. WHAT CONCLUSIONS DO YOU DRAW FROM THIS DISCUSSION OF*

9   *ECONOMIC AND FINANCIAL CONDITIONS?*

10   *A21.* It is apparent that capital costs are currently low in comparison to the levels that have

11   prevailed over the past three decades. In addition, the current weakness in the economy

12   has resulted in a decline in capital costs. Therefore, it can reasonably be expected that

13   cost of equity models currently produce returns that are lower than returns experienced in

14   prior years.

15

16   *V.   VEDO'S OPERATIONS AND RISKS*

17

18   *Q22. PLEASE SUMMARIZE VEDO AND ITS OPERATIONS.*

19   *A22.* VEDO is an operating gas distribution company. The Company is engaged in the

20   business of purchasing, transporting and distributing natural gas to residential,

21   commercial, and industrial customers in portions of West-Central Ohio. VEDO obtains

22   its external debt and equity capital from VUHI, which raises debt capital for use in

23   VEDO and the other utility subsidiaries of Vectren.

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1 *Q23. PLEASE DESCRIBE VECTREN.*

2 *A23.* Vectren is a utility holding company whose principal utility subsidiaries are VEDO,

3 Indiana Gas Company, Inc., and Southern Indiana Gas and Electric Co. All of these

4 subsidiaries are owned by VUHI. Other major subsidiaries of Vectren are Vectren

5 Communications, Vectren Financial Group, Inc. Vectren Ventures, Inc. and Vectren

6 General Services, Inc.[2]

7

8 *Q24. WHAT ARE THE SEGMENT RATIOS OF VECTREN?*

9 *A24.* Vectren organizes its operations into four business segments: 1) gas utility services, 2)

10 electric utility services, 3) other utility operations, and 4) non-utility group. The relative

11 importance of each segment is shown on DCP-Schedule 3 for the period 2005-2007. As

12 this indicates, the utility segments have accounted for the following percentages:

13

	Gas Utility			Electric Utility		
Year	Revenues	Net Income	Assets	Revenues	Net Income	Assets
2005	67.0%	25.4%	N/A	20.8%	36.8%	N/A
2006	60.4%	38.1%	47.7%	20.7%	38.2%	31.2%
2007	55.6%	29.1%	53.2%	21.4%	36.8%	31.9%

17
18 This demonstrates that the gas utility segment of Vectren is the largest and generally

19 forms a majority for the consolidated operations, in terms of revenues and assets.

20

21 *Q25. WHAT ARE THE CURRENT SECURITY RATINGS OF VUHI?*

22 *A25.* As is shown on DCP-Schedule 4, the current bond ratings of VUHI are:

23 Moody's   Baa1

---

[2] See Attachment DCP-2 (VEDO response to OCC Interrogatory No. 92).

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1   Standard & Poor's   A-

2   As this indicates, VUHI's bonds presently carry high triple B to low single A ratings by

3   the two major rating agencies who rate the Company's debt.

4

5   *Q26.* *WHAT HAS BEEN THE TREND IN VUHI'S DEBT RATINGS?*

6   *A26.* This is also depicted on DCP-Schedule 4. As this DCP-Schedule indicates, the

7   Company's debt ratings have been the same since 2002. This also reflects the debt

8   ratings of Vectren and its other utility subsidiaries.

9

10   *Q27.* *HOW HAVE THE RATING AGENCIES RECENTLY DESCRIBED VUHI?*

11   *A27.* An example of this is provided in a July 12, 2007 RatingsDirect report on VUHI by

12   Standard & Poor's which stated:

13   The **rating on Vectren Utility Holdings**, Inc. reflects our **consolidated**
14   **rating methodology** that is based on the credit strength of the Vectren
15   Corp. family of companies, which consist of regulated electric and gas
16   operations and unregulated activities. The business risk profile scores of
17   Vectren Utility Holdings and Vectren are '3' (strong) and '4' (strong),
18   respectively. (Business risk profiles are categorized from '1' (excellent)
19   to '10' (vulnerable)). As of March 31, 2007, Evansville, In.-based
20   Vectren had about $1.5 billion of debt.
21
22   Vectren Utility Holdings serves as the intermediate holding company for
23   its three operating public utilities, Southern Indiana Gas & Electric Co.
24   (SIGECO), Indiana Gas Co., and Vectren Energy Delivery of Ohio
25   (VEDO). SIGECO, Indiana Gas, and VEDO have about 141,000 electric
26   and 995,000 gas customers in southern and central Indiana and west-
27   central Ohio. Vectren is also the parent of Vectren Enterprises Corp.
28   (Enterprises), the holding company for Vectren's unregulated businesses.
29   Vectren Capital (guaranteed by Vectren Corp.) is the financing arm for
30   Enterprises.
31
32   In the past three years, regulated earnings accounted for about 75% of
33   total net income. The annual earnings contribution from electric and gas

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1   operations is split about 50/50.   Standard & Poor's Ratings Services
2   expects regulated operations to provide about 70% of Vectren's net
3   income in the next few years.
4   Vectren's funds from operations (FFO) interest coverage benefits from the
5   company's low, embedded cost of debt. Still, consolidated debt leverage
6   is somewhat high compared with the benchmarks, and, accordingly, cash
7   flow to total debt is weak for the benchmark range of the rating.
8   . . .
9   **Outlook**
10 The stable outlook on Vectren reflects weather normalization for a portion
11 of its gas distribution margins, and decoupling mechanisms that result in
12 stable cash flow generation, assumes adequate rate increases as well as
13 steady, but somewhat slow customer base growth for the utilities with no
14 near-term significant debt maturities. Sound management practices should
15 continue to provide for stable utility revenues and their large share in
16 earnings, as well as contributions from unregulated businesses with
17 healthy growth.
18 . . .
19 The Public Utility Commission of Ohio (PUC) regulates VEDO. The
20 commission uses historic test periods, a quarterly fuel adjustment clause,
21 and ROE authorizations that are consistent with national averages. Gas
22 sales are subject to regulatory review through the quarterly gas cost
23 recovery provisions. **In June 2007, PUCO approved the use of a**
24 **decoupling mechanism in VEDO's rates.**
25 **[Emphasis added]**

26

27 This Moody's quote specifically recognized the positive impact of a decoupling

28 mechanism. I note that one of VEDO's decoupling mechanisms (SRR-A), approved in

29 Case No. 05-1444-GA-UNC, will be implemented on the rate effective date in this case.

30 SRR-A was approved subsequent to the Company's most recent rate proceeding, and

31 outside the context of a rate case. As a result, the Commission has not had an

32 opportunity to consider making a cost of equity adjustment to reflect the resulting

33 reduction in risk. This issue has been implicitly deferred to the current proceeding.

34

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1   On a more recent basis, Moody's made the following comments about VUHI in a March

2   14, 2008 Credit Opinion:

3   An Indiana corporation, Vectren Utility Holdings Inc. (VUHI) was formed
4   in March 2000 to serve as the intermediate holding company for Vectren
5   Corporation's (Vectren, unrated) operating utility subsidiaries.   These
6   subsidiaries include the Indiana Gas Company (IGC, Baa1, sr. uns.),
7   Southern Indiana Gas & Electric Company (SIGECO, Baa1, sr. uns.
8   equivalent), and Vectren Energy Delivery of Ohio, (VEDO, unrated).
9   VUHI also possesses information technology assets and other assets that
10   service its operating subsidiaries. As a holding rather than operating
11   company, all of VUHI's short and long-term debt issued is guaranteed
12   jointly and severally by its three utility subsidiaries.

14   VUHI's three utilities are engaged in electric utility services (47% of 2007
15   EBIT) and/or natural gas delivery services (45% of 2007 EBIT), and are
16   also involved in the production and marketing of wholesale electric power.
17   In total, IGC, SIGECO, and VEDO serve over one million customers in
18   adjoining service territories covering nearly two thirds of Indiana and
19   sixteen counties in west central Ohio.
20   . . .
21   **Rating Rationale**
22   VUHI has maintained a stable credit rating of Baa1 since 2002, reflecting
23   a sound credit profile that results from the regulated nature of its utility
24   assets. VUHI's business portfolio is diversified across the electric and
25   natural gas services, with electric utility services accounting for roughly
26   38% of 2007 total assets, and natural gas utility services 56%.   The
27   holding company's ratings also benefit from a lower business risk profile
28   due to regulation. VUHI's ratings are restrained, however, largely by a
29   weaker financial profile especially on Return on Equity and EBIT/Interest
30   Coverage ratios than those of similarly rated peers, including Keyspan
31   Corporation and Enbridge Inc.

33   Moody's applies its published rating methodology for diversified natural
34   gas transmission and distribution companies in its assessment of VUHI,
35   given its electric and gas earnings mix. The key rating factors and their
36   weights in the methodology are: scale, 10%, quality of diversification,
37   20%, management strategy & financial policy, 10%, and financial
38   strength, 60%, While VUHI currently maps to a Baa2 rating using this
39   methodology for the three fiscal years ending 2007, Moody's expects that
40   the company's credit ratings should improve with recent rate case
41   approvals for its utilities.

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1 *Q28.* ***WHAT ARE YOUR CONCLUSIONS REGARDING THE PERCEIVED CREDIT***

2 ***QUALITY OF VUHI, BASED UPON THE PREVIOUSLY-CITED MOODY'S AND***

3 ***S&P REPORTS?***

4 *A28.* I believe it is apparent that VUHI is perceived to be a strong company, as evidenced by

5 its high triple-B and low single-A ratings. The following factors contribute to these

6 conclusions:

7   Low embedded cost of debt;

8   Decoupling mechanisms in some states (including Ohio);

9   Diversification of utility operations; and,

10   Lower business risk profile due to regulation.

11

12 *Q29.* ***IS VEDO REQUESTING CERTAIN REGULATORY COST-RECOVERY***

13 ***MECHANISMS IN THIS PROCEEDING?***

14 *A29.* Yes. Based upon the testimony of OCC witness Hal Novak, it is my understanding that

15 the Company is requesting approval to implement some significant new rate design

16 proposals that, if approved, singly or as a package, will significantly reduce the risk to the

17 Company's shareholders. One proposal is for an SFV rate design. In addition, the

18 Company is proposing two separate decoupling mechanisms—SRR-A and SRR-B.

19 *SRR*-A will capture past unrealized revenues ($5,152,213) related to the company's

20 approved rates in its prior Case No. 05-1444-GA-UNC. These revenues are associated

21 with the October 2006 through October 2008 period. SRR-A, though approved in June

22 2007, has not been implemented—the rider will be implemented at the rate effective date

23 related to this proceeding. Under the Company's proposal the unrealized revenues will

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1   be collected from customers in a one year period. SRR-B will be implemented once

2   SRR-A ends and will ensure that the order granted revenues from this case are collected

3   from customers. An added bonus to the Company from SRR-B is the fact that it will also

4   provide the company with protection from loss of revenues attributable to weather, thus

5   providing the Company a guaranteed revenue regardless of weather changes. SRR-B will

6   operate until SFV is achieved in full, which under the company proposal will occur in the

7   next rate case filing. OCC witness Novak describes these mechanisms in his testimony.

8

9 *Q30. HOW ARE THOSE PROPOSALS RISK-REDUCING TO THE COMPANY?*

10 *A30.* These rate design proposals, if approved, are each risk-reducing to VEDO since the

11   Company's revenues, and income, will be essentially insulated from variations due to

12   usage and weather (SRR-B). The effect of these mechanisms singly and collectively is to

13   transfer a significant portion of the Company's risks from its shareholders to its

14   ratepayers. Yet, it does not appear that the Company nor the PUCO Staff acknowledged

15   this risk transfer in terms of the requested or recommended rate of return.

16

17 *Q31. IS THE OCC RECOMMENDING APPROVAL OF THIS NEW PROPOSAL WHICH*

18   *WOULD TRANSFER SIGNIFICANTLY MORE RISK TO RATEPAYERS?*

19 *A31.* The Company's new risk-reducing rate design proposal is addressed in OCC Witness

20   Novak's testimony. It is my understanding that the OCC is opposed to SFV, but supports

21   the decoupling implemented as SRR-B. I also understand that OCC does not support the

22   decoupling implemented as SRR-A.

23

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1   However, I want to point out that if the Commission should adopt some form of SFV, or

2   one or more of the SRRs, it would further reduce the Company's risk, and a reduction of

3   the Company's cost of equity should be considered. The Company should have

4   recognized a possible reduction to its rate of return in recognition of its risk reducing

5   proposals. It did not.

6

7   **Q32.** ***HAS STANDARD & POOR'S COMMENTED GENERALLY ON THE POSITIVE***

8   ***ATTRIBUTES OF REGULATORY COST-RECOVERY MECHANISMS?***

9   *A32.* Yes, it has. In a 2006 Commentary Report, titled "Prolonged High Natural Gas Prices

10   May Increase Credit Risk For U.S. Gas Distribution Companies," S&P made the

11   following comments:

12   ... in an environment of sustained elevated natural gas prices, will
13   regulators continue to allow the LDCs the proper tools to capture costs and
14   maintain credit quality? The answer to this question will be key in LDCs
15   maintaining their credit quality as, **historically, companies with stable**
16   **recovery mechanisms have maintained strong ratings.**
17   ...

18   Regulatory Mechanisms
19   Most LDCs operate in jurisdictions where regulators provide a purchased-
20   gas adjustment clause, which reduces a significant portion of the risk
21   associated with operating with volatile gas price costs.
22   ...

23   Given today's high and volatile natural gas prices, maintaining strong
24   credit quality depends on ratepayers bearing the responsibility for
25   commodity costs. Automatic pass-through mechanisms linked to gas price
26   indices provide the strongest level of support. **[Emphasis added]**

27   Several points are apparent from this report. First and significantly, pass-through

28   mechanisms have the effect of transferring a portion of an LDC's risks from its

29   stockholders to its ratepayers. Second, it is apparent that VEDO's proposed cost-

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1   recovery mechanisms (i.e., SFV rate design, decoupling measures) reduce risk by

2   providing a higher level of certainty with regard to revenue recovery. I note that this

3   S&P quote was primarily directed to more narrowly-defined gas cost recovery

4   mechanisms. SFV and/or decoupling mechanisms are more comprehensive in terms of

5   the level of costs covered and are even more risk reducing.

6

7   *Q33.* ***WHAT WILL BE THE EFFECT ON VEDO'S PERCEIVED RISKS IF ANY ONE***

8   ***OF THESE REGULATORY MECHANISMS IS ADOPTED?***

9   *A33.* OCC witness Novak addresses OCC's recommendations with regard to the Company's

10   proposed tariff. However, each one of these mechanisms on a stand alone basis will

11   provide a higher level of certainty with regard to revenue recovery, and thus is especially

12   risk-reducing. The effect will be to transfer a significant portion of VEDO's business

13   risks from its stockholders to its ratepayers, which should lower the cost of capital. I

14   again note that VEDO's SRR-A (which is to be implemented on the rate effective date in

15   this case and would collect, in one year, two years of unrealized revenues related to the

16   company's previous rate case) is risk reducing. SRR-B, which will be implemented

17   immediately following SRR-A will protect the order-granted revenue in this case with an

18   added element protecting the company from reduced revenues caused by weather. SRR-

19   B thus, is even more risk reducing. In the meantime, the Company is transitioning to

20   SFV by increasing its customer charge and reducing its commodity charge. Under the

21   company's proposal until complete SFV is in place (with all fixed charges and no

22   volumetric component) SRR-B would be in place, to protect the Company's order-

23   granted revenue in this case. Thus, any one of these mechanisms, SRR-A, SRR-B, and

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1   SFV, serve to reduce risks related to recovering order-granted revenues and thus should

2   be taken into account when recommending the cost of equity. Neither the Staff nor the

3   Company has done so.

4

5   *Q34.* ***HOW CAN THIS REDUCTION IN COST OF CAPITAL BE MEASURED?***

6   *A34.* One method to measure the impact of the reduction in cost of equity resulting from the

7   potential adoption of any one of these regulatory mechanisms (in particular, the SFV rate

8   design) is to quantity the difference between the yields on bonds and preferred stock for

9   alternative bond ratings. I have made such a calculation on DCP-Schedule 5, which

10   shows the differential over the 2001 to 2008 period in yields between: (1) bonds with a

11   Baa and an A rating; and, (2) preferred stocks with a Baa and an A rating. For both series

12   of securities, the average differential is about 0.3 percent, or 30 basis points. It stands to

13   reason that the differential in cost of equity would be greater than 30 basis points, since

14   common equity has a higher cost rate.

15

16   *Q35.* ***WHAT DIFFERENTIAL DO YOU BELIEVE IS PROPER TO REFLECT THE***

17   ***IMPACT OF THE POTENTIAL APPROVAL OF A SFV TARIFF MECHANISM***

18   ***OR DECOUPLING FOR VEDO?***

19   *A35.* I believe that SFV rate design, if approved in some form, would have the impact of

20   lowering VEDO's cost of common equity by 25 to 50 basis points. I specifically

21   recommend a minimum 50 basis point reduction in VEDO's cost of equity if an SFV

22   Tariff mechanism is adopted. I note that my 50 basis point recommendation reflects that

23   prior to movement to a full SFV, one or both the decoupling riders, SRR-A and SRR-B

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1   will be in place. I specifically recommend a 50 basis point reduction if SFV is approved

2   with either SRR-A or SRR-B and a 25 basis point reduction if only one of the decoupling

3   riders are approved.

4

5   *Q36. DOES THE STAFF REPORT COMMENT ON THE RISK-REDUCING IMPACT OF*

6   *VEDO'S PROPOSED SFV RATE DESIGN?*

7   *A36.* Yes, it does. The Staff Report states:

8   These measures, if adopted by the Commission, would reduce the risks
9   that the Company faces with respect to revenues and cost recovery.
10   Inasmuch as the costs of capital reflect risks, the reductions in business
11   and regulatory risks should be considered.[3]

12   Despite this recognition, the Staff Report does not make a specific cost of capital

13   reduction recommendation.

14

15   *Q37. WHILE THE PUCO STAFF RECOMMENDS APPROVAL OF SRR-A, IT HAS*

16   *RECOMMENDED THAT SRR-B NOT BE ADOPTED IN FAVOR OF A MORE*

17   *DIRECT IMPLEMENTATION OF A FULL SFV RATE DESIGN. DOES THE*

18   *STAFF'S   RECOMMENDATION   MAKE   YOUR   EQUITY   ADJUSTMENT*

19   *INAPPROPRIATE?*

20   *A37.* No. Staff states that it intends to more directly implement a full SFV. It has done so in

21   the following respect. Staff has accepted the Company's two-stage rate design concept

22   and accepted as well the company's proposed fixed charges. Staff then proposes lower

23   volumetric charges than the company has proposed in both stages. This reflects a more

---

[3] Staff Report at 17.

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1   aggressive approach to SFV, providing for more protection for revenue recovery under

2   SFV than suggested by the Company.   While Staff does not support SRR-B, it

3   recommends approval of SRR-A.

4

5   ***VI.   CAPITAL STRUCTURE AND COST OF DEBT***

6

7   ***Q38.   WHAT IS THE IMPORTANCE OF DETERMINING A PROPER CAPITAL***

8   ***STRUCTURE IN A REGULATORY FRAMEWORK?***

9   *A38.*   A utility's capital structure is important since the concept of rate base - rate of return

10   regulation requires that a utility's capital structure be determined and utilized in

11   estimating the total cost of capital.   Within this framework, it is proper to ascertain

12   whether the utility's capital structure is appropriate relative to its level of business risk

13   and relative to other utilities.

14

15   As discussed in Section III of my testimony, the purpose of determining the proper

16   capital structure for a utility is to help ascertain the capital costs of the company.   The

17   rate base - rate of return concept recognizes the assets which are employed in providing

18   utility services and provides for a return on these assets by identifying the liabilities and

19   common equity (and their cost rates) which are used to finance the assets.   In this process,

20   the rate base is derived from the asset side of the balance sheet and the cost of capital is

21   derived from the liabilities/owners' equity side of the balance sheet.   The inherent

22   assumption in this procedure is that the dollar values of the capital structure and the rate

23   base are approximately equal and the former is utilized to finance the latter.

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1   The common equity ratio (i.e., the percentage of common equity in the capital structure)

2   is the capital structure item which normally receives the most attention. This is the case

3   because common equity: (1) usually commands the highest cost rate; (2) generates

4   associated income tax liabilities; and (3) causes the most controversy because its cost

5   cannot be precisely determined.

6

7   *Q39.* *HOW HAVE YOU EVALUATED THE CAPITAL STRUCTURE OF VEDO?*

8   *A39.* I have examined the five year historic (2003-2007) capital structure ratios of VEDO,

9   VUHI and Vectren. These are shown on DCP-Schedule 6.

10

11   Page 1 shows the capital structure ratios of VEDO. The common equity ratios are shown

12   below:

13
14

Year	Including S-T Debt	Excluding S-T Debt
2003	42.4%	48.6%
2004	41.7%	48.4%
2005	40.9%	46.9%
2006	42.0%	45.2%
2007	37.7%	45.2%

18

19

20   Page 2 shows VUHI's capital structure ratios, when common equity ratios are:

21

Year	Including S-T Debt	Excluding S-T Debt
2003	45.5%	49.8%
2004	43.9%	50.9%
2005	44.5%	49.3%
2006	44.4%	50.1%
2007	42.6%	50.2%

26

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1   Those generally reflect equity ratios of about 50 percent, excluding short-term debt.

2   Page 3, in turn, shows the capital structure ratios of Vectren whose common equity ratios

3   can be summarized as follows:

Year	Including S-T Debt	Excluding S-T Debt
2003	43.8%	49.3%
2004	42.6%	50.7%
2005	42.4%	47.7%
2006	40.6%	48.4%
2007	40.6%	49.8%

9   These are similar to those of VUHI. The average capital structure ratios (excluding

10   short-term debt) are respectively 50 percent and 49.2 percent for VUHI and Vectren.

11

12   *Q40.* ***HOW DO THESE CAPITAL STRUCTURE RATIOS COMPARE TO THE GAS***

13   ***DISTRIBUTION UTILITY INDUSTRY?***

14   *A40.* I prepared DCP-Schedule 7 to make this comparison. Page 1 of this schedule shows the

15   2003-2007 capital structure ratios of my proxy group of LDC's, excluding short-term

16   debt. Page 2 of DCP-Schedule 6 indicates the 2003-2007 capital structure ratios for this

17   group, including short-term debt. The average common equity ratios are:

Year	Including S-T Debt	Excluding S-T Debt
2003	43%	50.5%
2004	43%	51.7%
2005	44%	51.8%
2006	47%	52.1%
2007	47%	54.1%

23   These common equity ratios are slightly higher than those of Vectren and VUHI.

24

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1   **Q41.   WHAT CAPITAL STRUCTURE RATIO HAS VEDO REQUESTED IN THIS**

2   **PROCEEDING?**

3   *A41.*   The Company requests use of the following capital structure:

4

5

6   Capital Item   Percentage

7   Long-Term Debt   47.8%

8   Common Equity   52.2%

9

10   According to VEDO witness Goocher, these values are the August 31, 2007 consolidated

11   capital structure ratios of Vectren, "adjusted for the receipt of $125.3 million of common

12   equity proceeds expected in the Spring 2008 from the settlement of the February 20, 2007

13   equity forward agreement."

14

15   **Q42.   WHAT CAPITAL STRUCTURE DO YOU PROPOSE TO USE IN THIS**

16   **PROCEEDING?**

17   *A42.*   I concur with VEDO that it is appropriate to use the consolidated capital structure of

18   Vectren to establish the Company's total cost of capital. This is the case since VEDO

19   and other utility affiliates are funded on a consolidated basis. In addition, the capital

20   structure ratios of Vectren are similar to other publicly-traded natural gas distribution

21   companies. Unlike VEDO, I will utilize the actual (unadjusted) consolidated test period

22   capital structure of Vectren. This is comprised of 50.30 percent long-term debt and 49.70

23   percent common equity. I do not believe it is proper to use the adjusted capital structure,

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1   as VEDO proposes, since this adjustment goes beyond the test year and incorporates an

2   adjustment that had not occurred when the filing was prepared.

3

4   *Q43.*   ***HOW DOES YOUR PROPOSED CAPITAL STRUCTURE COMPARE TO THE***

5   ***CAPITAL STRUCTURE PROPOSED IN THE STAFF REPORT?***

6   *A43.*   The Staff Report proposes a capital structure comprised of 48.66 percent long-term debt

7   and 51.34 percent common equity. This reflects a hypothetical capital structure and is

8   derived as the average capital structure of the comparable group of gas distribution

9   utilities used in the Staff Report to estimate the cost of common equity.

10

11   Even though the results of my proposed capital structure and the Staff Report capital

12   structure are similar, I believe my proposed capital structure is more appropriate since it

13   is an actual capital structure and reflects the manner in which VEDO and other Vectren

14   utilities are financed. Use of a hypothetical capital structure should only be employed

15   when the actual capital structure is inappropriate or inconsistent with the manner in

16   which the utility is actually financed. The hypothetical capital structure used by the Staff

17   is against precedent established in Commission proceedings and should be rejected[4] The

18   Commission has stated:

---

[4] *In re Toledo Edison Company*, Case No. 81-620-EL-AIR, Opinion and 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.).

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1   A hypothetical capital structure produces distorted results because the
2   costs associated with the various components of the capital structure are a
3   function of the existing capitalization.
4   * * *
5   In addition, because a potential investor considers actual capital structure
6   in making his or her investment decisions, the use of a *hypothetical capital*
7   *structure*, which does not necessarily correspond to the applicant's capital
8   structure at any point in time, is inappropriate.[5]
9

10   The table below compares my long-term and common equity recommendations to the

11   Company and Staff.

12   VEDO   Staff Report   My Recommendation

13   Long-Term Debt   47.8 percent   48.66 percent   50.30 percent

14   Common Equity   52.2 percent   51.34 percent   49.70 percent

15

16   **Q44. WHAT IS THE COST OF LONG-TERM DEBT IN THE COMPANY'S**

17   **APPLICATION?**

18   *A44.* The Company's filing cites a long-term debt cost of 7.02 percent. Witness Goocher cites

19   this as the actual cost of long-term debt to VEDO. In reality, however, this cost rate

20   simply represents the cost of two of six VUHI debt issues.[6]

21

22   **Q45. WHAT COST OF LONG-TERM DEBT DO YOU USE IN YOUR COST OF CAPITAL**

23   **ANALYSES?**

24   *A45.* I propose to use the actual consolidated cost of long-term debt for Vectren. This provides

25   a proper matching of the capital structure and cost of debt, both of which reflect

---

[5] *In re Dayton Power and Light Company*, Case No. 81-1256-EL-AIR, Opinion and Order (December 22, 1982), 50
P.U.R.4th 457, 472-473.
[6] See Company Filing, Schedule D-3B, Page 2 of 2.

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1   Vectren's actual information. This is proper since it avoids the inappropriate "mixing" of

2   Vectren's capital structure and VEDO's cost of debt, as proposed by the Company.

3   Proper financial, as well as regulatory, principles imply that capital structure and the cost

4   of debt are intertwined and should be, if possible, synchronized.

5

6   *Q46.* ***HOW DOES THIS COMPARE TO THE COST OF DEBT PROPOSED IN THE***

7   ***STAFF REPORT?***

8   *A46.* The Staff Report accepts the 7.02 percent cost of debt proposed by VEDO. No

9   justification for this cost of debt is provided in the Staff Report, nor is any justification

10   provided for combining inconsistent capital structure (Vectren) and debt (VEDO) values.

11

12   *VII.* ***SELECTION OF COMPARISON GROUPS***

13

14   *Q47.* ***HOW HAVE YOU ESTIMATED THE COST OF COMMON EQUITY FOR VEDO?***

15   *A47.* VEDO and VUHI are not publicly traded companies. Vectren is a publicly-traded

16   company. Consequently, it is possible to directly apply cost of equity models to Vectren.

17   However, it is customary to analyze groups of comparison or "proxy" companies to

18   determine the cost of common equity for public utilities.

19

20   I have examined three such groups for comparison to Vectren. The companies of the

21   three groups are shown on DCP-Schedule 9. The first group of proxy companies shown

22   on DCP-Schedule 8 is derived from the group of gas distribution companies followed by

23   Value Line. However, I did not include Energen, New Jersey Resources and UGI as they

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1   fall outside the criteria I used to select my proxy group. The following criteria were

2   employed:

3   (1)   Inclusion in Value Line Natural Gas Utility Group;

4   (2)   Currently pays dividends;

5   (3)   Percent regulated gas revenues of 50 percent or greater;

6   (4)   S&P and/or Moody's bond ratings of Triple B or greater;

7   (5)   Common equity ratio of 40 percent to 55 percent; and,

8   (6)   Value Line Safety of 1, 2, or 3.

9   I chose these criteria in order to focus on companies that are primarily LDCs with similar

10   risk and operating characteristics of VEDO. This group, which reflects a representative

11   sample of LDCs, is a more appropriate proxy for Vectren.

12

13   The second proxy group is the group of eight natural gas utilities VEDO witness Mr.

14   Moul utilized in his testimony.

15

16   Finally, the third group is the five member "comparable group of publicly traded

17   companies primarily engaged in gas distribution" as used in the Staff Report. Even

18   though I also use this group, I have reservations concerning their use. First, the group

19   contains only five companies, which is at best of marginal size to provide a sufficient

20   proxy group. The impact of a single company can more significantly influence the

21   DCF/CAPM results of a proxy group with such a small number of members. Second,

22   one of the companies (National Fuel Gas) is listed by Value Line as a "diversified"

23   natural gas company, rather than a natural gas utility. In addition to LDC operations,

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1   National Fuel Gas has pipeline and storage operations as well as exploration and

2   production operations. As a result, this Company is less applicable to VEDO, because

3   VEDO does not have these type of operations.

4

5   I note that, by developing my own group of proxy companies, used in conjunction with

6   the groups of proxy companies utilized by VEDO witness Moul and the Staff Report, I

7   have given consideration to the Company's and Staff's view as to the composition of the

8   proper proxy companies for VEDO and Vectren.

9

10   *VIII.* *DISCOUNTED CASH FLOW ANALYSIS*

11

12   *Q48.* *WHAT IS THE THEORY AND METHODOLOGICAL BASIS OF THE*

13   *DISCOUNTED CASH FLOW MODEL?*

14   *A48.* The discounted cash flow ("DCF") model is one of the oldest, as well as the most

15   commonly-used, models for estimating the cost of common equity for public utilities. It

16   is my understanding that the PUCO uses the DCF method as a primary model to establish

17   the cost of equity for the utilities it regulates. The DCF model is based on the "dividend

18   discount model" of financial theory, which maintains that the value (price) of any

19   security is derived from the present value of all future cash flows.

20   The DCF equation is as follows:

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

21

22   where: P = current price

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1   D = current dividend rate

2   K = discount rate (cost of capital)

3   g = constant rate of expected growth

4

5   This formula essentially states that the return expected or required by investors is

6   comprised of two factors: the dividend yield (current income) and expected growth in

7   dividends (future income).

8   **A.   OCC's Recommended DCF Analysis**

9

10   *Q49.*   *PLEASE EXPLAIN HOW YOU HAVE EMPLOYED THE DCF MODEL.*

11   *A49.*   I have utilized the constant growth DCF model. In doing so, I have combined the current

12   dividend yield for each group of comparison utility stocks described in the previous

13   section with several indicators of expected dividend growth.

14

15   *Q50.*   *HOW DID YOU DERIVE THE DIVIDEND YIELD COMPONENT OF THE DCF*

16   *EQUATION?*

17   *A50.*   There are several methods which can be used for calculating the dividend yield

18   component. These methods generally differ in the manner in which the dividend rate is

19   employed, i.e., current versus future dividends or annual versus quarterly compounding

20   of dividends. I believe the most appropriate dividend yield component is the following

21   formula:

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

22

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1   This dividend yield component recognizes the timing of dividend payments and dividend

2   increases. This formula essentially recognizes that, on average, each proxy company is

3   expected to increase its dividend by the expected growth rate at the middle of the next

4   year, which is a reasonable assumption given that individual companies will increase

5   dividends at various times throughout the year. As such, this yield calculation provides

6   for a proper mechanism for estimating the expected dividend yield in the next year.

7

8   The P_0 in my yield calculation is the average (of high and low) stock price for each

9   company for the most recent three-month period (April-June, 2008). The D_0 is the

10   current annualized dividend rate for each company.

11

12   **Q51. HOW HAVE YOU ESTIMATED THE DIVIDEND GROWTH COMPONENT OF**

13   **THE DCF EQUATION?**

14   **A51.** The dividend growth rate component of the DCF model is usually the most crucial and

15   controversial element involved in this methodology. The objective of estimating the

16   dividend growth component is to reflect the growth expected by investors which is

17   embodied in the price (and yield) of a company's stock. As such, it is important to

18   recognize that individual investors have different expectations and consider alternative

19   indicators in deriving their expectations. A wide array of techniques exists for estimating

20   the growth expectations of investors. As a result, it is evident that no single indicator of

21   growth is always used by all investors. Therefore it is necessary to consider alternative

22   indicators of dividend growth in deriving the growth component of the DCF model.

23

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

2   1.   5-year (2003-2007) average earnings retention, or fundamental growth; [7]

3   2.   5-year (2003-2007) average of historic growth in earnings per share ("EPS"),

4   dividends per share ("DPS"), and book value per share ("BVPS");

5   3.   Value Line projections of earnings retention growth;

6   4.   Value Line projections of EPS, DPS, and BVPS; and

7   5.   5-year (2008-2012) projections of EPS growth as reported in First Call (formerly

8   I/B/E/S).

9   This combination of growth indicators is a representative and appropriate set with which

10   to estimate investor expectations of dividend growth for the groups of comparison

11   companies.

12

13   *Q52.*   ***PLEASE DESCRIBE YOUR DCF CALCULATIONS.***

14   *A52.*   DCP-Schedule 9 presents my DCF analysis. Page 1 shows the calculation of the "raw"

15   (i.e., prior to adjustment for growth) dividend yield. Pages 2-3 show the growth rate for

16   the groups of comparison companies. Page 4 shows the DCF calculations, which are

17   presented on several bases: mean, median and high values. These results can be

18   summarized as follows:

19
	Mean	Median	High Mean	High Median
Parcell Proxy Group	8.8%	8.5%	9.4%	9.1%
Moul Gas Group	9.2%	8.8%	10.3%	9.9%
Staff Report Group	9.4%	8.9%	11.1%	10.0%

22

---

[7]   This is also known as the internal growth, or BxR.

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1   I note that these calculations should not be interpreted as my DCF conclusions, but rather

2   as numeric values that form the basis of quantitative and qualitative analyses of the cost

3   of capital at the current time.

4

5   *Q53.*   **WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?**

6   *A53.*   Based upon my analyses, I believe a range of 9.50 percent to 10.25 percent (9.90 percent

7   mid-point) represents the current DCF cost of equity for the comparison groups. This is

8   approximated by the upper portion of the range of DCF calculations for the natural gas

9   groups examined in the previous analysis. I have given little weight to the lower end of

10   the mean and median DCF results, as well as little weight to the high mean results of the

11   Staff Report group, which reflects only one growth rate (historic per share growth, which

12   the Staff Report does not consider as a growth rate indicator in its DCF analyses).

13

14   **B.**   **Critique of Mr. Moul's DCF Analysis**

15

16   *Q54.*   **HOW DOES YOUR DCF ANALYSIS DIFFER FROM THE DCF ANALYSES OF**

17   **VEDO WITNESS MOUL?**

18   *A54.*   Mr. Moul performed a DCF analyses for a group of eight natural gas utilities. His results

19   are as follows:[8]

	Gas Group
Yield	3.84%
Growth	5.00%
Leverage	0.50%

---

[8] Moul prefiled Direct Testimony at 26.

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1
                     Flotation   0.21%

2
                     DCF   9.53%

3

4   These results are generally consistent with my DCF findings.

5

6   **Q55.**   ***IN SPITE OF THE SIMILARITIES OF YOUR AND MR. MOUL'S DCF RESULTS,***

7   ***DO YOU HAVE ANY COMMENTS CONCERNING MR. MOUL'S PROPOSED***

8   ***LEVERAGE ADJUSTMENT?***

9   *A55.*   Yes. Mr. Moul is proposing a "leverage adjustment" which is essentially an adjustment

10   to the DCF cost rate to offset Mr. Moul's concern that "a market-derived cost of equity,

11   using models such as DCF and CAPM, reflects a level of financial risk that is different

12   from that shown by the book value capitalization." Mr. Moul further claims that the

13   existence of utility stock prices above book value creates greater financial risk for a book

14   value capital structure versus a market value capital structure because the book value

15   capital structure has a lower common equity ratio than the market value capital structure.

16   As a result, Mr. Moul claims that "Because the ratesetting process utilizes the book value

17   capitalization it is necessary to adjust the market-determined cost of equity for the higher

18   financial risk related to the book value of the capitalization."[9] Mr. Moul employs a

19   formula to quantify the differential between the book value and market value capital

20   structure and concludes a 0.50 percent upward adjustment to the DCF cost of equity is

21   warranted.[10]

22

---

[9] Moul prefiled Direct Testimony at 26.

[10] Moul prefiled Direct Tesitmony at 27.

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1   I strongly disagree with Mr. Moul's proposed adjustment. Informed investors should be

2   well aware that natural gas utilities have their rates established based upon the book value

3   of their assets (rate base) and capitalization. As a result, investors are not expecting a

4   regulatory award on any other basis, nor should they be compensated for any difference

5   between the book value and market value of their common equity.

6

7   I further note that, during the depressed stock price period of the 1970s and early 1980s,

8   utility witnesses, including Mr. Moul, did not propose any negative leverage adjustments

9   to lower the DCF cost of equity for the fact that utility market-to-book ratios were below

10   100 percent.

11

12 *Q56.* ***WHAT COMMENTS DO YOU HAVE CONCERNING MR. MOUL'S FLOTATION***

13   ***COST ADJUSTMENT?***

14 *A56.* Mr. Moul increases each of his cost of equity estimates by 19 basis points as a flotation

15   cost adjustment. There is no need to make a flotation adjustment, as Mr. Moul

16   recommends. A utility should only be allowed to recover from ratepayers its actual,

17   quantifiable levels of issuance costs. Neither Mr. Moul, nor VEDO has demonstrated

18   that the Company has incurred any issuance costs.

19

20   C.   **Critique of Staff Report DCF Analysis**

21

22 *Q57.* ***HOW DO YOUR DCF RESULTS DIFFER FROM THE STAFF REPORT'S DCF***

23   ***RESULTS?***

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1   *A57.*   My DCF conclusion is a range of 9.5 percent to 10.25 percent, with a mid-point of 9.90

2   percent. This is slightly less than the 10.05 percent DCF conclusion in the Staff Report.

3   Even though our results are similar, I disagree with the following aspects of the Staff

4   Report's DCF analysis:

5   •   The Staff Report's short-term (5 years) growth rate relies exclusively on a
6   single indicator of growth – analysts' forecasts of EPS. Such a singular
7   reliance on a single statistic does not reflect investor behavior and is not
8   proper.
9
10   •   The Staff Report's reliance on EPS forecasts (i.e., short-term growth)
11   contrasts with the historic growth of gross domestic product ("GDP") as
12   the long-term growth. It is inconsistent to rely exclusively on historic data
13   for one statistic (long-term growth) and then ignore historic data for
14   another statistic (short-term growth)
15
16   •   The Staff Report's long-term (25 plus years) DCF rate is 6.77 percent,
17   which reflects the historic growth of GDP. If GDP growth is maintained
18   as an indicator of investor expectations, it is more appropriate to consider
19   projections of GDP
20
21   •   The Staff Report's equity issuance cost adjustment.
22

23 *Q58.*   **WHY IS IT IMPROPER TO RELY EXCLUSIVELY ON EPS PROJECTIONS AS**

24 **THE GROWTH RATE IN A DCF ANALYSIS?**

25 *A58.*   A major problem with the Staff Report's DCF analyses is the fact that it has used only

26 one indicator of short-term growth--projections of EPS. As I indicated in my DCF

27 analysis, it is customary and proper to use alternative measures of growth, not just EPS

28 projections.

29

30 The Staff Report's DCF analyses implicitly assume that investors rely exclusively on

31 EPS projections when making short-term investment decisions. This is a very dubious

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1   assumption, and the Staff Report has offered no evidence that it is correct. I note, for

2   example, the Value Line publication – one of the sources of the growth rate estimates –

3   contains many statistics, of both a historic and projected nature, for the benefit of Value

4   Line subscribers, who presumably make investment decisions based at least in part from

5   the information contained in Value Line. For example, Value Line publishes both

6   historic and projected growth rates in numerous financial indicators such as EPS, DPS,

7   BVPS, and retention growth. Yet, the Staff Report would have us believe that Value

8   Line subscribers and investors focus exclusively on one single number from this

9   publication.

10

11   I note in this regard that the DCF model is a "cash flow" model. The cash flow to

12   investors in a DCF framework is dividends. The Staff Report DCF analysis, in contrast,

13   does not even consider dividend growth rates.

14

15   *Q59.*   *ARE YOU AWARE OF ANY PROJECTIONS OF GDP GROWTH?*

16   *A59.*   Yes, I am. There are at least two sources of projections of GDP growth. These are:

17   •   Social Security Administration ("SSA"), and

18   •   Energy Information Administration ("EIA").

19   The two organizations cited above are U.S. government-sponsored organizations. As is

20   shown on DCP-Schedule 10, the projections of GDP growth by these two organizations

21   were:

22   SSA - 2007-2085 – 4.4 percent

23   EIA – 2006-2030 – 4.4 percent

24

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1   Each of these projections is at least 190 basis points below the 6.77 percent GDP figure

2   used in the Staff Report. An adjustment to the Staff Report DCF analysis to correct for

3   the more proper GDP projection would reduce the DCF results of the Staff Report.

4

5   *Q60.* ***WHY DO YOU DISAGREE WITH THE EQUITY ISSUANCE COST ADJUSTMENT***

6   ***PROPOSED IN THE STAFF REPORT?***

7   *A60.* The Staff Report proposes an equity issuance cost adjustment factor of 1.03627, which

8   reflects a 3.50 percent "generic issuance cost."[11] I disagree with this adjustment. There

9   has been no demonstration by either VEDO or the Staff Report that the Company has or

10   will incur any common equity issuance costs. As a result, any addition to the cost of

11   equity, as proposed in the Staff Report, simply results in an increment to the return on

12   equity that exceeds the actual cost of equity.

13

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

15

16   *Q61.* ***PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF THE***

17   ***CAPITAL ASSET PRICING MODEL.***

18   *A61.* The Capital Asset Pricing Model ("CAPM") is a version of the risk premium method.

19   The CAPM describes and measures the relationship between a security's investment risk

20   and its market rate of return. The CAPM was developed in the 1960s and 1970s as an

21   extension of modern portfolio theory ("MPT"), which studies the relationships among

22   risk, diversification, and expected returns. It is also my understanding that the

---

[11] Staff Report at 17, Schedule D-1.1.

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1   Commission uses the CAPM model as a primary method with which to establish cost of

2   equity.

3

4   **Q62.   HOW IS THE CAPM DERIVED?**

5   **A62.**   The general form of the CAPM is:

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

6

7   where: K = cost of equity

8   R_f = risk free rate

9   R_m = return on market

10   β = beta

11    $R_m\text{-}R_f$ = market risk premium

12

13   As noted previously, the CAPM is a variant of the risk premium method. I believe the

14   CAPM is generally superior to the simple risk premium method because the CAPM

15   specifically recognizes the risk of a particular company or industry, whereas the simple

16   risk premium method does not.

17

18   **A.   OCC's Recommended CAPM Analysis**

19

20   **Q63.   WHAT GROUPS OF COMPANIES HAVE YOU UTILIZED TO PERFORM YOUR**

21   **CAPM ANALYSES?**

22   **A63.**   I have performed CAPM analyses for the same groups of utilities evaluated in my DCF

23   analyses.

24

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1   *Q64.   WHAT RATE DID YOU USE FOR THE RISK-FREE RATE?*

2   *A64.*   The first term of the CAPM is the risk free rate (R_f). The risk-free rate reflects the level

3   of return that can be achieved without accepting any risk.

4

5   In reality, a truly riskless asset does not exist. In CAPM applications, the risk-free rate is

6   generally recognized by use of U.S. Treasury securities. This follows because Treasury

7   securities are default-free as a result of the government's ability to print money and/or

8   raise taxes to pay its debts.

9

10   Two types of Treasury securities are often utilized as the R_f component - short-term U.S.

11   Treasury bills and long-term U.S. Treasury bonds. I have performed CAPM calculations

12   using the three-month average yield (April-June, 2008) for 20-year U.S. Treasury bonds.

13   Over this three-month period, these bonds had an average yield of 4.47 percent.

14

15   *Q65.   WHAT BETAS DID YOU EMPLOY IN YOUR CAPM?*

16   *A65.*   I utilized the most recent Value Line betas for each company in the groups of comparison

17   utilities. The individual beta values are shown on DCP-Schedule 11.

18

19   *Q66.   HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM COMPONENT?*

20   *A66.*   The market risk premium component (R_m-R_f) represents the investor-expected premium

21   of common stocks over the risk-free rate, or government bonds. For the purpose of

22   estimating the market risk premium, I considered returns of the S&P 500 (a broad-based

23   group of large U.S. companies) and 20-year U.S. Treasury bonds.

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1   DCP-Schedule 11 shows the return on equity for the S&P 500 group for the period 1978-

2   2007 (all available years reported by S&P). DCP-Schedule 10 also indicates the annual

3   yields on 20-Year U.S. Treasury bonds, as well as the annual differentials (i.e., risk

4   premiums) between the S&P 500 and U.S. Treasury 20-Year bonds. Based upon these

5   returns, I conclude that the risk premium is approximately 6.4 percent.

6

7   I have also considered the total returns for the S&P 500 group as well as for long-term

8   government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using

9   both arithmetic and geometric means. I have considered the total returns for the entire

10   1926-2007 period, which are as follows:

11
	S&P 500	L-T Gov't Bonds	Risk Premium
Arithmetic	12.3%	5.8%	6.5%
Geometric	10.4%	5.5%	4.9%

12

13

14   I conclude from this that the expected risk premium is approximately 5.7 percent (i.e.,

15   average of two long-term risk premiums). I believe that a combination of arithmetic and

16   geometric means is appropriate because investors have access to both types of means and,

17   presumably, both types are reflected in investment decisions and thus stock prices and

18   cost of capital.

19

20   *Q67.* ***PLEASE DESCRIBE THE RESULTS OF YOUR CAPM ANALYSIS.***

21   *A67.* DCP-Schedule 12 shows my CAPM results. The results are as follows:

22
	Mean	Median
Parcell Proxy Group	9.6 percent	9.5 percent
Moul Gas Group	9.5 percent	9.5 percent
Staff Report Group	9.7 percent	9.5 percent

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1   *Q68. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COST OF EQUITY?*

2   *A68.* The CAPM results collectively indicate a cost of about 9.5 percent to 9.7 percent for the

3   two groups of comparison utilities.

4

5   **B.   Critique of Mr. Moul's CAPM Analysis**

6

7   *Q69. HOW DO YOUR RESULTS COMPARE TO THE CAPM ANALYSIS OF MR.*

8   *MOUL?*

9   *A69.* Mr. Moul's CAPM method has the following results:

10
$$R_f + \beta(R_m - R_f) = k + size + adj. = K$$

11
5.00%+.97x6.92%=11.71%+0.97%+0.19%=12.87%

12

13   *Q70. DO YOU AGREE WITH MR. MOUL'S RISK-FREE RATE?*

14   *A70.* No. Mr. Moul's 5.00 percent risk free rate, which is based on yields on long-term U.S.

15   Treasury bonds, exceeds both recent and current yields on these securities. My CAPM

16   analysis shows that 20-year Treasury bonds have averaged 4.47 percent over the three-

17   month period April-June 2008.

18

19   *Q71. DO YOU HAVE ANY COMMENTS CONCERNING MR. MOUL'S "LEVERAGED"*

20   *BETA?*

21   *A71.* Yes, I do. Mr. Moul claims that "Value Line betas cannot be used directly in the CAPM

22   unless those betas are applied to a capital structure measured with market values."[12] He

---

[12] Moul prefiled Direct Testimony at 35.

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1   therefore employs a formula to adjust Value Line published betas to reflect tax rates and

2   market value capital structures. The impact of this adjustment is to raise the average beta

3   value for his electric group from 0.81 to 0.97.

4

5   I disagree with this adjustment. In essence, this is a similar adjustment to his "leverage

6   adjustment" in his DCF analysis. The same reasons I stated in my response to this DCF

7   adjustment (Q54 and A54) apply to his CAPM leverage adjustment.[13]

8

9   *Q72. PLEASE COMMENT ON MR. MOUL'S RISK PREMIUM.*

10   *A72.* Mr. Moul's 6.92 percent risk premium (R_m-R_f) was developed by estimating the total

11   market forecast return for the 1,700 stocks followed by Value Line and the S&P 500

12   index (11.53 percent) as well as the 1926-2007 risk premium based upon the Morningstar

13   total return (6.5 percent).

14

15   If the expected return of the 1,700 Value Line stocks and S&P 500 is indeed 11.53

16   percent, then it is improper to maintain that a less risky company, such as VEDO, should

17   have the same cost of equity.

18   Mr. Moul's second risk premium estimate -- 6.5 percent from Morningstar for the period

19   1926-2006 -- has the same problems I described earlier in connection with Mr. Moul's

20   risk premium analysis.

21

---

[13] See above at page 26.

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1   C.   **Critique of Mr. Moul's Risk Premium Analysis**

2   *Q73.*   *MR. MOUL ALSO PERFORMS A RISK PREMIUM ANALYSIS. PLEASE*

3   *SUMMARIZE MR. MOUL'S RISK PREMIUM ANALYSIS.*

4   *A73.*   Mr. Moul performs his risk premium analysis by combining the prospective yield on

5   long-term A-rated public utility bonds (6.25 percent) with a 5.25 percent risk premium to

6   derive an 11.50 percent cost of equity (prior to flotation costs). I primarily disagree with

7   the risk premium components of Mr. Moul's risk premium method.

8

9   *Q74.*   *PLEASE COMMENT ON MR. MOUL'S 5.25 PERCENT RISK PREMIUM.*

10   *A74.*   I disagree with the risk premium components of Mr. Moul's risk premium method. His

11   proposed risk premium is excessive and his conclusion over-states the cost of equity for

12   VEDO. Mr. Moul's risk premium conclusion of 5.25 percent was developed by

13   computing total returns (dividends/interest income plus capital gains/losses) for various

14   classes of securities over various periods of time dating back to 1928.

15

16   Mr. Moul first averages his risk premium findings over four periods, with the following

17   results:

18	1928-2006	5.37 percent
19	1952-2006	6.40 percent
20	1974-2006	5.61 percent
21	1979-2006	5.83 percent

22

23   However, in reaching the risk premium conclusion, Mr. Moul focuses on the two shorter

24   periods (i.e., last 32 years and last 28 years) and concludes that 5.72 percent is the

Direct Testimony of David C. Parcell
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1   appropriate risk premium for the S&P Public Utilities. Based upon "differences in risk

2   characteristics" between the S&P Public Utilities group and the proxy group, he

3   concludes that 5.25 percent is a reasonable equity risk premium for this case, which Mr.

4   Moul's risk premium analyses are based on an erroneous assumption that past

5   relationships between stock returns and bond returns are expected to prevail in the future.

6   DCP-Schedule 14 shows that the relationship between stock and bond returns has been

7   very volatile over the periods examined by Mr. Moul. In fact, the decade of the 1990s

8   (most recent complete decade) showed an average differential (i.e., risk premium) of only

9   1.57 percent.

10

11   *Q75.*   ***PLEASE SUMMARIZE YOUR CAPM CONCLUSIONS.***

12   *A75.*   My CAPM conclusions are a range of 9.5 percent to 9.7 percent.

13

14   **D.**   **Critique of Staff Report's CAPM Analysis**

15

16   *Q76.*   ***HOW DO YOUR CAPM RESULTS COMPARE TO THE STAFF REPORT'S CAPM***

17   ***RESULTS?***

18   *A76.*   The Staff Report reaches a 9.87 percent CAPM conclusion,[14] which is very similar to my

19   9.5 percent to 9.7 percent findings. The primary differences in my CAPM analyses and

20   the Staff Report are:

21

22   •   I use a three-month average of the risk-free rate, whereas the Staff Report uses a

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[14] Staff Report at 16.

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1   one-year period of March 26, 2007 – March 25, 2008.[15] As a result, my CAPM is

2   more current than the Staff Reports which does not recognize the decline in

3   interest rates over the past year.

4

5   ●   The Staff Report relies exclusively on arithmetic growth rates from

6   Morningstar,[16] whereas I use both arithmetic and geometric growth rates.

7

8 **X.   <u>RETURN ON EQUITY RECOMMENDATION</u>**

9

10 *Q77. PLEASE SUMMARIZE THE RESULTS OF YOUR TWO COST OF EQUITY*

11 *ANALYSES.*

12 *A77.*   My two methodologies produce the following:

13

Methodology	Range	
Discounted Cash Flow	9.5-10.25%	(9.875% Mid-Point)
Capital Asset Pricing Model	9.5-9.7%	(9.6% Mid-Point)

16 This generally reflects a cost of equity range of 9.50 percent to 10.25 percent.

17

18 *Q78. WHAT IS YOUR COST OF EQUITY RECOMMENDATION FOR VEDO?*

19 *A78.*   My recommendation for VEDO is 9.50 percent to 10.25 percent. My specific

20   recommendation for VEDO is 9.90 percent, which is the mid-point of my range.

21

22 **XI.   <u>TOTAL COST OF CAPITAL</u>**

23

24 *Q79. WHAT IS THE TOTAL COST OF CAPITAL FOR VEDO?*

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[15] Staff Report at Schedule G-1.2.
[16] Staff Report at 16.

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1   *A79.*   DCP-Schedule 1 reflects the total cost of capital for the Company using the August 31,

2   2007 actual capital structure and cost of long-term debt and my common equity cost

3   recommendation. The resulting total cost of capital is a range of 7.95 percent to 8.32

4   percent, with a mid-point of 8.13 percent.

5

6   *Q80.*   *DOES YOUR COST OF CAPITAL RECOMMENDATION PROVIDE THE*

7   *COMPANY WITH A SUFFICIENT LEVEL OF EARNINGS TO MAINTAIN ITS*

8   *FINANCIAL INTEGRITY?*

9   *A80.*   Yes, it does. DCP-Schedule 13 shows the pre-tax coverage that would result if VEDO

10   earned my cost of capital recommendation. As the results indicate, the mid-point of my

11   recommended range would produce a coverage level which is above the benchmark range

12   for a BBB rated utility. In addition, the debt ratio (which reflects the capital structure as

13   proposed by the company) is above that benchmark for an A-rated utility.

14

15 *Q81.*   *DOES THIS CONCLUDE YOUR TESTIMONY?*

16 *A81.*   Yes, it does at this time. However, I reserve the right to incorporate new information that

17   may subsequently become available. I also reserve the right to supplement my testimony

18   to the extent that the PUCO Staff fails to support the recommendations made in the Staff

19   Report and/or changes made in the Staff Report.

20

21

VECTREN ENERGY DELIVERY OF OHIO, INC.
TOTAL COST OF CAPITAL

Item	Amount ($000)	Percent	Cost			Weighted Cost		
Long-Term Debt	$1,221,000	50.30%	6.41%				3.22%	
Common Equity	$1,206,400	49.70%	9.50%		10.25%	4.72%		5.09%
Total	$2,427,400	100.00%				7.95%		8.32%
						Mid-Point	8.13%	

Source: Actual capital structure amounts for Vectren consolidated from Schedule D-1, Page 1 of Company Filing. The cost of long-term debt is for Vectr4en consolidated and is taken from Schedule D-1B, Page 1.

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	3.1%	3.3%	5.1%	3.4%	5.4%
2006	2.9%	2.2%	4.6%	2.5%	1.1%
2007	2.2%	1.7%	4.6%	4.1%	6.3%

*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.	3.1%	3.8%	5.3%	4.4%	5.6%
2nd Qtr.	2.8%	3.0%	5.1%	1.6%	-0.4%
3rd Qtr.	4.5%	2.7%	5.0%	8.8%	14.0%
4th Qtr.	1.2%	2.9%	4.9%	-2.0%	4.0%
2006					
1st Qtr.	4.8%	3.4%	4.7%	4.8%	-0.2%
2nd Qtr.	2.4%	4.5%	4.6%	4.8%	5.6%
3rd Qtr.	1.1%	5.2%	4.7%	0.4%	-4.4%
4th Qtr.	2.1%	3.5%	4.5%	0.0%	3.6%
2007					
1st Qtr.	0.6%	2.5%	4.5%	4.8%	6.4%
2nd Qtr.	3.8%	1.6%	4.5%	5.2%	6.8%
3rd Qtr.	4.9%	1.8%	4.6%	1.2%	1.2%
4th Qtr.	0.6%	2.2%	4.8%	6.4%	10.8%
2008					
1st Qtr.	0.6%	1.8%	4.9%	2.8%	9.6%

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%	4.61%		[1]	7.19%	7.37%	8.02%
2003	4.12%	1.02%	4.01%			6.40%	6.58%	6.84%
2004	4.34%	1.38%	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%	4.63%			5.94%	6.07%	6.33%

[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%	4.05%	[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%	6.64%	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%	6.67%
Aug	4.00%	0.96%	4.45%		6.48%	6.78%	7.06%
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%		6.26%	6.37%	6.69%
Dec	4.00%	0.90%	4.27%		6.18%	6.27%	6.61%
2004							
Jan	4.00%	0.89%	4.15%		6.06%	6.15%	6.47%
Feb	4.00%	0.92%	4.08%		6.10%	6.15%	6.28%
Mar	4.00%	0.94%	3.83%		5.93%	5.97%	6.12%
Apr	4.00%	0.94%	4.35%		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%	4.50%		6.09%	6.27%	6.67%
Aug	4.50%	1.46%	4.28%		5.95%	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%		5.68%	5.78%	5.95%
Feb	5.50%	2.53%	4.17%		5.55%	5.61%	5.76%
Mar	5.75%	2.75%	4.50%		5.76%	5.83%	6.01%
Apr	5.75%	2.79%	4.34%		5.56%	5.64%	5.95%
May	6.00%	2.86%	4.14%		5.39%	5.53%	5.88%
June	6.25%	2.99%	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%	4.46%		5.50%	5.79%	6.08%
Nov	7.00%	3.90%	4.54%		5.59%	5.88%	6.19%
Dec	7.25%	3.89%	4.47%		5.55%	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%	4.59%	4.99%		6.02%	6.29%	6.54%
May	8.00%	4.72%	5.11%		6.16%	6.42%	6.59%
June	8.25%	4.79%	5.11%		6.16%	6.40%	6.61%
July	8.25%	4.96%	5.09%		6.13%	6.37%	6.61%
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%	4.95%	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%	4.98%	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%	3.49%	4.15%		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%	6.29%	6.79%

[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	3,522.06	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%

[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	10,648.48	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%	4.55%

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

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

VECTREN CORPORATION
SEGMENT RATIOS
2005 - 2007
($MILLIONS)

Segment	Revenues	Net Income	Capital Expenditures	Assets
2005				
Gas Utility Services	$1,359.7	$34.7	$81.0	
	67.0%	25.4%	35.0%	
Electric Utility Services	$421.4	$50.4	$100.0	
	20.8%	36.8%	43.2%	
Other Utility Operations	$36.1	$10.0	$29.9	
	1.8%	7.3%	12.9%	
Nonutility Group	$344.3	$48.2	$17.1	
	17.0%	35.2%	7.4%	
Vectren Consolidated	$2,028.0	$136.8	$231.6	
2006				
Gas Utility Services	$1,232.5	$41.5	$76.8	$1,953.6
	60.4%	38.1%	27.3%	47.7%
Electric Utility Services	$422.2	$41.6	$156.8	$1,277.6
	20.7%	38.2%	55.7%	31.2%
Other Utility Operations	$36.6	$8.3	$24.8	$225.9
	1.8%	7.6%	8.8%	5.5%
Nonutility Group	$503.2	$18.1	$34.8	$639.7
	24.6%	16.6%	12.4%	15.6%
Vectren Consolidated	$2,041.6	$108.8	$281.4	$4,091.6
2007				
Gas Utility Services	$1,269.4	$41.7	$128.9	$2,287.4
	55.6%	29.1%	38.5%	53.2%
Electric Utility Services	$487.9	$52.6	$134.7	$1,369.2
	21.4%	36.8%	40.3%	31.9%
Other Utility Operations	$40.4	$12.2	$36.4	$2,229.7
	1.8%	8.5%	10.9%	51.9%
Nonutility Group	$643.4	$37.0	$34.7	$704.1
	28.2%	25.9%	10.4%	16.4%
Vectren Consolidated	$2,281.90	$143.10	$334.50	$4,296.40

Source: Vectren Corp. 2007 Form 10-K.

VECTREN CORP AND MAJOR SUBSIDIARIES
BOND RATINGS

Date	Vectren Corp. S&P Senior Credit	Vectren Utility Holdings Senior Unsecured		Southern Ind. G & E Senior Unsecured		Indiana Gas Senior Unsecured	
		Moody's	S&P	Moody's	S&P	Moody's	S&P
2001	A-	A2	A-	A1	A-	A2	A-
2002	A-	Baa1	A-	A3	A-	Baa1	A-
2003	A-	Baa1	A-	A3	A-	Baa1	A-
2004	A-	Baa1	A-	A3	A-	Baa1	A-
2005	A-	Baa1	A-	A3	A	Baa1	A-
2006	A-	Baa1	A-	A3	A	Baa1	A-
2007	A-	Baa1	A-	A3	A	Baa1	A-

Source: Response to Request for Production of Documents # 86.

YIELD DIFFERENTIALS BETWEEN Baa AND A RATED SECURITIES

	Bonds			Preferred Stocks		
	Baa	A	Difference	Baa	A	Difference
2001						
Jan	7.99%	7.80%	0.19%	7.53%	7.42%	0.11%
Feb	7.94%	7.74%	0.20%	7.48%	7.38%	0.10%
Mar	7.85%	7.68%	0.17%	7.48%	7.35%	0.13%
Apr	8.06%	7.94%	0.12%	7.59%	7.47%	0.12%
May	8.11%	7.99%	0.12%	7.57%	7.48%	0.09%
June	8.02%	7.85%	0.17%	7.60%	7.36%	0.24%
July	8.05%	7.78%	0.27%	7.42%	7.25%	0.17%
Aug	7.95%	7.59%	0.36%	7.40%	7.07%	0.33%
Sept	8.12%	7.75%	0.37%	7.41%	7.17%	0.24%
Oct	8.02%	7.63%	0.39%	7.40%	7.06%	0.34%
Nov	7.96%	7.57%	0.39%	7.53%	7.17%	0.36%
Dec	8.27%	7.83%	0.44%	7.66%	7.30%	0.36%
2002						
Jan	8.13%	7.66%	0.47%	7.62%	7.30%	0.32%
Feb	8.18%	7.54%	0.64%	7.51%	7.22%	0.29%
Mar	8.32%	7.76%	0.56%	7.83%	7.36%	0.47%
Apr	8.26%	7.57%	0.69%	7.62%	7.27%	0.35%
May	8.33%	7.52%	0.81%	7.62%	7.29%	0.33%
June	8.26%	7.42%	0.84%	7.74%	7.40%	0.34%
July	8.07%	7.31%	0.76%	7.64%	7.33%	0.31%
Aug	7.74%	7.17%	0.57%	7.42%	7.20%	0.22%
Sept	7.62%	7.08%	0.54%	7.48%	7.18%	0.30%
Oct	8.00%	7.23%	0.77%	7.59%	7.37%	0.22%
Nov	7.76%	7.14%	0.62%	7.56%	7.38%	0.18%
Dec	7.61%	7.07%	0.54%	7.57%	7.06%	0.51%
2003						
Jan	7.47%	7.06%	0.41%	7.61%	7.13%	0.48%
Feb	7.17%	6.93%	0.24%	7.62%	7.01%	0.61%
Mar	7.05%	6.79%	0.26%	7.66%	7.05%	0.61%
Apr	6.94%	6.64%	0.30%	7.51%	6.97%	0.54%
May	6.47%	6.36%	0.11%	7.42%	6.83%	0.59%
June	6.30%	6.21%	0.09%	7.41%	6.81%	0.60%
July	6.67%	6.57%	0.10%	7.24%	6.84%	0.40%
Aug	7.08%	6.78%	0.30%	7.29%	6.77%	0.52%
Sept	6.87%	6.56%	0.31%	7.28%	6.73%	0.55%
Oct	6.79%	6.43%	0.36%	7.26%	6.87%	0.39%
Nov	6.69%	6.37%	0.32%	7.29%	6.84%	0.45%
Dec	6.61%	6.27%	0.34%	7.28%	6.70%	0.58%
2004						
Jan	6.47%	6.15%	0.32%	7.20%	6.65%	0.55%
Feb	6.28%	6.15%	0.13%	7.20%	6.71%	0.49%
Mar	6.12%	5.97%	0.15%	7.20%	6.70%	0.50%
Apr	6.46%	6.35%	0.11%	7.27%	7.10%	0.17%
May	6.75%	6.62%	0.13%	7.64%	7.42%	0.22%
June	6.84%	6.46%	0.38%	7.17%	7.00%	0.17%
July	6.67%	6.27%	0.40%	6.89%	6.64%	0.25%
Aug	6.45%	6.14%	0.31%	6.74%	6.38%	0.36%
Sept	6.27%	5.98%	0.29%	6.61%	6.24%	0.37%
Oct	6.17%	5.94%	0.23%	6.53%	6.26%	0.27%
Nov	6.16%	5.97%	0.19%	6.23%	6.19%	0.04%
Dec	6.10%	5.92%	0.18%	6.42%	6.16%	0.26%
2005						
Jan	5.95%	5.78%	0.17%	6.35%	6.15%	0.20%
Feb	5.76%	5.61%	0.15%	6.36%	6.29%	0.07%
Mar	6.01%	5.83%	0.18%	6.42%	6.41%	0.01%
Apr	5.95%	5.64%	0.31%	6.41%	6.17%	0.24%
May	5.88%	5.53%	0.35%	6.39%	6.24%	0.15%
June	5.70%	5.40%	0.30%	6.37%	6.20%	0.17%
July	5.81%	5.51%	0.30%	6.35%	6.22%	0.13%
Aug	5.80%	5.50%	0.30%	6.36%	6.21%	0.15%
Sept	5.83%	5.52%	0.31%	6.38%	6.27%	0.11%
Oct	6.08%	5.79%	0.29%	6.40%	6.41%	-0.01%
Nov	6.19%	5.88%	0.31%	6.45%	6.31%	0.14%
Dec	6.14%	5.80%	0.34%	6.42%	6.19%	0.23%
2006						
Jan	6.06%	5.75%	0.31%	6.41%	6.14%	0.27%
Feb	6.11%	5.82%	0.29%	6.38%	6.10%	0.28%
Mar	6.26%	5.98%	0.28%	6.56%	6.22%	0.34%
Apr	6.54%	6.29%	0.25%	6.64%	6.31%	0.33%
May	6.59%	6.42%	0.17%	6.57%	6.32%	0.25%
June	6.61%	6.40%	0.21%	6.63%	6.38%	0.25%
July	6.61%	6.37%	0.24%	6.42%	6.25%	0.17%
Aug	6.43%	6.20%	0.23%	6.37%	6.19%	0.18%
Sept	6.26%	6.00%	0.26%	6.36%	6.22%	0.14%
Oct	6.24%	5.98%	0.26%	6.29%	6.02%	0.21%
Nov	6.04%	5.80%	0.24%	6.23%	6.01%	0.22%
Dec	6.05%	5.81%	0.24%	6.17%	5.90%	0.27%
2007						
Jan	6.16%	5.96%	0.20%	6.08%	5.90%	0.18%
Feb	6.10%	5.90%	0.20%	6.04%	5.85%	0.19%
Mar	6.10%	5.85%	0.25%	6.03%	5.76%	0.27%
Apr	6.24%	5.97%	0.27%	6.12%	5.81%	0.31%
May	6.23%	5.99%	0.24%	6.16%	5.88%	0.28%
June	6.54%	6.30%	0.24%	6.23%	6.13%	0.10%
July	6.49%	6.25%	0.24%	6.51%	6.29%	0.22%
Aug	6.51%	6.24%	0.27%	6.24%	6.09%	0.15%
Sept	6.45%	6.18%	0.27%	6.24%	6.12%	0.12%
Oct	6.36%	6.11%	0.25%	6.27%	6.18%	0.09%
Nov	6.27%	5.97%	0.30%	6.37%	6.17%	0.20%
Dec	6.51%	6.16%	0.35%	6.51%	6.20%	0.31%
2008						
Jan	6.35%	6.02%	0.33%	6.37%	5.97%	0.40%
Feb	6.60%	6.21%	0.39%	6.32%	5.84%	0.48%
Mar	6.68%	6.21%	0.47%	6.52%	5.95%	0.57%
Apr	6.81%	6.29%	0.52%	6.62%	5.98%	0.64%
May	6.79%	6.27%	0.52%	6.52%	6.02%	0.50%
Average			0.32%			0.29%

Source: Mergent Bond Record.

VECTREN ENERGY DELIVERY OF OHIO, INC.
CAPITAL STRUCTURE RATIOS
2003 - 2007
($millions)

YEAR	COMMON EQUITY	LONG-TERM DEBT	SHORT-TERM DEBT
2003	$104	$110	$31
	42.4%	44.9%	12.7%
	48.6%	51.4%	
2004	$103	$110	$34
	41.7%	44.5%	13.8%
	48.4%	51.6%	
2005	$97	$110	$30
	40.9%	46.4%	12.7%
	46.9%	53.1%	
2006	$89	$108	$15
	42.0%	50.9%	7.1%
	45.2%	54.8%	
2007	$89	$108	$39
	37.7%	45.8%	16.5%
	45.2%	54.8%	

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

Source: Response to Request for Interrogatories # 89.

VECTREN UTILITY HOLDINGS, INC.
CAPITAL STRUCTURE RATIOS
2003 - 2007
($millions)

YEAR	COMMON EQUITY	LONG-TERM DEBT	SHORT-TERM DEBT
2003	$980	$989	$185
	45.5%	45.9%	8.6%
	49.8%	50.2%	
2004	$985	$951	$308
	43.9%	42.4%	13.7%
	50.9%	49.1%	
2005	$1,024	$1,051	$227
	44.5%	45.7%	9.9%
	49.3%	50.7%	
2006	$1,057	$1,051	$270
	44.4%	44.2%	11.4%
	50.1%	49.9%	
2007	$1,090	$1,083	$386
	42.6%	42.3%	15.1%
	50.2%	49.8%	

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

Source: Response to Request for Interrogatories # 89.

VECTREN CORPORATION
CAPITAL STRUCTURE RATIOS
2003 - 2007
($millions)

YEAR	COMMON EQUITY	LONG-TERM DEBT	SHORT-TERM DEBT
2003	$1,072	$1,101	$275
	43.8%	45.0%	11.2%
	49.3%	50.7%	
2004	$1,095	$1,065	$412
	42.6%	41.4%	16.0%
	50.7%	49.3%	
2005	$1,143	$1,252	$300
	42.4%	46.5%	11.1%
	47.7%	52.3%	
2006	$1,174	$1,252	$465
	40.6%	43.3%	16.1%
	48.4%	51.6%	
2007	$1,234	$1,245	$557
	40.6%	41.0%	18.3%
	49.8%	50.2%	

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

Source: Response to Request for Interrogatories # 89.

PROXY GROUP OF GAS DISTRIBUTION COMPANIES
COMMON EQUITY RATIOS

COMPANY	2002	2003	2004	2005	2006	2007	Average	2011-2013
AGL Resources	41.7%	49.7%	46.0%	48.1%	49.8%	49.8%	47.5%	51.5%
Atmos Energy	46.1%	49.8%	56.8%	42.3%	43.0%	48.0%	47.7%	49.0%
Laclede Group	52.3%	49.4%	48.3%	51.8%	50.4%	54.6%	51.1%	51.0%
NICOR	64.5%	60.3%	60.1%	62.5%	63.7%	70.0%	63.5%	74.0%
Northwest Natural Gas	51.5%	50.3%	54.0%	53.0%	53.7%	53.7%	52.7%	52.0%
Piedmont Natural Gas	56.1%	57.8%	56.4%	58.6%	51.7%	51.6%	55.4%	50.8%
South Jersey Industries	46.1%	49.0%	51.0%	55.1%	55.3%	57.3%	52.3%	59.0%
Southwest Gas	34.1%	34.0%	35.8%	36.2%	39.4%	41.9%	36.9%	47.0%
WGL Holdings	52.4%	54.3%	57.2%	58.6%	61.5%	60.3%	57.4%	65.8%
Average	49.4%	50.5%	51.7%	51.8%	52.1%	54.1%	51.6%	55.6%

Source: Value Line Investment Survey.

PROXY GROUP OF GAS DISTRIBUTION COMPANIES
CAPITAL STRUCTURE RATIOS
INCLUDING SHORT-TERM DEBT

Company	2002	2003	2004	2005	2006	2007
AGL Resources	33%	41%	41%	41%	42%	42%
Atmos Energy	39%	45%	41%	38%	45%	45%
Laclede Group	37%	37%	40%	38%	58%	58%
NICOR	51%	41%	43%	42%	51%	51%
Northwest Natural Gas	48%	50%	49%	47%	48%	48%
Piedmont Natural Gas	54%	53%	53%	48%	46%	46%
South Jersey Industries	34%	41%	31%	45%	44%	44%
Southwest Gas	33%	33%	34%	36%	41%	41%
WGL Holdings	48%	49%	52%	58%	51%	51%
Average	**42%**	**43%**	**43%**	**44%**	**47%**	**47%**

Source: AUS Utility Reports.

SELECTION OF PROXY COMPANIES

Company	Percent Reg Gas Revenues	S&P Bond Rating	Moody's Bond Rating	Common Equity Ratio	Value Line Safety
Value Line Natural Gas Utility Group					
AGL Resources	67%	A-	A3	42%	2
Atmos Energy	56%	BBB	Baa3	47%	2
Energen	**42%**	BBB+	A1	**66%**	2
Laclede Group	55%	A	A3	40%	2
New Jersey Resources	**34%**	A+	NR	49%	1
NICOR	83%	AA	A1	52%	3
Northwest Natural Gas	98%	AA-	A2	47%	1
Piedmont Natural Gas	82%	A	A3	45%	2
South Jersey Industries	65%	A	Baa1	50%	2
Southwest Gas	84%	BBB-	Baa3	43%	3
UGI	**19%**	NR	A3	**35%**	2
WGL Holdings	57%	AA-	A2	51%	1

Sources: AUS Utility Reports, Value Line.

Criteria For Selection:
Listed by Value Line in "Natural Gas Utility" group,
Currently pays common stock dividends,
Percent Reg Gas Revenues of 50% or greater,
S&P and/or Moody's bond ratings of BBB or greater,
Common equity ratio of 40% to 55%, and
Value Line Safety of 1, 2, or 3.

COMPARISON COMPANIES
DIVIDEND YIELD

COMPANY	DPS	April - June, 2008			YIELD
		High	Low	Average	
Proxy Group of Natural Gas Distribution Companies					
AGL Resources	$1.68	$36.50	$33.46	$34.98	4.8%
Atmos Energy	$1.30	$28.64	$25.55	$27.10	4.8%
Laclede Group	$1.50	$41.96	$35.36	$38.66	3.9%
NICOR	$1.86	$44.55	$33.33	$38.94	4.8%
Northwest Natural Gas	$1.50	$48.22	$43.08	$45.65	3.3%
Piedmont Natural Gas	$1.04	$27.95	$25.23	$26.59	3.9%
South Jersey Industries	$1.08	$39.36	$35.31	$37.34	2.9%
Southwest Gas	$0.90	$31.74	$27.90	$29.82	3.0%
WGL Holdings	$1.42	$36.22	$31.84	$34.03	4.2%
Average					**3.9%**
Moul Proxy Companies					
AGL Resources	$1.68	$36.50	$33.46	$34.98	4.8%
Atmos Energy	$1.30	$28.64	$25.55	$27.10	4.8%
Laclede Group	$1.50	$41.96	$35.36	$38.66	3.9%
New Jersey Resources	$1.12	$34.63	$30.95	$32.79	3.4%
Northwest Natural Gas	$1.50	$48.22	$43.08	$45.65	3.3%
Piedmont Natural Gas	$1.04	$27.95	$25.23	$26.59	3.9%
South Jersey Industries	$1.08	$39.36	$35.31	$37.34	2.9%
WGL Holdings	$1.42	$36.22	$31.84	$34.03	4.2%
Average					**3.9%**
Staff Proxy Group					
AGL Resources	$1.68	$36.50	$33.46	$34.98	4.8%
Atmos Energy	$1.30	$28.64	$25.55	$27.10	4.8%
National Fuel Gas	$1.30	$63.71	$47.00	$55.36	2.3%
Piedmont Natural Gas	$1.04	$27.95	$25.23	$26.59	3.9%
South Jersey Industries	$1.08	$39.36	$35.31	$37.34	2.9%
Average					**3.8%**

Source: Yahoo! Finance.

COMPARISON COMPANIES
RETENTION GROWTH RATES

COMPANY	2003	2004	2005	2006	2007	Average	2008	2009	'11-'13	Average
Proxy Group of Natural Gas Distribution Companies										
AGL Resources	6.6%	5.6%	6.2%	6.3%	5.5%	6.0%	5.0%	5.0%	5.5%	5.2%
Atmos Energy	2.8%	1.7%	2.3%	3.6%	3.0%	2.7%	3.0%	3.5%	4.0%	3.5%
Laclede Group	3.1%	2.7%	3.1%	5.1%	4.3%	3.7%	5.5%	4.5%	5.0%	5.0%
NICOR	1.5%	2.1%	2.3%	5.2%	5.4%	3.3%	2.5%	3.5%	6.5%	4.2%
Northwest Natural Gas	2.6%	2.7%	3.7%	4.5%	6.0%	3.9%	5.0%	5.0%	5.0%	5.0%
Piedmont Natural Gas	3.1%	3.7%	3.6%	2.8%	3.5%	3.3%	4.0%	4.0%	4.5%	4.2%
South Jersey Industries	5.0%	5.9%	6.2%	10.2%	6.7%	6.8%	6.5%	7.0%	8.5%	7.3%
Southwest Gas	1.7%	4.3%	2.2%	5.2%	4.8%	3.6%	4.5%	5.0%	6.0%	5.2%
WGL Holdings	6.2%	4.1%	4.6%	3.1%	3.5%	4.3%	4.5%	4.5%	4.0%	4.3%
Average						**4.2%**				**4.9%**
Moul Proxy Companies										
AGL Resources	6.6%	5.6%	6.2%	6.3%	5.5%	6.0%	5.0%	5.0%	5.5%	5.2%
Atmos Energy	2.8%	1.7%	2.3%	3.6%	3.0%	2.7%	3.0%	3.5%	4.0%	3.5%
Laclede Group	3.1%	2.7%	3.1%	5.1%	4.3%	3.7%	5.5%	4.5%	5.0%	5.0%
New Jersey Resources	7.7%	7.8%	8.5%	6.3%	3.6%	6.8%	6.0%	5.5%	5.0%	5.5%
Northwest Natural Gas	2.6%	2.7%	3.7%	4.5%	6.0%	3.9%	5.0%	5.0%	5.0%	5.0%
Piedmont Natural Gas	3.1%	3.7%	3.6%	2.8%	3.5%	3.3%	4.0%	4.0%	4.5%	4.2%
South Jersey Industries	5.0%	5.9%	6.2%	10.2%	6.7%	6.8%	6.5%	7.0%	8.5%	7.3%
WGL Holdings	6.2%	4.1%	4.6%	3.1%	3.5%	4.3%	4.5%	4.5%	4.0%	4.3%
Average						**4.7%**				**5.0%**
Staff Proxy Group										
AGL Resources	6.6%	5.6%	6.2%	6.3%	5.5%	6.2%	5.0%	5.0%	5.5%	5.2%
Atmos Energy	2.8%	1.7%	2.3%	3.6%	3.0%	2.6%	3.0%	3.5%	4.0%	3.5%
National Fuel Gas	6.1%	5.9%	5.6%	7.3%	6.2%	6.2%	9.0%	7.5%	6.5%	7.7%
Piedmont Natural Gas	3.1%	3.7%	3.6%	2.8%	3.5%	3.3%	4.0%	4.0%	4.5%	4.2%
South Jersey Industries	5.0%	5.9%	6.2%	10.2%	6.7%	6.8%	6.5%	7.0%	8.5%	7.3%
Average						**5.0%**				**5.6%**

Source: Value Line Investment Survey.

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 of Natural Gas Distribution Companies								
AGL Resources	15.0%	4.0%	10.5%	9.8%	3.5%	4.0%	3.5%	3.7%
Atmos Energy	7.5%	1.5%	9.0%	6.0%	4.5%	2.0%	3.5%	3.3%
Laclede Group	9.5%	1.0%	4.5%	5.0%	4.5%	2.5%	5.5%	4.2%
NICOR	-1.5%	1.0%	4.0%	1.2%	4.0%	0.0%	4.5%	2.8%
Northwest Natural Gas	6.5%	2.0%	3.5%	4.0%	7.0%	5.5%	3.5%	5.3%
Piedmont Natural Gas	6.0%	4.5%	6.5%	5.7%	6.0%	4.0%	4.0%	4.7%
South Jersey Industries	12.0%	3.5%	13.5%	9.7%	6.0%	5.5%	5.0%	5.5%
Southwest Gas	6.0%	0.0%	3.5%	3.2%	7.0%	4.0%	3.5%	4.8%
WGL Holdings	5.0%	1.5%	3.5%	3.3%	3.5%	2.5%	5.0%	3.7%
Average				**5.3%**				**4.2%**
Moul Proxy Companies								
AGL Resources	15.0%	4.0%	10.5%	9.8%	3.5%	4.0%	3.5%	3.7%
Atmos Energy	7.5%	1.5%	9.0%	6.0%	4.5%	2.0%	3.5%	3.3%
Laclede Group	9.5%	1.0%	4.5%	5.0%	4.5%	2.5%	5.5%	4.2%
New Jersey Resources	6.0%	4.0%	10.0%	6.7%	6.5%	6.0%	9.0%	7.2%
Northwest Natural Gas	6.5%	2.0%	3.5%	4.0%	7.0%	5.5%	3.5%	5.3%
Piedmont Natural Gas	6.0%	4.5%	6.5%	5.7%	6.0%	4.0%	4.0%	4.7%
South Jersey Industries	12.0%	3.5%	13.5%	9.7%		5.5%	5.0%	5.3%
WGL Holdings	5.0%	1.5%	3.5%	3.3%	3.5%	2.5%	5.0%	3.7%
Average				**6.3%**				**4.7%**
Staff Proxy Group								
AGL Resources	15.0%	4.0%	10.5%	9.8%	3.5%	4.0%	3.5%	3.7%
Atmos Energy	7.5%	1.5%	9.0%	6.0%	4.5%	2.0%	3.5%	3.3%
National Fuel Gas	5.0%	3.5%	6.5%	5.0%	4.5%	3.0%	7.5%	5.0%
Piedmont Natural Gas	6.0%	4.5%	6.5%	5.7%	6.0%	4.0%	4.0%	4.7%
South Jersey Industries	12.0%	3.5%	13.5%	9.7%	6.0%	5.5%	5.0%	5.5%
Average				**7.2%**				**4.4%**

Source: Value Line Investment Survey.

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 of Natural Gas Distribution Companies								
AGL Resources	4.9%	6.0%	5.2%	9.8%	3.7%	5.3%	6.0%	10.9%
Atmos Energy	4.9%	2.7%	3.5%	6.0%	3.3%	4.7%	4.0%	8.9%
Laclede Group	4.0%	3.7%	5.0%	5.0%	4.2%	3.5%	4.3%	8.2%
NICOR	4.9%	3.3%	4.2%	1.2%	2.8%	4.2%	3.1%	8.0%
Northwest Natural Gas	3.4%	3.9%	5.0%	4.0%	5.3%	4.9%	4.6%	8.0%
Piedmont Natural Gas	4.0%	3.3%	4.2%	5.7%	4.7%	5.5%	4.7%	8.7%
South Jersey Industries	3.0%	6.8%	7.3%	9.7%	5.5%	6.6%	7.2%	10.2%
Southwest Gas	3.1%	3.6%	5.2%	3.2%	4.8%	6.0%	4.6%	7.6%
WGL Holdings	4.3%	4.3%	4.3%	3.3%	3.7%	5.5%	4.2%	8.5%
Mean	4.0%	4.2%	4.9%	5.3%	4.2%	5.1%	4.7%	**8.8%**
Median	4.0%	3.7%	5.0%	5.0%	4.2%	5.3%	4.6%	**8.5%**
Mean Composite		8.2%	8.9%	9.4%	8.3%	9.2%	8.8%	
Median Composite		7.7%	9.0%	9.0%	8.2%	9.3%	8.6%	
Moul Proxy Companies								
AGL Resources	4.9%	6.0%	5.2%	9.8%	3.7%	5.3%	6.0%	10.9%
Atmos Energy	4.9%	2.7%	3.5%	6.0%	3.3%	4.7%	4.0%	8.9%
Laclede Group	4.0%	3.7%	5.0%	5.0%	4.2%	3.5%	4.3%	8.2%
New Jersey Resources	3.5%	6.8%	5.5%	8.7%	7.2%	6.0%	6.4%	9.9%
Northwest Natural Gas	3.4%	3.9%	5.0%	4.0%	5.3%	4.9%	4.6%	8.0%
Piedmont Natural Gas	4.0%	3.3%	4.2%	5.7%	4.7%	5.5%	4.7%	8.7%
South Jersey Industries	3.0%	6.8%	7.3%	9.7%	5.3%	6.6%	7.1%	10.1%
WGL Holdings	4.3%	4.3%	4.3%	3.3%	3.7%	5.5%	4.2%	8.5%
Mean	4.0%	4.7%	5.0%	6.3%	4.7%	5.2%	5.2%	**9.2%**
Median	4.0%	4.1%	5.0%	5.8%	4.4%	5.4%	4.6%	**8.8%**
Mean Composite		8.7%	9.0%	10.3%	8.7%	9.2%	9.2%	
Median Composite		8.1%	9.0%	9.8%	8.4%	9.4%	8.6%	
Staff Proxy Group								
AGL Resources	4.9%	6.2%	5.2%	9.8%	3.7%	5.3%	6.0%	11.0%
Atmos Energy	4.9%	2.6%	3.6%	6.0%	3.3%	4.7%	4.0%	8.9%
National Fuel Gas	2.4%	6.2%	7.7%	5.0%	5.0%	5.0%	5.8%	8.2%
Piedmont Natural Gas	4.0%	3.3%	4.2%	5.7%	4.7%	5.5%	4.7%	8.7%
South Jersey Industries	3.0%	6.8%	7.3%	9.7%	5.5%	6.6%	7.2%	10.2%
Mean	3.9%	5.0%	5.6%	7.2%	4.4%	5.4%	5.5%	**9.4%**
Median	4.0%	6.2%	5.2%	6.0%	4.7%	5.3%	5.8%	**8.9%**
Mean Composite		8.9%	9.4%	11.1%	8.3%	9.3%	9.4%	
Median Composite		10.2%	9.2%	10.0%	8.7%	9.3%	8.8%	

Sources: Prior pages of this schedule.

LONG-TERM PROJECTIONS OF
GROSS DOMESTIC PRODUCT GROWTH

Year	Social Security Administration		
	Real GDP	GDP Index	Nominal GDP
2008	3.0%	2.0%	5.0%
2009	2.8%	2.3%	5.1%
2010	2.6%	2.4%	5.0%
2011	2.6%	2.4%	5.0%
2012	2.4%	2.4%	4.8%
2013	2.2%	2.4%	4.6%
2014	2.1%	2.4%	4.5%
2015	2.2%	2.4%	4.6%
2016	2.2%	2.4%	4.6%
2017	2.1%	2.4%	4.5%
2018	2.0%	2.4%	4.4%
2019	2.0%	2.4%	4.4%
2020	2.0%	2.4%	4.4%
2021	2.0%	2.4%	4.4%
2022	2.0%	2.4%	4.4%
2023	2.0%	2.4%	4.4%
2024	2.0%	2.4%	4.4%
2025	2.0%	2.4%	4.4%
2026	2.0%	2.4%	4.4%
2027	2.0%	2.4%	4.4%
2028	2.0%	2.4%	4.4%
2029	2.0%	2.4%	4.4%
2030	2.0%	2.4%	4.4%
2031	2.0%	2.4%	4.4%
2032	2.0%	2.4%	4.4%
2033	2.0%	2.4%	4.4%
2034	2.0%	2.4%	4.4%
2035	2.0%	2.4%	4.4%
2036	2.0%	2.4%	4.4%
2037	2.0%	2.4%	4.4%
2038	2.0%	2.4%	4.4%
2039	2.0%	2.4%	4.4%
2040	2.0%	2.4%	4.4%
2041	2.0%	2.4%	4.4%
2042	2.0%	2.4%	4.4%
2043	2.0%	2.4%	4.4%
2044	2.0%	2.4%	4.4%
2045	2.0%	2.4%	4.4%
2046	2.0%	2.4%	4.4%
2047	2.0%	2.4%	4.4%
2048	2.0%	2.4%	4.4%
2049	2.0%	2.4%	4.4%
2050	1.9%	2.4%	4.3%
2051	1.9%	2.4%	4.3%
2052	1.9%	2.4%	4.3%
2053	1.9%	2.4%	4.3%
2054	1.9%	2.4%	4.3%
2055	1.9%	2.4%	4.3%
2056	1.9%	2.4%	4.3%
2057	1.9%	2.4%	4.3%
2058	1.9%	2.4%	4.3%
2059	1.9%	2.4%	4.3%
2060	2.0%	2.4%	4.4%
2061	2.0%	2.4%	4.4%
2062	2.0%	2.4%	4.4%
2063	2.0%	2.4%	4.4%
2064	2.0%	2.4%	4.4%
2065	1.9%	2.4%	4.3%
2066	1.9%	2.4%	4.3%
2067	1.9%	2.4%	4.3%
2068	1.9%	2.4%	4.3%
2069	1.9%	2.4%	4.3%
2070	1.9%	2.4%	4.3%
2071	1.9%	2.4%	4.3%
2072	1.9%	2.4%	4.3%
2073	1.9%	2.4%	4.3%
2074	1.9%	2.4%	4.3%
2075	1.9%	2.4%	4.3%
2076	1.9%	2.4%	4.3%
2077	1.9%	2.4%	4.3%
2078	1.9%	2.4%	4.3%
2079	1.9%	2.4%	4.3%
2080	1.9%	2.4%	4.3%
2081	1.9%	2.4%	4.3%
2082	1.9%	2.4%	4.3%
2083	1.9%	2.4%	4.3%
2084	1.9%	2.4%	4.3%
2085	1.9%	2.4%	4.3%
Average			4.4%

Source: 2008 OASDI Trustees Report.

LONG-TERM PROJECTIONS OF
GROSS DOMESTIC PRODUCT GROWTH

Energy Information Administration

Annual Growth (2006-2030):

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 YIELD	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%	7.29%	5.08%
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	$24.69	$338.37	7.43%	5.53%	1.90%
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 **6.45%**

Source: Standard & Poor's Analysts' Handbook, Ibbotson Associates Handbook.

COMPARISON COMPANIES
CAPM COST RATES

COMPANY	RISK-FREE RATE	BETA	RISK PREMIUM	CAPM RATES
Proxy Group of Natural Gas Distribution Companies				
AGL Resources	4.59%	0.85	5.90%	9.6%
Atmos Energy	4.59%	0.85	5.90%	9.6%
Laclede Group	4.59%	0.90	5.90%	9.9%
NICOR	4.59%	0.95	5.90%	10.2%
Northwest Natural Gas	4.59%	0.80	5.90%	9.3%
Piedmont Natural Gas	4.59%	0.85	5.90%	9.6%
South Jersey Industries	4.59%	0.85	5.90%	9.6%
Southwest Gas	4.59%	0.90	5.90%	9.9%
WGL Holdings	4.59%	0.90	5.90%	9.9%
Mean				**9.7%**
Median				**9.6%**
Moul Proxy Companies				
AGL Resources	4.59%	0.85	5.90%	9.6%
Atmos Energy	4.59%	0.85	5.90%	9.6%
Laclede Group	4.59%	0.90	5.90%	9.9%
New Jersey Resources	4.59%	0.85	5.90%	9.6%
Northwest Natural Gas	4.59%	0.80	5.90%	9.3%
Piedmont Natural Gas	4.59%	0.85	5.90%	9.6%
South Jersey Industries	4.59%	0.85	5.90%	9.6%
WGL Holdings	4.59%	0.90	5.90%	9.9%
Mean				**9.6%**
Median				**9.6%**
Staff Proxy Group				
AGL Resources	4.59%	0.85	5.90%	9.6%
Atmos Energy	4.59%	0.85	5.90%	9.6%
National Fuel Gas	4.59%	1.00	5.90%	10.5%
Piedmont Natural Gas	4.59%	0.85	5.90%	9.6%
South Jersey Industries	4.59%	0.85	5.90%	9.6%
Mean				**9.8%**
Median				**9.6%**

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

VECTREN ENERGY DELIVERY OF OHIO, INC.
PRE-TAX COVERAGE

Item	Percent	Cost	Weighted Cost	Pre-Tax Cost	
Long-Term Debt	50.30%	6.41%	3.22%	3.22%	
Common Equity	49.70%	9.88%	4.91%	8.18%	
Total	100.00%		8.13%	11.40%	1/

1/ Post-tax weighted cost divided by .60 (composite tax factor)

Pre-Tax coverage =   **3.54** x (11.40% / 3.22%)

Standard & Poor's Utility Benchmark Ratios:
Business Profile of "3"

	A	BBB
Pre-tax coverage	2.8x - 3.4x	1.8x - 2.8x
Total debt to total capital	50%-55%	55%-65%

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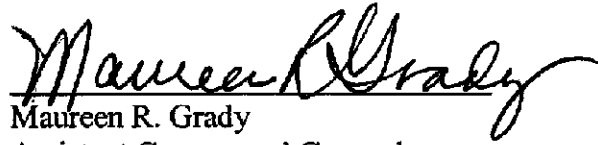
"Identifying and Managing Community Bank Performance After Deregulation", with William B. Harrison, Journal of Managerial Issues, Vol. II, No. 2, Summer 1990

"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, <u>Dictionary of Virginia Biography</u>, Volume 2, 2001.

CERTIFICATE OF SERVICE

It is hereby certified that a true copy of the foregoing *Direct Testimony of David C. Parcell* was served upon the persons listed below by regular U.S. Mail, postage prepaid, this 23rd day of July, 2008.

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