BEFORE THE CORPORATION COMMISSION
OF OKLAHOMA

APPLICATION OF PUBLIC SERVICE COMPANY OF OKLAHOMA TO BE IN COMPLIANCE WITH ORDER NO. 591185 ISSUED IN CAUSE NO. PUD 201100106 WHICH REQUIRES A BASE RATE CASE TO BE FILED BY PSO AND THE RESULTING ADJUSTMENT IN ITS RATES AND CHARGES AND TERMS AND CONDITIONS OF SERVICE FOR ELECTRIC SERVICE IN THE STATE OF OKLAHOMA	)	CAUSE NO. PUD 201300217

DIRECT TESTIMONY AND EXHIBITS

OF

DAVID C. PARCELL

PRESIDENT

TECHNICAL ASSOCIATES, INC.

ON BEHALF OF
OKLAHOMA INDUSTRIAL ENERGY CONSUMERS,
WAL-MART STORES EAST, LP, AND
SAM'S EAST, INC.

APRIL 23, 2014

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is David C. Parcell. I am President and Senior Economist of Technical Associates, Inc. My business address is Suite 580, 9030 Stony Point Parkway, Richmond, Virginia 23235.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia Commonwealth University. I have been a consulting economist with Technical Associates since 1970. I have provided cost of capital testimony in public utility ratemaking proceedings dating back to 1972. In connection with this, I have previously filed testimony and/or testified in more than 500 utility proceedings before about 50 regulatory agencies in the United States and Canada. Exhibit DCP-1 provides a more complete description of my education and relevant work experience.

II. PURPOSE OF TESTIMONY

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

A. I have been retained by the Oklahoma Industrial Energy Consumers ("OIEC"), Wal-Mart Stores East, LP and Sam's East, Inc. to evaluate the cost of capital ("COC") relative to the current filing of Public Service Company of Oklahoma ("PSO" or "Company"). I have performed independent studies and am making recommendations of the current COC for PSO. In addition, because PSO is a subsidiary of American Electric Power Company ("AEP"), I also have considered this entity in my risk assessment and analyses of the Company.

Q. HAVE YOU PREPARED EXHIBITS IN SUPPORT OF YOUR TESTIMONY?

A. Yes. I have prepared several exhibits, labeled Exhibit DCP-1 through Exhibit DCP-14 attached to my testimony. These exhibits were prepared either by me or under my direction. The information contained in this exhibit is correct to the best of my knowledge and belief.

III. RECOMMENDATIONS AND SUMMARY

Q. PLEASE SUMMARIZE YOUR COC ANALYSES AND RELATED CONCLUSIONS FOR PSO.

A. This proceeding is concerned with PSO's regulated electric utility operations in Oklahoma. My analyses address the Company's COC. My overall COC recommendations for PSO are shown on Exhibit DCP-2 and are summarized below:

	Percent	Cost	Return
Long-Term Debt	51.31%	5.51%	2.83%
Common Equity	48.69%	9.00-9.50%	4.38-4.63%
Total	100.00%		7.21-7.45%
			7.33% Mid-Point

PSO's application requests a cost of common equity ("COE") of 10.50% and overall COC of 7.94%. I propose a COE of 9.25% and an overall COC of 7.33%.

The first step in performing an analysis of the Company's cost of capital is the development of the appropriate capital structure. PSO's proposed capital structure is comprised of 51.31% long-term debt and 48.69% common equity, which represents the Company's "Adjusted" capital structure ratios as of July 31, 2013. I use this capital structure in my COC analyses.

The second step in a COC calculation is a determination of the embedded cost of long-term debt. PSO's application uses a cost of 5.51% for long-term debt which reflects the Company's embedded cost at July 31, 2013. I also use this rate in my analyses.

The third step in the COC calculation is the estimation of the COE. I have employed three recognized methodologies to estimate the COE for PSO. Each of these methodologies is applied to two groups of proxy utilities. These three methodologies and my findings are:

Methodology	Range	Mid-Point
Discounted Cash Flow	8.6-9.4%	9.00%
Capital Asset Pricing Model	7.5-7.6%	7.55%
Comparable Earnings	9.0-10.0%	9.50%

Based upon these findings, I conclude that the COE for PSO is within a range of 9.00% to 9.50% (9.25% mid-point). This reflects the mid-point results of my DCF and comparable earnings analyses.

Combining these three steps results in an overall COC range of 7.21% to 7.45%. My recommended 9.25% COE results in an overall COC of 7.33%.

IV. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

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

A. Public utility rates are normally established in a manner designed to allow the recovery of their costs, including capital costs. This is frequently referred to as "cost of service"

ratemaking. Rates for regulated public utilities traditionally have been primarily established using the "rate base - rate of return" concept. Under this method, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets used and useful (i.e., rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility's balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners' equity side of the balance sheet as a percentage. The revenue impact of the rate of return is thus derived by multiplying the rate base by the rate of return (including income taxes).

The rate of return is developed from the COC, which is estimated by weighting the capital structure components (i.e., debt, preferred stock, and common equity) by their percentages in the capital structure and multiplying these by their cost rates. This is also known as the weighted COC.

Technically, "fair rate of return" is a legal and accounting concept that refers to an *ex post* (after the fact) earned return on an asset base, while the COC is an economic and financial concept which refers to an *ex ante* (before the fact) expected or required return on a liability base. In regulatory proceedings, however, the two terms are often used interchangeably, as I have done in my testimony.

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

Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on my understanding that two United States Supreme Court decisions provide the main standards for a fair rate of return. The first decision is Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia, 262 U.S. 679 (1923). In this decision, the Court stated:

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

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

The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1942). In that decision, the Court stated:

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

The Hope case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not as important as long as the end result is reasonable.

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

Q. HOW CAN THESE PARAMETERS BE EMPLOYED TO ESTIMATE THE COC FOR A UTILITY?

A. Neither the courts nor economic/financial theory have developed exact and mechanical procedures for precisely determining the COC. This is the case because the COC is an opportunity cost and is prospective-looking, which dictates that it must be estimated.

There are several useful models that can be employed to assist in estimating the COE, which is the capital structure item that is the most difficult to determine. These include the Discounted Cash Flow ("DCF"), Capital Asset Pricing Model ("CAPM"), Comparable Earnings ("CE") and Risk Premium ("RP") methods. Each of these methods (or models) differs from the others and each, if properly employed, can be a useful tool in estimating the COE for a regulated utility.

Q. WHICH METHODS HAVE YOU EMPLOYED IN YOUR ANALYSES OF THE COE IN THIS PROCEEDING?

A. I have utilized three methodologies to determine PSO's COE: the DCF, CAPM, and CE methods. I have not employed a RP model in my analyses, although, as I indicate later,

my CAPM analysis is a form of the RP methodology. Each of these methodologies will be described in more detail in my testimony that follows.

V. GENERAL ECONOMIC CONDITIONS

Q. ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN DETERMINING THE COST OF CAPITAL FOR PSO?

A. Yes. The cost of capital, for both fixed-cost (debt and preferred stock) components and common equity, is determined in part by current and prospective economic and financial conditions. At any given time, each of the following factors has an influence on the cost of capital:

- The level of economic activity (i.e., growth rate of the economy);
- The stage of the business cycle (i.e., recession, expansion, or transition);
- The level of inflation;
- The level and trend of interest rates; and,
- Expected economic conditions.

My understanding is that this position is consistent with the Bluefield decision that noted "[a] rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally." Bluefield, 262 U.S. at 693.

Q. WHAT INDICATORS OF ECONOMIC AND FINANCIAL ACTIVITY DID YOU EVALUATE IN YOUR ANALYSES?

A. I examined several sets of economic statistics from 1975 to the present. I chose this time period because it permits the evaluation of economic conditions over four full business cycles, allowing for an assessment of changes in long-term trends. This period also approximates the beginning and continuation of active rate case activities by public utilities.

A business cycle is commonly defined as a complete period of expansion (recovery and growth) and contraction (recession). A full business cycle is a useful and convenient period over which to measure levels and trends in long-term capital costs because it incorporates the cyclical (i.e., stage of business cycle) influences, and thus, permits a comparison of structural (or long-term) trends.

Q. PLEASE DESCRIBE THE TIMEFRAME OF THE FOUR PRIOR BUSINESS CYCLES AND THE CURRENT CYCLE.

A. The four 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
1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001
2001-2009	Dec. 2001-Nov. 2007	Dec. 2007-June 2009
Current	July 2009-	

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

Q. DO YOU HAVE ANY GENERAL OBSERVATIONS CONCERNING THE RECENT TRENDS IN ECONOMIC CONDITIONS AND THEIR IMPACT ON CAPITAL COSTS OVER THIS BROAD PERIOD?

A. Yes, I do. Until the end of 2007, the United States economy had enjoyed general prosperity and stability since the early 1980s.[1] This period had been characterized by longer economic expansions, relatively tame contractions, low and declining inflation, and declining interest rates and other capital costs.

However, in 2008 and 2009, the economy declined significantly, initially as a result of the 2007 collapse of the "sub-prime" mortgage market and the related liquidity crisis in the financial sector of the economy. Subsequently, this financial crisis

[1] There was a "Tech Bubble" in 1999-2000, in which prices of many technology stocks encountered a dramatic run-up that was followed by an equally dramatic decline in 2001-2002.

intensified with a more broad-based decline, initially based on a substantial increase in petroleum prices and a dramatic decline in the U.S. financial sector, culminating with the collapse and/or bailouts of a significant number of well-known institutions such as Bear Stearns, Lehman Brothers, Merrill Lynch, Freddie Mac, Fannie Mae, AIG and Wachovia. The recession also witnessed the demise of national companies such as Circuit City and the bankruptcies of automotive manufacturers such as Chrysler and General Motors.

This decline has been described as the worst financial crisis since the Great Depression and has been referred to as the "Great Recession." Since 2008, the U.S. and other governments have implemented and continue to implement unprecedented actions to attempt to correct or minimize the scope and effects of this recession.

The recession reached its low point in mid-2009 and the economy has since begun to expand again, although at a slow and uneven rate. However, the length and severity of the recession, as well as a relatively slow and uneven recovery, indicates that the impacts of the recession have been and will be felt for an extended period of time. As an example of this, even in the fifth year of the recovery/expansion, the U.S. unemployment rate still stands at over 7% -- close to the highest unemployment rate experienced over the last several decades.

Q. PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND FINANCIAL CONDITIONS AND THEIR IMPACT ON THE COST OF CAPITAL.

A. Exhibit No. DCP-3 shows several sets of relevant economic and financial statistics for the cited time periods. Pages 1 and 2 contain general macroeconomic statistics; pages 3 and 4 show interest rates; and pages 5 and 6 contain equity market statistics.

Pages 1 and 2 show that 2007 was the sixth year of an economic expansion but, as I previously noted, the economy subsequently entered a significant decline, as indicated by the growth in real (i.e., adjusted for inflation) Gross Domestic Product ("GDP"), industrial production, and an increase in the unemployment rate. This recession lasted until mid-2009, making it a longer-than-normal recession, as well as a much deeper

recession. Since then, economic growth has been erratic and lower than the initial periods of prior expansions.

Pages 1 and 2 also show the rate of inflation. As reflected in the Consumer Price Index ("CPI"), for example, inflation rose significantly during the 1975-1982 business cycle and reached double-digit levels in 1979-1980. The rate of inflation has declined substantially since 1981. Since 2008, the CPI has been 3 percent or lower, with 2013 being only 1.5 percent. It is thus apparent that the rate of inflation has generally been declining over the past several business cycles. Current levels of inflation are at the lowest levels of the past 35 years and are indicative of low inflation, which is reflective of lower capital costs.[2]

Q. WHAT HAVE BEEN THE TRENDS IN INTEREST RATES OVER THE FOUR PRIOR BUSINESS CYCLES AND AT THE CURRENT TIME?

A. Pages 3 and 4 of Exhibit No. DCP-3 show several series of interest rates. Rates rose sharply to record levels in 1975-1981 when the inflation rate was high and generally rising. Interest rates declined substantially in conjunction with inflation rates during the remainder of the 1980s and throughout the 1990s and 2000s.

Since 2008, the Federal Reserve has lowered the Federal Funds rate (i.e., short-term rate) to 0.25 percent, an all-time low. The Federal Reserve has also purchased U.S. Treasury securities to stimulate the economy.[3] As seen on page 4, in 2012 both U.S. and corporate bond yields declined to their lowest levels in the past four business cycles and in more than 35 years. Interest rates have risen somewhat from those lows in 2013 but have leveled off in recent months. Even with the recent increases, both government and corporate lending rates remain at historically low levels, again reflective of lower capital costs.

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[2] The rate of inflation is one component of interest rate expectations of investors, who generally expect to receive a return in excess of the rate of inflation. Thus, a lower rate of inflation has a downward impact on interest rates and other capital costs.

Q. WHAT DOES THIS EXHIBIT SHOW FOR TRENDS OF COMMON SHARE PRICES?

A. Pages 5 and 6 of Exhibit DCP-3 show several series of common stock prices and ratios. These indicate that stock prices were essentially stagnant during the high inflation/high interest rate environment of the late 1970s and early 1980s. The 1983-1991 business cycle and the more recent cycles witnessed a significant upward trend in stock prices. The beginning of the recent financial crisis saw stock prices decline precipitously, as stock prices in 2008 and early 2009 were down significantly from peak 2007 levels, reflecting the financial/economic crisis. Beginning in the second quarter of 2009, prices have recovered substantially and have ultimately reached and exceeded the levels achieved prior to the "crash."

Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR DISCUSSION OF ECONOMIC AND FINANCIAL CONDITIONS?

A. It is apparent that recent economic and financial circumstances have been different from any that have prevailed since at least the 1930s. The late 2008-early 2009 deterioration in stock prices, the decline in U.S. Treasury bond yields, and an increase in corporate bond yields were demonstrated by the then-evident "flight to safety." Concurrently, there was a decline in capital costs and returns, which significantly reduced the value of most retirement accounts, investment portfolios and other assets. One significant aspect of this has been a decline in investor expectations of returns. This is manifested in several ways: 1) lower interest rates on bank deposits; 2) lower interest rates on U.S. Treasury and corporate bonds; and 3), lower increases in Social Security cost of living benefits.[4] Finally, as noted above, utility bond interest rates are currently at levels below those

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[3] This is referred to as Quantitative Easing ("QE"), in which the FED purchased some $85 billion of U.S. Treasury Securities per month in order to stimulate the economy. The FED has recently announced its intention to "taper" its purchase of U.S. Treasury securities, but still intends to purchase some $55 billion per month.

[4] The 2014 increase in Social Security benefits is 1.5 percent – near an all-time low.

prevailing prior to the financial crisis of late 2008 to early 2009 and are near the lowest levels in the past 35 years.

VI. PSO'S OPERATIONS AND BUSINESS RISKS

Q. PLEASE SUMMARIZE PSO AND ITS OPERATIONS.

A. PSO is a utility that is engaged in the generation, transmission, and distribution of electric power to approximately 540,000 retail customers in eastern and southwestern Oklahoma. PSO is a wholly-owned subsidiary of AEP.

Q. PLEASE DESCRIBE AEP.

A. AEP is a holding company whose subsidiaries include PSO. Other major utility subsidiaries of AEP are: Appalachian Power Co., Indiana Michigan Power Co., Kentucky Power Co., Ohio Power Co., and Southwestern Electric Power Company. AEP acquired Central and South West Corporation in 2000, which substantially increased its size and geographic operations, including PSO. AEP is one of the largest electric utilities in the United States.

Q. WHAT ARE THE CURRENT BOND RATINGS OF PSO AND AEP?

A. The present bond ratings are as follows:

	PSO	AEP
Moody's	A3	Baa1
Standard & Poor's	BBB	BBB

(Source: Response To OIEC 2.04)

Q. WHAT HAVE BEEN THE TRENDS IN PSO'S AND AEP'S BOND RATINGS?

A. This is shown on Exhibit DCP-4, which indicates that PSO has had triple B or higher ratings since 2000.

Q. HAVE THERE BEEN ANY RECENT RATING CHANGES OF PSO'S SECURITIES?

A. Yes. On January 30, 2014, Moody's upgraded PSO's senior unsecured debt (along with other utilities) from Baa1 to A3. In a February 14, 2014 "Credit Opinion: Public Service Company of Oklahoma", Moody's stated the following:

> On January 30, 2014, Moody's upgraded the rating of PSO's senior unsecured debt to A3 from Baa1. **The upgrade reflects a low risk, vertically integrated electric utility company operating under a long-term credit supportive jurisdiction which provide a good level of certainty and predictability regarding cash flows, and offer an appropriate suite of recovery mechanisms.**
>
> . . .
>
> **DETAILED RATING CONSIDERATIONS**
>
> HISTORICALLY SUPPORTIVE REGULATORY ENVIRONMENT
>
> PSO operates under the jurisdiction of the OCC, which Moody's views as providing a generally credit-supportive framework. The OCC relies on year-end rate bases for historical test periods, adjusted for certain known-and-measurable changes, and is required to issue a decision within 6 months of a utility-initiated general rate case filing. Historically, the OCC has provided reasonable cost recovery and returns in its rate decisions, including authorized ROEs that have been in-line with regional averages. The OCC permits interim rates to go into effect if a rate case is not decided within 6 months. Although Oklahoma has few recovery mechanisms overall, there is a fuel adjustment cause (FAC). This FAC allows PSO to true up fuel costs as often as quarterly when costs have changed or the under-or over-recovered balance exceeds 5% of the annual Oklahoma-jurisdictional fuel cost. Once the adjustment has been filed, the OCC staff has five days to object, which would open a formal inquiry, or the environmental and transmission expenditures. The OCC has approved the use of riders to facilitate recovery of certain costs, including storm-related costs.
>
> . . .
>
> **SERVICE TERRITORY PROVIDES BRIGHT SPOT FOR PARENT AEP**

> **Oklahoma has been a bright spot among AEP's service territories,** with an unemployment rate of 5.2% as of November 2013, well below the national average, and payroll employment that has surpassed its prerecession peak, according to MoodysEconomy.com, a credit positive. PSO's split service territory is comprised of two significantly sized non-contiguous areas of Oklahoma. The eastern territory abuts Arkansas and includes the Tulsa metro area. PSO also operates in the southwestern corner of Oklahoma below Oklahoma City. The service territory contains areas of the Woodford and Excello-Mulky shale basins. Shale development and associated midstream projects have aided the resilience of the state through the economic malaise and should allow Oklahoma to continue to outperform national averages in the near and medium terms. **[Emphasis added]**

Q. HOW DO PSO'S CURRENT BOND RATINGS COMPARE TO THOSE OF OTHER ELECTRIC AND COMBINATION GAS/ELECTRIC UTILITIES?

A. As I indicated in the previous answer, PSO has single-A/triple B bond ratings on its senior long-term debt. Below is a table depicting the bond rating data of the 50 electric utilities and combination gas/electric utilities covered by AUS Utility Reports. As can be seen, PSO's Moody's "A" rating is better than most of the utilities, and its A3 rating is exceeded by only 9 of the 50 companies.

Moody's Rating	Number of Companies	S&P Rating	Number of Companies
Aa2	1	AA-	1
A1	1	A+	--
A2	7	A	3
A3*	19	A-	18
Baa1	12	BBB+	11
Baa2	7	BBB*	10
Baa3	--	BBB-	2
Ba or less	--	BB	--
NR	3	NR	4

* PSO ratings.

VII. CAPITAL STRUCTURE

Q. WHAT IS THE IMPORTANCE OF DETERMINING A PROPER CAPITAL STRUCTURE IN A REGULATORY FRAMEWORK?

A. A utility's capital structure is important because the concept of rate base – rate of return regulation requires that a utility's capital structure be determined and utilized in estimating the total cost of capital. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriate relative to its level of business risk and relative to other utilities.

As discussed in Section III of my testimony, the purpose of determining the proper capital structure for a utility is to help ascertain its capital costs. The rate base-rate of return concept recognizes the assets employed in providing utility services and provides for a return on these assets by identifying the liabilities and common equity (and their cost rates) used to finance the assets. In this process, the rate base is derived from the asset side of the balance sheet and the cost of capital is derived from the liabilities/owners' equity side of the balance sheet. The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal and the former is utilized to finance the latter.

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

Q. HOW HAVE YOU EVALUATED PSO's CAPITAL STRUCTURE?

A. I have first examined PSO's five year historic (2009-2013) capital structure ratios. These are shown on Page 1 of Exhibit DCP-5. I have summarized below the common equity ratios for PSO:

	Including S-T Debt	Excluding S-T Debt
2009	46.1%	46.1%
2010	44.4%	46.6%
2011	49.0%	49.0%
2012	49.6%	49.6%
2013	47.6%	48.5%

Page 2 of Exhibit DCP-5 shows AEP's historic capital structure ratios on a consolidated basis. This indicates the following common equity ratios.

	Including S-T Debt	Excluding S-T Debt
2009	42.6%	42.8%
2010	42.8%	44.7%
2011	44.7%	47.0%
2012	44.8%	46.2%
2013	45.7%	46.7%

These common equity ratios are slightly lower than those of PSO.

Page 3 of Exhibit DCP-5 shows the 2013 capital structure ratios of AEP's utility subsidiaries. PSO's common equity ratios are seen to be generally similar to the common equity range of the other utility companies.

Q. HOW DO THESE CAPITAL STRUCTURES COMPARE TO THOSE OF INVESTOR-OWNED ELECTRIC UTILITIES?

A. Exhibit DCP-6 shows the common equity ratios (including short-term debt in capitalization) for the two groups of electric utilities covered by AUS Utility Reports. These are:

Year	Electric	Combination Gas and Electric
2009	46%	45%
2010	46%	46%
2011	47%	46%
2012	47%	46%
2013	48%	47%

These common equity ratios are similar to those of PSO.

Q. WHAT CAPITAL STRUCTURE HAS PSO REQUESTED IN THIS PROCEEDING?

A. PSO is requesting an "adjusted" July 31, 2013 capital structure, which reflects the following ratios:

Long- Debt	51.313%
Common Equity	48.687%

I also use the capital structure ratios in my analyses.

Q. WHAT COST OF DEBT IS PSO PROPOSING?

A. PSO is proposing a 5.15% cost of long-term debt, which also reflects the July 31, 2013 cost rate for the Company. I also utilize this cost rate.

VIII. SELECTION OF PROXY GROUPS

Q. HOW HAVE YOU ESTIMATED THE COE FOR PSO?

A. PSO is not a publicly-traded company. AEP, PSO's parent company, is a publicly-traded company. Consequently, it is possible to directly apply COE models to this entity. However, it is generally preferred to analyze groups of comparison or "proxy" companies as a substitute for PSO to determine its cost of common equity.

I have examined two such groups for comparison of PSO. I selected one group of electric utilities similar to PSO and AEP using the criteria listed on Exhibit DCP-7:

(1) Market capitalization of $10 billion or greater;

(2) Electric revenues 50% or greater;

(3) Common equity ratio 40% or greater;

(4) Value Line safety rank of 1, 2 or 3;

(5) Standard & Poor's ("S&P") stock ranking of A or B;

(6) S&P or Moody's bond ratings of A/BBB;

(7) Currently pays dividends; and

(8) Is not currently involved in a major merger.

Second, I have conducted studies of the COE for the group of "comparable electric companies" selected by PSO witness Dr. Murry.

IX. DISCOUNTED CASH FLOW ANALYSIS

Q. WHAT IS THE THEORY AND METHODOLOGICAL BASIS OF THE DISCOUNTED CASH FLOW MODEL?

A. The discounted cash flow (DCF) model is one of the most well established, as well as the most commonly-used, models for estimating the COE for public utilities. The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows.

The most common variant of the DCF model assumes that dividends are expected to grow at a constant rate. This variant of the dividend discount model is known as the constant growth or Gordon DCF model. In this framework cost of capital is derived by the following formula:

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

where:

K = discount rate (cost of capital)

P = current price

D = current dividend rate

g = constant rate of expected growth

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

Q. PLEASE EXPLAIN HOW YOU HAVE EMPLOYED THE DCF MODEL.

A. I have utilized the constant growth DCF model. In doing so, I have combined the current dividend yield for the groups of proxy utility stocks described in the previous section with several indicators of expected dividend growth.

Q. HOW DID YOU DERIVE THE DIVIDEND YIELD COMPONENT OF THE DCF EQUATION?

A. There are several methods that can be used for calculating the dividend yield component. These methods generally differ in the manner in which the dividend rate is employed; i.e., current versus future dividends, or annual versus quarterly compounding of dividends. I believe the most appropriate dividend yield component is the version listed below:

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

This dividend yield component recognizes that dividend payments and dividend increases occur at different times throughout the year.

The P_0 in my yield calculation is the average (of high and low) stock price for each proxy company for the most recent three month period (January-March, 2014). The D_0 is the current annualized dividend rate for each proxy company.

Q. HOW HAVE YOU ESTIMATED THE DIVIDEND GROWTH COMPONENT OF THE DCF EQUATION?

A. The dividend growth rate component of the DCF model is usually the most crucial and controversial element involved in using this methodology. The objective of estimating the dividend growth component is to reflect the growth expected by investors that is embodied in the price (and yield) of a company's stock. As such, it is important to

recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. This is evidenced by the fact that every investment decision resulting in the purchase of a particular stock is matched by another investment decision to sell that stock. Obviously, since two investors reach different decisions at the same market price, their expectations differ.

A wide array of indicators exists for estimating the growth expectations of investors. As a result, it is evident that no single indicator of growth is always used by all investors, and so I believe it is necessary to consider alternative indicators of dividend growth in deriving the growth component of the DCF model.

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

1. 2009-2013 (5-year average) earnings retention, or fundamental growth (per Value Line);

2. 5-year average of historic growth in earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS") (per Value Line);

3. 2014, 2015 and 2017-2019 projections of earnings retention growth (per Value Line);

4. 2011-2013 to 2017-2019 projections of EPS, DPS, and BVPS (per Value Line); and,

5. 5-year projections of EPS growth (per First Call).

I believe this combination of growth indicators is a representative and appropriate set with which to begin the process of estimating investor expectations of dividend growth for the groups of proxy companies. As I indicated previously, investors have an array of

information available to them, all of which should be expected to have some impact on their decision-making process.

Q. PLEASE DESCRIBE YOUR DCF CALCULATIONS.

A. Exhibit DCP-8 presents my DCF analysis. Page 1 shows the calculation of the "raw" (i.e., prior to adjustment for growth) dividend yield for each proxy company. Pages 2 and 3 show the various growth rates for the groups of proxy companies. Page 4 shows the "raw" DCF calculations, which are presented on several bases: mean, median, and low/high values. These results can be summarized as follows:

	Mean	Median	Mean Low[5]	Mean High[6]	Median Low[5]	Median High[6]
Proxy Group	8.5%	8.2%	8.0%	9.4%	7.9%	8.6%
Murry Group	8.4%	8.4%	7.3%	9.4%	7.6%	8.7%

I note that the individual DCF calculations shown on Exhibit DCP-8 should not be interpreted to reflect the expected cost of capital for the proxy groups; rather, the individual values shown should be interpreted as alternative information considered by investors. The individual DCF calculations also demonstrate how the focus on a single growth rate, such as EPS projections, can produce a DCF conclusion that is not reflective of a broader perspective of available information.

The results in Exhibit DCP-8 indicate average (mean and median) DCF cost rates of 8.2% to 8.5%. The "high" DCF rates (i.e., using the highest growth rates only) are between 8.6% and 9.4% on an average basis and median basis.

Q. WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?

A. This analysis reflects a broad DCF range of about 8.2% to about 9.4% for the proxy groups. This is approximated by the average/mean value and high values for the proxy groups examined in the previous analysis. I give less weight to the low values and

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5 Using only the lowest growth rate.

6 Using only the highest growth rate.

average values of the groups. I believe that 8.6% to 9.4% (9.0% mid-point) reflects the proper DCF cost for PSO.

X. CAPITAL ASSET PRICING MODEL ANALYSIS

Q. PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF THE CAPITAL ASSET PRICING MODEL.

A. The CAPM is a version of the risk premium method that describes and measures the relationship between a security's investment risk and its market rate of return. The CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory, which studies the relationships among risk, diversification, and expected returns.

Q. HOW IS THE CAPM DERIVED?

A. The general form of the CAPM is:

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

where: K = cost of equity

R_f = risk free rate

R_m = return on market

β = beta

R_m-R_f = market risk premium

As noted previously, the CAPM is a variant of the risk premium method. I believe the CAPM is generally superior to the simple risk premium method because the CAPM specifically recognizes the risk of a particular company or industry (i.e., beta), whereas the simple risk premium method assumes the same risk premium for all companies exhibiting similar bond ratings.

Q. WHAT GROUP OF COMPANIES HAVE YOU UTILIZED TO PERFORM YOUR CAPM ANALYSES?

A. I have performed CAPM analyses for the same groups of proxy utilities evaluated in my DCF analyses.

Q. PLEASE EXPLAIN THE RISK-FREE RATE AS USED IN YOUR CAPM AND INDICATE WHAT RATE YOU EMPLOYED.

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

In CAPM applications, the risk-free rate is generally recognized by use of U.S. Treasury securities. Two general types of U.S. Treasury securities are often utilized as the R_f component - short-term U.S. Treasury bills and long-term U.S. Treasury bonds.

I have performed CAPM calculations using the most recent three-month average yield (January-March, 2014) for 20-year U.S. Treasury bonds. Over this three-month period, these bonds had an average yield of 3.42%.

Q. WHAT IS BETA AND WHAT BETAS DID YOU EMPLOY IN YOUR CAPM?

A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation to the overall market. Betas of less than 1.0 are considered less risky than the market, whereas betas greater than 1.0 are more risky. Utility stocks traditionally have had betas below 1.0. I utilized the most recent Value Line betas for each company in the groups of proxy utilities.

Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM COMPONENT IN YOUR CAPM ANALYSIS?

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

First, I have compared the actual annual returns on equity of the S&P 500 with the actual annual yields of U.S. Treasury bonds. Exhibit DCP-9 shows the return on equity for the S&P 500 group for the period 1978-2012 (all available years reported by S&P). This schedule also indicates the annual yields on 20-year U.S. Treasury bonds, as well as the annual differentials (i.e., risk premiums) between the S&P 500 and U.S. Treasury 20-year bonds. Based upon these returns, I conclude that this version of the risk premium is about 6.6%.

I have also considered the total returns (i.e., dividends/interest plus capital gains/losses) for the S&P 500 group as well as for the long-term (i.e., 20-year) government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and geometric means. I have considered the total returns for the entire available period (1926-2013), which are as follows:

	S&P 500	L-T Gov't Bonds	Risk Premium
Arithmetic	12.1%	5.9%	6.2%
Geometric	10.1%	5.5%	4.6%

I conclude from this that the expected risk premium is about 5.8% (i.e., average of all three risk premiums). I believe that a combination of arithmetic and geometric means is appropriate since investors have access to both types of means and, presumably, both types are reflected in investment decisions and thus stock prices and cost of capital.

Q. WHAT ARE YOUR CAPM RESULTS?

A. Exhibit DCP-10 shows my CAPM calculations. The results are:

	Mean	Median
Proxy Group	7.5%	7.5%
Murry Group	7.6%	7.6%

Q. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COE?

A. The result of my CAPM analyses collectively indicates a cost of 7.5% to 7.5% for the groups of proxy utilities. I conclude that the CAPM COE for PSO is 7.5% to 7.6%.

XI. COMPARABLE EARNINGS ANALYSIS

Q. PLEASE DESCRIBE THE BASIS OF THE CE METHODOLOGY.

A. The CE method is derived from the "corresponding risk" concept discussed in the Bluefield and Hope cases, and thus is based upon the economic concept of opportunity cost. As previously noted, the cost of capital is an opportunity cost: the prospective return available to investors from alternative investments of similar risk.

The CE method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, it provides a direct measure of the fair return, since it translates into practice the competitive principle upon which regulation rests.

The CE method normally examines the experienced and/or projected returns on book common equity ("ROE"). The logic for examining ROE follows from the use of original cost rate base regulation for public utilities, which uses a utility's book common equity to determine the COC. This COC is, in turn, used as the fair rate of return which is then applied to (multiplied by) the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base-rate of return methodology used to set utility rates.

Q. HOW DO YOU APPLY THE CE METHODOLOGY IN YOUR ANALYSIS OF PSO'S COE?

A. I apply the CE methodology by examining realized ROEs for the two groups of proxy companies as well as unregulated companies, and evaluating investor acceptance of these returns by reference to the resulting market-to-book ratios ("M/B"). In this manner it is possible to assess the degree to which a given level of return equates to the COC. It is generally recognized for utilities that M/Bs of greater than one (i.e. 100%) reflect a

situation where a company is able to attract new equity capital without dilution (i.e. above book value). As a result, one objective of a fair COE is the maintenance of stock prices at or above book value. There is no regulatory obligation to set rates designed to maintain a M/B significantly above one.

I further note that my CE analysis is based upon market data (through the use of M/B) and is thus essentially a market test. As a result, my CE analysis is not subject to the criticisms occasionally made by some who maintain that past earned returns do not represent the cost of capital. In addition, my CE analysis also uses prospective returns and thus is not backward looking.

Q. WHAT TIME PERIODS DO YOU EXAMINE IN YOUR CE ANALYSIS?

A. My CE analysis considers the experienced ROEs of the proxy groups of utilities for the period 2002-2013 (i.e. the last twelve years). The CE analysis requires that I examine a relatively long period of time in order to determine trends in earnings over at least a full business cycle. Further, in estimating a fair level of return for a future period, it is important to examine earnings over a diverse period of time in order to avoid any undue influence from unusual or abnormal conditions that may occur in a single year or shorter period. Therefore, in forming my judgment of the current COE, I focused on two periods: 2009-2012 (the current cycle) and, 2002-2008 (the prior business cycle).

Q. PLEASE DESCRIBE YOUR CE ANALYSIS.

A. Exhibits DCP-11 and DCP-12 contain summaries of experienced ROEs for three groups of companies, while Exhibit DCP-13 presents a risk comparison of utilities versus unregulated firms.

Exhibit DCP-11 shows the ROEs and M/Bs for the groups of proxy utilities. These can be summarized as follows:

	Proxy Group	Murry Group
Historic ROE		
Mean	10.3-10.5%	8.9-9.0%
Median	9.9-11.1%	8.9-9.2%
Historic M/B		
Mean	142-161%	133-141%
Median	137-156%	129-132%
Prospective ROE		
Mean	9.6-9.9%	9.1-9.5%
Median	9.5-10.0%	8.8-9.5%

These results indicate that ROEs of 8.9% to 11.1% have been adequate to produce M/Bs of 129% to 161% for the groups of utilities. Furthermore, projected ROEs for 2014, 2015 and 2017-2019 range from 8.8% to 10.0% for the utility groups. These relate to 2013 M/Bs of 147% or greater.

Q. DID YOU ALSO REVIEW THE EARNINGS OF UNREGULATED FIRMS?

A. Yes. As an alternative, I also examined the S&P 500 Composite group. This is a well recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy. Exhibit DCP-12 presents the earned returns on equity and market-to-book ratios for the S&P 500 group over the past eleven years (i.e., 1992-2012). As this schedule indicates, over the two business cycle periods, this group's average ROE ranged from 12.4% to 13.2%, with average M/Bs ranging between 204% and 275%.

Q. HOW CAN THE ABOVE INFORMATION BE USED TO ESTIMATE PSO's COE?

A. The recent earnings of the proxy utilities and S&P 500 groups can be viewed as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy. In order to apply these returns to the COE for the proxy utilities, however, it is necessary to compare the risk levels of the electric utilities and the

competitive companies. I do this in Exhibit DCP-13, which compares several risk indicators for the S&P 500 group and the electric utility groups. The information in Exhibit DCP-13 indicates that the S&P 500 group is more risky than the electric proxy groups.

Q. WHAT COE IS INDICATED BY YOUR CE ANALYSIS?

A. Based on ROEs and M/Bs, my CE analysis indicates that the COE for the proxy utilities is no more than 9.0% to 10.0%. Recent ROEs of 8.9% to 11.1% have resulted in M/Bs more than 125%. Prospective ROEs of 8.8% to 10.0% have been accompanied by M/Bs over 145%. As a result, it is apparent that authorized returns below this level would continue to result in M/B of well above 100%. An earned return of 9.0% to 10.0% should thus result in an M/B well above 100%. As I indicated earlier, the fact that M/B ratios substantially exceed 100% indicates that historic and prospective ROEs of over 10.0% reflect earnings levels that are well above the actual COE for those regulated companies. I also note that a company whose stock sells above book value can attract capital in a way that enhances the book value of existing stockholders, thus creating a favorable environment for financial integrity. Finally, I note that my 9.0% to 10.0% CE finding does not incorporate any M/B "adjustments" as it matches the projected ROEs of the electric proxy groups.

XII. COST OF EQUITY RECOMMENDATION

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR THREE COE ANALYSES.

A. My three analyses produce the following results:

DCF	8.6-9.4%	(9.0% mid-point)
CAPM	7.6-7.8%	(7.55% mid-point)
CE	9.0-10.0%	(9.50% mid-point)

These results indicate an overall broad range of 7.5% to 10.0%, which focuses on the respective end-points of my individual model results. Focusing on the respective midpoints, the range is 7.55% to 9.5%. I recommend a COE range of 9.0% to 9.5% for PSO. Though this recommendation is higher than my CAPM findings, it includes the mid-point of my DCF range (9.0%) and the mid-point of my CE range (9.5%). For the purposes of this proceeding, I recommend the mid-point of this range, which is 9.25%. I note that my 9.25% recommendation exceeds the mid-point of my DCF analyses, which in turn, essentially incorporates only the highest of the growth rates.

Q. IT APPEARS THAT YOUR CAPM RESULTS ARE LESS THAN YOUR DCF AND CE RESULTS. DOES THIS IMPLY THAT THE CAPM RESULTS SHOULD NOT BE CONSIDERED IN DETERMINING THE COE FOR PSO?

A. No. It is apparent that the CAPM results are less than the DCF and CE results. There are two reasons for the lower CAPM results. First, risk premiums are lower currently than was the case in prior years. This is also reflective of a decline in investor expectations of equity returns and risk premiums. Second, the level of interest rates on U.S. Treasury bonds (i.e., the risk-free rate) has been lower in recent years. This is partially the result of the actions of the Federal Reserve System to stimulate the economy. This also impacts investor expectations of return in a negative fashion. I note that, initially, investors may have believed that the decline in Treasury yields was a temporary factor that would soon be replaced by a rise in interest rates. However, this has not been the case as interest rates have remained low and, even with recent increases, continue to be at historically low levels. As a result, it cannot be maintained that low interest rates (and low CAPM results) are temporary and do not reflect investor expectations. Consequently, the CAPM results should be considered as one factor in determining the cost of equity for PSO. At the very least, the CAPM results indicate the capital costs continue at historically low levels and that PSO's COE is less than in prior years.

XIII. TOTAL COST OF CAPITAL

Q. WHAT IS THE TOTAL COC FOR PSO?

A. Exhibit DCP-2 reflects the COC for the Company using PSO's proposed capital structure along with the cost of debt and range of common equity costs my analyses support. The resulting COC is a range of 7.21% to 7.45% (7.33% with my recommended 9.25% COE). I recommend that this 7.33% COC be established for PSO.

Q. DOES YOUR COC RECOMMENDATION PROVIDE THE COMPANY WITH A SUFFICIENT LEVEL OF EARNINGS TO MAINTAIN ITS FINANCIAL INTEGRITY?

A. Yes, it does. Exhibit DCP-14 shows the pre-tax coverage that would result if PSO earned my COC recommendation. As the results indicate, my recommended range would result in a coverage level within the benchmark range for an A-rated utility. In addition, the debt ratio (which reflects the Company's proposed capital structure) is within the benchmark for an A-rated utility.

XIV. COMMENTS ON COMPANY TESTIMONY

Q. WHAT COE IS PSO REQUESTING IN THIS PROCEEDING?

A. PSO is requesting a COE of 10.50%. This request is contained in the testimony of PSO witness Mr. Murry. I primarily disagree with Dr. Murry's proposed cost of common equity. His 10.5% to 11.0% cost of equity recommendation is based upon his applications of the DCF and CAPM models.

Q. PLEASE DESCRIBE DR. MURRY'S DCF ANALYSES.

A. Dr. Murry performs two sets of "Projected Growth" DCF analyses for AEP and for a group of eight "comparable electric companies." His DCF analyses exclusively consider EPS growth. He performs several sets of DCF calculations, which are summarized on his Exhibits DAM-14 and DAM-15 and are as follows:

	AEP		Comparable Electric Companies	
	Low	High	Low	High
52-Week Discounted Cash Flow	7.62%	9.14%	8.01%	9.66%
Current Discounted Cash Flow	8.25%	8.65%	8.43%	9.28%

Dr. Murry's DCF analyses produce "low" and "high" DCF values for each of his comparable companies. His "low" DCF value for each company is derived from combining the low yield (using the highest stock price during the period being examined – either the 52 week period or the current period) with the lowest of the two growth rates he examines (i.e., Value Line EPS estimate and Yahoo! EPS estimate), while his "high" DCF estimate combines the low stock price yield with the higher of the two growth rates. I note that both of the two growth rates he considers are projections of EPS for the proxy companies.

Q. DO YOU BELIEVE IT IS PROPER TO RELY EXCLUSIVELY ON EPS FORECASTS IN A DCF ANALYSIS?

A. No, I do not. There are several reasons why it is not proper to rely exclusively on analysts' forecasts in a DCF context.

First, it is not realistic to believe that investors rely exclusively on a single factor, such as analysts' forecasts, in making their investment decisions. Investors have an abundance of available information to assist them in evaluating stocks and EPS forecasts are only one of many such statistics.

Second, Value Line, one of the sources of EPS projections, publishes a large number of individual company data and ratios. Presumably these are published for the consideration of subscribers/investors. It is also apparent that Value Line publishes both historic and forecast data – yet Dr. Murry considers only one factor and only the forecast version of this faction.

Third, the vast majority of information available to investors, by both individual companies in the form of annual reports and offering circulars, and by investment

publications such as Value Line, is historic data. It is neither realistic nor logical to maintain that investors only consider projected (estimated) data to the exclusion of historic (Actual) data.

Fourth, the experience over the past three years should be a clear signal to investors that analysts cannot accurately predict EPS levels. Hardly any security analysts predicted the decline in profits that occurred in 2008 and early 2009.

Q. ASIDE FROM HIS EXCLUSIVE RELIANCE ON EPS PROJECTIONS, DO YOU HAVE ANY COMMENTS ON DR. MURRY'S DCF ANALYSES?

A. Yes, I do. If Dr. Murry had taken the average of his "low" and "high" DCF cost rates for his comparable electrical group, his results would be as follows:

52-Week DCF	8.01% low	9.66% high	8.84% average
Current DCF	8.43% low	9.28% high	8.86% average

The results are consistent with my DCF analyses.

Q. PLEASE DESCRIBE DR. MURRY'S CAPM RESULTS.

A. Dr. Murry next develops a CAPM analysis. His CAPM (Schedule DAM-16) utilizes the following inputs:

Risk Free Return	3.38%
Beta	Value Line betas
Equity Risk Premium	11.32%

Of these components, I primarily disagree with the 11.32 percent equity risk premium.

Q. WHAT IS THE SOURCE OF DR. MURRY'S 11.32 PERCENT EQUITY RISK PREMIUM?

A. That is not clear from Dr. Murry's testimony. His Schedule DAM-16 cites a 11.32 percent equity risk premium which is the numerical difference between 14.70% "total

market return" and his 3.38% of "risk free return". However, his 14.70% total market return is not derived or otherwise described in his testimony.

I note that Dr. Murry indicated, in response to OIEC 16-4, that his 14.70% total market return reflects one-fourth of Value Line's 3-5 year "Appreciation Potential" of 50% (i.e., 12.5%) for all 1,700 stocks followed, plus the estimated "Dividend Yields" for the stocks. In other words, Dr. Murry's 14.70% total market return, and thus his 11.32% "risk equity premium" are substantially based on Value Line's estimates of stock market prices over the next 3-5 years. This is speculation on Value Line's part for 1,700 stocks that have little to do with PSO. Such speculation is hardly a proper standard for setting PSO's ROE, and should not be accepted.

Q. DR. MURRY ALSO EXAMINES "EXPECTED RETURNS ON ALTERNATIVE INVESTMENTS". WHAT IS THE RESULT OF THIS ANALYSIS?

A. As Dr. Murry states (pages 40-41 and Exhibit DAM-17) the forecasted ROE for his comparable electric companies is 9.5%. This is consistent with my CE findings.

Q. PLEASE SUMMARIZE DR. MURRY'S ROE ANALYSES AND CONCLUSIONS.

A. Dr. Murry's ROE analyses produce the following results:

DCF		
Current	8.43%-9.28%	8.86% mid-point Exhibit DAM-14
52 Week	8.01%-9.60%	8.84% mid-point Exhibit DAM-15
CAPM	10.95%	Exhibit DAM-16
Forecasted Returns	9.5%	Exhibit DAM-17

It is clear that Dr. Murry's DCF and forecasted returns conclusions are consistent with my ROE recommendations. Only Dr. Murry's CAPM results are higher than 9.5%. As I indicated previously, his CAPM results substantially exceed the current required ROE for electric utilities and PSO. It is thus clear that Dr. Murry's 10.5% to 11.0% ROE recommendation exceed the results of his analyses.

Q. PSO WITNESS DAVID P. SARTIN ALSO ADDRESSES THE COMPANY'S REQUESTED COE. DO YOU HAVE ANY COMMENTS REGARDING HIS TESTIMONY?

A. Yes, I do. Mr. Sartin maintains (pages 7 and 22-25) that PSO has a large construction program over the next few years, which means "it is important for PSO to attract and maintain capital because PSO will be accessing capital markets to finance the assets necessary to provide quality service to its customers."

As I noted earlier in my testimony, PSO presently has strong investment grade credit ratings and was recently upgraded by Moody's to single-A from triple-B. In its upgrade, Moody's noted PSO's: "low risk vertically integrated" operations, "Operating under a long-term credit support in jurisdiction", and "an appropriate suite of recovery mechanisms."

Thus, it is clear that PSO is financially healthy and able to attract and maintain capital.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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EXHIBIT DCP-1

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

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

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Exhibit DCP-2

PUBLIC SERVICE OF OKLAHOMA
TOTAL COST OF CAPITAL

Item	Amount Outstanding 1	Percent	Cost		Weighted Cost	
Long-Term Debt	$991,930,837	51.26%	5.51% 1/		2.82%	
Common Equity	$943,067,627	48.74%	9.00%	9.50%	4.39%	4.63%
Total	$1,934,998,464	100.00%			7.21%	7.45%
					7.33% (Mid-point)	

1/ Amounts and percents as contained in Company filing.

ECONOMIC INDICATORS

Year	Real GDP* Growth	Industrial Production Growth	Unemployment Rate	Consumer Price Index
		1975 - 1982 Cycle		
1975	-1.1%	-8.9%	8.5%	7.0%
1976	5.4%	10.8%	7.7%	4.8%
1977	5.5%	5.9%	7.0%	6.8%
1978	5.0%	5.7%	6.0%	9.0%
1979	2.8%	4.4%	5.8%	13.3%
1980	-0.2%	-1.9%	7.0%	12.4%
1981	1.8%	1.9%	7.5%	8.9%
1982	-2.1%	-4.4%	9.5%	3.8%
		1983 - 1991 Cycle		
1983	4.0%	3.7%	9.5%	3.8%
1984	6.8%	9.3%	7.5%	3.9%
1985	3.7%	1.7%	7.2%	3.8%
1986	3.1%	0.9%	7.0%	1.1%
1987	2.9%	4.9%	6.2%	4.4%
1988	3.8%	4.5%	5.5%	4.4%
1989	3.5%	1.8%	5.3%	4.6%
1990	1.8%	-0.2%	5.6%	6.1%
1991	-0.5%	-2.0%	6.8%	3.1%
		1992 - 2001 Cycle		
1992	3.0%	3.1%	7.5%	2.9%
1993	2.7%	3.4%	6.9%	2.7%
1994	4.0%	5.5%	6.1%	2.7%
1995	3.7%	4.8%	5.6%	2.5%
1996	4.5%	4.3%	5.4%	3.3%
1997	4.5%	7.3%	4.9%	1.7%
1998	4.2%	5.8%	4.5%	1.6%
1999	3.7%	4.5%	4.2%	2.7%
2000	4.1%	4.0%	4.0%	3.4%
2001	1.1%	-3.4%	4.7%	1.6%
		2002 - 2009 Cycle		
2002	1.8%	0.2%	5.8%	2.4%
2003	2.8%	1.2%	6.0%	1.9%
2004	3.8%	2.3%	5.5%	3.3%
2005	3.4%	3.2%	5.1%	3.4%
2006	2.7%	2.2%	4.6%	2.5%
2007	1.8%	2.5%	4.6%	4.1%
2008	-0.3%	-3.4%	5.8%	0.1%
2009	-2.8%	-11.3%	9.3%	2.7%
		Current Cycle		
2010	2.5%	5.7%	9.6%	1.5%
2011	1.8%	3.4%	8.9%	3.0%
2012	2.8%	3.6%	8.1%	1.7%
2013	1.9%	2.6%	7.4%	1.5%

*GDP=Gross Domestic Product

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

ECONOMIC INDICATORS

Year	Real GDP* Growth	Industrial Production Growth	Unemployment Rate	Consumer Price Index
2002				
1st Qtr.	2.7%	-3.8%	5.6%	2.8%
2nd Qtr.	2.2%	-1.2%	5.9%	0.9%
3rd Qtr.	2.4%	0.8%	5.8%	2.4%
4th Qtr.	0.2%	1.4%	5.9%	1.6%
2003				
1st Qtr.	1.2%	1.1%	5.8%	4.8%
2nd Qtr.	3.5%	-0.9%	6.2%	0.0%
3rd Qtr.	7.5%	-0.9%	6.1%	3.2%
4th Qtr.	2.7%	1.5%	5.9%	-0.3%
2004				
1st Qtr.	3.0%	2.8%	5.6%	5.2%
2nd Qtr.	3.5%	4.9%	5.6%	4.4%
3rd Qtr.	3.6%	4.6%	5.4%	0.8%
4th Qtr.	2.5%	4.3%	5.4%	3.6%
2005				
1st Qtr.	4.1%	3.8%	5.3%	4.4%
2nd Qtr.	1.7%	3.0%	5.1%	1.6%
3rd Qtr.	3.1%	2.7%	5.0%	8.8%
4th Qtr.	2.1%	2.9%	4.9%	-2.0%
2006				
1st Qtr.	5.4%	3.4%	4.7%	4.8%
2nd Qtr.	1.4%	4.5%	4.6%	4.8%
3rd Qtr.	0.1%	5.2%	4.7%	0.4%
4th Qtr.	3.0%	3.5%	4.5%	0.0%
2007				
1st Qtr.	0.9%	2.5%	4.5%	4.8%
2nd Qtr.	3.2%	1.6%	4.5%	5.2%
3rd Qtr.	2.3%	1.8%	4.6%	1.2%
4th Qtr.	2.9%	1.7%	4.8%	6.4%
2008				
1st Qtr.	-1.8%	1.9%	4.9%	2.8%
2nd Qtr.	1.3%	0.2%	5.3%	7.6%
3rd Qtr.	-3.7%	-3.0%	6.0%	2.8%
4th Qtr.	-8.9%	6.0%	6.9%	-13.2%
2009				
1st Qtr.	-5.3%	-11.6%	8.1%	2.4%
2nd Qtr.	-0.3%	-12.9%	9.3%	3.2%
3rd Qtr.	1.4%	-9.3%	9.6%	2.0%
4th Qtr.	4.0%	-4.5%	10.0%	2.5%
2010				
1st Qtr.	1.6%	2.7%	9.7%	0.9%
2nd Qtr.	3.9%	6.5%	9.7%	-1.2%
3rd Qtr.	2.8%	6.9%	9.6%	2.8%
4th Qtr.	2.8%	6.2%	9.6%	2.8%
2011				
1st Qtr.	-1.3%	5.4%	9.0%	4.8%
2nd Qtr.	3.2%	3.6%	9.0%	3.2%
3rd Qtr.	1.4%	3.3%	9.1%	2.4%
4th Qtr.	4.9%	4.0%	8.7%	0.4%
2012				
1st Qtr.	3.7%	4.5%	8.3%	3.2%
2nd Qtr.	1.2%	4.7%	8.2%	0.0%
3rd Qtr.	2.8%	3.4%	8.1%	4.0%
4th Qtr.	0.1%	2.8%	7.8%	0.0%
2013				
1st Qtr.	1.1%	2.5%	7.7%	2.0%
2nd Qtr.	2.5%	2.0%	7.6%	1.2%
3rd Qtr.	4.1%	2.6%	7.3%	1.6%
4th Qtr.	2.4%	3.3%	7.0%	1.2%

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issue

INTEREST RATES

Year	Prime Rate	US Treasury T Bills 3 Month	US Treasury 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%	3.44%	5.02%	7.47%	7.59%	7.78%	8.02%
			2002 - 2009 Cycle				
2002	4.67%	1.62%	4.61%		[1] 7.19%	7.37%	8.02%
2003	4.12%	1.01%	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%
2008	5.09%	1.48%	3.66%		6.18%	6.53%	7.25%
2009	3.25%	0.16%	3.26%		5.75%	6.04%	7.06%
			Current Cycle				
2010	3.25%	0.14%	3.22%		5.24%	5.46%	5.96%
2011	3.25%	0.06%	2.78%		4.78%	5.04%	5.57%
2012	3.25%	0.09%	1.80%		3.83%	4.13%	4.86%
2013	3.25%	0.06%	2.35%		4.24%	4.47%	4.98%

[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

	Prime Rate	US Treasury T Bills 3 Month	US Treasury T Bonds 10 Year	Utility Bonds Aaa [1]	Utility Bonds Aa	Utility Bonds A	Utility Bonds Baa
2007							
Jan	8.25%	4.96%	4.76%		5.78%	5.96%	6.16%
Feb	8.25%	5.02%	4.72%		5.73%	5.90%	6.10%
Mar	8.25%	4.97%	4.56%		5.66%	5.85%	6.10%
Apr	8.25%	4.88%	4.69%		5.83%	5.97%	6.24%
May	8.25%	4.77%	4.75%		5.86%	5.99%	6.23%
June	8.25%	4.63%	5.10%		6.18%	6.30%	6.54%
July	8.25%	4.84%	5.00%		6.11%	6.25%	6.49%
Aug	8.25%	4.34%	4.67%		6.11%	6.24%	6.51%
Sept	7.75%	4.01%	4.52%		6.10%	6.18%	6.45%
Oct	7.50%	3.97%	4.53%		6.04%	6.11%	6.36%
Nov	7.50%	3.49%	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%	6.27%	6.79%
June	5.00%	1.90%	4.10%		6.19%	6.38%	6.93%
July	5.00%	1.72%	4.01%		6.13%	6.40%	6.97%
Aug	5.00%	1.79%	3.89%		6.09%	6.37%	6.98%
Sept	5.00%	1.46%	3.69%		6.13%	6.49%	7.15%
Oct	4.00%	0.84%	3.81%		6.95%	7.56%	8.58%
Nov	4.00%	0.30%	3.53%		6.83%	7.60%	8.98%
Dec	3.25%	0.04%	2.42%		5.93%	6.54%	8.13%
2009							
Jan	3.25%	0.12%	2.52%		6.01%	6.39%	7.90%
Feb	3.25%	0.31%	2.87%		6.11%	6.30%	7.74%
Mar	3.25%	0.25%	2.82%		6.14%	6.42%	8.00%
Apr	3.25%	0.17%	2.93%		6.20%	6.48%	8.03%
May	3.25%	0.15%	3.29%		6.23%	6.49%	7.76%
June	3.25%	0.17%	3.72%		6.13%	6.20%	7.30%
July	3.25%	0.19%	3.56%		5.63%	5.97%	6.87%
Aug	3.25%	0.18%	3.59%		5.33%	5.71%	6.36%
Sept	3.25%	0.13%	3.40%		5.15%	5.53%	6.12%
Oct	3.25%	0.08%	3.39%		5.23%	5.55%	6.14%
Nov	3.25%	0.05%	3.40%		5.33%	5.64%	6.18%
Dec	3.25%	0.07%	3.59%		5.52%	5.79%	6.26%
2010							
Jan	3.25%	0.06%	3.73%		5.55%	5.77%	6.16%
Feb	3.25%	0.10%	3.69%		5.69%	5.87%	6.25%
Mar	3.25%	0.15%	3.73%		5.64%	5.84%	6.22%
Apr	3.25%	0.15%	3.85%		5.62%	5.81%	6.19%
May	3.25%	0.16%	3.42%		5.29%	5.50%	5.97%
June	3.25%	0.12%	3.20%		5.22%	5.46%	6.18%
July	3.25%	0.16%	3.01%		4.99%	5.26%	5.98%
Aug	3.25%	0.15%	2.70%		4.75%	5.01%	5.55%
Sept	3.25%	0.15%	2.65%		4.74%	5.01%	5.53%
Oct	3.25%	0.13%	2.54%		4.89%	5.10%	5.62%
Nov	3.25%	0.13%	2.76%		5.12%	5.37%	5.85%
Dec	3.25%	0.15%	3.29%		5.32%	5.56%	6.04%
2011							
Jan	3.25%	0.15%	3.39%		5.29%	5.57%	6.06%
Feb	3.25%	0.14%	3.58%		5.42%	5.68%	6.10%
Mar	3.25%	0.11%	3.41%		5.33%	5.56%	5.97%
Apr	3.25%	0.06%	3.46%		5.32%	5.55%	5.98%
May	3.25%	0.04%	3.17%		5.08%	5.32%	5.74%
June	3.25%	0.04%	3.00%		5.04%	5.26%	5.67%
July	3.25%	0.03%	3.00%		5.05%	5.27%	5.70%
Aug	3.25%	0.05%	2.30%		4.44%	4.69%	5.22%
Sept	3.25%	0.02%	1.98%		4.24%	4.48%	5.11%
Oct	3.25%	0.02%	2.15%		4.21%	4.62%	5.24%
Nov	3.25%	0.01%	2.01%		3.92%	4.25%	4.93%
Dec	3.25%	0.02%	1.98%		4.00%	4.33%	5.07%
2012							
Jan	3.25%	0.02%	1.97%		4.03%	4.34%	5.06%
Feb	3.25%	0.08%	1.97%		4.02%	4.36%	5.02%
Mar	3.25%	0.09%	2.17%		4.16%	4.48%	5.13%
Apr	3.25%	0.08%	2.05%		4.10%	4.40%	5.11%
May	3.25%	0.09%	1.80%		3.92%	4.20%	4.97%
June	3.25%	0.09%	1.62%		3.79%	4.08%	4.91%
July	3.25%	0.10%	1.53%		3.58%	3.93%	4.85%
Aug	3.25%	0.11%	1.68%		3.65%	4.00%	4.88%
Sept	3.25%	0.10%	1.72%		3.69%	4.02%	4.81%
Oct	3.25%	0.10%	1.75%		3.68%	3.91%	4.54%
Nov	3.25%	0.11%	1.65%		3.60%	3.84%	4.42%
Dec	3.25%	0.08%	1.72%		3.75%	4.00%	4.56%
2013							
Jan	3.25%	0.07%	1.91%		3.90%	4.15%	4.66%
Feb	3.25%	0.10%	1.98%		3.95%	4.18%	4.74%
Mar	3.25%	0.09%	1.96%		3.90%	4.15%	4.66%
Apr	3.25%	0.06%	1.76%		3.74%	4.00%	4.49%
May	3.25%	0.05%	1.93%		3.91%	4.17%	4.65%
June	3.25%	0.05%	2.30%		4.27%	4.53%	5.08%
July	3.25%	0.04%	2.58%		4.44%	4.68%	5.21%
Aug	3.25%	0.04%	2.74%		4.53%	4.73%	5.28%
Sept	3.25%	0.02%	2.81%		4.58%	4.80%	5.31%
Oct	3.25%	0.06%	2.62%		4.48%	4.70%	5.17%
Nov	3.25%	0.07%	2.72%		4.56%	4.77%	5.24%
Dec	3.25%	0.07%	2.90%		4.59%	4.81%	5.25%
2014							
Jan	3.25%	0.05%	2.86%		4.44%	4.63%	5.09%
Feb	3.25%	0.06%	2.71%		4.38%	4.53%	5.01%
Mar	3.25%						

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

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

STOCK PRICE INDICATORS

	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	2,783.67	10,734.90	1.15%	3.63%
2001	1,194.18	2,035.00	10,189.13	1.32%	2.95%
		2002 - 2009 Cycle			
2002	993.94	1,539.73	9,226.43	1.61%	2.92%
2003	965.23	1,647.17	8,993.59	1.77%	3.84%
2004	1,130.65	1,986.53	10,317.39	1.72%	4.89%
2005	1,207.23	2,099.32	10,547.67	1.83%	5.36%
2006	1,310.46	2,263.41	11,408.67	1.87%	5.78%
2007	1,477.19	2,578.47	13,169.98	1.86%	5.29%
2008	1,220.04	2,161.65	11,252.62	2.37%	3.54%
2009	948.05	1,845.38	8,876.15	2.40%	1.86%
		Current Cycle			
2010	1,139.97	2,349.89	10,662.80	1.98%	6.04%
2011	1,268.89	2,677.44	11,966.36	2.05%	6.77%
2012	1,379.35	2,965.56	12,967.08	2.24%	6.20%
2013	1,462.51	3,537.69	14,999.67	2.14%	5.57%

[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

	S&P Composite	NASDAQ Composite	DJIA	S&P D/P	S&P E/P
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%
2nd Qtr.	1,371.65	2,426.26	12,508.59	2.10%	4.05%
3rd Qtr.	1,251.94	2,290.87	11,322.40	2.29%	3.94%
4th Qtr.	909.80	1,599.64	8,795.61	2.98%	1.65%
2009					
1st Qtr.	809.31	1,485.14	7,774.06	3.00%	0.86%
2nd Qtr.	892.23	1,731.41	8,327.83	2.45%	0.82%
3rd Qtr.	996.68	1,985.25	9,229.93	2.16%	1.19%
4th Qtr.	1,088.70	2,162.33	10,172.78	1.99%	4.57%
2010					
1st Qtr.	1,121.60	2,274.88	10,454.42	1.94%	5.21%
2nd Qtr.	1,135.25	2,343.40	10,570.54	1.97%	6.51%
3rd Qtr.	1,096.39	2,237.97	10,390.24	2.09%	6.30%
4th Qtr.	1,204.00	2,534.62	11,236.02	1.95%	6.15%
2011					
1st Qtr.	1,302.74	2,741.01	12,024.62	1.85%	6.13%
2nd Qtr.	1,319.04	2,766.64	12,370.73	1.97%	6.35%
3rd Qtr.	1,237.12	2,613.11	11,671.47	2.15%	7.69%
4th Qtr.	1,225.65	2,600.91	11,798.65	2.25%	6.91%
2012					
1st Qtr.	1,347.44	2,902.90	12,839.80	2.12%	6.29%
2nd Qtr.	1,350.39	2,928.62	12,765.58	2.30%	6.45%
3rd Qtr.	1,402.21	3,029.86	13,118.72	2.27%	6.00%
4th Qtr.	1,418.21	3,001.69	13,142.91	2.28%	6.07%
2013					
1st Qtr.	1,514.41	3,177.10	14,000.30	2.21%	5.59%
2nd Qtr.	1,609.77	3,369.49	14,961.28	2.15%	5.66%
3rd Qtr.	1,675.31	3,643.63	15,255.25	2.14%	5.61%
4th Qtr.	1,770.45	3,960.54	15,751.96	2.06%	5.42%

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

Exhibit DCP-4

AMERICAN ELECTRIC POWER AND PUBLIC SERVICE OF OKLAHOMA
HISTORY OF CREDIT RATINGS

Year	Public Service of Oklahoma		American Electric Power	
	S&P	Moody's	S&P	Moody's
2000	A+/A-	A2	A-	
2001	A-	A2	A-	Baa1
2002	A-/BBB+	A2	A-/BBB+	Baa1/Baa2
2003	BBB+/BBB	A2/Baa1	BBB+/BBB	Baa2/Baa3
2004	BBB	Baa1	BBB	Baa3
2005	BBB	Baa1	BBB	Baa3/Baa2
2006	BBB	Baa1	BBB	Baa2
2007	BBB	Baa1	BBB	Baa2
2008	BBB	Baa1	BBB	Baa2
2009	BBB	Baa1	BBB	Baa2
2010	BBB	Baa1	BBB	Baa2
2011	BBB	Baa1	BBB	Baa2
2012	BBB	Baa1	BBB	Baa2
2013	BBB	Baa1	BBB	Baa2
2014	BBB	Baa1/A3	BBB	Baa2/Baa1

Sources: Response to OIEC 2.04.

PUBLIC SERVICE OF OKLAHOMA
CAPITAL STRUCTURE RATIOS
2009 - 2013
($000)

YEAR	COMMON EQUITY	PREFERRED STOCK	LONG-TERM DEBT	SHORT-TERM DEBT
2009	$812,341,245 46.1% 46.1%	$5,257,700 0.6% 0.6%	$946,274,770 53.6% 53.6%	$0 0.0%
2-Jul-05	$833,978,030 44.4% 46.6%	$4,881,800 0.5% 0.5%	$949,162,451 50.5% 53.1%	$91,382,282 4.9%
2011	$885,656,540 49.0% 49.0%	$0	$923,253,486 51.0% 51.0%	$0 0.0%
2012	$909,797,548 49.6% 49.6%	$0	$925,993,074 50.4% 50.4%	$0 0.0%
2013	$936,343,156 47.6% 48.5%	$0	$994,264,533 50.5% 51.5%	$36,771,867 1.9%

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

Source: Response to OIEC 2-6.

AMERICAN ELECTRIC POWER
CAPITAL STRUCTURE RATIOS
2009 - 2013
($millions)

YEAR	COMMON EQUITY	PREFERRED STOCK	LONG-TERM DEBT	SHORT-TERM DEBT
2009	$13,140	$61	$17,498	$126
	42.6%	0.2%	56.8%	0.4%
	42.8%	0.2%	57.0%	
2010	$13,622	$60	$16,811	$1,346
	42.8%	0.2%	52.8%	4.2%
	44.7%	0.2%	55.1%	
2011	$14,664	$0	$16,516	$1,650
	44.7%	0.0%	50.3%	5.0%
	47.0%	0.0%	53.0%	
2012	$15,237	$0	$17,757	$981
	44.8%	0.0%	52.3%	2.9%
	46.2%	0.0%	53.8%	
2013	$16,085	$0	$18,377	$757
	45.7%	0.0%	52.2%	2.1%
	46.7%	0.0%	53.3%	

Source: Response to OIEC 2-6.

AMERICAN ELECTRIC POWER & SUBSIDIARIES
CAPITAL STRUCTURE RATIOS
2013
($Millions)

COMPANY	COMMON EQUITY	PREFERRED SECURITIES	LONG-TERM DEBT	SHORT-TERM DEBT
Appalachian Power	$3,229 42.8% 43.5%	$0 0.0% 0.0%	$4,194 55.6% 56.5%	$121 1.6%
Indiana & Michigan	$1,922 47.4% 48.5%	$0 0.0% 0.0%	$2,039 50.3% 51.5%	$94 2.3%
Ohio Power	$1,625 35.5% 37.3%	$0 0.0% 0.0%	$2,735 59.7% 62.7%	$223 4.9%
SWEPCO	$2,056 49.5% 50.2%	$0 0.0% 0.0%	$2,043 49.2% 49.8%	$55 1.3%
Public Service of Oklahoma	$942 48.5% 49.4%	$0 0.0% 0.0%	$966 49.7% 50.6%	$34 1.8%
American Electric Consolidated	$16,085 45.7% 48.9%	$0 0.0% 0.0%	$16,828 47.8% 51.1%	$2,306 6.5%

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

Source: Response to OIEC 2.07.

Exhibit DCP-6

AUS UTILITY REPORTS
ELECTRIC UTILITY GROUPS
AVERAGE COMMON EQUITY RATIOS

Year	Electric	Combination Electric and Gas
2009	46%	45%
2010	46%	46%
2011	47%	46%
2012	47%	46%
2013	48%	47%

Note: Averages include short-term debt.

Source: AUS Utility Reports.

Exhibit DCP-7

PROXY COMPANIES
BASIS FOR SELECTION

Company	Market Capitalization ($ millions)	Percent Reg Electric Revenues	Common Equity Ratio	Value Line Safety	S&P Stock Ranking	S&P Bond Rating	Moody's Bond Rating
American Electric Power Co.	$22,000,000	89%	51%	3	B	BBB/BBB-	Baa2
Parcell Proxy Group							
Consolidated Edison Co.	$16,000,000	71%	53%	1	B+	A-/BBB+	A3
DTE Energy Company	$12,000,000	54%	51%	2	B+	A-/BBB+	A2/A3
Duke Energy Corp	$50,000,000	83%	52%	2	B	BBB+	A3
Edison International	$16,000,000	100%	44%	2	B	BBB+	A2/A3
Entergy Corp	$11,000,000	78%	43%	3	A	BBB+/BBB	Baa2/Baa3
NextEra Energy, Inc.	$40,000,000	69%	43%	2	A	A-/BBB+	A2/A3
Northeast Utilities	$14,000,000	88%	54%	2	A-	A-	A3/Baa1
PG&E Corp	$19,000,000	80%	52%	3	B	BBB/BBB-	A3/Baa1
Southern Company	$37,000,000	94%	47%	2	A-	A	A3/Baa1
Xcel Energy Inc.	$14,000,000	83%	47%	2	B+	A-	A3
Murry Comparable Electric Companies							
Consolidated Edison Co.	$16,000,000	71%	53%	1	B+	A-/BBB+	A3
DTE Energy Company	$12,000,000	54%	51%	2	B+	A-/BBB+	A2/A3
Duke Energy Corp	$50,000,000	83%	52%	2	B	BBB+	A3
Northeast Utilities	$14,000,000	88%	54%	2	A-	A-	A3/Baa1
Pepco Holdings	$5,000,000	96%	54%	3	B	A-/BBB+	Baa2.Baa3
Pinnacle West Capital Corp	$5,800,000	90%	60%	1	B	BBB	Baa1
Southern Company	$37,000,000	94%	47%	2	A-	A	A3/Baa1
Xcel Energy Inc.	$14,000,000	83%	47%	2	B+	A-	A3

Sources: AUS Utility Reports, Value Line.

PROXY COMPANIES
DIVIDEND YIELD

COMPANY	Qtr DPS	January - March, 2014 DPS	HIGH	LOW	AVERAGE	YIELD
Parcell Proxy Group						
American Electric Power Co.	$0.500	$2.00	$50.95	$45.80	$48.38	4.1%
Consolidated Edison Co.	$0.630	$2.52	$56.68	$52.23	$54.46	4.6%
DTE Energy Company	$0.655	$2.62	$74.61	$64.84	$69.73	3.8%
Duke Energy Corp	$0.780	$3.12	$72.67	$67.05	$69.86	4.5%
Edison International	$0.355	$1.42	$56.61	$44.74	$50.68	2.8%
Entergy Corp	$0.830	$3.32	$67.02	$60.40	$63.71	5.2%
NextEra Energy, Inc.	$0.725	$2.90	$96.13	$83.97	$90.05	3.2%
Northeast Utilities	$0.393	$1.57	$45.69	$41.28	$43.49	3.6%
PG&E Corp	$0.455	$1.82	$44.97	$39.42	$42.20	4.3%
Southern Company	$0.507	$2.03	$44.00	$40.27	$42.14	4.8%
Xcel Energy Inc.	$0.280	$1.12	$30.77	$27.27	$29.02	3.9%
Average						**4.1%**
Murry Comparable Electric Companies						
Consolidated Edison Co.	$0.630	$2.52	$56.68	$52.23	$54.46	4.6%
DTE Energy Company	$0.655	$2.62	$74.61	$64.84	$69.73	3.8%
Duke Energy Corp	$0.780	$3.12	$72.67	$67.05	$69.86	4.5%
Northeast Utilities	$0.393	$1.57	$45.69	$41.28	$43.49	3.6%
Pepco Holdings	$0.270	$1.08	$20.93	$18.53	$19.73	5.5%
Pinnacle West Capital Corp	$0.568	$2.27	$55.99	$51.15	$53.57	4.2%
Southern Company	$0.507	$2.03	$44.00	$40.27	$42.14	4.8%
Xcel Energy Inc.	$0.280	$1.12	$30.77	$27.27	$29.02	3.9%
Average						**4.4%**

Source: Yahoo! Finance.

PROXY COMPANIES
RETENTION GROWTH RATES

COMPANY	2009	2010	2011	2012	2013	Average	2014	2015	2017-'19	Average
Parcell Proxy Group										
American Electric Power Co.	4.6%	3.1%	4.2%	3.5%	3.5%	3.8%	3.5%	3.5%	4.0%	3.7%
Consolidated Edison Co.	2.5%	3.2%	3.1%	3.6%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%
DTE Energy Company	2.9%	4.0%	3.4%	3.5%	2.5%	3.3%	4.0%	3.5%	4.0%	3.8%
Duke Energy Corp	1.1%	2.1%	2.2%	0.9%	1.5%	1.6%	2.5%	2.5%	3.0%	2.7%
Edison International	6.7%	6.5%	6.3%	11.4%	7.5%	7.7%	7.0%		6.0%	6.5%
Entergy Corp	7.6%	7.6%	8.4%	5.2%	3.5%	6.5%	2.5%	3.0%	4.0%	3.2%
NextEra Energy, Inc.	6.5%	7.8%	7.4%	5.6%	5.0%	6.5%	5.0%	4.5%	5.0%	4.8%
Northeast Utilities	4.7%	5.0%	5.0%	1.6%	3.5%	4.0%	4.0%	4.0%	4.0%	4.0%
PG&E Corp	5.5%	3.9%	3.4%	1.0%	0.5%	2.9%	2.0%	2.5%		2.3%
Southern Company	3.2%	3.0%	3.4%	3.6%	3.0%	3.2%	3.5%	3.5%	3.5%	3.5%
Xcel Energy Inc.	3.7%	3.6%	4.3%	4.7%	4.0%	4.1%	4.0%		4.0%	4.0%
Average						**4.2%**				**3.8%**
Murry Comparable Electric Companies										
Consolidated Edison Co.	2.5%	3.2%	3.1%	3.6%	3.0%	3.1%	3.0%	3.0%	3.0%	3.0%
DTE Energy Company	2.9%	4.0%	3.4%	3.5%	2.5%	3.3%	4.0%		4.0%	4.0%
Duke Energy Corp	1.1%	2.1%	2.2%	0.9%	1.5%	1.6%	2.5%	2.5%	3.0%	2.7%
Northeast Utilities	4.7%	5.0%	5.0%	1.6%	3.5%	4.0%	4.0%	4.0%	4.0%	4.0%
Pepco Holdings	0.0%	0.8%	0.3%	0.8%	0.5%	0.5%	0.5%	1.5%	2.5%	1.5%
Pinnacle West Capital Corp	0.7%	3.1%	2.8%	4.1%	3.5%	2.8%	4.0%		3.5%	3.8%
Southern Company	3.2%	3.0%	3.4%	3.6%	3.0%	3.2%	3.5%	3.5%	3.5%	3.5%
Xcel Energy Inc.	3.7%	3.6%	4.3%	4.7%	4.0%	4.1%	4.0%		4.0%	4.0%
Average						**2.8%**				**3.3%**

Source: Value Line Investment Survey.

PROXY COMPANIES
PER SHARE GROWTH RATES

COMPANY	5-Year Historic Growth Rates				Est'd '10-'12 to '17-'19 Growth Rates			
	EPS	DPS	BVPS	Average	EPS	DPS	BVPS	Average
Parcell Proxy Group								
American Electric Power Co.	1.0%	4.0%	4.5%	3.2%	4.5%	4.5%	4.5%	4.5%
Consolidated Edison Co.	3.0%	1.0%	4.5%	2.8%	1.5%	2.0%	3.0%	2.2%
DTE Energy Company	6.0%	2.0%	4.0%	4.0%	5.0%	5.5%	4.0%	4.8%
Duke Energy Corp	4.5%	18.0%	-1.0%	7.2%	4.0%	2.0%	3.0%	3.0%
Edison International	2.5%	3.0%	5.5%	3.7%	2.5%	6.5%	4.0%	4.3%
Entergy Corp	5.5%	7.5%	5.0%	6.0%	-2.0%	0.5%	3.5%	0.7%
NextEra Energy, Inc.	10.0%	7.5%	8.5%	8.7%	4.5%	8.5%	7.0%	6.7%
Northeast Utilities	13.0%	9.5%	6.0%	9.5%	8.0%	8.0%	5.5%	7.2%
PG&E Corp	-0.5%	6.5%	6.0%	4.0%	2.5%	2.5%	3.0%	2.7%
Southern Company	3.0%	4.0%	5.5%	4.2%	3.5%	3.5%	4.0%	3.7%
Xcel Energy Inc.	5.5%	3.0%	4.5%	4.3%	4.5%	4.5%	4.5%	4.5%
Average				**5.2%**				**4.0%**
Murry Comparable Electric Companies								
Consolidated Edison Co.	3.0%	1.0%	4.5%	2.8%	1.5%	2.0%	3.0%	2.2%
DTE Energy Company	6.0%	2.0%	4.0%	4.0%	5.0%	5.5%	4.0%	4.8%
Duke Energy Corp	4.5%	18.0%	-1.0%	7.2%	4.0%	2.0%	3.0%	3.0%
Northeast Utilities	13.0%	9.5%	6.0%	9.5%	8.0%	8.0%	5.5%	7.2%
Pepco Holdings	-3.5%	1.0%		-1.3%	5.5%	1.5%	2.0%	3.0%
Pinnacle West Capital Corp	2.5%	2.5%		2.5%	4.0%	2.0%	3.5%	3.2%
Southern Company	3.0%	4.0%	5.5%	4.2%	3.5%	3.5%	4.0%	3.7%
Xcel Energy Inc.	5.5%	3.0%	4.5%	4.3%	4.5%	4.5%	4.5%	4.5%
Average				**4.2%**				**3.9%**

Source: Value Line Investment Survey.

PROXY 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
Parcell Proxy Group								
American Electric Power Co.	4.2%	3.8%	3.7%	3.2%	4.5%	4.2%	3.9%	8.1%
Consolidated Edison Co.	4.7%	3.1%	3.0%	2.8%	2.2%	2.3%	2.7%	7.4%
DTE Energy Company	3.8%	3.3%	3.8%	4.0%	4.8%	5.2%	4.2%	8.1%
Duke Energy Corp	4.5%	1.6%	2.7%	7.2%	3.0%	3.9%	3.7%	8.2%
Edison International	2.9%	7.7%	6.5%	3.7%	4.3%	1.9%	4.8%	7.7%
Entergy Corp	5.3%	6.5%	3.2%	6.0%	0.7%	neg	4.1%	9.4%
NextEra Energy, Inc.	3.3%	6.5%	4.8%	8.7%	6.7%	6.5%	6.6%	9.9%
Northeast Utilities	3.7%	4.0%	4.0%	9.5%	7.2%	6.3%	6.2%	9.9%
PG&E Corp	4.4%	2.9%	2.3%	4.0%	2.7%	6.4%	3.6%	8.0%
Southern Company	4.9%	3.2%	3.5%	4.2%	3.7%	3.6%	3.6%	8.5%
Xcel Energy Inc.	3.9%	4.1%	4.0%	4.3%	4.5%	4.6%	4.3%	8.2%
Mean	4.2%	4.2%	3.8%	5.2%	4.0%	4.5%	4.3%	**8.5%**
Median	4.2%	3.8%	3.7%	4.2%	4.3%	4.4%	4.1%	**8.2%**
Composite - Mean		8.4%	**7.9%**	**9.4%**	8.2%	8.7%	8.5%	
Composite - Median		8.0%	**7.9%**	8.4%	8.5%	**8.6%**	8.3%	
Murry Comparable Electric Companies								
Consolidated Edison Co.	4.7%	3.1%	3.0%	2.8%	2.2%	2.3%	2.7%	7.4%
DTE Energy Company	3.8%	3.3%	4.0%	4.0%	4.8%	5.2%	4.3%	8.1%
Duke Energy Corp	4.5%	1.6%	2.7%	7.2%	3.0%	3.9%	3.7%	8.2%
Northeast Utilities	3.7%	4.0%	4.0%	9.5%	7.2%	6.3%	6.2%	9.9%
Pepco Holdings	5.6%	0.5%	1.5%	neg	3.0%	7.5%	3.1%	8.7%
Pinnacle West Capital Corp	4.3%	2.8%	3.8%	2.5%	3.2%	4.1%	3.3%	7.6%
Southern Company	4.9%	3.2%	3.5%	4.2%	3.7%	3.6%	3.6%	8.5%
Xcel Energy Inc.	3.9%	4.1%	4.0%	4.3%	4.5%	4.5%	4.3%	8.2%
Mean	4.4%	2.8%	3.3%	4.9%	3.9%	4.7%	3.9%	**8.3%**
Median	4.4%	3.2%	3.6%	4.2%	3.4%	4.3%	3.6%	**8.2%**
Composite - Mean		**7.2%**	7.7%	**9.4%**	8.4%	9.1%	8.3%	
Composite - Median		**7.6%**	8.1%	8.6%	7.8%	**8.7%**	8.1%	

Note: negative values not used in calculations.

Sources: Prior pages of this schedule.

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	12.49%	4.86%	7.63%
2008	$14.88	$451.37	3.03%	4.45%	-1.42%
2009	$50.97	$513.58	10.56%	3.47%	7.09%
2010	$77.35	$579.14	14.16%	4.25%	9.91%
2011	$86.58	$613.14	14.52%	3.81%	10.71%
2012	$86.51	$666.97	13.52%	2.40%	11.12%
Average					**6.59%**

Source: Standard & Poor's Analysts' Handbook, Ibbotson Associates Handbook.

Exhibit DCP-10

PROXY COMPANIES
CAPM COST RATES

COMPANY	RISK-FREE RATE	BETA	RISK PREMIUM	CAPM RATES
Parcell Proxy Group				
American Electric Power Co.	3.42%	0.70	5.47%	7.2%
Consolidated Edison Co.	3.42%	0.65	5.47%	7.0%
DTE Energy Company	3.42%	0.85	5.47%	8.1%
Duke Energy Corp	3.42%	0.70	5.47%	7.2%
Edison International	3.42%	0.80	5.47%	7.8%
Entergy Corp	3.42%	0.75	5.47%	7.5%
NextEra Energy, Inc.	3.42%	0.75	5.47%	7.5%
Northeast Utilities	3.42%	0.75	5.47%	7.5%
PG&E Corp	3.42%	0.60	5.47%	6.7%
Southern Company	3.42%	0.60	5.47%	6.7%
Xcel Energy Inc.	3.42%	0.65	5.47%	7.0%
Mean				**7.3%**
Median				**7.2%**
Murry Comparable Electric Companies				
Consolidated Edison Co.	3.42%	0.85	5.47%	8.1%
DTE Energy Company	3.42%	0.85	5.47%	8.1%
Duke Energy Corp	3.42%	0.70	5.47%	7.2%
Northeast Utilities	3.42%	0.75	5.47%	7.5%
Pepco Holdings	3.42%	0.80	5.47%	7.8%
Pinnacle West Capital Corp	3.42%	0.75	5.47%	7.5%
Southern Company	3.42%	0.60	5.47%	6.7%
Xcel Energy Inc.	3.42%	0.65	5.47%	7.0%
Mean				**7.5%**
Median				**7.5%**

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

20-year Treasury Bonds

Month	Rate
Jan., 2014	3.52%
Feb., 2014	3.38%
Mar., 2014	3.35%
Average	3.42%

PROXY COMPANIES
RATES OF RETURN ON AVERAGE COMMON EQUITY

COMPANY	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002-2008 Average	2009-2013 Average	2014	2015	2017-19
Parcell Proxy Group																	
American Electric Power Co.	12.3%	12.4%	12.7%	11.9%	12.2%	11.7%	11.6%	11.0%	9.3%	10.7%	9.7%	9.7%	12.1%	10.1%	9.5%	9.5%	10.0%
Consolidated Edison Co.	11.5%	10.0%	8.0%	10.2%	9.7%	10.9%	9.9%	8.7%	9.3%	9.3%	9.7%	9.3%	10.0%	9.3%	8.5%	8.5%	8.5%
DTE Energy Company	13.7%	9.7%	8.1%	10.2%	7.5%	7.7%	7.5%	8.7%	9.6%	9.1%	9.2%	9.2%	9.2%	9.2%	9.5%	9.5%	10.0%
Duke Energy Corp	8.9%	0.6%	8.6%	9.5%	4.8%	6.4%	6.1%	6.8%	8.0%	8.1%	6.8%	6.9%	6.4%	7.3%	7.5%	7.5%	8.0%
Edison International	15.4%	15.8%	3.9%	17.4%	14.9%	13.4%	13.4%	10.9%	10.7%	10.2%	15.2%	12.4%	13.5%	11.9%	12.0%	11.5%	11.0%
Entergy Corp	10.7%	10.1%	10.3%	11.9%	14.1%	13.8%	15.0%	14.4%	14.3%	15.4%	11.7%	9.1%	12.3%	13.0%	8.5%	9.0%	9.0%
NextEra Energy, Inc.	11.6%	13.5%	12.6%	11.1%	14.0%	12.9%	14.8%	13.3%	14.4%	13.7%	12.4%	12.1%	12.9%	13.2%	11.5%	11.0%	11.5%
Northeast Utilities	6.4%	7.1%	5.1%	5.4%	4.5%	8.6%	9.8%	9.6%	4.9%	10.0%	7.3%	8.4%	6.7%	8.0%	9.0%	9.0%	9.5%
PG&E Corp	-22.1%	20.9%	13.8%	11.7%	13.2%	11.9%	12.8%	11.3%	10.0%	9.6%	6.9%	6.5%	8.9%	8.9%	7.5%		8.5%
Southern Company	15.7%	15.6%	15.2%	15.0%	14.2%	14.5%	13.5%	13.2%	12.6%	12.9%	12.9%	12.7%	14.8%	12.9%	12.5%	12.5%	12.5%
Xcel Energy Inc.	2.8%	10.0%	9.8%	9.1%	9.8%	9.3%	9.7%	9.5%	9.5%	10.1%	10.4%	10.1%	8.6%	9.9%	9.5%		10.0%
Average	7.9%	11.4%	9.8%	11.2%	10.8%	11.0%	11.3%	10.7%	10.2%	10.8%	10.2%	9.7%	**10.5%**	**10.3%**	**9.6%**	**9.8%**	**9.9%**
Median	11.5%	10.1%	9.8%	11.1%	12.2%	11.7%	11.6%	10.9%	9.6%	10.1%	9.7%	9.3%	**11.1%**	**9.9%**	**9.5%**	**9.5%**	**10.0%**
Murry Comparable Electric Companies																	
Consolidated Edison Co.	11.5%	10.0%	8.0%	10.2%	9.7%	10.9%	9.9%	8.7%	9.3%	9.3%	9.7%	9.3%	10.0%	9.3%	8.5%	8.5%	8.5%
DTE Energy Company	13.7%	9.7%	8.1%	10.2%	7.5%	7.7%	7.5%	8.7%	9.6%	9.1%	9.2%	9.2%	9.2%	9.2%	9.5%	9.5%	10.0%
Duke Energy Corp	8.9%	0.6%	8.6%	9.5%	4.8%	6.4%	6.1%	6.8%	8.0%	8.1%	6.8%	6.9%	6.4%	7.3%	7.5%	7.5%	8.0%
Northeast Utilities	6.4%	7.1%	5.1%	5.4%	4.5%	8.6%	9.8%	9.6%	4.9%	10.0%	7.3%	8.4%	6.7%	8.0%	9.0%	9.0%	9.5%
Pepco Holdings	9.8%	7.6%	8.3%	8.1%	7.1%	7.9%	9.9%	5.5%	6.5%	6.0%	6.5%	6.0%	8.4%	6.1%	6.5%	7.5%	8.0%
Pinnacle West Capital Corp	8.6%	8.3%	8.2%	6.7%	9.2%	8.5%	6.1%	6.8%	9.3%	8.7%	9.8%	9.6%	7.9%	8.8%	9.5%		9.0%
Southern Company	15.7%	15.6%	15.2%	15.0%	14.2%	14.5%	13.5%	13.2%	12.6%	12.9%	12.9%	12.7%	14.8%	12.9%	12.5%	12.5%	12.5%
Xcel Energy Inc.	2.8%	10.0%	9.8%	9.1%	9.8%	9.3%	9.7%	9.5%	9.5%	10.1%	10.4%	10.1%	8.6%	9.9%	9.5%		10.0%
Average	9.7%	8.6%	8.9%	9.3%	8.4%	9.2%	9.1%	8.6%	8.7%	9.3%	9.1%	9.0%	**9.0%**	**8.9%**	**9.1%**	**9.1%**	**9.4%**
Median	9.4%	9.0%	8.3%	9.3%	8.4%	8.6%	9.8%	8.7%	9.3%	9.2%	9.5%	9.3%	**8.9%**	**9.2%**	**9.3%**	**8.8%**	**9.3%**

Source: Calculations made from data contained in Value Line Investment Survey.

PROXY COMPANIES
MARKET TO BOOK RATIOS

COMPANY	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2002-2008 Average	2009-2013 Average
Parcell Proxy Group														
American Electric Power Co.	138%	124%	155%	165%	161%	190%	145%	112%	118%	128%	134%	147%	154%	128%
Consolidated Edison Co.	144%	146%	143%	154%	149%	151%	123%	110%	124%	145%	150%	144%	144%	135%
DTE Energy Company	145%	142%	132%	140%	134%	143%	101%	91%	116%	121%	137%	152%	134%	123%
Duke Energy Corp	171%	106%	139%	157%	153%	102%	102%	90%	101%	115%	120%	120%	133%	109%
Edison International	117%	108%	153%	205%	194%	208%	149%	101%	111%	117%	146%	167%	162%	128%
Entergy Corp	114%	136%	156%	194%	211%	264%	229%	167%	164%	134%	133%	128%	186%	145%
NextEra Energy, Inc.	160%	167%	174%	201%	203%	249%	196%	170%	155%	157%	177%	200%	193%	172%
Northeast Utilities	99%	95%	106%	108%	131%	163%	128%	114%	136%	150%	143%	142%	119%	137%
PG&E Corp	149%	203%	196%	179%	201%	203%	144%	149%	148%	146%	145%	144%	182%	146%
Southern Company	230%	233%	227%	238%	229%	230%	211%	182%	186%	208%	218%	209%	228%	201%
Xcel Energy Inc.	113%	113%	132%	139%	150%	154%	127%	121%	135%	143%	156%	156%	133%	142%
Average	144%	143%	156%	171%	174%	187%	150%	128%	136%	142%	151%	155%	**161%**	**142%**
Median	144%	136%	153%	165%	161%	190%	144%	114%	135%	143%	145%	147%	**156%**	**137%**
Murry Comparable Electric Companies														
Consolidated Edison Co.	144%	146%	143%	154%	149%	151%	123%	110%	124%	145%	150%	144%	144%	135%
DTE Energy Company	145%	142%	132%	140%	134%	143%	101%	91%	116%	121%	137%	152%	134%	123%
Duke Energy Corp	171%	106%	139%	157%	153%	102%	102%	90%	101%	115%	120%	120%	133%	109%
Northeast Utilities	99%	95%	106%	108%	131%	163%	128%	114%	136%	150%	143%	142%	119%	137%
Pepco Holdings	110%	103%	109%	122%	129%	141%	115%	75%	92%	98%	101%	106%	118%	94%
Pinnacle West Capital Corp	116%	114%	130%	130%	129%	127%	100%	90%	113%	125%	141%	154%	121%	125%
Southern Company	230%	233%	227%	238%	229%	230%	211%	182%	186%	208%	218%	209%	228%	201%
Xcel Energy Inc.	113%	113%	132%	139%	150%	154%	127%	121%	135%	143%	156%	156%	133%	142%
Average	141%	132%	140%	149%	151%	151%	126%	109%	125%	138%	146%	148%	**141%**	**133%**
Median	130%	114%	132%	140%	142%	147%	119%	101%	120%	134%	142%	148%	**132%**	**129%**

Source: Calculations made from data contained in Value Line Investment Survey.

Exhibit DCP-12

STANDARD & POOR'S 500 COMPOSITE RETURNS AND MARKET-TO-BOOK RATIOS 2002 - 2012

YEAR	RETURN ON AVERAGE EQUITY	MARKET-TO BOOK RATIO
2002	8.4%	296%
2003	14.2%	278%
2004	15.0%	291%
2005	16.1%	278%
2006	17.0%	277%
2007	12.8%	284%
2008	3.0%	224%
2009	10.6%	187%
2010	14.2%	208%
2011	14.6%	208%
2012	13.5%	214%
Averages:		
2002-2008	12.4%	275%
2009-2012	13.2%	204%

Source: Standard & Poor's Analyst's Handbook, 2013 edition, page 1.

RISK INDICATORS

COMPANY	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FINANCIAL STRENGTH		S& P STOCK RANKING	
Parcell Proxy Group						
American Electric Power Co.	3	0.70	B++	3.67	B+	3.33
Consolidated Edison Co.	1	0.65	A+	4.33	B+	3.33
DTE Energy Company	2	0.85	B++	3.67	B+	3.33
Duke Energy Corp	2	0.70	A	4.00	B	3.00
Edison International	2	0.80	B++	3.67	B	3.00
Entergy Corp	3	0.75	B++	3.67	A-	3.67
NextEra Energy, Inc.	2	0.75	A	4.00	A	4.00
Northeast Utilities	2	0.75	B++	3.67	B+	3.33
PG&E Corp	3	0.60	B+	3.33	B	3.00
Southern Company	2	0.60	A	4.00	A-	3.67
Xcel Energy Inc.	2	0.65	B++	3.67	B+	3.33
	2.2	0.71	B++	3.79	B+	3.36
Murry Comparable Electric Companies						
Consolidated Edison Co.	1	0.85	B++	3.67	B+	3.33
DTE Energy Company	2	0.85	B++	3.67	B+	3.33
Duke Energy Corp	2	0.70	A	4.00	B	3.00
Northeast Utilities	2	0.75	B++	3.67	B+	3.33
Pepco Holdings	3	0.80	B	3.00	B	3.00
Pinnacle West Capital Corp	1	0.75	A	4.00	B	3.00
Southern Company	2	0.60	A	4.00	A-	3.67
Xcel Energy Inc.	2	0.65	B++	3.67	B+	3.33
Average	1.9	0.74	B++	3.71	B+	3.25

RISK INDICATORS

GROUP	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FIN STR	S & P STK RANK
S & P's 500 Composite	2.7	1.05	B++	B
Parcell Proxy Group	2.2	0.71	B++	B+
Murry Comparable Electric Companies	1.9	0.74	B++	B+

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

Definitions:

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

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

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

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

	4	52 - 62 %

Note: Standard & Poor's no longer employs the pre-tax coverage ratios as one of its qualitative ratings criteria. The above-cited S&P benchmark ratios reflect the 1999 criteria reported by S&P.