

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

**IN THE MATTER OF THE APPLICATION OF)
DELMARVA POWER & LIGHT COMPANY FOR) PSC DOCKET NO. 13-115
AN INCREASE IN ELECTRIC BASE RATES)
(Filed March 22, 2013))**

**DIRECT TESTIMONY
OF
DAVID C. PARCELL
PRESIDENT
TECHNICAL ASSOCIATES, INC.**

**ON BEHALF OF THE
DIVISION OF THE PUBLIC ADVOCATE**

AUGUST 16, 2013

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1 **INTRODUCTION**

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

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

6 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
7 **PROFESSIONAL EXPERIENCE.**

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

16 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

17 A. Yes, I have. Since 1997, I have testified in approximately 20 public utility proceedings
18 before this Commission, all on behalf of the Commission Staff. Several of these
19 proceedings were Delmarva Power & Light Co. ("DP&L") rate proceedings.

20

1 **PURPOSE OF TESTIMONY**

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

3 A. My testimony, which I have prepared on behalf of the Division of the Public Advocate
4 (“DPA”), evaluates the cost of capital (“COC”) relative to the current filing of DP&L. I
5 have performed independent studies and am making recommendations of the current
6 COC for DP&L. In addition, because DP&L is a subsidiary of Pepco Holdings, Inc.
7 (“PHI”), I also have considered this entity in my risk assessment and analyses of the
8 Company.

9 **RECOMMENDATIONS AND SUMMARY**

10 **Q. PLEASE SUMMARIZE YOUR COC ANALYSES AND RELATED**
11 **CONCLUSIONS FOR DP&L.**

12 A. This proceeding is concerned with DP&L’s regulated electric utility operations in
13 Delaware. My analyses address the Company’s COC. My overall COC
14 recommendations for DP&L are shown on Exhibit DCP-1 and are summarized below:

15

	<u>Percent</u>	<u>Cost</u>	<u>Return</u>
16 Long-Term Debt	50.78%	4.91%	2.49%
16 Common Equity	49.22%	9.20-9.50%	4.53-4.68%
17 Total	100.00%		7.02-7.17%
			7.09% Mid-Point

18

19 DP&L’s application requests a return on common equity (“COE”) of 10.25% and overall
20 COC of 7.53%. I propose a COE of 9.35% and an overall COC of 7.09%.

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1 The first step in performing an analysis of the Company's cost of capital is the
2 development of the appropriate capital structure. DP&L's proposed capital structure is
3 comprised of 50.78% long-term debt and 49.22% common equity, which represents the
4 Company's actual capital structure ratios as of December 31, 2012. I use this capital
5 structure in my COC analyses.

6 The second step in a COC calculation is a determination of the embedded cost of
7 long-term debt. DP&L's application uses a cost of 4.91% for long-term debt which
8 reflects the Company's embedded cost at December 31, 2012. I use this rate in my
9 analyses.

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

<u>Methodology</u>	<u>Range</u>	<u>Mid-Point</u>
Discounted Cash Flow	9.0-9.4%	9.20%
Capital Asset Pricing Model	6.9-7.0%	6.95%
Comparable Earnings	9.0-10.0%	9.50%

14
15
16
17 Based upon these findings, I conclude that the COE for DP&L is within a range of 9.20%
18 to 9.50% (9.35% mid-point). This reflects the mid-point results of my DCF and
19 comparable earnings analyses.

1 Combining these three steps results in an overall COC range of 7.07% to 7.17%.

2 My recommended 9.35% COE results in an overall COC of 7.109%.

3 **ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES**

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

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

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

19 The rate of return is developed from the COC, which is estimated by weighting
20 the capital structure components (*i.e.*, debt, preferred stock, and common equity) by their

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1 percentages in the capital structure and multiplying these by their cost rates. This is also
2 known as the weighted COC.

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

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

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

18 What annual rate will constitute **just compensation** depends upon many
19 circumstances and must be **determined by the exercise of fair and**
20 **enlightened judgment**, having regard to all relevant facts. A public
21 utility is entitled to such rates as will permit it to **earn a return** on the
22 value of the property which it employs for the convenience of the public
23 equal to that **generally being made** at the same time and in the same

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1 general part of the country on **investments in other business**
2 **undertakings** which are **attended by corresponding risks and**
3 **uncertainties**; but it has no **constitutional right to profits** such as are
4 realized or anticipated in **highly profitable enterprises or speculative**
5 **ventures**. The **return** should be reasonably sufficient to assure
6 confidence in the **financial soundness** of the utility, and should be
7 adequate, **under efficient and economical management**, to maintain and
8 **support its credit and enable it to raise the money** necessary for the
9 proper discharge of its public duties. A rate of return may be reasonable at
10 one time, and become too high or too low by changes affecting
11 opportunities for investment, the money market, and business conditions
12 generally. [**Emphasis added.**]

13
14 It is my understanding that the Bluefield decision established the following
15 standards for a fair rate of return: comparable earnings, financial integrity, and capital
16 attraction. It also noted the changing level of required returns over time as well as an
17 underlying assumption that the utility be operated in an efficient manner.

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

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

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

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

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

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

17 There are several useful models that can be employed to assist in estimating the
18 COE, which is the capital structure item that is the most difficult to determine. These
19 include the Discounted Cash Flow (“DCF”), Capital Asset Pricing Model (“CAPM”),
20 Comparable Earnings (“CE”) and Risk Premium (“RP”) methods. Each of these methods

1 (or models) differs from the others and each, if properly employed, can be a useful tool in
2 estimating the COE for a regulated utility.

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

5 A. I have utilized three methodologies to determine DP&L's COE: the DCF, CAPM, and
6 CE methods. I have not employed a RP model in my analyses, although, as I indicate
7 later, my CAPM analysis is a form of the RP methodology. Each of these methodologies
8 will be described in more detail in my testimony that follows.

9 **GENERAL ECONOMIC CONDITIONS**

10 **Q. ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN**
11 **DETERMINING THE COC FOR A PUBLIC UTILITY?**

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

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

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

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

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

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

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

19 A. The four prior complete cycles and current cycle cover the following periods:

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<u>Business Cycle</u>	<u>Expansion Cycle</u>	<u>Contraction Period</u>
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 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.

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.

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1 The recession also witnessed the demise of national companies such as Circuit City and
2 the bankruptcies of automotive manufacturers such as Chrysler and General Motors.

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

7 The recession reached its low point in mid-2009 and the economy has since begun
8 to expand again, although at a slow and uneven rate. However, the length and severity of
9 the recession, as well as a relatively slow and uneven recovery, indicates that the impacts
10 of the recession have been and will be felt for an extended period of time. As an example
11 of this, even in the fifth year of the recovery/expansion, the U.S. unemployment rate still
12 stands at nearly 8% -- close to the highest unemployment rate experienced over the last
13 several decades.

14 **Q. PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND FINANCIAL**
15 **CONDITIONS AND THEIR IMPACT ON THE COC.**

16 A. Exhibit DCP-2 shows several sets of relevant economic data for the cited time periods.
17 Pages 1 and 2 contain general macroeconomic statistics; pages 3 and 4 show interest
18 rates; and pages 5 and 6 contain equity market statistics.

19 Pages 1 and 2 show that 2007 was the sixth year of an economic expansion but, as
20 I previously noted, the economy subsequently entered a significant decline, as indicated

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1 by the growth in real (i.e., adjusted for inflation) Gross Domestic Product (“GDP”),
2 industrial production, and an increase in the unemployment rate. This recession lasted
3 until mid-2009, making it a longer-than-normal recession, as well as a deeper recession.
4 Since then, economic growth has been erratic and lower than the initial periods of prior
5 expansions.

6 Pages 1 and 2 also show the rate of inflation. As reflected in the Consumer Price
7 Index (“CPI”), for example, inflation rose significantly during the 1975-1982 business
8 cycle and reached double-digit levels in 1979-1980. The rate of inflation declined
9 substantially beginning in 1981, and remained at or below 6.1% during the 1983-1991
10 business cycle. Since 2008, the CPI has been 3% or lower, with 2012 being only 1.7%.
11 It is thus apparent that the rate of inflation has generally been declining over the past
12 several business cycles. Current levels of inflation are at the lowest levels of the past 35
13 years. Low inflation is reflective of lower capital costs.

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

16 A. Pages 3 and 4 show several series of interest rates. Rates reached record levels in 1975-
17 1981 when the inflation rate was high and generally rising. They declined substantially
18 (in conjunction with inflation rates) during the remainder of the 1980s and throughout the
19 1990s. Interest rates declined even further from 2000-2005 and generally recorded their
20 then-lowest levels since the 1960s.

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1 Since 2008, the Federal Reserve has lowered the Federal Funds rate (i.e., short-
2 term rate) to 0.25%, an all-time low. The Federal Reserve has also purchased U.S.
3 Treasury securities to stimulate the economy. As seen on page 4, both U.S. and corporate
4 bond yields declined to their lowest levels seen in the past four business cycles and in
5 more than 35 years. Even with the recent increases, both government and corporate
6 lending rates remain at historically low levels, again reflective of lower capital costs.

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

9 A. Pages 5 and 6 show several series of common stock prices and ratios. These indicate that
10 stock prices were essentially stagnant during the high inflation/high interest rate
11 environment of the late 1970s and early 1980s. The 1983-1991 business cycle and the
12 more recent cycles witnessed a significant upward trend in stock prices. The beginning
13 of the recent financial crisis saw stock prices decline precipitously, as stock prices in
14 2008 and early 2009 were down significantly from 2007 levels, reflecting the
15 financial/economic crisis. Beginning in the second quarter of 2009, prices have
16 recovered substantially and have ultimately reached and exceeded the levels achieved
17 prior to the “crash.”

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

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1 A. It is apparent that recent economic and financial circumstances have been different from
2 any that have prevailed since at least the 1930s. The late 2008-early 2009 deterioration in
3 stock prices, the decline in U.S. Treasury bond yields, and an increase in corporate bond
4 yields were evidenced in the then-evident “flight to safety.” On the other side of this
5 “flight to safety” is the negative perception of the recent declines in capital costs and
6 returns, which significantly reduced the value of most retirement accounts, investment
7 portfolios and other assets. One significant aspect of this has been a decline in investor
8 expectations of returns. Finally, as noted above, utility interest rates are currently at
9 levels below those prevailing prior to the financial crisis of late 2008 to early 2009 and
10 are near the lowest level in the past 35 years.

11 **DP&L’S OPERATIONS AND BUSINESS RISKS**

12 **Q. PLEASE SUMMARIZE DP&L AND ITS OPERATIONS.**

13 A. DP&L is a utility that provides electric transmission, distribution, and default supply to
14 Delaware and portions of Maryland. It also supplies natural gas service in Northern
15 Delaware. DP&L is ultimately a wholly-owned subsidiary of PHI.

16 Two mergers over the past several years have resulted in changes in DP&L’s
17 organizational structure. In 1998, DP&L combined with Atlantic Energy, Inc. (parent
18 company of Atlantic City Electric Company – ACE) to form Conectiv, a holding
19 company for DP&L and ACE. In 2002, Conectiv was acquired by PHI (formerly

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1 Potomac Electric Power Co.). Conectiv is now a subsidiary of PHI and DP&L and ACE
2 are subsidiaries of Conectiv.

3 **Q. PLEASE DESCRIBE PHI.**

4 A. PHI was created in connection with the 2002 merger of Potomac Electric Power Co. and
5 Conectiv. This is a holding company whose primary subsidiaries are:

- 6 • Potomac Electric Power Company (“Pepco”) – a regulated utility that
7 delivers electricity in Washington, D.C. and its Maryland suburbs;
8
- 9 • Conectiv, LLC – an entity that owns DP&L and ACE, which provide
10 electric and gas delivery in Delaware, Maryland and New Jersey;
11
- 12 • Pepco Energy Services, Inc. – a provider of energy efficiency and
13 renewable energy services; and,
14
- 15 • Potomac Capital Investment Corporation – invests in energy-related
16 financial investments.
17

18 Within this framework, DP&L, ACE and Pepco remain as separate operating public
19 utilities.

20 **Q. WHAT ARE THE CURRENT BOND RATINGS OF DP&L?**

21 A. The present bond ratings (senior secured debt) of DP&L are as follows:

- 22 Moody’s A3
- 23 Standard & Poor’s A

24 **Q. WHAT HAVE BEEN THE TRENDS IN DP&L’S AND PHI’S BOND RATINGS?**

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1 A. This is shown on Exhibit DCP-3, which indicates two points. First, DP&L has
2 experienced upgrades in its ratings since 2007. Second, the ratings of DP&L are similar
3 to those of Pepco and ACE, but higher than those of PHI.

4 **Q. HOW DO DP&L'S CURRENT BOND RATINGS COMPARE TO THOSE OF**
5 **OTHER ELECTRIC AND COMBINATION GAS/ELECTRIC UTILITIES?**

6 A. As I indicated in the previous answer, DP&L has single-A bond ratings on its senior
7 long-term debt. Below is a table depicting the bond rating data of the 51 electric utilities
8 and combination gas/electric utilities covered by AUS Utility Reports:. As can be seen,
9 Delmarva's "A" rating is better than most of the utilities, and its A3 rating is exceeded by
10 only 13 of the 51 companies.

11

<u>Moody's</u> <u>Rating</u>	<u>Number of</u> <u>Companies</u>	<u>S&P</u> <u>Rating</u>	<u>Number of</u> <u>Companies</u>
Aa3	1	AA-	1
A1	3	A+	--
A2	10	A	6*
A3	13*	A-	16
Baa1	11	BBB+	10
Baa2	11	BBB	13
Baa3	--	BBB-	4
Ba or less	--	BB	--
NR	2	NR	3

17 * DP&L ratings.

18

19

20

1 **CAPITAL STRUCTURE**

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

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

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

18 The common equity ratio (*i.e.*, the percentage of common equity in the capital
19 structure) is the capital structure item which normally receives the most attention. This is
20 the case because common equity: (1) usually commands the highest cost rate; (2)

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1 generates associated income tax liabilities; and, (3) causes the most controversy since its
2 cost cannot be precisely determined.

3 **Q. HOW HAVE YOU EVALUATED DP&L's CAPITAL STRUCTURE?**

4 A. I have first examined DP&L's five year historic (2008-2012) capital structure ratios.
5 These are shown on Page 1 of Exhibit DCP-4. I have summarized below the common
6 equity ratios for DP&L:

	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
7 2008	44.8%	49.2%
8 2009	50.7%	50.7%
9 2010	49.3%	49.3%
2011	48.3%	49.6%
10 2012	48.4%	49.2%

11 Page 2 of Exhibit DCP-4 shows PHI's historic capital structure ratios on a consolidated
12 basis. This indicates the following common equity ratios.

	<u>Including S-T Debt</u>	<u>Excluding S-T Debt</u>
13 2008	43.8%	45.3%
14 2009	43.2%	45.0%
15 2010	50.2%	52.7%
2011	48.6%	52.0%
16 2012	46.3%	50.7%

17 These common equity ratios are similar to those of DP&L.

18 Page 3 of Exhibit DCP-4 shows the 2012 capital structure ratios of PHI's utility
19 subsidiaries. DP&L's common equity ratios are seen to be somewhat higher than the
20 common equity range of the other utility companies.

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

3 A. Exhibit DCP-5 shows the common equity ratios (including short-term debt in
4 capitalization) for the two groups of electric utilities covered by AUS Utility Reports.

5 These are:

	Year	Electric	Combination Gas and Electric
6	2008	45%	43%
7	2009	46%	45%
8	2010	46%	46%
9	2011	47%	46%
	2012	47%	46%

10 These common equity ratios are slightly lower than those of DP&L and PHI.

11 **SELECTION OF PROXY GROUPS**

12 **Q. HOW HAVE YOU ESTIMATED THE COE FOR DP&L?**

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

17 I have examined two such groups for comparison of DP&L. I selected one group
18 of electric utilities similar to DP&L and PHI using the criteria listed on Exhibit DCP-6:

- 19 (1) Market capitalization of \$1 billion to 10 billion;
20 (2) Electric revenues 50% or greater;

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- 1 (3) Common equity ratio 40% or greater;
- 2 (4) Value Line safety rank of 1, 2 or 3;
- 3 (5) Standard & Poor's ("S&P") stock ranking of A or B;
- 4 (6) S&P or Moody's bond ratings of A;
- 5 (7) Currently pays dividends; and
- 6 (8) Is not currently involved in a major merger.

7 Second, I have conducted studies of the COE for the group of "comparison companies"
8 selected by DP&L witness Mr. Hevert.

9 **DISCOUNTED CASH FLOW ANALYSIS**

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

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

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

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

1

2

where:

3

K = discount rate (cost of capital)

4

P = current price

5

D = current dividend rate

6

g = constant rate of expected growth

7

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).

8

9

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

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

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

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

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

1
2 This dividend yield component recognizes that dividend payments and dividend increases
3 occur at different times throughout the year.

4 The P_0 in my yield calculation is the average (of high and low) stock price for
5 each proxy company for the most recent three month period (May-July, 2013). The D_0 is
6 the current annualized dividend rate for each proxy company.

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

9 A. The dividend growth rate component of the DCF model is usually the most crucial and
10 controversial element involved in using this methodology. The objective of estimating
11 the dividend growth component is to reflect the growth expected by investors that is
12 embodied in the price (and yield) of a company's stock. As such, it is important to
13 recognize that individual investors have different expectations and consider alternative
14 indicators in deriving their expectations. This is evidenced by the fact that every
15 investment decision resulting in the purchase of a particular stock is matched by another
16 investment decision to sell that stock. Obviously, since two investors reach different
17 decisions at the same market price, their expectations differ.

18 A wide array of indicators exists for estimating the growth expectations of
19 investors. As a result, it is evident that no single indicator of growth is always used by all

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1 investors, and so I believe it is necessary to consider alternative indicators of dividend
2 growth in deriving the growth component of the DCF model.

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

- 4 1. 2008-2012 (5-year average) earnings retention, or fundamental growth
5 (per Value Line);
6
- 7 2. 5-year average of historic growth in earnings per share (“EPS”), dividends
8 per share (“DPS”), and book value per share (“BVPS”) (per Value Line);
9
- 10 3. 2013, 2014 and 2016-2018 projections of earnings retention growth (per
11 Value Line);
12
- 13 4. 2010-2012 to 2016-2018 projections of EPS, DPS, and BVPS (per Value
14 Line); and,
15
- 16 5. 5-year projections of EPS growth (per First Call).
17

18 I believe this combination of growth indicators is a representative and appropriate set
19 with which to begin the process of estimating investor expectations of dividend growth
20 for the groups of proxy companies. As I indicated previously, investors have an array of
21 information available to them, all of which should be expected to have some impact on
22 their decision-making process.

23 **Q. PLEASE DESCRIBE YOUR DCF CALCULATIONS.**

24 A. Exhibit DCP-7 presents my DCF analysis. Page 1 shows the calculation of the “raw”
25 (i.e., prior to adjustment for growth) dividend yield for each proxy company. Pages 2
26 and 3 show the various growth rates for the groups of proxy companies. Page 4 shows

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1 the “raw” DCF calculations, which are presented on several bases: mean, median, and
2 low/high values. These results can be summarized as follows:

	Mean	Median	Mean Low ²	Mean High ³	Median Low ²	Median High ²
Proxy Group	8.1%	7.9%	7.0%	9.4%	6.7%	9.0%
Hevert Group	8.2%	8.0%	6.8%	9.0%	6.4%	9.1%

3
4
5
6 I note that the individual DCF calculations shown on Exhibit DCP-7 should not be
7 interpreted to reflect the expected cost of capital for the proxy groups; rather, the
8 individual values shown should be interpreted as alternative information considered by
9 investors. The individual DCF calculations also demonstrate how the focus on a single
10 growth rate, such as EPS projections, can produce a DCF conclusion that is not reflective
11 of a broader perspective of available information.

12 The results in Exhibit DCP-7 indicate average (mean and median) DCF cost rates
13 of 7.9% to 8.2%. The “high” DCF rates (i.e., using the highest growth rates only) are
14 between 9.0% and 9.4% on an average basis and median basis.

15 **Q. WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?**

16 A. This analysis reflects a broad DCF range of about 6.8% to about 9.4% for the proxy
17 groups. This is approximated by the average/mean value and high values for the proxy
18 groups examined in the previous analysis. I give less weight to the low values and

² Using only the lowest growth rate.
³ Using only the highest growth rate.

1 average values of the groups. I believe that 9.0% to 9.4% (9.20% mid-point) reflects the
2 proper DCF-calculated COE for DP&L.

3 **CAPITAL ASSET PRICING MODEL ANALYSIS**

4 **Q. PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF**
5 **THE CAPM.**

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

10 **Q. HOW IS THE CAPM DERIVED?**

11 A. The general form of the CAPM is:

12
$$K = R_f + \beta(R_m - R_f)$$

13 where: K = cost of equity

14 R_f = risk free rate

15 R_m = return on market

16 β = beta

17 $R_m - R_f$ = market risk premium

18 As noted previously, the CAPM is a variant of the risk premium method. I believe the
19 CAPM is generally superior to the simple risk premium method because the CAPM
20 specifically recognizes the risk of a particular company or industry (*i.e.*, beta), whereas

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1 the simple risk premium method assumes the same risk premium for all companies
2 exhibiting similar bond ratings.

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

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

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

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

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

14 I have performed CAPM calculations using the most recent three-month average
15 yield (May-July 2013) for 20-year U.S. Treasury bonds. Over this three-month period,
16 these bonds had an average yield of 3.04%.

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

18 A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation
19 to the overall market. Betas of less than 1.0 are considered less risky than the market,
20 whereas betas greater than 1.0 are more risky. Utility stocks traditionally have had betas

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1 below 1.0. I utilized the most recent Value Line betas for each company in the groups of
2 proxy utilities.

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

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

10 First, I have compared the actual annual returns on equity of the S&P 500 with the
11 actual annual yields of U.S. Treasury bonds. Exhibit DCP-8 shows the return on equity
12 for the S&P 500 group for the period 1978-2012 (all available years reported by S&P).
13 This schedule also indicates the annual yields on 20-year U.S. Treasury bonds, as well as
14 the annual differentials (*i.e.*, risk premiums) between the S&P 500 and U.S. Treasury 20-
15 year bonds. Based upon these returns, I conclude that this version of the risk premium is
16 about 6.6%.

17 I have also considered the total returns (*i.e.*, dividends/interest plus capital
18 gains/losses) for the S&P 500 group as well as for the long-term government bonds, as
19 tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and

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1 geometric means. I have considered the total returns for the entire available period
2 (1926-2012), which are as follows:

	<u>S&P 500</u>	<u>L-T Gov't Bonds</u>	<u>Risk Premium</u>
4 Arithmetic	11.8%	6.1%	5.7%
4 Geometric	9.8%	5.7%	4.1%

5 I conclude from this that the expected risk premium is about 5.47% (i.e., average of all
6 three risk premiums). I believe that a combination of arithmetic and geometric means is
7 appropriate since investors have access to both types of means and, presumably, both
8 types are reflected in investment decisions and thus stock prices and cost of capital.

9 **Q. WHAT ARE YOUR CAPM RESULTS?**

10 A. Exhibit DCP-9 shows my CAPM calculations. The results are:

	<u>Mean</u>	<u>Median</u>
12 Proxy Group	7.0%	6.9%
12 Hevert Group	7.0%	6.9%

14 **Q. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COE?**

15 A. The result of my CAPM analyses collectively indicates a COE of 6.9% to 7.0% for the
16 groups of proxy utilities. I conclude that the CAPM COE for DP&L is 6.9% to 7.0%.

17 **COMPARABLE EARNINGS ANALYSIS**

18 **Q. PLEASE DESCRIBE THE BASIS OF THE CE METHODOLOGY.**

19 A. The CE method is derived from the "corresponding risk" concept discussed in the
20 *Bluefield* and *Hope* cases, and thus is based upon the economic concept of opportunity

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1 cost. As previously noted, the cost of capital is an opportunity cost: the prospective
2 return available to investors from alternative investments of similar risk.

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

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

14 **Q. HOW DO YOU APPLY THE CE METHODOLOGY IN YOUR ANALYSIS OF**
15 **DP&L'S COE?**

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

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

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

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

11 A. My CE analysis considers the experienced ROEs of the proxy groups of utilities for the
12 period 1992-2012 (*i.e.* the last twenty-one years). The CE analysis requires that I
13 examine a relatively long period of time in order to determine trends in earnings over at
14 least a full business cycle. Further, in estimating a fair level of return for a future period,
15 it is important to examine earnings over a diverse period of time in order to avoid any
16 undue influence from unusual or abnormal conditions that may occur in a single year or
17 shorter period. Therefore, in forming my judgment of the current COE, I focused on
18 three periods: 2009-2012 (the current cycles), 2002-2008 (the most recent business
19 cycle) and 1992-2001 (the previous business cycle).

20 **Q. PLEASE DESCRIBE YOUR CE ANALYSIS.**

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A. Exhibits DCP-10 and DCP-11 contain summaries of experienced ROEs for three groups of companies, while Exhibit DCP-12 presents a risk comparison of utilities versus unregulated firms.

Exhibit DCP-10 shows the ROEs and M/Bs for the groups of proxy utilities. These can be summarized as follows:

	Proxy Group	Hevert Group
Historic ROE		
Mean	9.1-11.8%	8.4-11.5%
Median	9.2-12.0%	8.3-11.8%
Historic M/B		
Mean	128-170%	122-155%
Median	120-161%	118-162%
Prospective ROE		
Mean	9.3-10.0%	9.2-9.8%
Median	8.8-9.5%	9.0-9.8%

These results indicate that ROEs of 8.3% to 12.0% have been adequate to produce M/Bs of 120% to 170% for the groups of utilities. Furthermore, projected ROEs for 2013, 2014 and 2016-2018 range from 8.8% to 10.0% for the utility groups. These relate to 2012 M/Bs of 134% 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-11 presents the earned

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1 returns on equity and market-to-book ratios for the S&P 500 group over the past twenty-
2 one years (i.e., 1992-2012). As this schedule indicates, over the three business cycle
3 periods, this group's average ROE ranged from 12.4% to 14.7%,, with average M/Bs
4 ranging between 204% and 341%.

5 **Q. HOW CAN THE ABOVE INFORMATION BE USED TO ESTIMATE DP&L's**
6 **COE?**

7 A. The recent earnings of the proxy utilities and S&P 500 groups can be viewed as an
8 indication of the level of return realized and expected in the regulated and competitive
9 sectors of the economy. In order to apply these returns to the COE for the proxy utilities,
10 however, it is necessary to compare the risk levels of the electric utilities and the
11 competitive companies. I do this in Exhibit DCP-12, which compares several risk
12 indicators for the S&P 500 group and the electric utility groups. The information in
13 Exhibit DCP-12 indicates that the S&P 500 group is more risky than the electric proxy
14 groups.

15 **Q. WHAT COE IS INDICATED BY YOUR CE ANALYSIS?**

16 A. Based on ROEs and M/Bs, my CE analysis indicates that the COE for the proxy utilities
17 is no more than 9.0% to 10.0%. Recent ROEs of 8.3% to 12.0% have resulted in M/Bs
18 more than 120%. Prospective ROEs of 8.8% to 10.0% have been accompanied by M/Bs
19 over 130%. As a result, it is apparent that authorized returns below this level would
20 continue to result in M/B of well above 100%. An earned return of 9.0% to 10.0%

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1 should thus result in a M/B well above 100%. As I indicated earlier, the fact that M/B
2 ratios substantially exceed 100% indicates that historic and prospective ROEs of over
3 10.0% reflect earnings levels that are well above the actual COE for those regulated
4 companies. I also note that a company whose stock sells above book value can attract
5 capital in a way that enhances the book value of existing stockholders, thus creating a
6 favorable environment for financial integrity.

7 **COE RECOMMENDATION**

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

9 A. My three analyses produce the following results:

10	DCF	9.0-9.4%	(9.20% mid-point)
11	CAPM	6.9-7.0%	(6.95% mid-point)
12	CE	9.0-10.0%	(9.50% mid-point)

13
14 These results indicate an overall broad range of 6.9% to 10.0%, which focuses on
15 the respective ranges of my individual model results. Focusing on the respective
16 midpoints, the range is 6.95% to 9.5%. I recommend a COE range of 9.2% to 9.5% for
17 DP&L. Though this recommendation is higher than my CAPM findings, it includes the
18 mid-point of my DCF range (9.2%) and the mid-point of my CE range (9.5%). For the
19 purposes of this proceeding, I recommend the mid-point of this range, which is 9.35%. I
20 note that my 9.35% recommendation exceeds the mid-point of my DCF analyses, which
21 in turn, essentially incorporates only the highest of the growth rates.

1 **Q. YOUR CAPM RESULTS ARE LESS THAN YOUR DCF AND CE RESULTS.**
2 **DOES THIS IMPLY THAT THE CAPM RESULTS SHOULD NOT BE**
3 **CONSIDERED IN DETERMINING THE COE FOR DP&L?**

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

19

20

1 **TOTAL COST OF CAPITAL**

2 **Q. WHAT IS THE TOTAL COC FOR DP&L?**

3 A. Exhibit DCP-1 reflects the COC for the Company using DP&L's proposed capital
4 structure along with the cost of debt and range of common equity costs my analyses
5 support. The resulting COC is a range of 7.02% to 7.17% (7.09% with my recommended
6 9.35% COE). I recommend that this 7.09% COC be established for DP&L.

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

10 A. Yes, it does. Exhibit DCP-13 shows the pre-tax coverage that would result if DP&L
11 earned my COC recommendation. As the results indicate, my recommended range would
12 result in a coverage level within the benchmark range for an A-rated utility. In addition,
13 the debt ratio (which reflects the Company's proposed capital structure) is within the
14 benchmark for an A-rated utility.

15 **COMMENTS ON COMPANY TESTIMONY**

16 **Q. WHAT COE IS DP&L REQUESTING IN THIS PROCEEDING?**

17 A. DP&L is requesting a COE of 10.25%. This request is contained in the testimony of
18 DP&L witness Mr. Hevert.

19 **Q. HAVE YOU REVIEWED THE TESTIMONY OF DP&L WITNESS ROBERT B.
20 HEVERT?**

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1 A. Yes, I have. Mr. Hevert indicates (page 2, lines 18-22) that in his view that a 10.5% COE
2 is “reasonable and appropriate” for DP&L and, thus, the Company’s 10.25% requested
3 COE is “reasonable, if not conservative.” His recommendation is derived as follows:

	Mean Low	Mean	Mean High
<u>DCF Results</u>			
	<u>Mean Results</u>		
30-Day Average	9.00%	10.21%	11.63%
90-Day Average	9.09%	10.30%	11.71%
180-Day Average	9.08%	10.29%	11.71%
	<u>Median Results</u>		
30-Day Average	9.65%	10.47%	11.39%
90-Day Average	9.80%	10.62%	11.44%
180-Day Average	9.88%	10.70%	11.39%
<u>CAPM Results</u>		Current 30-Year Treasury (3.12%)	Near-Term Projected 30-Year Year Treasury (3.25%)
	<i>Value Line Beta Coefficient</i>		
Sharpe Ratio Derived Market Risk Premium		7.44%	7.57%
Bloomberg Derived Market Risk Premium		10.20%	10.33%
Capital IQ Derived Market Risk Premium		10.15%	10.28%
	<i>Bloomberg Beta Coefficient</i>		
Sharpe Ratio Derived Market Risk Premium		7.43%	7.57%
Bloomberg Derived Market Risk Premium		10.19%	10.32%
Capital IQ Derived Market Risk Premium		10.14%	10.27%
<u>Bond Yield Plus Risk Premium</u>			
	Current (3.12%)	Near-Term Projected (3.25%)	Long-Term Projected (5.10%)
Risk Premium	10.23%	10.24%	10.76%

1 **Q. DO YOU HAVE ANY GENERAL COMMENTS ABOUT MR. HEVERT'S**
2 **TESTIMONY AND CONCLUSIONS?**

3 A. Yes, I do. Mr. Hevert's testimony significantly overstates DP&L's COC. Each of his
4 methods, and virtually all of his inputs into those methods, is systematically biased
5 upward in a manner that significantly inflates his COE conclusions.

6 **Q. WHAT ARE YOUR DISAGREEMENTS WITH MR. HEVERT'S CONSTANT**
7 **GROWTH DCF ANALYSES?**

8 A. Mr. Hevert's constant growth DCF analyses are based on 30-day, 90-day and 180-day
9 average stock prices for the periods ending February 15, 2013, annualized dividends per
10 share as of February 15, 2013 and the average of Value Line, First Call and Zack's EPS
11 projections. His DCF analyses are applied to his group of twelve electric utilities.

12 Mr. Hevert's constant growth DCF analyses are shown on his Exhibit RBH-1. It
13 is apparent from review of his Exhibit that his "Low DCF ROE" for each proxy company
14 reflects the dividend yield and the lowest of the three EPS growth rates he considers. His
15 "Mean DCF ROE" considers the average of all three EPS growth rates and his "High
16 DCF ROE" only considers the highest EPS growth rate for each company. Stated
17 differently, the "High DCF" result considers only the highest of the three EPS growth
18 rates for each company and ignores the other two EPS growth rates. Thus, the "Mean
19 High DCF" result for one proxy company may reflect only the Zacks EPS Growth, while
20 the "Mean High DCF" result for another proxy company may reflect only the Value Line

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1 growth result. Mr. Hevert's DCF result implicitly assumes that investors *only* consider
2 the most optimistic EPS growth rate for each individual company in making investment
3 decisions.

4 **Q. IS IT APPROPRIATE TO FOCUS ON THE HIGHEST GROWTH RATE, ON A**
5 **COMPANY-TO-COMPANY BASIS, TO DETERMINE THE COE FOR AN**
6 **ELECTRIC UTILITY SUCH AS DP&L?**

7 A. No. It is neither realistic nor appropriate to focus on a single EPS growth rate in a DCF
8 context, especially when one "cherry picks" the highest EPS growth rate for each
9 company from among the different EPS growth rate indicators that reflect the highest
10 EPS growth rate for each company. As I indicated above, Mr. Hevert's analyses focus
11 only on methods and data that produce the highest possible results.

12 **Q. ARE THERE ANY OTHER PROBLEMS WITH MR. HEVERT'S CONSTANT**
13 **GROWTH DCF ANALYSES?**

14 A. Yes. Even though Mr. Hevert purports to examine three alternative growth rates in his
15 constant growth DCF analyses, in reality each of the three focuses on a single statistic:
16 analysts' EPS forecasts.

17 **Q. YOU HAVE INDICATED YOUR DISAGREEMENTS WITH THE MANNER IN**
18 **WHICH MR. HEVERT CONDUCTS HIS DCF ANALYSES. DO YOU HAVE**
19 **ANY ADDITIONAL COMMENTS CONCERNING HIS DCF ANALYSES AND**
20 **CONCLUSIONS?**

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1 A. Yes, I do. Aside from the points I previously noted – that his analyses focus just on
2 analysts’ projections of EPS – it is also apparent that his analyses do not reflect the
3 current DCF COE for an electric utility such as DP&L.

4 **Q. NOTWITHSTANDING YOUR DISAGREEMENTS WITH MR. HEVERT’S DCF**
5 **ANALYSES, HAVE YOU PREPARED AN UPDATE OF THE METHODOLOGY**
6 **AND DATA SOURCES HE USED IN HIS DCF ANALYSES?**

7 A. Yes, I have prepared Exhibit DCP-14 to provide a current version of Mr. Hevert’s DCF
8 analyses using the same three sources of EPS projections for the proxy companies he
9 used in his Direct Testimony. I have also updated the dividend yield calculation to reflect
10 three-month stock prices through the end of July 2013.

11 **Q. WHAT ARE THE RESULTS OF YOUR UPDATES OF MR. HEVERT’S DCF**
12 **ANALYSES?**

13 A. The following DCF cost rates are apparent for his group of proxy companies:

14

<u>Growth Rate</u>	<u>DCF Results</u>	
	<u>Average</u>	<u>Median</u>
Zacks	9.20%	9.19%
First Call	8.98%	9.29%
Value Line	9.59%	9.08%

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19 These DCF cost rates are generally consistent with the 9.0% to 9.4% DCF results in my
20 testimony.

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1 **Q. HAVE YOU ALSO PERFORMED UPDATED DCF ANALYSES USING ONLY**
2 **THE HIGHEST GROWTH RATES, AS MR. HEVERT DOES IN HIS**
3 **TESTIMONY?**

4 A. Yes, I have, even though I do not believe that this is appropriate, since it uses different
5 growth rates for each proxy company, and assumes that investors rely only on the most
6 optimistic projections. Exhibit DCP-14 indicates the updated DCF results, where each
7 company's EPS forecast is the highest of the three possible forecasts. This results in the
8 following results for Mr. Hevert's proxy group:

9 Average DCF 11.35%

10 Median DCF 9.84%

11 **Q. WHY IS THE AVERAGE DCF RESULT SO MUCH HIGHER THAN THE**
12 **MEDIAN DCF RESULT?**

13 A. The average DCF result is higher because two of the proxy companies' highest projected
14 growth rates reflect Value Line EPS projections as follows:

<u>Company</u>	<u>EPS Growth</u>	<u>DCF</u>
Otter Tail Company	21.50%	26.01%
PNM Resources	12.00%	15.09%

18 It is apparent that these estimated EPS growth rates are outliers and are not sustainable.
19 For example, the highest Value Line EPS growth rate for the other proxy companies is
20 6.5%, which is only about one-half as large as PNM Resources and about one-third as

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1 large as Otter Tail Corp. As further indication of the unsustainability of these growth
2 rates, one need only examine the most recent historic 5-year growth rate in EPS for these
3 two companies:

<u>Company</u>	<u>EPS Growth</u>
Otter Tail Company	-18.5%
PNM Resources	-4.0%

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7 **Q. HAVE YOU REFLECTED THE AVERAGE UPDATED AVERAGE FOR MR.**
8 **HEVERT'S PROXY GROUP EXCLUDING THESE TWO COMPANIES?**

9 A. Yes, I have. As is shown on Exhibit DCP-14:

Average DCF	9.51%
Median DCF	9.45%

10
11
12 **Q. DO YOU AGREE WITH MR. HEVERT'S RISK PREMIUM COMPONENT OF**
13 **THE CAPM?**

14 A. No. Mr. Hevert's CAPM analyses utilize three risk premium values:⁴

Sharpe Ratio MRP	6.03%
<i>Ex Ante</i> Bloomberg MRP	9.88%
<i>Ex Ante</i> Capital IQ MRP	9.81%

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18 Each of these greatly exceeds the long-term experience (e.g., 1929 to present) of
19 investment return differential between common stocks and government bonds, as I
20 describe earlier in my testimony. Over this period, risk premiums have averaged less

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1 than 6%. Mr. Hevert offered no evidence or rationale to explain why investors would
2 expect such a large increase in risk premiums over historic levels. This is simply another
3 example of how Mr. Hevert chooses data that produces higher and excessive results.

4 **Q. DO YOU HAVE ANY RESPONSES TO MR. HEVERT'S RISK PREMIUM**
5 **ANALYSES?**

6 A. Yes. Mr. Hevert's risk premium approach compares the allowed ROEs for electric
7 utilities and 30-Year U.S. Government Bond yields over the period 1980 to February
8 2013. He then performs a regression analysis to develop an expected relationship
9 between 30-year U.S. Government Bond yields and the COE for electric utilities. He
10 applies this regression result to three levels of 30-year U.S. Treasury Bonds and
11 correspondingly arrives at his 10.23% to 10.76% conclusion. I note that the average
12 authorized ROE for electric utilities has not been as high as 10.23% since 2010 and has
13 not been as high as 10.76% since 2003.⁵ This indicates that Mr. Hevert's risk premium
14 results, which are claimed to be based on regulatory decisions, are excessive relative to
15 these decisions.

16 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

17 A. Yes, it does.

⁴ Exhibit RBH-2.

⁵ See response to AG-COC-13.