

Large Filing Separator Sheet

Case Number: 13-2385-EL-SSO
13-2386-EL-AAM

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Section 6 OF 9

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FILE

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

| | | |
|--|---|-------------------------|
| In the Matter of the Application of |) | |
| Ohio Power Company for Authority to |) | Case No. 13-2385-EL-SSO |
| Establish a Standard Service Offer |) | |
| Pursuant to §4928.143, Revised Code, |) | |
| in the Form of an Electric Security Plan |) | |

| | | |
|-------------------------------------|---|-------------------------|
| In the Matter of the Application of |) | |
| Ohio Power Company for Approval of |) | Case No. 13-2386-EL-AAM |
| Certain Accounting Authority |) | |

OHIO POWER COMPANY'S
ELECTRIC SECURITY PLAN

Testimony of Company Witnesses:

Kyle, Hawkins, Avera, Mitchell

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AEP OHIO EX. NO. _____

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THE PUBLIC UTILITIES COMMISSION OF OHIO

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DIRECT TESTIMONY OF
MATTHEW D. KYLE
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

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MATTHEW D KYLE

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
MATTHEW D. KYLE
ON BEHALF OF
OHIO POWER COMPANY

PERSONAL DATA

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Matthew D. Kyle, and my business address is 850 Tech Center Drive,
3 Gahanna, Ohio 43230.

4 **Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

5 A. I am employed by the Ohio Power Company (OPCo) referred to as "AEP Ohio" or the
6 "Company" as Director of Business Operations Support.

7 **Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL AND**
8 **PROFESSIONAL BACKGROUND?**

9 A. I earned a Bachelor of Science Degree in Accounting from the University of Dayton in
10 1986, and a Master's degree in Business Administration from Capital University in
11 1993. I began my career at AEP in 1990 as a financial analyst in the Corporate
12 Planning and Budgeting group. In 1997 I was promoted to Manager Strategic
13 Planning. I then advanced to the position of Director Commercial Analysis in 2003. I
14 assumed my current role in 2004.

15 **Q. WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF BUSINESS**
16 **OPERATIONS?**

17 A. I am responsible for leading the financial planning and budgeting processes for AEP
18 Ohio. In such capacity, I review the assumptions for short and long-term financial
19 planning models used in the development of operating and capital expenditure

1 forecasts for AEP Ohio and monitor actual performance and review the preparation of
2 forecasted information for use in regulatory proceedings.

3 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY**
4 **REGULATORY PROCEEDINGS?**

5 A. Yes, I previously provided testimony before the Kentucky Public Service
6 Commission.

7 **PURPOSE OF TESTIMONY**

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

9 A. The purpose of my testimony is to present the Company's proforma financial
10 statements for the period of this ESP (June 2015 through May 2018). I will also
11 describe the forecast methodology and provide an overview of the major assumptions
12 used to develop this forecast.

13 **Q. WHAT EXHIBITS ARE YOU SPONSORING IN THIS PROCEEDING?**

14 A. I am sponsoring the following exhibits:

15 Exhibit MDK-1: Forecast Assumptions

16 Exhibit MDK-2: Proforma Financial Projections

17
18 **FORECAST METHODOLOGY**

19 **Q. PLEASE BRIEFLY DESCRIBE THE PROCESS USED TO DEVELOP A**
20 **FINANCIAL FORECAST FOR OPCO.**

21 A. The preparation of a financial forecast for OPCo requires input from a variety of
22 groups within AEP Service Corporation (AEPSC) and OPCo.

23 Assumptions, such as growth in kilowatt-hour sales, purchased power expense, interest

1 rates, and cost projections based on the Company's work plan, are made in advance of
2 the preparation of the forecast. These assumptions are reviewed with individuals from
3 OPCo and within AEPSC to determine the most reasonable set of assumptions to be
4 incorporated into the forecast.

5 The major components of a forecast are as follows: 1) load and demand forecast; 2)
6 retail revenue projections; 3) cost of purchased power; 4) O&M forecast; 5)
7 construction expenditure forecast; and 6) financing plan.

8 **Q. PLEASE DISCUSS EACH OF THESE MAJOR COMPONENTS OF THE**
9 **FORECAST IN MORE DETAIL.**

10 A. The major components of the forecast are as follows:

11 1) Load and Demand Forecast - The internal load projection is developed by
12 the Economic Forecasting Department in conjunction with various groups across the
13 AEP System including input from OPCO and reflects an analysis of the economy and
14 the unique factors that influence individual customers or customer classes. In addition,
15 the load and demand projections are further refined to include an estimate of load
16 choosing an alternative electric provider.

17 2) Retail Revenue Projections - Revenues for most customers are developed by
18 customer class using base realizations under current rates and purchased power rates
19 included in the appropriate filed tariffs or contracts and auctions. Projections of base
20 realizations reflect actual experience adjusted to be consistent with the projected sales
21 and usage levels. Revenues for special contract customers are developed in detail in
22 accordance with the terms of the contract.

23 3) Cost of Purchased Power – For SSO customers, the cost of purchased power

1 is determined by the competitive bidding process auction energy rates which are
2 forecasted by the AEP's Commercial Operations group. These costs are passed
3 through to customers and have no significant effect on the forecast results of the Company.

4 4) O&M Forecast - Operation and maintenance expenses are based upon
5 current work plans for each of the functional groups. These plans include expenditures
6 for scheduled maintenance programs as well as the cost of operations. These plans
7 take into consideration staffing levels, including budgeted increases in salaries as well
8 as material costs necessary to perform each planned program.

9 5) Construction Expenditure Forecast - The various engineering and planning
10 groups within OPCo and AEPSC develop the construction expenditure budget. It
11 reflects expenditures and in-service dates of major projects during the year as well as
12 amounts approved to fund blanket work (smaller projects grouped together) which is
13 essential in estimating both book and tax depreciation as well as the allowance for
14 funds used during construction.

15 6) Financing Plan - The development of the financing program for the forecast
16 is intended to meet the company's working capital requirements. In determining the
17 company's financing program, consideration is given to regulatory restrictions, timing
18 of cash flow requirements, and availability of equity capital, credit metrics, capital
19 structure and short-term debt limitations.

20 **OVERVIEW OF ASSUMPTIONS**

21 **Q. DESCRIBE THE MAJOR ASSUMPTIONS THAT WERE EMPLOYED TO**
22 **DEVELOP THE PROFORMA FINANCIAL STATEMENTS.**

23 A. The assumptions for the proforma financial statements for the ESP period from June 1,

1 2015 through May 31, 2018 are provided on Exhibit MDK-1.

2 **FORECAST RESULTS (2015 – 2018)**

3 **Q. PLEASE SUMMARIZE THE RESULTS FOR THE PROFORMA FINANCIAL**
4 **STATEMENTS.**

5 A. The Income Statement, Cash Flow and Balance Sheet for Ohio Power Company for
6 the ESP period from June 1, 2015 through May 31, 2018 are provided on Exhibit
7 MDK-2. The data was prepared consistent with the assumptions presented in Exhibit
8 MDK-1.

9 **Q. DO YOU BELIEVE THAT THE PROJECTED VALUES THAT YOU HAVE**
10 **PROVIDED ARE REASONABLE?**

11 A. Yes I do.

12 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

13 A. Yes.

Assumptions Used in the Projected Financial Statements for Purposes of this Proceeding

- The components of AEP Ohio's ESP III filing are included in these projections.
- AEP Ohio has no generation assets after corporate separation and is wires only.
- The load forecast for 2015 through 2018 is provided below:

| | 2015 | 2016 | 2017 | 2018 |
|---------------------|---------------|---------------|---------------|---------------|
| Residential | 13,669 | 13,521 | 13,466 | 13,467 |
| Commercial | 13,681 | 13,745 | 13,806 | 13,846 |
| Industrial | 13,884 | 13,884 | 13,842 | 13,839 |
| Other Retail | 120 | 120 | 120 | 120 |
| Total Retail | 41,354 | 41,271 | 41,235 | 41,272 |
| SSO Load | 11,771 | 11,691 | 11,678 | 11,696 |
| Shopping Load | 29,582 | 29,580 | 29,558 | 29,576 |

- SSO customers are served by a competitive bidding process auction and RPM capacity for generation service.
- Shopping customers are served by CRES providers for generation service.
- All customers pay for transmission service via a nonbypassable Basic Transmission Cost Rider.
- The AEP OATT is based upon the FERC formula rate.
- O&M expenses generally reflect the Company's 2013 Long Range Plan.
- Current depreciation rates continue through the forecast period.
- The capital structure of the wires company after corporate separation is maintained between 50%-53% debt and 50%-47% equity throughout the forecast period.
- The RSR continues June 1, 2015 and collects the deferred capacity balance of \$463M over the course of the ESP III period.
- The DIR is updated June 1, 2015, to include General plant.

Ohio Power
ESP III Pro-forma
Income Statement

| | 7 months Ending 2015 | Year 2016 | Year 2017 | 5 months Ending 2018 |
|----------------------------------|-------------------------|-----------|-----------|-------------------------|
| (1) REVENUE | | | | |
| (2) Sales of Electricity | 1,572 | 2,603 | 2,725 | 1,140 |
| (3) Other Operating Revenue | 24 | 42 | 43 | 18 |
| (4) Total Revenue | 1,596 | 2,645 | 2,767 | 1,158 |
| (5) COST OF SALES | | | | |
| (6) Total Cost of Sales | 592 | 984 | 1,021 | 440 |
| (7) Gross Margin | 1,004 | 1,661 | 1,746 | 717 |
| (8) OPERATING EXPENSES | | | | |
| (9) Operations & Maintenance | 443 | 752 | 798 | 335 |
| (10) Taxes Other Than Income | 213 | 367 | 371 | 156 |
| (11) TOTAL OPERATING EXPENSES | 656 | 1,119 | 1,169 | 491 |
| (12) Operating Margin/EBITDA | 348 | 542 | 577 | 227 |
| (13) Depreciation & Amortization | 88 | 157 | 166 | 72 |
| (14) Other (Income) / Deductions | (17) | (17) | (8) | (2) |
| (15) EBIT | 277 | 402 | 419 | 156 |
| (16) Total Interest Expense | 66 | 114 | 115 | 50 |
| (17) Total Income Taxes | 73 | 102 | 107 | 37 |
| (18) Preferred Stock Dividends | - | - | - | - |
| (19) NET INCOME | 138 | 186 | 197 | 69 |
| (20) RETURN ON COMMON | N/A | 10.13% | 10.45% | N/A |

(all figures in millions of dollars)

Ohio Power
ESP III Pro-forma
Balance Sheet

| | 6/1/2015 | 12/31/2015 | 12/31/2016 | 12/31/2017 | 5/31/2018 |
|--|----------|------------|------------|------------|-----------|
| (1) Assets | | | | | |
| (2) Gross Plant in Service | 6,767 | 6,998 | 7,235 | 7,486 | 7,583 |
| (3) Construction Work In Progress | 186 | 117 | 115 | 124 | 149 |
| (4) Gross Plant in Service | 6,953 | 7,115 | 7,350 | 7,609 | 7,732 |
| (5) Accumulated Depreciation | 3,017 | 3,056 | 3,138 | 3,209 | 3,251 |
| (6) Net Utility Plant | 3,936 | 4,058 | 4,213 | 4,401 | 4,481 |
| (7) Other Property and Investments | 39 | 39 | 39 | 39 | 39 |
| (8) Current and Accrued Assets | 784 | 801 | 842 | 797 | 794 |
| (9) Unamortized Debt Expense | 10 | 9 | 8 | 7 | 7 |
| (10) Unamortized Loss on Reacquired Deb | 11 | 10 | 9 | 8 | 8 |
| (11) Regulatory Assets | 1,123 | 873 | 751 | 623 | 590 |
| (12) Other Net Deferrals | 205 | 298 | 302 | 305 | 214 |
| (13) Total Assets | 6,108 | 6,088 | 6,163 | 6,181 | 6,132 |
| (14) Equity and Liabilities | | | | | |
| (15) Common Stock | 1,902 | 1,965 | 2,002 | 2,048 | 2,043 |
| (16) Preferred Stock | - | - | - | - | - |
| (17) Other Comprehensive Earnings | (141) | (141) | (142) | (143) | (144) |
| (18) Total Equity | 1,762 | 1,824 | 1,860 | 1,905 | 1,899 |
| (19) Long-Term Debt | 1,943 | 1,803 | 1,894 | 1,894 | 1,944 |
| (20) Capital Leases | 16 | 16 | 7 | 7 | 7 |
| (21) Other Non-Current Liabilities | 165 | 171 | 179 | 186 | 188 |
| (22) Short-Term Debt | - | - | - | 16 | 41 |
| (23) Other Current and Accrued Liabilities | 1,008 | 1,117 | 1,124 | 1,133 | 1,035 |
| (24) Deferred Credits | 1,215 | 1,157 | 1,100 | 1,040 | 1,018 |
| (25) Total Liabilities | 4,346 | 4,264 | 4,304 | 4,275 | 4,233 |
| (26) Total Equity and Liabilities | 6,108 | 6,088 | 6,163 | 6,181 | 6,132 |

(all figures in millions of dollars)

Ohio Power Company
ESP III Pro-forma
Statement of Cash Flows

| | 7 months Ending 2015 | Year 2016 | Year 2017 | 5 months Ending 2018 |
|---|-------------------------|--------------|--------------|-------------------------|
| (1) Operating Activities | | | | |
| (2) Balance for Common | 138 | 186 | 197 | 69 |
| (3) Adjustments to Net Income | | | | |
| (4) Depreciation and Amortization | 103 | 186 | 197 | 85 |
| (5) Deferred Income Tax | (39) | (19) | (21) | (5) |
| (6) Changes in Regulatory Assets | 77 | 120 | 127 | 33 |
| (7) Changes in Working Capital | 82 | (31) | (31) | (110) |
| (8) Other Adjustments to Net Income | 57 | (34) | (40) | 79 |
| (9) Cash From Operations | <u>419</u> | <u>409</u> | <u>429</u> | <u>151</u> |
| (10) Investing Activities | | | | |
| (11) Construction Expenditures | (201) | (307) | (346) | (149) |
| (12) AFUDC Debt/Capitalized Interest | (3) | (2) | (3) | (1) |
| (13) Cash (Used) in Investing | <u>(204)</u> | <u>(309)</u> | <u>(349)</u> | <u>(150)</u> |
| (14) Financing Activities | | | | |
| (15) Issuance of Long-Term Debt | | 300 | | 400 |
| (16) Retirement of Long-Term Debt | (140) | (210) | | (350) |
| (17) Change in Short-Term Debt | | | 16 | 24 |
| (18) Equity Contributions | | | | |
| (19) Dividends Paid | (75) | (150) | (150) | (75) |
| (20) Other Financing Activity | | (9) | | |
| (21) Cash From Financing Activities | <u>(215)</u> | <u>(69)</u> | <u>(134)</u> | <u>(1)</u> |
| (22) Total Change in Cash | (0) | 31 | (54) | 0 |
| (23) Beginning Cash and Cash Equivalents | 24 | 23 | 54 | (0) |
| (24) Ending Cash and Cash Equivalents | 23 | 54 | (0) | (0) |

(all figures in millions of dollars)

AEP OHIO EX. NO. _____

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| Ohio Power Company for Approval of |) | Case No. 13-2386-EL-AAM |
| Certain Accounting Authority |) | |

DIRECT TESTIMONY OF
RENEE V. HAWKINS
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

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RENEE V. HAWKINS

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
RENEE V. HAWKINS
ON BEHALF OF
OHIO POWER COMPANY

PERSONAL DATA

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Renee V. Hawkins and my business address is 1 Riverside Plaza,
Columbus, OH 43215.

**Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS
PROCEEDING?**

A. I am testifying on behalf of Ohio Power Company ("AEP Ohio" or "the
Company").

BUSINESS EXPERIENCE

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY

A. I am employed by American Electric Power Service Corporation (AEPSC), a
wholly owned subsidiary of American Electric Power Company, Inc. (AEP)
as Managing Director, Corporate Finance. I am also the Assistant Treasurer
of AEP, Inc. and its operating companies (AEP System), including AEP Ohio.
AEP, Inc. is the parent company of AEP Ohio.

**Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING
DIRECTOR, CORPORATE FINANCE?**

A. My primary responsibilities are for corporate finance activities of utility
operating companies, including AEP Ohio. These activities include issuing

1 debt, establishing dividend recommendations and capitalization targets,
2 supporting the rating agency relationships to maintain credit ratings and
3 assisting in the management of liquidity for AEP Ohio and for the overall
4 AEP System.

5 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
6 **PROFESSIONAL EXPERIENCE.**

7 A. I earned a Bachelor of Business Administration Degree in Finance and
8 International Business from the Ohio State University in 1987. I earned a
9 Masters of Business Administration with a concentration in Finance from the
10 Simon School at the University of Rochester in 1991. I was first employed by
11 State Teachers Retirement System of Ohio in 1987 in the Real Estate section
12 where I was assigned to asset management.

13 In June 1991, I was employed by General Motors as an analyst for AC
14 Delco, which is now a subsidiary of Delphi East. This rotational program
15 included positions in cost accounting, division finance, and capital planning.

16 In June 1993, I was hired by Cablevision Systems Corporation, first as a
17 Senior Financial Analyst and then promoted to Treasury Manager. My
18 responsibilities included managing capitalization and liquidity for a number of
19 subsidiaries including American Movie Classics and cable systems in northern
20 Ohio and Massachusetts. Included in those responsibilities was raising capital
21 through bank markets and financial markets, managing compliance under
22 various financial agreements, and supporting investor and rating agency
23 relations.

1 In October 1996, I joined AEPSC as a Corporate Finance Senior
2 Analyst supporting financing activity for the AEP System operating
3 companies. In July 1999, I was named Manager – Corporate Finance of the
4 AEPSC. In June 2000, I was named Director – Corporate Finance of the
5 Service Corporation, a position that was renamed Director – Regulated
6 Finance in 2001. In that capacity, I was responsible for capital markets
7 activity for all of the regulated utilities, and such things as establishing
8 dividend recommendations and capitalization targets, supporting the rating
9 agency relationships to maintain credit ratings and assisting in the
10 management of liquidity for the overall AEP System. I was then promoted to
11 Managing Director, Corporate Finance in 2003. In January 2008, I was made
12 Assistant Treasurer of AEP, Inc. and its operating companies.

13 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A COMMISSION?**

14 A. Yes, I have filed testimony on behalf of AEP Ohio before the Public Utilities
15 Commission of Ohio (Commission) in the distribution base rate case in Case
16 No. 11-351-EL-AIR and Case No. 11-352-EL-AIR and in the previous 2011
17 ESP cases. Also, I have filed testimony and testified on behalf of
18 Appalachian Power Company before both the Public Service Commission of
19 West Virginia and the Virginia State Corporation Commission. I have
20 testified on behalf of Indiana Michigan Power before both the Indiana Utility
21 Regulatory Commission and the Michigan Public Service Commission. I
22 have testified for Southwestern Electric Power Company before both the
23 Arkansas Public Service Commission and the Public Utility Commission of

1 Texas. Finally, I have testified on behalf of Public Service Company of
2 Oklahoma before the Corporation Commission of the State of Oklahoma.

3 **PURPOSE OF TESTIMONY**

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

6 A. I am sponsoring testimony on AEP Ohio's expected capital structure and
7 weighted average cost of capital (WACC) for the purposes of determining the
8 carrying costs to be applied to certain riders included in our filing for the
9 proposed June 1, 2015 –May 31, 2018 Electric Security Plan (ESP). I am also
10 sponsoring the calculation of the levelized capital carrying costs.

11 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

12 A. Yes, I am sponsoring the following Exhibits:

13 Exhibit RVH-1: Cost of Capital

14 Exhibit RVH-2: Embedded Cost of Long-term Debt

15 Exhibit RVH-3: Cost of Short-Term Debt

16 Exhibit RVH-4 Carrying Charges
17

18 **CAPITAL STRUCTURE AND COST OF CAPITAL**

19 **Q. IS THE PROPOSED AEP OHIO COST OF CAPITAL FOR THE**
20 **WIRES BUSINESS ONLY?**

21 A. Yes. We are proposing for the Electric Security Plan for the period from June
22 2015 through May 2018 to use the expected capital structure and cost of

capital for the resulting wires business as of May 31, 2015 which will be after completion of AEP Ohio's transfer of its generation assets.

Q. HOW DID YOU DETERMINE THE APPROPRIATE CAPITAL STRUCTURE FOR THE WIRES BUSINESS?

A. AEP Ohio's capital structure has been determined based upon the liabilities and assets post-corporate separation and evaluating the capital structure necessary to maintain a strong investment grade rating. AEP Ohio is currently rated Baa1 from Moody's Investor Service (Moody's) and BBB from Standard & Poor's (S&P). The Company's intention is for AEP Ohio's ratings to remain stable or to improve post- corporate separation. Based upon the expected size and scope of a wires only AEP Ohio, the targeted capital structure is 52% long-term debt and 48% equity for the AEP Ohio. This is a change from AEP Ohio's current capital structure which is approximately 43% debt and 57% equity.

Q. HAVE THERE BEEN ANY CHANGES IN THE CREDIT RATINGS OF OHIO POWER?

A No, Ohio Power's credit ratings are listed as stable by both Moody's and S&P. However, Moody's is revising the credit ratings for the majority of the U.S. utility industry. On November 7th, Moody's placed most of the U.S. regulated utilities 'On Review' for an upgrade of their respective credit ratings with limited exceptions including the Ohio electric utilities. The article noted that there were exclusions that include utilities with substantial construction programs, are currently on Negative Outlook or under downward pressure, are

1 characterized by material concentration or event risk, face market or
2 regulatory risks specific to their particular jurisdictions, or are part of a
3 corporate family that has significant non-utility operations. With the
4 exclusion of the Ohio utilities from the review for upgrade, it is clear that
5 from Moody's perspective there are still execution risks on the Ohio utilities
6 transitioning to a wires only businesses.

7 **Q. WHAT ADJUSTMENTS WERE MADE FROM THE CURRENT**
8 **CAPITAL STRUCTURE TO THE FORECAST CAPITAL**
9 **STRUCTURE IN 2015?**

10 **A.** The forecasted capital structure assumes, consistent with our plans, that any
11 debt maturing prior to 2015 will be repaid with a \$1 billion credit facility (this
12 liability to be transferred with the generation assets) or with the proceeds from
13 the 2013 AEP Ohio securitization transaction. Consistent with the
14 Commission's Order in the corporate separation docket, Case No. 12-1126-
15 EL-UNC, all of the pollution control revenue bonds (PCRB) are assumed to
16 be transferred out with the generation assets or those bonds that we are not
17 able to transfer are excluded since a note will be in place to reimburse AEP
18 Ohio for any costs related to the PCRBs until such time as they can be
19 transferred.

20 **Q. HOW ARE THE SECURITIZATION BONDS TREATED IN THE**
21 **CAPITAL STRUCTURE?**

22 **A.** The securitization bonds are excluded from the capital structure of AEP Ohio,
23 recognizing that although under generally accepted accounting principles

(GAAP) these bonds are reported on the consolidated financial statements of AEP Ohio, they were issued by a special purpose entity (SPE) and the recovery of these costs is through a separate rider, the revenues from which are remitted to the trustee of the SPE.

Q. PLEASE DESCRIBE YOUR CALCULATION FOR THE CAPITAL STRUCTURE AND COST OF CAPITAL

A. Exhibit RVH-1 computes the total weighted average cost of capital (WACC) for AEP Ohio. The amount of long-term debt and associated cost on line 1 is supported by Exhibit RVH-2 (Embedded Cost Long-Term Debt). The cost of equity on line 3 is assumed to be 10.65%, which was provided by Company witness Avera. The expected short-term debt outstanding and associated costs are included in line 2 and are supported by Exhibit RVH-3. No short-term debt is forecast to be outstanding on May 31, 2015. When weighting the outstanding balances of debt and equity as of May 31, 2015, the pre-tax weighted cost of capital is 10.86% and the after-tax weighted cost of capital is 8.23%.

Q. PLEASE DESCRIBE EXHIBIT RVH-2 AND THE COST OF LONG-TERM DEBT AS OF MAY 31, 2015

A. Exhibit RVH-2 identifies all long-term debt expected to be outstanding as of June 1, 2015 and the related annualized costs. The costs include premiums and discounts, issuance expenses, gains or losses recognized on reacquisition of debt, and associated hedging gains and losses. The calculated embedded

1 cost for long-term debt is 6.05%. The schedule shows the remaining debt
2 outstanding post-corporate separation.

3 **Q. PLEASE DESCRIBE THE CALCULATION OF THE EXPECTED**
4 **COST OF LONG-TERM DEBT.**

5 A. Exhibit RVH-2 provides the calculation of the expected cost of long-term debt
6 as of May 31, 2015. The Exhibit details the series of debt, the date of
7 issuance, maturity date, original amount issued and the current amount
8 outstanding. The premium/discount and issuance expense columns represent
9 legal, underwriting, gains and losses related to pre-issuance hedging and other
10 miscellaneous costs associated with the issuance. The annualized cost is
11 calculated by taking the effective cost rate, which includes all costs associated
12 with the debt, and multiplying it by the principal outstanding. The annual
13 amortization of the cost of reacquired debt is added to the annualized cost of
14 the bonds to provide an all-in annualized cost of debt. Dividing this by the
15 total amount of debt outstanding, we arrive at the embedded cost of long-term
16 debt for AEP Ohio.

17 **Q. WHAT IS THE RESULTING CAPITAL STRUCTURE FOR AEP**
18 **OHIO?**

19 A. The resulting capital structure for AEP Ohio is 52.5% long-term debt and
20 47.5% equity and applying the embedded cost of long term debt and witness
21 Avera's recommendation for the return on equity results in a weighted
22 average cost of capital of 10.86%.

1 Q. IS THE CAPITAL STRUCTURE AND RESULTING COSTS FOR A
2 PERIOD BEGINNING IN JUNE 2015 REASONABLE?

3 A. Yes. The long-term debt costs are for bonds that have already been issued.
4 The equity return was provided by Witness Avera. The capital structure is
5 consistent with similar wires only businesses and consistent with how we
6 intend to finance AEP Ohio post-corporate separation.

7 Q. WHAT TYPES OF CHARGES SHOULD EARN A WACC RETURN?

8 A. In this filing, we are requesting that WACC be earned on certain capital
9 investments discussed later in my testimony as a component of the overall
10 capital carrying cost as well as on riders such as the Storm Damage Recovery
11 Rider or the NERC Compliance and Cybersecurity Rider that may have
12 deferrals longer than a year. These riders would include items that will be
13 financed over multiple years and on which we should be allowed to recover
14 our costs and earn a reasonable return during any deferred longer than a year.

15 I have been advised by counsel that in the *Hope Natural Gas* and *Bluefield*
16 cases, the U.S. Supreme Court recognized that revenues must also recover
17 expenses and capital costs¹. In the *Hope* Case, the Court stated:

18 "From the investor or company point of view, it is important that there
19 be enough revenue not only for operating expenses, but also for the
20 capital costs of the business. These include service on the debt and
21 dividends on the stock²
22
23

24 In the *Bluefield* case, the Court stated:

¹ *FERC v. Hope Natural Gas Co.*, 320 U.S. 591 (1944); *Bluefield Waterworks & Improvement Co. v. Pub. Serv. Comm'n. of W.Va.*, 262 U.S. 679 (1923).

² *Hope*, 320 U.S. at 603.

1 A public utility is entitled to such rates as will permit it to earn a
2 return on the value of the property which it employs for the
3 convenience of the public ... The return should be reasonably
4 sufficient to assure confidence in the financial soundness of the utility
5 and should be adequate, under efficient and economical management,
6 to maintain and support its credit and enable it to raise the money
7 necessary for the proper discharge of its public duties.³
8

9 AEP Ohio incurs capital costs when it finances its business and finances its
10 business with a combination of both debt and equity in a manner consistent
11 with its credit ratings and to maintain the financial integrity of the Company.
12 Rate recovery that occurs more than a year after the expense is incurred
13 should recognize that the expense has been financed with a combination of
14 both debt and equity, thus, a WACC carrying charge should apply until the
15 assets are fully recovered.

16 **Q. IS A LONG TERM DEBT RATE APPROPRIATE FOR RIDERS OVER**
17 **MULTIPLE YEARS?**

18 **A.** No. Although I recognize that there is precedent for the return on regulatory
19 assets to be at the long term debt rate, it does not allow for AEP Ohio to
20 recover all of its capital costs. In the last ESP case (Case Nos. 11-4920-EL-
21 RDR and 11-4921-EL-RDR), the Commission agreed with Staff that the
22 return should be based on the long term debt rate due to the lingering
23 recession, Commission precedent and because the risk of non-collection is
24 significantly reduced once collection begins. Those reasons disregard the
25 principles laid out in the *Hope* and *Bluefield* cases of a utility recovering its
26 capital costs inclusive of the equity component.

³ *Bluefield*, 262 U.S. at 692-93.

1 If the Commission determines that a long term debt rate is the appropriate rate
2 for a rider, then that portion of debt should be excluded from the WACC for
3 other assets. For example, if a debt rate is used for recovery on a \$100 million
4 asset, then \$100 million of long term debt should be excluded from the
5 WACC. Otherwise, the same debt is being used to finance multiple assets
6 which is inconsistent with how the Company finances its operations.

7 **Q. WHEN IS THE COMPANY REQUESTING A WACC RETURN FOR**
8 **RIDERS?**

9 A. A WACC return is appropriate on riders that have a capital expenditure
10 component and for those expenses that are booked as a regulatory asset
11 because the recovery has been deferred or not fully recovered for a period
12 longer than a year. When an expense is booked as regulatory asset, it
13 becomes a long term asset on the books of the Company and as such should
14 earn a return consistent with the capital structure of the Company since that is
15 how it has been financed.

16 The WACC rate is appropriate for regulatory assets during both the period
17 of the deferral and during recovery. Expectation of recovery of prudently
18 incurred expense is a market expectation of good regulation and does not
19 change the Company's cost and expectation of reasonable recovery during the
20 entire period that there is an asset balance, even though the balance is
21 declining through the period of recovery. As an example, if there is a cost
22 under the NERC and Cybersecurity Rider that the Public Utilities Commission
23 of Ohio determines should be recovered over a three year period, then that

1 cost would be financed with both debt and equity as part of the overall
2 financing plan. As such, the Company should earn a WACC return as part of
3 the recovery.

4 **CAPITAL CARRYING COSTS**

5 **Q. THE COMPANY INCLUDES CAPITAL CARRYING COSTS IN**
6 **SEVERAL OF ITS EXISTING RIDERS THAT CONTINUE UNDER**
7 **THIS ESP. PLEASE EXPLAIN CAPITAL CARRYING COSTS AND**
8 **HOW THE COMPANY WILL CALCULATE THEM.**

9 **A.** Capital carrying costs are the annual costs associated with the investment of a
10 dollar in capital projects. Investors require both a return of and a return on
11 their capital expenditures. Capital investments or expenditures are recovered
12 over the life of the related asset. The capital carrying cost is determined by
13 applying an annual carrying cost rate to the total amount spent on a capital
14 project or projects. The capital carrying cost rate includes the cost of money
15 (WACC) as previously discussed, a depreciation component, an income tax
16 component, a property and other taxes component, and an administrative and
17 general component. It does not include direct O&M expenses. The carrying
18 costs have been prepared consistent with the adjustments made by
19 Commission staff in other cases. Also, because of the depreciation
20 component, the rate varies based on the expected life of the project. The rate
21 is higher when the life of the project is shorter. The Company will apply the
22 appropriate annual levelized capital carrying cost rate to a project based on its
23 projected service life. The Company's expected levelized carrying cost rates

1 as of May 31, 2015 are attached to this testimony as Exhibit RVH-4, which
2 provides the appropriate capital carrying costs rates for various service lives.

3 **Q. WHAT RIDERS WILL CONTINUE TO HAVE A CAPITAL**
4 **CARRYING CHARGE APPLIED?**

5 A. The riders that would have a continuation of the capital carrying charge are
6 the capital components of the gridSmart® Rider, the capital component of the
7 Vegetation Management rider and any capital component of the NERC
8 Compliance and Cybersecurity Rider. In addition, the DIR also includes a
9 capital carrying charge rate as supported by Company witness Moore.

10 **Q. WERE ALL OF THE EXPENSES FORECASTED FOR THE CAPITAL**
11 **CARRYING COSTS AS OF MAY 31, 2015?**

12 A. No. The only item that were forecasted for the capital carrying charges for the
13 riders was the weighted average cost of capital as is discussed previously in
14 my testimony. The administrative and general expense portion of these
15 charges is based on the actual expenses in 2012.

16 **Q. DOES THIS COMPLETE YOUR PRE-FILED DIRECT TESTIMONY?**

17 A. Yes.

AEP OHIO
CASE No. 13-2385-EL-SSO
Rate of Return Summary
(\$000)

Date of Capital Structure: May 31, 2015

| Line No. | Class of Capital | Reference | (\$) Amount | % of Total | (%) Cost | Pre-Tax Weighted Cost (%) | After-Tax Weighted Cost (%) |
|----------|------------------|-----------|---------------------|---------------|-------------|---------------------------------|-----------------------------------|
| 1 | Long-Term Debt | Exh RVH-2 | \$ 1,950,000 | 52.54% | 6.05% | 3.18% | 3.18% |
| 2 | Short-Term Debt | Exh RVH-3 | \$ - | 0.00% | 0.00% | 0.00% | 0.00% |
| 3 | Common Equity | | 1,761,515 | 47.46% | 10.65% | 7.68% | 5.05% |
| 4 | Total Capital | | <u>\$ 3,711,515</u> | <u>100%</u> | | <u>10.86%</u> | <u>8.23%</u> |

[illegible]

AEP Ohio
CASE No. 13-2385-EL-SSO
Embedded cost of Short-Term Debt
(\$000)

| Line No. | Issue (A) | Amount Outstanding (B) | Interest Rate (C) | Interest Requirement (D) |
|-------------|--------------------|------------------------------|-------------------------|--------------------------------|
| 1 | Ohio Power Company | \$ - | 0.00% | \$ - |

Ohio Power
Annual Investment Carrying Charges
For Economic Analyses
Forecast for 5/31/2015

| | Investment Life (Years) | | | | | | | | | | | |
|-------------------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2 | 3 | 4 | 5 | 10 | 15 | 20 | 25 | 30 | 33 | 40 | 50 |
| Return (1) | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 | 8.23 |
| Depreciation (2) | 48.94 | 31.71 | 23.09 | 17.93 | 7.79 | 4.57 | 3.06 | 2.22 | 1.70 | 1.47 | 1.11 | 0.81 |
| FIT (3) (4) | 2.30 | 1.66 | 1.78 | 1.48 | 1.41 | 1.71 | 1.78 | 1.56 | 1.42 | 1.36 | 1.25 | 1.15 |
| Property Taxes, General | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 | 4.70 |
| | 64.17 | 46.30 | 37.79 | 32.34 | 22.13 | 19.21 | 17.77 | 16.71 | 16.05 | 15.76 | 15.29 | 14.89 |

(1) Based on a 100% (as of 12/31/2012) and 0% incremental weighting of capital costs

(2) Sinking Fund annuity with R1 Dispersion of Retirements

(3) Assuming MACRS Tax Depreciation

(4) @ 35% Federal Income Tax Rate

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of)
Ohio Power Company for Authority to) Case No. 13-2385-EL-SSO
Establish a Standard Service Offer)
Pursuant to §4928.143, Revised Code,)
in the Form of an Electric Security Plan)

In the Matter of the Application of)
Ohio Power Company for Approval of) Case No. 13-2386-EL-AAM
Certain Accounting Authority)

DIRECT TESTIMONY OF
WILLIAM E. AVERA
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF -
WILLIAM E. AVERA

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BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
WILLIAM E. AVERA
ON BEHALF OF
OHIO POWER COMPANY

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. William E. Avera, 3907 Red River, Austin, Texas 78751.

3 **Q. IN WHAT CAPACITY ARE YOU EMPLOYED?**

4 A. I am a principal in Financial Concepts and Applications, Inc. (FINCAP), a firm
5 engaged in financial, economic, and policy consulting to business and
6 government.

A. Qualifications

7 **Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.**

8 A. I received a B.A. degree with a major in economics from Emory University. After
9 serving in the U.S. Navy, I entered the doctoral program in economics at the
10 University of North Carolina at Chapel Hill. Upon receiving my Ph.D., I joined
11 the faculty at the University of North Carolina and taught finance in the Graduate
12 School of Business. I subsequently accepted a position at the University of Texas
13 at Austin where I taught courses in financial management and investment
14 analysis. I then went to work for International Paper Company in New York City
15 as Manager of Financial Education, a position in which I had responsibility for all
16 corporate education programs in finance, accounting, and economics.
17 In 1977, I joined the staff of the Public Utility Commission of Texas (PUCT) as
18 Director of the Economic Research Division. During my tenure at the PUCT, I
19 managed a division responsible for financial analysis, cost allocation and rate

1 design, economic and financial research, and data processing systems, and I
2 testified in cases on a variety of financial and economic issues. Since leaving the
3 PUCT, I have been engaged as a consultant. I have participated in a wide range of
4 assignments involving utility-related matters on behalf of utilities, industrial
5 customers, municipalities, and regulatory commissions. I have previously
6 testified before the Federal Energy Regulatory Commission (FERC), as well as
7 the Federal Communications Commission, the Surface Transportation Board (and
8 its predecessor, the Interstate Commerce Commission), the Canadian Radio-
9 Television and Telecommunications Commission, and regulatory agencies, courts,
10 and legislative committees in over 40 states, including the Public Utilities
11 Commission of Ohio ("PUCO" or the "Commission").

12 In 1995, I was appointed by the PUCT to the Synchronous Interconnection
13 Committee to advise the Texas legislature on the costs and benefits of connecting
14 Texas to the national electric transmission grid. In addition, I served as an outside
15 director of Georgia System Operations Corporation, the system operator for
16 electric cooperatives in Georgia.

17 I have served as Lecturer in the Finance Department at the University of
18 Texas at Austin and taught in the evening graduate program at St. Edward's
19 University for twenty years. In addition, I have lectured on economic and
20 regulatory topics in programs sponsored by universities and industry groups. I
21 have taught in hundreds of educational programs for financial analysts in
22 programs sponsored by the Association for Investment Management and
23 Research, the Financial Analysts Review, and local financial analysts societies.
24 These programs have been presented in Asia, Europe, and North America,
25 including the Financial Analysts Seminar at Northwestern University. I hold the
26 Chartered Financial Analyst (CFA[®]) designation and have served as Vice

1 President for Membership of the Financial Management Association. I have also
2 served on the Board of Directors of the North Carolina Society of Financial
3 Analysts. I was elected Vice Chairman of the National Association of Regulatory
4 Commissioners (NARUC) Subcommittee on Economics and appointed to
5 NARUC's Technical Subcommittee on the National Energy Act. I have also
6 served as an officer of various other professional organizations and societies. A
7 resume containing the details of my experience and qualifications is attached as
8 Exhibit WEA-1.

B. Overview

9 **Q. FOR WHOM ARE YOU TESTIFYING IN THIS CASE?**

10 A. I am testifying on behalf of Ohio Power Company ("AEP Ohio" or "the
11 Company"), which is an operating subsidiary of American Electric Power
12 Company, Inc. (AEP).

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 A. The purpose of my testimony is to present to the PUCO my independent
15 assessment of the fair rate of return on equity (ROE) that AEP Ohio should be
16 authorized to earn on its investment in providing electric utility service.

17 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

18 A. Yes, I am sponsoring the following exhibits:

| <u>Exhibit</u> | <u>Description</u> |
|-----------------------|--|
| WEA-1 | Qualifications of William E. Avera |
| WEA-2 | ROE Analyses – Adjusted Cost of Equity |
| WEA-3 | Capital Structure |
| WEA-4 | DCF Model – Electric Group |
| WEA-5 | Sustainable Growth Rate – Electric Group |
| WEA-6 | Empirical CAPM – Electric Group |
| WEA-7 | Electric Utility Risk Premium |
| WEA-8 | CAPM – Electric Group |
| WEA-9 | Expected Earnings Approach |
| WEA-10 | DCF Model – Non-Utility Group |

1 **Q. PLEASE SUMMARIZE THE BASIS OF YOUR KNOWLEDGE AND**
2 **CONCLUSIONS CONCERNING THE ISSUES TO WHICH YOU ARE**
3 **TESTIFYING IN THIS CASE.**

4 A. To prepare my testimony, I used information from a variety of sources that would
5 normally be relied upon by a person in my capacity. In connection with the
6 present filing, I considered and relied upon corporate disclosures, publicly
7 available financial reports and filings, and other published information relating to
8 AEP Ohio. I also reviewed information relating generally to capital market
9 conditions and specifically to investor perceptions, requirements, and expectations
10 for utilities. These sources, coupled with my experience in the fields of finance
11 and utility regulation, have given me a working knowledge of the issues relevant
12 to investors' required return for AEP Ohio, and they form the basis of my analyses
13 and conclusions.

14 **Q. WHAT IS THE ROLE OF THE ROE IN SETTING UTILITY RATES?**

15 A. The ROE compensates common equity investors for the use of their capital to
16 finance the plant and equipment necessary to provide utility service. Investors
17 commit capital only if they expect to earn a return on their investment
18 commensurate with returns available from alternative investments with
19 comparable risks. To be consistent with sound regulatory economics and the
20 standards set forth by the Supreme Court in the *Bluefield*¹ and *Hope*² cases, a
21 utility's allowed ROE should be sufficient to: (1) fairly compensate investors for
22 capital invested in the utility, (2) enable the utility to offer a return adequate to
23 attract new capital on reasonable terms, and (3) maintain the utility's financial
24 integrity.

¹ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923).

² *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

2 A. After first summarizing my conclusions and recommendations, I reviewed current
3 conditions in the capital markets and their implications in evaluating a fair ROE
4 for AEP Ohio. With this as a background, I conducted well-accepted quantitative
5 analyses to estimate the current cost of equity for a reference group of
6 comparable-risk electric utilities. These included the discounted cash flow (DCF)
7 model, the empirical form of Capital Asset Pricing Model (ECAPM), and an
8 equity risk premium approach based on allowed ROEs for electric utilities. Based
9 on the cost of equity estimates indicated by my analyses, a fair ROE for AEP
10 Ohio's electric utility operations was evaluated taking into account the specific
11 risks for its jurisdictional utility operations in Ohio, AEP Ohio's requirements for
12 financial strength that provides benefits to customers, as well as flotation costs,
13 which are properly considered in setting a fair rate of return on equity.

14 I tested my recommended ROE for AEP Ohio's electric utility operations
15 based on the results of alternative ROE benchmarks for my proxy group,
16 including applications of the traditional Capital Asset Pricing Model (CAPM) and
17 reference to expected rates of return. Further, I corroborate my utility quantitative
18 analyses by applying the DCF model to a group of extremely low risk non-utility
19 firms.

20 **Q. WHAT ARE YOUR RECOMMENDATIONS?**

21 A. I recommend an ROE of 10.65% for AEP Ohio's electric utility operations.

II. RETURN ON EQUITY FOR AEP OHIO

22 **Q. WHAT IS THE PURPOSE OF THIS SECTION?**

23 A. This section presents my conclusions regarding the fair ROE applicable to AEP
24 Ohio's electric utility operations. This section also discusses the relationship

1 between ROE and preservation of a utility's financial integrity and the ability to
2 attract capital.

A. Importance of Financial Strength

3 **Q. WHAT ROLE DOES COMMISSION REGULATION PLAY IN SAVING-**
4 **AEP OHIO'S CUSTOMERS MONEY THROUGH SUPPORTING**
5 **INVESTOR CONFIDENCE?**

6 A. Regulatory signals are a major driver of investors' risk assessment for utilities.
7 Security analysts study commission orders and regulatory policy statements to
8 advise investors where to put their money. If the Commission's actions instill
9 confidence that the regulatory environment is supportive, investors make capital
10 available to Ohio's utilities on more reasonable terms. When investors are
11 confident that a utility has reasonable and balanced regulation, they will make
12 funds available even in times of turmoil in the financial markets. When AEP
13 Ohio can negotiate from a position of financial strength it will get a better deal for
14 its customers.

B. Recommended ROE

15 **Q. WHAT IS YOUR RECOMMENDATION AS TO A FAIR ROE FOR AEP**
16 **OHIO?**

17 A. Based on the adjusted cost of equity ranges estimates presented on page 1 of
18 Exhibit WEA-2, I recommend an ROE of 10.65% for AEP Ohio's electric utility
19 operations.

20 **Q. PLEASE SUMMARIZE THE RESULTS OF THE QUANTITATIVE**
21 **ANALYSES ON WHICH YOUR RECOMMENDED ROE IS BASED.**

22 A. The cost of common equity estimates produced by the DCF, ECAPM, and risk
23 premium analyses described subsequently are presented on page 1 of Exhibit

1 WEA-2. Based on these results I recommend an ROE of 10.65% for AEP Ohio's
2 electric utility operations. The bases for my conclusion are summarized below:

- 3 • In order to reflect the risks and prospects associated with AEP Ohio's
4 jurisdictional utility operations, my analyses focused on a proxy group of
5 twenty-one other utilities with comparable investment risks;
- 6 • Based on my evaluation of the strengths and weaknesses of the DCF,
7 ECAPM, and risk premium methods, I concluded that the cost of equity
8 for the proxy group of utilities is in the 9.5% to 11.0% range:
 - 9 ▪ In evaluating the results of the DCF model, I considered the
10 relative merits of the alternative growth rates, giving little
11 weight to the internal, "br+sv" growth measures;
 - 12 ▪ The forward-looking ECAPM estimates suggested an ROE
13 in the range of 10.6% to 11.6%;
 - 14 ▪ The utility risk premium approach implies an ROE estimate
15 on the order of 10.4% to 11.2%.
- 16 • I recommend a "bare bones cost of equity, ", that is, the cost of equity
17 before flotation costs, for AEP Ohio of 10.53%, which falls within the
18 upper zone of my recommended 9.5% to 11.0% range:
 - 19 ▪ An ROE from above the midpoint of the range is supported
20 by the fact that current bond yields are anomalous, and
21 result in DCF values that are understated;
 - 22 ▪ Widespread expectations for higher interest rates
23 emphasize the implication of considering the impact of
24 projected bond yields in evaluating the results of the
25 ECAPM and risk premium methods;
 - 26 ▪ Apart from the expected upward trend in capital costs, a
27 cost of equity of 10.53% is consistent with the need to
28 support financial integrity and fund capital investment even
29 under adverse circumstances.
- 30 • Adding a flotation cost adjustment of 12 basis points to my 10.53% cost of
31 equity resulted in my recommended ROE of 10.65%.

1 **Q. DOES YOUR ROE RECOMMENDATION REPRESENT A REASONABLE**
2 **COST FOR AEP OHIO'S CUSTOMERS TO PAY?**

3 A. Yes. Investors have many options vying for their money. They make investment
4 capital available to AEP Ohio only if the expected returns justify the risk.
5 Customers will enjoy reliable and efficient electric service so long as investors are
6 willing to make the capital investments necessary to maintain and improve AEP
7 Ohio's utility system. Providing an adequate return to investors is a necessary
8 cost to ensure that capital is available to AEP Ohio now and in the future. If
9 regulatory decisions increase risk or limit returns to levels that are insufficient to
10 justify the risk, investors will look elsewhere to invest capital.

11 Apart from the results of the quantitative methods described above, it is
12 crucial to recognize the importance of maintaining a strong financial position so
13 that AEP Ohio remains prepared to respond to unforeseen events that may
14 materialize in the future. While this imperative is reinforced by current capital
15 market conditions, it extends well beyond the financial markets and includes the
16 Company's ability to absorb potential shocks associated with natural disasters
17 such as catastrophic storms and unexpected events. Recent challenges in the
18 capital markets and ongoing economic uncertainties highlight the benefits of
19 bolstering AEP Ohio's financial standing to ensure that the Company can attract
20 the capital needed to secure reliable service at a lower cost for customers.
21 Changing course from the path of financial strength would be extremely
22 shortsighted, especially considering that a combination of events could adversely
23 impact AEP Ohio's ability to serve customers if its current financial strength were
24 not maintained.

1 **Q. WHAT DID THE RESULTS OF ALTERNATIVE ROE BENCHMARKS**
2 **INDICATE WITH RESPECT TO YOUR RECOMMENDED ROE?**

3 A. The results of alternative ROE benchmarks, which are presented on page 2 of
4 Exhibit WEA-2, support the reasonableness of a “bare bones” ROE of 10.53% for
5 AEP Ohio:

- 6 • Applying the traditional CAPM approach suggest a current cost of equity
7 on the order of 10.0% to 11.0%;
- 8 • Expected returns for electric utilities suggested an ROE range of 9.7% to
9 10.7%, excluding any adjustment for flotation costs;
- 10 • DCF estimates for an extremely low-risk group of non-utility firms
11 suggest an ROE range of 11.3% to 11.8%.

12 These tests of reasonableness confirm that my cost of equity recommendation
13 falls in the reasonable range to maintain AEP Ohio’s financial integrity, provide a
14 return commensurate with investments of comparable risk, and support the
15 Company’s ability to attract capital.

III. OUTLOOK FOR CAPITAL COSTS

16 **Q. DO CURRENT CAPITAL MARKET CONDITIONS PROVIDE A**
17 **REPRESENTATIVE BASIS ON WHICH TO EVALUATE A FAIR ROE?**

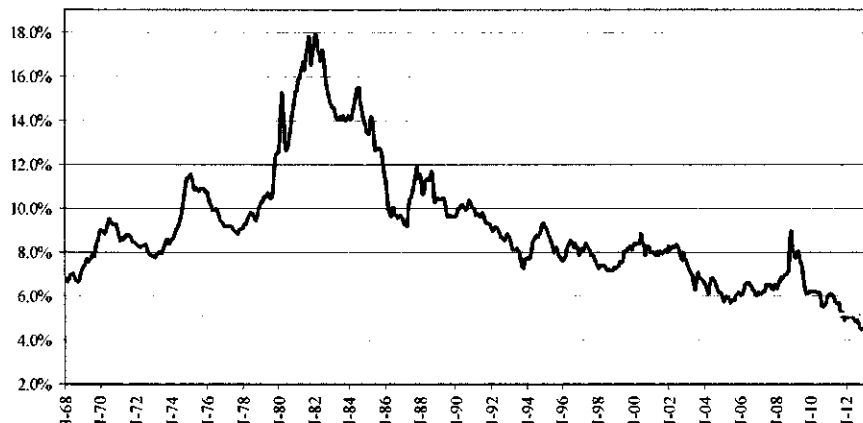
18 A. No. Current capital market conditions reflect the legacy of the Great Recession,
19 and are not representative of what investors expect in the future. Investors have
20 had to contend with a level of economic uncertainty and capital market volatility
21 that has been unprecedented in recent history. The ongoing potential for renewed
22 turmoil in the capital markets has been seen repeatedly, with common stock prices
23 exhibiting the dramatic volatility that is indicative of heightened sensitivity to
24 risk. In response to heightened uncertainties, investors have repeatedly sought a
25 safe haven in U.S. government bonds. As a result of this “flight to safety,”

Treasury bond yields have been pushed significantly lower in the face of political, economic, and capital market risks. In addition, the Federal Reserve has implemented measures designed to push interest rates to historically low levels in an effort to stimulate the economy and bolster employment.

Q. HOW DO CURRENT YIELDS ON PUBLIC UTILITY BONDS COMPARE WITH WHAT INVESTORS HAVE EXPERIENCED IN THE PAST?

A. Despite recent increases, the yields on utility bonds remain near their lowest levels in modern history. Figure No. WEA-1, below, compares the current yield on long-term, triple-B rated utility bonds with those prevailing since 1968:

**FIGURE NO. WEA-1
BBB UTILITY BOND YIELDS – CURRENT VS. HISTORICAL**



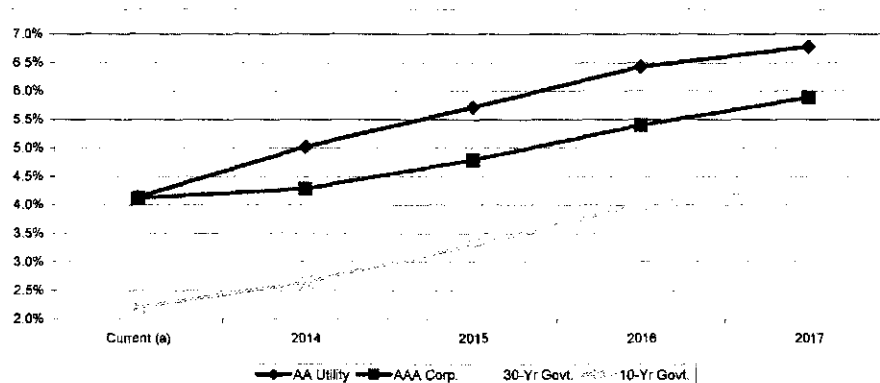
As illustrated above, prevailing capital market conditions, as reflected in the yields on triple-B utility bonds, are an anomaly when compared with historical experience.

Q. ARE THESE VERY LOW INTEREST RATES EXPECTED TO CONTINUE?

A. No. Investors do not anticipate that these low interest rates will continue into the future. It is widely anticipated that as the economy stabilizes and resumes a more robust pattern of growth, long-term capital costs will increase significantly from

present levels. Figure No. WEA-2 below compares current interest rates on 10-year Treasury Bonds, 30-year Treasury bonds, triple-A rated corporate bonds, and double-A rated utility bonds with near-term projections from the Value Line Investment Survey (“Value Line”), IHS Global Insight, Blue Chip Financial Forecasts (“Blue Chip”), and the Energy Information Administration (“EIA”):

**FIGURE NO. WEA-2
INTEREST RATE TRENDS**



(a) Based on monthly average bond yields for the six-month period Mar. 2013 - Aug. 2013 reported at www.credittrends.moodys.com and <http://www.federalreserve.gov/releases/h15/data.htm>.

Sources

Value Line Investment Survey, Forecast for the U.S. Economy (May 24, 2013)
 IHS Global Insight, U.S. Economic Outlook at 25 (June 2013)
 Energy Information Administration, Annual Energy Outlook 2013 (Apr. 15, 2013)
 Blue Chip Financial Forecasts, Vol. 32, No. 6 (Jun. 1, 2013)

These forecasting services are highly regarded and widely referenced, with FERC incorporating forecasts from IHS Global Insight and the EIA in its preferred DCF model for natural gas pipelines. As evidenced above, there is a clear consensus in the investment community that the cost of long-term capital will be significantly higher over the 2014-2017 period than it is currently.

Q. DO RECENT STATEMENTS OF THE FEDERAL RESERVE SUPPORT THE CONTENTION THAT CURRENT LOW INTEREST RATES WILL CONTINUE INDEFINITELY?

A. No. While the Federal Reserve continues to express support for maintaining current stimulus policies, it has also has begun to map out a strategy for reducing

1 its bond-buying program based on conditions for employment and inflation. The
2 Wall Street Journal noted the close link between investors' required returns in the
3 capital markets and the Federal Reserve's policy pronouncements:

4 Investors are bracing for a stormy summer, as steady asset-price gains
5 fueled by bottomless central-bank liquidity have given way to sharp
6 swings jolting stocks, currencies, and commodities alike. ... Since
7 Federal Reserve meeting minutes released May 22 indicated the central
8 bank would consider as soon as this month cutting back on bond
9 purchases, the Dow Jones Industrial Average has swung more than 200
10 points in a day six times.³

11 Similarly, Value Line also highlighted the impact on investors of ongoing
12 uncertainties over a potential revision of Federal Reserve's stimulus policies:

13 Investors are becoming more wary, as they speculate on whether or not
14 the Fed is about to shift policy gears. With the economy in a holding
15 pattern over here, with things in flux overseas, and with the central
16 bank unclear regarding its intentions, the recent rise in volatility on
17 Wall Street may be here to stay for a while.⁴

18 The Wall Street Journal observed that the plan to reduce bond purchases "is of
19 intense interest in the financial markets."⁵ More recently, the International
20 Monetary Fund noted that, "A lack of Fed clarity could cause a major spike in
21 borrowing costs that could cause severe damage to the U.S. recovery and send
22 destructive shockwaves around the global economy," adding that, "A smooth and
23 gradual upward shift in the yield curve might be difficult to engineer, and there
24 could be periods of higher volatility when longer yields jump sharply, -- as recent
25 events suggest."⁶ These discussions highlight concerns for investors and support

³ Scaggs, Alexandra, "Forecast Calls for Volatility," *Abreast of the Market*, The Wall Street Journal (Jun. 9, 2013).

⁴ The Value Line Investment Survey, *Selection and Opinion* at 905 (Jun. 14, 2013).

⁵ Hilsenrath, Jon, "Fed Maps Exit from Stimulus," *Wall Street Journal* at A1 (May 11, 2013).

⁶ Talley, Ian, "IMF Urges 'Improved' U.S. Fed Policy Transparency as It Mulls Easy Money Exit," *The Wall Street Journal* (July 26, 2013).

1 expectations for higher interest rates as the economy and labor markets continue
2 to recover.

3 **Q. WHAT DO THESE EVENTS IMPLY WITH RESPECT TO THE ROE FOR**
4 **AEP OHIO MORE GENERALLY?**

5 A. Current capital market conditions continue to reflect the impact of unprecedented
6 policy measures taken in response to recent dislocations in the economy and
7 financial markets. As a result, current capital costs are not representative of what
8 is likely to prevail over the near-term future, with this conclusion being
9 demonstrated by comparisons to the historical record and independent forecasts.
10 Recognized economic forecasting services project that long-term capital costs will
11 increase from present levels. To address the reality of current capital markets, the
12 Commission should consider near-term forecasts for public utility bond yields in
13 evaluating the reasonableness of individual cost of equity estimates and in
14 selecting a fair ROE for AEP Ohio from within the range of reasonableness. As I
15 will discuss below, this result is supported by economic studies that show that risk
16 premiums are higher when interest rates are at very low levels.

IV. COMPARABLE RISK PROXY GROUPS

17 **Q. HOW DID YOU IMPLEMENT QUANTITATIVE METHODS TO**
18 **ESTIMATE THE COST OF COMMON EQUITY FOR AEP OHIO?**

19 A. Application of quantitative methods to estimate the cost of common equity
20 requires observable capital market data, such as stock prices. Moreover, even for
21 a firm with publicly traded stock, the cost of common equity can only be
22 estimated. As a result, applying quantitative models using observable market data
23 only produces an estimate that inherently includes some degree of observation
24 error. Thus, the accepted approach to increase confidence in the results is to apply

1 quantitative methods such as the DCF and ECAPM to a proxy group of publicly
2 traded companies that investors regard as risk-comparable.

3 **Q. WHAT SPECIFIC PROXY GROUPS OF UTILITIES DID YOU RELY ON**
4 **FOR YOUR ANALYSIS?**

5 A. In order to reflect the risks and prospects associated with AEP Ohio jurisdictional
6 electric operations, my analyses focused on a reference group of other utilities
7 composed of those companies included in Value Line's electric utility industry
8 groups with a:

- 9 1. Corporate credit rating from Standard & Poor's (S&P) of "BBB+",
10 "BBB", or "BBB-",
- 11 2. Value Line Safety Rank of "2" or "3",
- 12 3. Value Line Financial Strength Rating of "B+" or higher, and
- 13 4. Market capitalization of \$1.6 billion or greater.

14 In addition, I excluded four utilities that otherwise would have been in the proxy
15 group, but are not appropriate for inclusion because of current involvement in a
16 major acquisition,⁷ as well as one utility that recently cut its common dividend
17 payments.⁸ These criteria resulted in a proxy group composed of twenty-one
18 companies, which I will refer to as the "Electric Group."

19 **Q. DO THE SCREENING CRITERIA USED TO ESTABLISH THE**
20 **ELECTRIC GROUP PROVIDE OBJECTIVE EVIDENCE TO EVALUATE**
21 **INVESTORS' RISK PERCEPTIONS?**

22 A. Yes. Credit ratings are assigned by independent rating agencies for the purpose of
23 providing investors with a broad assessment of the creditworthiness of a firm.
24 Ratings generally extend from triple-A (the highest) to D (in default). Other
25 symbols (*e.g.*, "+" or "-") are used to show relative standing within a category.

⁷ Entergy Corporation, ITC Holdings Corp., NV Energy, Inc., and TECO Energy, Inc.

⁸ Exelon Corporation.

1 Because the rating agencies' evaluation includes virtually all of the factors
2 normally considered important in assessing a firm's relative credit standing,
3 corporate credit ratings provide a broad, objective measure of overall investment
4 risk that is readily available to investors. Widely cited in the investment
5 community and referenced by investors, credit ratings are also frequently used as
6 a primary risk indicator in establishing proxy groups to estimate the cost of
7 common equity.

8 While credit ratings provide the most widely referenced benchmark for
9 investment risks, other quality rankings published by investment advisory services
10 also provide relative assessments of risks that are considered by investors in
11 forming their expectations for common stocks. Value Line's primary risk
12 indicator is its Safety Rank, which ranges from "1" (Safest) to "5" (Riskiest).
13 This overall risk measure is intended to capture the total risk of a stock, and
14 incorporates elements of stock price stability and financial strength. Given that
15 Value Line is perhaps the most widely available source of investment advisory
16 information, its Safety Rank provides useful guidance regarding the risk
17 perceptions of investors.

18 The Financial Strength Rating is designed as a guide to overall financial
19 strength and creditworthiness, with the key inputs including financial leverage,
20 business volatility measures, and company size. Value Line's Financial Strength
21 Ratings range from "A++" (strongest) down to "C" (weakest) in nine steps.
22 These objective, published indicators incorporate consideration of a broad
23 spectrum of risks, including financial and business position, relative size, and
24 exposure to firm-specific factors.

25 Finally, beta measures a utility's stock price volatility relative to the
26 market as a whole, and reflects the tendency of a stock's price to follow changes

in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. Beta is the only relevant measure of investment risk under modern capital market theory, and is widely cited in academics and in the investment industry as a guide to investors' risk perceptions. Moreover, in my experience Value Line is the most widely referenced source for beta in regulatory proceedings. As noted in *New Regulatory Finance*:

Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors. ... Value Line betas are computed on a theoretically sound basis using a broadly based market index, and they are adjusted for the regression tendency of betas to converge to 1.00.⁹

Q. HOW DO THE OVERALL RISKS OF YOUR PROXY GROUP COMPARE TO AEP OHIO?

A. Table WEA-1 compares the Electric Group with AEP Ohio across the four key indicia of investment risk discussed above. Because AEP Ohio has no publicly traded common stock, the Value Line risk measures shown reflect those published for its parent, AEP.

**TABLE WEA-1
COMPARISON OF RISK INDICATORS**

| | S&P Credit Rating | Value Line | | |
|----------------|--------------------------------------|------------------------|-------------------------------|-------------|
| | | Safety Rank | Financial Strength | Beta |
| Electric Group | BBB | 2 | B++ | 0.72 |
| AEP Ohio | BBB | 3 | B++ | 0.65 |

⁹ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 71 (2006).

1 **Q. WHAT DOES THIS COMPARISON INDICATE REGARDING**
2 **INVESTORS' ASSESSMENT OF THE RELATIVE RISKS ASSOCIATED**
3 **WITH YOUR ELECTRIC GROUP?**

4 A. As shown above, the Company's corporate rating and Value Line Financial
5 Strength Rating are identical to the averages for the Electric Group. Meanwhile,
6 the average Value Line Safety Rank for AEP Ohio suggests more risk than for the
7 Electric Group, while the beta value attributable to the Company suggests
8 somewhat less risk. Considered together, a comparison of these objective
9 measures, which incorporate a broad spectrum of risks, including financial and
10 business position, relative size, and exposure to company specific factors,
11 indicates that investors would likely conclude that the overall investment risks for
12 AEP Ohio are comparable to those of the firms in the Electric Group.

13 **Q. IS AN EVALUATION OF THE CAPITAL STRUCTURE MAINTAINED BY**
14 **A UTILITY RELEVANT IN ASSESSING ITS RETURN ON EQUITY?**

15 A. Yes. Other things equal, a higher debt ratio, or lower common equity ratio,
16 translates into increased financial risk for all investors. A greater amount of debt
17 means more investors have a senior claim on available cash flow, thereby
18 reducing the certainty that each will receive his contractual payments. This
19 increases the risks to which lenders are exposed, and they require correspondingly
20 higher rates of interest. From common shareholders' standpoint, a higher debt
21 ratio means that there are proportionately more investors ahead of them, thereby
22 increasing the uncertainty as to the amount of cash flow, if any, that will remain.

23 **Q. WHAT COMMON EQUITY RATIO IS IMPLICIT IN AEP OHIO'S**
24 **CAPITAL STRUCTURE?**

25 A. The capital structure used to compute the overall rate of return for AEP Ohio
26 includes 48.0% common equity.

1 **Q. HOW DOES THIS COMPARE TO THE AVERAGE CAPITALIZATION**
2 **MAINTAINED BY THE ELECTRIC GROUP?**

3 A. As shown on Exhibit WEA-3, for the firms in the Electric Group, common equity
4 ratios at December 31, 2012 averaged 47.8% of total long-term debt and equity,
5 with Value Line expecting an average common equity ratio of 48.6% for its three-
6 to-five year forecast horizon. Thus, AEP Ohio's common equity ratio is entirely
7 comparable to what investors would associate with the Electric Group.

V. CAPITAL MARKET ESTIMATES

8 **Q. WHAT IS THE PURPOSE OF THIS SECTION?**

9 A. This section presents capital market estimates of the cost of equity. First, I
10 address the concept of the cost of common equity, along with the risk-return
11 tradeoff principle fundamental to capital markets. Next, I describe DCF, ECAPM,
12 and risk premium analyses conducted to estimate the cost of common equity for
13 the proxy group of comparable risk firms and evaluate expected earned rates of
14 return for utilities. Finally, I examine flotation costs, which are properly
15 considered in evaluating a fair rate of return on equity.

A. Economic Standards

16 **Q. WHAT ROLE DOES THE RATE OF RETURN ON COMMON EQUITY**
17 **PLAY IN A UTILITY'S RATES?**

18 A. The return on common equity is the cost of inducing and retaining investment in
19 the utility's physical plant and assets. This investment is necessary to finance the
20 asset base needed to provide utility service. Competition for investor funds is
21 intense and investors are free to invest their funds wherever they choose.
22 Investors will commit money to a particular investment only if they expect it to

1 produce a return commensurate with those from other investments with
2 comparable risks.

3 **Q. WHAT FUNDAMENTAL ECONOMIC PRINCIPLE UNDERLIES THE**
4 **COST OF EQUITY CONCEPT?**

5 A. The fundamental economic principle underlying the cost of equity concept is the
6 notion that investors are risk averse. In capital markets where relatively risk-free
7 assets are available (*e.g.*, U.S. Treasury securities), investors can be induced to
8 hold riskier assets only if they are offered a premium, or additional return, above
9 the rate of return on a risk-free asset. Because all assets compete with each other
10 for investor funds, riskier assets must yield a higher expected rate of return than
11 safer assets to induce investors to invest and hold them.

12 Given this risk-return tradeoff, the required rate of return (k) from an asset
13 (i) can generally be expressed as:

14
$$k_i = R_f + RP_i$$

15 where: R_f = Risk-free rate of return, and
16 RP_i = Risk premium required to hold riskier asset i .

17 Thus, the required rate of return for a particular asset at any time is a function of:
18 (1) the yield on risk-free assets, and (2) the asset's relative risk, with investors
19 demanding correspondingly larger risk premiums for bearing greater risk.

20 **Q. IS THERE EVIDENCE THAT THE RISK-RETURN TRADEOFF**
21 **PRINCIPLE ACTUALLY OPERATES IN THE CAPITAL MARKETS?**

22 A. Yes. The risk-return tradeoff can be readily documented in segments of the
23 capital markets where required rates of return can be directly inferred from market
24 data and where generally accepted measures of risk exist. Bond yields, for
25 example, reflect investors' expected rates of return, and bond ratings measure the
26 risk of individual bond issues. Comparing the observed yields on government

1 securities, which are considered free of default risk, to the yields on bonds of
2 various rating categories demonstrates that the risk-return tradeoff does, in fact,
3 exist.

4 **Q. DOES THE RISK-RETURN TRADEOFF OBSERVED WITH FIXED**
5 **INCOME SECURITIES EXTEND TO COMMON STOCKS AND OTHER**
6 **ASSETS?**

7 A. It is widely accepted that the risk-return tradeoff evidenced with long-term debt
8 extends to all assets. Documenting the risk-return tradeoff for assets other than
9 fixed income securities, however, is complicated by two factors. First, there is no
10 standard measure of risk applicable to all assets. Second, for most assets –
11 including common stock – required rates of return cannot be directly observed.
12 Yet there is every reason to believe that investors exhibit risk aversion in deciding
13 whether or not to hold common stocks and other assets, just as when choosing
14 among fixed-income securities.

15 **Q. IS THIS RISK-RETURN TRADEOFF LIMITED TO DIFFERENCES**
16 **BETWEEN FIRMS?**

17 A. No. The risk-return tradeoff principle applies not only to investments in different
18 firms, but also to different securities issued by the same firm. The securities
19 issued by a utility vary considerably in risk because they have different
20 characteristics and priorities. Long-term debt is senior among all capital in its
21 claim on a utility's net revenues and is, therefore, the least risky. The last
22 investors in line are common shareholders. They receive only the net revenues, if
23 any, remaining after all other claimants have been paid. As a result, the rate of
24 return that investors require from a utility's common stock, the most junior and
25 riskiest of its securities, must be considerably higher than the yield offered by the
26 utility's senior, long-term debt.

1 **Q. DOES THE FACT THAT AEP OHIO IS A SUBSIDIARY OF AEP IN ANY**
2 **WAY ALTER THESE FUNDAMENTAL STANDARDS UNDERLYING A**
3 **FAIR ROE?**

4 A. No. While AEP Ohio has no publicly traded common stock and AEP is its only
5 shareholder, this does not change the standards governing the determination of a
6 fair ROE for the Company. Ultimately, the common equity that is required to
7 support AEP Ohio's utility operations must be raised in the capital markets, where
8 investors consider the Company's ability to offer a rate of return that is
9 competitive with other risk-comparable alternatives. As noted above, AEP Ohio
10 must compete with other investment opportunities and unless there is a reasonable
11 expectation that the Company can earn a return that is commensurate with its
12 underlying risks, capital will be allocated elsewhere, AEP Ohio's financial
13 integrity will be weakened, and investors will demand an even higher rate of
14 return. The Company's ability to offer a reasonable return on investment is a
15 necessary ingredient in ensuring that customers continue to enjoy economical
16 rates and reliable service.

17 **Q. WHAT DOES THE ABOVE DISCUSSION IMPLY WITH RESPECT TO**
18 **ESTIMATING THE COST OF COMMON EQUITY FOR A UTILITY?**

19 A. Although the cost of common equity cannot be observed directly, it is a function
20 of the returns available from other investment alternatives and the risks to which
21 the equity capital is exposed. Because it is not readily observable, the cost of
22 common equity for a particular utility must be estimated by analyzing information
23 about capital market conditions generally, assessing the relative risks of the
24 company specifically, and employing various quantitative methods that focus on
25 investors' required rates of return. These various quantitative methods typically

1 attempt to infer investors' required rates of return from stock prices, interest rates,
2 or other capital market data.

C. Discounted Cash Flow Analyses

3 **Q. HOW IS THE DCF MODEL USED TO ESTIMATE THE COST OF**
4 **COMMON EQUITY?**

5 A. DCF models attempt to replicate the market valuation process that sets the price
6 investors are willing to pay for a share of a company's stock. The model rests on
7 the assumption that investors evaluate the risks and expected rates of return from
8 all securities in the capital markets. Given these expectations, the price of each
9 stock is adjusted by the market until investors are adequately compensated for the
10 risks they bear. Therefore, we can look to the market to determine what investors
11 believe a share of common stock is worth. By estimating the cash flows investors
12 expect to receive from the stock in the way of future dividends and capital gains,
13 we can calculate their required rate of return. In other words, the cash flows that
14 investors expect from a stock are estimated, and given its current market price, we
15 can "back-into" the discount rate, or cost of common equity, that investors
16 implicitly used in bidding the stock to that price. The formula for the general
17 form of the DCF model is as follows:

18
$$P_0 = \frac{D_1}{(1+k_e)^1} + \frac{D_2}{(1+k_e)^2} + \dots + \frac{D_t}{(1+k_e)^t} + \frac{P_t}{(1+k_e)^t}$$

19 where: P_0 = Current price per share;
20 P_t = Expected future price per share in period t;
21 D_t = Expected dividend per share in period t;
22 k_e = Cost of common equity.

1 That is, the cost of common equity is the discount rate that will equate the current
2 price of a share of stock with the present value of all expected cash flows from the
3 stock.

4 **Q. WHAT FORM OF THE DCF MODEL IS CUSTOMARILY USED TO**
5 **ESTIMATE THE COST OF COMMON EQUITY IN RATE CASES?**

6 A. Rather than developing annual estimates of cash flows into perpetuity, the DCF
7 model can be simplified to a “constant growth” form:¹⁰

$$8 \qquad P_0 = \frac{D_1}{k_e - g}$$

9 where: g = Investors’ long-term growth expectations.

10 The cost of common equity (k_e) can be isolated by rearranging terms within the
11 equation:

$$12 \qquad k_e = \frac{D_1}{P_0} + g$$

13 This constant growth form of the DCF model recognizes that the rate of return to
14 stockholders consists of two parts: 1) dividend yield (D_1/P_0); and, 2) growth (g).

15 In other words, investors expect to receive a portion of their total return in the
16 form of current dividends and the remainder through the capital gains associated
17 with price appreciation over the investors’ holding period.

¹⁰ The constant growth DCF model is dependent on a number of strict assumptions, which in practice are never met. These include a constant growth rate for both dividends and earnings; a stable dividend payout ratio; the discount rate exceeds the growth rate; a constant growth rate for book value and price; a constant earned rate of return on book value; no sales of stock at a price above or below book value; a constant price-earnings ratio; a constant discount rate (*i.e.*, no changes in risk or interest rate levels and a flat yield curve); and all of the above extend to infinity. Nevertheless, the DCF method provides a workable and practical approach to estimate investors’ required return that is widely referenced in utility ratemaking.

1 **Q. WHAT FORM OF THE DCF MODEL DID YOU USE?**

2 A. I applied the constant growth DCF model to estimate the cost of common equity
3 for AEP Ohio, which is the form of the model most commonly relied on to
4 establish the cost of common equity for traditional regulated utilities and the
5 method most often referenced by regulators.

6 **Q. HOW IS THE CONSTANT GROWTH FORM OF THE DCF MODEL**
7 **TYPICALLY USED TO ESTIMATE THE COST OF COMMON EQUITY?**

8 A. The first step in implementing the constant growth DCF model is to determine the
9 expected dividend yield (D_1/P_0) for the firm in question. This is usually
10 calculated based on an estimate of dividends to be paid in the coming year divided
11 by the current price of the stock. The second step is to estimate investors' long-
12 term growth expectations (g) for the firm. The final step is to sum the firm's
13 dividend yield and estimated growth rate to arrive at an estimate of its cost of
14 common equity.

15 **Q. HOW WAS THE DIVIDEND YIELD FOR THE ELECTRIC GROUP**
16 **DETERMINED?**

17 A. For D_1 , I used estimates of dividends to be paid by each of these utilities over the
18 next 12 months, obtained from Value Line. This annual dividend was then
19 divided by a 30-day average stock price for each utility to arrive at the expected
20 dividend yield. The expected dividends, stock prices, and resulting dividend
21 yields for the firms in the Electric Group are presented on Exhibit WEA-4. As
22 shown on page 1, dividend yields for the firms in the Electric Group ranged from
23 2.9% to 5.5%.

1 **Q. WHAT IS THE NEXT STEP IN APPLYING THE CONSTANT GROWTH**
2 **DCF MODEL?**

3 A. The next step is to evaluate long-term growth expectations, or “g”, for the firm in
4 question. In constant growth DCF theory, earnings, dividends, book value, and
5 market price are all assumed to grow in lockstep, and the growth horizon of the
6 DCF model is infinite. But implementation of the DCF model is more than just a
7 theoretical exercise; it is an attempt to replicate the mechanism investors used to
8 arrive at observable stock prices. A wide variety of techniques can be used to
9 derive growth rates, but the only “g” that matters in applying the DCF model is
10 the value that investors expect.

11 **Q. ARE HISTORICAL GROWTH RATES LIKELY TO BE**
12 **REPRESENTATIVE OF INVESTORS’ EXPECTATIONS FOR**
13 **UTILITIES?**

14 A. No. If past trends in earnings, dividends, and book value are to be representative
15 of investors’ expectations for the future, then the historical conditions giving rise
16 to these growth rates should be expected to continue. That is clearly not the case
17 for utilities, where structural and industry changes have led to declining
18 dividends, earnings pressure, and, in many cases, significant write-offs. While
19 these conditions serve to distort historical growth measures, they are neither
20 representative of long-term growth for the utility industry nor the expectations
21 that investors have incorporated into current market prices. As a result, historical
22 growth measures for utilities do not currently meet the requirements of the DCF
23 model.

1 **Q. WHAT ARE INVESTORS MOST LIKELY TO CONSIDER IN**
2 **DEVELOPING THEIR LONG-TERM GROWTH EXPECTATIONS?**

3 A. Implementation of the DCF model is solely concerned with replicating the
4 forward-looking evaluation of real-world investors. In the case of utilities,
5 dividend growth rates are not likely to provide a meaningful guide to investors'
6 current growth expectations. This is because utilities have significantly altered
7 their dividend policies in response to more accentuated business risks in the
8 industry, with the payout ratio for electric utilities falling significantly. As a result
9 of this trend towards a more conservative payout ratio, dividend growth in the
10 utility industry has remained largely stagnant as utilities conserve financial
11 resources to provide a hedge against heightened uncertainties.

12 As payout ratios for firms in the utility industry trended downward,
13 investors' focus has increasingly shifted from dividends to earnings as a measure
14 of long-term growth. Future trends in earnings per share (EPS), which provide
15 the source for future dividends and ultimately support share prices, play a pivotal
16 role in determining investors' long-term growth expectations. The importance of
17 earnings in evaluating investors' expectations and requirements is well accepted
18 in the investment community, and surveys of analytical techniques relied on by
19 professional analysts indicate that growth in earnings is far more influential than
20 trends in dividends per share (DPS). Apart from Value Line, investment advisory
21 services do not generally publish comprehensive DPS growth projections, and this
22 scarcity of dividend growth rates relative to the abundance of earnings forecasts
23 attests to their relative influence. The fact that securities analysts focus on EPS
24 growth, and that dividend growth rates are not routinely published, indicates that
25 projected EPS growth rates are likely to provide a superior indicator of the future
26 long-term growth expected by investors.

1 **Q. DO THE GROWTH RATE PROJECTIONS OF SECURITY ANALYSTS**
2 **CONSIDER HISTORICAL TRENDS?**

3 A. Yes. Professional security analysts study historical trends extensively in
4 developing their projections of future earnings. Hence, to the extent there is any
5 useful information in historical patterns, that information is incorporated into
6 analysts' growth forecasts.

7 **Q. DID PROFESSOR MYRON J. GORDON, WHO ORIGINATED THE DCF**
8 **APPROACH, RECOGNIZE THE PIVOTAL ROLE THAT EARNINGS**
9 **PLAY IN FORMING INVESTORS' EXPECTATIONS?**

10 A. Yes. Dr. Gordon specifically recognized that "it is the growth that investors
11 expect that should be used" in applying the DCF model and he concluded:

12 A number of considerations suggest that investors may, in fact, use
13 earnings growth as a measure of expected future growth."¹¹

14 **Q. WHAT ARE SECURITY ANALYSTS CURRENTLY PROJECTING IN**
15 **THE WAY OF GROWTH FOR THE FIRMS IN THE ELECTRIC GROUP?**

16 A. The earnings growth projections for each of the firms in the Electric Group
17 reported by Value Line, Thomson Reuters (IBES), and Zacks Investment
18 Research (Zacks) are displayed on page 2 of Exhibit WEA-4.¹²

19 **Q. SOME ARGUE THAT ANALYSTS' ASSESSMENTS OF GROWTH RATES**
20 **ARE BIASED. DO YOU BELIEVE THESE PROJECTIONS ARE**
21 **APPROPRIATE FOR ESTIMATING INVESTORS' REQUIRED RETURN**
22 **USING THE DCF MODEL?**

23 A. In applying the DCF model to estimate the cost of common equity, the only
24 relevant growth rate is the forward-looking expectations of investors that are

¹¹ Gordon, Myron J., "The Cost of Capital to a Public Utility," *MSU Public Utilities Studies* at 89 (1974).

¹² Formerly I/B/E/S International, Inc., IBES growth rates are now compiled and published by Thomson Reuters.

1 captured in current stock prices. Investors, just like securities analysts and others
2 in the investment community, do not know how the future will actually turn out.
3 They can only make investment decisions based on their best estimate of what the
4 future holds in the way of long-term growth for a particular stock, and securities
5 prices are constantly adjusting to reflect their assessment of available information.

6 Any claims that analysts' estimates are not relied upon by investors are
7 illogical given the reality of a competitive market for investment advice. If
8 financial analysts' forecasts do not add value to investors' decision making, then it
9 is irrational for investors to pay for these estimates. Similarly, those financial
10 analysts who fail to provide reliable forecasts will lose out in competitive markets
11 relative to those analysts whose forecasts investors find more credible. The
12 reality that analyst estimates are routinely referenced in the financial media and in
13 investment advisory publications (*e.g.*, Value Line) implies that investors use
14 them as a basis for their expectations.

15 The continued success of investment services such as Thompson Reuters
16 and Value Line, and the fact that projected growth rates from such sources are
17 widely referenced, provides strong evidence that investors give considerable
18 weight to analysts' earnings projections in forming their expectations for future
19 growth. While the projections of securities analysts may be proven optimistic or
20 pessimistic in hindsight, this is irrelevant in assessing the expected growth that
21 investors have incorporated into current stock prices, and any bias in analysts'
22 forecasts – whether pessimistic or optimistic – is irrelevant if investors share
23 analysts' views. Earnings growth projections of security analysts provide the
24 most frequently referenced guide to investors' views and are widely accepted in
25 applying the DCF model. As explained in *New Regulatory Finance*:

26 Because of the dominance of institutional investors and their
27 influence on individual investors, analysts' forecasts of long-run

1 growth rates provide a sound basis for estimating required returns.
2 Financial analysts exert a strong influence on the expectations of
3 many investors who do not possess the resources to make their
4 own forecasts, that is, they are a cause of g [growth]. The accuracy
5 of these forecasts in the sense of whether they turn out to be
6 correct is not an issue here, as long as they reflect widely held
7 expectations.¹³

8 **Q. HAVE OTHER REGULATORS ALSO RECOGNIZED THAT ANALYSTS'**
9 **GROWTH RATE ESTIMATES ARE AN IMPORTANT AND**
10 **MEANINGFUL GUIDE TO INVESTORS' EXPECTATIONS?**

11 A. Yes. FERC has expressed a clear preference for projected EPS growth rates from
12 IBES in applying the DCF model to estimate the cost of equity for both electric
13 and natural gas pipeline utilities, and has expressly rejected reliance on other
14 sources.¹⁴ As FERC concluded:

15 Opinion No. 414-A held that the IBES five-year growth forecasts
16 for each company in the proxy group are the best available
17 evidence of the short-term growth rates expected by the investment
18 community. It cited evidence that (1) those forecasts are provided
19 to IBES by professional security analysts, (2) IBES reports the
20 forecast for each firm as a service to investors, and (3) the IBES
21 reports are well known in the investment community and used by
22 investors. The Commission has also rejected the suggestion that
23 the IBES analysts are biased and stated that "in fact the analysts
24 have a significant incentive to make their analyses as accurate as
25 possible to meet the needs of their clients since those investors will
26 not utilize brokerage firms whose analysts repeatedly overstate the
27 growth potential of companies."¹⁵

28 Similarly, the Kentucky Public Service Commission has also indicated its
29 preference for relying on analysts' projections in establishing investors'
30 expectations:

¹³ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 298 (2006) (emphasis added).

¹⁴ See, e.g., *Midwest Independent Transmission System Operator, Inc.*, 99 FERC ¶ 63,011 at P 53 (2002); *Golden Spread Elec. Coop. Inc.*, 123 FERC ¶ 61,047 (2008).

¹⁵ *Kern River Gas Transmission Co.*, 126 FERC ¶ 61,034 at P 121 (2009) ((footnote omitted)).

1 KU's argument concerning the appropriateness of using investors'
2 expectations in performing a DCF analysis is more persuasive than
3 the AG's argument that analysts' projections should be rejected in
4 favor of historical results. The Commission agrees that analysts'
5 projections of growth will be relatively more compelling in
6 forming investors' forward-looking expectations than relying on
7 historical performance, especially given the current state of the
8 economy.¹⁶

9 **Q. HOW ELSE ARE INVESTORS' EXPECTATIONS OF FUTURE LONG-**
10 **TERM GROWTH PROSPECTS OFTEN ESTIMATED WHEN APPLYING**
11 **THE CONSTANT GROWTH DCF MODEL?**

12 A. In constant growth theory, growth in book equity will be equal to the product of
13 the earnings retention ratio (one minus the dividend payout ratio) and the earned
14 rate of return on book equity. Furthermore, if the earned rate of return and the
15 payout ratio are constant over time, growth in earnings and dividends will be
16 equal to growth in book value. Despite the fact that these conditions are never
17 met in practice, this "sustainable growth" approach may provide a rough guide for
18 evaluating a firm's growth prospects and is frequently proposed in regulatory
19 proceedings.

20 The sustainable growth rate is calculated by the formula, $g = br + sv$, where
21 "b" is the expected retention ratio, "r" is the expected earned return on equity, "s"
22 is the percent of common equity expected to be issued annually as new common
23 stock, and "v" is the equity accretion rate.

24 **Q. WHAT IS THE PURPOSE OF THE "SV" TERM?**

25 A. Under DCF theory, the "sv" factor is a component of the growth rate designed to
26 capture the impact of issuing new common stock at a price above, or below, book
27 value. When a company's stock price is greater than its book value per share, the

¹⁶ Order, Case No. 2009-00548 at 30-31 (Jul. 30, 2010).

1 per-share contribution in excess of book value associated with new stock issues
2 will accrue to the current shareholders. This increase to the book value of existing
3 shareholders leads to higher expected earnings and dividends, with the “sv” factor
4 incorporating this additional growth component.

5 **Q. WHAT GROWTH RATE DOES THE EARNINGS RETENTION METHOD**
6 **SUGGEST FOR THE ELECTRIC GROUP?**

7 A. The sustainable, “br+sv” growth rates for each firm in the Electric Group are
8 summarized on page 2 of Exhibit WEA-4, with the underlying details being
9 presented on Exhibit WEA-5. For each firm, the expected retention ratio (b) was
10 calculated based on Value Line’s projected dividends and earnings per share.
11 Likewise, each firm’s expected earned rate of return (r) was computed by dividing
12 projected earnings per share by projected net book value. Because Value Line
13 reports end-of-year book values, an adjustment factor was incorporated to
14 compute an average rate of return over the year, consistent with the theory
15 underlying this approach to estimating investors’ growth expectations.
16 Meanwhile, the percent of common equity expected to be issued annually as new
17 common stock (s) was equal to the product of the projected market-to-book ratio
18 and growth in common shares outstanding, while the equity accretion rate (v) was
19 computed as 1 minus the inverse of the projected market-to-book ratio.

20 **Q. ARE THERE SIGNIFICANT SHORTCOMINGS ASSOCIATED WITH**
21 **THE “BR+SV” GROWTH RATE?**

22 A. Yes. First, in order to calculate the sustainable growth rate, it is necessary to
23 develop estimates of investors’ expectations for four separate variables; namely,
24 “b”, “r”, “s”, and “v.” Given the inherent difficulty in forecasting each parameter
25 and the difficulty of estimating the expectations of investors, the potential for
26 measurement error is significantly increased when using four variables, as

1 opposed to referencing a direct projection for EPS growth. Second, empirical
2 research in the finance literature indicates that sustainable growth rates are not as
3 significantly correlated to measures of value, such as share prices, as are analysts'
4 EPS growth forecasts.¹⁷

5 I have included the "sustainable growth" approach for completeness, but I
6 believe that analysts' forecasts provide a superior and more direct guide to
7 investors' growth expectations. Accordingly, I give less weight to cost of equity
8 estimates based on $br+sv$ growth rates in evaluating the results of the DCF model.

9 **Q. WHAT COST OF COMMON EQUITY ESTIMATES WERE IMPLIED**
10 **FOR THE ELECTRIC GROUP USING THE DCF MODEL?**

11 A. After combining the dividend yields and respective growth projections for each
12 utility, the resulting cost of common equity estimates are shown on page 3 of
13 Exhibit WEA-4.

14 **Q. IN EVALUATING THE RESULTS OF THE CONSTANT GROWTH DCF**
15 **MODEL, IS IT APPROPRIATE TO ELIMINATE ESTIMATES THAT ARE**
16 **EXTREME LOW OR HIGH OUTLIERS?**

17 A. Yes. In applying quantitative methods to estimate the cost of equity, it is essential
18 that the resulting values pass fundamental tests of reasonableness and economic
19 logic. Accordingly, DCF estimates that are implausibly low or high should be
20 eliminated when evaluating the results of this method.

21 I based my evaluation of DCF estimates at the low end of the range on the
22 fundamental risk-return tradeoff, which holds that investors will only take on
23 more risk if they expect to earn a higher rate of return to compensate them for the
24 greater uncertainty. Because common stocks lack the protections associated with
25 an investment in long-term bonds, a utility's common stock imposes far greater

¹⁷ Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.*, at 307 (2006).

1 risks on investors. As a result, the rate of return that investors require from a
2 utility's common stock is considerably higher than the yield offered by senior,
3 long-term debt. Consistent with this principle, DCF results that are not
4 sufficiently higher than the yield available on less risky utility bonds must be
5 eliminated.

6 **Q. HAVE SIMILAR TESTS BEEN APPLIED BY REGULATORS?**

7 A. Yes. FERC has noted that adjustments are justified where applications of the
8 DCF approach produce illogical results. FERC evaluates DCF results against
9 observable yields on long-term public utility debt and has recognized that it is
10 appropriate to eliminate estimates that do not sufficiently exceed this threshold.
11 The practice of eliminating low-end outliers has been affirmed in numerous
12 FERC proceedings,¹⁸ and in its April 15, 2010 decision in *SoCal Edison*, FERC
13 affirmed that, "it is reasonable to exclude any company whose low-end ROE fails
14 to exceed the average bond yield by about 100 basis points or more."¹⁹

15 **Q. WHAT INTEREST RATE BENCHMARK DID YOU CONSIDER IN**
16 **EVALUATING THE DCF RESULTS FOR AEP OHIO?**

17 A. As noted earlier, S&P has assigned a corporate credit rating of "BBB" to AEP
18 Ohio. Companies rated "BBB-", "BBB", and "BBB+" are all considered part of
19 the triple-B rating category, with Moody's monthly yields on triple-B bonds
20 averaging approximately 5.3% in August 2013.²⁰ Based on my professional
21 experience and the risk-return principle that is fundamental to finance, it is
22 inconceivable that investors are not requiring a substantially higher rate of return
23 for holding common stock.

¹⁸ See, e.g., *Virginia Electric Power Co.*, 123 FERC ¶ 61,098 at P 64 (2008).

¹⁹ *Southern California Edison Co.*, 131 FERC ¶ 61,020 at P 55 (2010) ("*SoCal Edison*").

²⁰ Moody's Investors Service, <http://credittrends.moody's.com/chartroom.asp?c=3>.

1 Q. WHAT ELSE SHOULD BE CONSIDERED IN EVALUATING DCF
2 ESTIMATES AT THE LOW END OF THE RANGE?

3 A. As indicated earlier, while corporate bond yields have declined substantially as
4 the worst of the financial crisis has abated, it is generally expected that long-term
5 interest rates will rise as the economy returns to a more normal pattern of growth.
6 As shown in Table WEA-2 below, forecasts of IHS Global Insight and the EIA
7 imply an average triple-B bond yield of approximately 6.8% over the period
8 2014-2017:

9 **TABLE WEA-2**
10 **IMPLIED BBB BOND YIELD**

| | <u>2014-17</u> |
|---------------------------------------|----------------|
| Projected AA Utility Yield | |
| IHS Global Insight (a) | 5.72% |
| EIA (b) | <u>6.26%</u> |
| Average | 5.99% |
| Current BBB - AA Yield Spread (c) | <u>0.77%</u> |
| Implied Triple-B Utility Yield | 6.76% |

-
- (a) IHS Global Insight, U.S. Economic Outlook at 25 (June 2013)
(b) Energy Information Administration, Annual Energy Outlook 2013
(Apr. 15, 2013)
(c) Based on monthly average bond yields from Moody's Investors
Service for the six-month period Mar. 2013 - Aug. 2013

11 The increase in debt yields anticipated by IHS Global Insight and EIA is also
12 supported by the widely referenced Blue Chip Financial Forecasts, which projects
13 that yields on corporate bonds will climb 250 basis points through 2018.²¹

²¹ *Blue Chip Financial Forecasts*, Vol. 32, No. 6 (Jun. 1, 2013).

1 **Q. WHAT DOES THIS TEST OF LOGIC IMPLY WITH RESPECT TO THE**
2 **DCF RESULTS FOR THE ELECTRIC GROUP?**

3 A. As highlighted on page 3 of Exhibit WEA-4, low-end DCF estimates ranged from
4 3.4% to 7.3%. In light of the risk-return tradeoff principle and the test of
5 economic logic applied by FERC it is inconceivable that investors are not
6 requiring a substantially higher rate of return for holding common stock. As a
7 result, consistent with the upward trend expected for utility bond yields, these
8 values provide little guidance as to the returns investors require from utility
9 common stocks and should be excluded.

10 **Q. IS THERE A BASIS TO EXCLUDE DCF ESTIMATES AT THE HIGH**
11 **END OF THE RANGE?**

12 A. No. The upper end of the DCF range for the Electric Group was set by a cost of
13 equity estimate of 14.7%. While this cost of equity estimate may exceed the
14 majority of the remaining values, remaining low-end estimates in the 7.5% range
15 are assuredly far below investors' required rate of return. Taken together and
16 considered along with the balance of the DCF estimates, these values provide a
17 reasonable basis on which to evaluate investors' required rate of return.

18 **Q. WHAT COST OF COMMON EQUITY ESTIMATES ARE IMPLIED BY**
19 **YOUR DCF RESULTS FOR THE ELECTRIC GROUP?**

20 A. As shown on page 3 of Exhibit WEA-4 and summarized in Table WEA-3, below,
21 after eliminating illogical values, application of the constant growth DCF model
22 resulted in the following cost of equity estimates:

TABLE WEA-3
DCF RESULTS – ELECTRIC GROUP

| <u>Growth Rate</u> | <u>Cost of Equity</u> | |
|--------------------|-----------------------|-----------------|
| | <u>Average</u> | <u>Midpoint</u> |
| Value Line | 9.6% | 11.2% |
| IBES | 9.4% | 9.8% |
| Zacks | 9.1% | 10.0% |
| br + sv | 8.4% | 8.3% |

D. Empirical Capital Asset Pricing Model

Q. PLEASE DESCRIBE THE CAPM.

A. The CAPM is a theory of market equilibrium that measures risk using the beta coefficient. Assuming investors are fully diversified, the relevant risk of an individual asset (*e.g.*, common stock) is its volatility relative to the market as a whole, with beta reflecting the tendency of a stock's price to follow changes in the market. A stock that tends to respond less to market movements has a beta less than 1.00, while stocks that tend to move more than the market have betas greater than 1.00. The CAPM is mathematically expressed as:

$$R_j = R_f + \beta_j(R_m - R_f)$$

where: R_j = required rate of return for stock j ;
 R_f = risk-free rate;
 R_m = expected return on the market portfolio; and,
 β_j = beta, or systematic risk, for stock j .

Like the DCF model, the CAPM is an *ex-ante*, or forward-looking model based on expectations of the future. As a result, in order to produce a meaningful estimate of investors' required rate of return, the CAPM must be applied using estimates that reflect the expectations of actual investors in the market, not with backward-looking, historical data.

1 **Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN EVALUATING**
2 **A FAIR ROE USING THE CAPM?**

3 A. A myriad of empirical tests of the CAPM have shown that low-beta securities
4 earn returns somewhat higher than the CAPM would predict, and high-beta
5 securities earn less than predicted. In other words, the CAPM tends to overstate
6 the actual sensitivity of the cost of capital to beta, with low-beta stocks tending
7 to have higher returns and high-beta stocks tending to have lower risk returns
8 than predicted by the CAPM. This empirical finding is widely reported in the
9 finance literature, as summarized in *New Regulatory Finance*:

10 As discussed in the previous section, several finance scholars have
11 developed refined and expanded versions of the standard CAPM
12 by relaxing the constraints imposed on the CAPM, such as
13 dividend yield, size, and skewness effects. These enhanced
14 CAPMs typically produce a risk-return relationship that is flatter
15 than the CAPM prediction in keeping with the actual observed
16 risk-return relationship. The ECAPM makes use of these empirical
17 relationships.²²

18 As discussed in *New Regulatory Finance*, based on a review of the
19 empirical evidence, the expected return on a security is related to its risk by the
20 ECAPM, which is represented by the following formula:

21
$$R_j = R_f + 0.25(R_m - R_f) + 0.75[\beta_j(R_m - R_f)]$$

22 This equation, and the associated weighting factors, recognize the observed
23 relationship between standard CAPM estimates and the cost of capital
24 documented in the financial research, and corrects for the understated returns that
25 would otherwise be produced for low beta stocks.

²² Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports* at 189 (2006).

1 **Q. HOW DID YOU APPLY THE ECAPM TO ESTIMATE THE COST OF**
2 **COMMON EQUITY?**

3 A. Application of the ECAPM to the Electric Group based on a forward-looking
4 estimate for investors' required rate of return from common stocks is presented on
5 Exhibit WEA-6. In order to capture the expectations of today's investors in
6 current capital markets, the expected market rate of return was estimated by
7 conducting a DCF analysis on the 390 dividend paying firms in the S&P 500.

8 The dividend yield for each firm was obtained from Value Line, and the
9 growth rate was equal to the average of the EPS growth projections for each firm
10 published by IBES, with each firm's dividend yield and growth rate being
11 weighted by its proportionate share of total market value. Based on the weighted
12 average of the projections for the 390 individual firms, current estimates imply an
13 average growth rate over the next five years of 10.1%. Combining this average
14 growth rate with a year-ahead dividend yield of 2.4% results in a current cost of
15 common equity estimate for the market as a whole (R_m) of approximately 12.5%.
16 Subtracting a 3.8% risk-free rate based on the average yield on 30-year Treasury
17 bonds for August 2013 produced a market equity risk premium of 8.8%.

18 **Q. WHAT WAS THE SOURCE OF THE BETA VALUES YOU USED TO**
19 **APPLY THE ECAPM?**

20 A. As indicated earlier, I relied on the beta values reported by Value Line, which in
21 my experience is the most widely referenced source for beta in regulatory
22 proceedings.

23 **Q. WHAT ELSE SHOULD BE CONSIDERED IN APPLYING THE ECAPM?**

24 A. As explained by *Morningstar*:

25 One of the most remarkable discoveries of modern finance is that
26 a relationship between firm size and return. The relationship
27 cuts across the entire size spectrum but is most evident among

1 smaller companies, which have higher returns on average than
2 larger ones.²³

3 Because financial research indicates that the CAPM does not fully account for
4 observed differences in rates of return attributable to firm size, a modification is
5 required to account for this size effect.

6 According to the CAPM, the expected return on a security should consist
7 of the riskless rate, plus a premium to compensate for the systematic risk of the
8 particular security. The degree of systematic risk is represented by the beta
9 coefficient. The need for the size adjustment arises because differences in
10 investors' required rates of return that are related to firm size are not fully
11 captured by beta. To account for this, Morningstar has developed size premiums
12 that need to be added to the theoretical CAPM cost of equity estimates to account
13 for the level of a firm's market capitalization in determining the CAPM cost of
14 equity.²⁴ These premiums correspond to the size deciles of publicly traded
15 common stocks, and range from a premium of 6.0% for a company in the first
16 decile (market capitalization less than \$254.6 million), to a reduction of 37 basis
17 points for firms in the tenth decile (market capitalization between \$17.6 billion
18 and \$626.6 billion). Accordingly, my ECAPM analyses also incorporated an
19 adjustment to recognize the impact of size distinctions, as measured by the
20 average market capitalization for the Electric Group.

21 **Q. WHAT IS THE IMPLIED ROE FOR THE ELECTRIC GROUP USING**
22 **THE ECAPM APPROACH?**

23 A. As shown on page 1 of Exhibit WEA-6, a forward-looking application of the
24 ECAPM approach resulted in an average unadjusted ROE estimate of 10.8%.²⁵

²³ *Morningstar*, "Ibbotson SBBI 2013 Valuation Yearbook," at p. 85.

²⁴ *Id.* at Table C-1.

²⁵ The midpoint of the unadjusted ECAPM range was 10.4%.

1 After adjusting for the impact of firm size, the ECAPM approach implied an
2 average cost of equity of 11.6% for the Electric Group, with a midpoint cost of
3 equity estimate of 11.1%.

4 **Q. DID YOU ALSO APPLY THE ECAPM USING FORECASTED BOND**
5 **YIELDS?**

6 A. Yes. As discussed earlier, there is widespread consensus that interest rates will
7 increase materially as the economy continues to strengthen. Accordingly, in
8 addition to the use of current bond yields, I also applied the CAPM based on the
9 forecasted long-term Treasury bond yields developed based on projections
10 published by Value Line, IHS Global Insight and Blue Chip. As shown on page 2
11 of Exhibit WEA-6, incorporating a forecasted Treasury bond yield for 2014-2017
12 implied a cost of equity of approximately 10.8% for the Electric Group, or 11.7%
13 after adjusting for the impact of relative size. The midpoints of the unadjusted
14 and size adjusted cost of equity ranges were 10.6% and 11.2%, respectively.

E. Utility Risk Premium

15 **Q. BRIEFLY DESCRIBE THE RISK PREMIUM METHOD.**

16 A. The risk premium method extends the risk-return tradeoff observed with bonds to
17 estimate investors' required rate of return on common stocks. The cost of equity
18 is estimated by first determining the additional return investors require to forgo
19 the relative safety of bonds and to bear the greater risks associated with common
20 stock, and by then adding this equity risk premium to the current yield on bonds.
21 Like the DCF model, the risk premium method is capital market oriented.
22 However, unlike DCF models, which indirectly impute the cost of equity, risk
23 premium methods directly estimate investors' required rate of return by adding an
24 equity risk premium to observable bond yields.

1 **Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD?**

2 A. I based my estimates of equity risk premiums for utilities on surveys of previously
3 authorized ROEs. Authorized ROEs presumably reflect regulatory commissions'
4 best estimates of the cost of equity, however determined, at the time they issued
5 their final order. Such ROEs should represent a balanced and impartial outcome
6 that considers the need to maintain a utility's financial integrity and ability to
7 attract capital. Moreover, allowed returns are an important consideration for
8 investors and have the potential to influence other observable investment
9 parameters, including credit ratings and borrowing costs. Thus, these data
10 provide a logical and frequently referenced basis for estimating equity risk
11 premiums for regulated utilities.

12 **Q. IS IT CIRCULAR TO CONSIDER RISK PREMIUMS BASED ON**
13 **AUTHORIZED RETURNS IN ASSESSING A FAIR ROE FOR AEP OHIO?**

14 A. No. In establishing authorized ROEs, regulators typically consider the results of
15 alternative market-based approaches, including the DCF model. Because allowed
16 risk premiums consider objective market data (*e.g.*, stock prices dividends, beta,
17 and interest rates), and are not based strictly on past actions of other regulators,
18 this mitigates concerns over any potential for circularity.

19 **Q. HOW DID YOU IMPLEMENT THE RISK PREMIUM METHOD USING**
20 **SURVEYS OF ALLOWED ROES?**

21 A. Surveys of previously authorized ROEs are frequently referenced as the basis for
22 estimating equity risk premiums. The ROEs authorized for electric utilities by
23 regulatory commissions across the U.S. are compiled by Regulatory Research
24 Associates and published in its *Regulatory Focus* report. In Exhibit WEA-7, the
25 average yield on public utility bonds is subtracted from the average allowed ROE
26 for electric utilities to calculate equity risk premiums for each year between 1974

1 and 2012.²⁶ As shown on page 3 of Exhibit WEA-7, over this period, these equity
2 risk premiums for electric utilities averaged 3.47%, and the yield on public utility
3 bonds averaged 8.79%.

4 **Q. IS THERE ANY CAPITAL MARKET RELATIONSHIP THAT MUST BE**
5 **CONSIDERED WHEN IMPLEMENTING THE RISK PREMIUM**
6 **METHOD?**

7 A. Yes. There is considerable evidence that the magnitude of equity risk premiums is
8 not constant and that equity risk premiums tend to move inversely with interest
9 rates.²⁷ In other words, when interest rate levels are relatively high, equity risk
10 premiums narrow, and when interest rates are relatively low, equity risk premiums
11 widen. The implication of this inverse relationship is that the cost of equity does
12 not move as much as, or in lockstep with, interest rates. Accordingly, for a 1%
13 increase or decrease in interest rates, the cost of equity may only rise or fall, say,
14 50 basis points. Therefore, when implementing the risk premium method,
15 adjustments may be required to incorporate this inverse relationship if current
16 interest rate levels have diverged from the average interest rate level represented
17 in the data set.

18 Finally, it is important to recognize that the historical focus of risk
19 premium studies almost certainly ensures that they fail to fully capture the
20 significantly greater risks that investors now associate with providing utility
21 service. As a result, they are likely to understate the cost of equity for a firm
22 operating in today's utility industry.

²⁶ My analysis encompasses the entire period for which published data is available.

²⁷ See, e.g., Brigham, E.F., Shome, D.K., and Vinson, S.R., "The Risk Premium Approach to Measuring a Utility's Cost of Equity," *Financial Management* (Spring 1985); Harris, R.S., and Marston, F.C., "Estimating Shareholder Risk Premia Using Analysts' Growth Forecasts," *Financial Management* (Summer 1992).

1 **Q. WHAT COST OF EQUITY IS IMPLIED BY THE RISK PREMIUM**
2 **METHOD USING SURVEYS OF ALLOWED ROES?**

3 A. Based on the regression output between the interest rates and equity risk
4 premiums displayed on page 4 of Exhibit WEA-7, the equity risk premium for
5 electric utilities increased approximately 42 basis points for each percentage point
6 drop in the yield on average public utility bonds. As illustrated on page 1 of
7 Exhibit WEA-7, with an average yield on public utility bonds for August 2013 of
8 4.85%, this implied a current equity risk premium of 5.13% for electric utilities.
9 Adding this equity risk premium to the average yield on triple-B utility bonds for
10 August 2013 of 5.28% implies a current cost of equity of approximately 10.4%.

11 **Q. WHAT RISK PREMIUM COST OF EQUITY ESTIMATE WAS**
12 **PRODUCED FOR AEP OHIO'S OPERATIONS AFTER**
13 **INCORPORATING FORECASTED BOND YIELDS?**

14 A. As shown on page 2 of Exhibit WEA-7, incorporating a forecasted yield for 2014-
15 2017 and adjusting for changes in interest rates since the study period implied an
16 equity risk premium of 4.51% for electric utilities. Adding this equity risk
17 premium to the implied average yield on triple-B public utility bonds for 2014-
18 2017 of 6.76% resulted in an implied cost of equity of approximately 11.3%.

F. Flotation Costs

19 **Q. WHAT OTHER CONSIDERATIONS ARE RELEVANT IN SETTING THE**
20 **RETURN ON EQUITY FOR A UTILITY?**

21 A. The common equity used to finance the investment in utility assets is provided
22 from either the sale of stock in the capital markets or from retained earnings not
23 paid out as dividends. When equity is raised through the sale of common stock,
24 there are costs associated with "floating" the new equity securities. These
25 flotation costs include services such as legal, accounting, and printing, as well as

1 the fees and discounts paid to compensate brokers for selling the stock to the
2 public. Also, some argue that the “market pressure” from the additional supply of
3 common stock and other market factors may further reduce the amount of funds
4 utility nets when it issues common equity.

5 **Q. IS THERE AN ESTABLISHED MECHANISM FOR A UTILITY TO**
6 **RECOGNIZE EQUITY ISSUANCE COSTS?**

7 A. No. While debt flotation costs are recorded on the books of the utility, amortized
8 over the life of the issue, and thus increase the effective cost of debt capital, there
9 is no similar accounting treatment to ensure that equity flotation costs are
10 recorded and ultimately recognized. No rate of return is authorized on flotation
11 costs necessarily incurred to obtain a portion of the equity capital used to finance
12 plant. In other words, equity flotation costs are not included in a utility’s rate base
13 because neither that portion of the gross proceeds from the sale of common stock
14 used to pay flotation costs is available to invest in plant and equipment, nor are
15 flotation costs capitalized as an intangible asset. Unless some provision is made to
16 recognize these issuance costs, a utility’s revenue requirements will not fully reflect
17 all of the costs incurred for the use of investors’ funds. Because there is no
18 accounting convention to accumulate the flotation costs associated with equity
19 issues, they must be accounted for indirectly, with an upward adjustment to the
20 cost of equity being the most appropriate mechanism.

21 **Q. IS THERE A THEORETICAL AND PRACTICAL BASIS TO INCLUDE A**
22 **FLOTATION COST ADJUSTMENT IN THIS CASE?**

23 A. Yes. First, an adjustment for flotation costs associated with past equity issues is
24 appropriate, even when the utility is not contemplating any new sales of common
25 stock. The need for a flotation cost adjustment to compensate for past equity
26 issues been recognized in the financial literature. In a *Public Utilities Fortnightly*

1 article, for example, Brigham, Aberwald, and Gapenski demonstrated that even if
2 no further stock issues are contemplated, a flotation cost adjustment in all future
3 years is required to keep shareholders whole, and that the flotation cost
4 adjustment must consider total equity, including retained earnings.²⁸ Similarly,
5 *New Regulatory Finance* contains the following discussion:

6 Another controversy is whether the flotation cost allowance should
7 still be applied when the utility is not contemplating an imminent
8 common stock issue. Some argue that flotation costs are real and
9 should be recognized in calculating the fair rate of return on equity,
10 but only at the time when the expenses are incurred. In other
11 words, the flotation cost allowance should not continue
12 indefinitely, but should be made in the year in which the sale of
13 securities occurs, with no need for continuing compensation in
14 future years. This argument implies that the company has already
15 been compensated for these costs and/or the initial contributed
16 capital was obtained freely, devoid of any flotation costs, which is
17 an unlikely assumption, and certainly not applicable to most
18 utilities. ... The flotation cost adjustment cannot be strictly
19 forward-looking unless all past flotation costs associated with past
20 issues have been recovered.²⁹

21 **Q. WHAT IS THE MAGNITUDE OF THE ADJUSTMENT TO THE “BARE**
22 **BONES” COST OF EQUITY TO ACCOUNT FOR ISSUANCE COSTS?**

23 A. There are a number of ways in which a flotation cost adjustment can be
24 calculated, but the most common methods used to account for flotation costs in
25 regulatory proceedings is to apply an average flotation-cost percentage to a
26 utility’s dividend yield. Based on a review of the finance literature, *Regulatory*
27 *Finance: Utilities’ Cost of Capital* concluded:

²⁸ Brigham, E.F., Aberwald, D.A., and Gapenski, L.C., “Common Equity Flotation Costs and Rate Making,” *Public Utilities Fortnightly*, May, 2, 1985.

²⁹ Morin, Roger A., “New Regulatory Finance,” *Public Utilities Reports, Inc.* (2006) at 335.

1 The flotation cost allowance requires an estimated adjustment to
2 the return on equity of approximately 5% to 10%, depending on
3 the size and risk of the issue.³⁰

4 Alternatively, a study of data from Morgan Stanley regarding issuance costs
5 associated with utility common stock issuances suggests an average flotation cost
6 percentage of 3.6%,³¹ with AEP incurring issuance costs equal to approximately
7 3.02% of the gross proceeds from its 2009 public offering of common stock.³²
8 Multiplying this 3.02% expense percentage for AEP by a representative dividend
9 yield of 4.0% produces a flotation cost adjustment on the order of 12 basis points.

VI. OTHER ROE BENCHMARKS

10 **Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?**

11 **A.** This section presents alternative tests to demonstrate that the end-results of the
12 ROE analyses discussed earlier are reasonable and do not exceed a fair ROE
13 given the facts and circumstances of AEP Ohio. The first test is based on
14 applications of the traditional CAPM analysis using current and projected interest
15 rates. The second test is based on expected earned returns for electric utilities.
16 Finally, I present a DCF analysis for an extremely low risk group of non-utility
17 firms, with which AEP Ohio must compete for investors' money.

³⁰ Roger A. Morin, "Regulatory Finance: Utilities' Cost of Capital," *Public Utilities Reports, Inc.* at 166 (1994).

³¹ *Application of Yankee Gas Services Company for a Rate Increase*, DPUC Docket No. 04-06-01, Direct Testimony of George J. Eckenroth (Jul. 2, 2004) at Exhibit GJE-11.1. Updating the results presented by Mr. Eckenroth through April 2005 also resulted in an average flotation cost percentage of 3.6%.

³² American Electric Power Company, Inc., *Prospectus Supplement (To Prospectus dated December 22, 2008)* (Apr. 1, 2009). Net proceeds from AEP's sale of 69 million shares of common stock raised approximately \$1.64 billion of additional equity capital.

A. Capital Asset Pricing Model

1 **Q. WHAT COST OF EQUITY ESTIMATES WERE INDICATED BY THE**
2 **TRADITIONAL CAPM?**

3 A. My applications of the traditional CAPM were based on the same forward-
4 looking market rate of return, risk-free rates, and beta values discussed earlier in
5 connections with the ECAPM. As shown on page 1 of Exhibit WEA-8, applying
6 the forward-looking CAPM approach to the firms in the Electric Group results in
7 an average theoretical cost of equity estimate of 10.1%, or 11.0% after
8 incorporating the size adjustment corresponding to the market capitalization of the
9 individual utilities.

10 As shown on page 2 of Exhibit WEA-8, incorporating a forecasted
11 Treasury bond yield for 2013-2017 implied a cost of equity of approximately
12 10.3% for the Electric Group, or 11.1 % after adjusting for the impact of relative
13 size.

B. Expected Earnings Approach

14 **Q. WHAT OTHER ANALYSES DID YOU CONDUCT TO ESTIMATE THE**
15 **COST OF COMMON EQUITY?**

16 A. As I noted earlier, I also evaluated the cost of common equity using the expected
17 earnings method. Reference to rates of return available from alternative
18 investments of comparable risk can provide an important benchmark in assessing
19 the return necessary to assure confidence in the financial integrity of a firm and its
20 ability to attract capital. This expected earnings approach is consistent with the
21 economic underpinnings for a fair rate of return established by the U.S. Supreme
22 Court in *Bluefield* and *Hope*. Moreover, it avoids the complexities and limitations

1 of capital market methods and instead focuses on the returns earned on book
2 equity, which are readily available to investors.

3 **Q. WHAT ECONOMIC PREMISE UNDERLIES THE EXPECTED**
4 **EARNINGS APPROACH?**

5 A. The simple, but powerful concept underlying the expected earnings approach is
6 that investors compare each investment alternative with the next best opportunity.
7 If the utility is unable to offer a return similar to that available from other
8 opportunities of comparable risk, investors will become unwilling to supply the
9 capital on reasonable terms. For existing investors, denying the utility an
10 opportunity to earn what is available from other similar risk alternatives prevents
11 them from earning their opportunity cost of capital. In this situation the
12 government is effectively taking the value of investors' capital without adequate
13 compensation. The expected earnings approach is consistent with the economic
14 rationale underpinning established regulatory standards, which specifies a
15 methodology to determine an ROE benchmark based on earned rates of return for
16 a peer group of other regional utilities. This approach is also consistent with Ohio
17 statute, as reflected in the SEET.

18 **Q. HOW IS THE EXPECTED EARNINGS APPROACH TYPICALLY**
19 **IMPLEMENTED?**

20 A. The traditional comparable earnings test identifies a group of companies that are
21 believed to be comparable in risk to the utility. The actual earnings of those
22 companies on the book value of their investment are then compared to the
23 allowed return of the utility. While the traditional comparable earnings test is
24 implemented using historical data taken from the accounting records, it is also
25 common to use projections of returns on book investment, such as those published
26 by recognized investment advisory publications (*e.g.*, Value Line). Because these

1 returns on book value equity are analogous to the allowed return on a utility's rate
2 base, this measure of opportunity costs results in a direct, "apples to apples"
3 comparison.

4 Moreover, regulators do not set the returns that investors earn in the
5 capital markets, which are a function of dividend payments and fluctuations in
6 common stock prices- both of which are outside their control. Regulators can only
7 establish the allowed ROE, which is applied to the book value of a utility's
8 investment in rate base, as determined from its accounting records. This is
9 directly analogous to the expected earnings approach, which measures the return
10 that investors expect the utility to earn on book value. As a result, the expected
11 earnings approach provides a meaningful guide to ensure that the allowed ROE is
12 similar to what other utilities of comparable risk will earn on invested capital.
13 This expected earnings test does not require theoretical models to indirectly infer
14 investors' perceptions from stock prices or other market data. As long as the
15 proxy companies are similar in risk, their expected earned returns on invested
16 capital provide a direct benchmark for investors' opportunity costs that is
17 independent of fluctuating stock prices, market-to-book ratios, debates over DCF
18 growth rates, or the limitations inherent in any theoretical model of investor
19 behavior.

20 **Q. WHAT RATES OF RETURN ON EQUITY ARE INDICATED FOR**
21 **UTILITIES BASED ON THE EXPECTED EARNINGS APPROACH?**

22 A. Value Line's projections imply an average rate of return on common equity for the
23 electric utility industry of 10.2% over its 2015-2017 forecast horizon.³³

24 Meanwhile, for the firms in the Electric Group specifically, the year-end returns

³³ The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013). Recall that Value Line reports return on year-end equity so the equivalent return on average equity would be higher.

1 on common equity projected by Value Line over its forecast horizon are shown on
2 Exhibit WEA-9. Consistent with the rationale underlying the development of the
3 br+sv growth rates, these year-end values were converted to average returns using
4 the same adjustment factor discussed earlier and developed on Exhibit WEA-5.
5 As shown on Exhibit WEA-9, Value Line's projections for the Electric Group
6 suggest an average ROE of approximately 9.6%, with a midpoint value of 10.5%.

C. Extremely Low Risk Non-Utility DCF

7 **Q. WHAT OTHER PROXY GROUP DID YOU CONSIDER IN EVALUATING**
8 **A FAIR ROE FOR AEP OHIO?**

9 A. Under the regulatory standards established by *Hope* and *Bluefield*, the salient
10 criterion in establishing a meaningful benchmark to evaluate a fair rate of return is
11 relative risk, not the particular business activity or degree of regulation. With
12 regulation taking the place of competitive market forces, required returns for
13 utilities should be in line with those of non-utility firms of comparable risk
14 operating under the constraints of free competition. Consistent with this accepted
15 regulatory standard, I also applied the DCF model to a reference group of low-risk
16 risk companies in the non-utility sectors of the economy. I refer to this group as
17 the "Non-Utility Group".

18 **Q. DO UTILITIES HAVE TO COMPETE WITH NON-REGULATED FIRMS**
19 **FOR CAPITAL?**

20 A. Yes. The cost of capital is an opportunity cost based on the returns that investors
21 could realize by putting their money in other alternatives. Clearly, the total
22 capital invested in utility stocks is only the tip of the iceberg of total common
23 stock investment, and there are a plethora of other enterprises available to
24 investors beyond those in the utility industry. Utilities must compete for capital,
25 not just against firms in their own industry, but with other investment

1 opportunities of comparable risk. Indeed, modern portfolio theory is built on the
2 assumption that rational investors will hold a diverse portfolio of stocks, not just
3 companies in a single industry.

4 **Q. IS IT CONSISTENT WITH THE BLUEFIELD AND HOPE CASES TO**
5 **CONSIDER INVESTORS' REQUIRED ROE FOR NON-UTILITY**
6 **COMPANIES?**

7 A. Yes. The cost of equity capital in the competitive sector of the economy form the
8 very underpinning for utility ROEs because regulation purports to serve as a
9 substitute for the actions of competitive markets. The Supreme Court has
10 recognized that it is the degree of risk, not the nature of the business, which is
11 relevant in evaluating an allowed ROE for a utility. The *Bluefield* case refers to
12 "business undertakings attended with comparable risks and uncertainties." It does
13 not restrict consideration to other utilities. Similarly, the *Hope* case states:

14 By that standard the return to the equity owner should be
15 commensurate with returns on investments in other enterprises
16 having corresponding risks.³⁴

17 As in the *Bluefield* decision, there is nothing to restrict "other enterprises" solely
18 to the utility industry.

19 In teaching regulatory policy I usually observe that in the early
20 applications of the comparable earnings approach, utilities were explicitly
21 eliminated due to a concern about circularity. In other words, soon after the *Hope*
22 decision regulatory commissions did not want to get involved in circular logic by
23 looking to the returns of utilities that were established by the same or similar
24 regulatory commissions in the same geographic region. To avoid circularity,
25 regulators looked only to the returns of non-utility companies.

³⁴ *Federal Power Comm'n v. Hope Natural Gas Co.* 320 U.S. 391, (1944).

1 **Q. DOES CONSIDERATION OF THE RESULTS FOR THE NON-UTILITY**
2 **GROUP MAKE THE ESTIMATION OF THE COST OF EQUITY USING**
3 **THE DCF MODEL MORE RELIABLE?**

4 A. Yes. The estimates of growth from the DCF model depend on analysts' forecasts.
5 It is possible for utility growth rates to be distorted by short-term trends in the
6 industry, or by the industry falling into favor or disfavor by analysts. The result of
7 such distortions would be to bias the DCF estimates for utilities. Because the
8 Non-Utility Group includes low risk companies from many industries, it
9 diversifies away any distortion that may be caused by the ebb and flow of
10 enthusiasm for a particular sector.

11 **Q. WHAT CRITERIA DID YOU APPLY TO DEVELOP THE NON-UTILITY**
12 **GROUP?**

13 A. My comparable risk proxy group was composed of those United States companies
14 followed by Value Line that:

- 15 1) pay common dividends;
16 2) have a Safety Rank of "1";
17 3) have a Financial Strength Rating of "B++" or greater;
18 4) have a beta of 0.60 or less; and
19 5) have investment grade credit ratings from S&P³⁵.

20 **Q. HOW DO THE OVERALL RISKS OF THIS NON-UTILITY GROUP**
21 **COMPARE WITH THE ELECTRIC GROUP?**

22 A. Table WEA-4 compares the Non-Utility Group with the Electric Group and AEP
23 Ohio across the four key risk measures discussed earlier:

³⁵ Credit rating firms, such as S&P, use designations consisting of upper- and lower-case letters 'A' and 'B' to identify a bond's credit quality rating. 'AAA', 'AA', 'A', and 'BBB' ratings are considered investment grade. Credit ratings for bonds below these designations ('BB', 'B', 'CCC', etc.) are considered speculative grade, and are commonly referred to as "junk bonds". The term "investment grade" refers to bonds with ratings in the 'BBB' category and above.

TABLE WEA-4
COMPARISON OF RISK INDICATORS

| | S&P | Value Line | | |
|-------------------|----------------------|--------------------|------------------------|--------------------|
| | Credit | Safety | Financial | |
| | <u>Rating</u> | <u>Rank</u> | <u>Strength</u> | <u>Beta</u> |
| Non-Utility Group | A | 1 | A+ | 0.58 |
| Electric Group | BBB | 2 | B++ | 0.72 |
| AEP Ohio | BBB | 3 | B++ | 0.65 |

As shown above, the average credit rating, Safety Rank, Financial Strength Rating, and beta for the Non-Utility Group suggest less risk than for AEP Ohio and the proxy group of electric utilities. When considered together, a comparison of these objective measures, which consider a broad spectrum of risks, including financial and business position, relative size, and exposure to company-specific factors, indicates that investors would likely conclude that the overall investment risks for the Electric Group and AEP Ohio are greater than those of the firms in the Non-Utility Group.

The eleven companies that make up the Non-Utility Group are representative of the pinnacle of corporate America. These firms, which include household names such as Coca-Cola, Colgate-Palmolive, McDonalds, and Wal-Mart, have long corporate histories, well-established track records, and exceedingly conservative risk profiles. Many of these companies pay dividends on a par with utilities, with the average dividend yield for the group approaching 3%. Moreover, because of their significance and name recognition, these companies receive intense scrutiny by the investment community, which increases confidence that published growth estimates are representative of the consensus expectations reflected in common stock prices.

1 Q. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS FOR THE
2 NON-UTILITY GROUP?

3 A. I applied the DCF model to the Non-Utility Group using the same analysts' EPS
4 growth projections described earlier for the Electric Group, with the results being
5 presented in Exhibit WEA-10. As summarized in Table WEA-5, below,
6 application of the constant growth DCF model resulted in the following cost of
7 equity estimates:

TABLE WEA-5
DCF RESULTS – NON-UTILITY GROUP

| Non-Utility DCF | | |
|--------------------|-----------------------|-----------------|
| | <u>Cost of Equity</u> | |
| <u>Growth Rate</u> | <u>Average</u> | <u>Midpoint</u> |
| Value Line | 11.6% | 11.7% |
| IBES | 11.7% | 12.8% |
| Zacks | 11.8% | 12.8% |

As discussed earlier, reference to the Non-Utility Group is consistent with established regulatory principles. Required returns for utilities should be in line with those of non-utility firms of comparable risk operating under the constraints of free competition.

14 **Q. HOW CAN YOU RECONCILE THESE DCF RESULTS FOR THE NON-**
15 **UTILITY GROUP AGAINST THE SIGNIFICANTLY LOWER**
16 **ESTIMATES PRODUCED FOR YOUR GROUP OF UTILITIES?**

17 A. First, it is important to be clear that the higher DCF results for the Non-Utility
18 Group cannot be attributed to risk differences. As I documented earlier, the risks
19 that investors associate with the group of non-utility firms - as measured by
20 S&P's credit ratings, Value Line's Safety Rank, Financial Strength, and beta - are
21 lower than the risks investors associate with the Electric Group. The objective

1 evidence provided by these observable risk measures rules out a conclusion that
2 the higher non-utility DCF estimates are associated with higher investment risk.

3 Rather, the divergence between the DCF results for these groups of utility
4 and non-utility firms can be attributed to the fact that DCF estimates invariably
5 depart from the returns that investors actually require because their expectations
6 may not be captured by the inputs to the model, particularly the assumed growth
7 rate. Because the actual cost of equity is unobservable, and DCF results
8 inherently incorporate a degree of error, the cost of equity estimates for the Non-
9 Utility Group provide an important benchmark in evaluating a fair ROE for AEP
10 Ohio. There is no basis to conclude that DCF results for a group of utilities would
11 be inherently more reliable than those for firms in the competitive sector, and the
12 divergence between the DCF estimates for the group of utilities and the Non-
13 Utility Group suggests that both should be considered to ensure a balanced end-
14 result. The results of the Non-Utility Group DCF suggests that the 10.65%
15 recommended ROE for AEP Ohio's electric operations is a conservative estimate
16 of a fair return, particularly since this recommended ROE includes a flotation cost
17 adjustment in addition to the bare bones cost of equity.

18 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR ALTERNATIVE ROE**
19 **BENCHMARKS.**

20 A. The cost of common equity estimates produced by the various tests of
21 reasonableness discussed above are shown on page 2 of Exhibit WEA-2, and
22 summarized in Table WEA-6, below:

**TABLE WEA-6
SUMMARY OF ALTERNATIVE ROE BENCHMARKS**

| | <u>Average</u> | <u>Midpoint</u> |
|---|----------------|-----------------|
| <u>CAPM - 2013 Bond Yield</u> | | |
| Unadjusted | 10.1% | 9.7% |
| Size Adjusted | 11.0% | 10.4% |
| <u>CAPM - Projected Bond Yield</u> | | |
| Unadjusted | 10.3% | 9.9% |
| Size Adjusted | 11.1% | 10.6% |
| <u>Expected Earnings</u> | | |
| Industry | 10.2% | |
| Proxy Group | 9.6% | 10.5% |
| <u>Non-Utility DCF</u> | | |
| Value Line | 11.6% | 11.7% |
| IBES | 11.7% | 12.8% |
| Zacks | 11.8% | 12.8% |

- 1 The results of these alternative benchmarks confirm my conclusion that a “bare
2 bones” ROE of 10.53% for AEP Ohio’s electric utility operations is reasonable.
- 3 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**
- 4 **A. Yes.**

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Summary of Qualifications

Ph.D. in economics and finance; Chartered Financial Analyst (CFA[®]) designation; extensive expert witness testimony before courts, alternative dispute resolution panels, regulatory agencies and legislative committees; lectured in executive education programs around the world on ethics, investment analysis, and regulation; undergraduate and graduate teaching in business and economics; appointed to leadership positions in government, industry, academia, and the military.

Employment

Principal,
FINCAP, Inc.
(Sep. 1979 to present)

Financial, economic and policy consulting to business and government. Perform business and public policy research, cost/benefit analyses and financial modeling, valuation of businesses (almost 200 entities valued), estimation of damages, statistical and industry studies. Provide strategy advice and educational services in public and private sectors, and serve as expert witness before regulatory agencies, legislative committees, arbitration panels, and courts.

*Director, Economic Research
Division,*
Public Utility Commission of Texas
(Dec. 1977 to Aug. 1979)

Responsible for research and testimony preparation on rate of return, rate structure, and econometric analysis dealing with energy, telecommunications, water and sewer utilities. Testified in major rate cases and appeared before legislative committees and served as Chief Economist for agency. Administered state and federal grant funds. Communicated frequently with political leaders and representatives from consumer groups, media, and investment community.

Manager, Financial Education,
International Paper Company
New York City
(Feb. 1977 to Nov. 1977)

Directed corporate education programs in accounting, finance, and economics. Developed course materials, recruited and trained instructors, liaison within the company and with academic institutions. Prepared operating budget and designed financial controls for corporate professional development program.

WILLIAM E. AVERA

Lecturer in Finance,

The University of Texas at Austin
(Sep. 1979 to May 1981)

Assistant Professor of Finance,
(Sep. 1975 to May 1977)

Taught graduate and undergraduate courses in financial management and investment theory. Conducted research in business and public policy. Named Outstanding Graduate Business Professor and received various administrative appointments.

Assistant Professor of Business, University of North Carolina at Chapel Hill

(Sep. 1972 to Jul. 1975)

Taught in BBA, MBA, and Ph.D. programs. Created project course in finance, Financial Management for Women, and participated in developing Small Business Management sequence. Organized the North Carolina Institute for Investment Research, a group of financial institutions that supported academic research. Faculty advisor to the Media Board, which funds student publications and broadcast stations.

Education

Ph.D., Economics and Finance, University of North Carolina at Chapel Hill

(Jan. 1969 to Aug. 1972)

Elective courses included financial management, public finance, monetary theory, and econometrics. Awarded the Stonier Fellowship by the American Bankers' Association and University Teaching Fellowship. Taught statistics, macroeconomics, and microeconomics.

Dissertation: *The Geometric Mean Strategy as a Theory of Multiperiod Portfolio Choice*

B.A., Economics, Emory University, Atlanta, Georgia (Sep. 1961 to Jun. 1965)

Active in extracurricular activities, president of the Barkley Forum (debate team), Emory Religious Association, and Delta Tau Delta chapter. Individual awards and team championships at national collegiate debate tournaments.

Professional Associations

Received Chartered Financial Analyst (CFA) designation in 1977; Vice President for Membership, Financial Management Association; President, Austin Chapter of Planning Executives Institute; Board of Directors, North Carolina Society of Financial Analysts; Candidate Curriculum Committee, Association for Investment Management and Research; Executive Committee of Southern Finance Association; Vice Chair, Staff Subcommittee on Economics and National Association of Regulatory Utility Commissioners (NARUC); Appointed to NARUC Technical Subcommittee on the National Energy Act.

Teaching in Executive Education Programs

University-Sponsored Programs: Central Michigan University, Duke University, Louisiana State University, National Defense University, National University of Singapore, Texas A&M University, University of Kansas, University of North Carolina, University of Texas.

Business and Government-Sponsored Programs: Advanced Seminar on Earnings Regulation, American Public Welfare Association, Association for Investment Management and Research, Congressional Fellows Program, Cost of Capital Workshop, Electricity Consumers Resource Council, Financial Analysts Association of Indonesia, Financial Analysts Review, Financial Analysts Seminar at Northwestern University, Governor's Executive Development Program of Texas, Louisiana Association of Business and Industry, National Association of Purchasing Management, National Association of Tire Dealers, Planning Executives Institute, School of Banking of the South, State of Wisconsin Investment Board, Stock Exchange of Thailand, Texas Association of State Sponsored Computer Centers, Texas Bankers' Association, Texas Bar Association, Texas Savings and Loan League, Texas Society of CPAs, Tokyo Association of Foreign Banks, Union Bank of Switzerland, U.S. Department of State, U.S. Navy, U.S. Veterans Administration, in addition to Texas state agencies and major corporations.

Presented papers for Mills B. Lane Lecture Series at the University of Georgia and Heubner Lectures at the University of Pennsylvania. Taught graduate courses in finance and economics for evening program at St. Edward's University in Austin from January 1979 through 1998.

Expert Witness Testimony

Testified in almost 300 cases before regulatory agencies addressing cost of capital, regulatory policy, rate design, and other economic and financial issues.

Federal Agencies: Federal Communications Commission, Federal Energy Regulatory Commission, Surface Transportation Board, Interstate Commerce Commission, and the Canadian Radio-Television and Telecommunications Commission.

State Regulatory Agencies: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nevada, New Mexico, Montana, Nebraska, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

Testified in 42 cases before federal and state courts, arbitration panels, and alternative dispute tribunals (89 depositions given) regarding damages, valuation, antitrust liability, fiduciary duties, and other economic and financial issues.

Board Positions and Other Professional Activities

Co-chair, Synchronous Interconnection Committee established by Texas Legislature to study interconnection of Texas with national grid; Audit Committee and Outside Director, Georgia System Operations Corporation (electric system operator for member-owned electric cooperatives in Georgia); Chairman, Board of Print Depot, Inc. and FINCAP, Inc.; Appointed by Hays County Commission to Citizens Advisory Committee of Habitat Conservation Plan, Operator of AAA Ranch, a certified organic producer of agricultural products; Appointed to Organic Livestock Advisory Committee by Texas Agricultural Commissioner; Appointed by Texas Railroad Commissioners to study group for *The UP/SP Merger: An Assessment of the Impacts on the State of Texas*; Appointed by Hawaii Public Utilities Commission to team reviewing affiliate relationships of Hawaiian Electric Industries; Chairman, Energy Task Force, Greater Austin-San Antonio Corridor Council; Consultant to Public Utility Commission of Texas on cogeneration policy and other

WILLIAM E. AVERA

matters; Consultant to Public Service Commission of New Mexico on cogeneration policy; Evaluator of Energy Research Grant Proposals for Texas Higher Education Coordinating Board.

Community Activities

Treasurer, Dripping Springs Presbyterian Church; Board of Directors, Sustainable Food Center; Chair, Board of Deacons, Finance Committee, and Elder, Central Presbyterian Church of Austin; Founding Member, Orange-Chatham County (N.C.) Legal Aid Screening Committee.

Military

Captain, U.S. Naval Reserve (retired after 28 years service); Commanding Officer, Naval Special Warfare Engineering (SEAL) Support Unit; Officer-in-Charge of SWIFT patrol boat in Vietnam; Enlisted service as weather analyst (advanced to second class petty officer).

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- "Consumer Expectations and the Economy," *Texas Business Review* (Nov. 1976)
- "Portfolio Performance Evaluation and Long-run Capital Growth," with Henry A. Latané in *Proceedings of the Eastern Finance Association* (1973)
- Book reviews in *Journal of Finance* and *Financial Review*. Abstracts for *CFA Digest*. Articles in *Carolina Financial Times*.

Selected Papers and Presentations

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- "Estimating Utility Cost of Equity in Financial Turmoil," SNL EXNET 15th Annual FERC Briefing, Washington, D.C. (Mar. 2009)
- "The Who, What, When, How, and Why of Ethics," San Antonio Financial Analysts Society (Jan. 16, 2002). Similar presentation given to the Austin Society of Financial Analysts (Jan. 17, 2002)
- "Ethics for Financial Analysts," Sponsored by Canadian Council of Financial Analysts: delivered in Calgary, Edmonton, Regina, and Winnipeg, June 1997. Similar presentations given to Austin Society of Financial Analysts (Mar. 1994), San Antonio Society of Financial Analysts (Nov. 1985), and St. Louis Society of Financial Analysts (Feb. 1986)
- "Cost of Capital for Multi-Divisional Corporations," Financial Management Association, New Orleans, Louisiana (Oct. 1996)
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ROE ANALYSES**Exhibit WEA-2****Page 1 of 2****SUMMARY OF RESULTS**

| <u>DCF</u> | <u>Average</u> | <u>Midpoint</u> |
|--|-----------------------|------------------------|
| Value Line | 9.6% | 11.0% |
| IBES | 9.3% | 9.9% |
| Zacks | 9.2% | 10.1% |
| Internal br + sv | 8.6% | 8.7% |
| <u>Empirical CAPM - 2013 Yield</u> | | |
| Unadjusted | 10.8% | 10.4% |
| Size Adjusted | 11.6% | 11.1% |
| <u>Empirical CAPM - Projected Yield</u> | | |
| Unadjusted | 10.8% | 10.6% |
| Size Adjusted | 11.7% | 11.2% |
| <u>Utility Risk Premium</u> | | |
| Current Bond Yields | 10.4% | |
| Projected Bond Yields | 11.3% | |
| <u>Cost of Equity Recommendation</u> | | |
| Cost of Equity Range | 9.5% -- 11.0% | |
| Recommended Point Estimate | 10.53% | |
| <u>Flotation Cost Adjustment</u> | | |
| Dividend Yield | 4.00% | |
| Flotation Cost Percentage | 3.02% | |
| Adjustment | 0.12% | |
| <u>ROE Recommendation</u> | 10.65% | |

ROE ANALYSES**Exhibit WEA-2****Page 2 of 2****CHECKS OF REASONABLENESS**

| | <u>Average</u> | <u>Midpoint</u> |
|---|-----------------------|------------------------|
| <u>CAPM - 2013 Bond Yield</u> | | |
| Unadjusted | 10.1% | 9.7% |
| Size Adjusted | 11.0% | 10.4% |
| <u>CAPM - Projected Bond Yield</u> | | |
| Unadjusted | 10.3% | 9.9% |
| Size Adjusted | 11.1% | 10.6% |
| <u>Expected Earnings</u> | | |
| Industry | 10.2% | |
| Proxy Group | 9.6% | 10.5% |
| <u>Non-Utility DCF</u> | | |
| Value Line | 11.6% | 11.7% |
| IBES | 11.7% | 12.8% |
| Zacks | 11.8% | 12.8% |

CAPITAL STRUCTURE

Exhibit WEA-3

Page 1 of 1

ELECTRIC GROUP

| | | At Fiscal Year-End 2012 (a) | | | Value Line Projected (b) | | |
|---------------------------|--|-----------------------------|-------------|--------------|--------------------------|-------------|--------------|
| | | | | Common | | | Common |
| Company | | Debt | Preferred | Equity | Debt | Other | Equity |
| 1 ALLETE | | 45.9% | 0.0% | 54.1% | 41.5% | 0.0% | 58.5% |
| 2 Ameren Corp. | | 50.8% | 0.0% | 49.2% | 44.0% | 1.0% | 55.0% |
| 3 American Elec Pwr | | 49.9% | 0.0% | 50.1% | 45.5% | 0.0% | 54.5% |
| 4 Black Hills Corp. | | 45.8% | 0.0% | 54.2% | 51.5% | 0.0% | 48.5% |
| 5 CMS Energy Corp. | | 69.1% | 0.0% | 30.9% | 62.0% | 0.0% | 38.0% |
| 6 DTE Energy Co. | | 50.4% | 0.0% | 49.6% | 50.0% | 0.0% | 50.0% |
| 7 Duke Energy Corp. | | 48.5% | 0.1% | 51.4% | 52.0% | 0.0% | 48.0% |
| 8 Edison International | | 45.2% | 8.6% | 46.2% | 47.5% | 7.5% | 45.0% |
| 9 FirstEnergy Corp. | | 56.7% | 0.0% | 43.3% | 57.0% | 0.0% | 43.0% |
| 10 Great Plains Energy | | 47.2% | 0.6% | 52.2% | 44.0% | 0.5% | 55.5% |
| 11 Hawaiian Elec. | | 47.2% | 0.0% | 52.8% | 48.0% | 0.5% | 51.5% |
| 12 IDACORP, Inc. | | 46.6% | 0.0% | 53.4% | 47.0% | 0.0% | 53.0% |
| 13 Pepco Holdings | | 49.2% | 1.0% | 49.8% | 50.0% | 0.0% | 50.0% |
| 14 PG&E Corp. | | 44.7% | 0.0% | 55.3% | 50.0% | 1.0% | 49.0% |
| 15 Portland General Elec. | | 65.0% | 0.0% | 35.0% | 47.0% | 0.0% | 53.0% |
| 16 PPL Corp. | | 42.4% | 0.0% | 57.6% | 55.5% | 0.0% | 44.5% |
| 17 SCANA Corp. | | 55.2% | 0.0% | 44.8% | 53.5% | 0.0% | 46.5% |
| 18 Sempra Energy | | 53.6% | 0.1% | 46.3% | 54.0% | 0.5% | 45.5% |
| 19 UIL Holdings | | 53.1% | 10.9% | 36.0% | 54.5% | 0.0% | 45.5% |
| 20 UNS Energy | | 59.9% | 0.0% | 40.1% | 63.0% | 0.0% | 37.0% |
| 21 Westar Energy | | 49.4% | 0.0% | 50.6% | 50.0% | 0.0% | 50.0% |
| Average | | 51.2% | 1.0% | 47.8% | 50.8% | 0.5% | 48.6% |

(a) Company Form 10-K and Annual Reports.

(b) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

DIVIDEND YIELD

| | | (a) | (b) | |
|----|------------------------|--------------|------------------|--------------|
| | <u>Company</u> | <u>Price</u> | <u>Dividends</u> | <u>Yield</u> |
| 1 | ALLETE | \$ 51.64 | \$ 1.93 | 3.7% |
| 2 | Ameren Corp. | \$ 35.34 | \$ 1.60 | 4.5% |
| 3 | American Elec Pwr | \$ 45.47 | \$ 2.00 | 4.4% |
| 4 | Black Hills Corp. | \$ 52.44 | \$ 1.54 | 2.9% |
| 5 | CMS Energy Corp. | \$ 27.84 | \$ 1.05 | 3.8% |
| 6 | DTE Energy Co. | \$ 69.75 | \$ 2.62 | 3.8% |
| 7 | Duke Energy Corp. | \$ 69.92 | \$ 3.12 | 4.5% |
| 8 | Edison International | \$ 48.59 | \$ 1.39 | 2.9% |
| 9 | FirstEnergy Corp. | \$ 38.08 | \$ 2.20 | 5.8% |
| 10 | Great Plains Energy | \$ 23.82 | \$ 0.91 | 3.8% |
| 11 | Hawaiian Elec. | \$ 26.44 | \$ 1.24 | 4.7% |
| 12 | IDACORP, Inc. | \$ 51.75 | \$ 1.52 | 2.9% |
| 13 | Pepco Holdings | \$ 20.10 | \$ 1.08 | 5.4% |
| 14 | PG&E Corp. | \$ 44.74 | \$ 1.82 | 4.1% |
| 15 | Portland General Elec. | \$ 30.80 | \$ 1.11 | 3.6% |
| 16 | PPL Corp. | \$ 31.34 | \$ 1.49 | 4.8% |
| 17 | SCANA Corp. | \$ 51.13 | \$ 2.06 | 4.0% |
| 18 | Sempra Energy | \$ 85.86 | \$ 2.58 | 3.0% |
| 19 | UIL Holdings | \$ 39.91 | \$ 1.73 | 4.3% |
| 20 | UNS Energy | \$ 49.75 | \$ 1.74 | 3.5% |
| 21 | Westar Energy | \$ 33.11 | \$ 1.37 | 4.1% |
| | Average | | | 4.0% |

(a) Average of closing prices for 30 trading days ended August 23, 2013.

(b) The Value Line Investment Survey, Summary & Index (Aug. 23, 2013).

GROWTH RATES

| | | (a) | (b) | (c) | (d) | (e) |
|----|------------------------|-----------------|-------------|--------------|----------------|---------------|
| | | Earnings Growth | | | | br+sv |
| | <u>Company</u> | <u>V Line</u> | <u>IBES</u> | <u>Zacks</u> | <u>Reuters</u> | <u>Growth</u> |
| 1 | ALLETE | 7.0% | 6.0% | 6.5% | 6.0% | 5.2% |
| 2 | Ameren Corp. | -0.5% | -1.2% | 2.5% | -1.2% | 2.8% |
| 3 | American Elec Pwr | 4.5% | 4.1% | 3.9% | 4.1% | 4.1% |
| 4 | Black Hills Corp. | 11.5% | 5.0% | 5.0% | 5.0% | 4.1% |
| 5 | CMS Energy Corp. | 5.5% | 5.9% | 5.9% | 5.9% | 5.0% |
| 6 | DTE Energy Co. | 4.0% | 4.6% | 4.6% | 4.6% | 3.7% |
| 7 | Duke Energy Corp. | 4.0% | 3.7% | 3.7% | 3.9% | 2.6% |
| 8 | Edison International | 1.5% | 0.8% | 3.7% | 1.5% | 6.0% |
| 9 | FirstEnergy Corp. | 0.5% | 1.9% | 0.0% | 2.1% | 1.0% |
| 10 | Great Plains Energy | 6.5% | 5.6% | 6.0% | 5.6% | 3.2% |
| 11 | Hawaiian Elec. | 3.5% | 2.4% | 3.7% | 3.7% | 3.3% |
| 12 | IDACORP, Inc. | 2.0% | 4.0% | 4.5% | NA | 4.2% |
| 13 | Pepco Holdings | 6.0% | 4.7% | 5.0% | 4.7% | 2.9% |
| 14 | PG&E Corp. | 2.5% | 2.9% | 3.9% | 3.5% | 3.2% |
| 15 | Portland General Elec. | 3.5% | 6.5% | 6.3% | 6.2% | 4.0% |
| 16 | PPL Corp. | 0.0% | 5.0% | -3.0% | 5.0% | 5.2% |
| 17 | SCANA Corp. | 4.5% | 4.8% | 4.7% | 4.8% | 5.6% |
| 18 | Sempra Energy | 4.5% | 2.9% | 5.0% | 5.0% | 5.2% |
| 19 | UIL Holdings | 4.0% | 7.8% | 8.0% | 7.0% | 3.0% |
| 20 | UNS Energy | 6.5% | 8.0% | 7.0% | NA | 5.2% |
| 21 | Westar Energy | 6.0% | 3.9% | 4.3% | 3.9% | 4.5% |

(a) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

(b) www.finance.yahoo.com (retrieved Aug. 30, 2013).

(c) www.zacks.com (retrieved Sep. 3, 2013).

(d) www.reuters.com/finance/stocks (retrieved Sep. 3, 2013).

(e) See Exhibit WEA-5.

DCF COST OF EQUITY ESTIMATES

| | <u>Company</u> | (a) | (a) | (a) | (a) | (a) |
|----|------------------------|------------------------|-------------|--------------|----------------|---------------|
| | | <u>Earnings Growth</u> | | | | <u>br+sv</u> |
| | | <u>V Line</u> | <u>IBES</u> | <u>Zacks</u> | <u>Reuters</u> | <u>Growth</u> |
| 1 | ALLETE | 10.7% | 9.7% | 10.2% | 9.7% | 8.9% |
| 2 | Ameren Corp. | 4.0% | 3.3% | 7.1% | 3.3% | 7.4% |
| 3 | American Elec Pwr | 8.9% | 8.5% | 8.3% | 8.5% | 8.5% |
| 4 | Black Hills Corp. | 14.4% | 7.9% | 7.9% | 7.9% | 7.0% |
| 5 | CMS Energy Corp. | 9.3% | 9.6% | 9.6% | 9.6% | 8.8% |
| 6 | DTE Energy Co. | 7.8% | 8.4% | 8.4% | 8.4% | 7.5% |
| 7 | Duke Energy Corp. | 8.5% | 8.1% | 8.2% | 8.3% | 7.1% |
| 8 | Edison International | 4.4% | 3.7% | 6.5% | 4.4% | 8.9% |
| 9 | FirstEnergy Corp. | 6.3% | 7.7% | 5.8% | 7.9% | 6.8% |
| 10 | Great Plains Energy | 10.3% | 9.4% | 9.8% | 9.4% | 7.1% |
| 11 | Hawaiian Elec. | 8.2% | 7.1% | 8.4% | 8.4% | 8.0% |
| 12 | IDACORP, Inc. | 4.9% | 6.9% | 7.4% | NA | 7.1% |
| 13 | Pepco Holdings | 11.4% | 10.1% | 10.4% | 10.1% | 8.2% |
| 14 | PG&E Corp. | 6.6% | 6.9% | 7.9% | 7.6% | 7.2% |
| 15 | Portland General Elec. | 7.1% | 10.1% | 9.9% | 9.8% | 7.6% |
| 16 | PPL Corp. | 4.8% | 9.8% | 1.8% | 9.8% | 9.9% |
| 17 | SCANA Corp. | 8.5% | 8.8% | 8.7% | 8.9% | 9.6% |
| 18 | Sempra Energy | 7.5% | 5.9% | 8.0% | 8.0% | 8.2% |
| 19 | UIL Holdings | 8.3% | 12.1% | 12.3% | 11.4% | 7.3% |
| 20 | UNS Energy | 10.0% | 11.5% | 10.5% | NA | 8.7% |
| 21 | Westar Energy | 10.1% | 8.0% | 8.4% | 8.0% | 8.7% |
| | Average (b) | 9.6% | 9.3% | 9.2% | 8.9% | 8.6% |
| | Midpoint (c) | 11.0% | 9.9% | 10.1% | 9.5% | 8.7% |
| | Median (b) | 9.1% | 9.4% | 8.6% | 8.5% | 8.7% |

(a) Sum of dividend yield (Exhibit WEA-4, p. 1) and respective growth rate (Exhibit WEA-4, p. 2).

(b) Excludes highlighted figures.

(c) Average of low and high values.

BR+SV GROWTH RATE

| | Company | (a) | | | (b) | | | (c) | | | (d) | | | | (e) | | | br + sv |
|----|------------------------|--------|--------|---------|---------|-------|-------|--------|------------|------|--------|----------|--------|---------|-----|--|--|---------|
| | | EPS | DPS | 2017 | BVPS | b | r | Factor | Adjusted r | br | s | y | sv | br + sv | | | | |
| 1 | ALLETE | \$3.75 | \$2.20 | \$36.50 | \$36.50 | 41.3% | 10.3% | 1.0310 | 10.6% | 4.4% | 0.0351 | 0.2316 | 0.81% | 5.2% | | | | |
| 2 | Ameren Corp. | \$2.50 | \$1.70 | \$29.50 | \$29.50 | 32.0% | 8.5% | 1.0131 | 8.6% | 2.7% | 0.0110 | 0.0923 | 0.10% | 2.8% | | | | |
| 3 | American Elec Pwr | \$3.75 | \$2.30 | \$38.25 | \$38.25 | 38.7% | 9.8% | 1.0237 | 10.0% | 3.9% | 0.0102 | 0.2350 | 0.24% | 4.1% | | | | |
| 4 | Black Hills Corp. | \$3.00 | \$1.70 | \$33.25 | \$33.25 | 43.3% | 9.0% | 1.0206 | 9.2% | 4.0% | 0.0075 | 0.1133 | 0.09% | 4.1% | | | | |
| 5 | CMS Energy Corp. | \$2.00 | \$1.30 | \$16.00 | \$16.00 | 35.0% | 12.5% | 1.0323 | 12.9% | 4.5% | 0.0127 | 0.4182 | 0.53% | 5.0% | | | | |
| 6 | DTE Energy Co. | \$4.75 | \$3.15 | \$53.00 | \$53.00 | 33.7% | 9.0% | 1.0311 | 9.2% | 3.1% | 0.0260 | 0.2429 | 0.63% | 3.7% | | | | |
| 7 | Duke Energy Corp. | \$5.00 | \$3.35 | \$63.75 | \$63.75 | 33.0% | 7.8% | 1.0103 | 7.9% | 2.6% | 0.0017 | 0.0192 | 0.00% | 2.6% | | | | |
| 8 | Edison International | \$4.00 | \$1.80 | \$37.50 | \$37.50 | 55.0% | 10.7% | 1.0268 | 11.0% | 6.0% | - | 0.2857 | 0.00% | 6.0% | | | | |
| 9 | FirstEnergy Corp. | \$2.50 | \$2.20 | \$33.00 | \$33.00 | 12.0% | 7.6% | 1.0075 | 7.6% | 0.9% | 0.0058 | 0.1200 | 0.07% | 1.0% | | | | |
| 10 | Great Plains Energy | \$2.00 | \$1.20 | \$25.00 | \$25.00 | 40.0% | 8.0% | 1.0162 | 8.1% | 3.3% | 0.0031 | (0.0204) | -0.01% | 3.2% | | | | |
| 11 | Hawaiian Elec. | \$1.75 | \$1.30 | \$20.75 | \$20.75 | 25.7% | 8.4% | 1.0485 | 8.8% | 2.3% | 0.0593 | 0.1700 | 1.01% | 3.3% | | | | |
| 12 | IDACORP, Inc. | \$3.65 | \$1.90 | \$43.45 | \$43.45 | 47.9% | 8.4% | 1.0228 | 8.6% | 4.1% | 0.0036 | 0.0853 | 0.03% | 4.2% | | | | |
| 13 | Pepco Holdings | \$1.70 | \$1.16 | \$21.50 | \$21.50 | 31.8% | 7.9% | 1.0202 | 8.1% | 2.6% | 0.0237 | 0.1224 | 0.29% | 2.9% | | | | |
| 14 | PG&E Corp. | \$3.00 | \$2.10 | \$35.25 | \$35.25 | 30.0% | 8.5% | 1.0242 | 8.7% | 2.6% | 0.0252 | 0.2167 | 0.55% | 3.2% | | | | |
| 15 | Portland General Elec. | \$2.25 | \$1.25 | \$26.75 | \$26.75 | 44.4% | 8.4% | 1.0334 | 8.7% | 3.9% | 0.0354 | 0.0273 | 0.10% | 4.0% | | | | |
| 16 | PPL Corp. | \$2.50 | \$1.60 | \$23.25 | \$23.25 | 36.0% | 10.8% | 1.0393 | 11.2% | 4.0% | 0.0400 | 0.2846 | 1.14% | 5.2% | | | | |
| 17 | SCANA Corp. | \$4.00 | \$2.25 | \$40.75 | \$40.75 | 43.8% | 9.8% | 1.0446 | 10.3% | 4.5% | 0.0505 | 0.2238 | 1.13% | 5.6% | | | | |
| 18 | Sempra Energy | \$5.50 | \$3.00 | \$52.00 | \$52.00 | 45.5% | 10.6% | 1.0233 | 10.8% | 4.9% | 0.0093 | 0.3290 | 0.30% | 5.2% | | | | |
| 19 | UIL Holdings | \$2.55 | \$1.73 | \$28.45 | \$28.45 | 32.2% | 9.0% | 1.0265 | 9.2% | 3.0% | 0.0007 | 0.2888 | 0.02% | 3.0% | | | | |
| 20 | UNS Energy | \$3.80 | \$2.28 | \$32.25 | \$32.25 | 40.0% | 11.8% | 1.0256 | 12.1% | 4.8% | 0.0095 | 0.4136 | 0.39% | 5.2% | | | | |
| 21 | Westar Energy | \$2.75 | \$1.52 | \$29.65 | \$29.65 | 44.7% | 9.3% | 1.0322 | 9.6% | 4.3% | 0.0155 | 0.1529 | 0.24% | 4.5% | | | | |

DCF MODEL - ELECTRIC GROUP

Exhibit WEA-5
Page 2 of 2

BR+SV GROWTH RATE

| | Company | 2012 | | | 2017 | | | Chg | 2017 Price | | | Common Shares | | | Growth |
|----|------------------------|----------|----------|----------|----------|----------|----------|-------|------------|---------|---------|---------------|--------|--------|--------|
| | | Eq Ratio | Tot Cap | Com Eq | Eq Ratio | Tot Cap | Com Eq | | High | Low | Avg. | M/B | 2012 | 2017 | |
| 1 | ALLETE | 56.3% | \$2,135 | \$1,202 | 58.5% | \$2,800 | \$1,638 | 6.4% | \$55.00 | \$40.00 | \$47.50 | 1.301 | 39.40 | 45.00 | 2.69% |
| 2 | Ameren Corp. | 49.4% | \$13,384 | \$6,612 | 55.0% | \$13,700 | \$7,535 | 2.6% | \$40.00 | \$25.00 | \$32.50 | 1.102 | 242.65 | 255.00 | 1.00% |
| 3 | American Elec Pwr | 49.4% | \$30,823 | \$15,227 | 54.5% | \$35,400 | \$19,293 | 4.8% | \$60.00 | \$40.00 | \$50.00 | 1.307 | 485.67 | 505.00 | 0.78% |
| 4 | Black Hills Corp. | 56.8% | \$2,171 | \$1,233 | 48.5% | \$3,125 | \$1,516 | 4.2% | \$45.00 | \$30.00 | \$37.50 | 1.128 | 44.21 | 45.70 | 0.67% |
| 5 | CMS Energy Corp. | 31.6% | \$10,101 | \$3,192 | 38.0% | \$11,600 | \$4,408 | 6.7% | \$35.00 | \$20.00 | \$27.50 | 1.719 | 264.10 | 274.00 | 0.74% |
| 6 | DTE Energy Co. | 51.2% | \$14,387 | \$7,366 | 50.0% | \$20,100 | \$10,050 | 6.4% | \$80.00 | \$60.00 | \$70.00 | 1.321 | 172.35 | 190.00 | 1.97% |
| 7 | Duke Energy Corp. | 52.9% | \$77,307 | \$40,895 | 48.0% | \$94,400 | \$45,312 | 2.1% | \$75.00 | \$55.00 | \$65.00 | 1.020 | 704.00 | 710.00 | 0.17% |
| 8 | Edison International | 46.2% | \$20,422 | \$9,435 | 45.0% | \$27,400 | \$12,330 | 5.5% | \$60.00 | \$45.00 | \$52.50 | 1.400 | 325.81 | 325.81 | 0.00% |
| 9 | FirstEnergy Corp. | 46.3% | \$28,263 | \$13,086 | 43.0% | \$32,800 | \$14,104 | 1.5% | \$45.00 | \$30.00 | \$37.50 | 1.136 | 418.22 | 429.00 | 0.51% |
| 10 | Great Plains Energy | 54.4% | \$6,136 | \$3,338 | 55.5% | \$7,075 | \$3,927 | 3.3% | \$30.00 | \$19.00 | \$24.50 | 0.980 | 153.53 | 156.00 | 0.32% |
| 11 | Hawaiian Elec. | 53.1% | \$3,001 | \$1,594 | 51.5% | \$5,025 | \$2,588 | 10.2% | \$30.00 | \$20.00 | \$25.00 | 1.205 | 97.93 | 124.50 | 4.92% |
| 12 | IDACORP, Inc. | 54.5% | \$3,225 | \$1,758 | 53.0% | \$4,165 | \$2,207 | 4.7% | \$55.00 | \$40.00 | \$47.50 | 1.093 | 50.16 | 51.00 | 0.33% |
| 13 | Pepco Holdings | 52.7% | \$8,432 | \$4,444 | 50.0% | \$10,880 | \$5,440 | 4.1% | \$30.00 | \$19.00 | \$24.50 | 1.140 | 230.02 | 255.00 | 2.08% |
| 14 | PG&E Corp. | 50.4% | \$25,956 | \$13,082 | 49.0% | \$34,000 | \$16,660 | 5.0% | \$55.00 | \$35.00 | \$45.00 | 1.277 | 430.72 | 475.00 | 1.98% |
| 15 | Portland General Elec. | 52.9% | \$3,264 | \$1,727 | 53.0% | \$4,550 | \$2,412 | 6.9% | \$30.00 | \$25.00 | \$27.50 | 1.028 | 75.56 | 89.50 | 3.44% |
| 16 | PPL Corp. | 35.9% | \$29,205 | \$10,485 | 44.5% | \$34,900 | \$15,531 | 8.2% | \$40.00 | \$25.00 | \$32.50 | 1.398 | 581.94 | 670.00 | 2.86% |
| 17 | SCANA Corp. | 45.6% | \$9,103 | \$4,151 | 46.5% | \$13,950 | \$6,487 | 9.3% | \$60.00 | \$45.00 | \$52.50 | 1.288 | 132.00 | 160.00 | 3.92% |
| 18 | Sempra Energy | 46.7% | \$22,002 | \$10,275 | 45.5% | \$28,500 | \$12,968 | 4.8% | \$90.00 | \$65.00 | \$77.50 | 1.490 | 242.37 | 250.00 | 0.62% |
| 19 | UIL Holdings | 41.1% | \$2,717 | \$1,117 | 45.5% | \$3,200 | \$1,456 | 5.5% | \$45.00 | \$35.00 | \$40.00 | 1.406 | 50.87 | 51.00 | 0.05% |
| 20 | UNS Energy | 37.7% | \$2,826 | \$1,065 | 37.0% | \$3,720 | \$1,376 | 5.3% | \$65.00 | \$45.00 | \$55.00 | 1.705 | 41.34 | 42.50 | 0.56% |
| 21 | Westar Energy | 48.8% | \$5,938 | \$2,898 | 50.0% | \$8,000 | \$4,000 | 6.7% | \$40.00 | \$30.00 | \$35.00 | 1.180 | 126.50 | 135.00 | 1.31% |

(a) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

(b) Computed using the formula $2 \times (1 + 5\text{-Yr. Change in Equity}) / (2 + 5\text{ Yr. Change in Equity})$.

(c) Product of average year-end "r" for 2017 and Adjustment Factor.

(d) Product of change in common shares outstanding and M/B Ratio.

(e) Computed as $1 - B/M$ Ratio.

(f) Product of total capital and equity ratio.

(g) Five-year rate of change.

(h) Average of High and Low expected market prices divided by 2017 BVPS.

EMPIRICAL CAPM - CURRENT BOND YIELD

Exhibit WEA-6
Page 1 of 2

ELECTRIC GROUP

| | (a) | | | (b) | | (c) | | (d) | | (e) | | (f) | | (g) | |
|---------------------------|---------------------------------|-------|----------------|--------|--------|-----------|---------|--------|-----------------|---------------|--------|------------------|----------------|-------|----------------|
| | Market Return (R _m) | | | Market | | Risk-Free | | Risk | | Unadjusted RP | | Beta Adjusted RP | | Total | |
| Company | Div | Proj. | Cost of Equity | Yield | Growth | Rate | Premium | Weight | RP ¹ | Beta | Weight | RP ² | K _e | RP | K _e |
| 1 ALLETE | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.70 | 75% | 4.6% | 10.6% | 6.9% | 12.3% |
| 2 Ameren Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.80 | 75% | 5.3% | 11.3% | 7.5% | 12.0% |
| 3 American Elec Pwr | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.65 | 75% | 4.3% | 10.3% | 6.5% | 9.9% |
| 4 Black Hills Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.80 | 75% | 5.3% | 11.3% | 7.5% | 13.0% |
| 5 CMS Energy Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 11.9% |
| 6 DTE Energy Co. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 11.7% |
| 7 Duke Energy Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.60 | 75% | 4.0% | 9.9% | 6.2% | 9.6% |
| 8 Edison International | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 11.7% |
| 9 FirstEnergy Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.80 | 75% | 5.3% | 11.3% | 7.5% | 12.0% |
| 10 Great Plains Energy | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.80 | 75% | 5.3% | 11.3% | 7.5% | 12.4% |
| 11 Hawaiian Elec. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.70 | 75% | 4.6% | 10.6% | 6.9% | 12.3% |
| 12 IDACORP, Inc. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.70 | 75% | 4.6% | 10.6% | 6.9% | 12.3% |
| 13 Pepco Holdings | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.70 | 75% | 4.6% | 10.6% | 6.9% | 11.9% |
| 14 PG&E Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 9.2% |
| 15 Portland General Elec. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 12.6% |
| 16 PPL Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.65 | 75% | 4.3% | 10.3% | 6.5% | 9.9% |
| 17 SCANA Corp. | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.65 | 75% | 4.3% | 10.3% | 6.5% | 11.2% |
| 18 Sempra Energy | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.80 | 75% | 5.3% | 11.3% | 7.5% | 10.9% |
| 19 UHL Holdings | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 12.7% |
| 20 UNS Energy | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.70 | 75% | 4.6% | 10.6% | 6.9% | 12.3% |
| 21 Westar Energy | 2.5% | 10.1% | 12.6% | 2.5% | 10.1% | 3.8% | 8.8% | 25% | 2.2% | 0.75 | 75% | 5.0% | 10.9% | 7.2% | 12.1% |
| Average | | | | | | | | | | | | | 10.8% | | 11.6% |
| Midpoint (h) | | | | | | | | | | | | | 10.4% | | 11.1% |

- (a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueline.com (Retrieved Jun. 21, 201)
- (b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Jul. 15, 2013).
- (c) Average yield on 30-year Treasury bonds for August 2013 based on data from <http://www.federalreserve.gov/releases/h15/data.htm>
- (d) Morin, Roger A., "New Regulatory Finance," *Public Utilities Reports, Inc.* at 190 (2006).
- (e) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013)
- (f) www.valueline.com (retrieved Aug. 30, 2013)
- (g) *Morningstar*, "Ibbotson S&P 1933 Valuation Yearbook," at Appendix C, Table C-1 (2013).
- (h) Average of low and high values

| Company | (a) | | (b) | | (c) | | (d) | | (e) | | (d) | | (f) | | (g) | | Size Adjusted K _e |
|---------------------------|---------------------------------|-------|----------------|------|-----------|---------|--------|-----------------|---------------|--------|------------------|------|----------------|-------------|-----------|-----------------|------------------------------|
| | Market Return (R _m) | | Market | | Risk-Free | | Risk | | Unadjusted RP | | Beta Adjusted RP | | Total | | Empirical | | |
| | Div | Proj. | Cost of Equity | Risk | Rate | Premium | Weight | RP ¹ | Beta | Weight | RP ² | RP | K _e | Cap | Market | Size Adjustment | |
| 1 ALLETE | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.70 | 75% | 4.4% | 6.5% | 10.7% | \$ 1,874.7 | \$ | 1.72% | 12.4% |
| 2 Ameren Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.80 | 75% | 5.0% | 7.1% | 11.3% | \$ 8,153.8 | \$ | 0.76% | 12.1% |
| 3 American Elec Pwr | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.65 | 75% | 4.1% | 6.2% | 10.4% | \$ 20,778.7 | \$ | -0.37% | 10.0% |
| 4 Black Hills Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.80 | 75% | 5.0% | 7.1% | 11.3% | \$ 2,197.0 | \$ | 1.70% | 13.0% |
| 5 CMS Energy Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 7,112.8 | \$ | 0.92% | 11.9% |
| 6 DTE Energy Co. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 11,710.1 | \$ | 0.76% | 11.8% |
| 7 Duke Energy Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.60 | 75% | 3.8% | 5.9% | 10.1% | \$ 46,553.6 | \$ | -0.37% | 9.7% |
| 8 Edison International | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 15,049.2 | \$ | 0.76% | 11.8% |
| 9 FirstEnergy Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.80 | 75% | 5.0% | 7.1% | 11.3% | \$ 15,967.5 | \$ | 0.76% | 12.1% |
| 10 Great Plains Energy | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.80 | 75% | 5.0% | 7.1% | 11.3% | \$ 3,437.4 | \$ | 1.14% | 12.5% |
| 11 Hawaiian Elec. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.70 | 75% | 4.4% | 6.5% | 10.7% | \$ 2,488.0 | \$ | 1.70% | 12.4% |
| 12 IDACORP, Inc. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.70 | 75% | 4.4% | 6.5% | 10.7% | \$ 2,437.3 | \$ | 1.70% | 12.4% |
| 13 Pepco Holdings | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 4,697.6 | \$ | 0.92% | 11.9% |
| 14 PG&E Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.55 | 75% | 3.5% | 5.6% | 9.8% | \$ 18,424.6 | \$ | -0.37% | 9.4% |
| 15 Portland General Elec. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 2,221.8 | \$ | 1.70% | 12.7% |
| 16 PPL Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.65 | 75% | 4.1% | 6.2% | 10.4% | \$ 18,080.0 | \$ | -0.37% | 10.0% |
| 17 SCANA Corp. | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.65 | 75% | 4.1% | 6.2% | 10.4% | \$ 6,779.6 | \$ | 0.92% | 11.3% |
| 18 Sempra Energy | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.80 | 75% | 5.0% | 7.1% | 11.3% | \$ 20,301.9 | \$ | -0.37% | 11.0% |
| 19 UIL Holdings | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 1,892.1 | \$ | 1.72% | 12.7% |
| 20 UNS Energy | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.70 | 75% | 4.4% | 6.5% | 10.7% | \$ 1,931.2 | \$ | 1.70% | 12.4% |
| 21 Westar Energy | 2.5% | 10.1% | 12.6% | 4.2% | 4.2% | 8.4% | 25% | 2.1% | 0.75 | 75% | 4.7% | 6.8% | 11.0% | \$ 3,976.9 | \$ | 1.14% | 12.2% |
| Average | | | | | | | | | | | | | 10.8% | | | | 11.7% |
| Midpoint (h) | | | | | | | | | | | | | 10.6% | | | | 11.2% |

(b) Weighted average of IBFS earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Jul. 15, 2013).

(c) Average from 0001 year 1900 to 2012. Data from *Blue Chip Economic Outlook* at 25 (June 2013): & *Blue Chip Financial Forecasts*, Vol. 32, No. 6 (Jun. 1, 2013).

(e) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013)

(g) *Morningstar*, "Tbottson SBB 2013 Valuation Yearbook," at Appendix C, Table C-1 (2013).

(h) Average of low and high values

ELECTRIC UTILITY RISK PREMIUM

Exhibit WEA-7

Page 1 of 4

CURRENT BOND YIELD

Current Equity Risk Premium

| | |
|---|----------------|
| (a) Avg. Yield over Study Period | 8.79% |
| (b) Average Utility Bond Yield | <u>4.85%</u> |
| Change in Bond Yield | -3.94% |
| (c) Risk Premium/Interest Rate Relationship | <u>-0.4214</u> |
| Adjustment to Average Risk Premium | 1.66% |
| (a) Average Risk Premium over Study Period | <u>3.47%</u> |
| Adjusted Risk Premium | 5.13% |

Implied Cost of Equity

| | |
|------------------------------|---------------|
| (b) BBB Utility Bond Yield | 5.28% |
| Adjusted Equity Risk Premium | <u>5.13%</u> |
| Risk Premium Cost of Equity | 10.41% |

(a) Exhibit WEA-7, page 3.

(b) Average for August 2013 based on data from Moody's Investors Service at www.credittrends.moodys.com/chartroom.asp?c=3.

(c) Exhibit WEA-7, page 4.

ELECTRIC UTILITY RISK PREMIUM

Exhibit WEA-7

Page 2 of 4

PROJECTED BOND YIELDS

Current Equity Risk Premium

| | |
|--|----------------|
| (a) Avg. Yield over Study Period | 8.79% |
| (b) Projected Average Utility Bond Yield 2014-2017 | <u>6.33%</u> |
| Change in Bond Yield | -2.46% |
| (c) Risk Premium/Interest Rate Relationship | <u>-0.4214</u> |
| Adjustment to Average Risk Premium | 1.04% |
| (a) Average Risk Premium over Study Period | <u>3.47%</u> |
| Adjusted Risk Premium | 4.51% |

Implied Cost of Equity

| | |
|--|---------------|
| (b) Projected BBB Utility Bond Yield 2014-2017 | 6.76% |
| Adjusted Equity Risk Premium | <u>4.51%</u> |
| Risk Premium Cost of Equity | 11.27% |

(a) Exhibit WEA-7, page 3.

(b) Based on data from IHS Global Insight, U.S. Economic Outlook at 25 (June 2013); Energy Information Administration, Annual Energy Outlook 2013 (Apr. 15, 2013); & Moody's Investors Service at www.credittrends.com.

(c) Exhibit WEA-7, page 4.

AUTHORIZED RETURNS

| Year | (a) Allowed ROE | (b) Average Utility Bond Yield | Risk Premium |
|---------|-----------------------|--------------------------------------|-----------------|
| 1974 | 13.10% | 9.27% | 3.83% |
| 1975 | 13.20% | 9.88% | 3.32% |
| 1976 | 13.10% | 9.17% | 3.93% |
| 1977 | 13.30% | 8.58% | 4.72% |
| 1978 | 13.20% | 9.22% | 3.98% |
| 1979 | 13.50% | 10.39% | 3.11% |
| 1980 | 14.23% | 13.15% | 1.08% |
| 1981 | 15.22% | 15.62% | -0.40% |
| 1982 | 15.78% | 15.33% | 0.45% |
| 1983 | 15.36% | 13.31% | 2.05% |
| 1984 | 15.32% | 14.03% | 1.29% |
| 1985 | 15.20% | 12.29% | 2.91% |
| 1986 | 13.93% | 9.46% | 4.47% |
| 1987 | 12.99% | 9.98% | 3.01% |
| 1988 | 12.79% | 10.45% | 2.34% |
| 1989 | 12.97% | 9.66% | 3.31% |
| 1990 | 12.70% | 9.76% | 2.94% |
| 1991 | 12.55% | 9.21% | 3.34% |
| 1992 | 12.09% | 8.57% | 3.52% |
| 1993 | 11.41% | 7.56% | 3.85% |
| 1994 | 11.34% | 8.30% | 3.04% |
| 1995 | 11.55% | 7.91% | 3.64% |
| 1996 | 11.39% | 7.74% | 3.65% |
| 1997 | 11.40% | 7.63% | 3.77% |
| 1998 | 11.66% | 7.00% | 4.66% |
| 1999 | 10.77% | 7.55% | 3.22% |
| 2000 | 11.43% | 8.09% | 3.34% |
| 2001 | 11.09% | 7.72% | 3.37% |
| 2002 | 11.16% | 7.53% | 3.63% |
| 2003 | 10.97% | 6.61% | 4.36% |
| 2004 | 10.75% | 6.20% | 4.55% |
| 2005 | 10.54% | 5.67% | 4.87% |
| 2006 | 10.36% | 6.08% | 4.28% |
| 2007 | 10.36% | 6.11% | 4.25% |
| 2008 | 10.46% | 6.65% | 3.81% |
| 2009 | 10.48% | 6.28% | 4.20% |
| 2010 | 10.34% | 5.56% | 4.78% |
| 2011 | 10.30% | 5.13% | 5.17% |
| 2012 | <u>10.15%</u> | <u>4.27%</u> | <u>5.88%</u> |
| Average | 12.27% | 8.79% | 3.47% |

(a) Major Rate Case Decisions, Regulatory Focus, Regulatory Research Associates; *UtilityScope Regulatory Service*, Argus.

(b) Moody's Investors Service

ELECTRIC UTILITY RISK PREMIUM

Exhibit WEA-7

Page 4 of 4

REGRESSION RESULTS

SUMMARY OUTPUT

| <i>Regression Statistics</i> | |
|------------------------------|-----------|
| Multiple R | 0.9135753 |
| R Square | 0.8346198 |
| Adjusted R Square | 0.83015 |
| Standard Error | 0.0051907 |
| Observations | 39 |

ANOVA

| | <i>df</i> | <i>SS</i> | <i>MS</i> | <i>F</i> | <i>Significance F</i> |
|------------|-----------|-------------|-----------|----------|-----------------------|
| Regression | 1 | 0.005030969 | 0.005031 | 186.7268 | 4.9423E-16 |
| Residual | 37 | 0.000996889 | 2.69E-05 | | |
| Total | 38 | 0.006027857 | | | |

| | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i> | <i>Upper 95%</i> | <i>Lower 95.0%</i> | <i>Upper 95.0%</i> |
|--------------|---------------------|-----------------------|---------------|----------------|------------------|------------------|--------------------|--------------------|
| Intercept | 0.0718048 | 0.002836309 | 25.31628 | 5.77E-25 | 0.06605789 | 0.0775517 | 0.06605789 | 0.077551695 |
| X Variable 1 | -0.4214356 | 0.030840956 | -13.6648 | 4.94E-16 | -0.48392524 | -0.35894594 | -0.48392524 | -0.35894594 |

CAPM - CURRENT BOND YIELD

Exhibit WEA-8
Page 1 of 2ELECTRIC GROUP

| | (a) | | (b) | | (c) | | (d) | | (e) | | (f) | |
|---------------------|------------------------|-------|-------|--------|----------------|----------------|--------------|------|---------------------------|-------------|-----------------|------------------------|
| | Div | Yield | Proj. | Growth | Cost of Equity | Risk-Free Rate | Risk Premium | Beta | Unadjusted K _e | Market Cap | Size Adjustment | Implied Cost of Equity |
| 1 | ALLETE | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.70 | 10.0% | \$ 1,874.7 | 1.72% | 11.7% |
| 2 | Ameren Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.80 | 10.8% | \$ 8,153.8 | 0.76% | 11.6% |
| 3 | American Elec Pwr | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.65 | 9.5% | \$ 20,778.7 | -0.37% | 9.2% |
| 4 | Black Hills Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.80 | 10.8% | \$ 2,197.0 | 1.70% | 12.5% |
| 5 | CMS Energy Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 7,112.8 | 0.92% | 11.3% |
| 6 | DTE Energy Co. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 11,710.1 | 0.76% | 11.2% |
| 7 | Duke Energy Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.60 | 9.1% | \$ 46,553.6 | -0.37% | 8.7% |
| 8 | Edison International | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 15,049.2 | 0.76% | 11.2% |
| 9 | FirstEnergy Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.80 | 10.8% | \$ 15,967.5 | 0.76% | 11.6% |
| 10 | Great Plains Energy | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.80 | 10.8% | \$ 3,437.4 | 1.14% | 12.0% |
| 11 | Hawaiian Elec. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.70 | 10.0% | \$ 2,488.0 | 1.70% | 11.7% |
| 12 | IDACORP, Inc. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.70 | 10.0% | \$ 2,437.3 | 1.70% | 11.7% |
| 13 | Pepco Holdings | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 4,697.6 | 0.92% | 11.3% |
| 14 | PG&E Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.55 | 8.6% | \$ 18,424.6 | -0.37% | 8.3% |
| 15 | Portland General Elec. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 2,221.8 | 1.70% | 12.1% |
| 16 | PPL Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.65 | 9.5% | \$ 18,080.0 | -0.37% | 9.2% |
| 17 | SCANA Corp. | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.65 | 9.5% | \$ 6,779.6 | 0.92% | 10.4% |
| 18 | Sempra Energy | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.80 | 10.8% | \$ 20,301.9 | -0.37% | 10.5% |
| 19 | UIL Holdings | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 1,892.1 | 1.72% | 12.1% |
| 20 | UNS Energy | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.70 | 10.0% | \$ 1,931.2 | 1.70% | 11.7% |
| 21 | Westar Energy | 2.5% | 10.1% | 10.1% | 12.6% | 3.8% | 8.8% | 0.75 | 10.4% | \$ 3,976.9 | 1.14% | 11.5% |
| Average | | | | | | | | | 10.1% | | | 11.0% |
| Midpoint (g) | | | | | | | | | 9.7% | | | 10.4% |

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueine.com (Retrieved Jun. 21, 2013).

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Jul. 15, 2013).(c) Average yield on 30-year Treasury bonds for August 2013 based on data from <http://www.federalreserve.gov/releases/h15/data.htm>.

(d) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

(e) www.valueine.com (retrieved Aug. 30, 2013).(f) *Morningstar*, "Tbobotson SBBJ 2013 Valuation Yearbook," at Appendix C, Table C-1 (2013).

(g) Average of low and high values.

CAPM - PROJECTED BOND YIELD

Exhibit WEA-8
Page 2 of 2ELECTRIC GROUP

| | (a) | | (b) | | (c) | | (d) | | (e) | | (f) | |
|---------------------------|-------------------------|-------|----------------|----------------|----------------|--------------|--------------|--|------------------|-------------|------------|------------------------|
| | Market Return (R_m) | | Cost of Equity | | Risk-Free Rate | | Risk Premium | | Unadjusted K_e | | Market Cap | |
| Company | Div | Yield | Proj. Growth | Cost of Equity | Risk-Free Rate | Risk Premium | Beta | | | | Adjustment | Implied Cost of Equity |
| 1 ALLETE | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.70 | | 10.1% | \$ 1,874.7 | 1.72% | 11.8% |
| 2 Ameren Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.80 | | 10.9% | \$ 8,153.8 | 0.76% | 11.7% |
| 3 American Elec Pwr | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.65 | | 9.7% | \$ 20,778.7 | -0.37% | 9.3% |
| 4 Black Hills Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.80 | | 10.9% | \$ 2,197.0 | 1.70% | 12.6% |
| 5 CMS Energy Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 7,112.8 | 0.92% | 11.4% |
| 6 DTE Energy Co. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 11,710.1 | 0.76% | 11.3% |
| 7 Duke Energy Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.60 | | 9.2% | \$ 46,553.6 | -0.37% | 8.9% |
| 8 Edison International | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 15,049.2 | 0.76% | 11.3% |
| 9 FirstEnergy Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.80 | | 10.9% | \$ 15,967.5 | 0.76% | 11.7% |
| 10 Great Plains Energy | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.80 | | 10.9% | \$ 3,437.4 | 1.14% | 12.1% |
| 11 Hawaiian Elec. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.70 | | 10.1% | \$ 2,488.0 | 1.70% | 11.8% |
| 12 IDACORP, Inc. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.70 | | 10.1% | \$ 2,437.3 | 1.70% | 11.8% |
| 13 Pepco Holdings | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 4,697.6 | 0.92% | 11.4% |
| 14 PG&E Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.55 | | 8.8% | \$ 18,424.6 | -0.37% | 8.5% |
| 15 Portland General Elec. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 2,221.8 | 1.70% | 12.2% |
| 16 PPL Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.65 | | 9.7% | \$ 18,080.0 | -0.37% | 9.3% |
| 17 SCANA Corp. | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.65 | | 9.7% | \$ 6,779.6 | 0.92% | 10.6% |
| 18 Sempra Energy | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.80 | | 10.9% | \$ 20,301.9 | -0.37% | 10.6% |
| 19 UIL Holdings | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 1,892.1 | 1.72% | 12.2% |
| 20 UNS Energy | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.70 | | 10.1% | \$ 1,931.2 | 1.70% | 11.8% |
| 21 Westar Energy | | 2.5% | 10.1% | 12.6% | 4.2% | 8.4% | 0.75 | | 10.5% | \$ 3,976.9 | 1.14% | 11.6% |
| Average | | | | | | | | | 10.3% | | | 11.1% |
| Midpoint (g) | | | | | | | | | 9.9% | | | 10.6% |

(a) Weighted average dividend yield for the dividend paying firms in the S&P 500 from www.valueine.com (Retrieved Jun. 21, 2013)

(b) Weighted average of IBES earnings growth rates for the dividend paying firms in the S&P 500 from <http://finance.yahoo.com> (retrieved Jul. 15, 2013).

(c) Average yield on 30-year Treasury bonds for 2014-2017 based on data from the Value Line Investment Survey, Forecast for the U.S. Economy (May 24, 2013); IHS Global Insight, U.S. Economic Outlook at 25 (June 2013); & Blue Chip Financial Forecasts, Vol. 32, No. 6 (Jun. 1, 2013).

(d) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

(e) www.valueine.com (retrieved Aug. 30, 2013)(f) *Morningstar*, "Ibbotson S&P 2013 Valuation Yearbook," at Appendix C, Table C-1 (2013).

(g) Average of low and high values.

EXPECTED EARNINGS APPROACH

Exhibit WEA-9

Page 1 of 1

ELECTRIC GROUP

| | | (a) | (b) | (c) |
|----|------------------------|---|------------------------------------|---|
| | <u>Company</u> | <u>Expected Return</u> <u>on Common Equity</u> | <u>Adjustment</u> <u>Factor</u> | <u>Adjusted Return</u> <u>on Common Equity</u> |
| 1 | ALLETE | 9.5% | 1.03096 | 9.8% |
| 2 | Ameren Corp. | 8.5% | 1.01307 | 8.6% |
| 3 | American Elec Pwr | 10.0% | 1.02367 | 10.2% |
| 4 | Black Hills Corp. | 9.5% | 1.02061 | 9.7% |
| 5 | CMS Energy Corp. | 13.0% | 1.03227 | 13.4% |
| 6 | DTE Energy Co. | 9.0% | 1.03106 | 9.3% |
| 7 | Duke Energy Corp. | 8.0% | 1.01026 | 8.1% |
| 8 | Edison International | 10.5% | 1.02675 | 10.8% |
| 9 | FirstEnergy Corp. | 7.5% | 1.00749 | 7.6% |
| 10 | Great Plains Energy | 8.0% | 1.01624 | 8.1% |
| 11 | Hawaiian Elec. | 8.0% | 1.04845 | 8.4% |
| 12 | IDACORP, Inc. | 8.5% | 1.02277 | 8.7% |
| 13 | Pepco Holdings | 8.0% | 1.02023 | 8.2% |
| 14 | PG&E Corp. | 8.5% | 1.02417 | 8.7% |
| 15 | Portland General Elec. | 8.0% | 1.03339 | 8.3% |
| 16 | PPL Corp. | 10.5% | 1.03927 | 10.9% |
| 17 | SCANA Corp. | 9.5% | 1.04461 | 9.9% |
| 18 | Sempra Energy | 11.0% | 1.02327 | 11.3% |
| 19 | UIL Holdings | 9.0% | 1.02653 | 9.2% |
| 20 | UNS Energy | 11.5% | 1.02561 | 11.8% |
| 21 | Westar Energy | 9.5% | 1.03222 | 9.8% |
| | Average (d) | | | 9.6% |
| | Midpoint (e) | | | 10.5% |

(a) The Value Line Investment Survey (Jun. 21, Aug. 2, & Aug. 23, 2013).

(b) Adjustment to convert year-end return to an average rate of return from Exhibit WEA-5.

(c) (a) x (b).

(d) Excludes highlighted figures.

(e) Average of low and high values.

DIVIDEND YIELD

| | | (a) | (b) | |
|----|-----------------------|---------------------|-------------------------|---------------------|
| | <u>Company</u> | <u>Price</u> | <u>Dividends</u> | <u>Yield</u> |
| 1 | Church & Dwight | \$ 61.74 | \$ 1.12 | 1.8% |
| 2 | Coca-Cola Co. | \$ 40.51 | \$ 1.12 | 2.8% |
| 3 | Colgate-Palmolive | \$ 58.17 | \$ 1.39 | 2.4% |
| 4 | Gen'l Mills | \$ 49.40 | \$ 1.52 | 3.1% |
| 5 | Kellogg | \$ 64.76 | \$ 1.84 | 2.8% |
| 6 | Kimberly-Clark | \$ 97.82 | \$ 3.24 | 3.3% |
| 7 | McCormick & Co. | \$ 71.30 | \$ 1.42 | 2.0% |
| 8 | McDonald's Corp. | \$ 99.32 | \$ 3.08 | 3.1% |
| 9 | PepsiCo, Inc. | \$ 82.43 | \$ 2.28 | 2.8% |
| 10 | Procter & Gamble | \$ 78.66 | \$ 2.41 | 3.1% |
| 11 | Wal-Mart Stores | \$ 75.64 | \$ 1.88 | 2.5% |
| | Average | | | 2.7% |

(a) Average of closing prices for 30 trading days ended July 19, 2013.

(b) The Value Line Investment Survey, Summary & Index (Jul. 19, 2013).

GROWTH RATES

| | (a) | (b) | (c) |
|---------------------|------------------------|-------------|--------------|
| | Earnings Growth | | |
| <u>Company</u> | <u>V Line</u> | <u>IBES</u> | <u>Zacks</u> |
| 1 Church & Dwight | 10.5% | 11.8% | 11.4% |
| 2 Coca-Cola Co. | 8.0% | 7.9% | 8.1% |
| 3 Colgate-Palmolive | 10.5% | 9.1% | 8.6% |
| 4 Gen'l Mills | 7.5% | 7.9% | 7.5% |
| 5 Kellogg | 8.0% | 7.7% | 7.7% |
| 6 Kimberly-Clark | 9.5% | 7.8% | 7.9% |
| 7 McCormick & Co. | 10.0% | 13.0% | 13.0% |
| 8 McDonald's Corp. | 8.0% | 8.5% | 9.3% |
| 9 PepsiCo, Inc. | 8.5% | 8.5% | 8.5% |
| 10 Procter & Gamble | 8.0% | 7.6% | 8.4% |
| 11 Wal-Mart Stores | 9.0% | 9.3% | 9.2% |

(a) The Value Line Investment Survey (Apr. 26, May 3, May 31, & Jun. 28, 2013).

(b) www.finance.yahoo.com (retrieved July 23, 2013).

(c) www.zacks.com (retrieved July 23, 2013).

DCF COST OF EQUITY ESTIMATES

| | | (a) | (a) | (a) | |
|--------------|-------------------|-----------------------|---------------|-------------|--------------|
| | | Earnings Growth | | | |
| | <u>Company</u> | <u>Industry Group</u> | <u>V Line</u> | <u>IBES</u> | <u>Zacks</u> |
| 1 | Church & Dwight | Household Products | 12.3% | 13.6% | 13.3% |
| 2 | Coca-Cola Co. | Beverage | 10.8% | 10.7% | 10.8% |
| 3 | Colgate-Palmolive | Household Products | 12.9% | 11.5% | 11.0% |
| 4 | Gen'l Mills | Food Processing | 10.6% | 11.0% | 10.6% |
| 5 | Kellogg | Food Processing | 10.8% | 10.5% | 10.5% |
| 6 | Kimberly-Clark | Household Products | 12.8% | 11.1% | 11.2% |
| 7 | McCormick & Co. | Food Processing | 12.0% | 15.0% | 15.0% |
| 8 | McDonald's Corp. | Restaurant | 11.1% | 11.6% | 12.4% |
| 9 | PepsiCo, Inc. | Beverage | 11.3% | 11.2% | 11.3% |
| 10 | Procter & Gamble | Household Products | 11.1% | 10.7% | 11.4% |
| 11 | Wal-Mart Stores | Retail Store | 11.5% | 11.8% | 11.7% |
| Average (b) | | | 11.6% | 11.7% | 11.8% |
| Midpoint (c) | | | 11.7% | 12.8% | 12.8% |

(a) Sum of dividend yield (Exhibit WEA-10, p. 1) and respective growth rate (Exhibit WEA-10, p. 2).

(b) Excludes highlighted figures.

(c) Average of low and high values.

SEET EARNINGS THRESHOLD

Exhibit WEA-11

Page 1 of 2

NON-UTILITY / ELECTRIC GROUP

| | <u>Company</u> | <u>SYM</u> | <u>Common Equity</u> | | <u>Net Income</u> |
|-----------------------------------|------------------------|------------|----------------------|-------------|--------------------------------------|
| | | | <u>2011</u> | <u>2012</u> | <u>Available to</u> <u>Common</u> |
| 1 | ALLETE | ALE | 1,079.3 | 1,201.0 | 97.1 |
| 2 | Alliant Energy | LNT | 3,013.0 | 3,134.9 | 319.8 |
| 3 | American Elec Pwr | AEP | 14,664.0 | 15,237.0 | 1,259.0 |
| 4 | Avista Corp. | AVA | 1,185.7 | 1,259.5 | 78.2 |
| 5 | Black Hills Corp. | BKH | 1,209.3 | 1,232.5 | 81.5 |
| 6 | CenterPoint Energy | CNP | 4,222.0 | 4,301.0 | 417.0 |
| 7 | Church & Dwight | CHD | 2,040.6 | 2,060.9 | 349.8 |
| 8 | Cleco Corp. | CNL | 1,419.9 | 1,499.2 | 163.6 |
| 9 | CMS Energy Corp. | CMS | 3,028.0 | 3,194.0 | 382.0 |
| 10 | Coca-Cola Co. | KO | 31,635.0 | 32,790.0 | 9,019.0 |
| 11 | Colgate-Palmolive | CL | 2,375.0 | 2,189.0 | 2,472.0 |
| 12 | Consolidated Edison | ED | 11,436.0 | 11,869.0 | 1,138.0 |
| 13 | Dominion Resources | D | 11,446.0 | 10,568.0 | 302.0 |
| 14 | DTE Energy Co. | DTE | 7,009.0 | 7,373.0 | 610.0 |
| 15 | El Paso Electric | EE | 760.3 | 825.0 | 90.8 |
| 16 | Empire District Elec | EDE | 694.0 | 717.8 | 55.7 |
| 17 | Entergy Corp. | ETR | 8,961.3 | 9,197.1 | 846.7 |
| 18 | FirstEnergy Corp. | FE | 13,280.0 | 13,084.0 | 770.0 |
| 19 | Gen'l Mills | GIS | 6,421.7 | 7,772.2 | 1,885.2 |
| 20 | Great Plains Energy | GXP | 2,959.9 | 3,340.0 | 198.3 |
| 21 | Hawaiian Elec. | HE | 1,528.7 | 1,593.9 | 138.7 |
| 22 | IDACORP, Inc. | IDA | 1,657.7 | 1,758.8 | 168.8 |
| 23 | Integrus Energy Group | TEG | 2,961.4 | 3,025.8 | 281.4 |
| 24 | ITC Holdings Corp. | ITC | 1,258.9 | 1,414.9 | 187.9 |
| 25 | Kellogg | K | 1,796.0 | 2,419.0 | 961.0 |
| 26 | Kimberly-Clark | KMB | 5,249.0 | 4,985.0 | 1,750.0 |
| 27 | McCormick & Co. | MKC | 1,607.7 | 1,682.9 | 407.8 |
| 28 | McDonald's Corp. | MCD | 14,390.2 | 15,293.6 | 5,464.8 |
| 29 | MGE Energy | MGEE | 551.0 | 579.4 | 64.4 |
| 30 | NextEra Energy, Inc. | NEE | 14,943.0 | 16,068.0 | 1,911.0 |
| 31 | NorthWestern Corp. | NWE | 859.1 | 934.0 | 98.4 |
| 32 | NV Energy, Inc. | NVE | 3,406.1 | 3,557.4 | 321.9 |
| 33 | OGE Energy Corp. | OGE | 2,563.3 | 2,767.2 | 355.0 |
| 34 | Pepco Holdings | POM | 4,336.0 | 4,446.0 | 285.0 |
| 35 | PepsiCo, Inc. | PEP | 20,704.0 | 22,417.0 | 6,178.0 |
| 36 | PG&E Corp. | PCG | 12,101.0 | 13,074.0 | 816.0 |
| 37 | Pinnacle West Capital | PNW | 3,821.9 | 3,972.8 | 381.5 |
| 38 | PNM Resources | PNM | 1,574.0 | 1,608.2 | 105.5 |
| 39 | Portland General Elec. | POR | 1,663.0 | 1,728.0 | 141.0 |
| 40 | PPL Corp. | PPL | 10,828.0 | 10,480.0 | 1,526.0 |
| 41 | Procter & Gamble | PG | 62,244.0 | 66,927.0 | 11,312.0 |
| 42 | Pub Sv Enterprise Grp | PEG | 10,270.0 | 10,780.0 | 1,275.0 |
| 43 | SCANA Corp. | SCG | 3,889.0 | 4,154.0 | 420.0 |
| 44 | Sempra Energy | SRE | 9,775.0 | 10,282.0 | 859.0 |
| 45 | Southern Company | SO | 18,285.0 | 19,004.0 | 2,350.0 |
| 46 | TECO Energy | TE | 2,266.6 | 2,291.8 | 212.7 |
| 47 | UIL Holdings | UIL | 1,094.4 | 1,116.6 | 103.6 |
| 48 | UNS Energy | UNS | 888.5 | 1,065.5 | 90.9 |
| 49 | Vectren Corp. | VVC | 1,465.5 | 1,526.1 | 159.0 |
| 50 | Wal-Mart Stores | WMT | 71,315.0 | 76,343.0 | 16,999.0 |
| 51 | Westar Energy | WR | 2,769.2 | 2,896.1 | 273.5 |
| 52 | Wisconsin Energy | WEC | 3,993.7 | 4,165.5 | 546.3 |
| 53 | Xcel Energy, Inc. | XEL | 8,482.2 | 8,874.1 | 905.2 |
| Total | | | 433,377.8 | 456,076.5 | 77,586.3 |
| Average Common Equity Outstanding | | | | | 444,727.1 |
| SEET ROE Threshold | | | | | 17.4% |

SEET EARNINGS THRESHOLD

Exhibit WEA-11

Page 2 of 2

IXU UTILITIES

| | | <u>Common Equity</u> | | | <u>Net Income</u> <u>Available to</u> | | |
|--|-----------------------|----------------------|-------------|-------------|--|---------------|---------------|
| | <u>Company</u> | <u>SYM</u> | <u>2011</u> | <u>2012</u> | <u>Average</u> | <u>Common</u> | <u>ROE</u> |
| 1 | AGL Resources Inc. | GAS | 3,526.0 | 3,539.0 | 3,532.5 | 271.0 | 7.67% |
| 2 | American Elec Pwr | AEP | 14,664.0 | 15,237.0 | 14,950.5 | 1,259.0 | 8.42% |
| 3 | CenterPoint Energy | CNP | 4,222.0 | 4,301.0 | 4,261.5 | 417.0 | 9.79% |
| 4 | CMS Energy Corp. | CMS | 3,028.0 | 3,194.0 | 3,111.0 | 382.0 | 12.28% |
| 5 | Consolidated Edison | ED | 11,436.0 | 11,869.0 | 11,652.5 | 1,138.0 | 9.77% |
| 6 | Dominion Resources | D | 11,446.0 | 10,568.0 | 11,007.0 | 302.0 | 2.74% |
| 7 | DTE Energy Co. | DTE | 7,009.0 | 7,373.0 | 7,191.0 | 610.0 | 8.48% |
| 8 | Entergy Corp. | ETR | 8,961.3 | 9,197.1 | 9,079.2 | 846.7 | 9.33% |
| 9 | FirstEnergy Corp. | FE | 13,280.0 | 13,084.0 | 13,182.0 | 770.0 | 5.84% |
| 10 | Integrus Energy Group | TEG | 2,961.4 | 3,025.8 | 2,993.6 | 281.4 | 9.40% |
| 11 | NextEra Energy, Inc. | NEE | 14,943.0 | 16,068.0 | 15,505.5 | 1,911.0 | 12.32% |
| 12 | NiSource Inc. | NI | 4,997.3 | 5,554.3 | 5,275.8 | 416.1 | 7.89% |
| 13 | NRG Energy Inc. | NRG | 9,650.0 | 9,736.0 | 9,693.0 | 550.0 | 5.67% |
| 14 | ONEOK Inc. | OKE | 2,238.6 | 2,129.6 | 2,184.1 | 360.6 | 16.51% |
| 15 | Pepco Holdings Inc. | POM | 4,336.0 | 4,446.0 | 4,391.0 | 285.0 | 6.49% |
| 16 | PG&E Corp. | PCG | 12,101.0 | 13,074.0 | 12,587.5 | 816.0 | 6.48% |
| 17 | Pinnacle West Capital | PNW | 3,821.9 | 3,972.8 | 3,897.3 | 381.5 | 9.79% |
| 18 | PPL Corp. | PPL | 10,828.0 | 10,480.0 | 10,654.0 | 1,526.0 | 14.32% |
| 19 | Pub Sv Enterprise Grp | PEG | 10,270.0 | 10,780.0 | 10,525.0 | 1,275.0 | 12.11% |
| 20 | Scana Corp. | SCG | 3,889.0 | 4,154.0 | 4,021.5 | 420.0 | 10.44% |
| 21 | Sempra Energy | SRE | 9,775.0 | 10,282.0 | 10,028.5 | 859.0 | 8.57% |
| 22 | Southern Co. | SO | 18,285.0 | 19,004.0 | 18,644.5 | 2,350.0 | 12.60% |
| 23 | Teco Energy Inc. | TE | 2,266.6 | 2,291.8 | 2,279.2 | 212.7 | 9.33% |
| 24 | Wisconsin Energy | WEC | 3,993.7 | 4,165.5 | 4,079.6 | 546.3 | 13.39% |
| 25 | Xcel Energy Inc. | XEL | 8,482.2 | 8,874.1 | 8,678.1 | 905.2 | 10.43% |
| Average Earned ROE | | | | | | | 9.60% |
| Standard Deviation | | | | | | | 0.03044 |
| Confidence Level - 1.64 x Standard Deviation | | | | | | | 5.00% |
| SEET ROE Threshold | | | | | | | 14.60% |

Source: www.finance.yahoo.com

AEP OHIO EX. NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

| | | |
|--|---|-------------------------|
| In the Matter of the Application of |) | |
| Ohio Power Company for Authority to |) | Case No. 13-2385-EL-SSO |
| Establish a Standard Service Offer |) | |
| Pursuant to §4928.143, Revised Code, |) | |
| in the Form of an Electric Security Plan |) | |

| | | |
|-------------------------------------|---|-------------------------|
| In the Matter of the Application of |) | |
| Ohio Power Company for Approval of |) | Case No. 13-2386-EL-AAM |
| Certain Accounting Authority |) | |

DIRECT TESTIMONY OF
THOMAS E. MITCHELL
IN SUPPORT OF AEP OHIO'S
ELECTRIC SECURITY PLAN

Filed: December 20, 2013

INDEX TO DIRECT TESTIMONY OF
THOMAS E. MITCHELL

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| Business Experience | 1 |
| Purpose of Testimony | 3 |
| Overview of Over/Under Recovery Accounting | 4 |

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
THOMAS E. MITCHELL
ON BEHALF OF
OHIO POWER COMPANY

1 **PERSONAL DATA**

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

3 A. My name is Thomas E. Mitchell and my business address is 1 Riverside Plaza
4 Columbus, Ohio 43215.

6 **BUSINESS EXPERIENCE**

7 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

8 A. I am employed by American Electric Power Service Corporation ("AEPSC"), a
9 subsidiary of American Electric Power Company, Inc. ("AEP"), as Managing
10 Director of Regulatory Accounting Services. AEP is the parent company of Ohio
11 Power Company ("OPCo") referred to as AEP Ohio or the Company.

12 **Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF**
13 **REGULATORY ACCOUNTING SERVICES?**

14 A. My primary responsibilities include providing the AEP System operating subsidiaries,
15 including AEP Ohio, with accounting support for regulatory filings. This support
16 includes the preparation of cost-of-service adjustments, accounting schedules, and
17 accounting testimony. I direct a group of professionals who provide accounting
18 expertise, compile necessary historical accounting schedules, present expert

1 accounting testimony and respond to data requests in connection with rate filings with
2 eleven regulatory commissions and the Federal Energy Regulatory Commission
3 (FERC).

4 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
5 **PROFESSIONAL EXPERIENCE.**

6 A. I received a Bachelor of Science Degree in Accounting from Virginia Polytechnic
7 Institute and State University (Virginia Tech) in 1977. I also hold a Master of
8 Business Administration Degree from Virginia Tech and a Bachelor of Arts Degree in
9 Government from the University of Notre Dame. I have been a Certified Public
10 Accountant since 1978. I was first employed by Appalachian Power Company
11 (APCo) in 1979, an affiliated operating company of AEP Ohio and, except for
12 employment with Norfolk Southern Corporation as an Assistant Accounting Manager
13 (1984-1985), have held various positions in the Accounting Department continuously
14 since that date. In 1998, I was promoted to Director, Accounting Policy & Research
15 and in 2008, I was promoted to my present position as Managing Director of
16 Regulatory Accounting Services. I have served as Chairman of the Accounting
17 Standards Committee of the Edison Electric Institute (EEI) and am currently
18 Chairman of the EEI/FERC Accounting Liaison Group of the EEI which meets
19 annually with the FERC Accounting Staff to discuss accounting issues of mutual
20 interest to EEI and the FERC.

21 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A COMMISSION?**

22 A. Yes, I testified on behalf of AEP Ohio before the Public Utilities Commission of Ohio
23 (PUCO or the Commission) in the 2010 Significantly Excessive Earnings Test

1 (SEET) proceeding, Case No. 11-4571-EL-UNC and Case No. 11-4572-EL-UNC;
2 and the 2009 SEET proceeding, Case No. 10-1261-EL-UNC. In addition, I have
3 testified on behalf of AEP Ohio before the PUCO to establish a Standard Service
4 Offer (SSO) in Case No. 11-346-EL-SSO and Case No. 11-348-EL-SSO. I also filed
5 accounting testimony in the distribution base rate case in Case No. 11-351-EL-AIR
6 and Case No. 11-352-EL-AIR. Also, I have filed accounting testimony and testified
7 on behalf of APCo and Wheeling Power Company before the Public Service
8 Commission of West Virginia, and on behalf of APCo before both the Virginia State
9 Corporation Commission and the FERC. I have also filed accounting testimony on
10 behalf of Indiana Michigan Power Company before the Indiana Utility Regulatory
11 Commission and on behalf of Kentucky Power Company also an AEP affiliate before
12 the Kentucky Public Service Commission.

13
14 **PURPOSE OF TESTIMONY**

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

16 A. The purpose of my testimony is to describe the over/under accounting for certain
17 components of the Electric Security Plan (ESP) for the proposed June 1, 2015 – May
18 31, 2018 (ESP III) period.

19 **OVERVIEW OF OVER/UNDER RECOVERY**

20 **Q. SEVERAL OF THE COMPANY'S WITNESSES HAVE PROPOSED ESP**
21 **RIDERS (REFERENCE COMPANY WITNESS MOORE'S EXHIBIT AEM-1)**
22 **THAT WOULD UTILIZE OVER/UNDER ACCOUNTING. PLEASE**
23 **SUMMARIZE THE BASIS FOR OVER/UNDER ACCOUNTING.**

1 A. Financial Accounting Standards Board's Accounting Standards Codification (FASB
2 ASC) 980 requires deferral accounting when a regulatory commission requires future
3 rates to be reduced to refund an over recovery and when a regulatory commission
4 provides for the future recovery of incurred expenses or it is probable that a
5 regulatory commission will provide for such future recovery of an incurred expense,
6 subject to any prudence and audit reviews ordered by the Commission. Therefore, in
7 order to record regulatory liabilities or regulatory assets and perform regulatory
8 deferral over/under recovery true-up accounting, it must be probable that the
9 regulatory liability will be refunded or that the regulatory asset will be recovered in
10 the future.

11 **Q. WHAT IS NEEDED TO ESTABLISH PROBABILITY AND THUS MEET**
12 **THE ACCOUNTING CRITERIA FOR RECORDING A REGULATORY**
13 **LIABILITY OR ASSET FOR THESE RIDERS?**

14 A. In order to meet the probability standard, the final order in this proceeding should
15 clearly provide for both the future recovery or the future refund in the next applicable
16 filing as determined by the Commission for any difference between incurred expenses
17 (plus a carrying cost where appropriate) compared with the actual revenues collected.

18 **Q. WHAT ACCOUNTING IS EMPLOYED WHEN OPERATION AND**
19 **MAINTENANCE (O&M) COSTS ARE PART OF OVER/UNDER**
20 **ACCOUNTING?**

21 A. If the monthly actual incurred O&M expenses pertinent to a particular rider are less
22 than the monthly approved revenues, the Company will credit a regulatory liability
23 and charge the appropriate O&M expense accounts. Similarly, if the monthly actual

1 incurred O&M expenses are more than the monthly approved revenues, the Company
2 will charge a regulatory asset while crediting the appropriate O&M expense accounts.
3 For example, the expenses of the Energy Efficiency Peak Demand Rider are
4 compared to the tariff revenue with any difference being deferred.

5 **Q. DO SOME RIDERS SIMPLY RECOVER PAST DEFERRED COSTS?**

6 A. Yes. For example, amortization of deferred major storm expenses would be equal to
7 the revenue provided by the monthly rider. Similarly, OPCo currently amortizes the
8 deferred capacity costs for the \$1.00 per MWh portion of the Rate Stability Rider
9 (RSR). As discussed by Company witness Allen, the Company proposes to file a
10 separate application to continue the RSR rate of \$4.00 per MWh (in effect June 1,
11 2014 through May 31, 2015) to recover the deferred capacity costs as of May 31,
12 2015 over the subsequent three years, subject to true-up.

13 **Q. ARE CERTAIN RIDERS DESIGNED TO RECOVER ITEMS OTHER THAN**
14 **O&M?**

15 A. Yes. Certain riders also include an appropriate carrying cost on capital assets. For
16 example, some riders such as the Distribution Investment Rider, gridSMART[®] and
17 Enhanced Service Reliability include a carrying cost rate on the capital assets using a
18 Weighted Average Cost of Capital (WACC) as well as additional components
19 (discussed by Company witness Hawkins) including depreciation, income taxes,
20 property and other taxes and administrative and general expenses. Certain riders also
21 include a carrying cost which is applied to the over/under recovery balance such as
22 the deferred capacity costs collected which uses a long term debt rate. Additionally,
23 riders track and true-up revenues for alternative revenue programs such as the

1 distribution Pilot Throughput Balancing Adjustment Rider (decoupling revenue)
2 approved in OPCo's most recent distribution base case.

3 **Q. FOR RIDERS DESIGNED TO RECOVER ITEMS OTHER THAN O&M, IS**
4 **THE OVER/UNDER ACCOUNTING SIMILAR TO THE RECOVERY OF**
5 **ONLY O&M?**

6 A. Yes. When the true-up process includes over/under accounting, the total rider
7 revenues are compared to the total of the items being tracked to determine the
8 over/under recovery.

9 **Q. BESIDES THE RIDERS REQUESTED IN COMPANY WITNESS MOORE'S**
10 **EXHIBIT AEM-1, IS THE COMPANY SEEKING ADDITIONAL DEFERRAL**
11 **ACCOUNTING?**

12 A. Yes. As requested by Company witnesses Dias and Moore relating to the Storm
13 Damage Recovery Mechanism, the Company is proposing the continuation of the
14 deferral of storm costs above a baseline of \$5 million annually effective June 1, 2015.
15 The \$5 million baseline was approved by the PUCO in AEP Ohio's ESP II order
16 issued on August 8, 2012.

17 Also, Company witness Vegas has proposed new deferral accounting for certain
18 North American Electric Reliability Corporation (NERC) compliance and
19 cybersecurity costs. Upon approval, AEP-Ohio would begin deferral accounting for
20 NERC compliance and cybersecurity costs that are incurred subsequent to approval
21 for inclusion in the proposed rider.

22 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

23 A. Yes.