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October 27, 2016

VIA ELECTRONIC FILING

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: ***American Municipal Power, Inc., et al. v. Appalachian Power Company, et al.,***
Docket No. EL17-____-000

Dear Secretary Bose:

Submitted under cover of this letter is the Complaint of American Municipal Power, Inc., Blue Ridge Power Agency, Craig-Botetourt Electric Cooperative, Indiana Michigan Municipal Distributors Association, Indiana Municipal Power Agency, Old Dominion Electric Cooperative, Inc. and Wabash Valley Power Association, Inc. ("Joint Complaint"). The Joint Complaint seeks a reduction in the return on common equity used in the formula transmission rates of the American Electric Power operating and transmission companies specified in the body of the complaint. The Joint Complaint is filed pursuant to Sections 206 of the Federal Power Act, 16 U.S.C. §§ 824e and 825e, and Rule 206 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.206 (2016).

The Joint Complaint is submitted in three parts:

- Part I comprises the Joint Complaint, a form of Notice of Complaint suitable for publication in the Federal Register, and a Certificate of Service attesting that service of this filing has been made in accordance with Rule 206(c).
- Part II consists of the prepared_testimony and supporting exhibits of J. Bertram Solomon (marked Exhibit Nos. JC-1 and JC-2).
- Part III consists of the workpapers for Mr. Solomon's testimony and exhibits (marked Exhibit No. JC-3).

In addition to the foregoing, a copy of the form of Federal Register notice also is submitted in Microsoft Word© format for the Commission's convenience.

Please contact me if you have any questions concerning this filing. Thank you for your assistance.

Respectfully submitted,

JENNINGS, STROUSS & SALMON, P.L.C.

By ________________________

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PART I

COMPLAINT

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants v. Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents	Docket No. EL17-___-000

COMPLAINT OF
AMERICAN MUNICIPAL POWER, INC.,
BLUE RIDGE POWER AGENCY,
CRAIG-BOTETOURT ELECTRIC COOPERATIVE,
INDIANA MICHIGAN MUNICIPAL DISTRIBUTORS ASSOCIATION,
INDIANA MUNICIPAL POWER AGENCY,
OLD DOMINION ELECTRIC COOPERATIVE, INC. , AND
WABASH VALLEY POWER ASSOCIATION, INC.

Pursuant to Section 206 of the Federal Power Act ("FPA"), 16 U.S.C. §§ 824e (2015), and Rule 206 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.206 (2016), American Municipal Power, Inc. ("AMP"), Blue Ridge Power Agency ("Blue Ridge"), Craig-Botetourt Electric Cooperative ("Craig-Botetourt"), Indiana Michigan Municipal Distributors Association ("IMMDA"), Indiana Municipal Power Agency ("IMPA"), Old Dominion Electric Cooperative, Inc. ("ODEC"), and Wabash Valley Power Association, Inc. ("WVPA") (collectively, "Joint Complainants") hereby file this Complaint against Appalachian Power Company ("APCo"), Columbus Southern Power Company ("CSPCo"), Indiana Michigan Power Company ("I&M"), Kentucky Power Company ("KPCo"), Kingsport Power Company ("KGPCo"), Ohio Power Company ("OPCo"), and Wheeling Power Company ("WPCo") (collectively, the "AEP East Operating Companies"); and AEP Appalachian Transmission Company, Inc. ("AEP-ATC"), AEP Indiana Michigan Transmission Company, Inc. ("AEP-MTC"), AEP Kentucky Transmission Company, Inc. ("AEP-KTC"), AEP Ohio Transmission Company, Inc. ("AEP-OTC"), and AEP West Virginia Transmission Company, Inc. ("AEP-WVTC") (collectively, the "AEP East Transcos"). The AEP East Operating Companies and AEP East Transcos are referred to collectively as "AEP East Companies" or "Respondents."

This Complaint seeks one or more Commission orders that reduce the base return on common equity ("Base ROE") used in the AEP East Companies' formula transmission rates. As described more fully below, the current 10.99% Base ROE of the AEP East Companies is excessive and should be reduced as of the date of this Complaint to a just and reasonable rate. Therefore, Joint Complainants request that the Commission: (i) find that the current AEP Base ROE is unjust and unreasonable; and (ii) set the Respondents' Base ROE no higher than the 8.32% just and reasonable ROE supported by Joint Complainants. Further, Joint Complainants request that the Commission: (i) establish the filing date of this Complaint as the refund effective date for relief to be afforded in response to this Complaint;[1] and (ii) order refunds (with interest at Commission-approved rates) for the difference in revenue requirements that results from applying in the Respondents' respective formula transmission rates the just and reasonable Base ROE determined in this proceeding rather than the current 10.99% Base ROE.

This Complaint is supported by the Direct Testimony and Exhibits of J. Bertram Solomon, Exhibits JC-1 through JC-3, which are appended to this Complaint.

I. COMMUNICATIONS

Communications regarding this matter should be addressed to the following persons, who also should be designated for service on the Commission's official list:

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[1] To the extent necessary, Joint Complainants also request that, if the Commission determines to initiate a Section 206 investigation based on this Complaint, it promptly cause notice to be published in the Federal Register of the initiation of the Section 206 investigation and the establishment of a refund effective date.

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Joint Complainants request that, in order to avoid delays in responding to official documents and communications, the Commission waive the requirements of Rule 203(b) to permit each person named above to be placed on the official service list.

II. THE PARTIES

A. Joint Complainants

1. AMP is a nonprofit Ohio corporation with members in Ohio, West Virginia, Pennsylvania, Maryland, Michigan, Virginia, Indiana, Kentucky, and Delaware. The majority of AMP's members are load-serving entities within the PJM Interconnection, L.L.C. ("PJM"). AMP and a number of its members actively participate, as purchasers and sellers, in the PJM-operated markets. Additionally, to meet their respective service responsibilities, AMP and a number of its members purchase transmission and related services under the PJM Open Access

Transmission Tariff ("PJM Tariff") to serve load located in the AEP Transmission Zone of PJM.

2. Blue Ridge is a non-stock membership corporation organized and existing under the laws of the Commonwealth of Virginia with the following seven members, all of which are publicly- or consumer-owned electric distribution utilities: the Cities of Martinsville, Radford, and Salem; the Towns of Bedford and Richlands; Virginia Polytechnic Institute and State University ("Virginia Tech"); and Central Virginia Electric Cooperative. The Blue Ridge members collectively serve over 250,000 residents of the Commonwealth of Virginia. Blue Ridge assists its members in obtaining wholesale power and makes related transmission arrangements on their behalf. Blue Ridge purchases network integration transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

3. Craig-Botetourt is a cooperative electric utility duly organized and existing under the laws of the Commonwealth of Virginia for the purpose of engaging in the purchase of electric capacity and energy at wholesale and the sale and distribution of electricity at retail. Craig-Botetourt provides service to the following six counties in Virginia: Alleghany, Botetourt, Craig, Giles, Montgomery, and Roanoke. In addition, Craig-Botetourt also serves Monroe County in West Virginia. Craig-Botetourt purchases network integration transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

4. IMPA is a body corporate and politic, and a political subdivision of the State of Indiana. IMPA was created in 1980, under the provisions of Indiana Code § 8-1-

2.2, by a group of municipalities for the purpose of jointly financing, developing, owning, and operating electric generation and transmission facilities which are appropriate to the current and projected electric power needs of such municipalities. IMPA became an operating utility in 1983, when it began to sell electric power to its member utilities under power sales contracts. IMPA's members currently comprise 59 Indiana cities and towns. IMPA is the wholesale power provider to its members and also to the Village of Blanchester, Ohio. IMPA purchases network integration transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

5. ODEC is a not-for-profit power supply electric cooperative, organized and operating under the laws of Virginia and subject to FERC jurisdiction. ODEC supplies capacity and energy to its eleven electric distribution cooperative members, all of which are located within the PJM control area. ODEC is a generation-owning utility, dependent upon use of the transmission facilities under the PJM OATT to deliver the output of ODEC's generation facilities located within PJM and to deliver periodic power purchases from third party sellers to the load of its member systems in PJM's footprint. ODEC purchases network integration transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

6. IMMDA is an unincorporated association of municipal wholesale customers of I&M located in the states of Indiana and Michigan, operating under the authority of their cities, and the Bylaws enacted by IMMDA. The Members of IMMDA are: the Town of Avilla, Indiana; the City of Bluffton, Indiana; the City of

Dowagiac, Michigan; the City of Garrett, Indiana; the City of Mishawaka, Indiana; the Town of New Carlisle, Indiana; the Town of Warren, Indiana; the City of Niles, Michigan; the Village of Paw Paw, Michigan; the City of South Haven, Michigan; and the City of Sturgis, Michigan. The members of IMMDA purchase substantial amounts of power and energy from I&M and are full requirements electric service customers of I&M, which is a subsidiary of AEP. IMMDA's members purchase and receive transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

7. WVPA is a member-owned generation and transmission cooperative with its principal place of business in Indianapolis, Indiana. WVPA has 25 members, 23 of which are non-profit corporations serving electric energy to their members at retail and located primarily in rural areas in the States of Indiana, Illinois and Missouri. WVPA purchases network integration transmission service under the PJM Tariff to serve load located in the AEP Transmission Zone of PJM.

8. As a network transmission service customer under the PJM OATT and/or as a provider of service to loads located in the AEP Transmission Zone of PJM, each of the Complainants is directly affected by the level of the Base ROE included in the formula transmission rates of the AEP East Companies.

B. Respondents

9. The AEP East Companies comprise operating subsidiaries of American Electric Power Company, Inc. ("AEP") located in the eastern United States (APCo, CSPCo, I&M, KPCo, KGPCo, OPCo, and WPCo) and transmission-only subsidiaries of AEP also located in the eastern U.S. (AEP-ATC, AEP-IMTC, AEP-KTC, AEP-OTC, and AEP-WVTC). The AEP East Companies are

regulated public utilities and members of PJM. With the exception of OPCo and CSPCo, the AEP East Operating Companies are vertically integrated electric utilities primarily engaged in the generation, transmission, distribution and sale of electricity in portions of seven states reaching from Michigan to Tennessee. The AEP East Transcos are transmission-only utilities.

III. DISCUSSION

A. Background

10. The AEP East Operating Companies' current 10.99% Base ROE was accepted as part of a settlement filed on April 8, 2010 concerning these companies' open access transmission formula rates and became effective on March 1, 2009.[2] The AEP East TransCos' formula rates were added as part of the PJM AEP Zone and made effective July 1, 2010 through a settlement filed on September 24, 2010.[3] The AEP East Transcos' settlement incorporated the 10.99% Base ROE that had been agreed to for use by the AEP East Operating Companies in the AEP Zone.

B. The AEP East Companies' Current Base ROE is Unjust and Unreasonable.

11. All rates for jurisdictional service under the FPA must be just and reasonable.[4] Where a complainant challenges a previously-approved rate under Section 206 of the FPA and proposes a new one, the Commission must find that: (1) the existing

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[2] The AEP East Operating Companies' transmission formula rate settlement was filed on April 8, 2010 in Docket No. ER08-1329-000. *See* FERC eLibrary accession number 20100408-0069. That settlement was approved by letter order dated October 1, 2010. *See American Electric Power Service Corp.*, 133 FERC ¶ 61,007 (2010).

[3] The AEP East TransCos' formula rate settlement was filed on September 24, 2010 in Docket No. ER10-355-000. *See* FERC eLibrary accession number 20100927-0005. That settlement was approved by order dated April 21, 2011. *See AEP Appalachian Transmission Company, Inc., et al.,* 135 FERC ¶ 61,066 (2011).

[4] 16 U.S.C. §§ 824d and 824e.

rate is unjust and unreasonable; and (2) a proposed replacement rate is just and reasonable.[5] As the U.S. Court of Appeals for the District of Columbia Circuit has explained, however, a complainant is not required to propose or support a new just and reasonable rate.[6] Under FPA Section 206, a complainant need only demonstrate that the existing rate is unjust and unreasonable; it is up to the Commission to determine the new just and reasonable rate.[7] The instant Joint Complaint provides compelling evidence that the existing Base ROE for the AEP East Companies is unjust and unreasonable, and that the 8.32% Base ROE proposed and supported in this Complaint is just and reasonable.

12. A just and reasonable rate of return for a utility is one that does not exceed the level required to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and attract capital, and it must be commensurate with returns on investments in enterprises with comparable risks.[8] An ROE above that level would exploit consumers and would for that reason be unjust, unreasonable and unlawful.[9] As the Commission has observed, "showing the existing base

[5] *See, e.g., Louisiana Pub. Serv. Comm'n v. Entergy Corp.,* 132 FERC ¶ 61,003, at P 28 (2010); *Atl. City Elec. Co. v. FERC,* 295 F.3d 1, 10 (D.C. Cir. 2002), *accord, Cities of Bethany v. FERC,* 727 F.2d 1131, 1143-44 (D.C. Cir. 1984); *see also FPC v. Sierra Pac. Power Co.,* 350 U.S. 348, 353 (1956).

[6] *Maryland Public Serv. Comm'n v. FERC,* 632 F.3d 1283, 1285, n. 1 (D.C. Cir. 2011).

[7] *Id.*

[8] *See Federal Power Comm'n v. Hope Natural Gas Co.,* 320 U.S. 591, 603 (1944) ("Hope"); *Bluefield Water Works & Improvement Co. v. Public Serv. Comm'n of W. Va.,* 262 U.S. 679, 692-93 (1923) ("Bluefield").

[9] Opinion No. 531, *Martha Coakley, Mass. Atty. Gen., et al. v. Bangor Hydro-Electric Co., et al.,* 147 FERC ¶ 61,234 at 50, n 89, Opinion No. 531-A, *order on paper hearing*, 149 FERC ¶ 61,032 (2014), Opinion No. 531-B, *order on reh'g*, 150 FERC ¶ 61,165 (2015) (citing J*ersey Cent. Power & Light Co. v. FERC,* 810 F.2d 1168, 1180 (D.C. Cir. 1987) (*en banc)* ("In addition to prohibiting rates so low as to be confiscatory, the holding of [*Hope*] makes clear that exploitative rates are illegal as well"); *see also Washington Gas Light Co. v. Baker,* 188 F.2d 11, 15 (D.C. Cir. 1950), *cert. denied,* 340 U.S. 952 (1951)).

ROE established in [a] prior case is unjust and unreasonable merely requires showing that the Commission's ROE methodology now produces a numerical value below the existing numerical value."[10] To estimate the rate of return necessary to attract equity investors, the Commission uses a two-stage constant growth Discounted Cash Flow ("DCF") model.[11]

13. Joint Complainants meet their FPA Section 206 burden here through their submission of the expert testimony and exhibits of Mr. J. Bertram Solomon attached to this Complaint. In his submittal, Mr. Solomon applies the Commission's approved DCF method and finds that a just and reasonable Base ROE for the AEP East Companies is 8.32%. The existing 10.99% ROE is, therefore, 267 basis points higher than the level that comports with the FPA's "just and reasonable" standard. Continued use of the current Base ROE in the AEP East Companies' formula rates would force PJM transmission customers to overpay for transmission service by millions of dollars each year.

14. As Mr. Solomon explains, the currently effective 10.99% Base ROE was adopted for the AEP East Companies six years ago, and is no longer just and reasonable because relevant economic and capital market conditions have changed greatly during the intervening period. In particular, the cost of capital for electric utilities has declined significantly since 2010. To demonstrate the point, Mr. Solomon examined the six-month period ending March 2010 (immediately prior to the filing of the settlement establishing the 10.99% Base ROE) and found that the

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10 Opinion No. 531-B at P 32.

11 Opinion No. 531 at 50.

average Moody's Baa Public Utility Bond yield at that time was 6.20%. By comparison, for the six-month period ending September 2016 that Mr. Solomon adopted for his DCF study period here, the Moody's Baa Public Utility average bond yield was 4.41%. By this measure, average public utility long-term debt costs have dropped by 179 basis points since the current ROE was set. *See* Exh. No. JC-1 at 11:8-16. Mr. Solomon's testimony and supporting DCF analysis show that, when current capital market conditions are properly considered, the current Base ROE for the AEP East Companies is found to be unjust and unreasonable and therefore impermissible under FPA Section 206.

C. Application of the Commission's DCF Method Shows that the Just and Reasonable ROE for the AEP East Companies is 8.32%.

15. Mr. Solomon's application of the Commission's two-step DCF method shows that the range of results for an appropriately selected national proxy group of electric utilities with risks comparable to those of the AEP East Companies is 5.62% to 9.46%. *See* Exh. Nos. JC-1 at 12:17-19 and JC-2. Accordingly, Mr. Solomon recommends that the 8.32% median of his DCF range be adopted as the Base ROE in the AEP East Company transmission formula rates. *See* Exh. No. JC-1 at 12:20 – 13:2. To further support the justness and reasonableness of the 8.32% Base ROE, Mr. Solomon explains that an ROE at that level would provide the AEP East Companies an implied 391 basis point premium over the six-month average yield on Moody's Baa rated public utility bonds for the period ending September 2016 (*i.e.* 4.41%). *See* Exh. No. JC-1 at 13:13-18.

16. To develop his ROE recommendation for the AEP East Companies, Mr. Solomon prepared a DCF study that applies the methodology the Commission adopted in Opinion No. 531, *et al.* and followed in Opinion No. 551.[12] Specifically, Mr. Solomon selected a national electric utility proxy group with risks similar to those of the AEP East Companies using the following criteria:

- Companies that are included in the Value Line electric utility industry universe;
- Electric utilities that have an S&P corporate credit rating ("CCR") of BBB to A- and a Moody's long-term issuer or senior unsecured credit rating of Baa2 to A3 (encompassing one credit rating notch above and below AEP's S&P rating of BBB+ and its Moody's rating of Baa1);
- Electric utilities having an IBES-published analysts' consensus "five-year" earnings per share growth rate;
- Electric utilities that are not engaged in major merger or acquisition ("M&A") activity currently or during the six-month dividend yield analysis period;
- Electric utilities that paid dividends throughout the six-month dividend yield analysis period, did not cut dividends during that period, and have not subsequently announced a dividend cut; and
- Electric utilities whose DCF results pass threshold tests of economic logic and are not outliers.

See Exh. No. JC-1 at 17:15 – 18:24.

17. Thirty-four companies included in the Value Line electric utility universe satisfied the credit rating criterion stated above. *See* Exh. Nos. JC-1 at 18:23-24 and JC-2 at 8. Also consistent with the above criteria, Mr. Solomon eliminated nine companies from the proxy group due to major M&A activity during the dividend

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[12] Opinion No. 551, *ABATE, et al. v. Midcontinent Indep. Sys. Operator, Inc., et al.*, 156 FERC ¶61,234 (2016).

yield analysis period. *See* Exh. No. JC-1 at 18:25 – 21:16. This left a proxy group of twenty-five utilities to which Mr. Solomon applied the Commission's two-step constant growth DCF method. *See* Exh. No. JC-1 at 21:11-16.

18. To apply the two-step DCF method to the proxy group, Mr. Solomon developed a single six-month average dividend yield for each proxy company for the six-month period ending September 30, 2016 (the most recent data available to him when he prepared his analysis). He then calculated a single average growth rate for each proxy group company using analysts' "short-term" forecasted five-year earnings per share growth rate weighted at two-thirds and a "long-term" forecasted GDP growth rate with a one-third weighting. For the short-term growth rate, Mr. Solomon used the average of the analysts' consensus five-year earnings per share growth rate projections for each proxy group company as reported by *Yahoo! Finance* from the Thomson Reuters/IBES data base on September 30, 2016, the last trading day of the six-month period. For the long-term GDP growth rate, Mr. Solomon used a 4.35% rate, which is the average of the long-term projections of 4.32% by HIS Global Insight (June 27, 2016), 4.32% by the Energy Information Administration (May 17, 2016), and 4.40% by the Social Security Administration Trustees Report (2016). *See* Exh. No. JC-1 at 21:17-22:18.

19. Mr. Solomon then applied the Commission-approved DCF analysis to his proxy group companies, which yielded a range of investor-required ROEs of 5.62% to 9.46%. *See* Exh. No. JC-1 at 23:1-8. For the reasons explained in his testimony (*see* Exh. No. JC-1 at 24:13-26:13), Mr. Solomon did not eliminate any low-end

or high-end outlier companies from his proxy group. Consequently, the proxy group ROE range serves to bracket investors' required rates of return for investing in companies with risk characteristics similar to the AEP East Companies. From that range, Mr. Solomon recommends the median value of 8.32% as the just and reasonable Base ROE for the AEP East Companies. *See* Exh. No JC-1 at 27:3-14. Mr. Solomon explains that placing the Base ROE at the median rather than the midpoint is consistent with Commission precedent holding that use of the median value is appropriate when setting an ROE for single utilities of average risk.[13]

20. Mr. Solomon acknowledges that, in Opinion Nos. 531 and 551, the Commission set the ROE for the subject transmission owners based on the midpoint of the upper half of the DCF range. He explains that such adjustment is neither necessary nor appropriate in this case because: (1) market conditions were not "anomalous" during the six-month DCF study period he considered here; and (2) reference to the alternative benchmarks considered in Opinion Nos. 531 and 551 is not appropriate (*see* Exh. No. JC-1 at 29:18-33:7).

21. In Opinion No. 531, the Commission expressed a concern "that capital market conditions in the record are anomalous," citing low bond yields as the basis for adopting an ROE above the median and pointing to the fact that the yield on 10-year U.S. Treasury bonds during the six-month study period ending March

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[13] *See* Exh. No JC-1 at 27:15-29:4. Use of the median value is warranted notwithstanding that AEP transmission facilities in the East are owned by multiple subsidiaries. Those subsidiaries and the facilities they own ultimately are owned by a single parent company, American Electric Power Company. In addition, a number of the members of Mr. Solomon's proxy group also are utility holding companies. *Id*. at 28:1-4.

2013 was below 2%.[14] The Commission reached a similar conclusion in Opinion No. 551 with respect to the six-month DCF study period there considered (January to June 2015). As Mr. Solomon explains, however, a similar finding is unwarranted and unsupportable here for several reasons, including the following:

- Moody's public utility and Treasury bond yields over the 62-month period from August 2011 through September 2016 have remained low and have varied only within a narrow range. *See* Exh. No. JC-1 at 35:16 - 36:11 and Fig. 1. The persistence of consistently low bond yields over such an extended period of time defeats any claim that current capital market conditions are "anomalous."
- Moody's A public utility bond yields for the DCF study period are 3.76%. Bond yields in this range are not unprecedented. From 1940 to 1956, Moody's A and Baa public utility bond yields remained below 3.75% and 4.15%, respectively. *See* Exh. No. JC-1 at 36:5 - 37:5.
- The prevailing low interest rate/low bond yield conditions are expected to continue for the foreseeable future, as evidenced by (i) the forecasts of prominent economists, and (ii) the fact that investors would be unlikely to purchase public utility and Treasury bonds at these low-rate/low-yield levels if they anticipated significant interest rate increases in the near future. *See* Exh. No. JC-1 at 35:19 – 36:2 and 37:6 - 39:23.
- Oil and gas pipelines confront the same economic and capital market conditions as do electric utilities. Yet, Commission decisions in gas and oil pipeline cases continue to apply the median of the range of DCF outcomes in setting ROE, with no "anomalous conditions" adjustment to a point in the upper half of that range.[15] *See* Exh. No. JC-1 at 40:12 – 41:27. The Commission's adherence to the median DCF results in oil and gas pipeline cases seriously undermines the rationale for the "anomalous conditions" adjustment adopted in Opinion Nos. 531 and 551.

22. A second factor noted by the Commission in Opinion No. 531 as justifying a deviation from reliance on the point of central tendency in the zone of

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[14] Opinion No. 531 at P 145, n. 285.

[15] *See, e.g., El Paso Natural Gas Company*, 145 FERC ¶ 61,040, at P 698 (2013), *order on reh'g,* 154 FERC ¶ 61,120 (2016), in which the Commission set the Base ROE at the median of the DCF zone of reasonableness, and, in so doing, rejected the Presiding Judge's recommendation for an upward adjustment from the median value.

reasonableness was the level of ROEs being allowed by state regulatory commissions. Specifically, the Commission stated that evidence of state commission-approved ROEs in that case supported adjusting the ROE to a point in the middle of the upper half of the zone of reasonableness.[16] The Commission reached a similar conclusion in Opinion No. 551.[17]

23. Mr. Solomon explains in his testimony that, as bond yields have fallen, state commission-allowed ROEs also have dropped, albeit with a lag, and it is expected that state ROE awards will continue in their downward trajectory. *See* Exh. No. JC-1 at 42:1-11. In fact, the latest reports from Regulatory Research Associates ("RRA") show that, if the extraordinary Virginia generation surcharge/rider cases are properly set to the side, the average state commission-awarded electric ROE was 10.01% in 2012, 9.81% in 2013, 9.75% in 2014, and 9.60% in 2015. Authorized state ROE during the first three quarters of 2016 were between 9.0% and 10.0%, excluding the Virginia limited issue production plant incentive cases. *See* Exh. No. JC-1 at 42:12 – 43:2. The level of state-awarded ROEs thus provides no basis for refusing to adopt the outcome of a conventional DCF analysis here.

24. Further, as Mr. Solomon explains, retail service regulated by the state commissions includes not only the distribution function, but also the generation function, and is more risky than FERC-regulated transmission service, especially where the FERC-regulated utilities have transmission formula rates, as do the

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[16] Opinion No. 531 at P 148.

[17] Opinion No. 551 at P 250.

AEP East Companies. In contrast to the situation in states where there is often regulatory lag resulting in utilities earning less than their authorized ROEs, the transmission formula rates of the AEP East Companies provide for timely recovery of their actual costs of providing service. Accordingly, FERC-approved transmission ROEs—especially where there are formula rates that eliminate regulatory lag—should actually be *lower* than those allowed by state commissions. *See* Exh No. JC-1 at 45:10-18. Therefore, even if there were recent state authorized ROEs higher than the 8.32% ROE Mr. Solomon recommends for AEP, that would not justify increasing the ROE above the median value here.

25. The third factor cited by the Commission in Opinion No. 531 as justifying its deviation from use of the central tendency point in the zone of reasonableness is that other ROE determination methods supported by the respondents' witness in *Coakley* resulted in higher ROEs than the median of the DCF results. However, the Commission noted its reservations about use of these alternative approaches, which are regularly used by utility-sponsored witnesses to try to justify higher ROEs than can be supported using market-driven DCF data. The Commission observed that those alternative methods had been rejected in the past and that it was giving weight to the alternative methods only because of what it considered, based on the record in that case, "unusual capital market conditions."[18] Mr. Solomon testifies that these discredited alternative ROE methods do not provide a basis for setting the ROE here any higher than the median of the DCF range for

[18] Opinion No. 531 at P 142.

the proxy group companies. *See* Exh. No. JC-1 at 45:19 – 46:10. Mr. Solomon also explains that, even assuming *arguendo* that the record here were to justify setting the ROE at the point of central tendency in the upper half of the calculated ROE range, the appropriate point for this purpose would be the true 75th percentile value (*i.e.* 8.56%), which is effectively the median—not the midpoint—of the upper half range. *See* Exh. No. JC-1 at 31:8-20.

IV. ADDITIONAL INFORMATION PROVIDED IN COMPLIANCE WITH COMMISSION RULE 206

26. To the extent not already set forth above, Joint Complainants provide the following additional information required by Rule 206 of the Commission's Rules of Practice and Procedure:

A. Specification of the Action or Inaction Alleged to Violate Statutory Standards or Regulatory Requirements (Rule 206(b)(1)):

27. The base return on common equity currently reflected in the transmission formula rates of the AEP East Companies is excessive, and therefore unjust and unreasonable.

B. How the Action or Inaction Violates Applicable Statutory Standards or Regulatory Requirements (Rule 206(b)(2)):

28. The legal basis for this Complaint is set forth in Section III.B (¶¶ 11-14) above. The assessment of unjust and unreasonable charges by the AEP East Companies, through the AEP Zone transmission service rates collected by PJM, violates Section 206 of the FPA.

C. Business, Commercial, Economic or Other Issues Presented as They Relate to the Complainants (Rule 206(b)(3)):

29. Each Complainant is a network transmission service customer under the PJM OATT and/or a provider of service to loads located in the AEP Transmission

Zone of PJM. Therefore, each Complainant is directly and adversely affected by the assessment of charges that are based in part on an excessive Base ROE.

D. Good Faith Estimate of Financial Impact or Harm (Rule 206(b)(4)):

30. Reducing the ROE included in the AEP East Companies' formula transmission rates from the current 11.49% level (10.99% base plus 50 basis point RTO participation adder) to 8.82% (8.32% Base ROE plus adder) would produce a reduction in the Respondents' total collective annual transmission revenue requirements in the amount of $142,038,251.

E. Operational or Nonfinancial Impacts (Rule 206(b)(5)):

31. Joint Complainants have not identified any operational or nonfinancial impacts resulting from the current Base ROE of the AEP East Companies.

F. Other Pending Matters (Rule 206(b)(6)):

32. Joint Complainants are not aware of any other pending matter that concerns the AEP East Companies' Base ROE.

G. Specific Relief or Remedy Requested (Rule 206(b)(7)):

33. Joint Complainants seek one or more orders of the Commission that (i) direct the AEP East Companies to incorporate an 8.32% Base ROE in their formula transmission rates to be effective on and after the refund effective date established by the Commission, and (ii) require the AEP East Companies to pay (or cause to be paid) refunds plus interest consistent with implementing the adjudicated reduction in the Base ROE for service rendered on and after the refund effective date. Such relief is provided for in FPA § 206 and 18 C.F.R. § 385.206.

H. <u>Documents Supporting the Complaint (Rule 206(b)(8))</u>:

34. Documents supporting the facts set forth in the Complaint include the testimony attached hereto as Exhibit No. JC-1, and supporting exhibits and workpapers marked Exhibit Nos. JC-2 and JC-3 respectively.

I. <u>Alternative Dispute Resolution (Rule 206(b)(9))</u>:

35. Joint Complainants and Respondents engaged in informal settlement discussions prior to Complainants' filing of this Complaint. Those discussions did not result in an agreement that would have avoided the need for this Complaint. Joint Complainants have not used the Commission's Enforcement Hotline or Dispute Resolution Services and do not believe at this time that alternative dispute resolution would resolve the issues presented in this Complaint.

J. <u>Form of Notice (Rule 206(b)(10))</u>:

36. A form of notice of the filing of this Complaint suitable for publication in the Federal Register is provided with the Complaint.

K. <u>Service (Rule 206(c))</u>:

37. Simultaneous with the filing of this Complaint, Joint Complainants have served a copy of this Complaint upon representatives for the Respondents via electronic mail or first class mail (postage prepaid). Copies of the Complaint also are being provided to affected agencies and other parties potentially affected by the Complaint, as required by Rule 206(c).

V. CONCLUSION

38. WHEREFORE, for the foregoing reasons, Joint Complainants respectfully request that the Commission: (1) find that the AEP East Companies' currently effective Base ROE of 10.99% is unjust and unreasonable and must be reduced to a just

and reasonable level, (2) find that the 8.32% Base ROE recommended by Joint Complainants is just and reasonable and should be adopted in calculating the annual transmission revenue requirements of the AEP East Operating Companies and the AEP East Transcos pursuant to Attachments H-14 and H-20, respectively, of the PJM Open Access Transmission Tariff; (3) establish the date of the filing of the Complaint as the refund effective date for this Complaint, and cause notice of the establishment of the refund effective date to be published in the Federal Register; (4) order refunds, with interest at the rates provided for in the Commission's Regulations, of the difference between the AEP Companies' annual transmission revenue requirements calculated using the ROE established in this proceeding versus the annual transmission revenue requirements calculated using the currently effective Base ROE, commencing with the refund effective date established for this Complaint; and (5) grant such other relief as the Commission may deem appropriate in the circumstances presented.

Respectfully submitted,

/s/ Gary J. Newell

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Attorneys for American Municipal Power, Inc. on behalf of the Joint Complainants

Dated: October 27, 2016

FORM OF NOTICE

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants, v. Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents.	Docket No. EL17-____-000

NOTICE OF COMPLAINT

(________, 2016)

Take notice that on October 27, 2016, American Municipal Power, Inc., Blue Ridge Power Agency, Craig-Botetourt Electric Cooperative, Indiana Michigan Municipal Distributors Association, Indiana Municipal Power Agency, Old Dominion Electric Cooperative, Inc. and Wabash Valley Power Association, Inc. (collectively, "Joint Complainants") filed a formal complaint against Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc. (collectively, "Respondents" or "AEP East Companies") pursuant to Section 206 of the Federal Power Act and Rule 206 of the Federal Energy Regulatory Commission's ("FERC" or "Commission") Rules of Practice and Procedure, alleging that the 10.99% base return on common equity currently included in the formula transmission rates of the AEP East Companies is unjust and unreasonable and should be reduced as of the date of the Complaint.

Joint Complainants certify that copies of the complaint were served in accordance with Rule 206(c).

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR §§ 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. The Respondents' answer and all interventions or protests must be filed on or before the comment date. The Respondents' answer, motions to intervene, and protests must be served on the Complainants.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically should submit an original and 5 copies of their protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, DC 20426.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, DC. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on _______, 2016.

Kimberly D. Bose,
Secretary

CERTIFICATE OF SERVICE

CERTIFICATE OF SERVICE

I hereby certify that I have this day caused a copy of the foregoing Complaint to be served via electronic mail or first class mail (postage prepaid) upon the below-listed representatives of the Respondents, affected regulatory agencies, and others who may be affected by the Complaint, as required by Commission Rule 207(c), 18 C.F.R. § 385.207(c) (2016).

Dated at Washington, D.C. this 27th day of October, 2016.

/s/ Anna Williamson

Anna Williamson
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American Electric Power Service Corp., on behalf of its affiliated operating companies Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, and Ohio Power Company, and its affiliated transmission companies AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc. and AEP West Virginia Transmission Company, Inc.

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PART II

Exhibit No. JC-1

DIRECT TESTIMONY
AND EXHIBITS
OF J. BERTRAM
SOLOMON

Exhibit No. JC-1

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants, v. Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents.	Docket No. EL17-__-000

DIRECT TESTIMONY AND EXHIBITS
OF J. BERTRAM SOLOMON

On Behalf Of

AMERICAN MUNICIPAL POWER, INC.
BLUE RIDGE POWER AGENCY
CRAIG-BOTETOURT ELECTRIC COOPERATIVE
INDIANA MICHIGAN MUNICIPAL DISTRIBUTORS ASSOCIATION
INDIANA MUNICIPAL POWER AGENCY
OLD DOMINION ELECTRIC COOPERATIVE, INC. AND
WABASH VALLEY POWER ASSOCIATION, INC.

October 27, 2016

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LIST OF EXHIBITS

Exhibit No.	Description
JC-1	Direct Testimony of J. Bertram Solomon
JC-2	Two-Step DCF Analysis Using Data for Six Months Ending September 2016
JC-3	Workpapers Supporting Direct Testimony of J. Bertram Solomon

SUMMARY

J. Bertram Solomon, Executive Consultant of GDS Associates, Inc., an engineering and consulting firm, presents Direct Testimony and Exhibits on behalf of American Municipal Power, Inc., Blue Ridge Power Agency, Craig-Botetourt Electric Cooperative, Indiana Michigan Municipal Distributors Association, Indiana Municipal Power Agency, Old Dominion Electric Cooperative, Inc., and Wabash Valley Power Association, Inc. (collectively referred to as "Joint Complainants"). Mr. Solomon presents the results of his cost of common equity analyses and provides a recommendation for the appropriate rate of return on common equity ("ROE") that should be reflected in the transmission formula rates of the AEP East Companies ("AEP East" or the "Companies")[1] at issue in this proceeding.

Mr. Solomon selects a national proxy group of Value Line electric utilities with average risk comparable to that of AEP East and applies the Commission's preferred two-step, constant growth Discounted Cash Flow ("DCF") methodology in accordance with the Commission's guidance for electric utilities in Opinion Nos. 531, 531-A, 531-B, and 551 and other opinions and orders. According to Mr. Solomon's analysis, which is based on financial data for the recent six-month period of April through September 2016, a just and reasonable base ROE for AEP East is 8.32%. This recommended ROE is based upon the median of Mr. Solomon's DCF-calculated array of investor-required ROEs for his national electric utility proxy group of twenty-five electric utilities. The

[1] The AEP East Companies are Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc.

range of returns for this proxy group is 5.62% to 9.46% (*s ee generally* Solomon Testimony, Ex. No. JC-1 at 8-47). Mr. Solomon's proxy group was selected using several screening criteria that have been used by the Commission in past cases, including both Standard & Poor's Financial Services LLC ("S&P") and Moody's Investors Service, Inc. ("Moody's") credit ratings screens.

Mr. Solomon explains that use of the median of the proxy group ROEs as the most appropriate measure of central tendency for a single electric utility is consistent with Commission policy and practice. Mr. Solomon uses various metrics, including a review of the credit ratings and Value Line Safety Rankings for the proxy companies, to confirm that AEP East is perceived to present approximately the same risk as the average for the group. Mr. Solomon explains that, consistent with Opinion Nos. 531 and 551, in selecting his comparable-risk proxy group, he used a credit rating risk band of BBB to A- for S&P ratings and Baa2 to A3 for Moody's ratings, which includes ratings one notch above and below the BBB+ S&P and Baa1 Moody's ratings of AEP, respectively.

Mr. Solomon specifically addresses the Commission's determination in Opinion Nos. 531 and 551 to set the base ROEs for the ISO-New England Transmission Owners and Midcontinent Independent System Operator, Inc. Transmission Owners, respectively, at the midpoint of the upper half of the ROE range based on the specific record in those cases. The same result is not warranted here. Mr. Solomon explains that there have been both limited increases and decreases in the six-month average ten-year Treasury bond yields over the last five years, which confirms that we are experiencing a new normal level of capital costs rather than a short-lived aberration. Additionally, he identifies lower unemployment rates, low inflation rates, an expanding economy, the ending of the Quantitative Easing program and initiation of short-term interest rate increases by the

Federal Reserve, and a stronger stock market as additional factors that are different from the record underlying Opinion Nos. 531 and 551. He demonstrates that during the last sixty-two months, from August 2011 – September 2016, Baa-rated public utility bond yields have settled into a range of 4.16% to 5.57%, with an average of 4.90%, and the 4.41% average yield for the six-month analysis period for the DCF analyses he performed continues to fall well within that range. Finally, Mr. Solomon discusses the use of state commission-allowed ROEs and certain other alternative benchmarks referred to in Opinion Nos. 531 and 551 that were considered in placing the base ROE above the median in those proceedings. He uses published reports to demonstrate that no such adjustment is warranted in this case and explains that, as bond yields have fallen over the last several years, state commission-allowed ROEs have come down (and are expected to continue to decline). Mr. Solomon explains that even if the Commission finds it appropriate to use the upper half of the ROE range, using the midpoint as the point of central tendency can cause inappropriate impacts on the result by overweighting extreme values of the proxy group, and that the 75th percentile, or effectively the median of the upper half of the range, is a more appropriate measure of central tendency for the upper half of the range and is more consistent with Commission precedent when setting the ROE for a single electric utility rather than for a region-wide group of disparate utilities.

Mr. Solomon recommends a base ROE of 8.32% for the AEP East companies' formula transmission rates. The current base ROE of 10.99% included in AEP East's formula transmission rates is inarguably unjust and unreasonable as it exceeds even the upper end of the zone of reasonableness (9.46%). Adding the PJM membership adder of 50 basis points to the 8.32% median-based ROE would increase Mr. Solomon's recommended ROE to 8.82%. To the extent the Commission determines that AEP East is eligible to apply other ROE incentive adders for specific projects to its transmission formula rates, the 8.82% ROE could increase to a level that does not exceed the 9.46% upper end of the zone of reasonableness.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants,	)	
v.	)	Docket No. EL17-___-000
Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents.	)	

DIRECT TESTIMONY AND EXHIBITS
OF J. BERTRAM SOLOMON

On Behalf Of

AMERICAN MUNICIPAL POWER, INC.
BLUE RIDGE POWER AGENCY
CRAIG-BOTETOURT ELECTRIC COOPERATIVE
INDIANA MICHIGAN MUNICIPAL DISTRIBUTORS ASSOCIATION
INDIANA MUNICIPAL POWER AGENCY
OLD DOMINION ELECTRIC COOPERATIVE, INC. AND
WABASH VALLEY POWER ASSOCIATION, INC.

October 27, 2016

I.
INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is J. Bertram Solomon. My business address is 1850 Parkway Place, Suite 800 Marietta, Georgia 30067.

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

A. I am an Executive Consultant for GDS Associates, Inc. ("GDS"), a multi-disciplinary engineering and consulting firm primarily serving electric, gas and water utilities. I specialize in public utility economics, energy supply, and rates.

Q. PLEASE OUTLINE YOUR FORMAL EDUCATION AND WORK EXPERIENCE.

A. I received the degree of Master of Business Administration from Georgia State University in 1973. My area of concentration was Finance. I also received the degree of Bachelor of Science in Industrial Management from the Georgia Institute of Technology in 1972.

As a cooperative student at Georgia Tech, I gained approximately two years' work experience as an assistant engineer in an industrial production setting. After graduation from Georgia Tech in 1972, I worked approximately one and one-half years as a program manager for a management consulting firm and for another one and one-half years as a project analyst for a resort development firm. I was employed by Southern Engineering Company from January 1975 until February 1986. During that time, I had assignments in both the retail and wholesale rate departments of Southern Engineering, working primarily in the area of electric utility rates. In February 1986, I participated in the founding of

GDS Associates, Inc., a public utility engineering and consulting firm providing integrated resource planning services, energy efficiency services, generation support services, financial and statistical services, and regulatory services.

I have provided expert ratemaking testimony before the public utility commissions of Alaska, Arkansas, Florida, Georgia, Indiana, Kansas, Kentucky, Maine, Michigan, Minnesota, Nevada, New Jersey, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, Texas (Public Utility and Railroad), and Virginia, and before the Federal Energy Regulatory Commission ("FERC" or "Commission"). The areas of my expert testimony include: required rates of return including return on common equity ("ROE") for investor-owned utilities and required margin levels for non-profit utilities; proper methods of measuring working capital requirements; the effects of alternative accounting methods on expenses, income taxes, revenues, rate base and cost of capital and their proper treatment for ratemaking purposes; proper methods of cost allocation; rate design; integrated resource planning; the proper unbundling of rates by service function; transmission service rates and terms and conditions of service; electric utility industry restructuring issues; various regulatory policy issues; and economic feasibility analyses. I have also been involved in stakeholder processes for designing, developing and implementing Independent System Operators ("ISOs") and Regional Transmission Organizations ("RTOs"), and associated regulatory proceedings including the pre- and post-filing stages and subsequent operations.

I have presented testimony in water, natural gas and electric cases. I also have prepared and filed comments before FERC in several generic rulemaking proceedings, and I have testified before the U.S. Senate Committee on Energy and

Natural Resources, Subcommittee on Energy Regulation, and before the Utilities Committee of the Mississippi House of Representatives. In addition, I have participated in the preparation of retail and wholesale allocated cost of service studies, power cost projections, and generating plant joint venture feasibility analyses, and I have been responsible for competitive power supply solicitations, contract negotiations, transmission service arrangements, scheduling of generation and other resources to meet service requirements, and related litigation efforts. Also, I have participated in the successful negotiation of settlements in many other rate cases filed before public utility regulatory commissions, thus eliminating the necessity of filing testimony in those proceedings.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE REGULATORY COMMISSIONS?

A. Yes. A list of proceedings in which I have filed testimony is included in Appendix A to my testimony here.

Q. HAS ANY OF YOUR TESTIMONY BEFORE REGULATORY COMMISSIONS INVOLVED ISSUES SIMILAR TO THOSE YOU ADDRESS IN THIS CASE?

A. Yes. Since about 1980, I have presented testimony addressing cost of capital and rate of return in numerous cases before both state public utility commissions and FERC. I have prepared cost of capital analyses involving numerous FERC-regulated utilities, including the following: Allegheny Power System; American Electric Power Company; American Transmission Systems, Inc.; Appalachian Power Company; Boston Edison Company; Carolina Power & Light Company; CenterPoint Energy Houston Electric, LLC; Cleco Power LLC; Delmarva Power and Light Company; Duke Energy Florida, Inc.; Duke Energy Kentucky, Inc; Duke Energy Ohio, Inc.; Duke Power Company; The Empire District Electric Company; Entergy Corporation; FirstEnergy Corporation; Florida Power and Light Company; Florida Power Corporation; Georgia Power Company; Gulf States Utilities Company; Idaho Power Company; Kansas Gas and Electric Company; Kentucky Utilities Company; Maine Yankee Atomic Power Company; Midwest ISO Transmission Owners; Midcontinent Independent System Operator, Inc. Transmission Owners; Mississippi Power Company; Montana Power Company; New York State Electric and Gas Corporation; Niagara Mohawk Power Company; Ohio Edison Company; Oklahoma Gas and Electric Company; PacifiCorp; Pacific Gas & Electric Company; Potomac-Appalachian Transmission Highline, LLC; Potomac Edison Company; PPL Corporation; Public Service Company of Colorado; Public Service Company of New Mexico; Public Service Company of Oklahoma; Public Service Electric & Gas Company; San Diego Gas & Electric Company; Sierra Pacific Power Company; South Carolina Electric & Gas Company; Southern California Edison Company; Southern Company; Southwestern Public Service Company; Tampa Electric Company; Trans Bay Cable LLC; Virginia Electric & Power Company; Westar Energy, Inc.; Wisconsin Electric Power Company; and Wisconsin Power & Light Company. In addition, I testified in the *Midwest Independent Transmission System Operator, Inc.* ROE single-issue proceeding, Docket No. ER02-485-000; *Golden Spread Electric Cooperative, Inc., et al., v. Southwestern Public Service Company*, Docket No. EL05-19-000, which ultimately was adjudicated by the

Commission in Opinion Nos. 501 and 501-A; and *Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity*, Docket No. PL07-2-000.

Q. DO YOU REGULARLY FOLLOW DEVELOPMENTS IN THE CAPITAL MARKETS THAT HAVE A BEARING ON RATE OF RETURN ISSUES?

A. Yes. In connection with my frequent consulting assignments in this field, I regularly follow the capital markets and especially factors influencing the cost of capital for electric utilities.

Q. PLEASE DESCRIBE GENERALLY THE TYPES OF MATERIALS YOU REVIEWED IN PREPARING YOUR TESTIMONY IN THIS PROCEEDING.

A. In addition to my routine review of economic and financial market information and Commission orders and opinions on electric utility ROEs, I have reviewed publicly available reports on the credit ratings and investment risks of AEP East and their securities. I have also reviewed the Commission's most recent opinions on ROE for electric utilities: the Opinion No. 531 series[2] and Opinion No. 551.[3]

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[2] *Martha Coakley, Massachusetts Attorney General, et al. v. Bangor Hydro-Electric Co., et al.*, 147 FERC ¶ 61,234 (2014) ("Opinion No. 531"), *Order on Paper Hearing*, Opinion No. 531-A, 149 FERC ¶ 61,032 (2014) ("Opinion No. 531-A"), and *Order on Rehearing*, Opinion No. 531-B, 150 FERC ¶ 61,165 (2015) ("Opinion No. 531-B").

[3] *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. System Operator, Inc.*, 156 FERC ¶ 61,234 (2016) ("Opinion No. 551").

Q. ARE YOU SPONSORING ANY EXHIBITS TO YOUR TESTIMONY?

A. Yes. In addition to my prepared direct testimony (Exhibit No. JC-1), I am sponsoring the following supporting exhibits:

JC-2: Two-Step DCF Analysis Using Data for Six Months Ending September 2016; and

JC-3: Workpapers Supporting Direct Testimony of J. Bertram Solomon.

II.
SPONSORSHIP OF TESTIMONY

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

A. I am presenting this testimony on behalf of American Municipal Power, Inc., Blue Ridge Power Agency, Craig-Botetourt Electric Cooperative, Indiana Michigan Municipal Distributors Association, Indiana Municipal Power Agency, Old Dominion Electric Cooperative, Inc., and Wabash Valley Power Association, Inc. (collectively referred to as "Joint Complainants").

III.
PURPOSE AND OVERVIEW OF TESTIMONY

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

A. My direct testimony presents the results of my analyses of the current cost of common equity capital for AEP East, based on the FERC guidelines in Opinion Nos. 531, 531-A, 531-B, 551, and other relevant precedent. The purpose of my testimony is two-fold: first, to explain the basis for my determination that the ROE currently included in the transmission formula rates of AEP East is excessive and, therefore, unjust and unreasonable; and, second, to provide a recommendation for the just and reasonable base ROE that should be used in AEP East's transmission formula rates.

Q. PLEASE PROVIDE AN OVERVIEW OF THE REMAINDER OF YOUR TESTIMONY.

A. In Part IV below, I present my evaluation of the justness and reasonableness of the rate of return on common equity currently included in the wholesale formula transmission rates of AEP East. I explain in Part IV the basis for my conclusion that the rate of return on common equity currently included in AEP East's transmission rates is substantially excessive, and therefore unjust and unreasonable.

In Part V below, I discuss my application of the Commission's favored two-step DCF methodology for determining the cost of common equity capital for electric utility companies to financial data for the most recent six-month period at the time my analyses were conducted (the six months ending September 30, 2016).

In Part VI below, I set forth my recommendation regarding the just and reasonable base rate of return on common equity for inclusion in the formula transmission rates of AEP East at issue in this proceeding. I also discuss whether or how certain case-specific determinations referred to in Opinion Nos. 531 and 551 should have a bearing on the Commission's determination in this case.

Finally, in Part VII below, I summarize the conclusions I believe are supported by the analyses described in the preceding sections of my testimony.

IV. EVALUATION OF THE RATE OF RETURN ON COMMON EQUITY CURRENTLY INCLUDED IN AEP EAST'S WHOLESALE FORMULA TRANSMISSION RATES

Q. PLEASE DESCRIBE THE AEP EAST COMPANIES.

A. The AEP East Companies are made up of "Operating Companies" including Appalachian Power Company ("APCo"), Columbus Southern Power Company ("CSPCo"), Indiana Michigan Power Company ("I&M"), Kentucky Power Company ("KPCo"), Kingsport Power Company ("KGPCo"), Ohio Power Company ("OPCo"), and Wheeling Power Company ("WPCo") and "TransCos," which include AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc.. All are wholly-owned subsidiaries of American Electric Power Company, Inc. ("AEP") and are regulated public utilities. With the exception of Ohio Power and Columbus Southern, the Operating Companies are vertically integrated electric utilities primarily engaged in the generation, transmission, distribution, and sale of electricity in portions of seven states reaching from Michigan to Tennessee.[4] The TransCos were formed for the purpose of planning, developing, constructing, owning, and operating new electric transmission assets in the service territories of the Operating Companies. The AEP East Companies are all members of PJM Interconnection, LLC ("PJM"), a

[4] According to AEP's 2015 SEC Form 10-K, Columbus Southern Power was merged into Ohio Power effective December 31, 2011, and pursuant to Ohio law, Ohio Power transferred away all of its generation assets on December 31, 2013. Ohio Power purchases the capacity and energy required to serve its generation service customers.

FERC-approved RTO, and have turned over functional control of their respective transmission facilities to PJM and provide regional transmission service pursuant to the PJM Open Access Transmission Tariff ("OATT") under annually adjusting cost-of-service formula transmission rates. Those AEP East Companies that have long-term issuer and/or senior unsecured credit ratings from Standard & Poor's Financial Services LLC ("S&P") and Moody's Investors Service, Inc., ("Moody's") currently have the same BBB+ S&P rating as AEP and all but Kentucky Power have the same Baa1 Moody's rating as AEP.[5]

Q. WHAT BASE ROE IS CURRENTLY INCLUDED IN AEP EAST'S FORMULA TRANSMISSION RATES?

A. The Operating Companies' current open access transmission formula rates, which were resolved through a settlement that was filed on April 8, 2010 and became effective on March 1, 2009, currently contain a 10.99% base ROE.[6] The TransCos' formula rates were added as part of the PJM AEP Zone and made effective July 1, 2010 through a settlement filed on September 24, 2010.[7] The TransCos' settlement simply adopted the 10.99% base ROE that had been agreed to for use by the Operating Companies in the AEP Zone.

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[5] Kentucky Power's senior unsecured rating from Moody's is Baa2, which is one notch lower than the Baa1 of AEP and the other Operating Companies. The TransCos do not currently have such ratings from S&P and Moody's.

[6] The Operating Companies' transmission formula rate settlement was filed on April 8, 2010 in Docket No. ER08-1329-000. *See* FERC eLibrary accession number 20100408-0069. That settlement was approved by letter order dated October 1, 2010. *See* 133 FERC ¶ 61,007.

[7] The TransCos' formula rate settlement was filed on September 24, 2010 in Docket No. ER10-355-000. *See* FERC eLibrary accession number 20100927-0005. That settlement was approved by order dated April 21, 2011. *See* 135 FERC ¶ 61,066.

Q. IS THE 10.99% BASE ROE JUST AND REASONABLE FOR USE IN AEP EAST'S CURRENT TRANSMISSION FORMULA RATES?

A. No. The 10.99% base ROE, which was negotiated over six years ago, is no longer just and reasonable for use in AEP East's transmission formula rates because the economic environment and capital markets have changed dramatically since that ROE was determined. Capital costs in general, and capital costs for electric utilities in particular, have substantially declined over the ensuing years. For example, for the six-month period ending March 2010 immediately before the filing of the ER08-1329 settlement agreement and during which the 10.99% settlement ROE was negotiated, the average Moody's Baa Rated Public Utility Bond yield was 6.20%.[8] For the six-month period ending September 2016 used in my DCF analyses, the comparable average bond yield was 4.41%. Thus, public utility long-term debt costs for AEP East's rating category have dropped by approximately 179 basis points on average, and the AEP East ROE of 10.99% is much higher than AEP East's current cost of common equity capital.[9] As I will discuss in more detail below, this fact is borne out by my analyses applying the Commission's favored two-step DCF methodology as explained in its Opinion No. 531 series and as applied in its Opinion No. 551.

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[8] At the time, AEP's senior unsecured credit rating was Baa2 from Moody's and its long-term issuer rating was BBB from S&P. Subsequently the Moody's rating has been upgraded to Baa1 and the S&P rating has been upgraded to BBB+ indicating perceived lower risks currently.

[9] The average yields on 10-year constant maturity Treasury bonds have dropped by approximately 193 basis points from 3.59% during the six months ending March 2010 to 1.66% during the six months ending September 2016.

That brings me to another reason the existing 10.99% ROE should be reevaluated. In addition to economic and capital cost changes over time, the Commission has since changed the way it applies the DCF methodology in determining the ROE for electric utilities. The current ROE was based on the Commission's old single-stage DCF methodology. Subsequently, in Opinion No. 531, the Commission found that the two-step DCF methodology it has long used for natural gas and oil pipelines should also be used for electric utilities. Thus, AEP East's ROE should be reexamined based on the Commission's current DCF application methodology.

Furthermore, AEP, APCo, and I&M were seen by Moody's as being riskier at the time the existing 10.99% ROE was established than they are currently. AEP and those subsidiaries' senior unsecured ratings from Moody's in early 2010 were Baa2, but have subsequently been upgraded one notch to Baa1.[10] During the same period, AEP and the AEP East companies have all had their long-term issuer ratings upgraded by S&P from BBB to BBB+, which is an indication of perceived lower risk for those companies.[11]

My application of the Commission's preferred two-step DCF methodology shows that the range of results for a properly selected national proxy group of electric utilities with risks comparable to those of AEP East is 5.62% to 9.46%. *See* Ex. No. JC-2 at 1. Based on that analysis, I recommend that the 8.32%

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[10] *See* Exhibit No. JC-3 at 81-82 and 130-137 and Exhibit AEP-500, p. 12 of Dr. William E. Avera supporting the TransCos' filing in Docket No. ER10-355-000, FERC eLibrary accession number 20091202-0105. The Moody's senior unsecured rating for OPCo has remained unchanged at Baa1 over this period and that for KPCo has remained at Baa2.

[11] *Id.*

median of my proxy group ROEs be adopted as the base ROE in AEP East's formula transmission rates. As I discuss below, I do not believe the facts warrant selection of a point in the upper half of the proxy group ROEs for AEP East's ROE in this proceeding. However, if the Commission finds on the basis of the record here that conditions warrant awarding the central tendency of the upper half of the proxy group DCF results, as it did in Opinion Nos. 531 and 551, the appropriate measure of the central tendency for the upper half of the range is the median or true 75th percentile value of 8.56%. While this case would not set the ROE for a diverse, region-wide RTO group of electric utilities like those in Opinion Nos. 531 and 551, if the Commission determines that the midpoint of the upper half of the DCF range should be used here, as it was in those cases, that result is 8.50%. *Id.*

The reasonableness of an 8.32% base ROE is further supported by the fact that the average yield on Moody's Baa rated public utility bonds for the six-month period ending September 2016 was 4.41%. Thus, an 8.32% ROE would provide an implied 391 basis point premium over the six-month average yield on Moody's Baa rated public utility bonds for the period ending September 2016. That is a very substantial premium.

V.
DEVELOPMENT OF A JUST AND REASONABLE RETURN ON COMMON EQUITY FOR THE AEP EAST COMPANIES

Q. WHAT CRITERIA DID YOU USE IN DETERMINING THE COST OF COMMON EQUITY CAPITAL FOR AEP EAST?

A. To determine the cost of common equity capital for AEP East, I used the criteria set forth in *Bluefield Waterworks & Improvement Co. v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("*Bluefield*"), and *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("*Hope*"). In these landmark decisions, the Supreme Court established standards for regulatory determinations of allowable rates of return on common equity capital. These standards recognize that ratemaking involves a balancing of investor and consumer interests and that the equity investor's interest is served if the return to the equity owner is comparable to the returns on investments in other enterprises having similar risks. In addition, the Court's standards support an ROE that is sufficient to ensure confidence in the financial integrity of the enterprise so as to maintain its credit and to attract capital. The consumer interest is described as including protection from "exploitation at the hands of" the utility.[12] In Order No. 489,[13] the Commission recognized that the best way to meet these standards is through the use of the DCF method. The Commission stated:

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[12] *See, e.g., Hope,* 320 U.S. at 603, 610.

[13] *Generic Determination of Rate of Return on Common Equity for Public Utilities*, Order No. 489, FERC Stats. & Regs. ¶ 30,795 (1988).

> There is compelling economic justification for relying on the market cost of capital as the standard for rate of return decisions. Furthermore, a market cost of capital approach addresses both the comparable earnings and attraction of capital standards of the *Hope* decision. In the Commission's judgment, the DCF method is the best available means of estimating the market cost of capital.[14]

Thus, the Commission recognized that the market-based DCF methodology was the best means of meeting the comparable earnings and capital attraction standards of *Hope/Bluefield*, and the Commission has since continued to rely on the results of the DCF methodology in determining just and reasonable ROEs for electric utilities.

Q. HOW DID YOU DERIVE THE COST OF COMMON EQUITY THAT YOU RECOMMEND FOR USE IN AEP EAST'S TRANSMISSION FORMULA RATES?

A. In determining a fair rate of return on common equity that would meet the criteria of comparability of earnings and capital attraction, I followed the guidance provided by the Commission for determining the allowable ROE to be used in setting wholesale electric rates. In conducting my analyses, I applied the Commission's Opinion No. 531 two-step DCF methodology to a national proxy group of electric utility companies that reflects, as closely as possible, the risk characteristics associated with the electric transmission service of AEP East. This is the methodology long used for natural gas and oil pipelines and set forth for future application to electric utilities in the Commission's Opinion Nos. 531, 531-A, and 531-B.

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[14] Order No. 489 at 30,993.

Q. PLEASE DESCRIBE THE COMMISSION'S TWO-STEP DCF METHODOLOGY AND YOUR APPLICATION OF THAT METHODOLOGY IN MORE DETAIL.

A. The Commission's preferred two-step, constant growth DCF formula is:

$$k = (D/P)\ (1 + 0.5g) + g$$

The "D/P" term is the dividend yield. Pursuant to Opinion No. 531, the Commission prefers the use of the latest six-month average dividend yield for each proxy company. Thus, to gauge AEP East's current cost of common equity capital, I have used dividend yields for the six months ending September 2016, which were the most recent available at the time my analyses were prepared. The "g" term is the expected long-term dividend growth rate. In order to reflect investors' expected long-term dividend growth rate, the Commission in Opinion Nos. 531 and 531-A expressed its preference for the use of a single, weighted average of two different growth rates for each proxy company – a shorter-term growth rate weighted at two-thirds and a longer-term growth rate weighted at one-third. The shorter-term growth rate is the analysts' consensus forecasted "five-year" earnings per share growth rate as reported by I/B/E/S International, Inc. ("IBES")[15] or a comparable analysts' consensus forecasted growth rate for each proxy company.[16] The longer-term growth rate is based on forecasts of long-term

[15] IBES was purchased by Thomson Financial, which later became Thomson Reuters. Such "IBES" growth rates are regularly retrieved from the Thomson Reuters/IBES data base and published on the Yahoo! Finance website.

[16] Other reputable financial and investment information services also publish comparable forecasts of "five-year" earnings per share growth rates that also are used by investors. The key to being "comparable" to IBES is that the forecast represents a consensus of analysts' growth rate forecasts. *See* Opinion No. 551 at P 64.

growth of the economy as a whole, as reflected by the Gross Domestic Product ("GDP").[17] The dividend yield is multiplied by 1 + 0.5g to reflect the quarterly payment of dividends.[18]

Q. DID OPINION NO. 531 DEFINITIVELY RESOLVE THE GROWTH RATE ISSUE?

A. No. Using the GDP growth rate as the appropriate long-term growth rate was a new aspect of the two-step DCF method adopted in Opinion No. 531 that was not advocated by any of the underlying parties. Accordingly, the Commission directed the parties to establish an evidentiary record on the long-term growth rate issue through a paper hearing. After considering the evidence, the Commission followed the proposal concerning the GDP growth rate that it had made in Opinion No. 531.[19] That approach was followed by the Presiding Judge in the MISO ROE proceeding that resulted in Opinion No. 551, and was not contested on exceptions.[20]

Q. HOW DID YOU SELECT YOUR ELECTRIC UTILITY PROXY GROUP?

A. Applying the guidance provided by the Commission in Opinion No. 531, I selected a national electric utility proxy group using the following criteria:

(1) companies that are included in the Value Line electric utility industry universe;

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[17] Currently, the Commission uses an average of forecasted long-term GDP data from EIA, Social Security Administration, and HIS Global Insight.

[18] *See* Opinion No. 531 at PP 15, 17, and 39.

[19] *See* Opinion No. 531-A at P 10.

[20] *See* Opinion No. 551 at PP 21-22.

(2) electric utilities that have an S&P corporate credit rating ("CCR") of BBB to A- and a Moody's long-term issuer or senior unsecured credit rating of Baa2 to A3[21] [These ratings ranges encompass one credit rating notch above and below AEP's S&P rating of BBB+ and its Moody's rating of Baa1.[22] Because the S&P and Moody's ratings diverge for the majority of the Value Line electric utilities that are rated by both firms, using both S&P and Moody's ratings for proxy group selection purposes results in a group that is more truly comparable in risk to AEP East than using S&P ratings only and conforms to the Commission's findings in Opinion No. 531.];

(3) electric utilities having an IBES published analysts' consensus "five-year" earnings per share growth rate;

(4) electric utilities that are not engaged in major merger or acquisition ("M&A") activity currently or during the six-month dividend yield analysis period;

(5) electric utilities that paid dividends throughout the six-month dividend yield analysis period, did not cut dividends during that period, and have not subsequently announced a dividend cut; and

(6) electric utilities whose DCF results pass threshold tests of economic logic and are not outliers.

Thirty-four companies included in the Value Line electric utility universe satisfied the credit ratings criteria listed in item 2 above. *See* Ex. No. JC-2 at 8.

Q. WERE ANY OF THESE THIRTY-FOUR VALUE LINE ELECTRIC UTILITIES ELIMINATED FROM THE PROXY GROUP BASED ON OTHER FACTORS?

A. Yes. Nine companies, CenterPoint Energy, Inc. ("CenterPoint"), Dominion Resources, Inc. ("Dominion"), Duke Energy Corporation ("Duke"), Empire

[21] Pursuant to Opinion No. 531, P 107, both the S&P and Moody's ratings are used when both are available, but if a rating is only available from one of the two rating agencies, that single rating is used to apply this criterion.

[22] The average AEP East credit ratings are the same as those of AEP with all but one of the subsidiaries (KPCo) having exactly the same S&P CCRs and Moody's senior unsecured ratings as AEP.

District Electric Company ("EDE"), Great Plains Energy, Inc. ("GPE"), ITC Holdings Corporation ("ITC"), NextEra Energy, Inc. ("NextEra"), Southern Company ("Southern"), and Westar Energy, Inc. ("Westar") were eliminated from the proxy group due to major M&A activity during the dividend yield analysis period.

- On February 1, 2016, CenterPoint Energy announced that it was evaluating strategic alternatives for its investments in Enable Midstream Partners ("Enable"), which may include a spinoff. *See* Ex. No. JC-3 at 270. CenterPoint owns a 50% general partner interest and a 55.4% limited partner interest in Enable, and jointly controls it with OGE Energy Corporation. At the end of 2015, CenterPoint's investment in Enable constituted just over 12% of its total assets having been written down from just over 20% at the of 2013. *Id.* at 273. Subsequently, CenterPoint entered into discussions with OGE and a third party to sell its Enable interest. The CenterPoint stock price appears to have been positively affected since its price has increased by 24% from February 1, 2016 through September 30, 2016 while the Dow Jones Utility Average has increased by only 8% over the same period. *Id.* at 269.
- On February 1, 2016, Dominion announced its agreement to acquire Questar Corporation, and the deal is still pending. *Id.* at 261. The announced transaction value of the deal was about $5.88 billion or over 13% of Dominion's $45.02 billion total capitalization. The deal is expected to be accretive to earnings upon closing. *Id.* at 263.

- On October 26, 2015, Duke announced its agreement to acquire Piedmont Natural Gas Company, Inc. with a transaction value of $6.5 billion. After the announcement, S&P lowered Duke Energy's rating outlook to negative to account for borrowing associated with the acquisition, and Fitch Ratings also placed Duke's long-term issuer default rating on watch negative for similar reasons. *Id.* at 284 - 287. Also, the deal got mixed reviews from Wall Street as the agreed valuation was questioned and subsequently Duke's stock price dropped relative to the SNL Electric Utility index and the S&P 500 Electric Utilities. The deal was pending throughout the six-month dividend yield analysis period and closed on October 3, 2016. *Id.* at 295.
- On February 9, 2016, EDE announced that it had reached agreement to be acquired by Algonquin Power & Utilities Corporation. The deal is still pending while awaiting the required approvals. *Id.* at 289.
- On May 31, 2016, GPE announced its still pending deal to acquire Westar. The announced transaction value of the deal was about $11.87 billion or approximately 148% of (almost one and one-half times) GPE's $8.02 billion total capitalization. *Id.* at 297 and 302.
- On February 9, 2016, ITC announced its agreement to be acquired by Fortis Inc. The deal was pending throughout the six-month dividend yield analysis period and closed on October 14, 2016. *Id.* at 299.
- On December 3, 2014, NextEra announced its agreement to acquire Hawaiian Electric Industries, Inc., with a reported transaction value of $4.3 billion. However, that deal was terminated in the middle of my six-

month dividend yield analysis period on July 16, 2016. *Id.* at 305. Subsequently, on July 29, 2016, NextEra announced its still pending agreement to acquire 80.03% of indirect interest in Oncor Electric Delivery Co. LLC, with a reported transaction value of $18.7 billion. *Id.* at 308.

- On August 24, 2015, Southern announced a $12 billion transaction to acquire AGL Resources Inc., which would form the second-largest U.S. utility company with about nine million customers. Southern completed its acquisition during my six-month dividend yield analysis period on July 1, 2016. *Id.* at 315.

These companies were eliminated from the proxy group because they were engaged in major M&A activity during the six-month dividend yield analysis period that was significant enough to affect one or more DCF model inputs. Elimination of these nine companies left a proxy group of twenty-five electric utilities to which I applied the Commission's favored two-step constant growth DCF method. *See* Ex. No. JC-2 at 8.

Q. HOW DID YOU APPLY THE TWO-STEP DCF METHOD TO YOUR PROXY GROUP OF ELECTRIC UTILITIES?

A. Consistent with the Commission's guidance in Opinion No. 531 (as followed in Opinion No. 551), I first developed a single six-month average dividend yield for each proxy company for the six-month period ending September 2016.[23] Consistent with the Commission's directives,[24] I then calculated a single average growth rate for each proxy group company using a "short-term" analysts' forecasted "five-year" earnings per share growth rate weighted at two-thirds, and a "long-term" forecasted GDP growth rate with a one-third weighting. For the short-term growth rate, I used the average of the analysts' consensus "five-year" earnings per share growth rate projections for each proxy group company as reported by Yahoo! Finance from the Thomson Reuters/IBES database on September 30, 2016, which was the last trading day of my six-month analysis period. The long-term growth rate incorporated in my analysis is 4.35%. This growth rate is based on forecasted long-term GDP growth as prescribed by the Commission in Opinion Nos. 531 and 531-A. In Opinion No. 531, the Commission calculated a long-term GDP growth rate of 4.39%. The most recent long-term GDP growth rate, 4.35%, is the average of the long-term projections of 4.32% by HIS Global Insight (June 27, 2016), 4.32% by the Energy Information Administration (May 17, 2016), and 4.40% by the Social Security Administration Trustees Report (2016).[25] The calculations of the dividend yields and composite average growth rates are shown in Ex. No. JC-2.

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[23] As directed by the Commission in Opinion No. 531 (at P 78), I used the average monthly high and low stock prices combined with the indicated annualized dividend for each month and then averaged the six monthly results to get the six-month average (the "average yield approach"). The Presiding Judge in the MISO ROE proceeding that culminated in Opinion No. 551 also relied on the average yield approach (see *ABATE v. MISO*, 153 FERC ¶ 63,027 at PP 38-41 (2015). No exceptions to his use of this method were taken.

[24] *See* Opinion No. 531 at P 39.

[25] *See Pacific Gas and Electric Company, Docket No. ER16-2320-000*, Prepared Direct Testimony of Adrien M. McKenzie, Exhibit PGE-14 at 79 (July 29, 2016), eLibrary Accession No. 20160729-5100.

Q. PLEASE EXPLAIN THE RESULTS OF YOUR APPLICATION OF THE TWO-STEP, CONSTANT GROWTH DCF MODEL TO THE PROXY ELECTRIC UTILITIES.

A. The results of my application of the two-step DCF model to the proxy group electric utilities are shown on page 1 of Exhibit No. JC-2. Prior to applying tests of economic logic and eliminating outliers, the investor-required ROE results for the fourteen-member national electric utility proxy group range from 5.62% to 9.46%, with a median of 8.32%. *See* Ex. No. JC-2 at 1:27-29.

Q. WITH REGARD TO THE RANGE OF INVESTOR-REQUIRED RETURNS YOU CALCULATED FOR THE PROXY GROUP, IS IT CORRECT TO CONCLUDE THAT ANY ROE WITHIN THAT RANGE IS JUST AND REASONABLE FOR CURRENT APPLICATION TO AEP EAST?

A. No. The range merely sets out the highest and lowest DCF results for the companies that remained in the proxy group after initial application of the selection criteria. Neither the highest nor the lowest level of investor-required returns among the proxy group companies is a valid measure of the appropriate cost of common equity for utilities like AEP East, which have risk characteristics comparable to the average for the proxy group.

Q. WHAT IS THE PURPOSE OF SPECIFYING THE RANGE OF DCF RESULTS IN YOUR TESTIMONY?

A. The range is informative in that it shows the maximum degree of variation in investor-required returns among the members of the proxy group. The range helps confirm that the proxy group includes a robust group of companies with average risk that is comparable to that of the subject utility and that the proxy group is not a group that was selectively chosen to produce a particular ROE result.[26] It is not the extreme ROEs from the proxy group that are representative of the return required by investors for the average amount of risk represented by the group, but rather the ROE around which the DCF results cluster. The value that best represents this clustering of ROEs is the median, which is determined by identifying the ROE value for which there is an equal number of higher and lower calculated proxy group ROEs. It would be incorrect to suggest that each and every particular point within the proxy company ROE range is "just and reasonable" for current application in AEP East's transmission formula rates simply because it happens to fall within the range of the DCF results – including extreme high and low points – calculated for the proxy group companies.

Q. HAVE YOU VERIFIED THAT THE LOW-END AND HIGH-END ROE RESULTS IN YOUR PROXY GROUP PASS THRESHOLD TESTS OF ECONOMIC LOGIC, AND HAVE YOU ELIMINATED ANY OUTLIERS AS THE COMMISSION HAS DONE IN OTHER CASES?

A. Yes. In the *SCE Paper Hearing Order*,[27] the Commission found that it is "reasonable to exclude any company whose low-end ROE fails to exceed the average bond yield by about 100 basis points or more, taking into account the extent to which the excluded low-end ROEs are outliers from the low-end ROEs

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[26] Also, the Commission uses the DCF range to constrain the results of any incentive adders that it might allow.

[27] *See S. Cal. Edison Co.*, 131 FERC ¶ 61,020, at P 55 (2010) (the "*SCE Paper Hearing Order*").

of other proxy group companies."[28] The Commission reaffirmed this practice in Opinion No. 531, at PP 122-23. The averages of the Moody's A and Baa Public Utility Bond Index yields for the six months ending September 2016 are 3.76% and 4.41%, respectively. Thus, adding 100 basis points to these average yields creates thresholds of 4.76% and 5.41%, respectively, for A and Baa rated companies. The proxy group low end ROE of 5.62% for Edison International ("Edison"), which has split S&P and Moody's ratings of BBB+ and A3, respectively, is 21 basis points above the 5.41% Baa threshold and 54 basis points above the 5.08% A/Baa average threshold. The 5.62% Edison ROE is also relatively near the 5.94% next highest proxy group ROE of Public Service Enterprise Group. Therefore, I have not eliminated any low-end ROE results.

In the *SCE Paper Hearing Order*, the Commission also affirmed its practice of rejecting companies whose high-end ROEs are illogical, are outliers, or are calculated with unsustainable growth rates.[29] Of course, capital costs and expected growth rates change over time based on changes in market and economic conditions; accordingly, what constitutes a "high-end outlier" or an "unsustainable growth rate" also will change over time. In Opinion No. 531, the Commission found, based on the record in that proceeding, that this issue was moot because the Commission's adoption of the two-step DCF methodology reduced the highest proxy company growth rate to 7.66% and the highest ROE to

[28] The Commission has relied on the six-month average bond yields for the period used in determining the DCF dividend yields based on the Moody's Public Utility Bond Index of the same rating category as the utility whose low-end ROE is being tested.

[29] *See* 131 FERC ¶ 61,020 at P 57.

11.74%.[30] The Commission noted that "those percentages are well within any high-end outlier test we have previously applied in utility rate cases and are within the high-end outlier test advocated by the Complainants on exceptions."[31] The Commission also stated that "[u]nder the two-step DCF methodology, it is unnecessary to screen the proxy group for unsustainable growth rates because the methodology assumes that the long-term growth rate for each company is equal to GDP."[32] However, that does not mean that it would be impossible for an aberrant or otherwise illogical or erroneous short-term growth rate that is given a two-thirds weighting to contribute to an illogical or outlying ROE. Those high-end tests are still necessary to ensure just and reasonable results, especially if the Commission uses the absolute highest ROE of the proxy group in any substantial way in determining the allowed ROE. In this case, however, I have not eliminated any high-end DCF results.

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[30] *See* Opinion No. 531 at P 118.

[31] *Id*.

[32] *Id*.

VI.
ROE RECOMMENDATION

Q. WHAT IS YOUR RECOMMENDATION FOR THE ROE TO BE USED IN CALCULATING AEP EAST'S FORMULA TRANSMISSION RATES AT ISSUE IN THIS PROCEEDING?

A. As noted above, I calculated a range of investor-required returns for my national proxy group of electric utilities by applying the Commission's two-step DCF methodology to financial data for the six months ending September 30, 2016. After testing for outlier/illogical ROEs, the resulting range of 5.62% to 9.46% brackets investors' required rates of return for investing in companies with risk characteristics similar to AEP East. As to a specific ROE to be used in AEP East's formula transmission rates at issue in this proceeding, I recommend using the median of the array of calculated ROEs. That median value, and my recommended base ROE for AEP East, is 8.32%. *See* Ex. No. JC-2 at 1:29.

Q. WHY IS YOUR RECOMMENDATION BASED ON THE MEDIAN OF THE ROE RANGE RATHER THAN THE MIDPOINT OR SOME OTHER MEASURE?

A. The short answer is that Commission policy, as affirmed by the United States Court of Appeals for the District of Columbia Circuit, correctly requires use of the median of the proxy group DCF results when an ROE is derived for a single electric utility of average risk (like AEP East) rather than for a diverse group of utilities (*e.g.*, all the transmission-owning members of an RTO).[33] While AEP has chosen to house its transmission facilities in multiple subsidiaries, they are still ultimately owned by a single company, AEP, and the proxy group predominantly is made up of other holding companies of comparable risk.

Q. PLEASE EXPLAIN.

A. The ROE in this proceeding is being determined for essentially an individual electric utility with risks comparable to the average for the proxy group being used. Commission policy is that, in such instances, the appropriate ROE point estimate is the median DCF result for the proxy group, which is the best measure of the central tendency of the ROE results. That policy, which was articulated in the Commission's *SCE Paper Hearing Order*, was affirmed by the D.C. Circuit on May 10, 2013 in *SoCal Edison v. FERC*, 717 F.3d 177 (D.C. Cir. 2013) ("*SoCal Ed*"). In regard to the proper basis for the ROE point estimate, the Court of Appeals described the Commission policy that it was affirming as follows:

> In 2008, the Commission announced in *Golden Spread Electric Coop., Inc.*, 123 FERC ¶ 61,047 (2008), that it would use the median as the measure of the ROE for a single electric utility of average risk. Drawing on the distinction identified in *Midwest ISO*, and the advantages of using the median noted in *Transcontinental Gas*, the Commission observed that, although there were no concerns of extremes in that case, "using the median also has the advantage of taking into account more of the companies in a proxy group rather than only those at the top and bottom." *Id.* at ¶ 61,1247 [sic]. Since then, the Commission has continued to use the median to set the ROE for electric utilities filing individually. *See, e.g., Pub. Serv. Co. of N.M.*, 142 FERC ¶

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[33] *See, e.g.*, the *SCE Paper Hearing Order* at PP 84-95, *aff'd in relevant part*, *Southern Cal. Edison Co. v. FERC*, 717 F.3d 177 (D.C. Cir. 2013); *Midwest Independent Transmission System Operator, Inc.*, 106 FERC ¶ 61,302, *aff'd in relevant part sub nom., Pub. Serv. Comm'n of Ky. v. FERC*, 397 F.3d 1004, 1010-1011 (D.C. Cir. 2005); *Golden Spread Elec. Coop. Inc. v. Sw. Pub. Serv. Co.*, Opinion No. 501, 123 FERC ¶ 61,047 (2008); and *Va. Elec. Power Co.*, 123 FERC ¶ 61,098 (2008).

61,168 (2013); *Pac. Gas & Elec. Co.*, 141 FERC ¶ 61,168 (2012); *Pub. Serv. Co. of N.M.*, 137 FERC ¶ 61,119 (2011); *Pioneer Transmission, LLC*, 126 FERC ¶ 61,281 (2009); *Va. Elec. & Power Co.*, 123 FERC ¶ 61,098 (2008).[34]

Q. DOES AEP EAST HAVE HIGHER RISK THAN THE PROXY GROUP AVERAGE RISK?

A. No. As the credit ratings and Value Line Safety Rankings for the proxy companies and AEP East demonstrate (*see* Ex. No. JC-2 at 1), AEP East is of approximately the same risk as the average for the proxy group. AEP East has S&P and Moody's credit ratings of BBB+ and Baa1, respectively, while the proxy group average ratings are less than one notch away, falling exactly at the BBB+ S&P rating and between the Baa1 and A3 Moody's ratings, respectively, indicating comparable perceived risk for AEP East and the proxy group average. AEP East's ultimate parent, AEP, has a Value Line Safety Rank[35] of 2, while the average for the proxy group is 1.9, indicating about equivalent average risk. Thus, overall, investors are likely to view AEP East as having about the same risk as the proxy group average.

Q. IN OPINION NOS. 531 AND 551, THE COMMISSION SET THE ROE FOR THE ISO-NEW ENGLAND TRANSMISSION OWNERS ("NETOs") AND MIDCONTINENT INDEPENDENT SYSTEM OPERATOR, INC. TRANSMISSION OWNERS ("MISO TOs"), RESPECTIVELY, BASED ON

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[34] *SoCal Ed*, 717 F. 3d at 183.

[35] The Value Line Safety Rank is a measure of the overall relative risk of a company, and the rankings range from 1, lowest risk, to 5, highest risk.

THE MIDPOINT OF THE UPPER HALF OF THE ROE RANGE. WOULD THAT APPROACH BE APPROPRIATE IN THIS CASE?

A. No, it would not, for at least the following reasons.

First, the premise for that adjustment was that capital market conditions were "anomalous" and that the inputs to the DCF model were being distorted such that the Commission had less confidence that the point of central tendency of the full array of the results of applying that model was reliable as an indication of the utilities' cost of common equity capital. For the reasons I discuss in detail below, I believe that premise is incorrect under the current circumstances. But even if the premise were accepted, setting the ROE at the midpoint of the upper half of the range would be incorrect for a single company of average risk, like AEP. In Opinion Nos. 531 and 551, the Commission used the "point of central tendency" of the upper half of the range in setting the NETOs' and MISO TOs' ROEs. In Opinion No. 531, at P 151, the Commission said:

> [W]e believe that here in selecting the appropriate return we likewise should look to the central tendency to identify the appropriate return but, in light of the record in this proceeding, we should look to the central tendency for the top half of the zone of reasonableness. [Footnote omitted.]

As discussed above, when setting the ROE for a region-wide group of utilities within an RTO or ISO that applies to all group members—as it was doing for the NETOs in Opinion No. 531 and for the MISO TOs in Opinion No. 551—the Commission has previously used the midpoint as the point of central tendency. In setting the ROE for what is essentially a single utility of average risk, however, the Commission has used the median as the point of central tendency. A different approach is not warranted where the purpose is to find the point of central tendency for the upper half of the range, instead of for the range itself. The Commission specifically recognized this in Opinion No. 551, at P 276:

> Our decision to utilize the midpoint of the upper half of the zone is based on the record evidence in this proceeding and is consistent with the Commission's established policy of using the midpoint of the ROEs in a proxy group when establishing a central tendency for a region-wide group of utilities. [Footnote omitted.]

Moreover, in the Appendix to Opinion No. 531, the Commission labeled the 10.57% ROE it adopted as the 75^{th} percentile, but it was not the true 75^{th} percentile value. The 75^{th} percentile value is that value below which lie 75% of the observations in the array, and thus, is effectively the median of the upper half of the array of ROEs. The midpoint of the upper half of the range is simply the average of the midpoint and the top end of the range. The true 75^{th} percentile value is not nearly as affected by the extreme values in the array as is the midpoint of the upper half, and therefore it more accurately represents the "central tendency for the top half." Therefore, even if the Commission were to determine based on the record in this case that the ROE should be set at the point of central tendency in the upper half of the DCF range, that point should be the true 75^{th} percentile value (8.56%), which is the median of the upper half of the range, rather than the midpoint (8.50%) of the upper half of the range.

Use of the true 75^{th} percentile or median rather than the midpoint of the upper half of the proxy group ROEs is further supported by the fact that the Commission routinely uses the median of the DCF array of ROEs for the proxy group as the point of central tendency to set the ROE for average-risk single electric utilities as well as for natural gas and oil pipelines. The Commission has provided many good reasons for use of the median as the most accurate measure of central tendency. Not the least of these reasons is that the median better considers all the ROEs within the array than does the midpoint, and that it helps to minimize the impact of extreme values on the results. Thus, for this case, the appropriate point of central tendency of the top half of the proxy group ROEs would be the 75th percentile value, which is the median – not the midpoint – of those ROEs.

Second, in deciding to set the NETOs' ROE in the upper half of the range in Opinion No. 531, the Commission noted that it was "concerned that capital market conditions in the record are anomalous," citing then-historically low bond yields and pointing to the fact that the average yield on ten-year U.S. Treasury bonds during the six-month study period ending March 2013 was below 2%, while elsewhere noting expectations in the record of that proceeding that such conditions would change significantly in the near term.[36] The Commission said that, in those circumstances, it had less confidence that the central tendency of the DCF results in that case reflected the equity returns necessary for the NETOs to attract capital. The Commission similarly found that market conditions during the study period considered in Opinion No. 551 (the six-month period ending June 30, 2015) were anomalous noting that "the principal argument [in Opinion No. 531] was based on low interest rates and bond yields, conditions that persisted throughout the [Opinion No. 551] study period."[37] However, similar interest rates and bond yields have not only persisted during the Opinion Nos. 531 and 551

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[36] *See, e.g.,* Opinion No. 531 at P 145.

[37] Opinion No. 551 at P 121.

study periods, they now have persisted for more than five years and are widely expected to continue into the foreseeable future. I believe that the persistence of these conditions for such a long period of time, and the expectation they will continue into the future, means these conditions can no longer be considered unusual or anomalous. In my opinion, current economic and market conditions are neither anomalous nor unusual, so an adjustment to the DCF results on that basis is unwarranted.

Q. PLEASE EXPLAIN WHY YOU DO NOT BELIEVE CURRENT ECONOMIC AND MARKET CONDITIONS ARE "ANOMALOUS."

A. There are several reasons.

First, it appears that a key factor underlying the Commission's "anomalous conditions" finding in both Opinion Nos. 531 and 551 was the low level of U.S. Treasury and utility bond yields. It is important to recognize, however, that Treasury and utility bond yields have fluctuated up and down around the relatively low levels experienced just prior to and during the study period used in Opinion No. 531 (a study period now more than three years old), through the study period used in Opinion No. 551 (a study period now more than a year old), and continuing to the present. While the six-month average ten-year Treasury bond yield for the period ending September 2016 used in calculating my DCF dividend yields was again below 2%, that yield has fluctuated around the 2% level for the last five years. The monthly average climbed from 1.65% in November 2012 (the low point in the Opinion No. 531 study period) to 2.90% in December 2013, before retreating again to 1.63% in September 2016. Low

Treasury bond yields that have hovered around the 2% mark for more than five years can no longer be deemed anomalous.

Second, there is a great deal of evidence demonstrating that prevailing economic and capital market conditions are not anomalous: (1) the unemployment rate has dropped substantially from an average of 7.8% for the six months ending March 2013 to an average of 4.9% for the six months ending September 2016; (2) the economy is expanding albeit slowly; (3) the stock market has recovered significantly from its Great Recession lows and is much stronger than it was during the Opinion No. 531 study period; (4) the Federal Reserve has wound down its Quantitative Easing initiative and, on December 16, 2015, began what is expected to be a very slow and gradual process of increasing its Federal Funds target rate; and (5) inflation remains low and well below the Federal Reserve Open Market Committee's 2.0% target level. While many of these economic indicators also had improved by the time of the Opinion No. 551 study period, there has been continued improvement during the 15 months thereafter. The persistence of these economic and market conditions means they should no longer be viewed as unusual during the six-month period ending September 30, 2016. For that reason, an ROE for AEP East that is above the median-of-range value is not warranted.

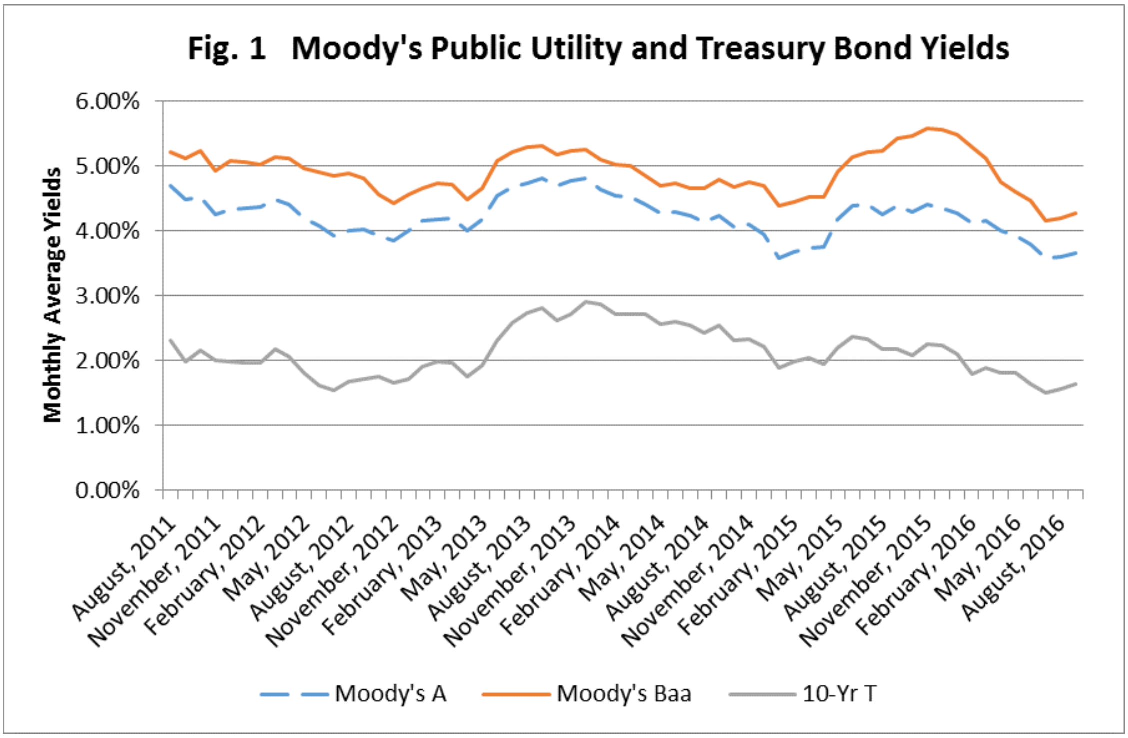
Third, in Opinion No. 531, the Commission noted that the NETOs had argued that "once the Federal Reserve's Quantitative Easing program ends, 'which may be in the very near future, interest rates can be expected to rise to more normal levels,' and bond levels can be expected to increase."[38] Although interest rates did increase during 2013, just the opposite of the NETOs' prediction occurred during 2014 while the Federal Reserve was winding down and ending its Quantitative Easing program. In fact, even as the Federal Reserve decreased and ended its QE bond purchases, ten-year Treasury bond yields declined throughout 2014, ending the year with a December 2014 average yield of 2.21%. Since then, although there have been some normal fluctuations, ten-year Treasury bond yields have generally continued to decline, even as the Fed has begun a gradual process of increasing the Federal Funds target rate, which is completely contrary to the projections of the NETOs and their experts in the Opinion No. 531 case. Similarly, Moody's A Rated Public Utility Bond yields increased from an average of 3.84% in November 2012 to 4.81% in December 2013 and then proceeded to decline throughout 2014, reaching an average of 3.95% in December 2014 and 3.66% in September 2016, bringing these yields back to levels at or below what they were during the DCF analysis periods used in Opinion Nos. 531 and 551.

Q. HAVE YOU PREPARED A GRAPH THAT DEPICTS THE PERSISTENCE OF THE LOW BOND YIELDS YOU HAVE DESCRIBED?

A. Yes. Figure 1 below shows Moody's Public Utility and Treasury Bond Yields over the 62-month period from August 2011 through September 2016. The consistency and persistence of the levels of capital costs over that period demonstrate that current bond yields cannot be considered anomalous or aberrational, but rather reflect a new and consistent normal. Investors would be

[38] Opinion No. 531 at P 130.

very unlikely to purchase public utility and Treasury bonds at the yields shown on Figure 1 if they anticipated significant interest rate increases in the near future.



As shown in Figure 1, during the last 62 months (from August 2011 – September 2016), A-rated public utility bond yields have settled into a range of approximately 3.6% to 4.8% (which encompasses the 3.76% average yield for my six-month DCF analysis period) and have averaged 4.22% over that period. The persistence of yields around these average levels over the past five years cannot be considered anomalous or aberrational, especially considering that they are not expected to significantly increase in the near future.

Q. ARE BOND YIELDS THIS LOW UNPRECEDENTED?

A. No, they are not. As shown in my workpapers, Ex. No. JC-3 at 226-227, the monthly average Moody's A and Baa Public Utility Bond yields remained below

3.75% and 4.15%, respectively, for the 16-plus years from March 1940 – September 1956, so yields that average near 3.76% and 4.41%, respectively, cannot be said to be unprecedented or aberrational from a historical perspective. Once again, there currently is no justification for setting the ROE for AEP East at a level above the median of the proxy group DCF ROE results.

Q. WHAT ARE THE VIEWS OF EXPERT ECONOMISTS ABOUT WHETHER CURRENT CONDITIONS ARE EXPECTED TO CONTINUE?

A. A number of the nation's most prominent economists—former Federal Reserve Chairman Benjamin Bernanke, former Treasury Secretary Lawrence Summers, and Nobel Prize winning economist Paul Krugman, for example—reject the claim that today's relatively low capital cost conditions are aberrational or artificial. They also express the view that relatively low long-term capital costs will continue for the foreseeable future.

Q. WHAT HAS DR. BERNANKE SAID IN THIS REGARD?

A. In his March 30, 2015 blog entitled "Why are interest rates so low?" (Ex. No. JC-3 at 214-216), Dr. Bernanke explained:

> ***Low interest rates are not a short-term aberration,*** but part of a long-term trend**.** As the figure below shows, ten-year government bond yields in the United States were relatively low in the 1960s, rose to a peak above 15 percent in 1981, and have been declining ever since. (Emphasis added.)

The figure that Dr. Bernanke presents is a graph of 10-year Treasury bond yields and inflation rates since 1960. Dr. Bernanke noted that the inflation rate, at least partly, explains the pattern of interest rates. In his blog, Dr. Bernanke also answered the "confused criticism" that "the Fed is somehow distorting financial markets and investment decisions by keeping interest rates 'artificially low.'" Dr. Bernanke explained:

> The best strategy for the Fed I can think of is to set rates at a level consistent with the healthy operation of the economy over the medium term, that is, at the (today, low) equilibrium rate. ***There is absolutely nothing artificial about that!*** (Emphasis added.)

Q. WHAT VIEWS HAS DR. SUMMERS EXPRESSED REGARDING TODAY'S LOW INTEREST RATE CONDITIONS?

A. Writing in the Financial Times on August 23, 2015, Dr. Summers explained that the state of the global economy dictates that, if we are to achieve satisfactory economic growth, historically low interest rates are now and will be required for quite some time, noting that long term bond markets are telling us that real interest rates are expected to be close to zero in the industrialized world over the next decade. Dr. Summers said:

> Much more plausible is the view that, for reasons rooted in technological and demographic change and reinforced by greater regulation of the financial sector, the global economy has difficulty generating demand for all that can be produced. This is the "secular stagnation" diagnosis, or the very similar idea that Ben Bernanke, former Fed chairman, has urged of a "savings glut". Satisfactory growth, if it can be achieved, requires very low interest rates that historically we have only seen during economic crises. ***This is why long term bond markets are telling us that real interest rates are expected to be close to zero in the industrialised world over the next decade.*** (Emphasis added.)

Id. at 217-218.

Q. DOES DR. KRUGMAN SHARE HIS COLLEAGUES' VIEW THAT CURRENT CAPITAL MARKET CONDITIONS ARE NEITHER UNNUATURAL NOR ARTIFICIAL?

A. Yes, he does. In his August 25, 2015 New York Times opinion column, Dr. Krugman pointed to the evidence over the last seven years that demonstrates that the low interest rates we have been experiencing are not unnatural or artificial.

> The underlying claim in all such demands is that the low interest rates we've had since 2008 are ***"unnatural"*** or ***"artificial"***. So it's probably worth repeating that while very low rates may seem strange, they also seem fully justified by the economic situation. The original Wicksellian concept of the natural rate of interest defined that rate as the rate consistent with stable prices, with an economy that was neither too hot nor too cold. ***If we had had an unnaturally low rate these past 7 years, we should have seen accelerating inflation; we haven't.*** (Emphasis added.)

Id, at 219-221**.**

In short, all three of these very prominent and respected economists believe that, owing to both domestic and international influences, the U.S. economy has not been capable of sustaining higher interest rate levels over the past several years. Importantly, they do not expect this circumstance to change significantly any time soon.

Q. ARE DCF MODEL RESULTS PRODUCED UNDER THESE CONDITIONS TRULY INDICATIVE OF THE COST OF COMMON EQUITY FOR AN ELECTRIC UTILITY?

A. Yes, they are. Consistent with economic theory and the realities displayed by investor behavior in the stock and bond markets, lower bond yields compared to those that prevailed when AEP East's existing 10.99% ROE was established are a reflection of lower capital costs, and the DCF method reflects the reality of such lower capital costs. The growth rates used by the Commission in its DCF analyses are widely publicized consensus estimates from independent investment analysts and reflect the expectations of the investors who rely now, as before, on those estimates in forming their outlooks for the future. The only other input to the DCF calculations is the dividend yield, which is direct market evidence of investors' requirements. Thus, the ROEs produced by the DCF method directly reflect the realities of the capital markets and the actual cost of equity capital for electric utilities. For that reason, there is no basis for setting the allowed ROE for AEP East at any point other than the median of the entire array of proxy group DCF results.

Q. IS YOUR VIEW CONCERNING THE RELIABILITY OF DCF RESULTS SUPPORTED BY COMMISSION DECISIONS CONCERNING THE COST OF EQUITY FOR OTHER TYPES OF UTILITIES?

A. Yes, it is. In Opinion No. 531, the Commission adopted the same two-step DCF methodology it has long used in gas and oil pipeline cases. Pipelines are faced with the same economic and market conditions as electric utilities, and the Commission has found no reason to question whether the point of central tendency of pipeline DCF results accurately reflects the pipelines' equity costs. In pipeline cases, the Commission has continued to rely on the median of the proxy group DCF results to set the ROE, diverging from that practice only if there is a very clear showing that the subject pipeline is substantially more or less risky than the proxy group average. For example, in the Commission's October 2013

Opinion No. 528, *El Paso Natural Gas Company*, 145 FERC ¶ 61,040, at P 698 (2013), *order on reh'g*, 154 FERC ¶ 61,120 (2016), the Commission stated:

> Finally, any analysis attempting to demonstrate that a deviation from the median ROE is justified must present a comparison between the risk level of the subject company and the risk level of each of the proxy group companies. This is the crux of the analysis, and if it is lacking, the analysis is incomplete. However, the record indicates that neither El Paso nor the Presiding Judge performed this analysis satisfactorily. This critical failing is sufficient, by itself, to reverse the Presiding Judge's ROE finding. Accordingly, for all of the above reasons, the Commission reverses the Presiding Judge's ROE finding and finds that El Paso's ROE should be set at the median ROE of the proxy group. [Footnote omitted.]

The Commission has continued to find that participants have a heavy burden in pipeline cases to show that the subject pipeline's risk substantially deviates from the proxy group average in order to justify a departure from setting the allowed ROE at the median of the proxy group DCF results. The Commission has not found it necessary to set pipeline ROEs in the upper half of the range, even though they raise equity capital in the same economic and capital market conditions faced by electric utilities. As the Commission noted in Opinion No. 551 at P 134, "capital market conditions apply across the entire economy and are not specific to individual utilities." This is evidence that the DCF method is working to determine properly the cost of common equity for utilities and that, in a case such as this where the average risk for AEP East is comparable to that of the average for the proxy group, the allowed ROE should be no higher than the median of the range of DCF results.

Q. DOES THE LEVEL OF STATE-ALLOWED ROEs OR OTHER PURPORTED "BENCHMARKS" JUSTIFY SETTING AEP's ROE ABOVE THE MEDIAN?

A. No. In Opinion Nos. 531 and 551, the Commission referred to state commission-allowed ROEs and certain other alternative benchmarks to justify placing the ROE for the NETOs and MISO TOs at the midpoint of the upper half of the range of reasonableness. The facts in this case, however, demonstrate that no such adjustment is warranted here. As bond yields have fallen over the last several years, state commission-allowed ROEs also have declined, but with a lag. Given the persistence of low bond yields, state-allowed ROEs can be expected to fall even further.

Q. PLEASE EXPLAIN.

A. The latest reports from Regulatory Research Associates ("RRA") show that, excluding the Virginia limited issue surcharge/rider generation cases that determined generation construction incentive ROEs rather than base ROEs,[39] the average state commission-authorized electric ROE was 10.01% in 2012, which dropped to 9.81% in 2013, to 9.75% in 2014, and to 9.60% in 2015. The average for the first three quarters of 2016 was 9.64%. The 2016 first three quarters range

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[39] RRA specifically notes that the state commission ROE decisions include several limited issue surcharge/rider generation cases in Virginia that incorporate plant-specific ROE incentive premiums based on Virginia statutes that authorize the State Corporation Commission to approve ROE premiums of up to 200 basis points for certain generation projects, and therefore, presents statistics that summarize the annual average ROEs from those limited issue incentive cases separately from the general rate cases that determine the base ROEs. It would be especially inappropriate to include reference to those limited issue incentive cases in determining the base ROE for transmission services.

was 9.00% to 10.00%, excluding the Virginia limited issue production plant incentive cases.[40]

The ROEs allowed in these state base rate cases, however, are not directly comparable to the base ROE that is applied in the AEP East formula transmission rates. The ROE authorized for the AEP East formula transmission rates is essentially guaranteed to be earned because the rates are developed and applied based on forward-looking investment and subsequently trued-up annually to recover actual costs including the authorized ROE. The state commission authorized ROEs, on the other hand, often involve relatively stale cost data and, without any ability to true-up collections to match actual costs, lead to collection of an actual ROE substantially less than that authorized. For example, the 9.85% ROE that was authorized for Indianapolis Power & Light Company ("IP&L") on March 16, 2016 was one of the highest awarded in a regular base rate case and relied on a stale cost of service for the twelve months ending June 2014 and using a year-end rate base.[41] Thus, as is often the case at the state regulatory level, it would be unrealistic to expect that IP&L could actually earn as much as its authorized 9.85% ROE.

Also, the Edison Electric Institute ("EEI"), in its Rate Case Summary, Q4 2015 Financial Update, reports that in the fourth quarter of 2015, shareholder-owned electric utilities' average *requested* ROE before state commissions was 10.33%. (*See* Exh. No. JC-3 at 254.) In other words, the 10.33% ROE was the

[40] *See* RRA *Regulatory Focus, Major Rate Case Decisions – January-September 2016* (October 14, 2016), Ex. No. JC-3 at 233.

[41] *Id.* at 235.

average ROE sought from state commissions, and the expectation (as reflected in the data included in that EEI report) is that state commissions will ultimately allow lower ROEs than requested by the utilities, and even that only after a significant lag between the filing of a case and the implementation of rates based on the request. For example, the EEI report notes that the average awarded ROE for Q4 was 9.62% and that "regulatory lag in Q4, at 9.44 months, was near the long-term average lag of about 10 months." (*Id.*.) Thus, retail service regulated by the state commissions is riskier than FERC-regulated formula rate based service such as the transmission service of AEP East at issue here. While, as EEI notes, state commission proceedings often result in regulatory lag that can cause utilities to earn less than their authorized ROEs, the formulary wholesale rates of AEP East provide for timely recovery of the actual costs of providing service, including recovery of the authorized ROE, through automatic annual rate changes and true-ups despite fluctuations in sales volumes and cost changes.

In its Rate Case Summary, Q2 2013 Financial Update (Ex. No. JC-3 at 240-249), EEI explains the state commission regulatory lag issue and its effects:

> Average regulatory lag in Q2 was 11.8 months, the highest in two years and slightly above the roughly 10-month average in recent years….
>
> * * *
>
> During times of rapidly rising spending, utilities attempt to recover costs by filing rate cases. However, rate case decisions are based primarily on historical costs, and preparing for and administrating a case takes time. If costs continue to rise, rates may already be outdated by the time the commission decides the case and puts rates into effect. We define regulatory lag as the time between a rate case filing and decision because those events are specific and measureable. We consider this a rough proxy for the time between when a utility needs recovery and when new rates take effect.

> Some analysts have argued that regulatory lag is actually longer when other delays are considered, such as the time needed to prepare for a case. This suggests an average closer to twice what our definition measures, or close to two years. However it is measured, lag obstructs utilities' ability to earn their allowed return when costs are rising and can ultimately increase their borrowing costs. Electric utilities often fall short of achieving their allowed return due to regulatory lag.

Id. at 245.

Q. WHAT DOES THIS IMPLY ABOUT THE USE OF STATE-ALLOWED ROEs AS A CHECK ON DCF RESULTS?

A. If the intent is to use the retail jurisdiction-allowed state ROEs as a check on the results of the DCF analysis and the allowed ROE, the Commission's allowed ROEs for formula rates should be set <u>lower</u> than those allowed by state commissions. Doing so would appropriately recognize that, while utilities' earnings under their retail rates often suffer erosion due to regulatory lag, FERC formula rates—including those in use by the AEP East companies—assure full and timely recovery of costs.

Q. PLEASE COMMENT ON THE USE OF OTHER ROE METHODS, SUCH AS THE CAPM OR COMPARABLE EARNINGS METHODS, AS A CHECK ON DCF RESULTS.

A. Other methods for estimating investor-required ROEs have been shown to be unreliable, and the Commission has rightly placed little or no weight on them except where the Commission had less confidence in the DCF point of central tendency due to its finding of anomalous capital market conditions.[42] Even when the Commission has found there to be anomalous capital market conditions, it still has only used other methods to determine the placement of the allowed ROE within the DCF range. Because (as discussed above) I find that capital market conditions are not anomalous, the Commission may (and, in fact, should) rely on the point of central tendency of the DCF results without adjustment. For that reason, the alternative methods the Commission consulted in Opinion Nos. 531 and 551 should play no role in determining AEP East's equity cost of capital here. However, to the extent such non-DCF analyses may be put forward during the course of this proceeding, their usefulness may be evaluated on the record.

VI.
CONCLUSIONS

Q. PLEASE SUMMARIZE THE CONCLUSIONS YOU HAVE REACHED THROUGH THE ANALYSES DESCRIBED ABOVE.

A. My conclusions are as follows:

First, the current AEP East base ROE of 10.99% is substantially excessive, and therefore unjust and unreasonable for AEP East at this time. That ROE was negotiated years ago when capital costs were much higher than they are currently. It is substantially above the median and even the top-end ROEs of the proxy group DCF analysis I performed, and, thus, well above AEP East's cost of

[42] *See, e.g., ITC Holdings Corp*., 121 FERC ¶ 61,229, at P 43 and n. 37 (2007); *N. Ind. Pub. Serv. Co*., 101 FERC ¶ 61,394, at P 38 (2002); *Jersey Cent. Power & Light Co*., Opinion No. 408, 77 FERC ¶ 61,001, at 61,002-03 (1996).

common equity capital. Accordingly, the AEP East companies should not be allowed to continue using the 10.99% base ROE in their transmission formula rates.

Second, based on the application of the Commission's two-step DCF methodology to my national electric utility proxy group and using financial data for the six-month period ending September 30, 2016, the range of calculated DCF results for the proxy group is 5.62% to 9.46%.

Third, because the appropriate point of central tendency within the range of DCF results for the proxy group will provide a just and reasonable ROE for AEP East, the Commission should adopt the median value of the calculated range, which is 8.32%, as the base ROE to be applied by the AEP East companies in their formula transmission rates.

Finally, a base ROE higher than the median of proxy group DCF results cannot be justified by a claim that economic and capital market conditions during the DCF study period were anomalous. In point of fact, these conditions were not anomalous during the study period, as evidenced by the fact that bond yields have stayed within a relatively low range for at least the last five years. Nor can a higher base ROE be justified by reliance on state-allowed ROEs or alternative cost of equity methods. Reliance on those purported alternatives is premised on capital market conditions being anomalous, which I have shown is not the case for the DCF study period I examined.

Q. THANK YOU. I HAVE NO FURTHER QUESTIONS AT THIS TIME.

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants, v. Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents.	Docket No. EL17-__-000

Affidavit of J. Bertram Solomon
On Behalf Of
AMERICAN MUNICIPAL POWER, INC.
BLUE RIDGE POWER AGENCY
CRAIG-BOTETOURT ELECTRIC COOPERATIVE
INDIANA MICHIGAN MUNICIPAL DISTRIBUTORS ASSOCIATION
INDIANA MUNICIPAL POWER AGENCY
OLD DOMINION ELECTRIC COOPERATIVE, INC., AND
WABASH VALLEY POWER ASSOCIATION, INC.

STATE OF GEORGIA)
) SS
COUNTY OF COBB)

I, J. Bertram Solomon, being duly sworn, certify that the attached Direct Testimony and Exhibits in this docket were prepared by me or under my supervision and that the answers contained in such testimony and exhibits are true and correct to the best of my knowledge, information and belief.

J. Bertram Solomon

Subscribed and sworn to before me this 26th day of October, 2016.

PEGGY HICKS
NOTARY
EXPIRES
GEORGIA
JAN. 7, 2019
PUBLIC
COBB COUNTY

Notary Public

My commission expires: January 7, 2019

J. BERTRAM SOLOMON
PRIOR RATEMAKING TESTIMONY
AND
OTHER PUBLICATIONS

TESTIMONY

FEDERAL ENERGY REGULATORY COMMISSION

Allegheny Electric Cooperative, Inc., Docket No. EL00-88-000

Allegheny Power, Docket No. ER02-136-004

Alliance Companies, *et al.*, Docket Nos. ER99-3144-000 and EC99-80-000

American Electric Power Service Corporation, Docket No. ER93-540-000

Appalachian Power Company, Docket Nos. ER87-105-002, ER87-106-002, EL89-53-000, ER90-132-000, ER90-133-000, & ER92-323-000

Arizona Public Service Company, Docket Nos. ER81-179 & ER82-481

Arkansas Electric Cooperative Corporation, *et al.*, v. ALLETE, Inc., *et al.*, Docket No. EL15-45-000

Arkansas Electric Cooperative Corporation v. Oklahoma Gas and Electric Company, EL14-13-000

Association of Businesses Advocating Tariff Equity, *et al.*, Docket No. EL14-12-000

Blue Ridge Power Agency, et al., Docket No. EL89-53-000

Boston Edison Company, Docket Nos. ER93-150-000 & EL93-10-000

Carolina Power & Light Company, Docket Nos. ER76-495, ER77-485 & ER80-344

Central Hudson Gas & Electric Corp., et al., Docket Nos. ER97-1523-011, et al.

Central Louisiana Electric Company, Docket No. ER82-704

Central Montana Electric Power Cooperative, Inc. v. Montana Power Co., Docket No. EL99-24-000

Cleveland Electric Illuminating Co. and Toledo Edison Co., Docket Nos. OA96-204-000, et al.

Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity, Docket No. PL07-2-000

Delmarva Power and Light Company, Docket Nos. ER93-96-000 & EL93-11-000

Duke Power Company, Docket Nos. FA83-4-001 & ER89-106-000

East Texas Electric Cooperative, Inc., Docket No. ER94-891

Entergy Services, Inc., Docket No. ER95-112-000, et al.

Florida Power & Light Company, Docket No. ER86-383-001; ER93-465-000, et al.; ER99-2770-000

Florida Power & Light Company, Docket No. ER10-1149-000

Georgia Power Company, Docket Nos. E-9091, E-9521, ER76-587, ER78-166 & ER79-88, ER85-659 & ER85-660

Golden Spread Electric Cooperative, Inc., et al., Docket No. EL05-19-000, et al.

Golden Spread Electric Cooperative, Inc. v. Southwestern Public Service Company, Docket No. EL12-59-000, et al.

Golden Spread Electric Cooperative, Inc. v. Southwestern Public Service Company, Docket No. EL13-78

Golden Spread Electric Cooperative, Inc., *et al.*, v. Southwestern Public Service Company, Docket No. EL15-8-000

Grand Valley Rural Power Lines, Inc., *et al.*, Docket No. EL12-77

Grand Valley Rural Power Lines, Inc., *et al.*, Docket No. EL13-86-000

Gulf States Utilities Company, Docket Nos. ER84-568-000 & ER85-538-001

Idaho Power Company, Docket No. ER06-787-002

IES Utilities, Inc., Interstate Power Co., Wisconsin Power & Light Co., South Beloit Water, Gas & Electric Co., Heartland Energy Services and Industrial Energy Applications, Inc., Docket Nos. EC96-13-000, ER96-1236-000 and ER96-2560-000

Indiana & Michigan Electric Company, Docket Nos. ER78-379, et al.

ITC Holdings Corp., Entergy Corporation, Midwest Independent Transmission System Operator, Inc., Docket Nos. EC12-145-000, ER12-2681-000, EL12-107-000

Kansas Gas & Electric Company, Docket Nos. ER77-578 & ER82-412

Kentucky Utilities Company, Docket No. ER82-673

Kentucky Utilities Company, Docket No. ER13-2428-000

Louisiana Power & Light Company, Docket Nos. ER77-533, ER81-457 & EL81-13 & FA86-063-001

Maine Yankee Atomic Power Company, Docket No. EL93-22-000

MISO, Docket No. ER05-6, et al.

Midwest Independent Transmission System Operator, Inc., Docket No. ER02-485-000

Montana Power Company, Docket No. ER98-2382

Municipal Electric Utilities Association of New York, Docket No. EL13-16-000

Nantahala Power & Light Company, Docket Nos. ER76-828 & EL78-18

New Dominion Energy Cooperative, Old Dominion Electric Cooperative, Docket Nos. ER05-18-002 and ER05-309-002

New York State Electric & Gas Corporation, Docket No. ER82-803

Niagara Mohawk Power Corporation, Docket No. ER86-354-001

North Carolina Electric Membership Corporation v. Virginia Electric & Power Company, Docket No. EL90-26-000

North Carolina Electric Membership Corporation vs. Carolina Power & Light Company, Docket No. EL91-28-000

North Carolina Electric Membership Corporation, et al. vs. DEC, Docket No. EL16-29-000

North Carolina Electric Membership Corporation, et al. vs. DEP, Docket No. EL16-30-000

Oglethorpe Power Corporation, Docket No. EL85-40

Ohio Edison Company, *et al.*, Docket Nos. ER97-412-000 and ER97-413-000

Old Dominion Electric Cooperative, Inc., Docket No. ER07-1134-000

Pennsylvania Power & Light, Inc., Docket No. ER00-1014-000

PJM Interconnection, L.L.C., Docket No. EL05-121

PJM Interconnection, LLC, Docket No. ER01-1201-000

PJM Interconnection, L.L.C., Duke Energy Ohio, Inc., and Duke Energy Kentucky, Inc., Docket Nos. ER12-91-008 and ER12-92-008

PJM Interconnection, L.L.C., *et al.*, Docket No. ER15-303

Portland Natural Gas Transmission System, Docket No. RP02-13-000

Potomac Edison Company, Docket No. ER95-39-000

PSI Energy, Inc., Docket No. ER00-188-000

Public Service Company of Colorado, Docket No. ER12-1589

Public Service Company of Colorado, Docket Nos. ER12-1589 and EL12-77

Public Service Company of Indiana, Docket No. ER76-149

Public Service Company of New Mexico, Docket No. ER11-1915

Public Service Electric & Gas Company, *et al.*, Docket Nos. EC99-79-000 and ER99-3151-000

Seminole Electric Cooperative, Inc. and Florida Municipal Power Agency v. Florida Power Corporation, Docket No. EL12-39-000

Seminole Electric Cooperative, Inc. and Florida Municipal Power Agency v. Duke Energy Florida, Inc., Docket No. EL13-63-000

Seminole Electric Cooperative, Inc. and Florida Municipal Power Agency v. Duke Energy Florida, Docket No. EL14-90-000

Southern California Edison Company, Docket No. ER10-160-000

Southern California Edison Company, Docket No. ER09-1534

Southern Company Services, Inc., Docket Nos. ER98-1096-000, et al.

Southwestern Public Service Company, Docket No. ER06-274-003

Virginia Electric & Power Company, Docket No. ER84-355-000

Virginia Electric & Power Co., Docket No. ER08-92-000

Western Resources, Inc., Docket Nos. ER95-1515 and ER96-459-000

ALASKA REGULATORY COMMISSION

In the Matter of the Tariff Revision, Designated as TA226-8, filed by Chugach Electric Association, Inc. for a Rate Increase and Rate Design, Docket No. U-01-108

ARKANSAS PUBLIC SERVICE COMMISSION

Arkansas Electric Cooperative Corporation, Docket Nos.93-132-U & 93-134-P

In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service, Docket No. 96-360-U

In the Matter of the Motion of the General Staff of the Arkansas Public Service Commission to Establish a Docket to Determine the Reasonableness of the Rates of Southwestern Electric Power Company, Docket No. 98-339-U

In the Matter of the Unbundling of the Rates of Arkansas Electric Cooperative Corporation, Docket No. 99-251-U

In the Matter of an Application of Entergy Arkansas, Inc., MidSouth Transco LLC, ITC Midsouth LLC, and ITC Holdings Corp. to Enter Transactions Resulting in a Certificate of Public Convenience and Necessity for a New Arkansas Utility to Own EAI's Electric Transmission Facilities, Docket No. 12-069-U

FLORIDA PUBLIC SERVICE COMMISSION

Tampa Electric Company, Docket No. 850050-EI

GEORGIA PUBLIC SERVICE COMMISSION

Georgia Power Company, Docket Nos. 3840-U, 4133-U and 4136-U

IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL DISTRICT McLEAN COUNTY, ILLINOIS

Corn Belt Energy Corp. vs. Illinois Power Co., Case No. 2001 L 195

PUBLIC SERVICE COMMISSION OF INDIANA
(Now Indiana Utility Regulatory Commission)

Public Service Company of Indiana, Cause No. 37414

STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

Kansas Electric Power Cooperative, Inc., Docket No. 01-KEPE-1106-RTS

In the Matter of the Application of Mid-Kansas Electric Company, LLC for Approval to Make Certain Changes in its Charges for Electric Service, Docket No. 09-MKEE-969-RTS

In the Matter of the Application of Mid-Kansas Electric Company, LLC for Approval to Adopt and Implement a Formula-Based Rate for Recovery of Transmission Costs and to Amend its Open Access Transmission Tariff, Docket No. 12-MKEE-650-TAR

KENTUCKY PUBLIC SERVICE COMMISSION

Big Rivers Electric Corporation, Case Nos. 6499, 9006 & 9163

Fern Lake Company, Case Nos. 6971, 7292, 7982 & 8276

Jackson Purchase Electric Cooperative Corporation, Case No. 6992

MISSISSIPPI PUBLIC SERVICE COMMISSION

Entergy Mississippi, Inc. EC123-0082-00, Transmission Company Mississippi, LLC, Mid South Transco LLC, ITC Midsouth LLC, ITC Holdings Corp., In Re: Joint Application For The Transfer Of Ownership And Control Of Entergy Mississippi Inc.'s Transmission Facilities And Assets Together With Related Certificates, Franchises And Other Property Rights To Transmission Company Mississippi, LLC And Approval Of Subsequent Transfers Of Ownership And Control, Docket 2012-UA-358

MAINE PUBLIC UTILITIES COMMISSION

Maine Public Service Company, Docket Nos. 84-80 & 84-113

MICHIGAN PUBLIC SERVICE COMMISSION

Detroit Edison Company, Case No. U-7660

PUBLIC UTILITIES COMMISSION OF MINNESOTA

Northern States Power Company, E-002/GR-91-1 & OAH 7-2500-5291-2

NEVADA PUBLIC UTILITIES COMMISSION

Sierra Pacific Power Company, PUCN 01-11030

NEW JERSEY BOARD OF PUBLIC UTILITIES

Jersey Central Power & Light Company, ER 89110912J, EM 91010067 & OAL 1804-91

NORTH CAROLINA UTILITIES COMMISSION

Duke Power Company, Docket No. E-7, SUB 487

Nantahala Power & Light Company, Docket Nos. E-13 SUB 29 Remand, E-13 SUB 35, & E-13 Sub 44

North Carolina Electric Membership Corporation, Docket No. E-100 SUB 58

North Carolina Natural Gas Corporation, Docket Nos. G-21, SUB 306 and G-21, SUB 307

Piedmont Natural Gas Company, Inc., Docket Nos. G-9, SUB 300, Remand; G-9, SUB 306, Remand; G-9, SUB 308, Remand

In The Matter Of Dominion North Carolina Power Investigation Of Existing Rates And Charges, Docket No. E-22, SUB 412

CP&L Energy, Inc. and Florida Progress Corp., Docket No. E-2, SUB 760

PUBLIC UTILITY COMMISSION OF OHIO

FirstEnergy Corporation, *et al.*, Case Nos. 99-1212-EL-ETP, 99-1213-EL-ATA, and 99-1214-EL-AAM

In The Matter Of The Application Of The Cincinnati Gas & Electric Company For Approval Of Its Transition Plan And For Authorization To Collect Transition Revenues, *et al.*, Case Nos. 99-1658-EL-ETP, 99-1659-EL-ATA, 99-1660-EL-ATA, 99-1661-EL-AAM, 99-1662-EL-AAM, and 99-1663-EL-UNC

Columbus Southern Power Co., *et al.*, Case Nos. 99-1729-EL-ETP and 99-1730-EL-ETP

In The Matter Of The Application Of The Dayton Power & Light Company For Approval Of Their Transition Plan Pursuant To Section 4928.31, Revised Code And For Opportunity To Receive Transition Revenues As Authorized Under Sections 4928.31 To 4928.40, Revised Code; Case Nos. 99-1687-EL-ETP and 99-1688-EL-AAM

In the Matter of the Continuation of the Rate Freeze and Extension of the Market Development Period for the Monongahela Power Company, Case No. 04-880-EL-UNC

In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Recover Costs Associated with the Construction and Ultimate Operation of an Integrated Gasification Combined Cycle Electric Generating Facility, Case No. 05-376-EL-UNC

CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma, Cause No. 201500273

Application of Public Service Company of Oklahoma, an Oklahoma Corporation, for an Adjustment in Its Rates and Charges and the Electric Service Rules, Regulations and Conditions of Service for Electric Service in the State of Oklahoma, Cause No. PUD 201500208

Application Of Ernest G. Johnson, Director Of The Public Utility Division, Oklahoma Corporation Commission To Review The Rates, Charges, Services, And Service Terms Of Oklahoma Gas And Electric Company And All Affiliated Companies And Any Affiliate Or Nonaffiliate Transaction Relevant To Such Inquiry, Cause No. PUD 200100455

In The Matter Of The Application Of Oklahoma Gas And Electric Company For An Order Of The Commission Authorizing Applicant To Modify Its Rates, Charges, And Tariffs For Retail Electric Service In Oklahoma, Cause No. PUD 200500151

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Electric Company, Docket Nos. R-842771, R-860413, M-870172C003 & R-880979

PUBLIC UTILITIES COMMISSION OF THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Narragansett Electric Company, Docket No. 2019

PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

In the Matter of South Carolina Electric And Gas Company's Annual Review of Base Rates for Fuel Costs, Docket No. 2005-2-E

PUBLIC UTILITY COMMISSION OF TEXAS

Gulf States Utilities Company, Docket Nos. 4510, 5108, 5560 & 5820

Lower Colorado River Authority, Docket Nos. 8032, 8400 & 9427

Sam Rayburn G&T, Inc., Docket Nos. 5657, 6440, 6797, 7991 & 8595

Southwestern Electric Service Company, Docket Nos. 5044 & 6610

Texas Electric Service Company, et. al., Docket No. 4224

Texas Electric Service Company, Docket No. 5200

Texas Power & Light Company, Docket Nos. 1517, 1517 (On Remand), 3006, 3780 & 4321

Texas Utilities Electric Company, Docket No. 5640, 11735, 15195

Tex-La Electric Cooperative of Texas, Inc., Docket No. 7279

Tex-La Electric Cooperative of Texas, Inc., Sam Rayburn G&T Electric Cooperative, Inc., and Northeast Texas Electric Cooperative, Inc., Docket No. 13100

Application of TXU Electric Company for Financing Order to Securitize Regulatory Assets and Other Qualified Costs, Docket No. 21527

Application of TXU Electric Company for Approval of Unbundled Cost of Service Rate Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule § 25.344, PUC Docket No. 22350

Generic Issues Associated with Applications for Approval of Unbundled Cost of Service Rate Pursuant to PURA § 39.201 and Public Utility Commission Substantive Rule § 25.344, PUC Docket No. 22344

Application of Central Power & Light Company for Approval of Unbundled Cost of Service Rates Pursuant to PURA § 39.201 and PUC Substantive Rule § 25.344, PUC Docket No. 22352

Application of West Texas Utilities Company for Approval of Unbundled Cost of Service Rates Pursuant to PURA § 39.201 and PUC Substantive Rule § 25.344, PUC Docket No. 22354

Application Of LCRA Transmission Services Corporation To Change Rates, SOAH Docket No. 473-04-1662, PUC Docket No. 28906

Application of CenterPoint Energy Houston Electric LLC, For a Competition Transition Charge (CTC), PUC Docket No. 30706

Complaint of Kenneth D. Williams Against Houston Lighting & Power Co., Docket No. 12065

Commission Staff's Petition For Selection Of Entities Responsible For Transmission Improvements Necessary To Deliver Renewable Energy From Competitive Renewable Energy Zones, PUC Docket No. 35665

Application of CenterPoint Energy Houston Electric, LLC For Authority to Change Rates, PUC Docket No. 38339

RAILROAD COMMISSION OF TEXAS

CenterPoint Energy Resources Corp., d/b/a CenterPoint Energy Entex and CenterPoint Energy Texas Gas to Rates in the Houston Division, GUD Docket No. 9902

VIRGINIA STATE CORPORATION COMMISSION

Appalachian Power Company, Case No. PUE900026

Old Dominion Power Company, Case Nos. 20106, PUE800028, PUE810074, PUE830035 & PUE830069

Application of Virginia Electric and Power Company for Approval of Alternative Regulatory Plan, Case No. PUE960296

DEPOSITIONS

IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL DISTRICT McLEAN COUNTY, ILLINOIS

Corn Belt Energy Corp. vs. Illinois Power Co., Case No. 2001 L 195, July 9, 2003

PUBLIC UTILITY COMMISSION OF TEXAS

Application of CenterPoint Energy Houston Electric LLC, For a Competition Transition Charge (CTC), PUC Docket No. 30706, March 16, 2005

Application of CenterPoint Energy Houston Electric, LLC For Authority to Change Rates, PUC Docket No. 38339, September 24, 2010.

EXPERT REPORTS

Corn Belt Energy Corporation v. Illinois Power Co., Report Of Findings And Conclusions Regarding Illinois Power Company Network Transmission Service And Power Supply Cost Damages Suffered By Corn Belt, May 2, 2003

Old Dominion Electric Cooperative v. Ragnar Benson, Inc., Expert Report Of J. Bertram Solomon On Review Of Expert Report Of William J. Kemp, Civil Action No. 05-CV-34

PRESENTATIONS

Future Power Supply: Contracts vs. Ownership, National Rural Electric Association Power Supply Conference, November 2002

Exhibit No. JC-2

TWO-STEP DCF ANALYSIS

American Electric Power Co. Inc.
FERC Docket No. EL17-

Solomon National Electric Utility Proxy Group DCF Analysis Using Two-Step Growth DCF Methodology
Value Line Electrics with S&P CCR of BBB to A- and Moody's Long-Term Issuer or Senior Unsecured Rating of Baa2 to A3
Using Data for the Six Months Ending September 2016

Line No.	Company (a)	Ticker (b)	Standard & Poor's Corporate Credit Rating (c)	Moody's Long Term Issuer or Sr Unsecured Rating (d)	Value Line Safety Rank (e)	Six Month Average Dividend Yld (f)	IBES Analysts' Proj EPS g (g)	Long-term GDP Growth Rate (h)	Composite Growth Rate (i)	Adjusted Dividend Yield (j)	DCF ROE Ke (k)	Price to Book Value (l)
1	ALLETE	ALE	BBB+	A3	2	3.49%	5.00%	4.35%	4.78%	3.58%	8.36%	1.59
2	Alliant Energy	LNT	A-	Baa1	2	2.63%	6.60%	4.35%	5.85%	2.71%	8.56%	2.74
3	Amer. Elec. Power	AEP	BBB+	Baa1	2	3.38%	2.31%	4.35%	2.99%	3.43%	6.42%	1.78
4	Ameren Corp.	AEE	BBB+	Baa1	2	3.39%	5.20%	4.35%	4.92%	3.48%	8.39%	1.73
5	Avista Corp.	AVA	BBB	Baa1	2	3.28%	5.00%	4.35%	4.78%	3.36%	8.15%	1.68
6	Black Hills Corp.	BKH	BBB	Baa1	2	2.77%	6.70%	4.35%	5.92%	2.85%	8.77%	2.05
7	CMS Energy	CMS	BBB+	Baa2	2	2.90%	7.27%	4.35%	6.30%	2.99%	9.29%	2.93
8	Consol. Edison	ED	A-	A3	1	3.51%	2.14%	4.35%	2.88%	3.57%	6.44%	1.67
9	DTE Energy	DTE	BBB+	A3	2	3.16%	5.51%	4.35%	5.12%	3.24%	8.37%	1.87
10	Edison Int'l	EIX	BBB+	A3	2	2.62%	2.26%	4.35%	2.96%	2.66%	5.62%	2.05
11	El Paso Electric	EE	BBB	Baa1	2	2.64%	7.00%	4.35%	6.12%	2.72%	8.83%	1.80
12	Exelon Corp.	EXC	BBB	Baa2	3	3.61%	2.66%	4.35%	3.22%	3.67%	6.90%	1.24
13	IDACORP, Inc.	IDA	BBB	Baa1	2	2.66%	4.00%	4.35%	4.12%	2.72%	6.84%	1.84
14	NorthWestern Corp.	NWE	BBB	A3	3	3.37%	5.00%	4.35%	4.78%	3.45%	8.23%	1.76
15	OGE Energy Corp.	OGE	A-	A3	2	3.57%	4.30%	4.35%	4.32%	3.65%	7.97%	1.82
16	Otter Tail Corp.	OTTR	BBB	Baa2	2	3.91%	6.00%	4.35%	5.45%	4.01%	9.46%	1.96
17	PG&E Corp.	PCG	BBB+	Baa1	3	3.08%	5.66%	4.35%	5.22%	3.16%	8.38%	1.78
18	Pinnacle West	PNW	A-	A3	1	3.29%	3.85%	4.35%	4.02%	3.35%	7.37%	1.81
19	Portland General	POR	BBB	A3	2	2.95%	5.90%	4.35%	5.38%	3.03%	8.41%	1.63
20	PPL Corp.	PPL	A-	Baa2	2	4.12%	2.47%	4.35%	3.10%	4.19%	7.28%	2.39
21	Public Serv. Enterprise	PEG	BBB+	Baa2	1	3.67%	1.17%	4.35%	2.23%	3.71%	5.94%	1.70
22	Sempra Energy	SRE	BBB+	Baa1	2	2.81%	7.65%	4.35%	6.55%	2.91%	9.46%	2.24
23	Vectren Corp.	VVC	A-	NR	2	3.19%	5.00%	4.35%	4.78%	3.26%	8.05%	2.40
24	WEC Energy Group	WEC	A-	A3	1	3.24%	6.72%	4.35%	5.93%	3.33%	9.26%	2.20
25	Xcel Energy	XEL	A-	A3	1	3.23%	5.34%	4.35%	5.01%	3.31%	8.32%	1.98
26	Average				1.9	3.22%	4.83%	4.35%	4.67%	3.29%	7.96%	1.95
27	Low - 25 Companies										**5.62%**	
28	High - 25 Companies										**9.46%**	
29	Median										**8.32%**	
30	True 75th Percentile Value										**8.56%**	
31	Midpoint of the Top Half of the Array										**8.50%**	
32	Amer. Elec. Power	AEP	BBB+	Baa1	2							

Notes:
(f) - Avg. of the monthly low and high dividend yields for the 6 months ending Sept. 30, 2016. (pp. 2-6)
(g) - Thomson Reuters/IBES reported consensus of analysts' projected "5-year" earnings per share growth rate from Yahoo! Finance as of September 30, 2016.
(h) - Average long-term GDP growth rate.
(i) - Composite avg. growth rate with IBES and GDP growth rates weighted 2/3 and 1/3, respectively.
(j) - Dividend yield times (1 + 0.5g), where g = composite average growth rate.
(k) - ROE equals the adjusted dividend yield plus the composite average growth rate.
(l) - Price to book values calculated using April 2016 - September 2016 average market price and Value Line reported year end 2015 and 2016 book values. (p. 7)

Moody's Public Utility Bond Index Yields

Apr 2016 - Sep 2016		Threshold
A Bond Avg Yield:	3.76%	4.76%
Baa Bond Avg Yield:	4.41%	5.41%
Average	4.08%	5.08%

American Electric Power Co. Inc.
FERC Docket No. EL17-

SIX MONTH AVERAGE DIVIDEND YIELD

	Price				Dividend Yield		
	High	Low	Avg	Div	Low	High	Avg
ALLETE							
Sep-16	$ 62.70	$ 58.20	$ 60.45	$ 2.080	3.32%	3.57%	3.44%
Aug-16	$ 64.46	$ 58.60	$ 61.53	$ 2.080	3.23%	3.55%	3.38%
Jul-16	$ 65.41	$ 62.50	$ 63.96	$ 2.080	3.18%	3.33%	3.25%
Jun-16	$ 64.69	$ 57.32	$ 61.01	$ 2.080	3.22%	3.63%	3.41%
May-16	$ 58.49	$ 54.03	$ 56.26	$ 2.080	3.56%	3.85%	3.70%
Apr-16	$ 56.80	$ 53.47	$ 55.14	$ 2.080	3.66%	3.89%	3.77%
Average	$ 62.09	$ 57.35	**$ 59.72**		**3.36%**	**3.64%**	**3.49%**
Alliant Energy							
Sep-16	$ 40.60	$ 37.09	$ 38.84	$ 1.176	2.90%	3.17%	3.03%
Aug-16	$ 40.58	$ 37.69	$ 39.14	$ 1.176	2.90%	3.12%	3.00%
Jul-16	$ 40.99	$ 39.07	$ 40.03	$ 1.176	2.87%	3.01%	2.94%
Jun-16	$ 40.24	$ 36.92	$ 38.58	$ 1.176	2.92%	3.19%	3.05%
May-16	$ 74.21	$ 35.55	$ 54.88	$ 1.176	1.58%	3.31%	2.14%
Apr-16	$ 75.18	$ 68.15	$ 71.67	$ 1.176	1.56%	1.73%	1.64%
Average	$ 51.97	$ 42.41	**$ 47.19**		**2.46%**	**2.92%**	**2.63%**
Amer. Elec. Power							
Sep-16	$ 66.96	$ 63.56	$ 65.26	$ 2.240	3.35%	3.52%	3.43%
Aug-16	$ 69.48	$ 64.07	$ 66.78	$ 2.240	3.22%	3.50%	3.35%
Jul-16	$ 71.32	$ 68.25	$ 69.79	$ 2.240	3.14%	3.28%	3.21%
Jun-16	$ 70.10	$ 64.04	$ 67.07	$ 2.240	3.20%	3.50%	3.34%
May-16	$ 65.97	$ 62.61	$ 64.29	$ 2.240	3.40%	3.58%	3.48%
Apr-16	$ 67.19	$ 61.42	$ 64.31	$ 2.240	3.33%	3.65%	3.48%
Average	$ 68.50	$ 63.99	**$ 66.25**		**3.27%**	**3.50%**	**3.38%**
Ameren Corp.							
Sep-16	$ 51.91	$ 47.79	$ 49.85	$ 1.700	3.27%	3.56%	3.41%
Aug-16	$ 52.59	$ 49.15	$ 50.87	$ 1.700	3.23%	3.46%	3.34%
Jul-16	$ 54.08	$ 50.65	$ 52.37	$ 1.700	3.14%	3.36%	3.25%
Jun-16	$ 53.59	$ 48.69	$ 51.14	$ 1.700	3.17%	3.49%	3.32%
May-16	$ 49.74	$ 46.30	$ 48.02	$ 1.700	3.42%	3.67%	3.54%
Apr-16	$ 51.06	$ 46.29	$ 48.68	$ 1.700	3.33%	3.67%	3.49%
Average	$ 52.16	$ 48.15	**$ 50.15**		**3.26%**	**3.53%**	**3.39%**
Avista Corp.							
Sep-16	$ 43.74	$ 40.38	$ 42.06	$ 1.372	3.14%	3.40%	3.26%
Aug-16	$ 43.71	$ 40.30	$ 42.00	$ 1.372	3.14%	3.40%	3.27%
Jul-16	$ 45.22	$ 42.87	$ 44.05	$ 1.372	3.03%	3.20%	3.11%
Jun-16	$ 44.81	$ 40.00	$ 42.41	$ 1.372	3.06%	3.43%	3.24%
May-16	$ 42.17	$ 38.83	$ 40.50	$ 1.372	3.25%	3.53%	3.39%
Apr-16	$ 41.37	$ 38.48	$ 39.92	$ 1.372	3.32%	3.57%	3.44%
Average	$ 43.50	$ 40.14	**$ 41.82**		**3.16%**	**3.42%**	**3.28%**
Black Hills Corp.							
Sep-16	$ 63.79	$ 57.51	$ 60.65	$ 1.680	2.63%	2.92%	2.77%
Aug-16	$ 63.87	$ 56.86	$ 60.37	$ 1.680	2.63%	2.95%	2.78%
Jul-16	$ 64.58	$ 61.17	$ 62.88	$ 1.680	2.60%	2.75%	2.67%
Jun-16	$ 63.53	$ 60.02	$ 61.77	$ 1.680	2.64%	2.80%	2.72%
May-16	$ 62.26	$ 57.10	$ 59.68	$ 1.680	2.70%	2.94%	2.82%
Apr-16	$ 60.93	$ 56.16	$ 58.55	$ 1.680	2.76%	2.99%	2.87%
Average	$ 63.16	$ 58.14	**$ 60.65**		**2.66%**	**2.89%**	**2.77%**

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CMS Energy							
Sep-16	$ 44.44	$ 41.14	$ 42.79	$ 1.240	2.79%	3.01%	2.90%
Aug-16	$ 45.37	$ 41.49	$ 43.43	$ 1.240	2.73%	2.99%	2.86%
Jul-16	$ 46.25	$ 44.25	$ 45.25	$ 1.240	2.68%	2.80%	2.74%
Jun-16	$ 45.86	$ 41.49	$ 43.68	$ 1.240	2.70%	2.99%	2.84%
May-16	$ 42.19	$ 39.85	$ 41.02	$ 1.240	2.94%	3.11%	3.02%
Apr-16	$ 42.87	$ 38.92	$ 40.89	$ 1.240	2.89%	3.19%	3.03%
Average	$ 44.50	$ 41.19	**$ 42.84**		**2.79%**	**3.02%**	**2.90%**
Consol. Edison							
Sep-16	$ 79.54	$ 72.93	$ 76.24	$ 2.680	3.37%	3.67%	3.52%
Aug-16	$ 80.61	$ 74.09	$ 77.35	$ 2.680	3.32%	3.62%	3.46%
Jul-16	$ 81.88	$ 78.31	$ 80.09	$ 2.680	3.27%	3.42%	3.35%
Jun-16	$ 80.44	$ 72.94	$ 76.69	$ 2.680	3.33%	3.67%	3.49%
May-16	$ 76.76	$ 70.31	$ 73.54	$ 2.680	3.49%	3.81%	3.64%
Apr-16	$ 77.23	$ 70.73	$ 73.98	$ 2.680	3.47%	3.79%	3.62%
Average	$ 79.41	$ 73.22	**$ 76.31**		**3.38%**	**3.66%**	**3.51%**
DTE Energy							
Sep-16	$ 97.60	$ 90.61	$ 94.10	$ 3.080	3.16%	3.40%	3.27%
Aug-16	$ 98.44	$ 92.24	$ 95.34	$ 2.920	2.97%	3.17%	3.06%
Jul-16	$ 100.45	$ 96.57	$ 98.51	$ 2.920	2.91%	3.02%	2.96%
Jun-16	$ 99.13	$ 90.02	$ 94.57	$ 2.920	2.95%	3.24%	3.09%
May-16	$ 92.32	$ 86.81	$ 89.56	$ 2.920	3.16%	3.36%	3.26%
Apr-16	$ 91.23	$ 84.77	$ 88.00	$ 2.920	3.20%	3.44%	3.32%
Average	$ 96.53	$ 90.17	**$ 93.35**		**3.06%**	**3.27%**	**3.16%**
Edison Int'l							
Sep-16	$ 76.30	$ 71.31	$ 73.81	$ 1.920	2.52%	2.69%	2.60%
Aug-16	$ 77.40	$ 71.74	$ 74.57	$ 1.920	2.48%	2.68%	2.57%
Jul-16	$ 78.72	$ 74.45	$ 76.58	$ 1.920	2.44%	2.58%	2.51%
Jun-16	$ 77.71	$ 70.72	$ 74.22	$ 1.920	2.47%	2.71%	2.59%
May-16	$ 73.25	$ 68.47	$ 70.86	$ 1.920	2.62%	2.80%	2.71%
Apr-16	$ 72.41	$ 67.71	$ 70.06	$ 1.920	2.65%	2.84%	2.74%
Average	$ 75.97	$ 70.73	**$ 73.35**		**2.53%**	**2.72%**	**2.62%**
El Paso Electric							
Sep-16	$ 48.75	$ 44.07	$ 46.41	$ 1.240	2.54%	2.81%	2.67%
Aug-16	$ 47.82	$ 44.82	$ 46.32	$ 1.240	2.59%	2.77%	2.68%
Jul-16	$ 48.38	$ 45.93	$ 47.16	$ 1.240	2.56%	2.70%	2.63%
Jun-16	$ 47.27	$ 44.37	$ 45.82	$ 1.180	2.50%	2.66%	2.58%
May-16	$ 46.79	$ 42.42	$ 44.60	$ 1.180	2.52%	2.78%	2.65%
Apr-16	$ 46.63	$ 43.68	$ 45.16	$ 1.180	2.53%	2.70%	2.61%
Average	$ 47.61	$ 44.21	**$ 45.91**		**2.54%**	**2.74%**	**2.64%**
Exelon Corp.							
Sep-16	$ 35.27	$ 32.86	$ 34.07	$ 1.272	3.61%	3.87%	3.73%
Aug-16	$ 37.70	$ 33.61	$ 35.66	$ 1.272	3.37%	3.78%	3.57%
Jul-16	$ 37.55	$ 35.37	$ 36.46	$ 1.272	3.39%	3.60%	3.49%
Jun-16	$ 36.37	$ 33.61	$ 34.99	$ 1.272	3.50%	3.78%	3.64%
May-16	$ 35.95	$ 33.27	$ 34.61	$ 1.272	3.54%	3.82%	3.68%
Apr-16	$ 35.95	$ 33.18	$ 34.57	$ 1.240	3.45%	3.74%	3.59%
Average	$ 36.47	$ 33.65	**$ 35.06**		**3.48%**	**3.77%**	**3.61%**

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IDACORP, Inc.										
Sep-16	$	81.55	$	75.14	$	78.35	$ 2.040	2.50%	2.71%	2.60%
Aug-16	$	81.71	$	75.46	$	78.58	$ 2.040	2.50%	2.70%	2.60%
Jul-16	$	83.40	$	79.21	$	81.31	$ 2.040	2.45%	2.58%	2.51%
Jun-16	$	81.36	$	72.91	$	77.14	$ 2.040	2.51%	2.80%	2.64%
May-16	$	74.47	$	69.83	$	72.15	$ 2.040	2.74%	2.92%	2.83%
Apr-16	$	74.99	$	70.40	$	72.70	$ 2.040	2.72%	2.90%	2.81%
Average	$	79.58	$	73.83	**$**	**76.70**		**2.57%**	**2.77%**	**2.66%**
NorthWestern Corp.										
Sep-16	$	60.71	$	56.18	$	58.44	$ 2.000	3.29%	3.56%	3.42%
Aug-16	$	61.32	$	57.09	$	59.21	$ 2.000	3.26%	3.50%	3.38%
Jul-16	$	63.75	$	60.05	$	61.90	$ 2.000	3.14%	3.33%	3.23%
Jun-16	$	63.30	$	57.52	$	60.41	$ 2.000	3.16%	3.48%	3.31%
May-16	$	59.44	$	55.34	$	57.39	$ 2.000	3.36%	3.61%	3.48%
Apr-16	$	62.51	$	55.91	$	59.21	$ 2.000	3.20%	3.58%	3.38%
Average	$	61.84	$	57.01	**$**	**59.43**		**3.24%**	**3.51%**	**3.37%**
OGE Energy Corp.										
Sep-16	$	33.10	$	30.59	$	31.84	$ 1.100	3.32%	3.60%	3.45%
Aug-16	$	32.29	$	29.91	$	31.10	$ 1.100	3.41%	3.68%	3.54%
Jul-16	$	32.96	$	31.30	$	32.13	$ 1.100	3.34%	3.51%	3.42%
Jun-16	$	32.75	$	30.09	$	31.42	$ 1.100	3.36%	3.66%	3.50%
May-16	$	31.07	$	28.97	$	30.02	$ 1.100	3.54%	3.80%	3.66%
Apr-16	$	29.62	$	27.27	$	28.45	$ 1.100	3.71%	4.03%	3.87%
Average	$	31.96	$	29.69	**$**	**30.83**		**3.45%**	**3.71%**	**3.57%**
Otter Tail Corp.										
Sep-16	$	36.42	$	33.91	$	35.16	$ 1.252	3.44%	3.69%	3.56%
Aug-16	$	35.42	$	32.99	$	34.21	$ 1.252	3.53%	3.80%	3.66%
Jul-16	$	35.37	$	32.89	$	34.13	$ 1.252	3.54%	3.81%	3.67%
Jun-16	$	33.50	$	29.44	$	31.47	$ 1.252	3.74%	4.25%	3.98%
May-16	$	31.15	$	27.77	$	29.46	$ 1.252	4.02%	4.51%	4.25%
Apr-16	$	29.80	$	28.02	$	28.91	$ 1.252	4.20%	4.47%	4.33%
Average	$	33.61	$	30.84	**$**	**32.22**		**3.75%**	**4.09%**	**3.91%**
PG&E Corp.										
Sep-16	$	64.40	$	60.44	$	62.42	$ 1.960	3.04%	3.24%	3.14%
Aug-16	$	65.39	$	61.48	$	63.43	$ 1.960	3.00%	3.19%	3.09%
Jul-16	$	65.43	$	62.90	$	64.17	$ 1.960	3.00%	3.12%	3.05%
Jun-16	$	63.95	$	59.76	$	61.85	$ 1.820	2.85%	3.05%	2.94%
May-16	$	60.18	$	56.39	$	58.28	$ 1.820	3.02%	3.23%	3.12%
Apr-16	$	60.09	$	56.48	$	58.29	$ 1.820	3.03%	3.22%	3.12%
Average	$	63.24	$	59.57	**$**	**61.41**		**2.99%**	**3.17%**	**3.08%**
Pinnacle West										
Sep-16	$	80.19	$	73.94	$	77.07	$ 2.500	3.12%	3.38%	3.24%
Aug-16	$	79.54	$	74.28	$	76.91	$ 2.500	3.14%	3.37%	3.25%
Jul-16	$	82.78	$	77.79	$	80.29	$ 2.500	3.02%	3.21%	3.11%
Jun-16	$	81.08	$	73.07	$	77.08	$ 2.500	3.08%	3.42%	3.24%
May-16	$	74.65	$	70.11	$	72.38	$ 2.500	3.35%	3.57%	3.45%
Apr-16	$	75.81	$	70.23	$	73.02	$ 2.500	3.30%	3.56%	3.42%
Average	$	79.01	$	73.24	**$**	**76.12**		**3.17%**	**3.42%**	**3.29%**

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Portland General							
Sep-16	$ 44.12	$ 41.71	$ 42.91	$ 1.280	2.90%	3.07%	2.98%
Aug-16	$ 44.46	$ 41.51	$ 42.98	$ 1.280	2.88%	3.08%	2.98%
Jul-16	$ 45.21	$ 43.28	$ 44.24	$ 1.280	2.83%	2.96%	2.89%
Jun-16	$ 44.12	$ 40.96	$ 42.54	$ 1.200	2.72%	2.93%	2.82%
May-16	$ 41.94	$ 39.47	$ 40.71	$ 1.200	2.86%	3.04%	2.95%
Apr-16	$ 40.03	$ 37.77	$ 38.90	$ 1.200	3.00%	3.18%	3.08%
Average	$ 43.31	$ 40.78	**$ 42.05**		**2.87%**	**3.04%**	**2.95%**
PPL Corp.							
Sep-16	$ 35.94	$ 33.52	$ 34.73	$ 1.520	4.23%	4.53%	4.38%
Aug-16	$ 37.76	$ 34.35	$ 36.05	$ 1.520	4.03%	4.43%	4.22%
Jul-16	$ 37.88	$ 36.66	$ 37.27	$ 1.520	4.01%	4.15%	4.08%
Jun-16	$ 39.92	$ 36.33	$ 38.13	$ 1.520	3.81%	4.18%	3.99%
May-16	$ 39.08	$ 37.10	$ 38.09	$ 1.520	3.89%	4.10%	3.99%
Apr-16	$ 38.30	$ 36.14	$ 37.22	$ 1.520	3.97%	4.21%	4.08%
Average	$ 38.15	$ 35.68	**$ 36.91**		**3.99%**	**4.27%**	**4.12%**
Public Serv. Enterprise							
Sep-16	$ 44.01	$ 41.07	$ 42.54	$ 1.640	3.73%	3.99%	3.86%
Aug-16	$ 46.10	$ 42.25	$ 44.17	$ 1.640	3.56%	3.88%	3.71%
Jul-16	$ 46.81	$ 44.78	$ 45.80	$ 1.640	3.50%	3.66%	3.58%
Jun-16	$ 46.61	$ 43.76	$ 45.18	$ 1.640	3.52%	3.75%	3.63%
May-16	$ 47.11	$ 42.77	$ 44.94	$ 1.640	3.48%	3.83%	3.65%
Apr-16	$ 47.41	$ 44.32	$ 45.87	$ 1.640	3.46%	3.70%	3.58%
Average	$ 46.34	$ 43.16	**$ 44.75**		**3.54%**	**3.80%**	**3.67%**
Sempra Energy							
Sep-16	$ 111.40	$ 102.15	$ 106.78	$ 3.020	2.71%	2.96%	2.83%
Aug-16	$ 111.96	$ 103.62	$ 107.79	$ 3.020	2.70%	2.91%	2.80%
Jul-16	$ 114.66	$ 110.00	$ 112.33	$ 3.020	2.63%	2.75%	2.69%
Jun-16	$ 114.03	$ 106.16	$ 110.10	$ 3.020	2.65%	2.84%	2.74%
May-16	$ 107.28	$ 101.17	$ 104.22	$ 3.020	2.82%	2.99%	2.90%
Apr-16	$ 106.05	$ 100.40	$ 103.23	$ 3.020	2.85%	3.01%	2.93%
Average	$ 110.90	$ 103.92	**$ 107.41**		**2.73%**	**2.91%**	**2.81%**
Vectren Corp.							
Sep-16	$ 52.04	$ 47.87	$ 49.96	$ 1.600	3.07%	3.34%	3.20%
Aug-16	$ 52.47	$ 48.56	$ 50.52	$ 1.600	3.05%	3.29%	3.17%
Jul-16	$ 53.33	$ 50.45	$ 51.89	$ 1.600	3.00%	3.17%	3.08%
Jun-16	$ 52.68	$ 49.26	$ 50.97	$ 1.600	3.04%	3.25%	3.14%
May-16	$ 50.68	$ 46.96	$ 48.82	$ 1.600	3.16%	3.41%	3.28%
Apr-16	$ 51.00	$ 47.23	$ 49.12	$ 1.600	3.14%	3.39%	3.26%
Average	$ 52.03	$ 48.39	**$ 50.21**		**3.08%**	**3.31%**	**3.19%**
WEC Energy Group							
Sep-16	$ 63.35	$ 59.03	$ 61.19	$ 1.980	3.13%	3.35%	3.24%
Aug-16	$ 65.24	$ 59.32	$ 62.28	$ 1.980	3.03%	3.34%	3.18%
Jul-16	$ 66.10	$ 63.37	$ 64.73	$ 1.980	3.00%	3.12%	3.06%
Jun-16	$ 65.30	$ 59.62	$ 62.46	$ 1.980	3.03%	3.32%	3.17%
May-16	$ 60.51	$ 57.25	$ 58.88	$ 1.980	3.27%	3.46%	3.36%
Apr-16	$ 60.32	$ 55.46	$ 57.89	$ 1.980	3.28%	3.57%	3.42%
Average	$ 63.47	$ 59.01	**$ 61.24**		**3.12%**	**3.36%**	**3.24%**

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Xcel Energy

Sep-16	$	43.49	$	40.34	$	41.92	$	1.360	3.13%	3.37%	3.24%
Aug-16	$	44.13	$	41.07	$	42.60	$	1.360	3.08%	3.31%	3.19%
Jul-16	$	45.42	$	43.10	$	44.26	$	1.360	2.99%	3.16%	3.07%
Jun-16	$	44.78	$	40.99	$	42.89	$	1.360	3.04%	3.32%	3.17%
May-16	$	41.98	$	39.69	$	40.83	$	1.360	3.24%	3.43%	3.33%
Apr-16	$	42.04	$	38.43	$	40.24	$	1.360	3.24%	3.54%	3.38%
Average	$	43.64	$	40.60	**$**	**42.12**			**3.12%**	**3.35%**	**3.23%**

Source: Yahoo! Finance

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Market Price to Book Values

Line	Company	Ticker	Apr 2016 to Sep 2016 Avg Price	2015-2016 Average Book Value	M/B	Value Line Book Values 2015	Value Line Book Values 2016
1	ALLETE	ALE	59.72	37.64	1.59	37.07	38.20
2	Alliant Energy	LNT	47.19	17.23	2.74	16.41	18.05
3	Amer. Elec. Power	AEP	66.25	37.25	1.78	36.44	38.05
4	Ameren Corp.	AEE	50.15	29.07	1.73	28.63	29.50
5	Avista Corp.	AVA	41.82	24.97	1.68	24.53	25.40
6	Black Hills Corp.	BKH	60.65	29.54	2.05	28.63	30.45
7	CMS Energy	CMS	42.84	14.61	2.93	14.21	15.00
8	Consol. Edison	ED	76.31	45.65	1.67	44.55	46.75
9	DTE Energy	DTE	93.35	49.79	1.87	48.88	50.70
10	Edison Int'l	EIX	73.35	35.80	2.05	34.89	36.70
11	El Paso Electric	EE	45.91	25.44	1.80	25.13	25.75
12	Exelon Corp.	EXC	35.06	28.20	1.24	28.04	28.35
13	IDACORP, Inc.	IDA	76.70	41.74	1.84	40.88	42.60
14	NorthWestern Corp.	NWE	59.43	33.69	1.76	33.22	34.15
15	OGE Energy Corp.	OGE	30.83	16.96	1.82	16.66	17.25
16	Otter Tail Corp.	OTTR	32.22	16.44	1.96	15.98	16.90
17	PG&E Corp.	PCG	61.41	34.45	1.78	33.69	35.20
18	Pinnacle West	PNW	76.12	42.03	1.81	41.30	42.75
19	Portland General	POR	42.05	25.84	1.63	25.43	26.25
20	PPL Corp.	PPL	36.91	15.44	2.39	14.72	16.15
21	Public Serv. Enterprise	PEG	44.75	26.33	1.70	25.86	26.80
22	Sempra Energy	SRE	107.41	47.93	2.24	47.56	48.30
23	Vectren Corp.	VVC	50.21	20.95	2.40	20.34	21.55
24	WEC Energy Group	WEC	61.24	27.81	2.20	27.42	28.20
25	Xcel Energy	XEL	42.12	21.30	1.98	20.89	21.70

Source: April 2016 to September 2016 Average price from Yahoo! Finance.
2015 and 2016 Estimated Book Values from Value Line reports dated
July 29, August 19, and September 16, 2016.

Line No.	Company	Ticker	Industry Name	Safety Rank	Long-term Issuer Moody's	Long-term Issuer S&P	Long-term Issuer Fitch	Senior Unsecured Moody's	Senior Unsecured S&P	Senior Unsecured Fitch	Note
Utilities With S&P CCR of A-, BBB+, or BBB and Moody's Long-term Issuer or Senior Unsecured Rating of A3, Baa1, or Baa2											
1	ALLETE	ALE	Electric Util. (Central)	2	A3	BBB+					
2	Alliant Energy	LNT	Electric Util. (Central)	2	Baa1	A-		Baa1			
3	Amer. Elec. Power	AEP	Electric Util. (Central)	2		BBB+	BBB	Baa1	BBB	BBB	
4	Ameren Corp.	AEE	Electric Util. (Central)	2	Baa1	BBB+	BBB+	Baa1	BBB	BBB+	
5	Avista Corp.	AVA	Electric Utility (West)	2	Baa1	BBB					
6	Black Hills Corp.	BKH	Electric Utility (West)	2	Baa1	BBB	BBB+	Baa1	BBB	BBB+	
7	CMS Energy	CMS	Electric Util. (Central)	2		BBB+	BBB	Baa2	BBB	BBB	
8	Consol. Edison	ED	Electric Utility (East)	1	A3	A-	BBB+	A3	BBB+	BBB+	
9	DTE Energy	DTE	Electric Util. (Central)	2		BBB+	BBB+	A3	BBB	BBB+	
10	Edison Int'l	EIX	Electric Utility (West)	2	A3	BBB+	A-	A3	BBB	A-	
11	El Paso Electric	EE	Electric Utility (West)	2	Baa1	BBB		Baa1	BBB		
12	Exelon Corp.	EXC	Electric Utility (East)	3	Baa2	BBB	BBB	Baa2	BBB-	BBB	
13	IDACORP, Inc.	IDA	Electric Utility (West)	2	Baa1	BBB					
14	NorthWestern Corp.	NWE	Electric Utility (West)	3		BBB	BBB+	A3	BBB	A	
15	OGE Energy Corp.	OGE	Electric Util. (Central)	2		A-	A-	A3	BBB+	A-	
16	Otter Tail Corp.	OTTR	Electric Util. (Central)	2		BBB	BBB-	Baa2	BBB-	BBB-	
17	PG&E Corp.	PCG	Electric Utility (West)	3	Baa1	BBB+	BBB+	Baa1	BBB	BBB+	
18	Pinnacle West	PNW	Electric Utility (West)	1	A3	A-	A-	A3			
19	Portland General	POR	Electric Utility (West)	2	A3	BBB					
20	PPL Corp.	PPL	Electric Utility (East)	2	Baa2	A-					
21	Public Serv. Enterprise	PEG	Electric Utility (East)	1		BBB+	BBB+	Baa2		BBB+	
22	Sempra Energy	SRE	Electric Utility (West)	2	Baa1	BBB+	BBB+	Baa1	BBB+	BBB+	
23	Vectren Corp.	VVC	Electric Util. (Central)	2		A-					
24	WEC Energy Group	WEC	Electric Util. (Central)	1	A3	A-	BBB+	A3	BBB+	BBB+	
25	Xcel Energy	XEL	Electric Utility (West)	1	A3	A-	BBB+	A3	BBB+	BBB+	
Utilities Meeting the Ratings Screens But Eliminated For Other Reasons											
26	CenterPoint Energy	CNP	Electric Util. (Central)	3	Baa1	A-	BBB	Baa1	BBB+	BBB	M&A activity
27	Dominion Resources	D	Electric Utility (East)	2		BBB+	BBB+	Baa2	BBB	BBB+	M&A activity
28	Duke Energy	DUK	Electric Utility (East)	2	Baa1	A-	BBB+	Baa1	BBB+	BBB+	M&A activity
29	Empire Dist. Elect.	EDE	Electric Util. (Central)	2	Baa1	BBB		Baa1	BBB		M&A activity
30	G't Plains Energy	GXP	Electric Util. (Central)	3		BBB+		Baa2	BBB		M&A activity
31	ITC Holdings	ITC	Electric Util. (Central)	2		A-		Baa2	BBB+		M&A activity
32	NextEra Energy	NEE	Electric Utility (East)	2	Baa1	A-	A-		BBB		M&A activity
33	Southern Co.	SO	Electric Utility (East)	2		A-	A-	Baa2	BBB+	A-	M&A activity
34	Westar Energy	WR	Electric Util. (Central)	2	Baa1	BBB+	BBB+			A-	M&A activity
Utilities Eliminated By the Credit Ratings Screen											
35	Entergy Corp.	ETR	Electric Util. (Central)	3	Baa3	BBB+		Baa3	BBB		
36	Eversource Energy	ES	Electric Utility (East)	1	Baa1	A	BBB+	Baa1	A-	BBB+	
37	FirstEnergy Corp.	FE	Electric Utility (East)	3	Baa3	BBB-	BB+	Baa3	BB+	BB+	
38	Hawaiian Elec.	HE	Electric Utility (West)	2		BBB-	BBB			BBB	M&A activity
39	MGE Energy, Inc.	MGEE	Electric Util. (Central)	1							No ratings
40	PNM Resources, Inc.	PNM	Electric Utility (West)	3	Baa3	BBB+					
41	SCANA Corp.	SCG	Electric Utility (East)	2	Baa3	BBB+	BBB-	Baa3	BBB	BBB-	
42	Amer. Elec. Power	AEP	Electric Util. (Central)	2		BBB+	BBB	Baa1	BBB	BBB	

PART III

Exhibit No. JC-3

Workpapers Supporting Direct Testimony of J. Bertram Solomon

Line No.	Company	Ticker	Industry Name	Safety Rank	Long-term Issuer Moody's	Long-term Issuer S&P	Long-term Issuer Fitch	Senior Unsecured Moody's	Senior Unsecured S&P	Senior Unsecured Fitch	Note
Utilities With S&P CCR of A-, BBB+, or BBB and Moody's Long-term Issuer or Senior Unsecured Rating of A3, Baa1, or Baa2											
1	ALLETE	ALE	Electric Util. (Central)	2	A3	BBB+					
2	Alliant Energy	LNT	Electric Util. (Central)	2	Baa1	A-		Baa1			
3	Amer. Elec. Power	AEP	Electric Util. (Central)	2		BBB+	BBB	Baa1	BBB	BBB	
4	Ameren Corp.	AEE	Electric Util. (Central)	2	Baa1	BBB+	BBB+	Baa1	BBB	BBB+	
5	Avista Corp.	AVA	Electric Utility (West)	2	Baa1	BBB					
6	Black Hills Corp.	BKH	Electric Utility (West)	2	Baa1	BBB	BBB+	Baa1	BBB	BBB+	
7	CMS Energy	CMS	Electric Util. (Central)	2		BBB+	BBB	Baa2	BBB	BBB	
8	Consol. Edison	ED	Electric Utility (East)	1	A3	A-	BBB+	A3	BBB+	BBB+	
9	DTE Energy	DTE	Electric Util. (Central)	2		BBB+	BBB+	A3	BBB	BBB+	
10	Edison Int'l	EIX	Electric Utility (West)	2	A3	BBB+	A-	A3	BBB	A-	
11	El Paso Electric	EE	Electric Utility (West)	2	Baa1	BBB		Baa1	BBB		
12	Exelon Corp.	EXC	Electric Utility (East)	3	Baa2	BBB	BBB	Baa2	BBB-	BBB	
13	IDACORP, Inc.	IDA	Electric Utility (West)	2	Baa1	BBB					
14	NorthWestern Corp.	NWE	Electric Utility (West)	3		BBB	BBB+	A3	BBB	A	
15	OGE Energy Corp.	OGE	Electric Util. (Central)	2		A-	A-	A3	BBB+	A-	
16	Otter Tail Corp.	OTTR	Electric Util. (Central)	2		BBB	BBB-	Baa2	BBB-	BBB-	
17	PG&E Corp.	PCG	Electric Utility (West)	3	Baa1	BBB+	BBB+	Baa1	BBB	BBB+	
18	Pinnacle West	PNW	Electric Utility (West)	1	A3	A-	A-	A3			
19	Portland General	POR	Electric Utility (West)	2	A3	BBB					
20	PPL Corp.	PPL	Electric Utility (East)	2	Baa2	A-					
21	Public Serv. Enterprise	PEG	Electric Utility (East)	1		BBB+	BBB+	Baa2		BBB+	
22	Sempra Energy	SRE	Electric Utility (West)	2	Baa1	BBB+	BBB+	Baa1	BBB+	BBB+	
23	Vectren Corp.	VVC	Electric Util. (Central)	2		A-					
24	WEC Energy Group	WEC	Electric Util. (Central)	1	A3	A-	BBB+	A3	BBB+	BBB+	
25	Xcel Energy	XEL	Electric Utility (West)	1	A3	A-	BBB+	A3	BBB+	BBB+	
Utilities Meeting the Ratings Screens But Eliminated For Other Reasons											
26	CenterPoint Energy	CNP	Electric Util. (Central)	3	Baa1	A-	BBB	Baa1	BBB+	BBB	M&A activity
27	Dominion Resources	D	Electric Utility (East)	2		BBB+	BBB+	Baa2	BBB	BBB+	M&A activity
28	Duke Energy	DUK	Electric Utility (East)	2	Baa1	A-	BBB+	Baa1	BBB+	BBB+	M&A activity
29	Empire Dist. Elect.	EDE	Electric Util. (Central)	2	Baa1	BBB		Baa1	BBB		M&A activity
30	G't Plains Energy	GXP	Electric Util. (Central)	3		BBB+		Baa2	BBB		M&A activity
31	ITC Holdings	ITC	Electric Util. (Central)	2		A-		Baa2	BBB+		M&A activity
32	NextEra Energy	NEE	Electric Utility (East)	2	Baa1	A-	A-		BBB		M&A activity
33	Southern Co.	SO	Electric Utility (East)	2		A-	A-	Baa2	BBB+	A-	M&A activity
34	Westar Energy	WR	Electric Util. (Central)	2	Baa1	BBB+	BBB+			A-	M&A activity
Utilities Eliminated By the Credit Ratings Screen											
35	Entergy Corp.	ETR	Electric Util. (Central)	3	Baa3	BBB+		Baa3	BBB		
36	Eversource Energy	ES	Electric Utility (East)	1	Baa1	A	BBB+	Baa1	A-	BBB+	
37	FirstEnergy Corp.	FE	Electric Utility (East)	3	Baa3	BBB-	BB+	Baa3	BB+	BB+	
38	Hawaiian Elec.	HE	Electric Utility (West)	2		BBB-	BBB			BBB	M&A activity
39	MGE Energy, Inc.	MGEE	Electric Util. (Central)	1							No ratings
40	PNM Resources, Inc.	PNM	Electric Utility (West)	3	Baa3	BBB+					
41	SCANA Corp.	SCG	Electric Utility (East)	2	Baa3	BBB+	BBB-	Baa3	BBB	BBB-	
42	Amer. Elec. Power	AEP	Electric Util. (Central)	2		BBB+	BBB	Baa1	BBB	BBB	

ALLETE, Inc. (ALE)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

59.42 -0.45 (-0.76%)

As of 2:39 PM EDT. Market open.

People also watch: LNT AVA BKH IDA WR

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

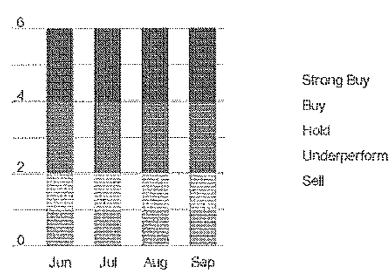
Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	2	5	5
Avg. Estimate	0.97	0.73	3.12	3.52
Low Estimate	0.92	0.72	3.08	3.48
High Estimate	1	0.74	3.15	3.65
Year Ago EPS	1.25	0.41	3.06	3.12

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	3	3
Avg. Estimate	442M	330.5M	1.34B	1.39B
Low Estimate	442M	330.5M	1.25B	1.31B
High Estimate	442M	330.5M	1.46B	1.49B
Year Ago Sales	462.5M	380.6M	1.49B	1.34B
Sales Growth (year/est)	-4.40%	-13.20%	-9.60%	3.60%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.02	0.78	0.9	0.51
EPS Actual	1.25	0.41	0.93	0.5
Difference	0.23	-0.37	0.03	-0.01
Surprise %	22.50%	-47.40%	3.30%	-2.00%

Recommendation Trends >



Recommendation Rating >

2.2

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (4) >

Average 63.13

90 Days Ago	1	0.77	3.2	3.52

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	ALE	Industry	Sector	S&P 500
Current Qtr.	-22.40%	17.10		
Next Qtr.	78.00%	21.51		
Current Year	2.00%	15.74		
Next Year	12.80%	0.03		
Next 5 Years (per annum)	5.00%	0.06		
Past 5 Years (per annum)	6.57%	N/A		

	Buy to Hold		
Downgrade	Wunderlich: Buy to Hold	10/19/2015
	Wells Fargo: Market Perform	10/15/2015
Downgrade	JP Morgan: Neutral to Underweight	6/25/2015
Downgrade	Robert W. Baird: Outperform to Neutral	5/8/2015

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq
2,172.87	18,343.63	5,321.47
21.74 (1.01%)	200.18 (1.10%)	52.31 (0.99%)

LNT is trending down

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Alliant Energy Corporation (LNT)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

38.30 -0.56 (-1.44%)

As of 2:42 PM EDT. Market open.

People also watch: WEC WR OGE SCG GXP

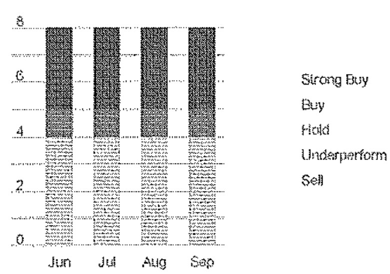
Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	7	8
Avg. Estimate	0.93	0.16	1.89	2
Low Estimate	0.87	0.12	1.88	1.97
High Estimate	0.98	0.21	1.9	2.03
Year Ago EPS	0.8	0.16	1.73	1.89

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	5	5
Avg. Estimate	1.45B	286.61M	3.36B	3.52B
Low Estimate	1.45B	286.61M	3.25B	3.41B
High Estimate	1.45B	286.61M	3.47B	3.59B
Year Ago Sales	898.9M	740.1M	3.25B	3.36B
Sales Growth (year/est)	61.30%	-61.30%	3.20%	4.70%

Recommendation Trends ›



Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.78	0.21	0.42	0.38
EPS Actual	0.8	0.16	0.43	0.37
Difference	0.02	-0.05	0.01	-0.01
Surprise %	2.60%	-23.80%	2.40%	-2.60%

Recommendation Rating ›

2

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (5) ›

Average 39.70

60 Days Ago	0.92	0.15	1.9	2.01
90 Days Ago	0.92	0.21	1.9	2.01

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	LNT	Industry	Sector	S&P 500
Current Qtr.	16.20%	17.10		
Next Qtr.	N/A	21.51		
Current Year	9.20%	15.74		
Next Year	5.80%	0.03		
Next 5 Years (per annum)	6.60%	0.06		
Past 5 Years (per annum)	3.07%	N/A		

↑ Upgrade	Wells Fargo: Market Perform to Outperform	11/16/2015
↓ Downgrade	Wolfe Research: Outperform to Peer Perform	8/7/2015
↓ Downgrade	Wunderlich: Buy to Hold	11/21/2014
↓ Downgrade	Robert W. Baird: Outperform to Neutral	7/14/2014
↓ Downgrade	Barclays: Overweight to Equal Weight	1/6/2014

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.33	18,336.92	5,320.69	48.06
21.20 (0.99%)	193.47 (1.07%)	51.54 (0.98%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade, Costco gains on beat

American Electric Power Co., Inc. (AEP)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

64.02 -0.48 (-0.74%)

As of 2:54 PM EDT. Market open.

People also watch:
SO FE D DUK ED

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	12	11	22	22
Avg. Estimate	1.11	0.64	3.69	3.82
Low Estimate	0.99	0.53	3.54	3.65
High Estimate	1.2	0.81	3.8	4
Year Ago EPS	1.06	0.48	3.69	3.69

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	8	7	15	15
Avg. Estimate	4.55B	3.99B	16.54B	16.79B
Low Estimate	4.3B	3.05B	15.26B	14.97B
High Estimate	4.86B	5.13B	18.62B	19.76B
Year Ago Sales	4.4B	3.61B	16.45B	16.54B
Sales Growth (year/est)	3.30%	10.30%	0.50%	1.50%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.01	0.5	1.04	0.9
EPS Actual	1.06	0.48	1.02	0.95
Difference	0.05	-0.02	-0.02	0.05
Surprise %	5.00%	-4.00%	-1.90%	5.60%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.2

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (17) >

Average 71.44

60 Days Ago	1.12	0.63	3.69	3.83
90 Days Ago	1.1	0.66	3.67	3.84

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	1	N/A	N/A
Up Last 30 Days	1	1	3	2
Down Last 30 Days	1	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	AEP	Industry	Sector	S&P 500
Current Qtr.	4.70%	17.10		
Next Qtr.	33.30%	21.51		
Current Year	N/A	15.74		
Next Year	3.50%	0.03		
Next 5 Years (per annum)	2.31%	0.06		
Past 5 Years (per annum)	3.99%	N/A		

↑ Upgrade	Goldman: Neutral to Buy	7/26/2016
↓ Downgrade	Credit Suisse: Outperform to Neutral	10/23/2015
	Citigroup: Neutral	10/15/2015
↑ Upgrade	Guggenheim: Neutral to Buy	9/8/2015
	Mizuho: Buy	8/18/2015

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq
2,172.88	18,343.63	5,321.65
21.76 (1.01%)	200.18 (1.10%)	52.49 (1.00%)

LNT is trending down

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Ameren Corporation (AEE)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

49.15 -0.45 (-0.91%)

As of 2:42 PM EDT. Market open.

People also watch: DTE ABC AEB AFA AJG

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	5	10	10
Avg. Estimate	1.36	0.18	2.54	2.75
Low Estimate	1.34	0.15	2.5	2.69
High Estimate	1.37	0.24	2.61	2.8
Year Ago EPS	1.41	0.12	2.56	2.54

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	7	8
Avg. Estimate	1.88B	1.55B	6.24B	6.46B
Low Estimate	1.83B	1.37B	6.05B	6.21B
High Estimate	1.93B	1.74B	6.53B	6.6B
Year Ago Sales	1.83B	1.31B	6.1B	6.24B
Sales Growth (year/est)	2.40%	18.80%	2.30%	3.50%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.3	0.16	0.38	0.52
EPS Actual	1.41	0.12	0.43	0.61
Difference	0.11	-0.04	0.05	0.09
Surprise %	8.50%	-25.00%	13.20%	17.30%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.4

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (7) >

Average 52.79

60 Days Ago	1.37	0.2	2.51	2.77
90 Days Ago	1.36	0.2	2.51	2.78

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	AEE	Industry	Sector	S&P 500
Current Qtr.	-3.50%	17.10		
Next Qtr.	50.00%	21.51		
Current Year	-0.80%	15.74		
Next Year	8.30%	0.03		
Next 5 Years (per annum)	5.20%	0.06		
Past 5 Years (per annum)	-0.25%	N/A		

↑ Upgrade	Wolfe Research: Peer Perform to Outperform	8/3/2015
↑ Upgrade	Goldman: Sell to Neutral	7/28/2015
↑ Upgrade	Argus: Hold to Buy	4/27/2015
↓ Downgrade	Barclays: Overweight to Equal Weight	2/25/2014
↑ Upgrade	Barclays: Equal Weight to Overweight	9/20/2013

More Upgrades & Downgrades

Compare Stock Brokers

Avista Corp. (AVA)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

41.68 -0.46 (-1.09%)

As of 2:43 PM EDT. Market open.

Quote Lookup

People also watch:
IDA BKH ALE LNT WR

Summary | Conversations | Statistics | Profile | Financials | Options | Holders | Historical Data | **Analysts**

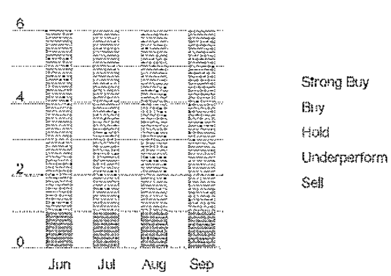
Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	3	3	5	6
Avg. Estimate	0.19	0.6	2.08	2.16
Low Estimate	0.15	0.58	2.05	2.12
High Estimate	0.23	0.63	2.12	2.23
Year Ago EPS	0.21	0.61	1.97	2.08

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	2	3
Avg. Estimate	306.78M	678.73M	1.75B	1.73B
Low Estimate	306.78M	678.73M	1.72B	1.6B
High Estimate	306.78M	678.73M	1.78B	1.82B
Year Ago Sales	313.65M	387.31M	1.48B	1.75B
Sales Growth (year/est)	-2.20%	75.20%	17.90%	-1.10%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.16	0.59	0.8	0.45
EPS Actual	0.21	0.61	0.89	0.43
Difference	0.05	0.02	0.09	-0.02
Surprise %	31.20%	3.40%	11.20%	-4.40%

Recommendation Trends >



Recommendation Rating >

3.2

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perfom | 5 Sell

Analyst Price Targets (5) >

Average 41.20

90 Days Ago	0.23	0.59	2.03	2.15

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	AVA	Industry	Sector	S&P 500
Current Qtr.	-9.50%	17.10		
Next Qtr.	-1.60%	21.51		
Current Year	5.60%	15.74		
Next Year	3.80%	0.03		
Next 5 Years (per annum)	5.00%	0.06		
Past 5 Years (per annum)	12.12%	N/A		

	CRT Capital: Fair Value	4/8/2014
↓ Downgrade	DA Davidson: Buy to Neutral	10/29/2010
↑ Upgrade	McAdams Wright Ragen: Hold to Buy	2/20/2009
↓ Downgrade	McAdams Wright Ragen: Buy to Hold	8/11/2008

More Upgrades & Downgrades

Compare Stock Brokers

Black Hills Corporation (BKH)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

61.30 -0.45 (-0.73%)

As of 2:43 PM EDT. Market open.

People also watch: VVC WGL IDA ATO MGEE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	3	2	6	5
Avg. Estimate	0.42	1.1	3.01	3.55
Low Estimate	0.36	1.06	2.98	3.47
High Estimate	0.54	1.14	3.09	3.62
Year Ago EPS	0.64	0.71	2.98	3.01

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	1	5	5
Avg. Estimate	414.77M	746.42M	1.78B	1.93B
Low Estimate	349M	746.42M	1.48B	1.58B
High Estimate	480.53M	746.42M	2.17B	2.31B
Year Ago Sales	272.1M	318.3M	1.3B	1.78B
Sales Growth (year/est)	52.40%	134.50%	36.80%	7.90%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.58	0.67	0.99	0.53
EPS Actual	0.64	0.71	1.23	0.39
Difference	0.06	0.04	0.24	-0.14
Surprise %	10.30%	6.00%	24.20%	-26.40%

EPS Trend	Current Qtr.	Next Qtr.	Current Year	Next Year

Recommendation Trends ›

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating ›

1.8

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (4) ›

Average 68.25

Low 67.00 High 70.00
Current 61.30

60 Days Ago	0.58	0.94	3.02	3.53
90 Days Ago	0.58	0.94	3.02	3.54

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	1	N/A
Up Last 30 Days	N/A	1	1	1
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	BKH	Industry	Sector	S&P 500
Current Qtr.	-34.40%	17.10		
Next Qtr.	54.90%	21.51		
Current Year	1.00%	15.74		
Next Year	17.90%	0.03		
Next 5 Years (per annum)	6.70%	0.06		
Past 5 Years (per annum)	11.95%	N/A		

↑ Upgrade	RBC Capital Mkts: Sector Perform to Outperform	1/4/2016
↓ Downgrade	Credit Suisse: Outperform to Neutral	5/7/2015
↓ Downgrade	Williams Capital Group: Buy to Sell	7/19/2013
↓ Downgrade	RBC Capital Mkts: Outperform to Sector Perform	3/18/2013

More Upgrades & Downgrades

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.66	18,344.11	5,321.23	48.05
21.53 (1.00%)	200.66 (1.11%)	52.08 (0.99%)	0.22 (0.46%)

CMS Energy Corp. (CMS)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

41.94 -0.37 (-0.87%)

As of 2:44 PM EDT. Market open.

People also watch:
DTE CNP EIX ETR AES

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	4	15	16
Avg. Estimate	0.55	0.43	2.02	2.18
Low Estimate	0.53	0.41	2	2.15
High Estimate	0.56	0.45	2.02	2.2
Year Ago EPS	0.53	0.38	1.89	2.02

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	10	11
Avg. Estimate	1.63B	2.09B	6.85B	7.1B
Low Estimate	1.55B	1.76B	6.38B	6.69B
High Estimate	1.72B	2.41B	7.69B	7.81B
Year Ago Sales	1.49B	1.51B	6.46B	6.85B
Sales Growth (year/est)	9.80%	38.20%	6.00%	3.70%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.49	0.38	0.59	0.36
EPS Actual	0.53	0.38	0.59	0.45
Difference	0.04	N/A	N/A	0.09
Surprise %	8.20%	N/A	N/A	25.00%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.7

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (13) >

Average 45.33

60 Days Ago	0.55	0.43	2.02	2.18
90 Days Ago	0.58	0.55	2.02	2.18

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	1	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	CMS	Industry	Sector	S&P 500
Current Qtr.	3.80%	17.10		
Next Qtr.	13.20%	21.51		
Current Year	6.90%	15.74		
Next Year	7.90%	0.03		
Next 5 Years (per annum)	7.27%	0.06		
Past 5 Years (per annum)	8.22%	N/A		

Downgrade	Macquarie: Outperform to Neutral	4/5/2016
Downgrade	Wells Fargo: Outperform to Market Perform	4/24/2015
Downgrade	RBC Capital Mkts: Outperform to Sector Perform	1/9/2015
	UBS: Buy	12/12/2014
	Robert W. Baird: Outperform	5/23/2014

More Upgrades & Downgrades

Consolidated Edison, Inc. (ED)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

75.23 -1.30 (-1.70%)

As of 2:44 PM EDT. Market open.

People also watch: SO AEP DUK D FE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

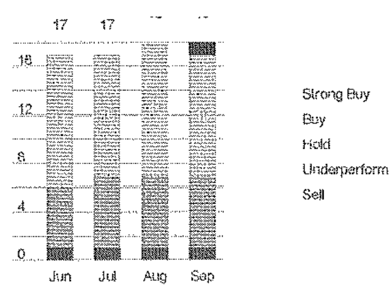
Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	8	8	16	18
Avg. Estimate	1.53	0.6	3.97	4.13
Low Estimate	1.39	0.5	3.83	3.93
High Estimate	1.65	0.67	4.05	4.25
Year Ago EPS	1.44	0.61	4.08	3.97

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	4	12	12
Avg. Estimate	3.35B	2.57B	12.24B	12.49B
Low Estimate	3.12B	2.4B	11.6B	11.41B
High Estimate	3.5B	2.7B	12.88B	13.38B
Year Ago Sales	3.44B	2.71B	12.55B	12.24B
Sales Growth (year/est)	-2.60%	-5.00%	-2.50%	2.00%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.48	0.54	1.21	0.69
EPS Actual	1.44	0.61	1.18	0.59
Difference	-0.04	0.07	-0.03	-0.1
Surprise %	-2.70%	13.00%	-2.50%	-14.50%

Recommendation Trends >



Recommendation Rating >

3.3

1 Strong Buy	2 Buy	3 Hold	4 Under-perform	5 Sell

Analyst Price Targets (14) >

Average 75.14

90 Days Ago	1.51	0.6	3.99	4.14

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	1	N/A	N/A	N/A
Up Last 30 Days	1	1	N/A	3
Down Last 30 Days	N/A	1	1	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	ED	Industry	Sector	S&P 500
Current Qtr.	6.30%	17.10		
Next Qtr.	-1.60%	21.51		
Current Year	-2.70%	15.74		
Next Year	4.00%	0.03		
Next 5 Years (per annum)	2.14%	0.06		
Past 5 Years (per annum)	0.65%	N/A		

↓ Downgrade	Goldman: Neutral to Sell	10/19/2015
↓ Downgrade	Argus: Buy to Hold	8/28/2015
	Mizuho: Neutral	7/29/2015
	Mizuho: Neutral	6/30/2015

More Upgrades & Downgrades

Compare Stock Brokers

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.84	18,342.91	5,321.54	48.05
21.71 (1.01%)	199.46 (1.10%)	52.48 (1.00%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

DTE Energy Company (DTE)

Add to watchlist

Quote Lookup

NYSE - NYSE Real Time Price. Currency in USD

93.85 +0.80 (+0.86%)

As of 2:44 PM EDT. Market open.

People also watch:
CMS ETR FE AEE EIX

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	4	13	13
Avg. Estimate	1.42	1.26	5.15	5.29
Low Estimate	1.35	1.18	4.92	5.2
High Estimate	1.55	1.33	5.26	5.42
Year Ago EPS	1.4	1.01	4.82	5.15

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	6	6
Avg. Estimate	2.67B	2.99B	10.98B	11.28B
Low Estimate	2.61B	2.86B	10.59B	10.85B
High Estimate	2.73B	3.12B	11.53B	11.78B
Year Ago Sales	2.6B	2.49B	10.34B	10.98B
Sales Growth (year/est)	2.90%	20.30%	6.20%	2.70%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.25	0.99	1.5	0.89
EPS Actual	1.4	1.01	1.52	0.98
Difference	0.15	0.02	0.02	0.09
Surprise %	12.00%	2.00%	1.30%	10.10%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.3

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (11) >

Average 102.66

60 Days Ago	1.39	1.17	5.04	5.27
90 Days Ago	1.36	1.17	4.95	5.26

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	3	2	8	2
Up Last 30 Days	3	2	8	2
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	DTE	Industry	Sector	S&P 500
Current Qtr.	1.40%	17.10		
Next Qtr.	24.80%	21.51		
Current Year	6.80%	15.74		
Next Year	2.70%	0.03		
Next 5 Years (per annum)	5.51%	0.06		
Past 5 Years (per annum)	6.98%	N/A		

	Guggenheim: Buy	4/22/2015
↑ Upgrade	UBS: Neutral to Buy	12/12/2014
↓ Downgrade	Argus: Buy to Hold	7/23/2012
↓ Downgrade	Barclays Capital: Overweight to Equal Weight	10/26/2011
	Wunderlich: Hold	6/24/2011

More Upgrades & Downgrades

Compare Stock Brokers

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.81	18,341.98	5,321.93	48.05
21.68 (1.01%)	198.53 (1.09%)	52.77 (1.00%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Edison International (EIX)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

72.24 -0.44 (-0.61%)

As of 2:45 PM EDT. Market open.

People also watch:
PCG ETR FE DTE SRE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	11	11	19	20
Avg. Estimate	1.23	0.92	3.89	4.13
Low Estimate	1.08	0.83	3.6	4.05
High Estimate	1.31	1.12	4	4.28
Year Ago EPS	1.16	0.88	4.1	3.89

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	6	6	13	14
Avg. Estimate	3.97B	3.15B	12.32B	12.74B
Low Estimate	3.44B	2.51B	11.79B	11.39B
High Estimate	4.43B	3.92B	13.93B	14.37B
Year Ago Sales	3.76B	2.34B	11.52B	12.32B
Sales Growth (year/est)	5.50%	34.60%	6.90%	3.40%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.17	0.6	0.88	0.97
EPS Actual	1.16	0.88	0.82	0.85
Difference	-0.01	0.28	-0.06	-0.12
Surprise %	-0.90%	46.70%	-6.80%	-12.40%

Recommendation Trends ›

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating ›

2.2

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (17) ›

Average 79.47

60 Days Ago	1.22	0.92	3.9	4.14
90 Days Ago	1.21	0.84	3.89	4.14

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	EIX	Industry	Sector	S&P 500
Current Qtr.	6.00%	17.10		
Next Qtr.	4.50%	21.51		
Current Year	-5.10%	15.74		
Next Year	6.20%	0.03		
Next 5 Years (per annum)	2.26%	0.06		
Past 5 Years (per annum)	10.42%	N/A		

↑ Upgrade	Wolfe Research: Peer Perform to Outperform	11/6/2015
↓ Downgrade	Citigroup: Buy to Neutral	10/29/2015
↓ Downgrade	Barclays: Overweight to Equal Weight	10/28/2015
↓ Downgrade	Guggenheim: Buy to Neutral	10/28/2015
↓ Downgrade	Jefferies: Buy to Hold	10/16/2015

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq
2,173.02	18,341.98	5,322.21
21.89 (1.02%)	198.53 (1.09%)	53.06 (1.01%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

El Paso Electric Co. (EE)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

46.57 -0.61 (-1.29%)

As of 2:45 PM EDT. Market open.

People also watch: EDE PNM IDA BKH AVA

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	4	4
Avg. Estimate	1.9	N/A	2.4	2.56
Low Estimate	1.9	N/A	2.3	2.4
High Estimate	1.9	N/A	2.48	2.68
Year Ago EPS	1.4	0.02	2.03	2.4

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	N/A	N/A	2	2
Avg. Estimate	N/A	N/A	930.9M	950.75M
Low Estimate	N/A	N/A	921.99M	944.19M
High Estimate	N/A	N/A	939.8M	957.3M
Year Ago Sales	N/A	N/A	607.92M	930.9M
Sales Growth (year/est)	N/A	N/A	53.10%	2.10%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.2	N/A	-0.07	0.44
EPS Actual	1.4	0.02	-0.14	0.55
Difference	0.2	0.02	-0.07	0.11
Surprise %	16.70%	N/A	-100.00%	25.00%

EPS Trend	Current Qtr.	Next Qtr.	Current Year	Next Year
Current Estimate	1.9	N/A	2.4	2.56
7 Days Ago	1.9	N/A	2.4	2.56
30 Days Ago	1.9	N/A	2.37	2.56

Recommendation Trends ›

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating ›

2

1 Strong Buy	2 Buy	3 Hold	4 Under-perform	5 Sell

Analyst Price Targets (2) ›

Average 52.25

Current 46.57 Low 52.00 High 52.50

Upgrades & Downgrades ›

Upgrade	Jefferies: Hold to Buy	7/14/2016

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	EE	Industry	Sector	S&P 500
Current Qtr.	35.70%	17.10		
Next Qtr.	-100.00%	21.51		
Current Year	18.20%	15.74		
Next Year	6.70%	0.03		
Next 5 Years (per annum)	7.00%	0.06		
Past 5 Years (per annum)	-13.63%	N/A		

Downgrade	Argus: Buy to Hold	7/26/2011
Downgrade	Jefferies: Buy to Hold	12/21/2010

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq	Crude Oil
2,173.20	18,341.98	5,322.64	48.05
22.07 (1.03%)	198.53 (1.09%)	53.48 (1.01%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Exelon Corporation (EXC)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

33.21 -0.08 (-0.24%)

As of 2:45 PM EDT. Market open.

People also watch:
FE ETR AEP D SO

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	11	9	17	20
Avg. Estimate	0.75	0.51	2.56	2.63
Low Estimate	0.69	0.4	2.4	2.36
High Estimate	0.89	0.59	2.71	2.78
Year Ago EPS	0.83	0.38	2.49	2.56

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	4	13	14
Avg. Estimate	7.51B	7.42B	29.33B	29.82B
Low Estimate	6.73B	6.69B	24.28B	21.13B
High Estimate	8.81B	9.38B	32.65B	34.28B
Year Ago Sales	7.41B	6.68B	29.24B	29.33B
Sales Growth (year/est)	1.40%	11.10%	0.30%	1.70%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.72	0.41	0.68	0.56
EPS Actual	0.83	0.38	0.68	0.65
Difference	0.11	-0.03	N/A	0.09
Surprise %	15.30%	-7.30%	N/A	16.10%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.3

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (17) >

Average 38.24

60 Days Ago	0.8	0.56	2.53	2.64
90 Days Ago	0.79	0.59	2.5	2.64

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	1	1	N/A	2
Up Last 30 Days	1	3	3	2
Down Last 30 Days	1	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	EXC	Industry	Sector	S&P 500
Current Qtr.	-9.60%	17.10		
Next Qtr.	34.20%	21.51		
Current Year	2.80%	15.74		
Next Year	2.70%	0.03		
Next 5 Years (per annum)	2.66%	0.06		
Past 5 Years (per annum)	-8.62%	N/A		

↑ Upgrade	Argus: Hold to Buy	3/7/2016
↓ Downgrade	Citigroup: Neutral to Sell	2/23/2016
↑ Upgrade	Citigroup: Sell to Neutral	1/27/2016
	Scotia Howard Weil: Sector Perform	11/17/2015
↑ Upgrade	Guggenheim: Neutral to Buy	9/25/2015

More Upgrades & Downgrades

Compare Stock Brokers

S&P 500	Dow 30	Nasdaq
2,173.05	18,341.98	5,322.42
21.92 (1.02%)	198.53 (1.09%)	53.26 (1.01%)

IDA

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

IdaCorp, Inc. (IDA)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

78.32 -0.32 (-0.41%)
As of 2:46 PM EDT. Market open.

People also watch:
AVA BKH GXP PNM EE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

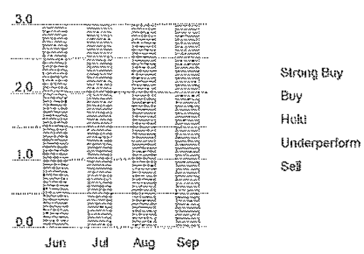
Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	3	3
Avg. Estimate	1.75	0.47	3.89	4.03
Low Estimate	1.75	0.47	3.85	3.95
High Estimate	1.75	0.47	3.92	4.09
Year Ago EPS	1.46	0.63	3.87	3.89

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	N/A	N/A	2	2
Avg. Estimate	N/A	N/A	1.27B	1.29B
Low Estimate	N/A	N/A	1.26B	1.28B
High Estimate	N/A	N/A	1.28B	1.3B
Year Ago Sales	N/A	N/A	1.27B	1.27B
Sales Growth (year/est)	N/A	N/A	-0.10%	1.50%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	1.54	0.64	0.53	0.99
EPS Actual	1.46	0.63	0.51	1.12
Difference	-0.08	-0.01	-0.02	0.13
Surprise %	-5.20%	-1.60%	-3.80%	13.10%

EPS Trend	Current Qtr.	Next Qtr.	Current Year	Next Year
Current Estimate	1.75	0.47	3.89	4.03
7 Days Ago	1.75	0.47	3.89	4.03
30 Days Ago	1.75	0.47	3.89	4.03
60 Days Ago	1.75	0.47	3.89	4.03

Recommendation Trends >



Recommendation Rating >

3

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (1) >

Average 80.00

Low 80.00 High 80.00
Current 78.32

Upgrades & Downgrades >

Upgrade	KeyBanc Capital Mkts: Hold to Buy	10/3/2011

Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

↓ Downgrade	KeyBanc Capital Mkts: Buy to Hold	2/26/2010
↑ Upgrade	KeyBanc Capital Mkts: Hold to Buy	2/8/2010

More Upgrades & Downgrades

Growth Estimates	IDA	Industry	Sector	S&P 500
Current Qtr.	19.90%	17.10		
Next Qtr.	-25.40%	21.51		
Current Year	0.50%	15.74		
Next Year	3.60%	0.03		
Next 5 Years (per annum)	4.00%	0.06		
Past 5 Years (per annum)	12.59%	N/A		

Compare Stock Brokers

Northwestern Corporation (NWE)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

57.49 -0.60 (-1.03%)

As of 2:46 PM EDT. Market open.

People also watch:
POR UTL PNM BKH ALE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

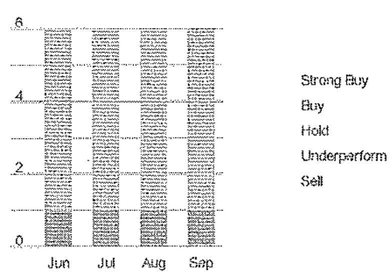
Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	3	3	4	5
Avg. Estimate	0.63	0.97	3.27	3.42
Low Estimate	0.58	0.92	3.2	3.39
High Estimate	0.72	1.02	3.36	3.46
Year Ago EPS	0.51	0.98	3.15	3.27

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	3	3
Avg. Estimate	282.3M	339.33M	1.25B	1.3B
Low Estimate	282.3M	339.33M	1.25B	1.29B
High Estimate	282.3M	339.33M	1.26B	1.31B
Year Ago Sales	272.74M	324.99M	1.21B	1.25B
Sales Growth (year/est)	3.50%	4.40%	3.00%	3.70%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.57	0.99	1.13	0.53
EPS Actual	0.51	0.98	0.92	0.58
Difference	-0.06	-0.01	-0.21	0.05
Surprise %	-10.50%	-1.00%	-18.60%	9.40%

Recommendation Trends >



Recommendation Rating >

3.2

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (4) >

Average 60.00

90 Days Ago	0.63	1.01	3.29	3.43

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	NWE	Industry	Sector	S&P 500
Current Qtr.	23.50%	17.10		
Next Qtr.	-1.00%	21.51		
Current Year	3.80%	15.74		
Next Year	4.60%	0.03		
Next 5 Years (per annum)	5.00%	0.06		
Past 5 Years (per annum)	7.74%	N/A		

	to Neutral	
Downgrade	BofA/Merrill: Neutral to Underperform	7/8/2015
Downgrade	Robert W. Baird: Outperform to Neutral	12/1/2014
Upgrade	Robert W. Baird: Neutral to Outperform	5/31/2013
Downgrade	Robert W. Baird: Outperform to Neutral	9/4/2012

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq	Crude Oil
2,173.03	18,343.44	5,322.18	48.05
21.90 (1.02%)	199.99 (1.10%)	53.03 (1.01%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

OGE Energy Corp. (OGE)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

31.59 -0.52 (-1.62%)

As of 2:47 PM EDT. Market open.

Quote Lookup

People also watch:
GXP LNT PNW WR PNM

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	8	8
Avg. Estimate	0.95	0.32	1.77	1.88
Low Estimate	0.94	0.3	1.75	1.77
High Estimate	0.95	0.34	1.8	1.98
Year Ago EPS	0.55	0.15	1.36	1.77

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	N/A	N/A	4	4
Avg. Estimate	N/A	N/A	2.39B	2.48B
Low Estimate	N/A	N/A	2.29B	2.32B
High Estimate	N/A	N/A	2.54B	2.65B
Year Ago Sales	N/A	N/A	2.2B	2.39B
Sales Growth (year/est)	N/A	N/A	9.00%	3.40%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.92	0.23	0.13	0.41
EPS Actual	0.55	0.15	0.13	0.35
Difference	-0.37	-0.08	N/A	-0.06
Surprise %	-40.20%	-34.80%	N/A	-14.60%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.4

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (5) >

Average 32.60

60 Days Ago	0.95	0.26	1.77	1.88
90 Days Ago	0.95	0.25	1.77	1.89

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	OGE	Industry	Sector	S&P 500
Current Qtr.	72.70%	17.10		
Next Qtr.	113.30%	21.51		
Current Year	30.10%	15.74		
Next Year	6.20%	0.03		
Next 5 Years (per annum)	4.30%	0.06		
Past 5 Years (per annum)	-7.53%	N/A		

↑ Upgrade	Wunderlich: Hold to Buy	10/6/2014
↓ Downgrade	Argus: Buy to Hold	3/19/2013
	Jefferies: Hold	8/11/2010
↓ Downgrade	Wunderlich: Buy to Hold	10/16/2009
	Barclays Capital: Overweight	8/25/2009

More Upgrades & Downgrades

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U.S. Markets close in 1 hr 6 mins

S&P 500	Dow 30	Nasdaq
2,172.40	18,336.92	5,320.78
21.27 (0.99%)	193.47 (1.07%)	51.63 (0.98%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Otter Tail Corporation (OTTR)

Add to watchlist

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

Quote Lookup

34.57 -0.33 (-0.95%)

As of 2:45 PM EDT. Market open.

People also watch:
BKH EDE ALE PNM BWEN

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	N/A	1	1
Avg. Estimate	0.42	N/A	1.6	1.6
Low Estimate	0.42	N/A	1.6	1.6
High Estimate	0.42	N/A	1.6	1.6
Year Ago EPS	0.42	0.41	1.56	1.6

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	1	1	1	1
Avg. Estimate	204M	193.2M	798.9M	816.5M
Low Estimate	204M	193.2M	798.9M	816.5M
High Estimate	204M	193.2M	798.9M	816.5M
Year Ago Sales	200.02M	188.79M	779.8M	798.9M
Sales Growth (year/est)	2.00%	2.30%	2.40%	2.20%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.44	0.44	0.31	0.38
EPS Actual	0.42	0.41	0.38	0.41
Difference	-0.02	-0.03	0.07	0.03
Surprise %	-4.50%	-6.80%	22.60%	7.90%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

3

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (1) >

60 Days Ago	0.4	0.42	1.6	1.6
90 Days Ago	0.4	0.42	1.55	1.6

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	OTTR	Industry	Sector	S&P 500
Current Qtr.	N/A	17.10		
Next Qtr.	N/A	21.51		
Current Year	2.60%	15.74		
Next Year	N/A	0.03		
Next 5 Years (per annum)	6.00%	0.06		
Past 5 Years (per annum)	13.66%	N/A		

	KeyBanc Capital Mkts: Hold	1/18/2012
↑ Upgrade	DA Davidson: Underperform to Neutral	4/15/2011
↓ Downgrade	DA Davidson: Neutral to Underperform	2/10/2011
↑ Upgrade	DA Davidson: Underperform to Neutral	11/16/2010
↓ Downgrade	Robert W. Baird: Outperform to Neutral	5/5/2009

More Upgrades & Downgrades

S&P 500	Dow 30	Nasdaq	Crude Oil
2,173.01	18,343.44	5,322.20	48.05
21.88 (1.02%)	199.99 (1.10%)	53.04 (1.01%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade, Costco gains on beat

PG&E Corporation (PCG)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

61.21 -0.55 (-0.89%)

As of 2:47 PM EDT. Market open.

People also watch:
EIX PEG SRE PPL AEP

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	11	10	18	19
Avg. Estimate	1.12	1.07	3.72	3.66
Low Estimate	0.86	0.75	3.65	3.56
High Estimate	1.5	1.49	3.78	3.75
Year Ago EPS	0.84	0.5	3.12	3.72

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	6	5	14	14
Avg. Estimate	5.04B	4.55B	17.83B	18.37B
Low Estimate	4.71B	3.82B	17.27B	17.63B
High Estimate	5.89B	5.48B	18.55B	19.65B
Year Ago Sales	4.55B	4.17B	16.83B	17.83B
Sales Growth (year/est)	10.80%	9.20%	5.90%	3.00%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.96	0.44	0.73	0.92
EPS Actual	0.84	0.5	0.82	0.66
Difference	-0.12	0.06	0.09	-0.26
Surprise %	-12.50%	13.60%	12.30%	-28.30%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.1

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (15) >

Average 67.33

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60 Days Ago	1.11	1.05	3.71	3.68
90 Days Ago	1.11	0.81	3.71	3.68

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	1	1	1	N/A
Up Last 30 Days	1	2	2	1
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PCG	Industry	Sector	S&P 500
Current Qtr.	33.30%	17.10		
Next Qtr.	114.00%	21.51		
Current Year	19.20%	15.74		
Next Year	-1.60%	0.03		
Next 5 Years (per annum)	5.66%	0.06		
Past 5 Years (per annum)	-4.89%	N/A		

↑ Upgrade	Goldman: Neutral to Buy	1/27/2016
↑ Upgrade	Morgan Stanley: Equal-Weight to Overweight	1/26/2016
	Citigroup: Neutral	11/17/2015
↓ Downgrade	Credit Suisse: Outperform to Neutral	7/30/2015
	Mizuho: Buy	6/30/2015

More Upgrades & Downgrades

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Pinnacle West Capital Corporation (PNW)

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NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

75.95 -0.81 (-1.06%)

As of 2:47 PM EDT. Market open.

People also watch:
NI SCG PEG DTE TE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	8	8	16	17
Avg. Estimate	2.43	0.39	3.99	4.2
Low Estimate	2.29	0.31	3.91	4.16
High Estimate	2.55	0.52	4.03	4.25
Year Ago EPS	2.3	0.37	3.92	3.99

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	5	12	13
Avg. Estimate	1.21B	765.5M	3.57B	3.67B
Low Estimate	1.2B	734.09M	3.5B	3.56B
High Estimate	1.23B	830.73M	3.65B	3.88B
Year Ago Sales	1.2B	734.43M	3.5B	3.57B
Sales Growth (year/est)	1.30%	4.20%	2.00%	3.00%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	2.32	0.26	0.12	1.14
EPS Actual	2.3	0.37	0.04	1.08
Difference	-0.02	0.11	-0.08	-0.06
Surprise %	-0.90%	42.30%	-66.70%	-5.30%

Recommendation Rating >

3.1

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (14) >

Average 78.00

60 Days Ago	2.41	0.36	3.99	4.2
90 Days Ago	2.38	0.33	3.99	4.2

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	1	N/A	1
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PNW	Industry	Sector	S&P 500
Current Qtr.	5.70%	17.10		
Next Qtr.	5.40%	21.51		
Current Year	1.80%	15.74		
Next Year	5.30%	0.03		
Next 5 Years (per annum)	3.85%	0.06		
Past 5 Years (per annum)	-14.74%	N/A		

↓ Downgrade	Morgan Stanley: Equal-Weight to Underweight	1/12/2016
↓ Downgrade	Goldman: Neutral to Sell	10/19/2015
↑ Upgrade	Credit Suisse: Neutral to Outperform	7/1/2015
	Mizuho: Neutral	6/30/2015
↑ Upgrade	RBC Capital Mkts: Underperform to Sector Perform	5/4/2015

More Upgrades & Downgrades

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.99	18,342.27	5,322.29	48.05
21.86 (1.02%)	198.62 (1.10%)	53.13 (1.01%)	0.22 (0.46%)

Portland General Electric Company (POR)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

42.54 -0.13 (-0.30%)
As of 2:47 PM EDT. Market open.

People also watch:
NWE IDA PNM PNW BKH

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	6	6	11	12
Avg. Estimate	0.43	0.57	2.12	2.37
Low Estimate	0.4	0.48	2.1	2.25
High Estimate	0.46	0.63	2.17	2.43
Year Ago EPS	0.4	0.57	2.04	2.12

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	4	9	10
Avg. Estimate	471.44M	536.47M	1.97B	2.05B
Low Estimate	413.7M	479.64M	1.9B	1.97B
High Estimate	501.33M	637.91M	2.15B	2.22B
Year Ago Sales	476M	499M	1.9B	1.97B
Sales Growth (year/est)	-1.00%	7.50%	3.60%	4.10%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.48	0.62	0.61	0.43
EPS Actual	0.4	0.57	0.68	0.42
Difference	-0.08	-0.05	0.07	-0.01
Surprise %	-16.70%	-8.10%	11.50%	-2.30%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

3

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (10) >

Average 42.58

60 Days Ago	0.41	0.56	2.11	2.35
90 Days Ago	0.41	0.56	2.11	2.35

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	POR	Industry	Sector	S&P 500
Current Qtr.	7.50%	17.10		
Next Qtr.	N/A	21.51		
Current Year	3.90%	15.74		
Next Year	11.80%	0.03		
Next 5 Years (per annum)	5.90%	0.06		
Past 5 Years (per annum)	7.84%	N/A		

↓ Downgrade	Goldman: Neutral to Sell	6/6/2016
↓ Downgrade	Wellington Shields: Buy to Hold	3/4/2016
↓ Downgrade	KeyBanc Capital Mkts: Overweight to Sector Weight	2/16/2016
↓ Downgrade	Williams Capital Group: Buy to Hold	2/1/2016
↓ Downgrade	JP Morgan: Neutral to Underweight	10/26/2015

More Upgrades & Downgrades

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.99	18,342.27	5,322.23	48.05
21.86 (1.02%)	198.82 (1.10%)	53.08 (1.01%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

PPL Corporation (PPL)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

34.53 -0.29 (-0.83%)

As of 2:47 PM EDT. Market open.

People also watch:
PEG FE AEP EXC PNW

Summary Conversations Statistics Profile Financials Options Holders Historical Data **Analysts**

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	9	8	17	19
Avg. Estimate	0.56	0.51	2.35	2.18
Low Estimate	0.5	0.43	2.3	2.12
High Estimate	0.61	0.59	2.4	2.42
Year Ago EPS	0.51	0.43	2.21	2.35

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	4	12	12
Avg. Estimate	2.04B	1.99B	8.05B	8.14B
Low Estimate	1.83B	1.78B	7.4B	7.57B
High Estimate	2.24B	2.12B	9.2B	8.99B
Year Ago Sales	1.88B	1.78B	7.67B	8.05B
Sales Growth (year/est)	8.50%	11.80%	5.00%	1.00%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.5	0.44	0.74	0.53
EPS Actual	0.51	0.43	0.67	0.56
Difference	0.01	-0.01	-0.07	0.03
Surprise %	2.00%	-2.30%	-9.50%	5.70%

Recommendation Rating >

2.5

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (15) >

Average 37.83

60 Days Ago	0.58	0.55	2.33	2.43
90 Days Ago	0.6	0.55	2.34	2.44

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	1	N/A	1
Down Last 30 Days	1	1	1	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PPL	Industry	Sector	S&P 500
Current Qtr.	9.80%	17.10		
Next Qtr.	18.60%	21.51		
Current Year	6.30%	15.74		
Next Year	-7.20%	0.03		
Next 5 Years (per annum)	2.47%	0.06		
Past 5 Years (per annum)	-2.44%	N/A		

↓ Downgrade	Deutsche Bank: Buy to Hold	2/5/2016
↑ Upgrade	Deutsche Bank: Hold to Buy	10/30/2015
↓ Downgrade	Goldman: Buy to Neutral	10/19/2015
↑ Upgrade	Jefferies: Hold to Buy	6/22/2015
↓ Downgrade	Tudor Pickering: Buy to Hold	6/2/2015

More Upgrades & Downgrades

S&P 500	Dow 30	Nasdaq	Crude Oil
2,172.99	18,342.27	5,322.20	48.05
21.86 (1.02%)	198.82 (1.10%)	53.05 (1.01%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Public Service Enterprise Group Inc. (PEG)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

41.79 -0.32 (-0.76%)

As of 2:47 PM EDT. Market open.

People also watch:
PCG PPL FE PNW AEP

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	8	8	15	18
Avg. Estimate	0.88	0.5	2.87	2.87
Low Estimate	0.77	0.4	2.82	2.74
High Estimate	1	0.58	2.9	3
Year Ago EPS	0.8	0.5	2.91	2.87

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	5	12	13
Avg. Estimate	2.81B	2.6B	10.08B	10.39B
Low Estimate	2.65B	2.33B	9.44B	9.27B
High Estimate	3B	3.13B	11.49B	11.99B
Year Ago Sales	2.69B	2.28B	10.41B	10.08B
Sales Growth (year/est)	4.70%	14.10%	-3.20%	3.00%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.81	0.5	0.88	0.58
EPS Actual	0.8	0.5	0.93	0.57
Difference	-0.01	N/A	0.05	-0.01
Surprise %	-1.20%	N/A	5.70%	-1.70%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.8

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (15) >

Average 46.63

60 Days Ago	0.88	0.5	2.87	2.88
90 Days Ago	0.87	0.51	2.87	2.89

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	1	N/A	N/A
Up Last 30 Days	1	3	1	2
Down Last 30 Days	1	N/A	1	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PEG	Industry	Sector	S&P 500
Current Qtr.	10.00%	17.10		
Next Qtr.	N/A	21.51		
Current Year	-1.40%	15.74		
Next Year	N/A	0.03		
Next 5 Years (per annum)	1.17%	0.06		
Past 5 Years (per annum)	2.53%	N/A		

Weight

Downgrade	BofA/Merrill: Neutral to Underperform	6/7/2016
Downgrade	Wolfe Research: Peer Perform to Underperform	10/20/2015
	Citigroup: Neutral	9/18/2015
	JP Morgan: Neutral	9/11/2015
	Guggenheim: Buy	4/22/2015

More Upgrades & Downgrades

S&P 500 2,173.05 21.92 (1.02%)
Dow 30 18,342.27 198.82 (1.10%)
Nasdaq 5,322.28 53.12 (1.01%)
Crude Oil 48.05 0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Sempra Energy (SRE)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

107.27 +0.32 (+0.30%)

As of 2:47 PM EDT. Market open.

People also watch:
EIX PCG XEL PEG TE

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	8	7	14	15
Avg. Estimate	0.93	1.57	4.77	5.12
Low Estimate	0.82	1.43	4.6	4.92
High Estimate	1.01	1.88	4.86	5.38
Year Ago EPS	1	1.47	5.21	4.77

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	3	8	8
Avg. Estimate	2.71B	3.09B	10.48B	11.07B
Low Estimate	2.58B	2.9B	10.22B	10.37B
High Estimate	2.93B	3.45B	10.9B	11.53B
Year Ago Sales	2.48B	2.7B	10.23B	10.48B
Sales Growth (year/est)	9.40%	14.40%	2.40%	5.70%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.88	1.32	1.66	0.97
EPS Actual	1	1.47	1.47	0.79
Difference	0.12	0.15	-0.19	-0.18
Surprise %	13.60%	11.40%	-11.40%	-18.60%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

2.1

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (13) >

Average 118.62

60 Days Ago	0.92	1.48	4.81	5.19
90 Days Ago	0.97	1.43	4.83	5.32

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	1	1
Up Last 30 Days	N/A	N/A	1	2
Down Last 30 Days	N/A	N/A	1	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	SRE	Industry	Sector	S&P 500
Current Qtr.	-7.00%	17.10		
Next Qtr.	6.80%	21.51		
Current Year	-8.40%	15.74		
Next Year	7.30%	0.03		
Next 5 Years (per annum)	7.65%	0.06		
Past 5 Years (per annum)	3.30%	N/A		

↑ Upgrade	Barclays: Equal Weight to Overweight	5/28/2013
↓ Downgrade	ISI Group: Buy to Neutral	4/23/2013
↑ Upgrade	ISI Group: Neutral to Buy	1/7/2013
↓ Downgrade	Argus: Buy to Hold	7/23/2012
	RBC Capital Mkts: Sector Perform	6/24/2011

More Upgrades & Downgrades

Compare Stock Brokers

S&P 500	Dow 30	Nasdaq
2,173.04	18,342.27	5,322.45
21.91 (1.02%)	198.82 (1.10%)	53.30 (1.01%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Vectren Corporation (VVC)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

50.19 +0.13 (+0.27%)

As of 2:48 PM EDT. Market open.

People also watch:
WGL NWN BKH PNY UGI

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	5	6	6
Avg. Estimate	0.64	0.84	2.47	2.66
Low Estimate	0.62	0.81	2.41	2.6
High Estimate	0.67	0.86	2.5	2.7
Year Ago EPS	0.48	0.79	2.39	2.47

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	4	4
Avg. Estimate	611.78M	647.96M	2.48B	2.62B
Low Estimate	587.66M	619.01M	2.33B	2.35B
High Estimate	635.9M	676.9M	2.6B	2.8B
Year Ago Sales	573.5M	604M	2.43B	2.48B
Sales Growth (year/est)	6.70%	7.30%	2.00%	5.40%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.62	0.7	0.69	0.43
EPS Actual	0.48	0.79	0.58	0.39
Difference	-0.14	0.09	-0.11	-0.04
Surprise %	-22.60%	12.90%	-15.90%	-9.30%

Recommendation Trends >

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating >

3.2

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (3) >

Average 51.67

60 Days Ago	0.61	0.83	2.47	2.67
90 Days Ago	0.61	0.82	2.47	2.67

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	VVC	Industry	Sector	S&P 500
Current Qtr.	33.30%	0.45		
Next Qtr.	6.30%	0.01		
Current Year	3.30%	-0.03		
Next Year	7.70%	0.06		
Next 5 Years (per annum)	5.00%	0.04		
Past 5 Years (per annum)	8.87%	N/A		

↓ Downgrade	JP Morgan: Neutral to Underweight	10/22/2009
↓ Downgrade	Citigroup: Buy to Hold	8/3/2009
↓ Downgrade	Robert W. Baird: Outperform to Neutral	8/3/2009
	Brean Murray: Buy	2/5/2008
↑ Upgrade	Citigroup: Hold to Buy	11/5/2007

More Upgrades & Downgrades

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S&P 500	Dow 30	Nasdaq
2,173.20	18,342.27	5,322.57
22.07 (1.03%)	198.82 (1.10%)	53.42 (1.01%)

VVC is trending up

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

WEC Energy Group, Inc. (WEC)

Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

59.81 -0.57 (-0.94%)

As of 2:47 PM EDT. Market open.

People also watch: SCG XEL LNT PNW WR

Summary Conversations Statistics Profile Financials Options Holders Historical Data Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	5	5	15	15
Avg. Estimate	0.58	0.71	2.93	3.1
Low Estimate	0.57	0.66	2.9	3.03
High Estimate	0.61	0.79	3.03	3.18
Year Ago EPS	0.61	0.63	2.73	2.93

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	2	2	9	9
Avg. Estimate	2.14B	2.37B	8.63B	8.8B
Low Estimate	1.65B	1.88B	7.33B	7.49B
High Estimate	2.63B	2.86B	10.1B	10.26B
Year Ago Sales	1.7B	1.85B	5.93B	8.63B
Sales Growth (year/est)	26.20%	28.40%	45.60%	1.90%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.59	0.64	1.01	0.56
EPS Actual	0.61	0.63	1.09	0.57
Difference	0.02	-0.01	0.08	0.01
Surprise %	3.40%	-1.60%	7.90%	1.80%

Recommendation Trends ›

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating ›

2.4

1 Strong Buy | 2 Buy | 3 Hold | 4 Under-perform | 5 Sell

Analyst Price Targets (10) ›

Average 63.60

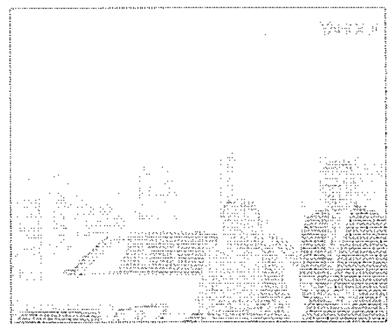
60 Days Ago	0.58	0.71	2.93	3.1
90 Days Ago	0.59	0.72	2.93	3.1

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	WEC	Industry	Sector	S&P 500
Current Qtr.	-4.90%	17.10		
Next Qtr.	12.70%	21.51		
Current Year	7.30%	15.74		
Next Year	5.80%	0.03		
Next 5 Years (per annum)	6.72%	0.06		
Past 5 Years (per annum)	6.87%	N/A		

↓ Downgrade	Deutsche Bank: Buy to Hold	2/5/2016
↓ Downgrade	Goldman: Buy to Neutral	1/27/2016
↑ Upgrade	Argus: Hold to Buy	9/14/2015
↑ Upgrade	Wells Fargo: Market Perform to Outperform	9/8/2015
↑ Upgrade	Wolfe Research: Peer Perform to Outperform	7/30/2015

More Upgrades & Downgrades



S&P 500	Dow 30	Nasdaq	Crude Oil
2,173.25	18,345.07	5,322.75	48.05
22.12 (1.03%)	201.62 (1.11%)	53.61 (1.02%)	0.22 (0.46%)

Trending Tickers: Amazon hits high; Qualcomm upgrade; Costco gains on beat

Xcel Energy Inc. (XEL)

☆ Add to watchlist

NYSE - NYSE Real Time Price. Currency in USD

Quote Lookup

41.15 -0.67 (-1.59%)

As of 2:48 PM EDT. Market open.

People also watch:
TE WEC PNW CNP PEG

Summary | Conversations | Statistics | Profile | Financials | Options | Holders | Historical Data | Analysts

Currency in USD.

Earnings Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	7	6	16	16
Avg. Estimate	0.87	0.47	2.2	2.31
Low Estimate	0.83	0.43	2.16	2.27
High Estimate	0.9	0.53	2.22	2.35
Year Ago EPS	0.84	0.41	2.09	2.2

Revenue Estimate	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	4	3	11	11
Avg. Estimate	3.33B	2.95B	11.58B	11.91B
Low Estimate	2.95B	2.83B	10.98B	11.24B
High Estimate	4.28B	3.03B	12.57B	12.99B
Year Ago Sales	2.9B	2.65B	11.02B	11.58B
Sales Growth (year/est)	14.70%	11.50%	5.00%	2.90%

Earnings History	9/29/2015	12/30/2015	3/30/2016	6/29/2016
EPS Est.	0.8	0.4	0.47	0.4
EPS Actual	0.84	0.41	0.47	0.39
Difference	0.04	0.01	N/A	-0.01
Surprise %	5.00%	2.50%	N/A	-2.50%

Recommendation Trends ›

Strong Buy
Buy
Hold
Underperform
Sell

Recommendation Rating ›

2.6

1	2	3	4	5
Strong Buy	Buy	Hold	Under-perform	Sell

Analyst Price Targets (11) ›

Average 43.73

60 Days Ago	0.86	0.46	2.2	2.32
90 Days Ago	0.86	0.46	2.2	2.32

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	1	1	N/A
Up Last 30 Days	N/A	1	1	1
Down Last 30 Days	N/A	N/A	N/A	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	XEL	Industry	Sector	S&P 500
Current Qtr.	3.60%	17.10		
Next Qtr.	14.60%	21.51		
Current Year	5.30%	15.74		
Next Year	5.00%	0.03		
Next 5 Years (per annum)	5.34%	0.06		
Past 5 Years (per annum)	3.19%	N/A		

↓ Downgrade	Macquarie: Outperform to Neutral	1/29/2016
↓ Downgrade	Jefferies: Buy to Hold	10/16/2015
↑ Upgrade	Argus: Hold to Buy	4/17/2015
↑ Upgrade	Barclays: Equal Weight to Overweight	3/24/2015
↓ Downgrade	RBC Capital Mkts: Outperform to Sector Perform	1/9/2015

More Upgrades & Downgrades

Compare Stock Brokers

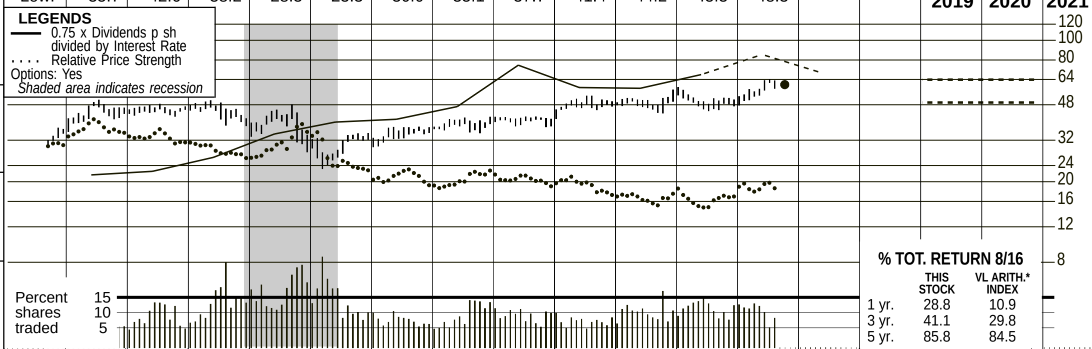
ALLETE NYSE-ALE

RECENT PRICE 61.33 | P/E RATIO 19.3 (Trailing: 17.6, Median: 16.0) | RELATIVE P/E RATIO 1.02 | DIV'D YLD 3.5% | VALUE LINE

TIMELINESS	3	Lowered 9/16/16	
SAFETY	2	New 10/1/04	
TECHNICAL	1	Raised 8/19/16	
BETA .75 (1.00 = Market)			

High:	51.7	49.3	51.3	49.0	35.3	37.9	42.5	42.7	54.1	58.0	59.7	65.4
Low:	35.7	42.6	38.2	28.3	23.3	30.0	35.1	37.7	41.4	44.2	45.3	48.3

Target Price Range 2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+5%)	5%
Low	50	(-20%)	-1%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	7	0	1	0	0	8	0
to Sell	0	0	0	0	1	0	1	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	121	131	132
to Sell	83	87	102
Hld's(000)	35280	35272	35449

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	28.8	10.9
3 yr.	41.1	29.8
5 yr.	85.8	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
- -	- -	- -	- -	25.30	24.50	25.23	27.33	24.57	21.57	25.34	24.75	24.40	24.60	24.77	30.27	*26.90*	*27.95*	Revenues per sh	*30.50*
- -	- -	- -	- -	2.97	3.85	4.14	4.42	4.23	3.57	4.35	4.91	5.01	5.35	5.68	6.79	*6.80*	*7.15*	"Cash Flow" per sh	*8.25*
- -	- -	- -	- -	1.35	2.48	2.77	3.08	2.82	1.89	2.19	2.65	2.58	2.63	2.90	3.38	*3.15*	*3.30*	Earnings per sh A	*3.75*
- -	- -	- -	- -	.30	1.25	1.45	1.64	1.72	1.76	1.76	1.78	1.84	1.90	1.96	2.02	*2.08*	*2.14*	Div'd Decl'd per sh B ■ †	*2.40*
- -	- -	- -	- -	2.12	1.95	3.37	6.82	9.24	9.05	6.95	6.38	10.30	7.93	12.48	5.84	*3.95*	*5.65*	Cap'l Spending per sh	*3.50*
- -	- -	- -	- -	21.23	20.03	21.90	24.11	25.37	26.41	27.26	28.78	30.48	32.44	35.06	37.07	*38.20*	*39.50*	Book Value per sh C	*43.50*
- -	- -	- -	- -	29.70	30.10	30.40	30.80	32.60	35.20	35.80	37.50	39.40	41.40	45.90	49.10	*49.40*	*49.70*	Common Shs Outst'g D	*50.60*
- -	- -	- -	- -	25.2	17.9	16.5	14.8	13.9	16.1	16.0	14.7	15.9	18.6	17.2	15.1	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.0*
- -	- -	- -	- -	1.33	.95	.89	.79	.84	1.07	1.02	.92	1.01	1.05	.91	.76			Relative P/E Ratio	*.95*
- -	- -	- -	- -	.9%	2.8%	3.2%	3.6%	4.4%	5.8%	5.0%	4.6%	4.5%	3.9%	3.9%	4.0%			Avg Ann'l Div'd Yield	*4.2%*

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
767.1	841.7	801.0	759.1	907.0	928.2	961.2	1018.4	1136.8	1486.4	*1330*	*1390*	Revenues ($mill)	*1540*
77.3	87.6	82.5	61.0	75.3	93.8	97.1	104.7	124.8	163.4	*155*	*165*	Net Profit ($mill)	*185*
37.5%	34.8%	34.3%	33.7%	37.2%	27.6%	28.1%	21.5%	22.6%	19.4%	*16.0%*	*20.0%*	Income Tax Rate	*20.0%*
1.4%	6.6%	5.8%	12.8%	8.9%	2.7%	5.3%	4.4%	6.3%	2.0%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*2.0%*
35.1%	35.6%	41.6%	42.8%	44.2%	44.3%	43.7%	44.6%	44.2%	46.3%	*45.5%*	*45.0%*	Long-Term Debt Ratio	*43.0%*
64.9%	64.4%	58.4%	57.2%	55.8%	55.7%	56.3%	55.4%	55.8%	53.7%	*54.5%*	*55.0%*	Common Equity Ratio	*57.0%*
1025.6	1153.5	1415.4	1625.3	1747.6	1937.2	2134.6	2425.9	2882.2	3388.9	*3455*	*3580*	Total Capital ($mill)	*3850*
921.6	1104.5	1387.3	1622.7	1805.6	1982.7	2347.6	2576.5	3286.4	3669.1	*3685*	*3775*	Net Plant ($mill)	*3825*
8.6%	8.6%	6.7%	4.8%	5.4%	6.0%	5.6%	5.3%	5.2%	5.8%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
11.6%	11.8%	10.0%	6.6%	7.7%	8.7%	8.1%	7.8%	7.8%	9.0%	*8.0%*	*8.5%*	Return on Shr. Equity	*8.5%*
11.6%	11.8%	10.0%	6.6%	7.7%	8.7%	8.1%	7.8%	7.8%	9.0%	*8.0%*	*8.5%*	Return on Com Equity E	*8.5%*
5.0%	5.8%	3.9%	.5%	1.5%	2.9%	2.3%	2.2%	2.5%	3.6%	*3.0%*	*3.0%*	Retained to Com Eq	*3.0%*
57%	51%	61%	93%	81%	66%	71%	72%	67%	60%	*66%*	*64%*	All Div'ds to Net Prof	*65%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $1564.3 mill. **Due in 5 Yrs** $390.1 mill.
LT Debt $1498.9 mill. **LT Interest** $63.5 mill.
(LT interest earned: 4.1x)
Leases, Uncapitalized Annual rentals $14.0 mill.

Pension Assets-12/15 $521.3 mill.
Oblig $709.8 mill.

Pfd Stock None

Common Stock 49,379,945 shs.

MARKET CAP: $3.0 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-1.1	+.5	-8.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.45	6.09	6.40
Capacity at Peak (Mw)	1793	1985	1942
Peak Load, Winter (Mw) F	1646	1637	1631
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	306	345	381

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	.5%	2.0%	*2.5%*
"Cash Flow"	5.5%	8.0%	*5.5%*
Earnings	4.5%	5.0%	*4.0%*
Dividends	9.5%	2.5%	*3.5%*
Book Value	5.5%	6.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2013	263.8	235.6	251.0	268.0	1018.4
2014	296.5	260.7	288.9	290.7	1136.8
2015	320.0	323.3	462.5	380.6	1486.4
2016	333.8	314.8	*345*	*336.4*	*1330*
2017	*350*	*330*	*360*	*350*	*1390*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2013	.83	.35	.63	.82	2.63
2014	.80	.40	.97	.73	2.90
2015	.85	.46	1.23	.83	3.38
2016	.93	.50	*.97*	*.75*	*3.15*
2017	*.95*	*.50*	*1.05*	*.80*	*3.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.46	.46	.46	.46	1.84
2013	.475	.475	.475	.475	1.90
2014	.49	.49	.49	.49	1.96
2015	.505	.505	.505	.505	2.02
2016	.52	.52	.52		

BUSINESS: ALLETE, Inc. is the parent of Minnesota Power, which supplies electricity to 146,000 customers in northeastern MN, & Superior Water, Light & Power in northwestern WI. Electric rev. breakdown: taconite mining/processing, 26%; paper/wood products, 9%; other industrial, 8%; residential, 12%; commercial, 13%; wholesale, 16% other, 16%. ALLETE Clean Energy owns renewable energy projects. Acq'd U.S. Water Services 2/15. Has real estate operation in FL. Generating sources: coal & lignite, 51%; wind, 11%; other, 3%; purchased, 35%. Fuel costs: 22% of revs. '15 deprec. rate: 3.3%. Has 1,600 employees. Chairman, President & CEO: Alan R. Hodnik. Inc.: MN. Address: 30 West Superior St., Duluth, MN 55802-2093. Tel.: 218-279-5000. Internet: www.allete.com.

ALLETE's earnings will probably decline this year. The comparison with the year-ago tally is difficult. In the second half of 2015, the company recorded $0.42 a share of income from the sale of a wind project that it developed for a utility in North Dakota. ALLETE's targeted range for 2016 earnings is $3.10-$3.40 a share, and management is guiding investors to the lower half of this range due to storm-related operating and maintenance expense and a warmer-than-normal winter. Our estimate, which we trimmed by $0.05 a share, is $3.15.

Minnesota Power is planning to file a general rate case in the fourth quarter. This will be its first such application in several years. The utility is underearning its allowed return on equity, and wants to recover higher costs and adjust rate design so that its largest customers are paying less for their electricity. Minnesota Power also wants to place capital expenditures in the rate base. New tariffs will take effect on an interim basis in early 2017, with a final order expected in late 2017 or early 2018. This should enable the company to meet its annual profit growth target of 5% next year.

Superior Water, Light & Power has a rate case pending in Wisconsin. The utility filed for $2.7 million (3.1%), based on a return of 10.9% on a common-equity ratio of 55%. New tariffs are expected to take effect in the first quarter.

There are mixed signals from the service area's economy. On a positive note, the company's taconite customers expect to run at 90% of capacity in the last four months of 2016—up from 80% previously. On a negative note, the construction of a pelletmaking facility by Essar Steel is on hold while Essar tries to secure financing.

The company expects to begin construction of a transmission line in 2017. This would connect Minnesota Power with a new hydro facility in Manitoba. The line is expected to cost $300 million-$350 million and be in service in 2020.

The dividend yield of this stock is average for a utility. Like many utility issues, the recent price is well within our 2019-2021 Target Price Range. Accordingly, total return potential is low.

Paul E. Debbas, CFA *September 16, 2016*

(A) Diluted EPS. Excl. nonrec. losses: '04, 25¢ net; '05, $1.84; '15, 46¢; gain (losses) on disc. ops.: '04, $2.57; '05, (16¢); '06, (2¢). '15 EPS don't add due to rounding. Next earnings report due early Nov. (B) Div'ds historically paid in early Mar., June, Sept. and Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. deferred charges. In '15: $11.96/sh. (D) In mill. (E) Rate base: Orig. cost deprec. Rate allowed on com. eq. in '10: 10.38%; earned on avg. com. eq., '15: 9.3%. Reg. Clim.: Avg. (F) Summer peak in '13.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	40
Earnings Predictability	90

ALLIANT ENERGY NYSE-LNT

RECENT PRICE 38.81 | P/E RATIO 19.9 (Trailing: 22.1; Median: 15.0) | RELATIVE P/E RATIO 1.05 | DIV'D YLD 3.0% | VALUE LINE

High:	15.3	20.0	23.3	21.2	15.8	18.8	22.2	23.8	27.1	34.9	35.4	41.0
Low:	12.8	13.8	17.5	11.4	10.2	14.6	17.0	20.9	21.9	25.0	27.1	30.4

Target Price Range 2019 | 2020 | 2021

TIMELINESS 1 Raised 4/22/16

SAFETY 2 Raised 9/28/07

TECHNICAL 1 Raised 9/9/16

BETA .75 (1.00 = Market)

2019-21 PROJECTIONS

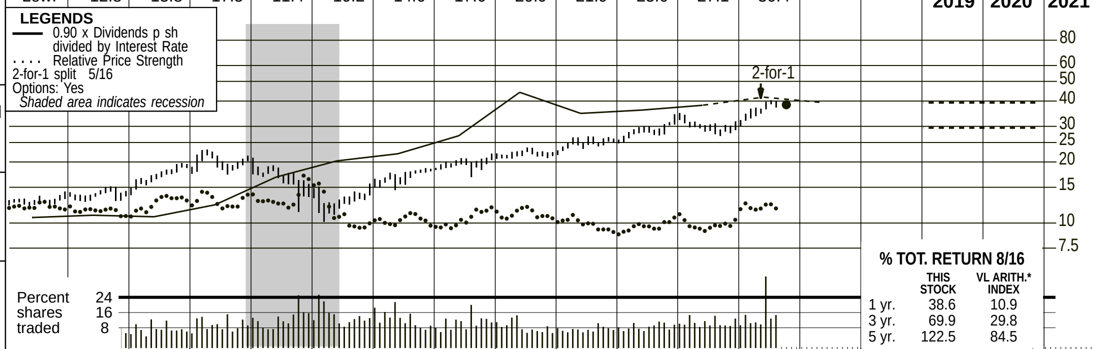
	Price	Gain	Ann'l Total Return
High	40	(+5%)	4%
Low	30	(-25%)	-2%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	1	0	0	0	0	0	1	0	0
Options	0	0	0	3	0	0	0	0	0
to Sell	0	0	0	1	1	0	0	0	1

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	186	185	421
to Sell	163	174	47
Hld's(000)	144602	150762	149878



% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	38.6	10.9
3 yr.	69.9	29.8
5 yr.	122.5	84.5

Alliant Energy, formerly called Interstate Energy Corporation, was formed on April 21, 1998 through the merger of WPL Holdings, IES Industries, and Interstate Power. WPL stockholders received one share of Interstate Energy stock for each WPL share, IES stockholders received 1.14 Interstate Energy shares for each IES share, and Interstate Power stockholders received 1.11 Interstate Energy shares for each Interstate Power share.

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
14.46	15.57	16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	*14.70*	*15.45*	Revenues per sh	*17.85*
2.16	2.56	2.28	2.10	2.60	2.75	2.95	3.34	3.44	3.45	*3.75*	*4.00*	"Cash Flow" per sh	*4.95*
1.03	1.35	1.27	.95	1.38	1.38	1.53	1.65	1.74	1.69	*1.90*	*2.00*	Earnings per sh A	*2.45*
.58	.64	.70	.75	.79	.85	.90	.94	1.02	1.10	*1.18*	*1.25*	Div'd Decl'd per sh B ■ †	*1.50*
1.71	2.46	3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	*4.50*	*4.85*	Cap'l Spending per sh	*5.65*
11.42	12.15	12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	*18.05*	*18.75*	Book Value per sh C	*20.00*
232.25	220.72	220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	*230.00*	*230.00*	Common Shs Outst'g D	*230.00*
16.8	15.1	13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	Bold figures are	Value Line estimates	Avg Ann'l P/E Ratio	*15.0*
.91	.80	.81	.93	.80	.91	.92	.86	.87	.92			Relative P/E Ratio	*.95*
3.3%	3.1%	4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%			Avg Ann'l Div'd Yield	*4.1%*
3359.4	3437.6	3681.7	3432.8	3416.1	3665.3	3094.5	3276.8	3350.3	3253.6	*3380*	*3550*	Revenues ($mill)	*4100*
260.1	320.8	280.0	208.6	303.9	304.4	337.8	382.1	385.5	380.7	*435*	*460*	Net Profit ($mill)	*565*
43.8%	44.4%	33.4%	- -	30.1%	19.0%	21.5%	12.4%	10.1%	15.3%	*15.0%*	*15.0%*	Income Tax Rate	*15.0%*
3.1%	2.4%	- -	- -	- -	- -	- -	- -	6.5%	7.0%	*7.0%*	*7.0%*	AFUDC % to Net Profit	*7.0%*
31.4%	32.4%	36.3%	44.3%	46.3%	45.7%	48.4%	46.1%	49.7%	48.6%	*49.5%*	*49.5%*	Long-Term Debt Ratio	*49.5%*
62.9%	61.9%	58.6%	51.2%	49.5%	50.9%	48.4%	50.8%	47.5%	51.4%	*49.5%*	*49.5%*	Common Equity Ratio	*49.5%*
4218.4	4329.5	4815.6	5423.0	5840.8	5921.2	6476.6	6461.0	7257.2	7246.3	*7600*	*7800*	Total Capital ($mill)	*8200*
4944.9	4679.9	5353.5	6203.0	6730.6	7037.1	7838.0	7147.3	6442.0	8970.2	*8200*	*8200*	Net Plant ($mill)	*8800*
7.5%	8.6%	7.0%	5.1%	6.6%	6.4%	6.3%	7.0%	5.3%	5.1%	*5.5%*	*6.0%*	Return on Total Cap'l	*7.0%*
9.0%	11.0%	9.1%	6.9%	9.7%	9.5%	10.1%	11.0%	10.6%	9.7%	*10.5%*	*10.5%*	Return on Shr. Equity	*12.0%*
9.1%	11.3%	9.3%	6.8%	9.9%	9.5%	10.3%	11.3%	10.9%	10.0%	*11.0%*	*11.0%*	Return on Com Equity E	*12.5%*
4.0%	5.9%	3.8%	.9%	3.8%	3.3%	3.9%	4.9%	4.3%	3.4%	*4.0%*	*4.5%*	Retained to Com Eq	*5.5%*
59%	50%	62%	88%	64%	67%	64%	57%	59%	65%	*62%*	*63%*	All Div'ds to Net Prof	*61%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $3902.7 mill. **Due in 5 Yrs** $1100.0 mill.
LT Debt $3588.7 mill. **LT Interest** $175.0 mill.
(LT interest earned: 3.6x)

Pension Assets-12/15 $895.0 mill. **Oblig.** $1206.3 mill.
Pfd Stock $400.0 mill. **Pfd Div'd** $10.2 mill.
16,000,000 shs.

Common Stock 226,918,432 shs.
Adjusted for 2-for-1 split 4/20/16

MARKET CAP: $8.8 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.1	+.1	-.1
Avg. Indust. Use (MWH)	11471	11821	11735
Avg. Indust. Revs. per KWH (¢)	6.75	6.85	6.92
Capacity at Peak (Mw)	5820	5426	5385
Peak Load, Summer (Mw)	5820	5426	5385
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.4	+.4	+.3
Fixed Charge Cov. (%)	295	320	325

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	1.0%	-1.5%	*4.0%*
"Cash Flow"	3.5%	8.0%	*6.0%*
Earnings	6.0%	7.0%	*6.0%*
Dividends	7.0%	6.5%	*4.5%*
Book Value	4.0%	4.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	859.6	718.0	866.6	832.6	3276.8
2014	952.8	750.3	843.1	804.1	3350.3
2015	897.4	717.2	898.9	740.1	3253.6
2016	843.8	754.2	*930*	*852*	*3380*
2017	*885*	*780*	*975*	*910*	*3550*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.36	.30	.72	.27	1.65
2014	.49	.28	.70	.27	1.74
2015	.44	.30	.80	.15	1.69
2016	.43	.37	*.90*	*.20*	*1.90*
2017	*.48*	*.30*	*.90*	*.32*	*2.00*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.225	.225	.225	.225	.90
2013	.235	.235	.235	.235	.94
2014	.255	.255	.255	.255	1.02
2015	.275	.275	.275	.275	1.10
2016	.295	.295	.295		

BUSINESS: Alliant Energy Corp., formerly named Interstate Energy, is a holding company formed through the merger of WPL Holdings, IES Industries, and Interstate Power. Supplies electricity, gas, and other services in Wisconsin, Iowa, and Minnesota. Elect. revs. by state: WI, 44%; IA, 55%; MN, 1%. Elect. rev.: residential, 39%; commercial, 24%; industrial, 30%; wholesale, 6%; other, 1%. Fuel sources, 2015: coal, 46%; gas, 19%; other, 35%. Fuel costs: 49% of revs. 2015 depreciation rate: 5.7%. Estimated plant age: 13 years. Has 4,070 employees. Chairman & Chief Executive Officer: Patricia L. Kampling. Incorporated: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, Wisconsin 53718. Telephone: 608-458-3311. Internet: www.alliantenergy.com.

Alliant Energy reported better-than-expected second-quarter results. The company posted share net of $0.37, rising 23% versus the year-earlier figure, and easily topping our $0.30 estimate. The performance was driven by a large uptick in electric sales to commercial entities, coupled with newly implemented cost-containment initiatives. Given the impressive results, we are increasing our 2016 full-year earnings estimate by a nickel, to $1.90 a share. That is slightly below the high end of management's share-net guidance of $1.80 to $1.95.

Alliant asked the Iowa Utilities Board to approve a $1 billion plan that would expand its wind energy operations in the state. The new project is part of the company's efforts to reduce carbon emissions and improve its clean energy profile. The $1 billion would be invested over five years, and add approximately 500 megawatts of wind power to an existing farm in northern Iowa. The utility is requesting an 11.5% return on common equity. If authorized, the project is expected to be completed by 2020.

Management does not anticipate any changes to its 2016-2019 capital expenditure program. Even with the new wind turbine proposal, it continues to forecast capex of about $5 billion through 2019. That is because a number of planned projects are coming in below the original forecast, and several others have been shelved or delayed.

The Marshalltown generating station is approximately 85% complete. Total capital expenditures for this project are slated to be about $700 million. The natural gas-fired facility is expected to go into service in the spring of 2017.

The company is also making progress on the Riverside Energy Center expansion. It recently selected AECOM to perform the engineering, procurement, and construction of the development. The $700 million investment in Riverside is expected to supply energy to customers by early 2020.

This issue is now ranked 1 (Highest) for Timeliness. However, given the excessive valuation, total return potential over the 3- to 5-year haul is well below the *Value Line* median.

Daniel Henigson *September 16, 2016*

(A) Diluted EPS. Excl. nonrecur. gains (losses): '06, 42¢; '07, 55¢; '08, 4¢; '09, (44¢); '10, (8¢); '11, (1¢); '12, (8¢). Next earnings report due early November. **(B)** Dividends historically paid in mid-Feb., May, Aug., and Nov. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. **(C)** Incl. deferred chgs. In '15: $95.0 mill., $0.42/sh. **(D)** In mill. **(E)** Rate base: Orig. cost. Rates all'd on com. eq. in IA in '15: 10.9%; in WI in '15 Regul. Clim.: WI, Above Avg.; IA, Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	95
Earnings Predictability	85

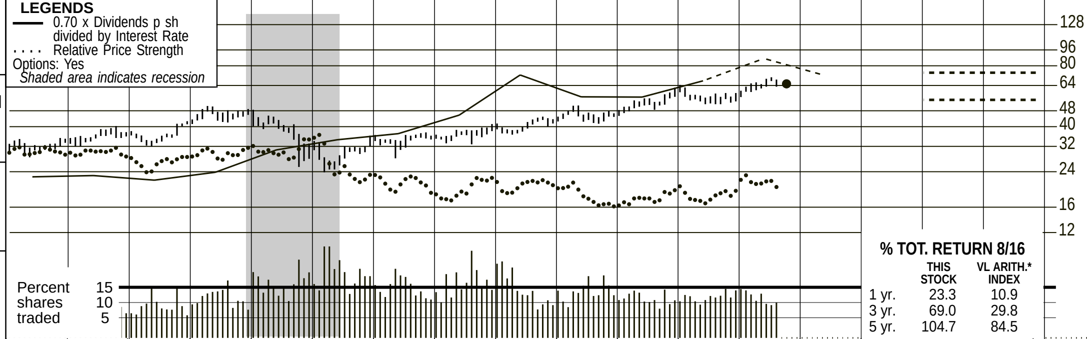
AMERICAN ELEC. PWR. NYSE-AEP

RECENT PRICE 66.04 | P/E RATIO 16.2 (Trailing: 18.7, Median: 14.0) | RELATIVE P/E RATIO 0.86 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS 1 Raised 8/5/16
SAFETY 2 Raised 9/19/14
TECHNICAL 1 Raised 8/26/16
BETA .65 (1.00 = Market)

High:	40.8	43.1	51.2	49.1	36.5	37.9	41.7	45.4	51.6	63.2	65.4	71.3
Low:	32.3	32.3	41.7	25.5	24.0	28.2	33.1	37.0	41.8	45.8	52.3	56.8

LEGENDS
— 0.70 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+15%)	7%
Low	55	(-15%)	Nil

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	9	0	0
to Sell	1	0	0	1	0	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	369	397	389
to Sell	323	329	337
Hld's(000)	339168	351925	339322

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.3	10.9
3 yr.	69.0	29.8
5 yr.	104.7	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
42.53	190.10	42.96	36.82	35.51	30.76	31.82	33.41	35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	31.85	32.30	Revenues per sh	35.00
5.11	7.65	6.99	5.76	5.89	5.96	6.67	6.80	6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.30	8.40	"Cash Flow" per sh	9.00
1.04	3.27	2.86	2.53	2.61	2.64	2.86	2.86	2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	3.85	3.90	Earnings per sh A	4.25
2.40	2.40	2.40	1.65	1.40	1.42	1.50	1.58	1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	Div'd Decl'd per sh B ■	2.75
5.51	5.69	5.08	3.44	4.28	6.11	8.89	8.88	9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	10.55	10.60	Cap'l Spending per sh	9.00
25.01	25.54	20.85	19.93	21.32	23.08	23.73	25.17	26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	38.05	39.65	Book Value per sh C	44.25
322.02	322.24	338.84	395.02	395.86	393.72	396.67	400.43	406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	493.00	495.00	Common Shs Outst'g D	500.00
34.3	13.9	12.7	10.7	12.4	13.7	12.9	16.3	13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	*Bold figures are*		Avg Ann'l P/E Ratio	15.5
2.23	.71	.69	.61	.66	.73	.70	.87	.79	.67	.85	.75	.88	.81	.84	.79	*Value Line*		Relative P/E Ratio	.95
6.7%	5.3%	6.6%	6.1%	4.3%	3.9%	4.1%	3.4%	4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	*estimates*		Avg Ann'l Div'd Yield	4.2%

CAPITAL STRUCTURE as of 6/30/16
Total Debt $21604 mill. **Due in 5 Yrs** $10490 mill.
LT Debt $17537 mill. **LT Interest** $789 mill.
Incl. $1835 mill. securitized bonds. Incl. $343.5 mill. capitalized leases.
(LT interest earned: 3.8x)
Leases, Uncapitalized Annual rentals $239.1 mill.
Pension Assets-12/15 $4767.6 mill. **Oblig** $4992.9 mill.
Pfd Stock None

Common Stock 491,709,452 shs.
as of 7/28/16
MARKET CAP: $32 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12622	13380	14440	13489	14427	15116	14945	15357	17020	16453	15700	16000	Revenues ($mill)	17500
1131.0	1147.0	1208.0	1365.0	1248.0	1513.0	1443.0	1549.0	1634.0	1763.4	1835	1875	Net Profit ($mill)	2055
33.0%	31.1%	31.3%	29.7%	34.8%	31.7%	33.9%	36.2%	37.8%	35.1%	36.0%	36.0%	Income Tax Rate	36.0%
9.9%	9.8%	9.9%	10.9%	10.4%	10.6%	11.2%	7.3%	9.0%	11.0%	11.0%	11.0%	AFUDC % to Net Profit	9.0%
56.7%	58.3%	59.1%	54.4%	53.1%	50.7%	50.6%	51.1%	49.0%	49.8%	48.5%	49.5%	Long-Term Debt Ratio	50.0%
43.0%	41.4%	40.7%	45.4%	46.7%	49.3%	49.4%	48.9%	51.0%	50.2%	51.5%	50.5%	Common Equity Ratio	50.0%
21902	24342	26290	28958	29184	29747	30823	32913	33001	35633	36275	38975	Total Capital ($mill)	44400
26781	29870	32987	34344	35674	36971	38763	40997	44117	46133	49150	52175	Net Plant ($mill)	59500
6.7%	6.3%	6.2%	6.2%	5.7%	6.6%	6.1%	6.0%	6.3%	6.1%	6.5%	6.0%	Return on Total Cap'l	6.0%
11.9%	11.3%	11.2%	10.3%	9.1%	10.3%	9.5%	9.6%	9.7%	9.9%	10.0%	9.5%	Return on Shr. Equity	9.5%
12.0%	11.4%	11.3%	10.4%	9.1%	10.3%	9.5%	9.6%	9.7%	9.9%	10.0%	10.0%	Return on Com Equity E	9.5%
5.7%	5.1%	5.1%	4.6%	3.1%	4.2%	3.5%	3.7%	3.8%	3.9%	4.0%	4.0%	Retained to Com Eq	3.5%
53%	55%	55%	56%	66%	60%	63%	62%	61%	60%	61%	63%	All Div'ds to Net Prof	67%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-1.5	+1.1	-1.2
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.4	+.3	+.3
Fixed Charge Cov. (%)	326	348	356

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-.5%	1.0%	1.0%
"Cash Flow"	2.5%	3.0%	3.0%
Earnings	2.5%	3.5%	4.0%
Dividends	3.0%	4.0%	5.0%
Book Value	5.0%	5.0%	4.0%

QUARTERLY REVENUES ($ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	3826	3582	4176	3773	15357
2014	4648	4044	4302	4026	17020
2015	4580	3826	4431	3614	16453
2016	4045	3893	4162	3600	15700
2017	4200	3900	4200	3700	16000

EARNINGS PER SHARE A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.75	.73	1.10	.60	3.18
2014	1.15	.80	1.01	.38	3.34
2015	1.27	.88	1.04	.40	3.59
2016	1.02	1.07	1.26	.50	3.85
2017	1.25	.95	1.25	.45	3.90

QUARTERLY DIVIDENDS PAID B ■

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.47	.47	.47	.47	1.88
2013	.47	.49	.49	.50	1.95
2014	.50	.50	.50	.53	2.03
2015	.53	.53	.53	.56	2.15
2016	.56	.56	.56		

BUSINESS: American Electric Power Company, Inc. (AEP), through 10 operating utilities, serves 5.4 mill. customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Electric rev. breakdown: residential, 40%; commercial, 23%; industrial, 19%; wholesale, 15%; other, 3%. Sold 50% stake in Yorkshire Holdings (British utility) '01; SEEBOARD (British utility) '02; Houston Pipeline '05; commercial barge operation in '15. Generating sources not available. Fuel costs: 37% of revs. '15 reported deprec. rates (utility): 0.4%-11.8%. Has 17,400 employees. Chairman, President & CEO: Nicholas K. Akins. Inc.: NY. Address: 1 Riverside Plaza, Columbus, OH 43215-2373. Tel.: 614-716-1000. Internet: www.aep.com.

American Electric Power is seeking a regulatory restructuring in Ohio. This would not be a return to full regulation, but a way for the company to place some nonregulated generating capacity in the rate base of its utilities in the state. AEP tried to move toward regulation by initiating a purchased-power agreement between its utilities in Ohio and its generating assets that serve the state, but this was overturned by the Federal Energy Regulatory Commission earlier this year. So, the company is making an attempt with the state legislature. Something along these lines will probably be known by yearend. AEP is also preparing to put the plants up for sale in case legislation is not passed.

The company is already selling its other nonregulated generating assets. This is part of AEP's strategy to exit its nonutility activities and become entirely regulated. An announcement of the winning bidder(s) is expected within the next few weeks, with a closing in late 2016 or early 2017. Even without this benefit next year, growth in the company's transmission operations should produce higher profits next year.

We have raised our 2016 earnings estimate by $0.15 a share, to $3.85. June-quarter profits were better than expected due to an $0.11-a-share gain from a federal tax audit settlement. We *include* this in our earnings presentation even though AEP excludes it from its 2016 earnings guidance of $3.60-$3.80.

Public Service of Oklahoma is still awaiting a rate order. The utility filed for a rate hike of $177 million, based on a 10.5% return on a 48% common-equity ratio. Because an order was not received by the start of 2016, it implemented a $75 million interim tariff hike at that time. The decision might well come by yearend. Note that AEP's Indiana & Michigan subsidiary is preparing to file a rate application in Indiana.

We expect a dividend increase in the fourth quarter. We estimate a boost of $0.03 a share (5.4%) in the quarterly disbursement. AEP is targeting a payout ratio in a range of 60%-70%.

This timely stock has a dividend yield that is slightly above the utility mean. Total return potential to 2019-2021 is low.

Paul E. Debbas, CFA September 16, 2016

(A) Dil. EPS. Excl. nonrec. gains (losses): '03, ($1.92); '04, 24¢; '05, (62¢); '06, (20¢); '07, (20¢); '08, 40¢; '10, (7¢); '11, 89¢; '12, (38¢); '13, (14¢); '16, (4¢); discont. ops.: '03, (32¢); '04, 15¢; '05, 7¢; '06, 2¢; '08, 3¢; '15, 58¢; '16, (1¢). '14, '15 EPS don't add due to rounding. Next egs. report due late Oct. **(B)** Div'ds historic. paid early Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. intang. In '15: $14.86/sh. **(D)** In mill. **(E)** Rate base: various. Rates all'd on com. eq.: 9.65%-10.9%; earn. on avg. com. eq., '15: 10.2%. Regul. Climate: Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	55
Earnings Predictability	90

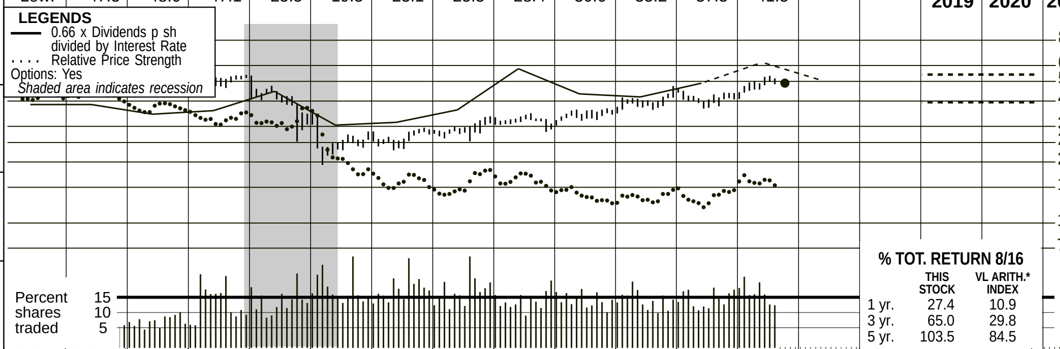
AMEREN NYSE-AEE

RECENT PRICE 49.84 | P/E RATIO 19.0 (Trailing: 19.4; Median: 15.0) | RELATIVE P/E RATIO 1.01 | DIV'D YLD 3.5% | VALUE LINE

TIMELINESS 3 Lowered 8/19/16
SAFETY 2 Raised 6/20/14
TECHNICAL 1 Raised 8/19/16
BETA .70 (1.00 = Market)

High:	56.8	55.2	55.0	54.3	35.3	29.9	34.1	35.3	37.3	48.1	46.8	54.1
Low:	47.5	48.0	47.1	25.5	19.5	23.1	25.5	28.4	30.6	35.2	37.3	41.5

Target Price Range 2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+10%)	6%
Low	40	(-20%)	-1%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	1	0	11	12	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	2	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	231	221	246
to Sell	173	212	166
Hld's(000)	160698	168069	162780

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	27.4	10.9
3 yr.	65.0	29.8
5 yr.	103.5	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
28.10	32.64	24.93	28.20	26.43	33.12	33.30	36.23	36.92	29.87	31.77	31.04	28.14	24.06	24.95	25.13	***24.95***	***25.75***	Revenues per sh	***28.25***
6.11	6.33	5.28	6.29	5.57	6.10	6.02	6.76	6.44	6.06	6.33	5.87	5.87	5.25	5.77	6.08	***6.60***	***7.05***	"Cash Flow" per sh	***8.50***
3.33	3.41	2.66	3.14	2.82	3.13	2.66	2.98	2.88	2.78	2.77	2.47	2.41	2.10	2.40	2.38	***2.60***	***2.75***	Earnings per sh A	***3.25***
2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	1.54	1.54	1.56	1.60	1.60	1.61	1.66	***1.72***	***1.78***	Div'd Decl'd per sh B ■	***2.05***
6.77	7.99	5.11	4.19	4.13	4.63	4.99	6.96	9.75	7.51	4.66	4.50	5.49	5.87	7.66	8.12	***8.90***	***9.00***	Cap'l Spending per sh	***9.50***
23.30	24.26	24.93	26.73	29.71	31.09	31.86	32.41	32.80	33.08	32.15	32.64	27.27	26.97	27.67	28.63	***29.50***	***30.50***	Book Value per sh C	***34.00***
137.22	138.05	154.10	162.90	195.20	204.70	206.60	208.30	212.30	237.40	240.40	242.60	242.63	242.63	242.63	242.63	***242.63***	***242.63***	Common Shs Outst'g D	***242.63***
11.0	12.1	15.8	13.5	16.3	16.7	19.4	17.4	14.2	9.3	9.7	11.9	13.4	16.5	16.7	17.5	*Bold figures are*		Avg Ann'l P/E Ratio	***15.0***
.72	.62	.86	.77	.86	.89	1.05	.92	.85	.62	.62	.75	.85	.93	.88	.88	*Value Line*		Relative P/E Ratio	***.95***
6.9%	6.2%	6.1%	6.0%	5.5%	4.9%	4.9%	4.9%	6.2%	6.0%	5.8%	5.3%	5.0%	4.6%	4.0%	4.0%	*estimates*		Avg Ann'l Div'd Yield	***4.2%***

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
6880.0	7546.0	7839.0	7090.0	7638.0	7531.0	6828.0	5838.0	6053.0	6098.0	***6050***	***6250***	Revenues ($mill)	***6850***
547.0	629.0	615.0	624.0	669.0	602.0	589.0	518.0	593.0	585.0	***635***	***675***	Net Profit ($mill)	***795***
32.7%	33.5%	33.7%	34.7%	36.8%	37.3%	36.9%	37.5%	38.9%	38.3%	***35.0%***	***38.0%***	Income Tax Rate	***38.0%***
.7%	.8%	4.6%	5.8%	7.8%	5.6%	6.1%	7.1%	5.7%	5.1%	***5.0%***	***4.0%***	AFUDC % to Net Profit	***4.0%***
43.8%	45.0%	47.8%	49.7%	48.2%	45.3%	49.5%	45.2%	47.2%	49.3%	***48.5%***	***48.5%***	Long-Term Debt Ratio	***49.5%***
54.6%	53.4%	50.8%	49.1%	50.9%	53.7%	49.4%	53.7%	51.7%	49.7%	***50.5%***	***50.5%***	Common Equity Ratio	***50.0%***
12063	12654	13712	15991	15185	14738	13384	12190	12975	13968	***14200***	***14600***	Total Capital ($mill)	***16500***
14286	15069	16567	17610	17853	18127	16096	16205	17424	18799	***20000***	***21125***	Net Plant ($mill)	***24300***
5.7%	6.2%	5.7%	5.3%	6.0%	5.6%	6.0%	5.6%	5.8%	5.3%	***5.5%***	***6.0%***	Return on Total Cap'l	***6.0%***
8.1%	9.0%	8.6%	7.8%	8.5%	7.5%	8.7%	7.7%	8.7%	8.3%	***8.5%***	***9.0%***	Return on Shr. Equity	***9.5%***
8.1%	9.2%	8.7%	7.8%	8.6%	7.5%	8.8%	7.8%	8.7%	8.3%	***9.0%***	***9.0%***	Return on Com Equity E	***9.5%***
.2%	1.3%	1.0%	3.5%	3.8%	2.8%	3.0%	1.9%	2.9%	2.5%	***3.0%***	***3.0%***	Retained to Com Eq	***3.5%***
97%	86%	88%	56%	56%	63%	66%	76%	67%	70%	***66%***	***65%***	All Div'ds to Net Prof	***63%***

CAPITAL STRUCTURE as of 6/30/16

Total Debt $7814 mill. **Due in 5 Yrs** $3342 mill.
LT Debt $6605 mill. **LT Interest** $328 mill.
(LT interest earned: 4.0x)
Leases, Uncapitalized Annual rentals $13 mill.
Pension Assets-12/15 $3653 mill.
Oblig $4197 mill.
Pfd Stock $142 mill. **Pfd Div'd** $6 mill.
807,595 sh. $3.50 to $5.50 cum. (no par), $100 stated val., redeem. $102.176-$110/sh.; 616,323 sh. 4.00% to 6.625%, $100 par, redeem. $100-$104/sh.
Common Stock 242,634,798 shs. **as of 7/29/16**
MARKET CAP: $12 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.5	-.1	-1.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.41	5.46	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	289	355	343

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-1.5%	-5.5%	*2.5%*
"Cash Flow"	-.5%	-2.0%	*7.0%*
Earnings	-2.5%	-4.0%	*6.0%*
Dividends	-4.5%	-3.0%	*4.0%*
Book Value	-.5%	-3.0%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1475	1403	1638	1322	5838.0
2014	1594	1419	1670	1370	6053.0
2015	1556	1401	1833	1308	6098.0
2016	1434	1427	***1850***	***1339***	***6050***
2017	***1500***	***1450***	***1900***	***1400***	***6250***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.22	.44	1.25	.19	2.10
2014	.40	.62	1.20	.19	2.40
2015	.45	.40	1.41	.12	2.38
2016	.43	.61	***1.40***	***.16***	***2.60***
2017	***.45***	***.60***	***1.50***	***.20***	***2.75***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.40	.40	.40	.40	1.60
2013	.40	.40	.40	.40	1.60
2014	.40	.40	.40	.41	1.61
2015	.41	.41	.41	.425	1.66
2016	.425	.425			

BUSINESS: Ameren Corporation is a holding company formed through the merger of Union Electric and CIPSCO. Acq'd CILCORP 1/03; Illinois Power 10/04. Has 1.2 mill. electric and 127,000 gas customers in Missouri; 1.2 mill. electric and 813,000 gas customers in Illinois. Discontinued nonregulated power-generation operation in '13. Electric rev. breakdown: residential, 45%; commercial, 33%; industrial, 12%; other, 10%. Generating sources: coal, 67%; nuclear, 23%; hydro, 4%; purchased & other, 6%. Fuel costs: 30% of revs. '15 reported deprec. rates: 3%-4%. Has 8,500 employees. Chairman, President & CEO: Warner L. Baxter. Inc.: MO. Address: One Ameren Plaza, 1901 Chouteau Ave., P.O. Box 66149, St. Louis, MO 63166-6149. Tel.: 314-621-3222. Internet: www.ameren.com.

Ameren has filed an electric rate case in Missouri. The utility is seeking an increase of $206 million (7.8%), based on a return of 9.9% on a common-equity ratio of 51.8%. Besides asking for the recovery of capital expenditures and higher expenses, the application reflects lost volume from Ameren's historically largest customer, Noranda, which has idled production at its aluminum smelter. The company is also requesting a regulatory mechanism to track transmission costs. New tariffs are expected to go into effect in late May.

The closing of the Noranda smelter is hurting Ameren's profits. The utility estimates the negative effect at $0.15 a share this year, and $0.06-$0.07 a share in the first half of 2017. Nevertheless, earnings are still likely to advance in 2016 because the second-quarter comparison was easy. In fact, we raised our share-earnings estimate by $0.10, to $2.60, because June-quarter profits (aided by favorable weather conditions) were better than we expected. Our revised estimate is within Ameren's targeted range of $2.45-$2.65, which management raised by a nickel upon releasing second-quarter results.

Like other transmission owners in the Midwest, Ameren is awaiting orders from the Federal Energy Regulatory Commission (FERC). Transmission users complained to FERC that allowed returns on equity for transmission owners are too high. Administrative law judges have recommended significant cuts in the allowed ROE, although FERC granted Ameren an additional half-percentage point "adder" for participating in a regional transmission organization. The company has taken a reserve of $58 million for potential refunds of previously collected revenues. Despite all of this, electric transmission should be a source of profit growth for Ameren in the coming years.

We think the board of directors will raise the dividend in the fourth quarter. This has occurred in each of the past two years. We estimate a boost of $0.06 a share (3.5%) in the annual payout.

Ameren stock has a dividend yield that is about equal to the utility average. With the recent quotation within our 2019-2021 Target Price Range, total return potential is just modest.

Paul E. Debbas, CFA September 16, 2016

(A) Diluted EPS. Excl. nonrecur. gain (losses): '05, (11¢); '10, ($2.19); '11, (32¢); '12, ($6.42); gain (loss) from disc. ops.: '13, (92¢); '15, 21¢. '14 EPS don't add due to rounding. Next egs. report due early Nov. (B) Div'ds histor. paid in late Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. (C) Incl. intang. In '15: $7.39/sh. (D) In mill. (E) Rate base: Orig. cost depr. Rate all'd on com. eq. in MO in '15: elec., 9.53%; in '11: gas, none specified; in IL in '14: elec., 8.7%, in '16: gas, 9.6%; earned on avg. com. eq., '15: 8.5%. Regulatory Climate: Below Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	30
Earnings Predictability	85

AVISTA CORP. NYSE-AVA

RECENT PRICE 43.38 | P/E RATIO 21.2 (Trailing: 21.3; Median: 16.0) | RELATIVE P/E RATIO 1.12 | DIV'D YLD 3.2% | VALUE LINE

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	20.2	27.5	25.8	23.6	22.4	22.8	26.5	28.0	29.3	37.4	38.3	45.2
Low:	16.3	17.6	18.2	15.5	12.7	18.5	21.1	22.8	24.1	27.7	29.8	34.3

TIMELINESS 1 Raised 3/11/16

SAFETY 2 Raised 5/7/10

TECHNICAL 3 Raised 7/22/16

BETA .75 (1.00 = Market)

2019-21 PROJECTIONS

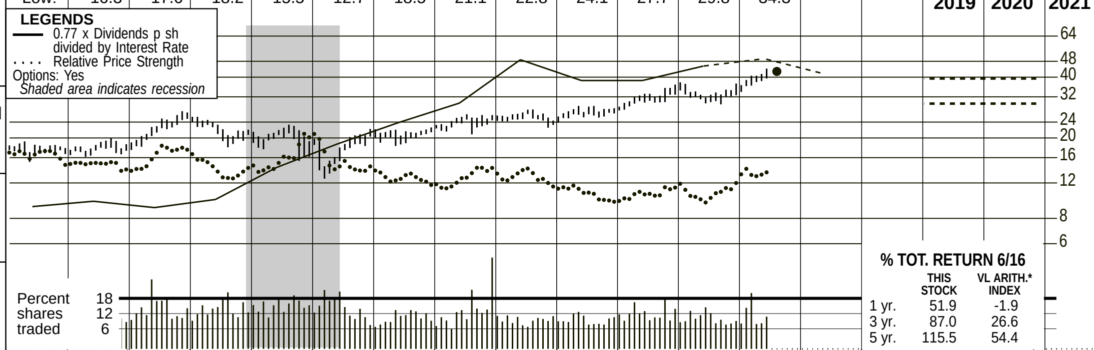
	Price	Gain	Ann'l Total Return
High	40	(-10%)	2%
Low	30	(-30%)	-4%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	9	0	0	0	13	1	0	0	8
to Sell	1	0	1	1	0	3	4	0	6

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	89	108	139
to Sell	97	78	84
Hld's(000)	40440	41716	42375



% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	51.9	-1.9
3 yr.	87.0	26.6
5 yr.	115.5	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
167.59	126.17	20.41	23.24	23.76	27.98	28.68	26.80	30.77	27.58	27.29	27.73	25.86	26.94	23.66	23.83	*23.05*	*23.65*	Revenues per sh	*25.75*
3.31	2.71	2.19	2.63	2.35	2.72	4.27	2.93	3.98	4.45	3.62	3.78	3.70	4.36	4.36	4.92	*4.75*	*5.10*	"Cash Flow" per sh	*6.00*
1.76	1.20	.67	1.02	.73	.92	1.47	.72	1.36	1.58	1.65	1.72	1.32	1.85	1.84	1.89	*2.05*	*2.15*	Earnings per sh A	*2.50*
.48	.48	.48	.49	.52	.55	.57	.60	.69	.81	1.00	1.10	1.16	1.22	1.27	1.32	*1.37*	*1.42*	Div'd Decl'd per sh B ■	*1.60*
4.24	5.92	1.74	2.21	2.47	3.23	3.14	4.04	4.09	3.86	3.64	4.20	4.61	5.05	5.47	6.46	*6.30*	*6.65*	Cap'l Spending per sh	*6.75*
15.34	15.12	14.84	15.54	15.54	15.87	17.46	17.27	18.30	19.17	19.71	20.30	21.06	21.61	23.84	24.53	*25.40*	*26.15*	Book Value per sh C	*28.50*
47.21	47.63	48.04	48.34	48.47	48.59	52.51	52.91	54.49	54.84	57.12	58.42	59.81	60.08	62.24	62.31	*64.00*	*64.50*	Common Shs Outst'g D	*66.00*
13.6	13.7	19.3	13.8	24.4	19.4	15.4	30.9	15.0	11.4	12.7	14.1	19.3	14.6	17.3	17.6	*Bold figures are*		Avg Ann'l P/E Ratio	*14.0*
.88	.70	1.05	.79	1.29	1.03	.83	1.64	.90	.76	.81	.88	1.23	.82	.91	.89	*Value Line*		Relative P/E Ratio	*.90*
2.0%	2.9%	3.7%	3.5%	2.9%	3.0%	2.5%	2.7%	3.4%	4.5%	4.8%	4.5%	4.6%	4.5%	4.0%	4.0%	*estimates*		Avg Ann'l Div'd Yield	*4.5%*
						1506.3	1417.8	1676.8	1512.6	1558.7	1619.8	1547.0	1618.5	1472.6	1484.8	*1475*	*1525*	Revenues ($mill)	*1700*
						75.1	38.5	73.6	87.1	92.4	100.2	78.2	111.1	114.2	118.1	*130*	*140*	Net Profit ($mill)	*160*
						35.9%	38.7%	38.3%	34.3%	35.0%	35.4%	34.4%	36.0%	37.6%	36.3%	*36.5%*	*36.5%*	Income Tax Rate	*36.5%*
						3.9%	22.4%	14.0%	4.2%	4.0%	5.2%	8.3%	8.8%	11.1%	10.1%	*9.0%*	*9.0%*	AFUDC % to Net Profit	*7.0%*
						53.7%	41.0%	48.1%	50.9%	51.6%	51.4%	50.8%	51.4%	51.0%	50.0%	*51.0%*	*47.5%*	Long-Term Debt Ratio	*50.0%*
						46.3%	59.0%	51.9%	49.1%	48.4%	48.6%	49.2%	48.6%	49.0%	50.0%	*49.0%*	*52.5%*	Common Equity Ratio	*50.0%*
						1980.1	1548.9	1919.5	2139.0	2325.3	2439.9	2561.2	2669.7	3027.3	3060.3	*3315*	*3225*	Total Capital ($mill)	*3750*
						2215.0	2351.3	2492.2	2607.0	2714.2	2860.8	3023.7	3202.4	3620.0	3898.6	*4125*	*4370*	Net Plant ($mill)	*5050*
						6.1%	5.2%	5.8%	5.5%	5.4%	5.5%	4.3%	5.4%	4.9%	5.1%	*5.0%*	*5.5%*	Return on Total Cap'l	*5.5%*
						8.2%	4.2%	7.4%	8.3%	8.2%	8.5%	6.2%	8.6%	7.7%	7.7%	*8.0%*	*8.5%*	Return on Shr. Equity	*8.5%*
						8.0%	4.2%	7.4%	8.3%	8.2%	8.5%	6.2%	8.6%	7.7%	7.7%	*8.0%*	*8.5%*	Return on Com Equity E	*8.5%*
						4.9%	.8%	3.7%	4.1%	3.3%	3.1%	.8%	2.9%	2.4%	2.3%	*2.5%*	*3.0%*	Retained to Com Eq	*3.0%*
						40%	82%	50%	51%	60%	64%	88%	66%	69%	70%	*67%*	*65%*	All Div'ds to Net Prof	*65%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $1714.5 mill. **Due in 5 Yrs** $612.7 mill.
LT Debt $1531.3 mill. **LT Interest** $77.0 mill.
Incl. $51.5 mill. debt to affiliated trusts.
(LT interest earned: 3.5x)

Pension Assets-12/15 $517.2 mill. **Oblig.** $613.5 mill.

Pfd Stock None

Common Stock 63,210,140 shs. **as of 4/30/16**

MARKET CAP: $2.7 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.4	+.8	-2.0
Avg. Indust. Use (MWH)	1428	1349	1339
Avg. Indust. Revs. per KWH (¢)	5.74	5.93	6.17
Capacity at Peak (Mw)	2767	2594	NA
Peak Load, Winter (Mw)	2223	2223	NA
Annual Load Factor (%)	59.0	64.0	NA
% Change Customers (yr-end)	+1.1	+5.5	+1.3
Fixed Charge Cov. (%)	308	322	315

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-3.0%	.5%
"Cash Flow"	6.0%	2.5%	4.5%
Earnings	7.5%	4.0%	5.0%
Dividends	9.5%	9.0%	4.0%
Book Value	4.0%	4.0%	3.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	482.9	352.0	335.9	447.7	1618.5
2014	446.6	312.6	301.6	411.8	1472.6
2015	446.5	337.3	313.7	387.3	1484.8
2016	418.2	*340*	*330*	*386.8*	*1475*
2017	*425*	*350*	*335*	*415*	*1525*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.71	.43	.19	.53	1.85
2014	.79	.43	.16	.48	1.84
2015	.74	.40	.21	.54	1.89
2016	.89	*.45*	*.15*	*.56*	*2.05*
2017	*.90*	*.48*	*.17*	*.60*	*2.15*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.29	.29	.29	.29	1.16
2013	.305	.305	.305	.305	1.22
2014	.3175	.3175	.3175	.3175	1.27
2015	.33	.33	.33	.33	1.32
2016	.3425	.3425			

BUSINESS: Avista Corporation (formerly The Washington Water Power Company) supplies electricity & gas in eastern Washington & northern Idaho. Supplies electricity to part of Alaska & gas to part of Oregon. Customers: 392,000 electric, 330,000 gas. Acq'd Alaska Electric Light and Power 7/14. Sold Ecova energy-management sub. 6/14. Electric rev. breakdown: residential, 34%; commercial, 31%; industrial, 11%; wholesale, 13%; other, 11%. Generating sources: gas & coal, 32%; hydro, 28%; purchased, 40%. Fuel costs: 44% of revs. '15 reported deprec. rate (Avista): 3.1%. Has 1,900 employees. Chairman, President & CEO: Scott L. Morris. Inc.: WA. Address: 1411 E. Mission Ave., Spokane, WA 99202-2600. Tel.: 509-489-0500. Web: www.avistacorp.com.

Avista has general rate cases pending in Washington and Idaho. In Washington, the utility filed for electric and gas increases of $38.6 million (7.6%) and $4.4 million (2.7%), respectively, based on a return of 9.9% on a common-equity ratio of 48.5%. New rates would take effect at the start of 2017. These would be followed by second-step increases of $10.3 million (1.6%) for electricity and $0.9 million (1.0%) for gas, effective at the beginning of 2018. In Idaho, Avista is seeking an electric tariff hike of $15.4 million (6.3%), based on a return of 9.9% on a common-equity ratio of 50%. New rates would be effective at the start of next year. The utility is not requesting a change in gas rates in Idaho.

The company's previous rate case in Washington still hasn't been resolved. In early 2016, electric rates were decreased by $8.1 million, but the Public Counsel unit of the state attorney general's office said the cut should have been more than twice as large. The case is now in the Court of Appeals.

Other rate cases are likely in the second half of 2016. Avista expects to file a gas rate application in Oregon. Alaska Electric Light & Power also plans to put forth a rate request. This would be this utility's first general rate case since Avista acquired it in mid-2014. New tariffs in each state would take effect in 2017.

Rate relief should help boost earnings in 2016 and 2017. We have raised our 2016 earnings estimate by $0.05 a share because March-quarter profits were better than we expected. Our revised estimate is near the midpoint of Avista's targeted range of $1.96-$2.16 a share. We have also boosted our 2017 forecast by a nickel a share. Management's goal is earnings growth of 4%-5% annually.

Financing needs are modest. Avista plans to issue $155 million of long-term debt ($90 million of which is for borrowings that mature in 2016) and $55 million of common equity. Finances are sound; the company's Financial Strength rating is A.

This timely stock has an average dividend yield for a utility. With the recent price above our 2019-2021 Target Price Range, the equity lacks appeal for long-term investors.

Paul E. Debbas, CFA *July 29, 2016*

(A) Dil. EPS. Excl. nonrec. gain (losses): '02, (9¢); '03, (3¢); '14, 9¢; gains (losses) on disc. ops.: '01, ($1.00); '02, 2¢; '03, (10¢); '14, $1.17; '16, 8¢. '13 & '14 EPS don't add due to rounding or change in shs. Next earnings report due early Aug. (B) Div'ds paid in mid-Mar., June, Sept. & Dec. ■ Div'd reinv. avail. (C) Incl. def'd chgs. In '15: $9.89/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in WA in '16: 9.5%; in ID in '16: 9.5%; in OR in '15: 9.5%; earn. on avg. com. eq., '15: 8.2%. Regul. Clim.: WA, Avg.; ID, Above Avg.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	65
Earnings Predictability	80

BLACK HILLS CORP. NYSE-BKH

RECENT PRICE 62.30 | P/E RATIO 22.7 (Trailing: 23.1; Median: 17.0) | RELATIVE P/E RATIO 1.20 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 1 Raised 7/15/16
SAFETY 2 Raised 5/1/15
TECHNICAL 2 Raised 7/29/16
BETA .90 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	44.6	37.9	45.4	44.0	28.0	34.5	34.8	37.0	55.1	62.1	53.4	64.6
Low:	29.2	32.5	35.4	21.7	14.5	25.7	25.8	30.3	36.9	47.1	36.8	44.7

Target Price Range: 2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+10%)	6%
Low	50	(-20%)	-1%

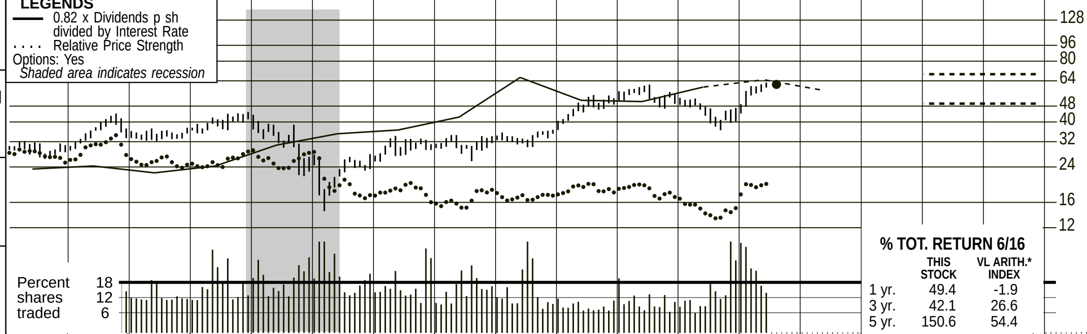
Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	1	0	0	0	0	0	0
Options	7	4	4	8	4	9	10	4	4
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	113	138	144
to Sell	86	76	92
Hld's(000)	34065	44086	45952

LEGENDS
— 0.82 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	49.4	-1.9
3 yr.	42.1	26.6
5 yr.	150.6	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
69.69	57.96	15.74	35.17	34.54	41.97	19.69	18.41	26.03	32.58	33.29	28.96	26.55	28.67	31.20	25.48	*29.25*	*33.65*	Revenues per sh	*33.50*
3.68	5.27	4.93	4.26	4.46	4.81	5.04	5.29	2.95	5.41	4.88	4.01	5.59	5.93	6.25	5.67	*6.85*	*7.85*	"Cash Flow" per sh	*8.75*
2.37	3.42	2.33	1.84	1.74	2.11	2.21	2.68	.18	2.32	1.66	1.01	1.97	2.61	2.89	2.83	*2.75*	*3.50*	Earnings per sh A	*4.25*
1.08	1.12	1.16	1.20	1.24	1.28	1.32	1.37	1.40	1.42	1.44	1.46	1.48	1.52	1.56	1.62	*1.68*	*1.84*	Div'd Decl'd per sh B ■	*2.20*
5.79	14.07	8.65	2.80	2.80	4.18	9.24	6.92	8.51	8.90	12.04	10.03	7.90	7.97	8.92	8.90	*9.90*	*6.55*	Cap'l Spending per sh	*6.50*
11.95	18.95	19.66	21.72	22.43	22.29	23.68	25.66	27.19	27.84	28.02	27.53	27.88	29.39	30.80	28.63	*30.45*	*32.60*	Book Value per sh C	*39.25*
23.30	26.89	26.93	32.30	32.48	33.16	33.37	37.80	38.64	38.97	39.27	43.92	44.21	44.50	44.67	51.19	*53.00*	*54.25*	Common Shs Outst'g D	*61.00*
10.9	11.4	12.5	15.9	17.1	17.3	15.8	15.0	NMF	9.9	18.1	31.1	17.1	18.2	19.0	16.1	*Bold figures are*		Avg Ann'l P/E Ratio	*14.0*
.71	.58	.68	.91	.90	.92	.85	.80	NMF	.66	1.15	1.95	1.09	1.02	1.00	.82	*Value Line*		Relative P/E Ratio	*.90*
4.2%	2.9%	4.0%	4.1%	4.2%	3.5%	3.8%	3.4%	4.2%	6.2%	4.8%	4.6%	4.4%	3.2%	2.8%	3.5%	*estimates*		Avg Ann'l Div'd Yield	*3.7%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $3374.7 mill. **Due in 5 Yrs** $2025.6 mill.
LT Debt $3159.1 mill. **LT Interest** $125.5 mill.
(LT interest earned: 3.4x)
Leases, Uncapitalized Annual rentals $2.9 mill.

Pension Assets-12/15 $288.6 mill. **Oblig.** $356.6 mill.

Pfd Stock None

Common Stock 51,587,415 shs. as of 4/30/16

MARKET CAP: $3.2 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
656.9	695.9	1005.8	1269.6	1307.3	1272.2	1173.9	1275.9	1393.6	1304.6	*1550*	*1825*	Revenues ($mill)	*2050*
74.0	100.1	6.8	89.7	64.6	40.4	86.9	115.8	128.8	128.3	*145*	*190*	Net Profit ($mill)	*255*
31.3%	31.3%	33.1%	30.7%	26.4%	31.1%	35.5%	34.7%	33.7%	35.8%	*34.0%*	*30.0%*	Income Tax Rate	*30.0%*
9.7%	14.8%	173.2%	20.1%	28.0%	65.0%	5.4%	2.4%	2.4%	2.7%	*3.0%*	*2.0%*	AFUDC % to Net Profit	*1.0%*
44.3%	36.8%	32.3%	48.4%	51.9%	51.4%	43.2%	51.6%	47.9%	56.0%	*57.5%*	*59.0%*	Long-Term Debt Ratio	*48.0%*
55.7%	63.2%	67.7%	51.6%	48.1%	48.6%	56.8%	48.4%	52.1%	44.0%	*42.5%*	*41.0%*	Common Equity Ratio	*52.0%*
1418.4	1534.2	1551.8	2100.7	2286.3	2489.7	2171.4	2704.7	2643.6	3332.7	*3790*	*4295*	Total Capital ($mill)	*4625*
1646.4	1823.5	2022.2	2160.7	2495.4	2789.6	2742.7	2990.3	3239.4	3259.1	*4590*	*4710*	Net Plant ($mill)	*5075*
6.8%	7.9%	1.6%	5.9%	4.4%	3.3%	5.5%	5.5%	6.1%	4.9%	*5.0%*	*5.5%*	Return on Total Cap'l	*6.5%*
9.4%	10.3%	.7%	8.3%	5.9%	3.3%	7.1%	8.9%	9.4%	8.8%	*9.0%*	*10.5%*	Return on Shr. Equity	*10.5%*
9.4%	10.3%	.7%	8.3%	5.9%	3.3%	7.1%	8.9%	9.4%	8.8%	*9.0%*	*10.5%*	Return on Com Equity E	*10.5%*
3.8%	5.1%	NMF	3.2%	.7%	NMF	1.8%	3.7%	4.3%	3.8%	*3.5%*	*5.0%*	Retained to Com Eq	*5.0%*
59%	50%	NMF	62%	87%	NMF	75%	58%	54%	57%	*61%*	*52%*	All Div'ds to Net Prof	*53%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.0	+2.9	+4.5
Avg. Indust. Use (MWH)	9740	13055	15552
Avg. Indust. Revs. per KWH (¢)	8.19	7.97	8.02
Capacity at Yearend (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	988	992	1028
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.8	+.9	+.9
Fixed Charge Cov. (%)	224	357	324

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-2.5%	-1.5%	*3.0%*
"Cash Flow"	3.0%	6.0%	*6.5%*
Earnings	4.0%	15.0%	*7.5%*
Dividends	2.5%	2.0%	*6.0%*
Book Value	3.0%	1.5%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	380.7	279.8	259.9	355.5	1275.9
2014	460.2	283.2	272.1	378.1	1393.6
2015	442.0	272.2	272.1	318.3	1304.6
2016	450.0	*325*	*325*	*450*	*1550*
2017	*650*	*350*	*350*	*475*	*1825*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.97	.69	.52	.43	2.61
2014	1.08	.44	.60	.76	2.89
2015	1.07	.55	.58	.63	2.83
2016	.94	*.46*	*.55*	*.80*	*2.75*
2017	*1.30*	*.60*	*.70*	*.90*	*3.50*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.37	.37	.37	.37	1.48
2013	.38	.38	.38	.38	1.52
2014	.39	.39	.39	.39	1.56
2015	.405	.405	.405	.405	1.62
2016	.42	.42			

BUSINESS: Black Hills Corporation is a holding company for utilities that serve 207,000 electric customers in CO, SD, WY and MT, and 1 million gas customers in NE, IA, KS, CO, WY, and AR. Mines coal & has a gas & oil E&P business. Acq'd Mallon Resources 3/03; Cheyenne Light 1/05; utility ops. from Aquila 7/08; SourceGas 2/16. Discont. telecom in '05; oil marketing in '06; gas marketing in '11. Electric revenue breakdown: res'l, 31%; comm'l, 38%; ind'l, 16%; other, 15%. Generating sources: coal, 33%; other, 4%; purch., 63%. Fuel costs: 35% of revs. '15 deprec. rate: 3.3%. Has 3,100 employees. Chairman & CEO: David R. Emery. Pres. & COO: Linn Evans. Inc.: SD. Address: P.O. Box 1400, 625 Ninth St., Rapid City, SD 57701. Tel.: 605-721-1700. Internet: www.blackhillscorp.com.

Black Hills is incurring costs associated with its acquisition of SourceGas earlier this year. These expenses reduced earnings by $0.29 a share in the first quarter of 2016. There will still be some costs over the remainder of the year for severance and rebranding all of the company's utilities under the Black Hills Energy name. We are *including* these in our earnings presentation, even though the company is excluding them from its 2016 profit guidance of $2.90-$3.10 a share.

The bottom line should be significantly higher in 2017. We figure the acquisition costs (if any) will be much lower. Also, because the deal did not close until mid-February, Black Hills did not own SourceGas for all of the seasonally strong first quarter. Our earnings estimate is within management's targeted range of $3.35-$3.65 a share.

Black Hills wants to place natural gas reserves in its utility's rate base. The company would benefit by earning a return on this investment. Customers would enjoy long-term price stability. The company is seeking approval for this program from the commissions in Colorado, Iowa, South Dakota, Kansas, Nebraska, and Wyoming.

The utility filed an electric rate case in Colorado. Black Hills is seeking an $8.9 million rate hike in order to recover the costs of a $65 million, 40-megawatt gas-fired unit it is building. The utility is asking for new tariffs to take effect at the start of 2017.

Black Hills continues to take impairment charges for its oil and gas business. These reduced earnings by $3.54 a share in 2015 and another $0.17 a share in the first period of 2016. Additional write-downs cannot be ruled out.

Timely Black Hills stock has been one of the top performers in what has been an outstanding year for utility equities. The share price has risen 34% year to date. Given that the company plans to issue up to $200 million of equity through year-end 2017 via an at-the-market program, this is beneficial. However, the dividend yield is a cut below the utility mean, and 3- to 5-year total return potential is unimpressive.

Paul E. Debbas, CFA *July 29, 2016*

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, (99¢); '08, ($1.55); '09, (28¢); '10, 10¢; '12, 4¢; '15, ($3.54); '16, (17¢); gains (losses) on disc. ops.: '05, (7¢); '06, 21¢; '07, (4¢); '08, $4.12; '09, 7¢; '11, 23¢; '12, (16¢). '14 EPS don't add due to rounding. Next egs. due early Aug. (B) Div'ds paid early Mar., Jun., Sept., & Dec. ■ Div'd reinv. plan avail. (C) Incl. def'd chgs. In '15: $10.52/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in SD in '15: none specified; in CO in '15: 9.83%; earned on avg. com. eq., '15: 9.0%. Reg. Climate: Avg.

Company's Financial Strength	A
Stock's Price Stability	80
Price Growth Persistence	75
Earnings Predictability	50

CMS ENERGY CORP. NYSE-CMS

RECENT PRICE 42.80 | P/E RATIO 20.3 (Trailing: 21.9 Median: 16.0) | RELATIVE P/E RATIO 1.07 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 3 Lowered 9/2/16
SAFETY 2 Raised 3/21/14
TECHNICAL 1 Raised 9/9/16
BETA .65 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	16.8	17.0	19.5	17.5	16.1	19.3	22.4	25.0	30.0	36.9	38.7	46.3
Low:	9.7	12.1	15.0	8.3	10.0	14.1	17.0	21.1	24.6	26.0	31.2	35.0

2019-21 PROJECTIONS

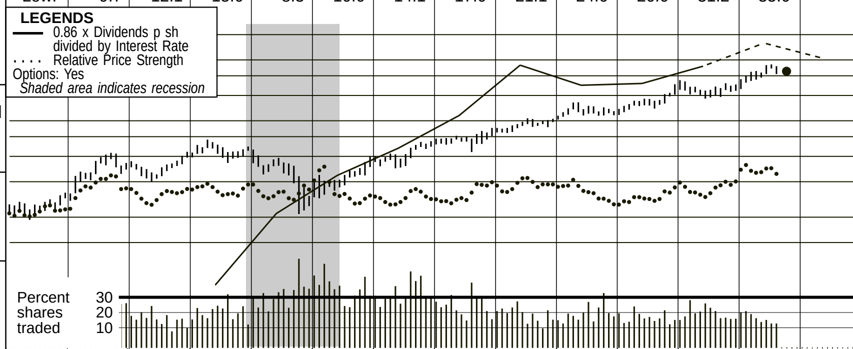
	Price	Gain	Ann'l Total Return
High	45	(+5%)	5%
Low	30	(-30%)	-4%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	1	0	0	0	1	0	0	0	0
Options	0	0	9	0	0	0	10	0	1
to Sell	2	0	0	1	3	0	4	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	206	233	236
to Sell	193	205	201
Hld's(000)	252257	250368	251054



Target Price Range

2019	2020	2021
64	48	40

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	32.0	10.9
3 yr.	75.0	29.8
5 yr.	155.0	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
74.24	72.16	60.28	34.21	28.06	28.52	30.57	28.95	30.13	27.23	25.77	25.59	23.90	24.68	26.09	23.29	*22.15*	*22.70*	Revenues per sh	*24.75*
7.61	5.24	d.09	2.39	2.87	3.43	3.22	3.08	3.88	3.47	3.70	3.65	3.82	4.06	4.22	4.59	*4.80*	*5.30*	"Cash Flow" per sh	*6.50*
2.53	1.27	d2.99	d.29	.74	1.10	.64	.64	1.23	.93	1.33	1.45	1.53	1.66	1.74	1.89	*1.95*	*2.15*	Earnings per sh A	*2.50*
1.46	1.46	1.09	- -	- -	- -	- -	.20	.36	.50	.66	.84	.96	1.02	1.08	1.16	*1.24*	*1.32*	Div'd Decl'd per sh B ■	*1.60*
8.51	9.49	5.18	3.32	2.69	2.69	3.01	5.61	3.50	3.59	3.29	3.47	4.65	4.98	5.73	5.64	*6.00*	*6.20*	Cap'l Spending per sh	*5.75*
19.48	14.21	7.86	9.84	10.63	10.53	10.03	9.46	10.88	11.42	11.19	11.92	12.09	12.98	13.34	14.21	*15.00*	*16.00*	Book Value per sh C	*19.25*
121.20	132.99	144.10	161.13	195.00	220.50	222.78	225.15	226.41	227.89	249.60	254.10	264.10	266.10	275.20	277.16	*280.00*	*282.00*	Common Shs Outst'g D	*288.00*
9.6	20.8	- -	- -	12.4	12.6	22.2	26.8	10.9	13.6	12.5	13.6	15.1	16.3	17.3	18.3	*Bold figures are*		Avg Ann'l P/E Ratio	*15.0*
.62	1.07	- -	- -	.66	.67	1.20	1.42	.66	.91	.80	.85	.96	.92	.91	.93	*Value Line*		Relative P/E Ratio	*.95*
6.0%	5.5%	7.5%	- -	- -	- -	- -	1.2%	2.7%	4.0%	4.0%	4.3%	4.2%	3.8%	3.6%	3.4%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $9514 mill. **Due in 5 Yrs** $4793 mill.
LT Debt $8596 mill. **LT Interest** $388 mill.
Incl. $110 mill. capitalized leases.
(LT interest earned: 3.0x)
Leases, Uncapitalized Annual rentals $20 mill.
Pension Assets-12/15 $2013 mill.
Oblig $2403 mill.
Pfd Stock $37 mill. **Pfd Div'd** $2 mill.
Incl. 373,148 shs. $4.50 $100 par, cum., callable at $110.00.
Common Stock 279,300,000 shs.

MARKET CAP: $12 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
6810.0	6519.0	6821.0	6205.0	6432.0	6503.0	6312.0	6566.0	7179.0	6456.0	*6200*	*6400*	Revenues ($mill)	*7150*
158.0	168.0	300.0	231.0	356.0	384.0	413.0	454.0	479.0	525.0	*540*	*615*	Net Profit ($mill)	*740*
- -	37.6%	31.6%	34.6%	38.1%	36.8%	39.4%	39.9%	34.3%	34.0%	*38.5%*	*38.5%*	Income Tax Rate	*38.5%*
6.3%	3.6%	1.3%	13.0%	2.2%	2.6%	2.9%	2.0%	2.3%	2.7%	*3.0%*	*2.0%*	AFUDC % to Net Profit	*2.0%*
71.7%	70.5%	69.4%	67.9%	70.1%	66.9%	67.9%	67.5%	68.7%	68.3%	*67.5%*	*67.0%*	Long-Term Debt Ratio	*65.5%*
24.9%	25.9%	27.4%	29.0%	29.5%	32.6%	31.6%	32.2%	31.0%	31.4%	*32.0%*	*33.0%*	Common Equity Ratio	*34.5%*
8961.0	8212.0	8993.0	8977.0	9473.0	9279.0	10101	10730	11846	12534	*13075*	*13725*	Total Capital ($mill)	*16100*
7976.0	8728.0	9190.0	9682.0	10069	10633	11551	12246	13412	14705	*15575*	*16450*	Net Plant ($mill)	*18600*
4.5%	4.5%	5.4%	4.7%	5.8%	6.3%	5.9%	6.0%	5.7%	5.7%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.0%*
6.2%	6.9%	10.9%	8.0%	12.5%	12.5%	12.8%	13.0%	12.9%	13.2%	*12.5%*	*13.5%*	Return on Shr. Equity	*13.5%*
6.4%	7.2%	11.7%	8.5%	12.5%	12.6%	12.9%	13.1%	13.0%	13.3%	*13.0%*	*13.5%*	Return on Com Equity E	*13.5%*
6.4%	5.1%	8.4%	4.1%	6.9%	5.6%	5.0%	5.2%	5.0%	5.2%	*4.5%*	*5.5%*	Retained to Com Eq	*5.0%*
10%	35%	31%	54%	46%	55%	61%	61%	60%	62%	61%	*64%*	*60%*	All Div'ds to Net Prof	*62%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-3.1	+1.9	-.8
Avg. Indust. Use (MWH)	NMF	NMF	5922
Avg. Indust. Revs. per KWH (¢)	8.93	8.79	8.07
Capacity at Peak (Mw)	8603	8776	8762
Peak Load, Summer (Mw)	8509	7498	7812
Annual Load Factor (%)	50.0	59.7	56.8
% Change Customers (yr-end)	+.1	- -	+.6
Fixed Charge Cov. (%)	282	278	288

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-2.0%	-2.5%	*Nil*
"Cash Flow"	4.0%	3.0%	*7.0%*
Earnings	13.0%	8.5%	*6.0%*
Dividends	- -	16.5%	*6.5%*
Book Value	2.5%	4.0%	*6.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1979	1406	1445	1736	6566.0
2014	2523	1468	1430	1758	7179.0
2015	2111	1350	1486	1509	6456.0
2016	1801	1371	*1478*	*1550*	*6200*
2017	*1950*	*1350*	*1500*	*1600*	*6400*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.53	.29	.46	.37	1.66
2014	.75	.30	.34	.35	1.74
2015	.73	.25	.53	.38	1.89
2016	.59	.45	*.50*	*.41*	*1.95*
2017	*.75*	*.35*	*.60*	*.45*	*2.15*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec. 31	Full Year
2012	.24	.24	.24	.24	.96
2013	.255	.255	.255	.255	1.02
2014	.27	.27	.27	.27	1.08
2015	.29	.29	.29	.29	1.16
2016	.31	.31	.31		

BUSINESS: CMS Energy Corporation is a holding company for Consumers Energy, which supplies electricity and gas to lower Michigan (excluding Detroit). Has 1.8 million electric, 1.7 million gas customers. Has 1,034 megawatts of nonregulated generating capacity. Sold Palisades nuclear plant in '07. Electric revenue breakdown: residential, 43%; commercial, 34%; industrial, 16%; other, 7%. Generating sources: coal, 44%; gas, 10%; other, 3%; purchased, 43%. Fuel costs: 47% of revenues. '15 reported deprec. rates: 3.5% electric, 2.8% gas, 8.7% other. Has 7,400 employees. Chairman: John G. Russell. President & CEO: Patti Poppe. Incorporated: Michigan. Address: One Energy Plaza, Jackson, Michigan 49201. Tel.: 517-788-0550. Internet: www.cmsenergy.com.

CMS Energy's utility subsidiary has electric and gas rate cases pending. On the electric side, Consumers Energy is seeking a tariff increase of $225 million, based on an allowed return on equity of 10.7%. At the start of September, the utility self-implemented a $170 million hike, which it may do under Michigan regulatory law. The staff of the Michigan Public Service Commission (MPSC) is proposing a $92 million increase, based on a 10% ROE. The MPSC's order is due in late February. On the gas side, Consumers Energy filed for an increase of $90 million, based on a 10.6% ROE. The utility will self-implement a raise at the beginning of February, with the MPSC's decision due in late July. Rate cases are going to be put forth regularly in the coming years, mainly to place new capital investment in the rate base.

We have trimmed our 2016 earnings estimate by $0.05 a share. In the current quarter, CMS expects to record an undisclosed charge for an early retirement program. Management will exclude this from its typically narrow earnings guidance of $1.99-$2.02 a share, but we will *include* it, whatever the amount of the charge turns out to be.

Earnings should be much improved in 2017. We assume no additional charges for a workforce reduction. Consumers Energy should benefit from rate relief, assuming reasonable regulatory treatment from the MPSC. Our 2017 profit forecast remains at $2.15 a share.

There is potential upside to CMS' earnings growth goal of 6%-8% annually. Proposed legislation in Michigan, if enacted, would likely create additional investment opportunities for Consumers Energy. This is not reflected in our estimates and projections. CMS also has some nonregulated generating capacity that would increase its contribution to corporate profits if wholesale power prices rise.

This stock has a dividend yield that is slightly below average, by utility standards. Like many utility issues, the recent quotation is near the upper end of our 2019-2021 Target Price Range. Accordingly, total return potential is negligible, even though we project solid dividend growth through the end of the decade.

Paul E. Debbas, CFA September 16, 2016

(A) Diluted EPS. Excl. nonrec. gains (losses): '05, ($1.61); '06, ($1.08); '07, ($1.26); '09, (7¢); '10, 3¢; '11, 12¢; '12, (14¢); gains (losses) on disc. ops.: '05, 7¢; '06, 3¢; '07, (40¢); '09, 8¢; '10, (8¢); '11, 1¢; '12, 3¢. '13 EPS don't add due to rounding. Next earnings report due late Oct. (B) Div'ds historically paid late Feb., May, Aug., & Nov. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '15: $6.64/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '15: 10.3%; earned on avg. com. eq., '15: 13.7%. Regulatory Climate: Average.

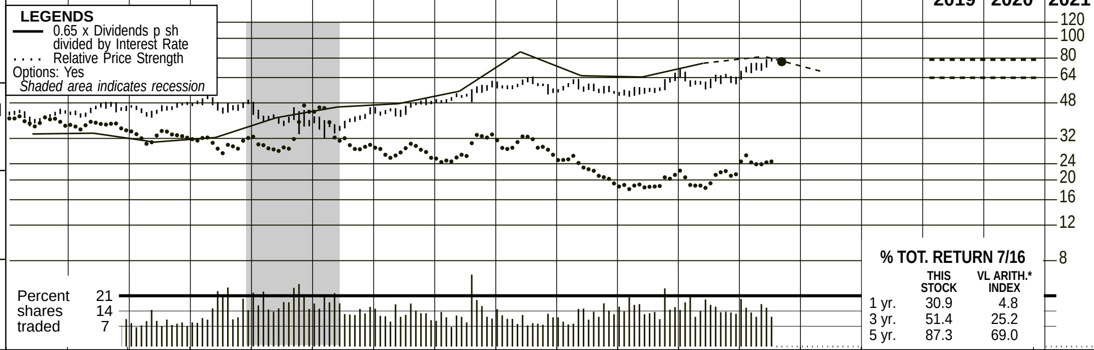
Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	90
Earnings Predictability	80

CON. EDISON NYSE-ED

RECENT PRICE 78.09 | P/E RATIO 18.4 (Trailing: 20.2, Median: 15.0) | RELATIVE P/E RATIO 0.98 | DIV'D YLD 3.5% | VALUE LINE

TIMELINESS 2 Raised 8/19/16
SAFETY 1 New 7/27/90
TECHNICAL 2 Raised 8/19/16
BETA .55 (1.00 = Market)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	49.3	49.3	52.9	49.3	46.3	51.0	62.7	66.0	64.0	68.9	72.3	81.9	
Low:	41.1	41.2	43.1	34.1	32.6	41.5	48.6	53.6	54.2	52.2	56.9	63.5	



Target Price Range 2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	80	(Nil)	4%
Low	65	(-15%)	Nil

Insider Decisions

	O	N	D	J	F	M	A	M	J
to Buy	10	8	8	10	8	8	10	8	8
Options	2	0	0	2	11	0	2	9	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	289	299	368
to Sell	296	287	275
Hld's(000)	156143	152749	163563

% TOT. RETURN 7/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	30.9	4.8
3 yr.	51.4	25.2
5 yr.	87.3	69.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
44.48	45.41	39.65	43.51	40.24	47.66	47.14	48.23	49.62	46.36	45.69	44.17	41.62	42.27	44.11	42.85	*39.35*	*40.35*	Revenues per sh	*43.75*
5.51	5.70	5.44	5.12	4.54	5.27	5.28	5.77	5.99	5.86	6.24	6.61	7.15	7.45	7.30	7.93	*7.95*	*8.40*	"Cash Flow" per sh	*9.50*
2.74	3.21	3.13	2.83	2.32	2.99	2.95	3.48	3.36	3.14	3.47	3.57	3.86	3.93	3.62	4.05	*4.05*	*4.30*	Earnings per sh A	*4.50*
2.18	2.20	2.22	2.24	2.26	2.28	2.30	2.32	2.34	2.36	2.38	2.40	2.42	2.46	2.52	2.60	*2.68*	*2.76*	Div'd Decl'd per sh B ■	*3.00*
4.52	5.20	5.68	5.72	5.60	6.59	7.17	7.09	8.50	7.80	6.96	6.72	7.06	8.67	8.26	10.42	*12.55*	*10.60*	Cap'l Spending per sh	*10.25*
25.81	26.71	27.68	28.44	29.09	29.80	31.09	32.58	35.43	36.46	37.93	39.05	40.53	41.81	42.94	44.55	*46.75*	*48.40*	Book Value per sh C	*53.50*
212.03	212.15	213.93	225.84	242.51	245.29	257.46	272.02	273.72	281.12	291.62	292.89	292.87	292.87	292.88	293.00	*305.00*	*306.00*	Common Shs Outst'g D	*309.00*
12.0	12.0	13.3	14.3	18.2	15.1	15.5	13.8	12.3	12.5	13.3	15.1	15.4	14.7	15.9	15.6	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	*16.0*
.78	.61	.73	.82	.96	.80	.84	.73	.74	.83	.85	.95	.98	.83	.84	.79	*estimates*		Relative P/E Ratio	*1.00*
6.6%	5.7%	5.3%	5.5%	5.3%	5.0%	5.0%	4.8%	5.7%	6.0%	5.2%	4.5%	4.1%	4.3%	4.4%	4.1%			Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $15201 mill. **Due in 5 Yrs** $2710 mill.
LT Debt $13747 mill. **LT Interest** $625 mill.
(LT interest earned: 3.7x)

Leases, Uncapitalized Annual rentals $18 mill.

Pension Assets-12/15 $11759 mill. **Oblig** $14377 mill.

Pfd Stock None

Common Stock 304,414,974 shs.
as of 7/29/16
MARKET CAP: $24 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12137	13120	13583	13032	13325	12938	12188	12381	12919	12554	*12000*	*12350*	Revenues ($mill)	*13500*
749.0	936.0	933.0	868.0	992.0	1062.0	1141.0	1157.0	1066.0	1193.0	*1230*	*1320*	Net Profit ($mill)	*1435*
35.2%	32.6%	36.0%	34.2%	36.0%	36.1%	34.5%	31.8%	34.0%	33.6%	*34.0%*	*34.0%*	Income Tax Rate	*34.0%*
1.6%	1.9%	1.7%	2.6%	2.4%	1.6%	.5%	.5%	.3%	.7%	*1.0%*	*1.0%*	AFUDC % to Net Profit	*1.0%*
50.2%	45.6%	48.3%	48.5%	48.6%	46.5%	45.9%	46.1%	48.0%	47.9%	*49.5%*	*46.0%*	Long-Term Debt Ratio	*45.5%*
48.5%	53.1%	50.6%	50.4%	50.4%	52.5%	54.1%	53.9%	52.0%	52.1%	*50.5%*	*54.0%*	Common Equity Ratio	*54.5%*
16515	16687	19160	20330	21952	21794	21933	22735	24207	25058	*28150*	*27550*	Total Capital ($mill)	*30300*
18445	19914	20874	22464	23863	25093	26939	28436	29827	32209	*34850*	*36825*	Net Plant ($mill)	*41900*
6.0%	7.0%	6.2%	5.7%	5.9%	6.2%	6.5%	6.4%	5.6%	6.0%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.0%*
9.1%	10.3%	9.4%	8.3%	8.8%	9.1%	9.6%	9.4%	8.5%	9.1%	*8.5%*	*9.0%*	Return on Shr. Equity	*8.5%*
9.2%	10.4%	9.5%	8.4%	8.9%	9.2%	9.6%	9.4%	8.5%	9.1%	*8.5%*	*9.0%*	Return on Com Equity E	*8.5%*
2.6%	3.9%	3.1%	2.5%	3.2%	3.1%	3.6%	3.6%	2.6%	3.5%	*3.0%*	*3.0%*	Retained to Com Eq	*3.0%*
73%	63%	67%	71%	65%	66%	62%	62%	69%	61%	*65%*	*64%*	All Div'ds to Net Prof	*65%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.1	-1.1	+1.9
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	14883	13568	13721
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	385	366	370

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-2.0%	*.5%*
"Cash Flow"	4.5%	4.5%	*4.0%*
Earnings	3.5%	3.0%	*2.5%*
Dividends	1.0%	1.5%	*3.0%*
Book Value	4.0%	3.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	3306	2767	3440	2868	12381
2014	3789	2911	3390	2829	12919
2015	3616	2788	3443	2707	12554
2016	3156	2794	*3350*	*2700*	*12000*
2017	*3300*	*2800*	*3450*	*2800*	*12350*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.16	.49	1.49	.79	3.93
2014	1.23	.63	1.49	.28	3.62
2015	1.26	.74	1.45	.60	4.05
2016	1.05	.78	*1.56*	*.66*	*4.05*
2017	*1.25*	*.75*	*1.60*	*.70*	*4.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.605	.605	.605	.605	2.42
2013	.615	.615	.615	.615	2.46
2014	.63	.63	.63	.63	2.52
2015	.65	.65	.65	.65	2.60
2016	.67	.67			

BUSINESS: Consolidated Edison, Inc. is a holding company for Consolidated Edison Company of New York, Inc. (CECONY), which sells electricity, gas, and steam in most of New York City and Westchester County. Also owns Orange and Rockland Utilities (O&R), which operates in New York and New Jersey. Has 3.6 million electric, 1.2 million gas customers. Pursues competitive energy opportunities through three wholly owned subsidiaries. Entered into midstream gas joint venture 6/16. Purchases most of its power. Fuel costs: 30% of revenues. '15 reported depreciation rates: 3.0%-3.1%. Has 14,800 employees. Chairman, President & CEO: John McAvoy. Inc.: New York. Address: 4 Irving Place, New York, New York 10003. Tel.: 212-460-4600. Internet: www.conedison.com.

Consolidated Edison has "substantially completed" a significant investment. The company paid $945 million for a 50% interest in a new gas pipeline and storage joint venture, Stagecoach Gas Services. Stagecoach will own four gas storage facilities and a pipeline. ConEd financed the deal with debt and common equity (10 million shares for $702 million that were issued in May). Our estimates and projections now include the new joint venture. We have raised our 2016 and 2017 share-earnings estimates by $0.10 and $0.25, respectively. Note that our earnings presentation includes the effect of mark-to-market accounting gains or losses. These boosted the bottom line by $0.07 a share in the first six months of 2016.

Two asset sales are pending. ConEd has agreed to sell its retail electric supply business in a deal that is expected to close by yearend. (The company will record mark-to-market items upon closing of the sale.) Expected proceeds are $200 million. The company is also selling a small utility in Pennsylvania for $16 million. The move requires regulatory approval, and should close later this year.

The company awaits orders on some rate cases. ConEd's largest subsidiary, Consolidated Edison Company of New York, is seeking electric rate hikes of $498 million in 2017, $169 million in 2018, and $186 million in 2019. On the gas side, CECONY is asking for increases of $125 million in 2017, $110 million in 2018, and $100 million in 2019. The filings are based on a 9.75% return on a 48% common-equity ratio. The staff of the New York State Public Service Commission is proposing an electric raise of $45 million and a gas *decrease* of $25 million, however. Separately, Rockland Electric requested a $9 million hike in New Jersey, based on a 10.2% return on a 49.7% common-equity ratio. New tariffs would take effect in March of 2017. Rate relief is one reason why we expect profits to improve in 2017.

This timely and high-quality stock has a dividend yield that is not much higher than the utility norm. With the recent quotation near the upper end of our 2019-2021 Target Price Range, total return potential is low.

Paul E. Debbas, CFA *August 19, 2016*

(A) Diluted EPS. Excl. nonrec. gain (losses): '02, (11¢); '03, (45¢); '13, (32¢); '14, 9¢; gain on discontinued operations: '08, $1.01. '14 EPS don't add due to rounding. Next earnings report due early Nov. (B) Div'ds historically paid in mid-Mar., June, Sept., and Dec. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '15: $29.74/sh. (D) In mill. (E) Rate base: net orig. cost. Rate allowed on com. eq. for CECONY in '14: 9.2% elec., 9.3% gas & steam; O&R in '15: 9.0%; earned on avg. com. eq., '15: 9.3%. Regulatory Climate: Below Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	45
Earnings Predictability	95

DTE ENERGY CO. NYSE-DTE

RECENT PRICE **94.16** | P/E RATIO **18.7** (Trailing: 20.8; Median: 16.0) | RELATIVE P/E RATIO **0.99** | DIV'D YLD **3.3%** | VALUE LINE

TIMELINESS **1** Raised 8/19/16
SAFETY **2** Raised 12/21/12
TECHNICAL **1** Raised 8/19/16
BETA .70 (1.00 = Market)

High:	48.3	49.2	54.7	45.3	45.0	49.1	55.3	62.6	73.3	90.8	92.3	100.4
Low:	41.4	38.8	44.0	27.8	23.3	41.3	43.2	52.5	60.3	64.8	73.2	78.0

Target Price Range 2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	100	(+5%)	5%
Low	75	(-20%)	-1%

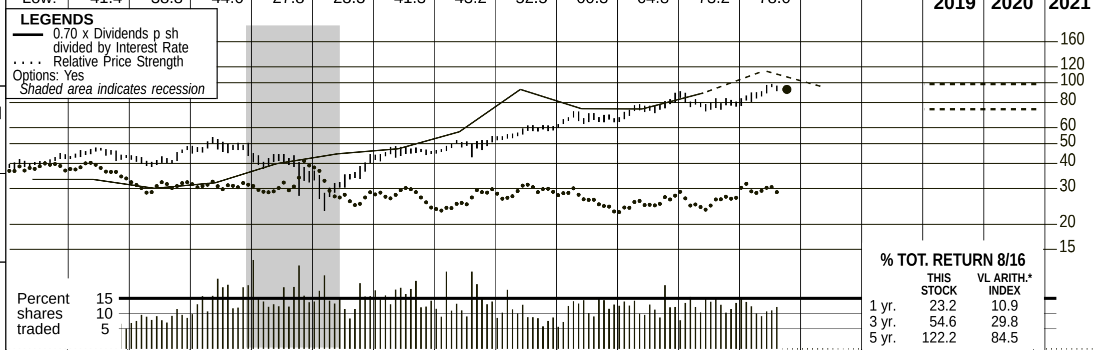
Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	6	11	0	0	1	0	0
to Sell	0	0	0	6	1	0	1	1	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	237	234	249
to Sell	194	200	205
Hld's(000)	118180	121527	117383

LEGENDS
— 0.70 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.2	10.9
3 yr.	54.6	29.8
5 yr.	122.2	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
39.24	48.71	40.30	41.76	40.84	50.74	50.93	54.28	57.23	48.45	50.51	52.57	51.01	54.56	69.50	57.60	*56.80*	*59.85*	Revenues per sh	*68.50*
8.59	6.98	8.31	6.95	6.81	8.14	8.19	8.48	8.26	9.38	9.78	9.57	9.77	10.13	11.85	9.44	*10.30*	*11.25*	"Cash Flow" per sh	*13.75*
3.27	2.15	3.83	2.85	2.55	3.27	2.45	2.66	2.73	3.24	3.74	3.67	3.88	3.76	5.10	4.45	*4.80*	*5.30*	Earnings per sh A	*6.25*
2.06	2.06	2.06	2.06	2.06	2.06	2.08	2.12	2.12	2.12	2.18	2.32	2.42	2.59	2.69	2.84	*3.00*	*3.16*	Div'd Decl'd per sh B ■	*3.70*
5.25	6.80	5.88	4.45	5.19	5.99	7.92	7.96	8.42	6.26	6.49	8.77	10.56	10.59	11.58	11.26	*14.50*	*14.70*	Cap'l Spending per sh	*13.50*
28.15	28.48	27.26	31.36	31.85	32.44	33.02	35.86	36.77	37.96	39.67	41.41	42.78	44.73	47.05	48.88	*50.70*	*53.10*	Book Value per sh C	*61.00*
142.65	161.13	167.46	168.61	174.21	177.81	177.14	163.23	163.02	165.40	169.43	169.25	172.35	177.09	176.99	179.47	*179.50*	*180.50*	Common Shs Outst'g D	*184.00*
10.3	19.3	11.3	13.7	16.0	13.8	17.4	18.3	14.8	10.4	12.3	13.5	14.9	17.9	14.9	18.1	*Bold figures are*		Avg Ann'l P/E Ratio	*14.0*
.67	.99	.62	.78	.85	.73	.94	.97	.89	.69	.78	.85	.95	1.01	.78	.91	*Value Line*		Relative P/E Ratio	*.90*
6.1%	5.0%	4.8%	5.3%	5.0%	4.6%	4.9%	4.4%	5.2%	6.3%	4.8%	4.7%	4.2%	3.8%	3.5%	3.5%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $9683 mill. **Due in 5 Yrs** $2204 mill.
LT Debt $9343 mill. **LT Interest** $434 mill.
Incl. $12 mill. capitalized leases and $780 mill. Trust Preferred Securities.
(LT interest earned: 3.7x)

Leases, Uncapitalized Annual rentals $37 mill.
Pension Assets-12/15 $3832 mill. **Oblig** $4971 mill.

Pfd Stock None
Common Stock 179,435,004 shs.

MARKET CAP: $17 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
9022.0	8861.0	9329.0	8014.0	8557.0	8897.0	8791.0	9661.0	12301	10337	*10200*	*10800*	Revenues ($mill)	*12600*
437.0	453.0	445.0	532.0	630.0	624.0	666.0	661.0	905.0	796.0	*870*	*960*	Net Profit ($mill)	*1140*
23.9%	25.1%	34.9%	31.6%	32.7%	35.9%	29.8%	27.5%	28.5%	25.6%	*26.0%*	*26.0%*	Income Tax Rate	*26.0%*
5.0%	7.1%	11.2%	2.6%	1.6%	1.6%	3.0%	3.5%	4.1%	4.3%	*4.0%*	*4.0%*	AFUDC % to Net Profit	*3.0%*
56.1%	54.4%	56.4%	54.0%	51.3%	50.6%	48.8%	47.7%	50.0%	50.2%	*51.0%*	*52.0%*	Long-Term Debt Ratio	*53.5%*
43.9%	45.6%	43.6%	46.0%	48.7%	49.4%	51.2%	52.3%	50.0%	49.8%	*49.0%*	*48.0%*	Common Equity Ratio	*46.5%*
13323	12824	13736	13648	13811	14196	14387	15135	16670	17607	*18625*	*19875*	Total Capital ($mill)	*24100*
11451	11408	12231	12431	12992	13746	14684	15800	16820	18034	*19650*	*21225*	Net Plant ($mill)	*25100*
5.1%	5.3%	5.0%	5.7%	6.3%	5.9%	6.1%	5.7%	6.6%	5.7%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
7.5%	7.7%	7.4%	8.5%	9.4%	8.9%	9.0%	8.3%	10.9%	9.1%	*9.5%*	*10.0%*	Return on Shr. Equity	*10.0%*
7.5%	7.7%	7.4%	8.5%	9.4%	8.9%	9.0%	8.3%	10.9%	9.1%	*9.5%*	*10.0%*	Return on Com Equity E	*10.0%*
1.2%	1.5%	1.7%	2.9%	4.0%	3.4%	3.5%	2.7%	5.2%	3.4%	*3.5%*	*4.0%*	Retained to Com Eq	*4.0%*
84%	80%	77%	65%	57%	62%	61%	67%	52%	63%	*62%*	*59%*	All Div'ds to Net Prof	*60%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.6	-1.7	-.6
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NMF	NMF	NMF
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	271	357	279

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	3.0%	3.0%	*2.0%*
"Cash Flow"	3.5%	3.0%	*4.5%*
Earnings	4.5%	6.5%	*6.0%*
Dividends	3.0%	5.0%	*5.5%*
Book Value	4.0%	4.0%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2516	2225	2387	2533	9661.0
2014	3930	2698	2595	3078	12301
2015	2984	2268	2598	2487	10337
2016	2566	2262	*2700*	*2672*	*10200*
2017	*2900*	*2300*	*2800*	*2800*	*10800*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.34	.60	1.13	.69	3.76
2014	1.84	.70	.88	1.68	5.10
2015	1.53	.61	1.47	.84	4.45
2016	1.37	.84	*1.49*	*1.10*	*4.80*
2017	*1.60*	*1.00*	*1.55*	*1.15*	*5.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.5875	.5875	.5875	.62	2.38
2013	.62	.62	.655	.655	2.55
2014	.655	.655	.655	.69	2.66
2015	.69	.69	.69	.73	2.80
2016	.73	.73	.73	.77	

BUSINESS: DTE Energy Company is a holding company for DTE Electric (formerly Detroit Edison), which supplies electricity in Detroit and a 7,600-square-mile area in southeastern Michigan, and DTE Gas (formerly Michigan Consolidated Gas). Customers: 2.1 mill. electric, 1.3 mill. gas. Has various nonutility operations. Electric revenue breakdown: residential, 45%; commercial, 35%; industrial, 13%; other, 7%. Generating sources: coal, 67%; nuclear, 17%; gas, 1%; purchased, 15%. Fuel costs: 54% of revenues. '15 reported deprec. rates: 3.5% electric, 2.6% gas. Has 10,000 employees. Chairman & CEO: Gerard M. Anderson. President & COO: Jerry Norcia. Inc.: MI. Address: One Energy Plaza, Detroit, MI 48226-1279. Tel.: 313-235-4000. Internet: www.dteenergy.com.

Each of DTE Energy's utility subsidiaries has a rate case pending. DTE Electric is seeking $344 million, based on a return of 10.5% on a common-equity ratio of 50%. The utility self-implemented a $245 million increase at the start of August. The staff of the Michigan Public Service Commission (MPSC) is proposing a boost of $189 million, based on a 10% ROE. DTE Gas is requesting $183 million, based on a return of 10.75% on a common-equity ratio of 52%. The utility plans to self-implement a $103 million hike on or after November 1st. The MPSC's staff is recommending a raise of $109 million, based on a 10% ROE. An order on this case is due by December 17th, and a ruling on the electric application is due by January 31st.

Earnings should advance this year and next. Rate relief is one factor. Another is growth from the nonutility side of DTE's business. The Gas Pipelines and Storage division is performing better than the company had expected earlier this year, and some projects are in various stages of development. Most significant is the NEXUS pipeline from Michigan to Ohio, which would be a $1 billion investment for DTE through a joint venture. This project is expected to go into service in the fourth quarter of 2017.

Our earnings estimates require an explanation. Our presentation *includes* mark-to-market accounting items stemming from DTE's energy-trading operation because they are an ongoing part of the company's business. These charges reduced profits by $0.26 a share in the first half of 2016. This is why our estimate of $4.80 is below the company's targeted range of $4.91-$5.19.

The board of directors raised the dividend, effective with the October payment. The increase was $0.04 a share (5.5%) quarterly. This is in line with DTE's goal of 5%-6% annual dividend growth, the same as the company's target for yearly profit growth.

Still, this timely stock has a dividend yield that is average for a utility. Like many utility issues, the recent price is near the upper end of our 2019-2021 Target Price Range. Accordingly, total return potential is low.

Paul E. Debbas, CFA *September 16, 2016*

(A) Diluted EPS. Excl. nonrec. gains (losses): '03, (16¢); '05, (2¢); '06, 1¢; '07, $1.96; '08, 50¢; '11, 51¢; '15, (39¢); gains (losses) on disc. ops.: '03, 40¢; '04, (6¢); '05, (20¢); '06, (2¢); '07, $1.20; '08, 13¢; '12, (33¢). Next earnings report due late Oct. (B) Div'ds historically paid in mid-Jan., Apr., July and Oct. ■ Div'd reinvestment plan avail. (C) Incl. intang. In '15: $32.31/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '15: 10.3% elec.; in '13: 10.5% gas; earned on avg. com. eq., '15: 9.2%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	90

EDISON INTERNAT'L NYSE-EIX

RECENT PRICE 77.11 | P/E RATIO 19.8 (Trailing: 19.0; Median: 12.0) | RELATIVE P/E RATIO 1.05 | DIV'D YLD 2.6% | VALUE LINE

TIMELINESS 2 Raised 3/25/16
SAFETY 2 Raised 5/3/13
TECHNICAL 3 Raised 7/29/16
BETA .70 (1.00 = Market)

High:	49.2	47.2	60.3	55.7	36.7	39.4	41.6	48.0	54.2	68.7	69.6	78.7
Low:	30.4	37.9	42.8	26.7	23.1	30.4	32.6	39.6	44.3	44.7	55.2	58.0

2019-21 PROJECTIONS

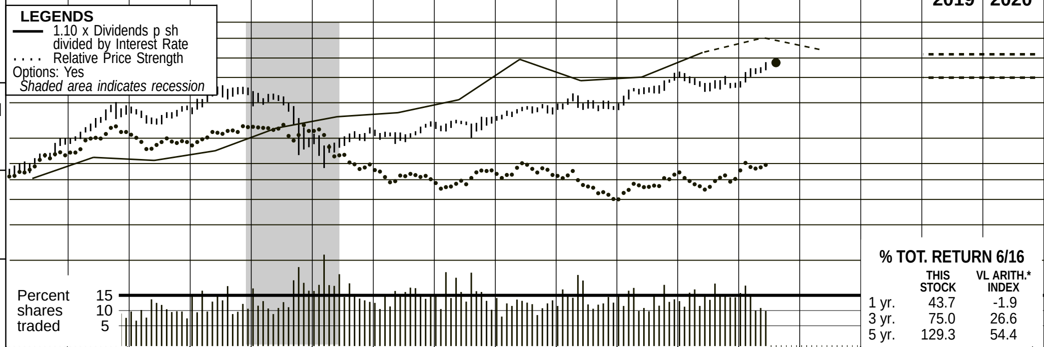
	Price	Gain	Ann'l Total Return
High	85	(+10%)	5%
Low	65	(-15%)	-1%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	1	0	0
Options	1	0	1	0	6	6	1	0	2
to Sell	1	0	1	0	0	2	2	0	1

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	242	241	282
to Sell	218	233	231
Hld's(000)	268851	265404	269086



Target Price Range 2019 | 2020 | 2021

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	43.7	-1.9
3 yr.	75.0	26.6
5 yr.	129.3	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
35.96	35.10	35.26	37.25	31.30	36.38	38.74	40.25	43.31	37.98	38.09	39.16	36.41	38.61	41.17	35.37	**36.20**	**37.75**	Revenues per sh	43.75
d.52	4.35	4.79	5.88	3.79	6.99	7.25	7.60	8.08	7.96	8.41	9.03	9.63	8.80	9.95	10.35	**10.40**	**10.95**	"Cash Flow" per sh	13.00
d5.84	1.30	1.82	2.38	.69	3.34	3.28	3.32	3.68	3.24	3.35	3.23	4.55	3.78	4.33	4.15	**3.90**	**4.15**	Earnings per sh A	5.00
.83	- -	- -	- -	.80	1.02	1.10	1.18	1.23	1.25	1.27	1.29	1.31	1.37	1.48	1.73	**1.96**	**2.10**	Div'd Decl'd per sh B ■	2.60
4.57	2.86	4.88	3.95	5.32	5.73	7.78	8.67	8.67	10.07	13.94	14.76	12.73	11.05	11.99	12.97	**12.60**	**12.90**	Cap'l Spending per sh	13.50
7.43	10.04	13.62	16.52	18.57	20.30	23.66	25.92	29.21	30.20	32.44	30.86	28.95	30.50	33.64	34.89	**36.70**	**38.60**	Book Value per sh C	45.00
325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	325.81	**325.81**	**325.81**	Common Shs Outst'g D	325.81
- -	10.0	7.8	7.0	NMF	11.7	13.0	16.0	12.4	9.7	10.3	11.8	9.7	12.7	13.0	14.8	*Bold figures are*		Avg Ann'l P/E Ratio	15.0
- -	.51	.43	.40	NMF	.62	.70	.85	.75	.65	.66	.74	.62	.71	.68	.75	*Value Line*		Relative P/E Ratio	.95
3.9%	- -	- -	- -	3.1%	2.6%	2.6%	2.2%	2.7%	4.0%	3.7%	3.4%	3.0%	2.8%	2.6%	2.8%	*estimates*		Avg Ann'l Div'd Yield	3.5%

CAPITAL STRUCTURE as of 3/31/16
Total Debt $11901 mill. **Due in 5 Yrs** $1966 mill.
LT Debt $11243 mill. **LT Interest** $505 mill.
(LT interest earned: 3.9x)
Leases, Uncapitalized Annual rentals $442 mill.
Pens. Assets-12/15 $3298 mill. **Oblig.** $4374 mill.
Pfd Stock $2192 mill. **Pfd Div'd** $113 mill.
4,800,198 sh. 4.08%-4.78%, $25 par, call. $25.50-$28.75/sh.; 3,250,000 sh. variable, noncum., call. $100; 1,250,000 sh. 6.5%, cum., $100 liq. value; 350,000 sh. 6.25%, $1000 liq. value; 460,012 sh. 5.1%-5.75%, $2500 liq. value.
Common Stock 325,811,206 shs. **as of 4/28/16**
MARKET CAP: $25 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12622	13113	14112	12374	12409	12760	11862	12581	13413	11524	**11800**	**12300**	Revenues ($mill)	14250
1134.0	1151.0	1266.0	1115.0	1153.0	1112.0	1594.0	1344.0	1539.0	1480.0	**1400**	**1490**	Net Profit ($mill)	1790
31.4%	27.3%	30.7%	33.0%	32.1%	25.7%	14.3%	25.2%	22.4%	6.6%	**30.0%**	**30.0%**	Income Tax Rate	30.0%
5.1%	8.2%	8.9%	10.5%	16.9%	14.8%	8.5%	7.8%	5.8%	8.0%	**8.0%**	**8.0%**	AFUDC % to Net Profit	6.0%
51.3%	49.1%	51.2%	49.3%	51.8%	55.3%	45.2%	45.7%	44.1%	45.0%	**44.0%**	**45.0%**	Long-Term Debt Ratio	45.0%
43.5%	46.0%	44.5%	46.5%	44.3%	40.6%	46.2%	46.2%	47.2%	46.7%	**47.5%**	**46.5%**	Common Equity Ratio	48.0%
17725	18375	21374	21185	23861	24773	20422	21516	23216	24352	**25200**	**26925**	Total Capital ($mill)	30500
15913	17403	18969	21966	24778	32116	30273	30455	32981	35085	**37075**	**39075**	Net Plant ($mill)	44800
8.6%	8.3%	7.4%	6.9%	6.3%	6.0%	8.9%	7.3%	7.7%	7.1%	**6.5%**	**6.5%**	Return on Total Cap'l	7.0%
13.1%	12.3%	12.1%	10.4%	10.0%	10.0%	14.2%	11.5%	11.9%	11.1%	**10.0%**	**10.0%**	Return on Shr. Equity	10.5%
14.0%	13.0%	12.8%	10.8%	10.4%	10.5%	15.9%	12.5%	13.0%	12.0%	**10.5%**	**11.0%**	Return on Com Equity E	11.5%
10.1%	9.2%	8.6%	6.7%	6.5%	6.3%	11.4%	8.1%	8.8%	7.2%	**5.5%**	**5.5%**	Retained to Com Eq	5.5%
31%	33%	35%	41%	40%	43%	32%	40%	37%	44%	**54%**	**54%**	All Div'ds to Net Prof	54%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.3	+2.1	-1.4
Avg. Indust. Use (MWH)	791	788	703
Avg. Indust. Revs. per KWH (¢)	8.00	8.86	9.07
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	22534	23055	23079
Annual Load Factor (%)	52.1	52.3	52.2
% Change Customers (yr-end)	+.6	+.6	+.6
Fixed Charge Cov. (%)	295	306	247

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	1.0%	-.5%	2.0%
"Cash Flow"	5.5%	3.5%	5.0%
Earnings	6.5%	3.5%	3.5%
Dividends	9.5%	4.0%	9.0%
Book Value	6.0%	1.5%	5.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2632	3046	3960	2943	12581
2014	2926	3016	4356	3115	13413
2015	2512	2908	3763	2341	11524
2016	2440	**2960**	**3900**	**2500**	**11800**
2017	**2650**	**3050**	**4000**	**2600**	**12300**

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.78	.78	1.41	.81	3.78
2014	.61	1.07	1.51	1.15	4.33
2015	.91	1.15	1.15	.94	4.15
2016	.82	**.80**	**1.48**	**.80**	**3.90**
2017	**.85**	**.85**	**1.60**	**.85**	**4.15**

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.325	.325	.325	.325	1.30
2013	.3375	.3375	.3375	.3375	1.35
2014	.355	.355	.355	.355	1.42
2015	.4175	.4175	.4175	.4175	1.67
2016	.48	.48	.48		

BUSINESS: Edison International (formerly SCECorp) is a holding company for Southern California Edison Company (SCE), which supplies electricity to 4.9 mill. customers in a 50,000-sq.-mi. area in central, coastal, & southern CA (excl. Los Angeles & San Diego). Edison Energy is an energy services co. Disc. Edison Mission Energy (independent power producer) in '12. Elec. rev. breakdown: residential, 37%; commercial, 44%; industrial, 6%; other, 13%. Generating sources: gas, 7%; nuclear, 7%; hydro, 1%; purch., 85%. Fuel costs: 37% of revs. '15 reported depr. rate: 3.9%. Has 13,700 employees. Chairman, Pres. & CEO: Theodore F. Craver, Jr. Inc.: CA. Address: 2244 Walnut Grove Ave., P.O. Box 976, Rosemead, CA 91770. Tel.: 626-302-2222. Web: www.edison.com.

The California Public Utilities Commission (CPUC) has reopened a regulatory settlement involving a now-shut nuclear plant owned by Edison International's utility subsidiary. In 2014, the CPUC approved a settlement involving the San Onofre station, which Southern California Edison closed in 2012. The order provided for customer refunds and credits of almost $1.5 billion. However, some intervenors want a revision of the agreement after *ex parte* communications between SCE and former CPUC commissioners were discovered. The CPUC's Office of Ratepayer Advocates wants an additional refund of $383 million. An adverse outcome for the utility cannot be ruled out.

The utility will file a general rate case at the start of September. This will cover 2018 through 2020. New tariffs will take effect at the start of 2018, no matter when the CPUC issues its order. The application will address the Distribution Resources Plan that SCE put forth more than a year ago. This plan calls for the utility to spend $1.752 billion-$3.145 billion from 2017 through 2020.

Earnings are likely to decline this year, but recover in 2017. Tax benefits made Edison International's tax rate much lower than usual last year. We assume a higher tax rate in 2016. Our earnings estimate of $3.90 a share is within the company's targeted range of $3.81-$4.01. This year and next, the utility is benefiting from rate relief and growth in its rate base. We forecast that profits will rebound to $4.15 a share in 2017, matching the 2015 tally.

Is an acquisition in the company's future? The financial press has rumored that Edison International is a bidder for Oncor, the electric delivery operation of the former Texas Utilities. Even if no deal is consummated, this might well be a signal that the company is interested in expanding via acquisition.

The reopening of the San Onofre settlement has not hurt the stock. Its price has risen 30% this year, even more than most utility issues. The stock is timely, but has a dividend yield that isn't much higher than the market median. Total return potential to 2019-2021 is low.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrec. gains (losses): '02, $1.48; '03, (12¢); '04, $2.12; '09, (64¢); '10, 54¢; '11, ($3.33); '13, ($1.12); '15, ($1.18); gains (loss) from discont. ops.: '12, ($5.11); '13, 11¢; '14, 57¢; '15, 11¢. '14 EPS don't add due to rounding. Next earnings report due early Nov. (B) Div'ds paid late Jan., Apr., July, & Oct. ■ Div'd reinvestment plan avail. (C) Incl. deferred charges. In '15: $23.06/sh. (D) In mill. (E) Rate base: net orig. cost. Rate allowed on com. eq. in '15: 10.45%; earned on avg. com. eq., '15: 11.9%. Regulat. Clim.: Above Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	50
Earnings Predictability	65

EL PASO ELECTRIC NYSE-EE

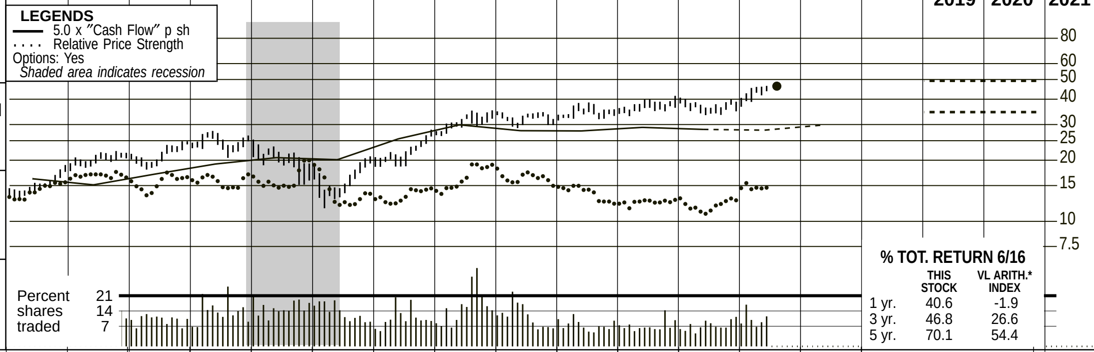
RECENT PRICE **47.03** | P/E RATIO **24.8** (Trailing: 26.1, Median: 15.0) | RELATIVE P/E RATIO **1.31** | DIV'D YLD **2.7%** | **VALUE LINE**

TIMELINESS 2 Raised 4/1/16
SAFETY 2 Raised 5/11/07
TECHNICAL 3 Lowered 7/8/16
BETA .70 (1.00 = Market)

High:	22.4	25.0	28.2	25.5	21.1	28.7	35.7	35.3	39.1	42.2	41.3	48.1				
Low:	17.8	18.2	20.8	15.2	11.6	18.7	26.7	29.2	31.8	33.4	33.8	37.2				

Target Price Range
2019 | 2020 | 2021

LEGENDS
— 5.0 x "Cash Flow" p sh
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+5%)	5%
Low	35	(-25%)	-3%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	5	0	1	12	0	0	5	10
to Sell	0	0	0	0	0	0	0	0	1

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	78	87	95
to Sell	63	53	68
Hld's(000)	39588	39215	39921

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	40.6	-1.9
3 yr.	46.8	26.6
5 yr.	70.1	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
13.70	15.40	13.91	13.97	14.95	16.70	17.75	19.43	23.15	18.85	20.61	22.97	21.26	22.11	22.74	21.01	20.85	22.15	Revenues per sh	23.75
3.21	3.43	2.99	3.00	3.27	3.05	3.44	3.86	4.16	4.07	5.15	6.05	5.66	5.65	5.87	5.75	5.70	6.05	"Cash Flow" per sh	7.00
1.09	1.27	.57	.64	.69	.76	1.27	1.63	1.73	1.50	2.07	2.48	2.26	2.20	2.27	2.03	1.90	2.15	Earnings per sh A	2.50
--	--	--	--	--	--	--	--	--	--	--	.66	.97	1.05	1.11	1.17	1.23	1.29	Div'd Decl'd per sh B	1.50
1.70	1.85	1.75	2.03	1.94	2.28	2.73	4.63	5.36	5.95	5.27	5.90	6.70	7.18	8.50	8.55	7.15	5.15	Cap'l Spending per sh	8.50
8.05	9.01	9.20	10.51	11.23	11.56	12.60	14.76	15.47	16.45	19.04	19.03	20.57	23.44	24.39	25.13	25.75	26.60	Book Value per sh C	29.50
51.20	49.99	49.61	47.56	47.40	48.14	46.00	45.15	44.88	43.92	42.57	39.96	40.11	40.27	40.36	40.44	40.55	40.65	Common Shs Outst'g D	41.00
10.6	11.0	23.0	18.3	22.0	26.7	16.9	15.3	11.9	10.8	10.7	12.6	14.5	15.9	16.4	18.3	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	17.0
.69	.56	1.26	1.04	1.16	1.42	.91	.81	.72	.72	.68	.79	.92	.89	.86	.92			Relative P/E Ratio	1.05
--	--	--	--	--	--	--	--	--	--	--	2.1%	3.0%	3.0%	3.0%	3.1%			Avg Ann'l Div'd Yield	3.5%

CAPITAL STRUCTURE as of 3/31/16
Total Debt $1365.5 mill. **Due in 5 Yrs** $215.3 mill.
LT Debt $1278.4 mill. **LT Interest** $75.2 mill.
(LT interest earned: 2.3x)

Pension Assets-12/15 $260.0 mill. **Oblig.** $325.7 mill.

Pfd Stock None

Common Stock 40,484,320 shs. **as 4/30/16**

MARKET CAP: $1.9 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
816.5	877.4	1038.9	828.0	877.3	918.0	852.9	890.4	917.5	849.9	845	900	Revenues ($mill)	975
61.4	74.8	77.6	66.9	90.3	103.5	90.8	88.6	91.4	81.9	80.0	85.0	Net Profit ($mill)	105
29.8%	31.6%	32.8%	33.1%	36.1%	34.2%	34.1%	33.0%	31.0%	29.9%	31.0%	31.0%	Income Tax Rate	31.0%
8.0%	15.9%	20.4%	24.3%	22.1%	17.6%	22.4%	24.1%	30.8%	27.5%	19.0%	11.0%	AFUDC % to Net Profit	17.0%
51.5%	49.6%	53.8%	52.7%	51.2%	51.8%	54.8%	51.4%	53.5%	52.7%	55.0%	54.5%	Long-Term Debt Ratio	57.5%
48.5%	50.4%	46.2%	47.3%	48.8%	48.2%	45.2%	48.6%	46.5%	47.3%	45.0%	45.5%	Common Equity Ratio	42.5%
1195.8	1321.6	1503.9	1527.7	1660.1	1576.7	1824.5	1943.5	2118.4	2150.8	2330	2365	Total Capital ($mill)	2850
1332.2	1450.6	1595.6	1756.0	1865.8	1947.1	2102.3	2257.5	2488.4	2695.5	2835	2885	Net Plant ($mill)	3250
6.6%	7.1%	6.7%	6.0%	7.0%	8.3%	6.5%	6.1%	5.7%	5.3%	5.0%	5.5%	Return on Total Cap'l	5.5%
10.6%	11.2%	11.2%	9.3%	11.1%	13.6%	11.0%	9.4%	9.3%	8.1%	7.5%	8.0%	Return on Shr. Equity	8.5%
10.6%	11.2%	11.2%	9.3%	11.1%	13.6%	11.0%	9.4%	9.3%	8.1%	7.5%	8.0%	Return on Com Equity E	8.5%
10.6%	11.2%	11.2%	9.3%	11.1%	10.0%	6.3%	4.9%	4.8%	3.4%	2.5%	3.5%	Retained to Com Eq	3.5%
--	--	--	--	--	26%	43%	47%	49%	57%	63%	60%	All Div'ds to Net Prof	59%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.4	-1.6	+2.3
Avg. Indust. Use (MWH)	21908	21505	21687
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	1852	1879	2055
Peak Load, Summer (Mw)	1750	1766	1794
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.3	+1.3	+1.4
Fixed Charge Cov. (%)	280	251	218

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	3.5%	1.0%	1.5%
"Cash Flow"	6.5%	5.0%	3.5%
Earnings	12.0%	4.0%	2.5%
Dividends	--	--	5.0%
Book Value	8.0%	7.5%	3.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	177.3	240.1	282.7	190.3	890.4
2014	185.5	251.8	283.6	196.6	917.5
2015	163.8	219.5	289.7	176.9	849.9
2016	157.8	217.2	290	180	845
2017	170	230	305	195	900

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.19	.72	1.26	.03	2.20
2014	.11	.75	1.30	.10	2.27
2015	.09	.52	1.40	.02	2.03
2016	d.14	.54	1.35	.15	1.90
2017	.05	.65	1.30	.15	2.15

Cal-endar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.22	.25	.25	.25	.97
2013	.25	.265	.265	.265	1.05
2014	.265	.28	.28	.28	1.11
2015	.28	.295	.295	.295	1.17
2016	.295	.31			

BUSINESS: El Paso Electric Company (EPE) provides electric service to 405,000 customers in an area of approximately 10,000 square miles in the Rio Grande valley in western Texas (68% of revenues) and southern New Mexico (19% of revenues), including El Paso, Texas and Las Cruces, New Mexico. Wholesale is 13% of revenues. Electric revenue breakdown by customer class not available. Generating sources: nuclear, 47%; gas, 34%; coal, 6%; purchased, 13%. Fuel costs: 28% of revenues. '15 reported depreciation rate: 2.6%. Has about 1,000 employees. Chairman: Charles A. Yamarone. President & CEO: Mary Kipp. Incorporated: Texas. Address: Stanton Tower, 100 North Stanton, El Paso, Texas 79901. Tel.: 915-543-5711. Internet: www.epelectric.com.

El Paso Electric Company is awaiting a ruling on its regulatory settlement in Texas. The utility reached an agreement (that is opposed by four intervenors) calling for a $37 million base rate hike, an $8.5 million reduction in depreciation, and the potential for an $8 million increase associated with the sale of its stake in a coal-fired plant. (The sale was expected to close in July.) There is no time frame for the Texas commission to put forth its decision.

The utility received a rate order in New Mexico. The commission granted EPE a tariff increase of $1.1 million, based on a 9.48% return on equity. Management was disappointed with the order, especially the allowed ROE.

Rate activity is necessary to place new generating facilities in the rate base. Last year, Units 1 and 2 of a four-unit gas-fired generating station began commercial operation. The aforementioned rate cases were filed so that EPE could earn a return on these units (among other things). Unit 3 was completed in May of 2016, and Unit 4 is expected to enter service in September, ahead of schedule. EPE plans to file rate cases in Texas and New Mexico in early 2017 for Units 3 and 4. Orders probably wouldn't take effect in Texas until the fourth quarter of 2017 and in New Mexico until the first period of 2018.

Regulatory lag is hurting earnings. The rate hike in Texas will be retroactive to January 12th, but won't be reflected in EPE's financial statements until the utility receives the ruling. Accordingly, the bottom line fell into the red in the first quarter, and another weak showing is likely in the second interim. We have cut our 2016 earnings estimate by $0.15 a share, to $1.90, and have trimmed our 2017 forecast by $0.05 a share, to $2.15.

As we had expected, the board of directors raised the dividend in the second quarter. The increase was $0.015 a share (5.1%) quarterly, continuing the pattern that EPE has established in recent years.

This timely equity has a dividend yield that is low for a utility. In fact, the yield isn't significantly above the median of all dividend-paying stocks under our coverage. Total return potential to 2019-2021 is minuscule.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted earnings. Excl. nonrecurring gains (losses): '01, (4¢); '03, 81¢; '04, 4¢; '05, (2¢); '06, 13¢; '10, 24¢. '14 earnings don't add to full-year total due to rounding. Next earnings report due early Aug. (B) Initial dividend declared 4/11; payment dates in late March, June, Sept., and Dec. (C) Incl. deferred charges. In '15: $115.1 mill., $2.85/sh. (D) In millions. (E) Rate allowed on common equity in TX in '12: none specified; in NM in '16: 9.48%; earned on average common equity, '15: 8.2%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	75
Earnings Predictability	85

EXELON CORP. NYSE-EXC

RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD
35.85	16.0	Trailing: 21.0; Median: 15.0	0.85	3.6%

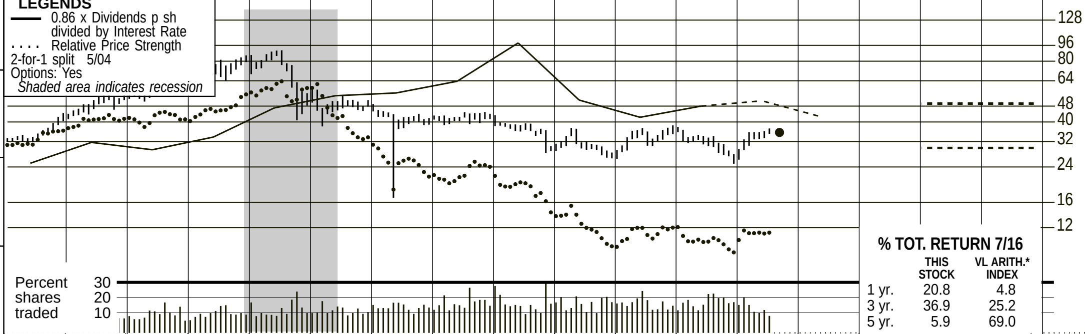
VALUE LINE

TIMELINESS **3** Raised 3/18/16
SAFETY **3** Lowered 11/23/12
TECHNICAL **2** Raised 8/19/16
BETA .70 (1.00 = Market)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
High:		57.5	63.6	86.8	92.1	59.0	49.9	45.4	43.7	37.8	38.9	38.3
Low:		41.8	51.1	58.7	41.2	38.4	17.0	39.1	28.4	26.6	26.5	25.1

High: 57.5 63.6 86.8 92.1 59.0 49.9 45.4 43.7 37.8 38.9 38.3 37.7
Low: 41.8 51.1 58.7 41.2 38.4 17.0 39.1 28.4 26.6 26.5 25.1 26.3

LEGENDS
— 0.86 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
2-for-1 split 5/04
Options: Yes
Shaded area indicates recession



Target Price Range 2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+40%)	11%
Low	30	(-15%)	Nil

Insider Decisions

	O	N	D	J	F	M	A	M	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	11	0	1	0	1	0
to Sell	0	0	0	0	2	0	0	1	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	367	349	375
to Sell	308	348	317
Hld's(000)	692761	689388	702696

Percent shares traded 30 20 10

% TOT. RETURN 7/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	20.8	4.8
3 yr.	36.9	25.2
5 yr.	5.9	69.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
11.75	23.58	23.13	24.09	21.85	23.05	23.37	28.62	28.65	26.25	28.17	28.53	27.48	29.03	31.90	32.01	**32.60**	**33.10**	Revenues per sh	**36.25**
1.84	5.06	5.03	5.06	5.68	6.19	6.71	7.43	7.64	8.25	8.32	7.23	6.61	6.72	6.61	6.80	**6.95**	**8.15**	"Cash Flow" per sh	**9.75**
1.39	2.20	2.40	2.44	2.75	3.21	3.50	4.03	4.10	4.29	3.87	3.75	1.92	2.31	2.10	2.54	**1.75**	**2.75**	Earnings per sh A	**3.50**
--	.91	.88	.96	1.26	1.60	1.64	1.82	2.05	2.10	2.10	2.10	2.10	1.46	1.24	1.24	**1.26**	**1.29**	Div'd Decl'd per sh B ■	**1.50**
1.18	3.18	3.33	2.98	2.89	3.25	3.61	4.05	4.74	4.96	5.03	6.09	6.77	6.29	7.07	8.29	**8.35**	**7.40**	Cap'l Spending per sh	**5.75**
11.31	12.82	11.97	12.95	14.19	13.69	14.89	15.34	16.78	19.16	20.49	21.68	25.07	26.52	26.29	28.04	**28.35**	**30.15**	Book Value per sh C	**35.75**
638.01	642.01	646.63	656.37	664.19	666.37	669.86	660.88	658.15	659.76	661.85	663.37	854.78	857.29	859.83	919.92	**920.00**	**951.00**	Common Shs Outst'g D	**960.00**
22.4	13.2	10.5	11.8	13.0	15.4	16.5	18.2	18.0	11.5	11.0	11.3	19.1	13.4	16.0	12.6	*Bold figures are*		Avg Ann'l P/E Ratio	**11.5**
1.46	.68	.57	.67	.69	.82	.89	.97	1.08	.77	.70	.71	1.22	.75	.84	.64	*Value Line*		Relative P/E Ratio	**.70**
--	3.1%	3.5%	3.4%	3.5%	3.2%	2.8%	2.5%	2.8%	4.3%	4.9%	5.0%	5.7%	4.7%	3.7%	3.9%	*estimates*		Avg Ann'l Div'd Yield	**3.7%**

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
15655	18916	18859	17318	18644	18924	23489	24888	27429	29447	**30000**	**31500**	Revenues ($mill)	**34750**
2370.0	2730.0	2721.0	2844.0	2567.0	2499.0	1579.0	1999.0	1826.0	2282.0	**1625**	**2585**	Net Profit ($mill)	**3440**
33.7%	34.6%	32.6%	38.8%	39.2%	36.8%	32.4%	36.5%	27.2%	32.2%	**33.0%**	**33.0%**	Income Tax Rate	**33.0%**
1.6%	1.8%	1.3%	2.3%	2.1%	3.0%	5.8%	4.5%	5.5%	5.4%	**6.0%**	**3.0%**	AFUDC % to Net Profit	**3.0%**
54.2%	53.9%	53.1%	47.2%	46.8%	45.7%	45.8%	44.4%	46.7%	48.3%	**53.5%**	**52.5%**	Long-Term Debt Ratio	**50.0%**
45.4%	45.7%	46.6%	52.4%	52.9%	54.0%	53.5%	55.2%	52.8%	51.3%	**46.5%**	**47.5%**	Common Equity Ratio	**50.0%**
21971	22189	23726	24112	25651	26661	40057	41196	42811	50272	**56375**	**60525**	Total Capital ($mill)	**68700**
22775	24153	25813	27341	29941	32570	45186	47330	52087	57439	**70850**	**73200**	Net Plant ($mill)	**75100**
12.5%	14.1%	13.1%	13.3%	11.4%	10.6%	5.1%	5.9%	5.3%	5.5%	**4.0%**	**5.5%**	Return on Total Cap'l	**6.0%**
23.6%	26.7%	24.4%	22.3%	18.8%	17.3%	7.3%	8.7%	8.0%	8.8%	**6.0%**	**9.0%**	Return on Shr. Equity	**10.0%**
23.7%	26.9%	24.6%	22.5%	18.9%	17.3%	7.3%	8.7%	8.0%	8.8%	**6.0%**	**9.0%**	Return on Com Equity E	**10.0%**
13.0%	15.3%	12.5%	11.5%	8.7%	7.7%	NMF	3.2%	3.3%	4.5%	**1.5%**	**5.0%**	Retained to Com Eq	**6.0%**
45%	43%	49%	49%	54%	56%	109%	63%	59%	49%	**72%**	**47%**	All Div'ds to Net Prof	**42%**

CAPITAL STRUCTURE as of 3/31/16
Total Debt $35653 mill. **Due in 5 Yrs** $12658 mill.
LT Debt $29955 mill. **LT Interest** $1273 mill.
Includes $641 mill. nonrecourse transition bonds.
(LT interest earned: 4.1x)
Leases, Uncapitalized Annual rentals $133 mill.
Pension Assets-12/15 $14347 mill.
Oblig $17753 mill.
Pfd Stock $193 mill. **Pfd Div'd** $13 mill.
Includes $193 mill. in preferred securities of subsidiaries.
Common Stock 887,313,966 shs.

MARKET CAP: $32 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.5	-.7	-1.0
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NMF	NMF	NMF
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Nuclear Capacity Factor (%)	94.1	94.3	NA
% Change Customers (yr-end)	+.6	+.6	+1.1
Fixed Charge Cov. (%)	338	263	367

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	3.0%	2.5%	2.5%
"Cash Flow"	1.5%	-3.5%	6.5%
Earnings	-2.0%	-10.5%	7.0%
Dividends	.5%	-9.0%	2.5%
Book Value	7.0%	7.5%	5.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	6082	6141	6502	6163	24888
2014	7237	6024	6912	7256	27429
2015	8830	6514	7401	6702	29447
2016	7573	6910	**8000**	**7517**	**30000**
2017	**8100**	**7200**	**8400**	**7800**	**31500**

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.30	.57	.86	.59	2.31
2014	.10	.68	.96	.35	2.10
2015	.80	.74	.69	.33	2.54
2016	.26	.43	**.70**	**.36**	**1.75**
2017	**.75**	**.70**	**.85**	**.45**	**2.75**

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.525	.525	.525	.525	2.10
2013	.525	.31	.31	.31	1.46
2014	.31	.31	.31	.31	1.24
2015	.31	.31	.31	.31	1.24
2016	.31	.31	.318		

BUSINESS: Exelon Corporation is a holding company for Commonwealth Edison, PECO Energy, Baltimore Gas and Electric, Pepco, Delmarva Power, & Atlantic City Electric. Has 8.6 mill. elec., 1.3 mill. gas customers. Has nonregulated generating & energy-marketing ops. Acq'd Constellation Energy 3/12; Pepco Holdings 3/16. Elec. rev. breakdown: res'l, 63%; small comm'l & ind'l, 23%; large comm'l & ind'l, 13%; other, 1%. Generating sources: nuclear, 68%; other, 8%; purch., 24%. Fuel costs: 44% of revs. '15 depr. rates: 2.8%-3.5% elec., 2.2% gas. Has 34,000 empls. Chairman: Mayo A. Shattuck III. Pres. & CEO: Christopher M. Crane. Inc.: PA. Address: 10 S. Dearborn St., P.O. Box 805379, Chicago, IL 60680-5379. Tel.: 312-394-7398. Internet: www.exeloncorp.com.

Exelon is reducing its nuclear presence in Illinois and increasing it in New York. The company's nuclear facilities are nonutility, and their profitability has diminished in recent years due to low power prices, subsidies for renewable energy, and weak demand for electricity. Exelon sought legislation in Illinois that would have kept two plants open, but was unsuccessful. Accordingly, the company will shut the Clinton plant in 2017 and the two Quad Cities units in 2018. On the other hand, New York will subsidize unprofitable plants upstate, so Exelon agreed to pay Entergy $110 million for the FitzPatrick unit, which would have been closed next year.

Even with the announcement in New York, Exelon is still increasing its focus on its regulated utility operations. This strategy was behind the company's acquisition of Pepco Holdings in March. The deal will be dilutive to earnings in 2016 due to merger-related costs, but should be accretive next year. Exelon projects that its utility income will rise at an average annual pace of 7%-9% through 2020, thanks to a combination of rate-base growth and rate relief. In fact . . .

The utilities have become more active in the regulatory arena. In early June, Baltimore Gas and Electric received electric and gas rate increases. Electric rates were raised by $41.7 million, based on a 9.75% return on equity, and gas tariffs were boosted by $47.8 million, based on a 9.65% ROE. Most notably, however, Pepco's utilities are earning ROEs more than two percentage points below their allowed level. Accordingly, rate cases are pending in each of Pepco's jurisdictions. In Maryland, Pepco filed for a $126.6 million hike. In Washington, DC, Pepco asked for $85.5 million. In New Jersey, Atlantic City Electric sought $79.4 million. Delmarva Power requested electric and gas hikes in Delaware and Maryland totaling $150.5 million. Each of these filings is based on a 10.6% ROE. Orders are expected in November for the Pepco Maryland application and in 2017 for the other cases.

The yield of Exelon stock, following a modest dividend hike, is about equal to the utility mean. Total return potential to 2019-2021 is unspectacular.

Paul E. Debbas, CFA *August 19, 2016*

(A) Diluted egs. Excl. nonrec. gain (losses): '02, (18¢); '03, ($1.06); '05, ($1.85); '06, ($1.15); '09, (20¢); '12, (50¢); '13, (31¢); '14, 23¢; '16, (21¢). '13-'15 EPS don't add due to rounding or chg. in shs. Next egs. report due early Nov. **(B)** Div'ds paid in early Mar., June, Sept., & Dec. ■ Div'd reinv. plan avail. **(C)** Incl. def'd charges. In '15: $10.02/sh. **(D)** In mill., adj. for split. **(E)** Rate allowed on com. eq. in IL in '15: 9.25%; in MD in '13: 9.75% elec., 9.6% gas; earned on avg. com. eq., '15: 9.4%. Regulat. Climate: PA, Avg.; IL, MD, Below Avg.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	5
Earnings Predictability	60

IDACORP, INC. NYSE-IDA

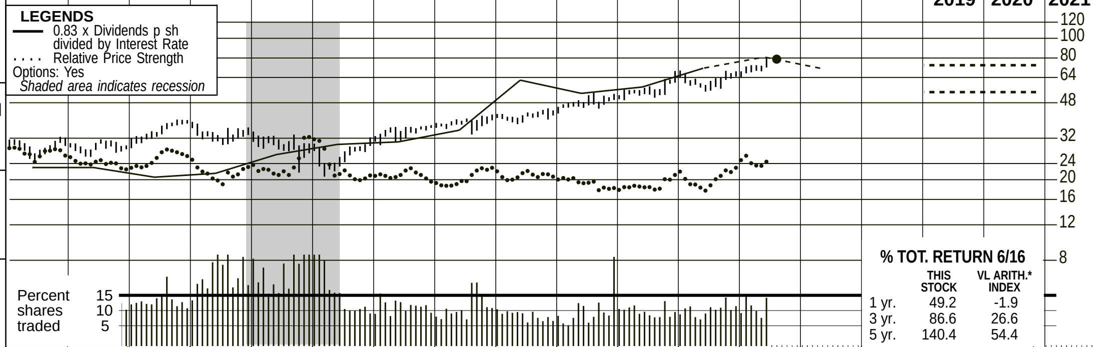
RECENT PRICE 80.39 | P/E RATIO 20.6 (Trailing: 20.6, Median: 14.0) | RELATIVE P/E RATIO 1.09 | DIV'D YLD 2.7% | VALUE LINE

TIMELINESS 2 Raised 3/11/16
SAFETY 2 Raised 8/2/13
TECHNICAL 3 Raised 7/29/16
BETA .75 (1.00 = Market)

High:	32.1	40.2	39.2	35.1	32.8	37.8	42.7	45.7	54.7	70.1	70.5	83.4
Low:	26.2	29.0	30.1	21.9	20.9	30.0	33.9	38.2	43.1	50.2	55.4	65.0

Target Price Range
2019 | 2020 | 2021

LEGENDS
—— 0.83 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(-5%)	2%
Low	55	(-30%)	-5%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	10	9	0	0
to Sell	1	1	1	1	1	3	2	1	2

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	106	97	142
to Sell	95	101	83
Hld's(000)	67529	39221	38326

Percent shares traded 15 / 10 / 5

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	49.2	-1.9
3 yr.	86.6	26.6
5 yr.	140.4	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
27.10	150.10	24.43	20.41	20.00	20.15	21.23	19.51	20.47	21.92	20.97	20.55	21.55	24.81	25.51	25.23	25.25	25.70	Revenues per sh	27.00
5.63	5.63	4.08	3.50	4.12	3.87	4.58	4.11	4.27	5.07	5.35	5.84	5.93	6.29	6.58	6.70	6.85	7.15	"Cash Flow" per sh	8.00
3.50	3.35	1.63	.96	1.90	1.75	2.35	1.86	2.18	2.64	2.95	3.36	3.37	3.64	3.85	3.87	3.90	4.05	Earnings per sh A	4.50
1.86	1.86	1.86	1.70	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.37	1.57	1.76	1.92	2.08	2.24	Div'd Decl'd per sh B ■ †	2.70
3.73	4.78	3.53	3.89	4.73	4.53	5.16	6.39	5.19	5.26	6.85	6.76	4.78	4.68	5.45	5.84	6.15	5.65	Cap'l Spending per sh	6.25
21.82	23.15	23.01	22.54	23.88	24.04	25.77	26.79	27.76	29.17	31.01	33.19	35.07	36.84	38.85	40.88	42.60	44.35	Book Value per sh C	49.75
37.61	37.63	38.02	38.34	42.22	42.66	43.63	45.06	46.92	47.90	49.41	49.95	50.16	50.23	50.27	50.34	50.45	50.60	Common Shs Outst'g D	50.75
10.9	11.4	18.9	26.5	15.5	16.7	15.1	18.2	13.9	10.2	11.8	11.5	12.4	13.4	14.7	16.2	Bold figures are		Avg Ann'l P/E Ratio	14.5
.71	.58	1.03	1.51	.82	.89	.82	.97	.84	.68	.75	.72	.79	.75	.77	.82	Value Line		Relative P/E Ratio	.90
4.9%	4.9%	6.0%	6.7%	4.1%	4.1%	3.4%	3.5%	4.0%	4.5%	3.4%	3.1%	3.3%	3.2%	3.1%	3.1%	estimates		Avg Ann'l Div'd Yield	4.2%

CAPITAL STRUCTURE as of 3/31/16
Total Debt $1868.8 mill. **Due in 5 Yrs** $355.4 mill.
LT Debt $1744.4 mill. **LT Interest** $81.2 mill.
(LT interest earned: 3.5x)

Pension Assets-12/15 $559.6 mill.
Oblig. $835.5 mill.

Pfd Stock None

Common Stock 50,415,427 shs.
as of 4/22/16

MARKET CAP: $4.1 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
926.3	879.4	960.4	1049.8	1036.0	1026.8	1080.7	1246.2	1282.5	1270.3	1275	1300	Revenues ($mill)	1375
100.1	82.3	98.4	124.4	142.5	166.9	168.9	182.4	193.5	194.7	195	205	Net Profit ($mill)	230
13.3%	14.3%	16.3%	15.2%	- -	- -	13.4%	28.3%	8.0%	19.0%	25.0%	25.0%	Income Tax Rate	25.0%
4.0%	9.7%	10.2%	10.5%	19.1%	23.3%	20.3%	12.3%	13.6%	16.3%	16.0%	16.0%	AFUDC % to Net Profit	14.0%
45.2%	48.9%	47.6%	50.2%	49.3%	45.6%	45.5%	46.6%	45.3%	45.6%	46.0%	46.5%	Long-Term Debt Ratio	47.0%
54.8%	51.1%	52.4%	49.8%	50.7%	54.4%	54.5%	53.4%	54.7%	54.4%	54.0%	53.5%	Common Equity Ratio	53.0%
2052.8	2364.2	2485.9	2807.1	3020.4	3045.2	3225.4	3465.9	3567.6	3783.3	3995	4190	Total Capital ($mill)	4775
2419.1	2616.6	2758.2	2917.0	3161.4	3406.6	3536.0	3665.0	3833.5	3992.4	4155	4280	Net Plant ($mill)	4675
6.2%	4.7%	5.3%	5.7%	6.0%	6.8%	6.5%	6.4%	6.6%	6.2%	6.0%	6.0%	Return on Total Cap'l	6.0%
8.9%	6.8%	7.6%	8.9%	9.3%	10.1%	9.6%	9.9%	9.9%	9.5%	9.0%	9.0%	Return on Shr. Equity	9.0%
8.9%	6.8%	7.6%	8.9%	9.3%	10.1%	9.6%	9.9%	9.9%	9.5%	9.0%	9.0%	Return on Com Equity E	9.0%
4.3%	2.4%	3.4%	4.8%	5.5%	6.5%	5.7%	5.6%	5.4%	4.8%	4.5%	4.0%	Retained to Com Eq	3.5%
51%	64%	55%	46%	41%	36%	41%	43%	46%	50%	53%	55%	All Div'ds to Net Prof	60%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+3.8	-3.6	+1.2
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	5.21	5.68	5.70
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	3407	3184	3402
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.5	+1.4	+1.8
Fixed Charge Cov. (%)	329	287	307

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	2.0%	3.5%	1.0%
"Cash Flow"	5.5%	6.0%	3.5%
Earnings	9.5%	8.0%	3.0%
Dividends	2.5%	8.0%	7.5%
Book Value	5.0%	6.0%	4.0%

Cal-endar	QUARTERLY REVENUES($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	264.9	303.9	381.1	296.2	1246.2
2014	292.7	317.8	382.2	289.8	1282.5
2015	279.4	336.3	369.2	285.4	1270.3
2016	281.0	335	374	285	1275
2017	290	340	380	290	1300

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.70	.93	1.46	.55	3.64
2014	.55	.89	1.73	.69	3.85
2015	.47	1.31	1.46	.63	3.87
2016	.51	1.14	1.65	.60	3.90
2017	.61	.97	1.90	.57	4.05

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.33	.33	.33	.38	1.37
2013	.38	.38	.38	.43	1.57
2014	.43	.43	.43	.47	1.76
2015	.47	.47	.47	.51	1.92
2016	.51	.51			

BUSINESS: IDACORP, Inc. is a holding company for Idaho Power Company, a regulated electric utility that serves 525,000 customers throughout a 24,000-square-mile area in southern Idaho and eastern Oregon (population: 1 million). Most of the company's revenues are derived from the Idaho portion of its service area. Revenue breakdown: residential, 40%; commercial, 24%; industrial, 14%; irrigation, 13%; other, 9%. Generating sources: hydro, 36%; coal, 28%; gas, 13%; purchased, 23%. Fuel costs: 34% of revenues. '15 reported depreciation rate: 2.7%. Has 2,000 employees. Chairman: Robert A. Tinstman. President & CEO: Darrel T. Anderson. Incorporated: Idaho. Address: 1221 W. Idaho St., Boise, Idaho 83702. Telephone: 208-388-2200. Internet: www.idacorpinc.com.

We think IDACORP's earnings will advance just slightly in 2016. The June-quarter comparison is difficult. In the second period of 2015, the company booked a $7.4 million tax benefit and benefited from unusually hot weather conditions. For the full year, we are sticking with our profit estimate of $3.90 a share. This is within management's guidance of $3.80-$3.95 a share.

We continue to estimate that profits will climb 4% next year. The economy in Idaho Power's service territory is solid. This, and an influx of people relocating to the Boise area, is producing strong customer growth. The customer count expanded 1.8% last year, and the trend continued in the first quarter of 2016. The pace of kilowatt-hour sales growth isn't quite as high as that of customer growth due to the effects of energy efficiency, but volume increases should still exceed 1% annually.

A regulatory mechanism in Idaho will help stabilize the company's earnings through 2019. The utility may use up to $25 million a year of accumulated deferred investment tax credits to prop up its income if its earned return on equity falls below 9.5%. IDACORP booked $500,000 of this income in the first quarter of 2016, in anticipation of recording $2 million for the full year. If the summer weather patterns turn out unusually mild, the utility may well increase its use of these credits.

We believe the board of directors will raise the dividend at its meeting in September. Last year, IDACORP's chief executive offer stated that it plans to recommend to the board annual dividend increases of greater than 5% until the payout ratio rises to the upper end of its targeted range of 50%-60%. We look for a quarterly hike of $0.04 a share (7.8%), the same increase as in each of the past two years. The company's sound finances help in this regard.

This timely stock has a dividend yield that is below the utility average. With the recent quotation above the upper end of our 2019-2021 Target Price Range, total return potential over that time frame is negative, despite the strong dividend growth we project over the 3- to 5-year period.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrecurring gains (loss): '00, 22¢; '03, 26¢; '05, (24¢); '06, 17¢. '14 earnings don't add due to rounding. Next earnings report due late Oct. (B) Div'ds historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. intangibles. In '15: $26.16/sh. (D) In millions. (E) Rate base: Net original cost. Rate allowed on com. eq. in '11: 10% (imputed); earned on avg. com. eq., '15: 9.7%. Regulatory Climate: Above Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	85
Earnings Predictability	95

NORTHWESTERN NYSE-NWE

RECENT PRICE **61.20** | P/E RATIO **19.4** (Trailing: 20.7; Median: 16.0) | RELATIVE P/E RATIO **1.03** | DIV'D YLD **3.3%** | VALUE LINE

TIMELINESS	3 Lowered 6/24/16
SAFETY	3 New 5/4/12
TECHNICAL	3 Raised 7/29/16
BETA	.70 (1.00 = Market)

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+5%)	5%
Low	45	(-25%)	-3%

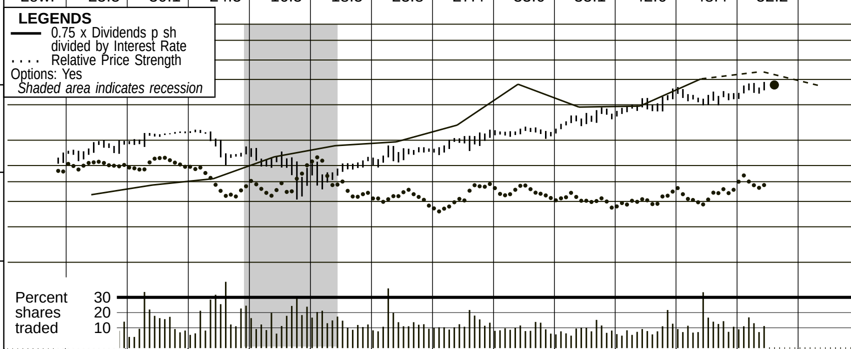
Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	1	1	0	0	0	0	0	0	0
Options	0	0	5	1	5	5	11	0	4
to Sell	0	0	0	0	0	2	3	1	1

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	95	114	109
to Sell	83	84	98
Hld's(000)	49037	49061	49010

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	32.5	35.8	36.7	29.7	26.8	30.6	36.6	38.0	47.2	58.7	59.7	63.8
Low:	25.5	30.1	24.5	16.5	18.5	23.8	27.4	33.0	35.1	42.6	48.4	52.2



Target Price Range
2019 | 2020 | 2021
120
100
80
64
48
32
24
20
16
12
8

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	34.0	-1.9
3 yr.	75.6	26.6
5 yr.	129.7	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
- -	- -	- -	- -	29.18	32.57	31.49	30.79	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	**25.35**	**26.65**	Revenues per sh	**30.00**
- -	- -	- -	- -	3.20	4.00	3.62	3.70	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	**6.35**	**6.80**	"Cash Flow" per sh	**8.00**
- -	- -	- -	- -	d14.32	1.71	1.31	1.44	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	**3.15**	**3.45**	Earnings per sh A	**4.00**
- -	- -	- -	- -	- -	1.00	1.24	1.28	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	**2.00**	**2.08**	Div'd Decl'd per sh B ■ †	**2.32**
- -	- -	- -	- -	2.25	2.26	2.81	3.00	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	**6.35**	**6.65**	Cap'l Spending per sh	**5.50**
- -	- -	- -	- -	19.92	20.60	20.65	21.12	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	**34.15**	**35.35**	Book Value per sh C	**40.00**
- -	- -	- -	- -	35.60	35.79	35.97	38.97	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	**48.50**	**48.75**	Common Shs Outst'g D	**49.50**
- -	- -	- -	- -	- -	17.1	26.0	21.7	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	*Bold figures are*		Avg Ann'l P/E Ratio	**13.5**
- -	- -	- -	- -	- -	.91	1.40	1.15	.84	.77	.82	.79	1.00	.95	.85	.93	*Value Line*		Relative P/E Ratio	**.85**
- -	- -	- -	- -	- -	3.4%	3.6%	4.1%	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	*estimates*		Avg Ann'l Div'd Yield	**4.3%**

CAPITAL STRUCTURE as of 3/31/16
Total Debt $1958.0 mill. **Due in 5 Yrs** $477.6 mill.
LT Debt $1794.2 mill. **LT Interest** $83.0 mill.
Incl. $25.8 mill. capitalized leases.
(LT interest earned: 2.5x)

Pension Assets-12/15 $500.0 mill. **Oblig.** $628.9 mill.

Pfd Stock None

Common Stock 48,306,885 shs.
as of 4/15/16
MARKET CAP: $3.0 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1132.7	1200.1	1260.8	1141.9	1110.7	1117.3	1070.3	1154.5	1204.9	1214.3	**1230**	**1300**	Revenues ($mill)	**1485**
49.2	53.2	67.6	73.4	77.4	92.6	83.7	94.0	120.7	138.4	**155**	**170**	Net Profit ($mill)	**195**
40.3%	37.8%	37.3%	17.2%	25.0%	9.8%	9.6%	13.2%	13.2%	13.7%	**7.0%**	**12.0%**	Income Tax Rate	**12.0%**
3.3%	2.5%	2.3%	7.2%	22.7%	5.4%	15.2%	14.1%	14.4%	16.1%	**10.0%**	**9.0%**	AFUDC % to Net Profit	**5.0%**
49.9%	50.1%	46.8%	56.4%	57.2%	52.2%	53.8%	53.5%	53.4%	53.1%	**54.0%**	**53.5%**	Long-Term Debt Ratio	**50.5%**
50.1%	49.9%	53.2%	43.6%	42.8%	47.8%	46.2%	46.5%	46.6%	46.9%	**46.0%**	**46.5%**	Common Equity Ratio	**49.5%**
1482.2	1648.4	1434.3	1803.9	1916.4	1797.1	2020.7	2215.7	3168.0	3408.6	**3620**	**3685**	Total Capital ($mill)	**4000**
1491.9	1770.9	1839.7	1964.1	2118.0	2213.3	2435.6	2690.1	3758.0	4059.5	**4215**	**4375**	Net Plant ($mill)	**4850**
5.2%	5.0%	7.0%	6.0%	6.0%	7.1%	5.5%	5.5%	4.8%	5.2%	**5.5%**	**6.0%**	Return on Total Cap'l	**6.0%**
6.6%	6.5%	8.9%	9.3%	9.4%	10.8%	9.0%	9.1%	8.2%	8.6%	**9.0%**	**9.5%**	Return on Shr. Equity	**10.0%**
6.6%	6.5%	8.9%	9.3%	9.4%	10.8%	9.0%	9.1%	8.2%	8.6%	**9.0%**	**9.5%**	Return on Com Equity E	**10.0%**
.7%	.7%	2.3%	3.2%	3.5%	4.7%	3.2%	3.5%	3.8%	3.0%	**3.5%**	**4.0%**	Retained to Com Eq	**4.0%**
90%	89%	74%	66%	63%	56%	65%	61%	54%	65%	**63%**	**60%**	All Div'ds to Net Prof	**59%**

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.3	+.7	-.1
Avg. Indust. Use (MWH)	29162	28987	30133
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	2056	2044	2096
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.7	+1.0	+1.3
Fixed Charge Cov. (%)	217	201	232

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-1.5%	-3.5%	*2.0%*
"Cash Flow"	4.5%	4.0%	*6.0%*
Earnings	- -	7.0%	*6.5%*
Dividends	13.0%	4.5%	*5.5%*
Book Value	4.0%	7.0%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	313.0	260.2	262.2	319.1	1154.5
2014	369.7	270.3	251.9	313.0	1204.9
2015	346.0	270.6	272.7	325.0	1214.3
2016	332.5	293.1	***279.4***	***325***	***1230***
2017	***350***	***310***	***300***	***340***	***1300***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1.01	.37	.40	.68	2.46
2014	1.17	.20	.77	.85	2.99
2015	1.09	.38	.51	.93	2.90
2016	.79	.73	***.59***	***1.04***	***3.15***
2017	***1.10***	***.50***	***.70***	***1.15***	***3.45***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.37	.37	.37	.37	1.48
2013	.38	.38	.38	.38	1.52
2014	.40	.40	.40	.40	1.60
2015	.48	.48	.48	.48	1.92
2016	.50	.50			

BUSINESS: NorthWestern Corporation (doing business as NorthWestern Energy) supplies electricity & gas in the Upper Midwest and Northwest, serving 422,000 electric customers in Montana and South Dakota and 279,000 gas customers in Montana (87% of gross margin), South Dakota (12%), and Nebraska (1%). Electric revenue breakdown: residential, 40%; commercial, 51%; industrial, 5%; other, 4%. Generating sources are not provided by company. Fuel costs: 31% of revenues. '15 reported depreciation rate: 3.3%. Has 1,600 employees. Chairman: Dr. E. Linn Draper Jr. President & CEO: Robert C. Rowe. Incorporated: Delaware. Address: 3010 West 69th Street, Sioux Falls, South Dakota 57108. Telephone: 605-978-2900. Internet: www.northwesternenergy.com.

NorthWestern received an unfavorable ruling from the Federal Energy Regulatory Commission (FERC). In 2011, a new gas-fired generating plant built by the utility began commercial operation. NorthWestern believes 80% of the facility's costs should be allocated to its customers in Montana, with the other 20% borne by its wholesale customers. FERC regulates the wholesale business, and ruled that just 4% of the plant's costs could be allocated to wholesale users. (As a result, NorthWestern took a $0.12-a-share charge in 2012, which is *included* in our earnings presentation.) The company asked FERC for reconsideration, but was turned down in May. So, NorthWestern will take this matter to the U.S. Court of Appeals. There is no timetable for resolution of the case.

NorthWestern has asked the Montana commission to reconsider a regulatory disallowance. The commission disallowed $9.7 million of expenses associated with a plant outage that occurred in 2013. As a result, the company took a charge of $0.13 a share (*included* in our earnings presentation) in the first period of 2016. If the regulators reject the utility's petition, NorthWestern may appeal to the U.S. District Court.

We estimate that profits will increase this year, despite the aforementioned disallowance. In the June quarter, NorthWestern benefited from the recognition of $14.2 million of revenues from previous periods as the result of a regulatory order. This boosted earnings by $0.18 a share. In addition, the utility will benefit from a full year's effect of a late-2015 electric rate increase in South Dakota.

Earnings should advance sharply in 2017. The first-quarter comparison will be easy, due to the regulatory disallowance in Montana. Also, NorthWestern plans to file a gas rate application in Montana in the third quarter of 2016, so it should obtain some rate relief for at least part of next year.

NorthWestern stock has a dividend yield that is equal to the utility average. Like many utility equities, the recent price is near the upper end of our 2019-2021 Target Price Range. Thus, total return potential is negligible.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. gain (loss) on disc. ops.: '05, (6¢); '06, 1¢; nonrec. gains: '12, 39¢ net; '15, 27¢. '15 EPS don't add due to rounding. Next earnings report due late Oct. (B) Div'ds historically paid in late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. def'd charges. In '15: $18.16/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '14 (elec.): 9.8%; in '13 (gas): 9.8%; in SD in '15: none specified; in NE in '07: 10.4%; earned on avg. com. eq., '15: 9.0%. Regul. Climate: Avg.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	80
Earnings Predictability	90

OGE ENERGY CORP. NYSE-OGE

RECENT PRICE **31.90** | P/E RATIO **17.5** (Trailing: 21.1; Median: 14.0) | RELATIVE P/E RATIO **0.93** | DIV'D YLD **3.8%** | **VALUE LINE**

High:	15.3	20.3	20.7	18.1	18.9	23.1	28.6	30.1	40.0	39.3	36.5	33.0
Low:	12.2	13.2	14.6	9.8	9.9	16.9	20.3	25.1	27.7	32.8	24.2	23.4

TIMELINESS **2** Raised 8/12/16
SAFETY **2** Lowered 12/18/15
TECHNICAL **2** Lowered 9/16/16
BETA .90 (1.00 = Market)

2019-21 PROJECTIONS

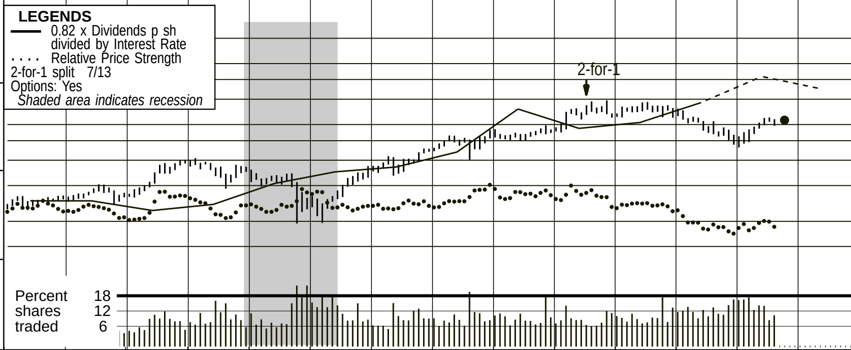
	Price	Gain	Ann'l Total Return
High	45	(+40%)	12%
Low	35	(+10%)	6%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	1	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	167	177	178
to Sell	155	150	142
Hld's(000)	125371	127688	129725



Target Price Range

2019	2020	2021

80 / 60 / 50 / 40 / 30 / 25 / 20 / 15 / 10 / 7.5

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	15.4	10.9
3 yr.	-2.9	29.8
5 yr.	43.7	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
21.17	20.40	19.26	21.62	27.37	32.83	21.96	20.68	21.77	14.79	19.04	19.96	18.58	14.45	12.30	11.00	*10.50*	*11.00*	Revenues per sh	*13.00*
2.07	1.81	1.87	1.82	1.87	1.94	2.23	2.39	2.40	2.69	3.01	3.31	3.69	3.46	3.40	3.23	*3.35*	*3.55*	"Cash Flow" per sh	*4.75*
.95	.65	.72	.87	.89	.92	1.23	1.32	1.25	1.33	1.50	1.73	1.79	1.94	1.98	1.69	*1.75*	*1.90*	Earnings per sh A	*2.25*
.67	.67	.67	.67	.67	.67	.67	.68	.70	.71	.73	.76	.80	.85	.95	1.05	*1.16*	*1.28*	Div'd Decl'd per sh B ■	*1.65*
1.15	1.44	1.49	1.04	1.51	1.65	2.67	3.04	4.01	4.37	4.36	6.48	5.85	4.99	2.86	2.74	*3.45*	*4.70*	Cap'l Spending per sh	*2.50*
6.83	6.67	6.27	6.87	7.14	7.59	8.79	9.16	10.14	10.52	11.73	13.06	14.00	15.30	16.27	16.66	*17.25*	*17.90*	Book Value per sh C	*19.75*
155.84	155.98	157.00	174.80	180.00	181.20	182.40	183.60	187.00	194.00	195.20	196.20	197.60	198.50	199.40	199.70	*199.70*	*200.00*	Common Shs Outst'g D	*201.50*
10.6	17.4	14.1	11.8	14.1	14.9	13.7	13.8	12.4	10.8	13.3	14.4	15.2	17.7	18.3	17.7	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	*18.0*
.69	.89	.77	.67	.74	.79	.74	.73	.75	.72	.85	.90	.97	.99	.96	.89	*estimates*		Relative P/E Ratio	*1.15*
6.6%	5.9%	6.6%	6.5%	5.3%	4.9%	4.0%	3.8%	4.5%	5.0%	3.7%	3.1%	2.9%	2.5%	2.6%	3.5%			Avg Ann'l Div'd Yield	*4.1%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $2914.1 mill. **Due in 5 Yrs** $1009.9 mill.
LT Debt $2629.7 mill. **LT Interest** $138.0 mill.
(LT interest earned: 3.0x)

Leases, Uncapitalized Annual rentals $7.4 mill.

Pension Assets-12/15 $581.7 mill. **Oblig** $680.0 mill.

Pfd Stock None

Common Stock 199,702,025 shs.

MARKET CAP: $6.4 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
4005.6	3797.6	4070.7	2869.7	3716.9	3915.9	3671.2	2867.7	2453.1	2196.9	*2100*	*2200*	Revenues ($mill)	*2600*
226.1	244.2	231.4	258.3	295.3	342.9	355.0	387.6	395.8	337.6	*350*	*385*	Net Profit ($mill)	*450*
34.8%	32.3%	30.4%	31.7%	34.9%	30.7%	26.0%	24.9%	30.4%	29.2%	*29.0%*	*29.0%*	Income Tax Rate	*29.0%*
3.8%	1.6%	1.7%	9.1%	5.7%	9.0%	2.7%	2.6%	1.7%	3.7%	*6.0%*	*9.0%*	AFUDC % to Net Profit	*3.0%*
45.6%	44.4%	53.3%	50.6%	50.8%	51.6%	50.7%	43.1%	45.9%	44.3%	*43.5%*	*46.5%*	Long-Term Debt Ratio	*51.0%*
54.4%	55.6%	46.7%	49.4%	49.2%	48.4%	49.3%	56.9%	54.1%	55.7%	*56.5%*	*53.5%*	Common Equity Ratio	*49.0%*
2950.1	3025.5	4058.6	4129.7	4652.5	5300.4	5615.8	5337.2	5999.7	5971.6	*6090*	*6675*	Total Capital ($mill)	*8100*
3867.5	4246.3	5249.8	5911.6	6464.4	7474.0	8344.8	6672.8	6979.9	7322.4	*7690*	*8295*	Net Plant ($mill)	*8800*
9.1%	9.5%	7.0%	7.9%	7.8%	7.8%	7.7%	8.6%	7.8%	6.9%	*7.0%*	*7.0%*	Return on Total Cap'l	*7.0%*
14.1%	14.5%	12.2%	12.7%	12.9%	13.4%	12.8%	12.8%	12.2%	10.2%	*10.0%*	*10.5%*	Return on Shr. Equity	*11.5%*
14.1%	14.5%	12.2%	12.7%	12.9%	13.4%	12.8%	12.8%	12.2%	10.2%	*10.0%*	*10.5%*	Return on Com Equity E	*11.5%*
6.6%	7.1%	5.4%	6.0%	6.7%	7.7%	7.2%	7.3%	6.5%	4.0%	*3.5%*	*3.5%*	Retained to Com Eq	*3.0%*
53%	51%	55%	53%	48%	43%	44%	43%	47%	61%	*66%*	*67%*	All Div'ds to Net Prof	*74%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.7	-.7	-2.9
Avg. Indust. Use (MWH)	779	770	754
Avg. Indust. Revs. per KWH (¢)	5.44	5.73	5.05
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	6341	6339	6537
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.1	+1.0	+1.2
Fixed Charge Cov. (%)	367	356	314

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-7.5%	-7.5%	*NMF*
"Cash Flow"	6.0%	4.5%	*3.0%*
Earnings	7.5%	6.5%	*3.0%*
Dividends	3.5%	6.0%	*9.5%*
Book Value	8.5%	8.5%	*3.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	901.4	734.2	723.2	508.9	2867.7
2014	560.4	611.8	754.7	526.2	2453.1
2015	480.1	549.9	719.8	447.1	2196.9
2016	433.1	551.4	*700*	*415.5*	*2100*
2017	*450*	*575*	*750*	*425*	*2200*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.12	.46	1.08	.29	1.94
2014	.25	.50	.94	.29	1.98
2015	.22	.44	.88	.15	1.69
2016	.13	.35	*.95*	*.32*	*1.75*
2017	*.20*	*.50*	*1.00*	*.20*	*1.90*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.19625	.19625	.197	.197	.79
2013	.209	.209	.209	.209	.84
2014	.225	.225	.225	.25	.93
2015	.25	.25	.25	.275	1.03
2016	.275	.275	.275		

BUSINESS: OGE Energy Corp. is a holding company for Oklahoma Gas and Electric Company (OG&E), which supplies electricity to 830,000 customers in Oklahoma (84% of electric revenues) and western Arkansas (8%); wholesale is (8%). Owns 26.3% of Enable Midstream Partners. Electric revenue breakdown: residential, 41%; commercial, 24%; industrial, 16%; other, 19%. Generating sources: coal, 34%; gas, 30%; wind, 5%; purchased, 31%. Fuel costs: 39% of revenues. '15 reported depreciation rate (utility): 2.9%. Has 2,500 employees. Chairman, President and Chief Executive Officer: Sean Trauschke. Incorporated: Oklahoma. Address: 321 North Harvey, P.O. Box 321, Oklahoma City, Oklahoma 73101-0321. Telephone: 405-553-3000. Internet: www.oge.com.

OGE Energy's utility subsidiary is still waiting for a rate order in Oklahoma. Oklahoma Gas and Electric filed for a tariff hike of $92.5 million, based on a return of 10.25% on a common-equity ratio of 53.31%. OG&E wants to place additional capital spending in the rate base, recover higher operating and maintenance expenses, and place a plant back in the rate base that had been used to serve a now-expired wholesale contract. However, the staff of the Oklahoma commission and the state's attorney general are recommending much less favorable outcomes, based on an allowed ROE of just 9.25%. The utility is now collecting (but not booking, pending receipt of the final order) an interim rate increase of $69.5 million that took effect at the start of July. The final decision will be retroactive to July, so the company will record additional income in the quarter in which the order is received. Our estimates assume a fourth-quarter ruling. OG&E also plans rate cases in November of 2017 and November of 2018, in order to recover major capital projects.

The utility filed a rate case in Arkansas. OG&E is seeking an increase of $16.5 million, based on a return of 10.25% on a common-equity ratio of 53%, with new tariffs expected in July. It also requested the implementation of a formula rate plan (i.e., a mechanism that allows recovery of certain costs without the need for a general rate case).

We estimate higher profits in 2016 and 2017. Rate relief should be the key factor each year. Our 2016 estimate is within management's targeted range of $1.72-$1.83 a share.

We expect a dividend increase at the board meeting in late September. This has been the pattern in recent years. OGE has stated its expectation of 10% annual dividend growth through 2019. Our estimate of a $0.03-a-share hike in the quarterly payout would provide a growth rate of 10.9%.

OGE stock is timely, and has some appeal for income-oriented investors. The dividend yield is about a half percentage point above the utility average, and total return potential to 2019-2021 is respectable, and much better than that of most utility equities.

Paul E. Debbas, CFA *September 16, 2016*

(A) Diluted EPS. Excl. nonrecurring losses: '02, 20¢; '03, 7¢; '04, 3¢; '15, 33¢; gains on discontinued operations: '02, 6¢; '05, 25¢; '06, 20¢. '13 EPS don't add due to rounding. Next earnings report due early Nov. (B) Div'ds historically paid in late Jan., Apr., July, & Oct. ■ Div'd reinvestment plan available. (C) Incl. deferred charges. In '15: $2.01/sh. (D) In millions, adj. for split. (E) Rate base: Net original cost. Rate allowed on com. eq. in OK in '12: 10.2%; in AR in '11: 9.95%; earned on avg. com. eq., '15: 10.2%. Regulatory Climate: Average.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	65
Earnings Predictability	85

OTTER TAIL CORP. NDQ-OTTR

RECENT PRICE 35.31 | P/E RATIO 21.8 (Trailing: 21.8; Median: 23.0) | RELATIVE P/E RATIO 1.15 | DIV'D YLD 3.6% | VALUE LINE

TIMELINESS	2	Raised 8/19/16
SAFETY	2	Raised 6/17/16
TECHNICAL	2	Raised 8/19/16

BETA .85 (1.00 = Market)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	32.0	31.9	39.4	46.2	25.4	25.4	23.5	25.3	31.9	32.7	33.4	35.4
Low:	24.0	25.8	29.0	15.0	15.5	18.2	17.5	20.7	25.2	26.5	24.8	25.8

Target Price Range 2019 | 2020 | 2021

2019-21 PROJECTIONS

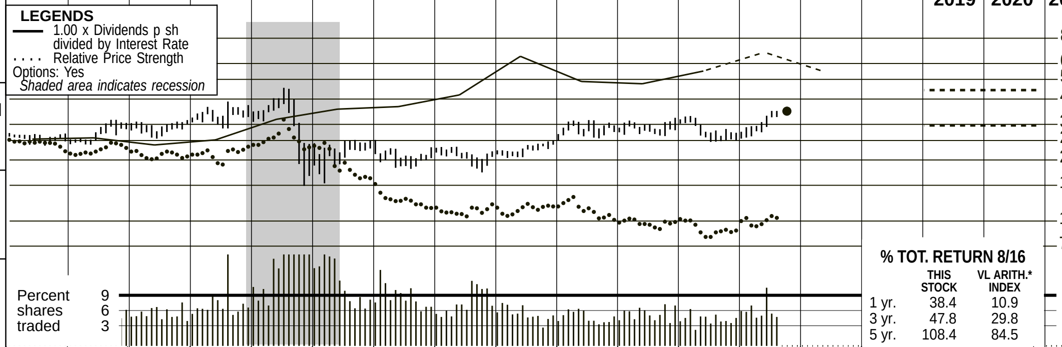
	Price	Gain	Ann'l Total Return
High	45	(+25%)	10%
Low	30	(-15%)	Nil

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	6	0	9	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	46	68	68
to Sell	51	35	44
Hld's(000)	12314	13048	13887



% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	38.4	10.9
3 yr.	47.8	29.8
5 yr.	108.4	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
23.45	26.53	27.75	29.28	30.45	35.59	37.43	41.50	37.06	29.03	31.08	29.86	23.76	24.63	21.48	20.60	*20.75*	*20.90*	Revenues per sh	*26.00*
3.21	3.40	3.44	3.30	2.88	3.35	3.39	3.55	2.81	2.76	2.60	2.36	2.71	3.02	3.09	3.14	*3.40*	*3.60*	"Cash Flow" per sh	*4.20*
1.60	1.68	1.79	1.51	1.50	1.78	1.69	1.78	1.09	.71	.38	.45	1.05	1.37	1.55	1.56	*1.60*	*1.65*	Earnings per sh A	*2.10*
1.02	1.04	1.06	1.08	1.10	1.12	1.15	1.17	1.19	1.19	1.19	1.19	1.19	1.19	1.21	1.23	*1.25*	*1.27*	Div'd Decl'd per sh B ■	*1.33*
1.85	2.17	2.95	1.97	1.72	2.04	2.35	5.43	7.51	4.95	2.38	2.04	3.20	4.53	4.40	4.23	*4.50*	*4.65*	Cap'l Spending per sh	*5.00*
10.87	11.33	12.25	12.98	14.81	15.80	16.67	17.55	19.14	18.78	17.57	15.83	14.43	14.75	15.39	15.98	*16.90*	*18.50*	Book Value per sh C	*20.95*
23.85	24.65	25.59	25.72	28.98	29.40	29.52	29.85	35.38	35.81	36.00	36.10	36.17	36.27	37.22	37.86	*39.00*	*40.00*	Common Shs Outst'g D	*43.00*
13.5	16.4	16.0	17.8	17.3	15.4	17.3	19.0	30.1	31.2	55.1	47.5	21.7	21.1	18.8	18.2	*Bold figures are*		Avg Ann'l P/E Ratio	*18.0*
.88	.84	.87	1.01	.91	.82	.93	1.01	1.81	2.08	3.51	2.98	1.38	1.19	.99	.92	*Value Line*		Relative P/E Ratio	*1.15*
4.7%	3.8%	3.7%	4.0%	4.2%	4.1%	3.9%	3.5%	3.6%	5.4%	5.7%	5.6%	5.2%	4.1%	4.1%	4.3%	*estimates*		Avg Ann'l Div'd Yield	*3.5%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $595.6 mill. **Due in 5 Yrs** $167.0 mill.
LT Debt $493.8 mill. **LT Interest** $30.0 mill.
(LT interest earned: 4.3x)

Leases, Uncapitalized Annual rentals $7 mill.
Pension Assets-12/15 $233.6 mill. **Oblig.** $302.7 mill.
Pfd Stock None

Common Stock 38,772,031 shs.
as of 7/31/16
MARKET CAP: $1.4 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1105.0	1238.9	1311.2	1039.5	1119.1	1077.9	859.2	893.3	799.3	779.8	*810*	*835*	Revenues ($mill)	*1100*
50.8	54.0	35.1	26.0	13.6	16.4	39.0	50.2	56.9	58.6	*60.0*	*65.0*	Net Profit ($mill)	*90.0*
34.8%	34.1%	30.0%	- -	- -	14.5%	5.2%	21.3%	22.5%	27.0%	*25.0%*	*25.0%*	Income Tax Rate	*30.0%*
1.9%	4.2%	6.1%	4.0%	.6%	3.8%	1.7%	- -	1.7%	3.6%	*3.0%*	*4.0%*	AFUDC % to Net Profit	*5.0%*
33.5%	38.9%	32.9%	38.8%	40.2%	44.6%	44.0%	42.1%	46.5%	42.4%	*45.5%*	*46.0%*	Long-Term Debt Ratio	*47.0%*
64.5%	59.4%	65.6%	59.8%	58.4%	54.0%	54.4%	57.9%	53.5%	57.6%	*54.5%*	*54.0%*	Common Equity Ratio	*53.0%*
763.0	882.1	1032.5	1124.4	1083.3	1058.9	959.2	924.4	1071.3	1051.0	*1210*	*1365*	Total Capital ($mill)	*1700*
718.6	854.0	1037.6	1098.6	1108.7	1077.5	1049.5	1167.0	1268.5	1387.8	*1475*	*1550*	Net Plant ($mill)	*1900*
7.7%	7.2%	4.3%	3.4%	2.7%	3.2%	5.7%	6.7%	6.7%	6.7%	*6.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
10.0%	10.0%	5.1%	3.8%	2.1%	2.8%	7.3%	9.4%	9.9%	9.7%	*9.0%*	*9.0%*	Return on Shr. Equity E	*10.0%*
10.2%	10.2%	5.1%	3.8%	2.0%	2.7%	7.3%	9.3%	9.9%	9.7%	*9.0%*	*9.0%*	Return on Com Equity	*10.0%*
3.3%	3.5%	NMF	NMF	NMF	NMF	NMF	1.2%	2.2%	2.0%	*1.5%*	*2.0%*	Retained to Com Eq	*3.5%*
68%	66%	108%	NMF	NMF	NMF	113%	87%	78%	79%	*82%*	*79%*	All Div'ds to Net Prof	*64%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+5.8	+4.6	-2.2
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	359	336	350

BUSINESS: Otter Tail Corporation is the parent of Otter Tail Power Company, which supplies electricity to over 130,000 customers in Minnesota (50% of retail elec. revs.), North Dakota (41%), and South Dakota (9%). Electric rev. breakdown, '15: residential, 32%; commercial & farms, 35%; industrial, 30%; other, 3%. Fuel costs: 15.5% of revenues. Also has operations in manufacturing and plastics. 2015 depr. rate: 2.9%. Has 2,005 employees. Off. and dir. own 1.6% of common stock; Cascade Investment, LLC, 9.1%; The Vanguard Group, 7.1%; BlackRock, Inc., 5.4% (3/16 Proxy). CEO: Charles MacFarlane. Inc.: MN. Address: 215 South Cascade St., P.O. Box 496, Fergus Falls, Minnesota 56538-0496. Telephone: 866-410-8780. Internet: www.ottertail.com.

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-3.5%	-7.0%	2.5%
"Cash Flow"	-.5%	2.5%	5.5%
Earnings	-.5%	15.5%	6.0%
Dividends	1.0%	.5%	1.5%
Book Value	.5%	-3.5%	5.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	218.0	212.4	229.8	233.1	893.3
2014	215.0	194.4	196.5	193.4	799.3
2015	202.8	188.2	200.0	188.8	779.8
2016	206.2	203.5	*205*	*195.3*	*810*
2017	*212*	*208*	*210*	*205*	*835*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.41	.21	.41	.35	1.37
2014	.59	.27	.43	.28	1.55
2015	.37	.36	.42	.41	1.56
2016	.38	.41	*.44*	*.37*	*1.60*
2017	*.40*	*.37*	*.46*	*.42*	*1.65*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.298	.298	.298	.298	1.19
2013	.298	.298	.298	.298	1.19
2014	.303	.303	.303	.303	1.21
2015	.308	.308	.308	.308	1.23
2016	.313	.313	.313		

Shares of Otter Tail have continued to advance in price over the past three months. The company reported strong performance for the second quarter. Revenue and share net compared favorably with the prior-year figures. The Electric segment benefited from strong sales to pipeline customers and greater revenue from interim rates (discussed below), while margins improved nicely at the Manufacturing line.

Otter Tail Power Company is executing its capital investment plan under a constructive regulatory framework. Its $858 million utility capital spending plan for 2016 through 2020 includes two large regional transmission projects and several generation investments. The company expects these will drive annual growth of 8% in the utility rate base through the end of the decade (with 2014 as the starting point). The two 345-kilovolt transmission projects are expected to be completed in 2017 and 2019.

The utility is benefiting from interim rates. Otter Tail Power filed with the Minnesota Public Utilities Commission (MPUC) early in the year, seeking to increase rates by approximately $19.3 million (9.8%). The MPUC granted a 9.56% increase on an interim basis, starting in mid-April. A final determination is expected next year.

Prospects for the long haul appear favorable. The utility should continue to report healthy performance going forward. Meanwhile, custom metal fabricator BTD should further benefit from productivity improvements. Market conditions remain soft here, though we expect BTD to be in a good position when its business climate improves. Elsewhere, we remain optimistic about prospects for the low-cost businesses that comprise Otter Tail's plastics segment. But margins may well remain compressed here in the near term.

These shares are timely. We look for solid improvement in revenues and earnings for the company out to 2019-2021. But this appears to be largely reflected in the recent quotation, and appreciation potential is limited at this juncture. A healthy dividend yield ought to support total returns here. Still, this equity appears most suitable as a year-ahead selection.

Michael Napoli, CFA *September 16, 2016*

(A) Diluted earnings. Excl. nonrecurring gains (losses): '10, (44¢); '11, 26¢; '13, 2¢; gains (losses) from discont. operations: '04, 8¢; '05, 33¢; '06, 1¢; '11, ($1.11); '12, ($1.22); '13, 2¢; '14, 2¢; '15, 2¢. Earnings may not sum due to rounding. Next earnings report due early November. (B) Div'ds historically paid in early March, June, Sept., and Dec. ■ Div'd reinvestment plan avail. (C) Incl. intangibles. In '15: $55.4 mill., $1.46/sh. (D) In mill. (E) Regulatory Climate: MN, ND, Average; SD, Above Average.

Company's Financial Strength	B++
Stock's Price Stability	85
Price Growth Persistence	20
Earnings Predictability	50

PG&E CORP. NYSE-PCG

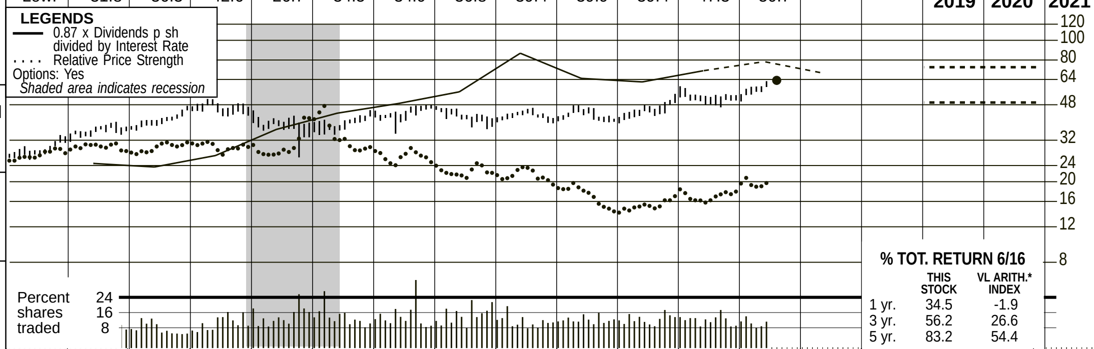
RECENT PRICE	64.41	P/E RATIO	23.9 (Trailing: 33.0; Median: 16.0)	RELATIVE P/E RATIO	1.26	DIV'D YLD	3.1%	VALUE LINE

TIMELINESS 2 Raised 7/29/16
SAFETY 3 Lowered 2/3/12
TECHNICAL 3 Lowered 5/20/16
BETA .65 (1.00 = Market)

High:	40.1	48.2	52.2	45.7	45.8	48.6	48.0	47.0	48.5	55.2	60.2	65.4
Low:	31.8	36.3	42.6	26.7	34.5	34.9	36.8	39.4	39.9	39.4	47.3	50.7

Target Price Range

2019	2020	2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(+15%)	7%
Low	50	(-20%)	-2%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	1	0	1	0	0	1	10	0	11
to Sell	0	0	0	0	0	0	2	0	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	248	273	303
to Sell	217	207	194
Hld's(000)	399742	399882	409084

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	34.5	-1.9
3 yr.	56.2	26.6
5 yr.	83.2	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
67.75	63.18	32.74	25.05	26.47	31.78	36.02	37.42	40.51	36.15	35.02	36.28	34.92	34.16	35.91	34.21	*33.65*	*35.00*	Revenues per sh	*39.25*
.80	5.66	1.14	4.80	5.71	7.12	7.76	8.02	8.44	8.37	8.22	8.08	7.32	6.33	8.13	7.29	*8.40*	*9.80*	"Cash Flow" per sh	*11.00*
d9.21	3.02	d2.36	2.05	2.12	2.35	2.76	2.78	3.22	3.03	2.82	2.78	2.07	1.83	3.06	2.00	*2.70*	*3.80*	Earnings per sh A	*4.50*
1.20	- -	- -	- -	- -	1.23	1.32	1.44	1.56	1.68	1.82	1.82	1.82	1.82	1.82	1.82	*1.93*	*2.08*	Div'd Decl'd per sh B ■ †	*2.70*
4.54	7.33	7.94	4.08	3.72	4.90	6.90	7.83	10.05	10.68	9.62	9.79	10.74	11.40	10.16	10.51	*11.10*	*11.35*	Cap'l Spending per sh	*11.50*
8.19	11.89	9.47	10.12	20.62	19.60	22.44	24.18	25.97	27.88	28.55	29.35	30.35	31.41	33.09	33.69	*35.20*	*37.10*	Book Value per sh C	*42.75*
387.19	363.38	381.67	416.52	418.62	368.27	348.14	353.72	361.06	370.60	395.23	412.26	430.72	456.67	475.91	492.03	*505.00*	*510.00*	Common Shs Outst'g D	*525.00*
- -	4.8	- -	9.5	13.8	15.4	14.8	16.8	12.1	13.0	15.8	15.5	20.7	23.7	15.0	26.4	*Bold figures are*		Avg Ann'l P/E Ratio	*14.0*
- -	.25	- -	.54	.73	.82	.80	.89	.73	.87	1.01	.97	1.32	1.33	.79	1.33	*Value Line*		Relative P/E Ratio	*.90*
4.8%	- -	- -	- -	- -	3.4%	3.2%	3.1%	4.0%	4.3%	4.1%	4.2%	4.2%	4.2%	4.0%	3.4%	*estimates*		Avg Ann'l Div'd Yield	*4.3%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $17375 mill. **Due in 5 Yrs** $4266 mill.
LT Debt $16522 mill. **LT Interest** $766 mill.

(LT interest earned: 2.0x)
Pension Assets-12/15 $13745 mill.
Oblig. $16299 mill.
Pfd Stock $252 mill. **Pfd Div'd** $14 mill.
4,534,958 shs. 4.36% to 5%, cumulative and $25 par, redeemable from $25.75 to $27.25; 5,784,825 shs. 5.00% to 6.00%, cumulative nonredeemable and $25 par.
Common Stock 496,042,305 shs. **as of 4/19/16**
MARKET CAP: $32 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12539	13237	14628	13399	13841	14956	15040	15598	17090	16833	*17000*	*17850*	Revenues ($mill)	*20650*
1005.0	1020.0	1198.0	1168.0	1113.0	1132.0	893.0	828.0	1450.0	988.0	*1380*	*1965*	Net Profit ($mill)	*2380*
35.5%	34.6%	26.2%	31.1%	33.0%	30.3%	23.9%	24.5%	19.2%	19.2%	*25.0%*	*25.5%*	Income Tax Rate	*27.0%*
6.7%	9.4%	9.5%	11.9%	14.4%	11.2%	17.5%	17.9%	10.0%	15.7%	*11.0%*	*8.0%*	AFUDC % to Net Profit	*7.0%*
51.7%	52.6%	52.2%	51.4%	49.6%	48.8%	48.7%	46.6%	48.5%	48.8%	*49.5%*	*49.0%*	Long-Term Debt Ratio	*48.5%*
46.8%	46.1%	46.5%	47.4%	49.3%	50.2%	50.4%	52.5%	50.7%	50.4%	*49.5%*	*50.0%*	Common Equity Ratio	*51.0%*
16696	18558	20163	21793	22863	24119	25956	27311	31050	32858	*35875*	*37700*	Total Capital ($mill)	*44200*
21785	23656	26261	28892	31449	33655	37523	41252	43941	46723	*49450*	*52200*	Net Plant ($mill)	*60300*
7.6%	7.4%	7.8%	6.7%	6.2%	5.9%	4.7%	4.2%	5.8%	4.1%	*5.0%*	*6.5%*	Return on Total Cap'l	*6.5%*
12.5%	11.6%	12.4%	11.0%	9.6%	9.2%	6.7%	5.7%	9.1%	5.9%	*7.5%*	*10.0%*	Return on Shr. Equity	*10.5%*
12.7%	11.8%	12.6%	11.2%	9.7%	9.2%	6.7%	5.7%	9.1%	5.9%	*7.5%*	*10.5%*	Return on Com Equity E	*10.5%*
6.8%	6.0%	6.8%	5.5%	3.9%	3.4%	1.0%	.2%	3.9%	.7%	*2.5%*	*4.5%*	Retained to Com Eq	*4.0%*
47%	50%	47%	52%	61%	63%	85%	96%	58%	88%	*70%*	*54%*	All Div'ds to Net Prof	*60%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.5	-.2	-.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	9.28	9.98	9.73
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	NMF	NMF	NMF
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	+.3	+.6	+.7
Fixed Charge Cov. (%)	223	304	189

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	2.5%	-1.5%	*2.0%*
"Cash Flow"	2.0%	-3.0%	*7.0%*
Earnings	.5%	-5.5%	*12.0%*
Dividends	- -	1.5%	*7.0%*
Book Value	7.0%	3.5%	*4.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	3672	3776	4175	3975	15598
2014	3891	3952	4939	4308	17090
2015	3899	4217	4550	4167	16833
2016	3974	*4250*	*4576*	*4200*	*17000*
2017	*4200*	*4450*	*4800*	*4400*	*17850*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.55	.74	.36	.19	1.83
2014	.49	.57	1.71	.27	3.06
2015	.27	.83	.63	.27	2.00
2016	.22	*.81*	*1.06*	*.61*	*2.70*
2017	*.85*	*.95*	*1.25*	*.75*	*3.80*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.455	.455	.455	.455	1.82
2013	.455	.455	.455	.455	1.82
2014	.455	.455	.455	.455	1.82
2015	.455	.455	.455	.455	1.82
2016	.455	.455	.49		

BUSINESS: PG&E Corporation is a holding company for Pacific Gas and Electric Company and nonutility subsidiaries. Supplies electricity and gas to most of northern and central California. Has 5.3 million electric and 4.4 million gas customers. Electric revenue breakdown: residential, 38%; commercial, 40%; industrial, 12%; agricultural, 9%; other, 1%. Generating sources: nuclear, 23%; gas, 9%; hydro, 5%; purchased, 63%. Fuel costs: 34% of revenues. '15 reported depreciation rate (utility): 3.8%. Has 23,000 employees. Chairman, President & Chief Executive Officer: Anthony F. Earley, Jr. Incorporated: California. Address: 77 Beale Street, P.O. Box 770000, San Francisco, California 94177. Telephone: 415-973-1000. Internet: www.pgecorp.com.

PG&E's board of directors raised the dividend. A dividend hike is usually noteworthy, but this one is especially significant. This was the first such move since an explosion of a gas pipeline in San Bruno, California in September of 2010, which caused fatalities, injuries, and property damage. Since then, PG&E has incurred fines (excluded from our earnings presentation), unrecovered pipeline safety enhancement costs, and legal expenses, partly offset by insurance recoveries (all included). Hence, profits have been weak in recent years. This is likely to be the last year of significant costs associated with San Bruno. PG&E is targeting a payout ratio of 55%-65%, with a goal of about 60% by 2019. Note: The company's definition of "operating" earnings excludes some items we include, such as the San Bruno costs.

We have cut our 2016 earnings estimate by $0.45 a share. This is the amount of a first-quarter charge PG&E incurred for expected costs associated with a major fire last year when a tree came in contact with a power line. The estimated costs might well rise; on the other hand, PG&E is likely to book some insurance recoveries. We have not assumed either an upward revision in costs or any insurance recoveries in our 2016 profit estimate.

The utility received a decision in its gas transportation and storage case. Its revenue requirement will be offset partly by penalties for San Bruno and violations of *ex parte* communication rules between the company and previous commissioners on the California commission. The order calls for rate hikes of $193 million retroactive to the start of 2015, $202 million in 2016, $110 million in 2017, and $104 million in 2018.

A general rate case is pending. PG&E is seeking increases of $333 million in 2017, $469 million in 2018, and $368 million in 2019. The commission's Office of Ratepayer Advocates is recommending a reduction of $85 million next year, followed by raises of $274 million and $283 million in 2018 and 2019, respectively.

The stock is timely. That said, there are still legal and regulatory uncertainties, the dividend yield is only average for a utility, and the recent price is near the upper end of our 2019-2021 Target Price Range.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrec. gains (losses): '04, $6.95; '09, 18¢; '11, (68¢); '12, (15¢); '15, (21¢); gain from disc. ops.: '08, 41¢. '13 EPS don't add due to rounding, '14 due to change in shs. Next earnings report due late Oct. (B) Div'ds historically paid in mid-Jan., Apr., July, and Oct. ■ Div'd reinvest. plan avail. † Shareholder investment plan avail. (C) Incl. intang. In '15: $14.29/sh. (D) In mill. (E) Rate base: net orig. cost. Rate allowed on com. eq. in '15: 10.4%; earned on avg. com. eq., '15: 6.0%. Regulatory Climate: Above Average.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	35
Earnings Predictability	55

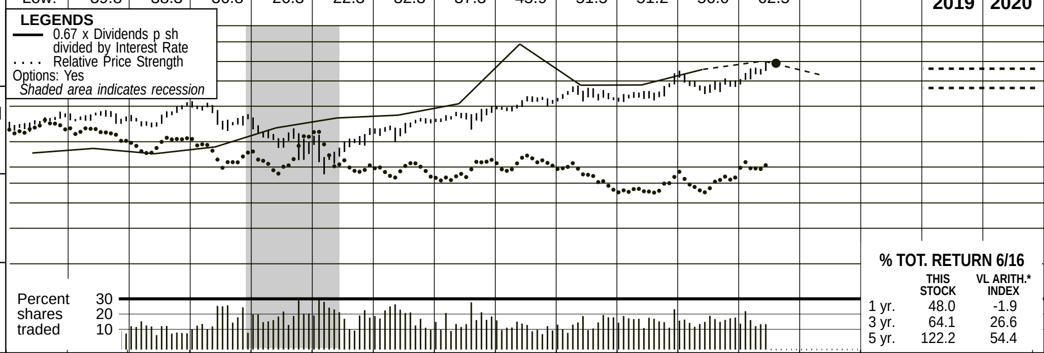
PINNACLE WEST NYSE-PNW

RECENT PRICE 79.68 | P/E RATIO 19.7 (Trailing: 20.9; Median: 15.0) | RELATIVE P/E RATIO 1.04 | DIV'D YLD 3.3% | VALUE LINE

TIMELINESS **3** Lowered 7/15/16
SAFETY **1** Raised 5/3/13
TECHNICAL **3** Raised 7/29/16
BETA .70 (1.00 = Market)

High:	46.7	51.0	51.7	42.9	38.0	42.7	48.9	54.7	61.9	71.1	73.3	82.8
Low:	39.8	38.3	36.8	26.3	22.3	32.3	37.3	45.9	51.5	51.2	56.0	62.5

Target Price Range
2019 | 2020 | 2021



2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	75	(-5%)	2%
Low	60	(-25%)	-3%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	13	0	0	1	14	0	0	4
to Sell	0	0	1	1	0	0	4	0	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	181	196	221
to Sell	175	167	182
Hld's(000)	89339	88855	92857

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	48.0	-1.9
3 yr.	64.1	26.6
5 yr.	122.2	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
43.50	53.66	28.90	30.87	31.59	30.16	34.03	35.07	33.37	32.50	30.01	29.67	30.09	31.35	31.58	31.50	*31.85*	*33.05*	Revenues per sh	*37.50*
7.99	8.72	7.01	7.33	6.93	5.76	9.70	9.29	8.13	8.08	6.85	7.52	7.92	8.15	8.09	9.09	*9.40*	*9.90*	"Cash Flow" per sh	*11.50*
3.35	3.68	2.53	2.52	2.58	2.24	3.17	2.96	2.12	2.26	3.08	2.99	3.50	3.66	3.58	3.92	*4.05*	*4.30*	Earnings per sh A	*4.75*
1.43	1.53	1.63	1.73	1.83	1.93	2.03	2.10	2.10	2.10	2.10	2.10	2.67	2.23	2.33	2.44	*2.56*	*2.68*	Div'd Decl'd per sh B ■	*3.10*
7.76	12.27	9.81	7.60	5.86	6.39	7.59	9.37	9.46	7.64	7.03	8.26	8.24	9.36	8.38	9.84	*11.25*	*11.95*	Cap'l Spending per sh	*10.25*
28.09	29.46	29.44	31.00	32.14	34.57	34.48	35.15	34.16	32.69	33.86	34.98	36.20	38.07	39.50	41.30	*42.75*	*44.35*	Book Value per sh C	*49.00*
84.83	84.83	91.26	91.29	91.79	99.08	99.96	100.49	100.89	101.43	108.77	109.25	109.74	110.18	110.57	110.98	*111.50*	*112.00*	Common Shs Outst'g D	*113.50*
11.3	12.0	14.4	14.0	15.8	19.2	13.7	14.9	16.1	13.7	12.6	14.6	14.3	15.3	15.9	16.0	*Bold figures are*		Avg Ann'l P/E Ratio	*14.5*
.73	.61	.79	.80	.83	1.02	.74	.79	.97	.91	.80	.92	.91	.86	.84	.81	*Value Line*		Relative P/E Ratio	*.90*
3.8%	3.5%	4.5%	4.9%	4.5%	4.5%	4.7%	4.8%	6.2%	6.8%	5.4%	4.8%	5.3%	4.0%	4.1%	3.9%	*estimates*		Avg Ann'l Div'd Yield	*4.5%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $4082.4 mill. **Due in 5 Yrs** $1576.4 mill.
LT Debt $3463.0 mill. **LT Interest** $169.7 mill.
Incl. $13.4 mill. Palo Verde sale leaseback lessor notes.
(LT interest earned: 4.8x)
Leases, Uncapitalized Annual rentals $18.0 mill.
Pension Assets-12/15 $2542.8 mill. **Oblig.** $3033.8 mill.
Pfd Stock None

Common Stock 111,139,995 shs.
as of 4/22/16
MARKET CAP: $8.9 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
3401.7	3523.6	3367.1	3297.1	3263.6	3241.4	3301.8	3454.6	3491.6	3495.4	*3550*	*3700*	Revenues ($mill)	*4250*
317.1	298.8	213.6	229.2	330.4	328.2	387.4	406.1	397.6	437.3	*455*	*480*	Net Profit ($mill)	*545*
33.0%	33.6%	23.4%	36.9%	31.9%	34.0%	36.2%	34.4%	34.2%	34.3%	*34.5%*	*34.5%*	Income Tax Rate	*34.5%*
11.1%	14.8%	17.5%	11.2%	11.7%	12.8%	9.7%	10.0%	11.6%	11.8%	*11.0%*	*11.0%*	AFUDC % to Net Profit	*8.0%*
48.4%	47.0%	46.8%	50.4%	45.3%	44.1%	44.6%	40.0%	41.0%	43.0%	*45.5%*	*46.0%*	Long-Term Debt Ratio	*45.0%*
51.6%	53.0%	53.2%	49.6%	54.7%	55.9%	55.4%	60.0%	59.0%	57.0%	*54.5%*	*54.0%*	Common Equity Ratio	*55.0%*
6678.7	6658.7	6477.6	6686.6	6729.1	6840.9	7171.9	6990.9	7398.7	8046.3	*8755*	*9205*	Total Capital ($mill)	*10100*
7881.9	8436.4	8916.7	9257.8	9578.8	9962.3	10396	10889	11194	11809	*12475*	*13175*	Net Plant ($mill)	*14550*
6.2%	5.9%	4.7%	4.8%	6.5%	6.4%	6.8%	7.1%	6.4%	6.4%	*6.0%*	*6.5%*	Return on Total Cap'l	*6.5%*
9.2%	8.5%	6.2%	6.9%	9.0%	8.6%	9.8%	9.7%	9.1%	9.5%	*9.5%*	*9.5%*	Return on Shr. Equity	*10.0%*
9.2%	8.5%	6.2%	6.9%	9.0%	8.6%	9.8%	9.7%	9.1%	9.5%	*9.5%*	*9.5%*	Return on Com Equity E	*10.0%*
3.4%	2.5%	.3%	.7%	3.1%	2.8%	4.1%	4.1%	3.5%	3.9%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
63%	70%	96%	89%	66%	68%	58%	58%	62%	59%	*63%*	*62%*	All Div'ds to Net Prof	*64%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.2	-1.8	+1.3
Avg. Indust. Use (MWH)	644	659	658
Avg. Indust. Revs. per KWH (¢)	8.21	8.26	8.17
Capacity at Peak (Mw)	8398	9259	9250
Peak Load, Summer (Mw)	6927	7007	7031
Annual Load Factor (%)	50.0	48.6	48.3
% Change Customers (yr-end)	+1.4	+1.2	+1.3
Fixed Charge Cov. (%)	419	404	438

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-.5%	3.0%
"Cash Flow"	2.5%	2.0%	5.5%
Earnings	4.5%	8.5%	4.0%
Dividends	2.5%	2.0%	5.0%
Book Value	2.0%	3.5%	3.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	686.6	915.8	1152.4	699.8	3454.6
2014	686.2	906.3	1172.7	726.4	3491.6
2015	671.2	890.7	1199.1	734.4	3495.4
2016	677.2	*897.8*	*1225*	*750*	*3550*
2017	*700*	*950*	*1275*	*775*	*3700*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.22	1.18	2.04	.22	3.66
2014	.14	1.19	2.20	.05	3.58
2015	.14	1.10	2.30	.37	3.92
2016	.04	*1.31*	*2.35*	*.35*	*4.05*
2017	*.20*	*1.35*	*2.40*	*.35*	*4.30*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.525	.525	.525	.545	2.12
2013	.545	.545	.545	.567	2.20
2014	.568	.568	.568	.595	2.30
2015	.595	.595	.595	.625	2.41
2016	.625	.625			

BUSINESS: Pinnacle West Capital Corporation is a holding company for Arizona Public Service Company (APS), which supplies electricity to 1.1 million customers in most of Arizona, except about half of the Phoenix metro area, the Tucson metro area, and Mohave County in northwestern Arizona. Discontinued SunCor real estate subsidiary in '10. Electric revenue breakdown: residential, 49%; commercial, 39%; industrial, 5%; other, 7%. Generating sources: coal, 31%; nuclear, 27%; gas & other, 20%; purchased, 22%. Fuel costs: 32% of revenues. '15 reported deprec. rate: 2.7%. Has 6,400 employees. Chairman, President & CEO: Donald E. Brandt. Inc.: AZ. Address: 400 North Fifth St., P.O. Box 53999, Phoenix, AZ 85072-3999. Tel.: 602-250-1000. Internet: www.pinnaclewest.com.

Pinnacle West's utility subsidiary has filed a rate case. Arizona Public Service is seeking a rate increase of $165.9 million (5.7%), based on a 10.5% return on a 55.8% common-equity ratio. This is APS' first rate case in five years. What is most noteworthy about the application isn't the revenue requirement, but the proposals to address problems in rate design. Currently, nonsolar customers are subsidizing solar users, so APS wants to raise the monthly fixed charge to align rates with fixed costs more closely. (Even under the company's proposal, this wouldn't be an exact fit, and current solar customers would be grandfathered.) In addition to the fixed and variable charges, there would be a demand charge that would apply to on-peak power usage. The utility also wants to recover more of the revenues it loses as a result of energy efficiency programs. Finally, APS is asking the regulators to allow it to defer for future recovery costs associated with two large capital projects (see below). The utility will try to settle the case with the commission's staff and various intervenors. New rates are expected to take effect in mid-2017.

The utility is beginning two significant capital projects this year. APS is building five gas-fired units at a cost of $500 million to replace older facilities and provide a 220-megawatt net increase in capacity. It is also spending $400 million for pollution control equipment for two coal-fired units. The company expects it will not need additional equity to finance these projects.

We think earnings will advance this year, despite costs of a major overhaul of a coal-fired plant in the first quarter. This affected the quarterly earnings comparison by $0.13 a share. Positive factors include modest volume growth and revenues that APS receives every year for certain kinds of capital spending, such as for transmission. Our 2016 earnings estimate is within Pinnacle West's guidance of $3.90-$4.10 a share. Without the overhaul costs next year, profits should rise nicely.

This stock has a dividend yield that is average for a utility. The recent price is *above* our 2019-2021 Target Price Range, so total return potential over that time frame is negative.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrec. losses: '02, 77¢; '09, $1.45; excl. gains (losses) from disc. ops.: '00, 22¢; '05, (36¢); '06, 10¢; '08, 28¢; '09, (13¢); '10, 18¢; '11, 10¢; '12, (5¢). '15 EPS don't add due to rounding. Next earnings report due early Aug. (B) Div'ds historically paid in early Mar., June, Sept., & Dec. There were 5 declarations in '12. ■ Div'd reinvest. plan avail. (C) Incl. deferred chgs. In '15: $13.77/sh. (D) In mill. (E) Rate base: Fair value. Rate allowed on com. eq. in '12: 10%; earned on avg. com. eq., '15: 9.8%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	80

PORTLAND GENERAL NYSE-POR

RECENT PRICE 44.05 | P/E RATIO 20.5 (Trailing: 21.1; Median: 15.0) | RELATIVE P/E RATIO 1.08 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 2 Lowered 6/3/16
SAFETY 2 Raised 5/4/12
TECHNICAL 3 Raised 7/29/16
BETA .75 (1.00 = Market)

High:	35.0	31.3	27.7	21.4	22.7	26.0	28.1	33.3	40.3	41.0	45.2
Low:	24.2	25.5	15.4	13.5	17.5	21.3	24.3	27.4	29.0	33.0	35.3

Target Price Range
2019 | 2020 | 2021

2019-21 PROJECTIONS

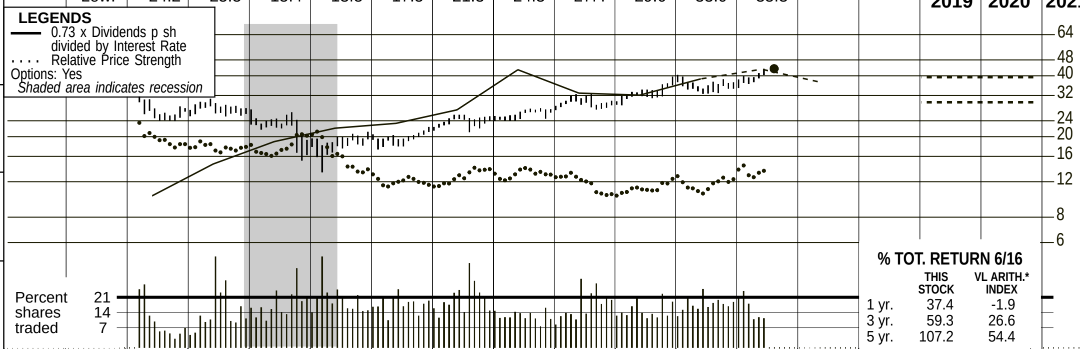
	Price	Gain	Ann'l Total Return
High	40	(-10%)	1%
Low	30	(-30%)	-5%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	7	0	0	10
to Sell	2	0	1	0	0	0	0	0	1

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	113	125	139
to Sell	110	106	116
Hld's(000)	86675	86623	87246



% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	37.4	-1.9
3 yr.	59.3	26.6
5 yr.	107.2	54.4

2000	2001	2002	2003	2004	2005F	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
--	--	--	--	--	23.14	24.32	27.87	27.89	23.99	23.67	24.06	23.89	23.18	24.29	21.38	*21.90*	*22.70*	Revenues per sh	*24.75*
--	--	--	--	--	4.75	4.64	5.21	4.71	4.07	4.82	4.96	5.15	4.93	6.08	5.37	*5.75*	*6.15*	"Cash Flow" per sh	*7.25*
--	--	--	--	--	1.02	1.14	2.33	1.39	1.31	1.66	1.95	1.87	1.77	2.18	2.04	*2.15*	*2.40*	Earnings per sh A	*2.75*
--	--	--	--	--	--	.68	.93	.97	1.01	1.04	1.06	1.08	1.10	1.12	1.18	*1.26*	*1.34*	Div'd Decl'd per sh B ■ †	*1.60*
--	--	--	--	--	4.08	5.94	7.28	6.12	9.25	5.97	3.98	4.01	8.40	12.87	6.73	*7.00*	*4.00*	Cap'l Spending per sh	*3.50*
--	--	--	--	--	19.15	19.58	21.05	21.64	20.50	21.14	22.07	22.87	23.30	24.43	25.43	*26.25*	*27.25*	Book Value per sh C	*30.50*
--	--	--	--	--	62.50	62.50	62.53	62.58	75.21	75.32	75.36	75.56	78.09	78.23	88.79	*89.00*	*89.20*	Common Shs Outst'g D	*89.80*
--	--	--	--	--	--	23.4	11.9	16.3	14.4	12.0	12.4	14.0	16.9	15.3	17.7	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	*13.0*
--	--	--	--	--	--	1.26	.63	.98	.96	.76	.78	.89	.95	.81	.89			Relative P/E Ratio	*.80*
--	--	--	--	--	--	2.5%	3.3%	4.3%	5.4%	5.2%	4.4%	4.1%	3.7%	3.3%	3.3%			Avg Ann'l Div'd Yield	*4.4%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $2199 mill. **Due in 5 Yrs** $573 mill.
LT Debt $2199 mill. **LT Interest** $111 mill.
(LT interest earned: 2.6x)
Leases, Uncapitalized Annual rentals $10 mill.

Pension Assets-12/15 $550 mill. **Oblig.** $758 mill.

Pfd Stock None

Common Stock 88,900,756 shs. as of 4/15/16

MARKET CAP: $3.9 billion (Mid Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
1520.0	1743.0	1745.0	1804.0	1783.0	1813.0	1805.0	1810.0	1900.0	1898.0	*1950*	*2025*	Revenues ($mill)	*2225*
71.0	145.0	87.0	95.0	125.0	147.0	141.0	137.0	175.0	172.0	*190*	*215*	Net Profit ($mill)	*250*
33.6%	33.8%	28.7%	28.8%	30.5%	28.3%	31.4%	23.2%	26.0%	20.7%	*21.5%*	*21.5%*	Income Tax Rate	*21.5%*
33.8%	17.9%	17.2%	31.6%	17.6%	5.4%	7.1%	14.6%	33.7%	19.8%	*13.0%*	*5.0%*	AFUDC % to Net Profit	*3.0%*
43.4%	49.9%	46.2%	50.3%	53.0%	49.6%	47.1%	51.3%	52.7%	47.8%	*48.0%*	*48.0%*	Long-Term Debt Ratio	*47.5%*
56.6%	50.1%	53.8%	49.7%	47.0%	50.4%	52.9%	48.7%	47.3%	52.2%	*52.0%*	*52.0%*	Common Equity Ratio	*52.5%*
2161.0	2629.0	2518.0	3100.0	3390.0	3298.0	3264.0	3735.0	4037.0	4329.0	*4490*	*4660*	Total Capital ($mill)	*5225*
2718.0	3066.0	3301.0	3858.0	4133.0	4285.0	4392.0	4880.0	5679.0	6012.0	*6315*	*6335*	Net Plant ($mill)	*6100*
4.7%	6.9%	5.0%	4.5%	5.4%	6.2%	5.9%	5.1%	5.8%	5.4%	*5.5%*	*6.0%*	Return on Total Cap'l	*6.0%*
5.8%	11.0%	6.4%	6.2%	7.9%	8.8%	8.2%	7.5%	9.2%	7.6%	*8.0%*	*9.0%*	Return on Shr. Equity	*9.0%*
5.8%	11.0%	6.4%	6.2%	7.9%	8.8%	8.2%	7.5%	9.2%	7.6%	*8.0%*	*9.0%*	Return on Com Equity E	*9.0%*
3.5%	6.6%	2.0%	1.5%	3.0%	4.1%	3.5%	2.9%	4.6%	3.3%	*3.5%*	*4.0%*	Retained to Com Eq	*4.0%*
39%	40%	69%	76%	62%	54%	57%	61%	50%	56%	*59%*	*56%*	All Div'ds to Net Prof	*58%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.2	-.8	+.6
Avg. Indust. Use (MWH)	16258	16577	17827
Avg. Indust. Revs. per KWH (¢)	4.84	5.13	5.01
Capacity at Peak (Mw)	4380	4910	4609
Peak Load, Winter (Mw)	3869	3866	3255
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.9	+.7	+1.2
Fixed Charge Cov. (%)	239	248	243

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	--	-2.0%	*1.5%*
"Cash Flow"	1.5%	4.0%	*5.0%*
Earnings	7.0%	6.5%	*5.5%*
Dividends	--	2.5%	*6.0%*
Book Value	2.5%	3.0%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	473.0	403.0	435.0	499.0	1810.0
2014	493.0	423.0	484.0	500.0	1900.0
2015	473.0	450.0	476.0	499.0	1898.0
2016	487.0	*460*	*493*	*510*	*1950*
2017	*525*	*470*	*505*	*525*	*2025*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.65	.13	.40	.59	1.77
2014	.73	.43	.47	.55	2.18
2015	.62	.44	.40	.57	2.04
2016	.68	*.37*	*.45*	*.65*	*2.15*
2017	*.75*	*.45*	*.50*	*.70*	*2.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.265	.265	.27	.27	1.07
2013	.27	.27	.275	.275	1.09
2014	.275	.275	.28	.28	1.11
2015	.28	.28	.30	.30	1.16
2016	.30	.30	.32		

BUSINESS: Portland General Electric Company (PGE) provides electricity to 856,000 customers in 52 cities in a 4,000-square-mile area of Oregon, including Portland and Salem. The company is in the process of decommissioning the Trojan nuclear plant, which it closed in 1993. Electric revenue breakdown: residential, 47%; commercial, 35%; industrial, 12%; other, 6%. Generating sources: gas, 23%; coal, 19%; wind, 8%; hydro, 7%; purchased, 43%. Fuel costs: 35% of revenues. '15 reported depreciation rate: 3.6%. Has 2,600 employees. Chairman: Jack E. Davis. President and Chief Executive Officer: James J. Piro. Incorporated: Oregon. Address: 121 S.W. Salmon Street, Portland, Oregon 97204. Telephone: 503-464-8000. Internet: www.portlandgeneral.com.

July 31st is an important date for Portland General Electric Company. The utility is building the 440-megawatt Carty gas-fired generating plant. In December of 2015, PGE declared the original contractor in default of the agreement and took over management of the project. As long as construction is completed by July 31st, the utility will receive an $85 million rate increase to cover the cost. However, the original cost estimate of the facility was $514 million, though the disruption has boosted this figure to $635 million-$670 million. Adding to PGE's woes is its inability, so far, to collect a performance bond of $145.1 million because the insurers have denied liability. (The company is seeking recovery in the courts.) If the July 31st deadline is not met, PGE may ask the Oregon Public Utility Commission (OPUC) to extend the in-service date. If this is unsuccessful, the utility will have to file a general rate case. Even if Carty begins commercial operation by July 31st, PGE will have to file an application with the OPUC seeking recovery of the portion of the plant's costs that exceeds $514 million.

We have cut our 2016 earnings estimate by $0.10 a share. Mild weather, unfavorable conditions for PGE's wind capacity, and expenses associated with the Carty problems are hurting the company's profits. Accordingly, management reduced its 2016 earnings guidance from $2.20-$2.35 a share to $2.05-$2.20. Our estimate of $2.15 is within PGE's revised target. This (and our 2017 forecast) is based on the assumption that the Carty plant meets the July 31st deadline. However, the situation adds uncertainty to our estimates.

As we had expected, the board of directors raised the quarterly dividend. The increase was two cents a share, effective with the July payment. PGE expects annual dividend growth of 5%-7%, and is targeting a payout ratio in a range of 50%-70%.

This timely stock has a dividend yield that does not stand out among utilities. Long-term investors should note that the recent price is above our 2019-2021 Target Price Range. PGE is not unique in this regard.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrecurring loss: '13, 42¢. '15 earnings don't add due to rounding. Next earnings report due early Aug. (B) Dividends paid mid-Jan., Apr., July, and Oct. ■ Dividend reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. deferred charges. In '15: $5.90/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '16: 9.6%; earned on avg. com. eq., '15: 8.3%. Regulatory Climate: Average. (F) '05 per-share data are pro forma, based on shares outstanding when stock began trading in '06.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	60
Earnings Predictability	70

PPL CORPORATION NYSE-PPL

RECENT PRICE **36.25** | P/E RATIO **12.8** (Trailing: 13.9; Median: 14.0) | RELATIVE P/E RATIO **0.68** | DIV'D YLD **4.3%** | **VALUE LINE**

TIMELINESS	–	Suspended 5/22/15
SAFETY	2	Raised 8/21/15
TECHNICAL	–	Suspended 5/22/15
BETA .70 (1.00 = Market)		

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+25%)	*10%*
Low	35	(-5%)	*4%*

Insider Decisions

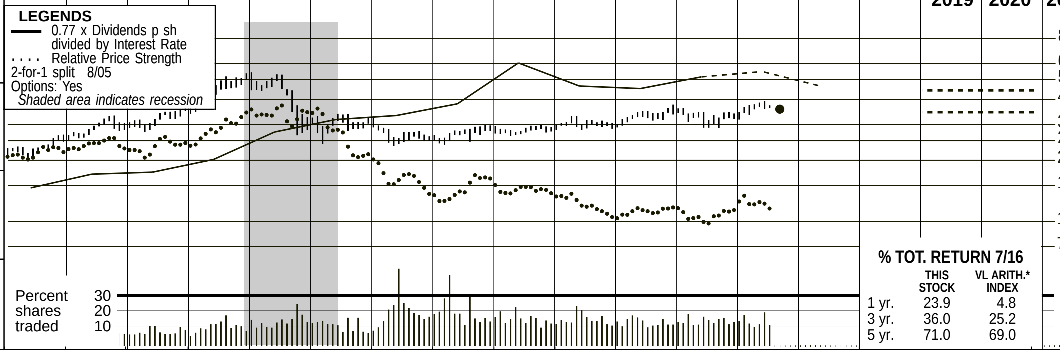
	O	N	D	J	F	M	A	M	J
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	1	8	1	2	0	1	2
to Sell	0	0	1	4	1	0	0	0	3

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	308	350	363
to Sell	274	279	289
Hld's(000)	471570	487328	493895

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	33.7	37.3	54.6	55.2	34.4	33.1	30.3	30.2	33.6	38.1	36.7	39.9
Low:	25.5	27.8	34.4	26.8	24.3	23.8	24.1	26.7	28.4	29.4	29.2	32.2

Target Price Range
2019 | 2020 | 2021



% TOT. RETURN 7/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.9	4.8
3 yr.	36.0	25.2
5 yr.	71.0	69.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
19.59	19.53	16.38	15.75	15.37	16.36	17.92	17.41	21.47	20.03	17.63	22.02	21.11	18.82	17.27	11.38	*10.65*	*10.00*	Revenues per sh	*10.75*
3.32	3.51	3.20	3.60	3.59	3.84	4.26	5.10	4.71	3.47	3.66	4.59	4.84	4.64	4.58	3.78	*4.30*	*3.75*	"Cash Flow" per sh	*4.25*
1.64	1.79	1.54	1.84	1.87	1.92	2.29	2.63	2.45	1.19	2.29	2.61	2.61	2.38	2.38	2.37	*2.85*	*2.15*	Earnings per sh A	*2.50*
.53	.53	.72	.77	.82	.96	1.10	1.22	1.34	1.38	1.40	1.40	1.44	1.47	1.49	1.50	*1.52*	*1.58*	Div'd Decl'd per sh B ■	*1.76*
1.59	2.99	2.74	2.17	1.94	2.13	3.62	4.51	3.79	3.25	3.30	4.30	5.34	6.68	6.14	5.24	*4.65*	*4.50*	Cap'l Spending per sh	*4.50*
6.94	6.33	6.71	9.19	11.21	11.62	13.30	14.88	13.55	14.57	16.98	18.72	18.01	19.78	20.47	14.72	*16.15*	*16.80*	Book Value per sh C	*19.25*
290.08	293.16	331.47	354.72	378.14	380.15	385.04	373.27	374.58	377.18	483.39	578.41	581.94	630.32	665.85	673.86	*677.00*	*680.00*	Common Shs Outst'g D	*692.00*
8.9	12.4	11.1	10.6	12.5	15.1	14.1	17.3	17.6	NMF	11.9	10.5	10.9	12.8	14.1	13.9	*Bold figures are*		Avg Ann'l P/E Ratio	*16.0*
.58	.64	.61	.60	.66	.80	.76	.92	1.06	NMF	.76	.66	.69	.72	.74	.70	*Value Line*		Relative P/E Ratio	*1.00*
3.6%	2.4%	4.2%	4.0%	3.5%	3.3%	3.4%	2.7%	3.1%	4.5%	5.1%	5.1%	5.1%	4.8%	4.4%	4.5%	*estimates*		Avg Ann'l Div'd Yield	*4.4%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $19824 mill. **Due in 5 Yrs** $3733 mill.
LT Debt $18074 mill. **LT Interest** $759 mill.
Incl. 23 mill. units 7.75%, $25 liq. value; 82,000 units 8.23%, $1000 face value.
(LT interest earned: 3.2x)

Leases, Uncapitalized Annual rentals $33 mill.
Pension Assets-12/15 $10852 mill. **Oblig** $12267 mill.

Pfd Stock None
Common Stock 676,945,176 shs.
as of 4/22/16
MARKET CAP: $25 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
6899.0	6498.0	8044.0	7556.0	8521.0	12737	12286	11860	11499	7669.0	*7200*	*6800*	Revenues ($mill)	*7400*
899.0	1031.0	940.0	465.0	1009.0	1456.0	1536.0	1541.0	1583.0	1603.0	*1925*	*1475*	Net Profit ($mill)	*1745*
23.2%	20.7%	31.8%	21.8%	22.0%	31.0%	26.2%	23.1%	33.0%	22.5%	*26.5%*	*26.5%*	Income Tax Rate	*26.5%*
- -	- -	.1%	9.5%	3.5%	4.0%	4.1%	3.7%	2.8%	1.6%	*1.0%*	*2.0%*	AFUDC % to Net Profit	*1.0%*
55.4%	54.1%	57.1%	55.2%	59.0%	61.9%	64.1%	62.3%	58.0%	65.2%	*63.5%*	*63.5%*	Long-Term Debt Ratio	*62.0%*
42.2%	43.6%	40.5%	42.5%	39.8%	37.2%	35.9%	37.7%	42.0%	34.8%	*36.5%*	*36.5%*	Common Equity Ratio	*38.0%*
12151	12747	12529	12940	20621	29071	29205	33058	32484	28482	*30050*	*31425*	Total Capital ($mill)	*35200*
12069	12605	12416	13174	20858	27266	30032	33087	34597	30382	*32550*	*34550*	Net Plant ($mill)	*40100*
9.3%	9.8%	9.2%	5.2%	6.1%	6.5%	7.0%	6.2%	6.5%	7.1%	*8.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
16.6%	17.6%	17.5%	8.0%	11.9%	13.1%	14.7%	12.4%	11.6%	16.2%	*17.5%*	*13.0%*	Return on Shr. Equity	*13.0%*
17.3%	18.2%	18.2%	8.1%	12.0%	13.3%	14.6%	12.4%	11.6%	16.2%	*17.5%*	*13.0%*	Return on Com Equity E	*13.0%*
9.3%	10.0%	8.5%	NMF	5.2%	6.4%	6.7%	5.3%	4.5%	6.0%	*8.0%*	*3.5%*	Retained to Com Eq	*4.0%*
47%	46%	54%	115%	58%	52%	54%	57%	61%	63%	*53%*	*73%*	All Div'ds to Net Prof	*69%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+1.2	-1.1	-.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Winter (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	288	309	321

ANNUAL RATES

of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	- -	-4.5%	*NMF*
"Cash Flow"	1.5%	2.0%	*NMF*
Earnings	2.5%	4.0%	*NMF*
Dividends	5.5%	1.5%	*3.0%*
Book Value	5.5%	4.0%	*NMF*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2457	3450	3105	2848	11860
2014	1194	2833	3449	4023	11499
2015	2230	1781	1878	1780	7669
2016	2011	1785	*1754*	*1650*	*7200*
2017	*1900*	*1600*	*1700*	*1600*	*6800*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.65	.63	.62	.46	2.38
2014	.50	.32	.73	.82	2.38
2015	.82	.37	.59	.60	2.37
2016	.71	.71	*.90*	*.53*	*2.85*
2017	*.70*	*.45*	*.55*	*.45*	*2.15*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.35	.36	.36	.36	1.43
2013	.36	.3675	.3675	.3675	1.46
2014	.3675	.3725	.3725	.3725	1.49
2015	.3725	.3725	.3725	.3775	1.50
2016	.3775	.38	.38		

BUSINESS: PPL Corporation (formerly PP&L Resources, Inc.) is a holding company for PPL Electric Utilities (formerly Pennsylvania Power & Light Company), which distributes electricity to 1.4 million customers in eastern & central PA. Acq'd Kentucky Utilities and Louisville Gas and Electric (1.2 million customers) 11/10. Has electric distribution sub. in U.K. (7.8 million customers). Sold gas distribution subsidiary in '08. Spun off power generating subsidiary in '15. The company no longer breaks out data on electric operating statistics. Fuel costs: 22% of revs. '15 reported deprec. rate: 2.6%. Has 12,800 employees. Chairman, President & CEO: William H. Spence. Inc.: PA. Address: Two North Ninth St., Allentown, PA 18101-1179. Tel.: 800-345-3085. Internet: www.pplweb.com.

Because PPL Corporation owns utilities in the United Kingdom, some investors are worried about the aftereffects of Brexit on the company. PPL stock was the only electric utility to decline immediately after the vote on June 23rd, and year to date the equity is one of the few in this industry that has risen less than 10%. Investors are concerned about the sharp decline in the value of the pound versus the dollar, and about the possible negative effect on the state of the economy in the U.K. However, PPL hedges most its currency exposure, and regulatory rules will make its utilities whole for any volume shortfall over the next seven years. In fact, PPL's hedges were $450 million in the money following Brexit, so in July management monetized $310 million of this, and re-established hedges based on $1.30/pound. This will hurt the translation of U.K. profits into dollars, but even so, we think the market overreacted. We *include* the effects of currency hedges in our earnings presentation because they are ongoing. They added $0.19 to share net in the first half of 2016, and we estimate another $0.30 benefit in the third period.

Earnings are likely to decline in 2017. That's mainly because of the re-establishment of hedges, but PPL's U.K. profits were expected to fall anyway due to lower incentive revenues. The company's targeted range for next year is $2.05-$2.25 a share, and from this base, the company's goal is 5%-6% annual profit growth through 2020.

The Kentucky regulators approved a $1 billion environmental compliance plan. PPL's utilities in the state will recover these expenditures through 2023 via a regulatory mechanism, instead of filing a general rate case. This will help the company achieve its earnings growth goal.

PPL stock has a dividend yield that is about a percentage point above the utility average. We project modest dividend growth over the 3- to 5-year period, but this should be enough to produce a total return that is a cut above the industry average. The stock is unranked for Timeliness because the spinoff of the company's nonregulated generating operation in 2015 has made year-to-year earnings comparisons misleading.

Paul E. Debbas, CFA *August 19, 2016*

(A) Dil. EPS. Excl. nonrec. gain (losses): '07, (12¢); '10, (8¢); '11, 8¢; '13, (62¢); gains (losses) on disc. ops.: '07, 19¢; '08, 3¢; '09, (10¢); '10, (4¢); '12, (1¢); '14, 23¢; '15, ($1.36). '13 EPS don't add due to chg. in shs., '14 & '15 to rounding. Next egs. rept. due early Nov. (B) Div'ds histor. pd. in early Jan., Apr., July, & Oct. ■ Div'd reinv. plan avail. (C) Incl. intang. In '15: $8.85/sh. (D) In mill., adj. for split. (E) Rate base: Fair val. Rate all'd on com. eq. in PA in '16: none spec.; in KY in '15: none spec.; earn. on avg. com. eq., '15: 13.0%. Reg. Clim.: Avg.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	10
Earnings Predictability	60

P.S. ENTERPRISE GP. NYSE-PEG

RECENT PRICE 43.85 | P/E RATIO 16.7 (Trailing: 15.8; Median: 13.0) | RELATIVE P/E RATIO 0.89 | DIV'D YLD 3.8% | VALUE LINE

TIMELINESS 2 Raised 8/12/16
SAFETY 1 Raised 11/23/12
TECHNICAL 1 Raised 8/19/16
BETA .70 (1.00 = Market)

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	55	(+25%)	9%
Low	45	(+5%)	5%

Insider Decisions

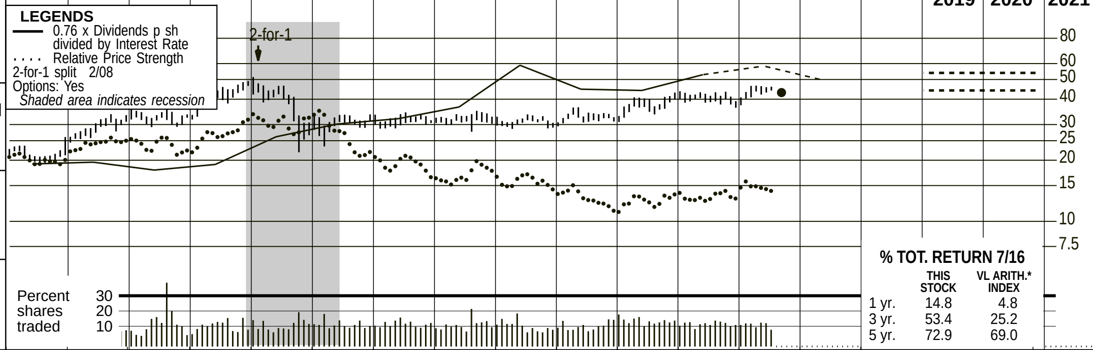
	O	N	D	J	F	M	A	M	J
to Buy	0	0	0	0	0	0	0	0	0
Options	2	2	1	2	7	1	1	1	1
to Sell	2	2	1	2	3	1	1	4	2

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	282	315	333
to Sell	280	292	284
Hld's(000)	338278	340915	341192

High:	34.2	36.3	49.9	52.3	34.1	34.9	35.5	34.1	37.0	43.8	44.4	47.4
Low:	24.7	29.5	32.2	22.1	23.7	29.0	28.0	28.9	29.7	31.3	36.8	37.8

Target Price Range 2019 | 2020 | 2021



% TOT. RETURN 7/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	14.8	4.8
3 yr.	53.4	25.2
5 yr.	72.9	69.0

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
22.83	23.84	18.62	23.54	23.09	24.74	24.07	25.28	27.94	24.57	23.31	22.42	19.33	19.71	21.52	20.61	18.40	18.95	Revenues per sh	21.25
2.71	3.14	3.01	2.92	3.02	3.42	3.91	4.36	4.68	4.98	5.27	5.36	4.87	5.17	5.82	6.15	5.70	6.35	"Cash Flow" per sh	7.50
1.78	1.85	1.88	1.88	1.52	1.79	1.85	2.59	2.90	3.08	3.07	3.11	2.44	2.45	2.99	3.30	2.60	3.00	Earnings per sh A	3.50
1.08	1.08	1.08	1.08	1.10	1.12	1.14	1.17	1.29	1.33	1.37	1.37	1.42	1.44	1.48	1.56	1.64	1.72	Div'd Decl'd per sh B ■†	2.00
2.31	4.99	4.03	2.86	2.64	2.04	2.01	2.65	3.50	3.55	4.27	4.12	5.09	5.56	5.58	7.65	7.30	6.90	Cap'l Spending per sh	5.00
9.61	10.05	8.85	11.71	12.05	11.99	13.35	14.35	15.36	17.37	19.04	20.30	21.31	22.95	24.09	25.86	26.80	28.10	Book Value per sh C	32.25
415.94	411.68	450.53	472.27	476.20	502.33	505.29	508.52	506.02	505.99	505.97	505.95	505.89	505.86	505.84	505.28	506.00	506.00	Common Shs Outst'g D	506.00
10.3	12.0	10.0	10.6	14.3	16.5	17.8	16.5	13.6	10.0	10.4	10.4	12.8	13.5	12.6	12.4	Bold figures are		Avg Ann'l P/E Ratio	14.5
.67	.61	.55	.60	.76	.88	.96	.88	.82	.67	.66	.65	.81	.76	.66	.63	Value Line		Relative P/E Ratio	.90
5.9%	4.9%	5.7%	5.4%	5.1%	3.8%	3.5%	2.7%	3.3%	4.3%	4.3%	4.2%	4.6%	4.4%	3.9%	3.8%	estimates		Avg Ann'l Div'd Yield	4.0%

CAPITAL STRUCTURE as of 3/31/16
Total Debt $10250 mill. **Due in 5 Yrs** $3755 mill.
LT Debt $9676 mill. **LT Interest** $393 mill.
(LT interest earned: 7.4x)

Leases, Uncapitalized Annual rentals $29 mill.

Pension Assets-12/15 $5039 mill. **Oblig** $5522 mill.

Pfd Stock None

Common Stock 505,929,329 shs.
as of 4/19/16
MARKET CAP: $22 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
12164	12853	14139	12431	11793	11343	9781.0	9968.0	10886	10415	9300	9600	Revenues ($mill)	10750
934.0	1323.0	1477.0	1567.0	1557.0	1577.0	1239.0	1243.0	1518.0	1679.0	1325	1535	Net Profit ($mill)	1755
36.6%	44.5%	45.9%	42.3%	40.5%	40.4%	36.2%	39.5%	38.2%	37.4%	36.5%	37.0%	Income Tax Rate	37.0%
4.7%	2.7%	3.2%	3.8%	5.5%	2.7%	4.8%	4.6%	4.5%	5.5%	5.0%	5.0%	AFUDC % to Net Profit	3.0%
60.3%	54.0%	50.5%	46.3%	44.8%	42.1%	38.3%	40.4%	40.4%	40.3%	41.0%	41.5%	Long-Term Debt Ratio	44.0%
39.2%	45.5%	49.0%	53.2%	55.2%	57.9%	61.7%	59.6%	59.6%	59.7%	59.0%	58.5%	Common Equity Ratio	56.0%
17197	16041	15856	16513	17452	17731	17467	19470	20446	21900	23000	24350	Total Capital ($mill)	29200
13002	13275	14433	15440	16390	17849	19736	21645	23589	26539	28750	30625	Net Plant ($mill)	33000
7.7%	10.4%	11.2%	11.0%	10.4%	10.2%	8.1%	7.5%	8.4%	8.6%	6.5%	7.0%	Return on Total Cap'l	7.0%
13.7%	17.9%	18.8%	17.7%	16.2%	15.4%	11.5%	10.7%	12.5%	12.9%	10.0%	11.0%	Return on Shr. Equity	10.5%
13.8%	18.1%	19.0%	17.8%	16.2%	15.4%	11.5%	10.7%	12.5%	12.9%	10.0%	11.0%	Return on Com Equity E	10.5%
5.3%	9.9%	10.5%	10.1%	9.0%	8.6%	4.8%	4.4%	6.3%	6.8%	3.5%	4.5%	Retained to Com Eq	4.5%
62%	45%	45%	43%	45%	44%	58%	59%	49%	47%	63%	57%	All Div'ds to Net Prof	58%

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-.9	-1.3	+2.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH(¢)	NA	NA	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	10414	9474	9595
Annual Load Factor (%)	NA	NA	NA
% Change Customers (avg.)	NA	NA	NA
Fixed Charge Cov. (%)	529	635	705

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	-1.5%	-4.0%	.5%
"Cash Flow"	6.0%	3.0%	4.5%
Earnings	5.5%	-.5%	3.0%
Dividends	3.0%	2.5%	5.0%
Book Value	7.5%	7.0%	5.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2786	2310	2554	2318	9968.0
2014	3223	2249	2641	2773	10886
2015	3135	2314	2688	2278	10415
2016	2616	1905	2500	2279	9300
2017	2750	2000	2550	2300	9600

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.63	.66	.77	.39	2.45
2014	.76	.42	.87	.94	2.99
2015	1.15	.68	.87	.60	3.30
2016	.93	.37	.80	.50	2.60
2017	.95	.65	.85	.55	3.00

Cal-endar	QUARTERLY DIVIDENDS PAID B ■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.355	.355	.355	.355	1.42
2013	.36	.36	.36	.36	1.44
2014	.37	.37	.37	.37	1.48
2015	.39	.39	.39	.39	1.56
2016	.41	.41			

BUSINESS: Public Service Enterprise Group Incorporated is a holding company for Public Service Electric and Gas Company (PSE&G), which serves 2.2 million electric and 1.8 million gas customers in New Jersey, and PSEG Power LLC, a nonregulated power generator with nuclear, gas, and coal-fired plants in the Northeast. PSEG Energy Holdings is involved in renewable energy. The company no longer breaks out data on electric and gas operating statistics. Fuel costs: 31% of revenues. '15 reported depreciation rate (utility): 2.5%. Has 12,700 employees. Chairman, President & Chief Executive Officer: Dr. Ralph Izzo. Inc.: New Jersey. Address: 80 Park Plaza, P.O. Box 1171, Newark, New Jersey 07101-1171. Telephone: 973-430-7000. Internet: www.pseg.com.

The majority of Public Service Enterprise Group's earnings is coming from its regulated utility business. Public Service Electric and Gas is hardening its electric and gas system through programs that will see the utility spend an expected $2.1 billion. Most of these expenditures are recovered in rates concurrently, but some will be recouped through a general rate case that PSE&G will file in November of 2017. Capital spending on electric transmission also boosts utility income annually through a formula rate plan. This spending is especially important because the allowed return on equity for transmission, at 11.68%, is higher than that for distribution, at 10.3%. The utility is finding other investment opportunities, as well.

The nonregulated side of the company's business isn't faring as well. PSEG Power, the company's major nonutility arm, is still solidly profitable and is generating cash. However, low power prices and sluggish demand for electricity are hurting this operation. Currently, unplanned outages at the two Salem nuclear units are hurting this division, as well. We have lowered our 2016 earnings estimate by $0.30 a share and our 2017 profit forecast by $0.05 a share. The 2016 change reflects, in part, a mark-to-market accounting loss of $0.20 a share that PSEG booked in the June quarter, but also reflects a lower expectation of income from PSEG Power.

Despite tough conditions for PSEG Power, this subsidiary has some investment opportunities. It plans to spend $1.975 billion-$2.125 billion on gas-fired plants totaling 1,780 megawatts of capacity in Maryland, New Jersey, and Connecticut in 2018 and 2019.

Finances are strong. PSEG has the highest fixed-charge coverage of any company we cover in the Electric Utility Industry. The common-equity ratio is very high, as well. PSEG merits a Financial Strength rating of A++, our highest.

Top-quality and timely PSEG stock has a dividend yield that is somewhat above the utility average. Unlike most utility issues, it is not trading within our 2019-2021 Target Price Range. Long-term total return potential, though modest, is still better than the industry average.

Paul E. Debbas, CFA *August 19, 2016*

(A) Diluted EPS. Excl. nonrecur. gain (losses): '02, ($1.30); '05, (3¢); '06, (35¢); '08, (96¢); '09, 6¢; '11, (34¢); '12, 7¢; gains (loss) from disc. ops.: '05, (33¢); '06, 12¢; '07, 3¢; '08, 40¢; '11, 13¢. Next earnings report due late Oct. (B) Div'ds historically paid in late Mar., June, Sept., and Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. (C) Incl. intang. In '15: $6.56/sh. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in '10: 10.3%; earned on avg. com. eq., '15: 13.2%. Reg. Climate: Avg.

Company's Financial Strength	A++
Stock's Price Stability	95
Price Growth Persistence	20
Earnings Predictability	70

SEMPRA ENERGY NYSE-SRE

RECENT PRICE 112.31 | P/E RATIO 26.7 (Trailing: 22.6 Median: 13.0) | RELATIVE P/E RATIO 1.41 | DIV'D YLD 2.8% | VALUE LINE

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	47.9	57.3	66.4	63.0	57.2	57.2	56.0	72.9	93.0	116.3	116.2	114.7
Low:	35.5	42.9	50.9	34.3	36.4	43.9	44.8	54.7	70.6	86.7	89.4	86.7

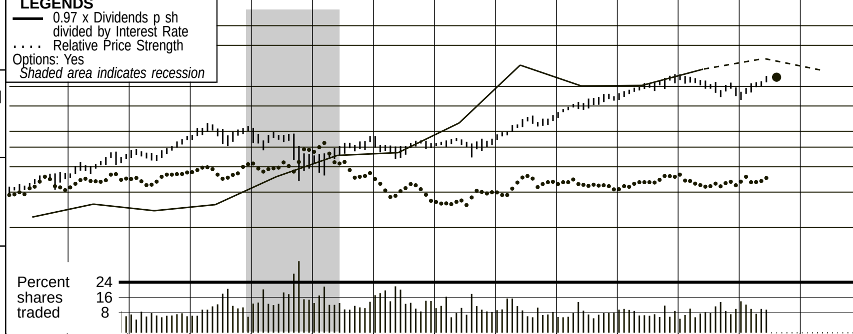
TIMELINESS 3 Lowered 7/8/16

SAFETY 2 Raised 7/29/16

TECHNICAL 2 Raised 7/29/16

BETA .80 (1.00 = Market)

LEGENDS
- 0.97 x Dividends p sh divided by Interest Rate
- .... Relative Price Strength
- Options: Yes
- *Shaded area indicates recession*



Target Price Range

2019	2020	2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	155	(+40%)	11%
Low	115	(Nil)	4%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	0	0	5	0	1	0	4
to Sell	1	0	0	0	2	0	2	0	1

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	233	265	270
to Sell	244	244	254
Hld's(000)	185097	185015	203184

Percent shares traded 24 16 8

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	18.6	-1.9
3 yr.	51.4	26.6
5 yr.	149.3	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
35.38	39.27	29.38	34.81	40.18	45.64	44.89	43.79	44.21	32.88	37.44	41.83	39.80	43.18	44.80	41.20	*39.85*	*41.10*	Revenues per sh	*50.25*
4.91	5.39	5.71	5.56	6.58	5.96	6.74	6.93	7.40	7.94	7.76	8.58	8.92	8.87	9.41	10.32	*9.60*	*10.95*	"Cash Flow" per sh	*14.50*
2.06	2.55	2.79	3.01	3.93	3.52	4.23	4.26	4.43	4.78	4.02	4.47	4.35	4.22	4.63	5.23	*4.20*	*5.15*	Earnings per sh A	*7.50*
1.00	1.00	1.00	1.00	1.00	1.16	1.20	1.24	1.37	1.56	1.56	1.92	2.40	2.52	2.64	2.80	*3.02*	*3.28*	Div'd Decl'd per sh B ■	*4.00*
3.76	5.22	5.92	4.63	4.62	5.46	7.28	7.70	8.47	7.76	8.58	11.85	12.20	10.52	12.68	12.71	*14.15*	*10.30*	Cap'l Spending per sh	*11.25*
12.35	13.17	13.79	17.17	20.78	23.95	28.66	31.87	32.75	36.54	37.54	41.00	42.42	45.03	45.98	47.56	*48.30*	*50.05*	Book Value per sh C	*55.25*
201.90	204.48	204.91	226.60	234.18	257.19	262.01	261.21	243.32	246.51	240.45	239.93	242.37	244.46	246.33	248.30	*251.00*	*253.00*	Common Shs Outst'g D	*242.00*
9.4	9.7	8.2	9.0	8.6	11.8	11.5	14.0	11.8	10.1	12.6	11.8	14.9	19.7	21.9	19.7	*Bold figures are*		Avg Ann'l P/E Ratio	*18.0*
.61	.50	.45	.51	.45	.63	.62	.74	.71	.67	.80	.74	.95	1.11	1.15	1.00	*Value Line*		Relative P/E Ratio	*1.15*
5.2%	4.1%	4.4%	3.7%	2.9%	2.8%	2.5%	2.1%	2.6%	3.2%	3.1%	3.6%	3.7%	3.0%	2.6%	2.7%	*estimates*		Avg Ann'l Div'd Yield	*3.0%*

CAPITAL STRUCTURE as of 3/31/16
Total Debt $15218 mill. **Due in 5 Yrs** $6169 mill.
LT Debt $12975 mill. **LT Interest** $576 mill.
Incl. $245 mill. capitalized leases.
(LT interest earned: 3.4x)

Leases, Uncapitalized Annual rentals $71 mill.
Pension Assets-12/15 $2484 mill.
Oblig. $3649 mill.
Pfd Stock $20 mill. **Pfd Div'd** $1.2 mill.
811,073 shs. 6% cum., $25 par.
Common Stock 249,496,738 shs.
as of 4/28/16
MARKET CAP: $28 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
11761	11438	10758	8106.0	9003.0	10036	9647.0	10557	11035	10231	*10000*	*10400*	Revenues ($mill)	*12150*
1118.0	1135.0	1123.0	1193.0	1008.0	1088.0	1079.0	1060.0	1162.0	1314.0	*1165*	*1415*	Net Profit ($mill)	*1930*
31.3%	33.6%	29.2%	30.5%	26.5%	25.3%	18.2%	26.5%	19.7%	19.2%	*30.0%*	*29.0%*	Income Tax Rate	*28.0%*
7.2%	11.5%	13.2%	10.6%	11.3%	15.2%	17.2%	11.2%	14.4%	15.3%	*19.0%*	*11.0%*	AFUDC % to Net Profit	*8.0%*
37.0%	34.8%	44.5%	44.8%	49.4%	50.4%	52.8%	50.5%	51.7%	52.6%	*53.5%*	*54.0%*	Long-Term Debt Ratio	*58.0%*
61.4%	63.7%	54.2%	54.1%	49.6%	49.2%	46.7%	49.4%	48.2%	47.3%	*46.5%*	*46.0%*	Common Equity Ratio	*42.0%*
12229	13071	14692	16646	18186	20015	22002	22281	23513	24963	*26075*	*27475*	Total Capital ($mill)	*31800*
13175	14884	16865	18281	19876	23572	25191	25460	25902	28039	*30250*	*31375*	Net Plant ($mill)	*34600*
10.3%	9.6%	8.5%	8.3%	6.8%	6.7%	6.1%	6.0%	6.1%	6.4%	*5.5%*	*6.5%*	Return on Total Cap'l	*7.5%*
14.5%	13.3%	13.8%	13.0%	10.9%	10.9%	10.4%	9.6%	10.2%	11.1%	*9.0%*	*10.5%*	Return on Shr. Equity	*13.5%*
14.8%	13.5%	14.0%	13.1%	11.1%	11.0%	10.4%	9.6%	10.3%	11.1%	*9.0%*	*10.5%*	Return on Com Equity E	*13.5%*
11.0%	9.7%	9.7%	9.3%	7.0%	6.5%	5.1%	4.1%	5.0%	5.8%	*2.5%*	*4.0%*	Retained to Com Eq	*6.5%*
26%	29%	31%	29%	37%	41%	52%	58%	52%	48%	*71%*	*63%*	All Div'ds to Net Prof	*54%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-1.3	+1.8	-1.0
Avg. Indust. Use (MWH)	4279	4543	4683
Avg. Indust. Revs. per KWH (¢)	13.10	16.55	17.58
Capacity at Peak (Mw)	NMF	NMF	NMF
Peak Load, Summer (Mw)	NMF	NMF	NMF
Annual Load Factor (%)	NMF	NMF	NMF
% Change Customers (yr-end)	+.5	+.6	+.7
Fixed Charge Cov. (%)	307	288	295

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	.5%	2.5%	2.5%
"Cash Flow"	4.5%	4.5%	7.0%
Earnings	3.0%	1.5%	8.0%
Dividends	9.5%	12.0%	7.0%
Book Value	8.5%	5.5%	3.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2650	2651	2551	2705	10557
2014	2795	2678	2815	2747	11035
2015	2682	2367	2481	2701	10231
2016	2622	*2328*	*2450*	*2600*	*10000*
2017	*2700*	*2450*	*2550*	*2700*	*10400*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.54	1.46	1.09	1.13	4.22
2014	.99	1.08	1.39	1.18	4.63
2015	1.74	1.03	.99	1.47	5.23
2016	1.47	*.50*	*.93*	*1.30*	*4.20*
2017	*1.75*	*1.05*	*1.00*	*1.35*	*5.15*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.48	.60	.60	.60	2.28
2013	.60	.63	.63	.63	2.49
2014	.63	.66	.66	.66	2.61
2015	.66	.70	.70	.70	2.76
2016	.70	.755	.755		

BUSINESS: Sempra Energy is a holding co. for San Diego Gas & Electric Company, which sells electricity & gas mainly in San Diego County, & Southern California Gas Company, which distributes gas to most of Southern California. Customers: 1.4 mill. electric, 6.6 mill. gas. Elec. rev. breakdown: residential, 41%; commercial, 42%; industrial, 10%; other, 7%. Purchases most of its power; the rest is gas. Has subs. in gas pipeline & storage, power generation, & liquefied natural gas. Sold commodities business in '10. Power costs: 37% of revs. '15 reported deprec. rates: 2.7%-5.7%. Has 17,400 employees. Chairman and CEO: Debra L. Reed. President: Mark A. Snell. Inc.: CA. Address: 488 8th Avenue, San Diego, CA 92101. Tel.: 619-696-2000. Internet: www.sempra.com.

Sempra Energy offers strong earnings and dividend growth potential through the end of the decade. The company's goal is average annual profit and dividend increases of 12% and 8%-9%, respectively, from 2016 through 2020. Income from the domestic utilities is rising steadily, thanks to rate relief and expanding rate bases. The South American utilities are experiencing rapid load growth. Sempra is adding renewable-energy projects. The Mexican subsidiary is building gas pipelines. Finally, a large liquefied natural gas facility is scheduled for completion in 2018. This is expected to provide net profit of $300 million-$350 million in 2019, the first full year of operation.

Earnings will probably decline in 2016, however. A utility refund of previously collected revenues (see below) reduced June-quarter profits by $65 million, which is *included* in our earnings presentation. Also included is an expected loss (nearly $120 million) from the release of uncontracted capacity following the sale of Sempra's 25% stake in the Rockies Express pipeline. All told, we have lowered our 2016 earnings target by $0.75 a share, to $4.20. Without these items in 2017, earnings should make a partial recovery.

The California utilities have finally received orders from the state commission on their general rate cases. Retroactive to the start of 2016, Southern California Gas got a rate increase of $107 million, but San Diego Gas & Electric's tariffs were reduced by $3 million. In addition, the utilities were granted 3.5% rate hikes for 2017 and 2018, which will provide $140 million next year and $145 million the following year. The revenue refund was a disappointment, however.

We have raised the company's Financial Strength rating and the stock's Safety rank. Each move was by one notch, to A and 2 (Above Average), respectively. We had lowered them six months ago in the wake of concerns about a leak at a gas storage facility, but it appears the risks aren't as great as we had initially feared. Note that the company has over $1 billion of insurance.

The stock's 3- to 5-year total return potential is moderate, but still better than that of most utility equities.

Paul E. Debbas, CFA *July 29, 2016*

(A) Dil. EPS. Excl. nonrec. gains (losses): '05, 17¢; '06, (6¢); '09, (26¢); '10, ($1.05); '11, $1.15; '12, (98¢); '13, (30¢); '15, 14¢; '16, (20¢); gain (losses) from disc. ops.: '04, (10¢); '05, (4¢); '06, $1.21; '07, (10¢). '14 EPS don't sum due to rounding. Next egs. due early Aug. (B) Div'ds paid mid-Jan., Apr., July & Oct. ■ Div'd reinv. plan avail. (C) Incl. intang. In '15: $18.11/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq.: SDG&E in '13: 10.3%; SoCalGas in '13: 10.1%; earn. on avg. com. eq., '15: 11.2%. Regul. Clim.: Above Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	90

VECTREN CORP. NYSE-VVC

RECENT PRICE 49.79 | P/E RATIO 20.0 (Trailing: 22.2; Median: 16.0) | RELATIVE P/E RATIO 1.06 | DIV'D YLD 3.3% | VALUE LINE

TIMELINESS 3 Lowered 7/22/16

SAFETY 2 Lowered 1/5/01

TECHNICAL 1 Raised 8/19/16

BETA .75 (1.00 = Market)

High:	29.5	29.3	30.5	32.2	26.9	27.8	30.7	30.8	37.9	48.3	49.5	53.3
Low:	25.0	25.2	24.8	19.5	18.1	21.7	23.7	27.5	29.5	34.6	37.3	39.4

Target Price Range
2019 | 2020 | 2021

2019-21 PROJECTIONS

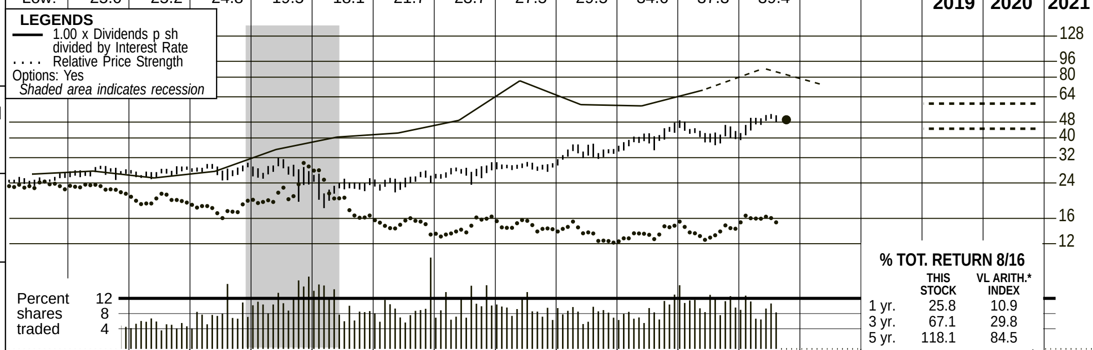
	Price	Gain	Ann'l Total Return
High	60	(+20%)	8%
Low	45	(-10%)	1%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	1	0	0	0	0	0	0	0
Options	0	0	11	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	110	153	151
to Sell	131	111	112
Hld's(000)	50862	53480	52315



% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	25.8	10.9
3 yr.	67.1	29.8
5 yr.	118.1	84.5

Vectren was formed on March 31, 2000 through the merger of Indiana Energy and SIGCORP. The merger was consummated with a tax-free exchange of shares and has been accounted for as a pooling of interests. Indiana Energy common stockholders received one Vectren common share for each share held. SIGCORP stockholders exchanged each common share for 1.333 common shares of Vectren.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
	26.83	29.88	30.67	25.76	26.06	28.39	27.16	30.23	31.62	29.40	**28.50**	**30.95**	Revenues per sh	**38.95**
	3.69	4.29	3.97	4.40	4.44	4.71	5.03	5.03	5.33	5.48	**5.55**	**6.15**	"Cash Flow" per sh	**8.00**
	1.44	1.83	1.63	1.79	1.65	1.73	1.94	1.66	2.02	2.39	**2.45**	**2.65**	Earnings per sh A	**3.35**
	1.23	1.27	1.31	1.35	1.37	1.39	1.41	1.43	1.46	1.54	**1.62**	**1.70**	Div'd Decl'd per sh B■†	**1.95**
	3.70	4.38	4.83	5.33	3.39	3.92	4.45	4.77	5.43	5.76	**6.00**	**6.45**	Cap'l Spending per sh	**7.55**
	15.43	16.16	16.68	17.23	17.61	17.89	18.57	18.86	19.45	20.34	**21.55**	**22.90**	Book Value per sh C	**26.15**
	76.10	76.36	81.03	81.10	81.70	81.90	82.20	82.40	82.60	82.80	**83.50**	**84.00**	Common Shs Outst'g D	**86.00**
	18.9	15.3	16.8	12.9	15.0	15.8	15.0	20.7	20.0	17.9	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	**15.0**
	1.02	.81	1.01	.86	.95	.99	.95	1.16	1.05	.91	*estimates*		Relative P/E Ratio	**.95**
	4.5%	4.5%	4.8%	5.9%	5.5%	5.1%	4.8%	4.2%	3.6%	3.6%			Avg Ann'l Div'd Yield	**3.9%**
	2041.6	2281.9	2484.7	2088.9	2129.5	2325.2	2232.8	2491.2	2611.7	2434.7	**2380**	**2600**	Revenues ($mill)	**3350**
	108.8	143.1	129.0	145.0	133.7	141.6	159.0	136.6	166.9	197.3	**205**	**225**	Net Profit ($mill)	**290**
	21.8%	34.7%	37.1%	26.5%	35.8%	37.9%	34.2%	32.9%	32.7%	33.6%	**35.0%**	**35.0%**	Income Tax Rate	**35.0%**
	3.8%	2.8%	2.9%	4.1%	- -	- -	- -	- -	4.1%	4.0%	**4.0%**	**4.0%**	AFUDC % to Net Profit	**4.0%**
	50.7%	50.2%	48.0%	52.4%	49.9%	51.6%	50.4%	53.3%	46.7%	50.6%	**50.0%**	**49.5%**	Long-Term Debt Ratio	**49.0%**
	49.3%	49.8%	52.0%	47.6%	50.1%	48.4%	49.6%	46.7%	53.3%	49.4%	**50.0%**	**50.5%**	Common Equity Ratio	**51.0%**
	2382.2	2479.1	2599.5	2937.7	2874.1	3025.1	3079.5	3331.4	3013.9	3406.6	**3600**	**3825**	Total Capital ($mill)	**4400**
	2385.5	2539.7	2720.3	2878.8	2955.4	3032.6	3119.6	3224.3	3439.0	4089.5	**3850**	**4000**	Net Plant ($mill)	**4450**
	6.0%	7.2%	6.5%	6.3%	6.1%	6.2%	6.4%	5.4%	6.8%	7.0%	**7.0%**	**7.0%**	Return on Total Cap'l	**7.5%**
	9.3%	11.6%	9.5%	10.4%	9.3%	9.7%	10.4%	8.8%	10.4%	11.7%	**11.5%**	**11.5%**	Return on Shr. Equity	**13.0%**
	9.3%	11.6%	9.5%	10.4%	9.3%	9.7%	10.4%	8.8%	10.4%	11.7%	**11.5%**	**11.5%**	Return on Com Equity E	**13.0%**
	1.3%	3.8%	2.0%	2.6%	1.6%	1.9%	2.9%	1.2%	2.9%	4.2%	**4.0%**	**4.5%**	Retained to Com Eq	**5.5%**
	86%	67%	80%	75%	83%	80%	73%	86%	72%	65%	**66%**	**63%**	All Div'ds to Net Prof	**58%**

CAPITAL STRUCTURE as of 6/30/16
Total Debt $1758.7 mill. **Due in 5 Yrs** $350.0 mill.
LT Debt $1713.5 mill. **LT Interest** $84.0 mill.
(LT interest earned: 4.4x)

Pension Assets-12/15 $296.9 mill. **Oblig.** $348.3 mill.

Pfd Stock None

Common Stock 82,835,860 shs. **as of 7/29/16**

MARKET CAP: $4.1 billion (Mid Cap)

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.3	+2.0	-2.4
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	NA	NA	NA
Capacity at Peak (Mw)	1384	1407	1357
Peak Load, Summer (Mw)	1102	1095	1088
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.6	+.6	+.7
Fixed Charge Cov. (%)	380	363	428

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	2.5%	2.0%	*4.0%*
"Cash Flow"	4.5%	4.5%	*7.0%*
Earnings	2.5%	3.5%	*9.0%*
Dividends	2.5%	2.0%	*5.0%*
Book Value	3.0%	2.5%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2013	700.6	531.0	579.6	680.0	2491.2
2014	796.8	542.5	595.6	676.8	2611.7
2015	706.2	551.0	573.5	604.0	2434.7
2016	584.8	533.7	***610***	***651.5***	***2380***
2017	***650***	***600***	***650***	***700***	***2600***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2013	.61	d.07	.52	.60	1.66
2014	.62	.14	.57	.69	2.02
2015	.69	.43	.48	.79	2.39
2016	.58	.39	***.63***	***.85***	***2.45***
2017	***.62***	***.45***	***.68***	***.90***	***2.65***

Cal-endar	QUARTERLY DIVIDENDS PAID B■† Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.350	.350	.350	.355	1.41
2013	.355	.355	.355	.360	1.43
2014	.360	.360	.360	.380	1.46
2015	.380	.380	.380	.400	1.54
2016	.400	.400	.400		

BUSINESS: Vectren is a holding company formed through the merger of Indiana Energy and SIGCORP. Supplies electricity and gas to an area nearly two-thirds of the state of Indiana. Owns gas distribution assets in Ohio. Has a customer base exceeding 1.1 million. 2015 Electricity revenues: residential, 36%; commercial, 27%; industrial, 34%; other, 3%. 2015 Gas revenues: residential, 67%; commercial, 23%; other, 10%. Nonutility operations include Infrastructure Services and Energy Services. Est'd plant age: electric, 9 years. '15 depreciation rate: 4.2%. Has about 5,600 employees. Chairman, President, & CEO: Carl Chapman. Incorporated: Indiana. Address: One Vectren Square, Evansville, Indiana 47708. Telephone: 812-491-4000. Internet: www.vectren.com.

Shares of Vectren have pulled back in price since reaching an all-time high early in the summer. The company reported unimpressive overall results for the second quarter. Revenues and share earnings both declined, on a year-over-year basis. This was due to weakness on the nonutility side. The Infrastructure Services transmission operation has experienced greater competition in its primary area of pipeline maintenance work. This has resulted in lower margins and fewer jobs being won. In the plus column, the Infrastructure Services distribution business and the Energy Services line reported solid performances. Moreover, strong results from the utility segment also provided support, thanks to continued investment in the gas infrastructure program in Indiana and Ohio and efforts to control costs.

We envision more-favorable earnings comparisons for the back half of the year, and further improvement from 2017 onward. Vectren's utility businesses remain well positioned in their Indiana and Ohio territories, and we expect good performance will continue here going forward, especially at the gas utility operation. The Energy Services line and the Infrastructure Services distribution business should also perform well. That said, the Infrastructure Services transmission line operations will probably continue to experience challenges related to increased competition in the near term. Even so, the long-term outlook is somewhat brighter here, as upcoming pipeline projects should serve to reduce competitive pressures. The company has affirmed its consolidated earnings guidance of $2.45 to $2.55 per share for full-year 2016. Our estimate lies at the low end of this range.

We expect solid growth in revenues and earnings here over the pull to 2019-2021. Moreover, Vectren earns good marks for Safety, Financial Strength, and Earnings Predictability. Volatility is below average, too (Beta: .75). However, the stock's price-to-earnings multiple is somewhat greater than the historical average, and long-term total return potential is not compelling at this juncture. Patient investors may want to wait for a more attractive entry point.

Michael Napoli, CFA *September 16, 2016*

(A) Diluted EPS. Excl. nonrecur. gain (loss): '09, 15¢. Next egs report due early November. (B) Div'ds historically paid in early March, June, September, and December. ■Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. intang. In '15, $6.66/sh. (D) In millions. (E) Electric rate base determination: fair value. Rates allowed on elect. common equity range from 10.15% to 10.4%. Regulatory Climate: Above Average.

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	70
Earnings Predictability	80

WEC ENERGY GROUP NYSE-WEC

RECENT PRICE 61.46 | P/E RATIO 20.4 (Trailing: 21.9, Median: 16.0) | RELATIVE P/E RATIO 1.08 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS	3	Lowered 9/16/16
SAFETY	1	Raised 3/23/12
TECHNICAL	1	Raised 9/9/16

BETA .65 (1.00 = Market)

	High	Low
	20.4	16.7
	24.3	19.1
	25.2	20.5
	24.8	17.4
	25.3	18.2
	30.5	23.4
	35.4	27.0
	41.5	33.6
	45.0	37.0
	55.4	40.2
	58.0	44.9
	66.1	50.4

Target Price Range 2019 | 2020 | 2021

2019-21 PROJECTIONS

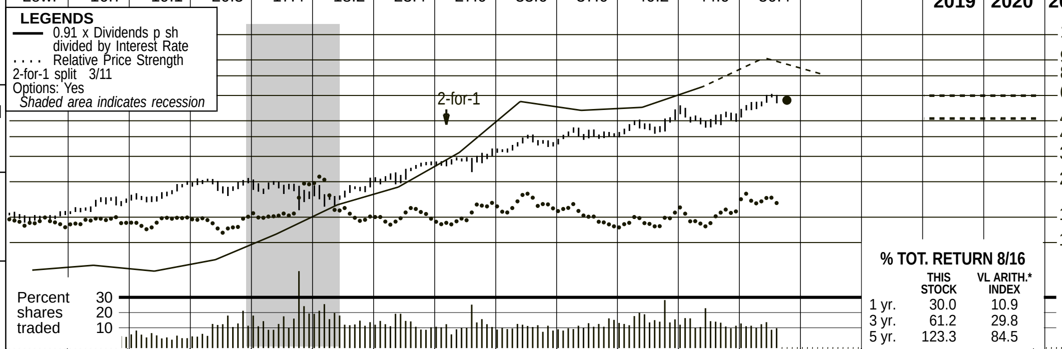
	Price	Gain	Ann'l Total Return
High	65	(+5%)	5%
Low	50	(-20%)	-1%

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	0	0	0	0	0
Options	2	0	21	5	1	1	5	2	0
to Sell	2	0	1	5	2	1	4	2	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	273	315	334
to Sell	249	243	235
Hld's(000)	219650	222778	223080



% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	30.0	10.9
3 yr.	61.2	29.8
5 yr.	123.3	84.5

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
14.14	17.02	16.10	17.12	14.66	16.31	17.08	18.12	18.95	17.65	17.98	19.46	18.54	20.00	22.16	18.77	*23.30*	*24.25*	Revenues per sh	*27.00*
2.24	2.72	2.84	2.86	2.58	2.89	2.90	2.98	2.95	3.11	3.30	3.68	4.01	4.33	4.47	3.87	*5.45*	*5.70*	"Cash Flow" per sh	*6.50*
.54	.92	1.16	1.13	.93	1.28	1.32	1.42	1.52	1.60	1.92	2.18	2.35	2.51	2.59	2.34	*2.95*	*3.10*	Earnings per sh A	*3.50*
.69	.40	.40	.40	.42	.44	.46	.50	.54	.68	.80	1.04	1.20	1.45	1.56	1.74	*1.98*	*2.08*	Div'd Decl'd per sh B ■	*2.40*
2.64	3.01	2.54	2.95	2.85	3.40	4.17	5.28	4.86	3.50	3.41	3.60	3.09	3.04	3.26	4.01	*4.90*	*6.05*	Cap'l Spending per sh	*5.00*
8.50	8.91	9.22	9.96	10.65	11.46	12.35	13.25	14.27	15.26	16.26	17.20	18.05	18.73	19.60	27.42	*28.20*	*29.25*	Book Value per sh C	*32.75*
237.29	230.84	232.06	236.85	233.97	233.96	233.94	233.89	233.84	233.82	233.77	230.49	229.04	225.96	225.52	315.68	*315.65*	*315.65*	Common Shs Outst'g D	*315.65*
18.7	12.1	10.5	12.4	17.5	14.5	16.0	16.5	14.8	13.3	14.0	14.2	15.8	16.5	17.7	21.3	*Bold figures are*		Avg Ann'l P/E Ratio	*16.5*
1.22	.62	.57	.71	.92	.77	.86	.88	.89	.89	.89	.89	1.01	.93	.93	1.07	*Value Line*		Relative P/E Ratio	*1.05*
6.8%	3.6%	3.3%	2.8%	2.6%	2.4%	2.2%	2.1%	2.4%	3.2%	3.0%	3.3%	3.2%	3.5%	3.4%	3.5%	*estimates*		Avg Ann'l Div'd Yield	*4.2%*

CAPITAL STRUCTURE as of 6/30/16
Total Debt $9925.7 mill. **Due in 5 Yrs** $3158.7 mill.
LT Debt $8902.1 mill. **LT Interest** $454.0 mill.
Incl. $59.9 mill. capitalized leases.
(LT interest earned: 4.6x)
Leases, Uncapitalized Annual rentals $9.8 mill.
Pension Assets-12/15 $2755.1 mill.
Oblig $3083.0 mill.
Pfd Stock $30.4 mill. **Pfd Div'd** $1.2 mill.
260,000 shs. 3.60%, $100 par, callable. $101; 44,498 shs. 6%, $100 par.
Common Stock 315,619,968 shs.

MARKET CAP: $19 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
3996.4	4237.8	4431.0	4127.9	4202.5	4486.4	4246.4	4519.0	4997.1	5926.1	*7350*	*7650*	Revenues ($mill)	*8550*
313.7	337.7	359.8	378.4	455.6	514.0	547.5	578.6	589.5	640.3	*935*	*990*	Net Profit ($mill)	*1140*
35.8%	39.1%	37.6%	36.5%	35.4%	33.9%	35.9%	36.9%	38.0%	40.4%	*38.0%*	*38.0%*	Income Tax Rate	*38.0%*
19.0%	23.8%	27.2%	25.0%	18.6%	16.8%	9.4%	4.5%	1.3%	4.5%	*3.0%*	*4.0%*	AFUDC % to Net Profit	*3.0%*
51.3%	50.3%	54.8%	51.9%	50.6%	53.6%	51.7%	50.6%	48.5%	51.2%	*50.5%*	*48.0%*	Long-Term Debt Ratio	*48.0%*
48.2%	49.2%	44.8%	47.7%	49.0%	46.0%	48.0%	49.1%	51.2%	48.6%	*49.5%*	*52.0%*	Common Equity Ratio	*52.0%*
5992.8	6302.1	7442.0	7473.1	7764.5	8608.0	8619.3	8626.6	8636.5	17809	*18050*	*17775*	Total Capital ($mill)	*19800*
7052.5	7681.2	8517.0	9070.5	9601.5	10160	10572	10907	11258	19190	*19950*	*21050*	Net Plant ($mill)	*23225*
6.6%	7.0%	6.3%	6.4%	7.5%	7.5%	7.9%	8.1%	8.1%	4.5%	*6.5%*	*7.0%*	Return on Total Cap'l	*7.0%*
10.7%	10.8%	10.7%	10.5%	11.9%	12.9%	13.1%	13.6%	13.2%	7.4%	*10.5%*	*10.5%*	Return on Shr. Equity	*11.0%*
10.8%	10.9%	10.7%	10.6%	12.0%	12.9%	13.2%	13.6%	13.3%	7.4%	*10.5%*	*10.5%*	Return on Com Equity E	*11.0%*
7.1%	7.1%	7.0%	6.2%	7.0%	6.8%	6.5%	5.9%	5.3%	2.1%	*3.5%*	*3.5%*	Retained to Com Eq	*3.5%*
35%	35%	35%	42%	41%	47%	51%	57%	60%	71%	*67%*	*66%*	All Div'ds to Net Prof	*67%*

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	-4.5	-5.9	+29.1
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Lg. C&I Revs. per KWH (¢)	8.21	8.62	7.71
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.2	+.5	+40.2
Fixed Charge Cov. (%)	414	454	364

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	2.5%	2.0%	*5.0%*
"Cash Flow"	4.5%	6.0%	*7.5%*
Earnings	8.5%	8.0%	*6.0%*
Dividends	14.0%	18.5%	*7.0%*
Book Value	7.5%	7.5%	*7.0%*

QUARTERLY REVENUES ($ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	1275.2	1012.3	1053.2	1178.3	4519.0
2014	1695.0	1043.7	1033.3	1225.1	4997.1
2015	1387.9	991.2	1698.7	1848.3	5926.1
2016	2195	1602	*1650*	*1903*	*7350*
2017	*2300*	*1650*	*1700*	*2000*	*7650*

EARNINGS PER SHARE A

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.76	.52	.60	.63	2.51
2014	.91	.58	.56	.54	2.59
2015	.86	.35	.58	.57	2.34
2016	1.09	.57	*.59*	*.70*	*2.95*
2017	*1.15*	*.60*	*.60*	*.75*	*3.10*

QUARTERLY DIVIDENDS PAID B ■

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.30	.30	.30	.30	1.20
2013	.34	.34	.3825	.3825	1.45
2014	.39	.39	.39	.39	1.56
2015	.4225	.4225	.44	.4575	1.74
2016	.495	.495	.495		

BUSINESS: WEC Energy Group, Inc. (formerly Wisconsin Energy) is a holding company for utilities that provide electric, gas & steam service in WI & gas service in IL, MN, & MI. Customers: 1.6 mill. elec., 2.8 mill. gas. Acq'd Integrys Energy 6/15. Sold Point Beach nuclear plant in '07. Elec. rev. breakdown: residential, 35%; small commercial & industrial, 31%; large commercial & industrial, 21%; other, 13%. Generating sources: coal, 52%; gas, 16%; renewables, 3%; purchased, 29%. Fuel costs: 38% of revs. '15 reported deprec. rates (utility): 1.2%-3.0%. Has 8,400 employees. Chairman: Gale E. Klappa. President & CEO: Allen L. Leverett. Inc.: WI. Address: 231 W. Michigan St., P.O. Box 1331, Milwaukee, WI 53201. Tel.: 414-221-2345. Internet: www.wecenergygroup.com.

WEC Energy Group's earnings are likely to rise considerably this year from a depressed level in 2015. Last year, costs associated with the takeover of Integrys Energy Group reduced the bottom line by $0.39 a share, so the year-to-year profit comparison is easy. WEC Energy's utilities are also benefiting from rate relief, including a current return (with a 30-day lag) on its accelerated gas main replacement program for Peoples Gas in Chicago. The company expects an annual investment of $250 million-$280 million on this program. Because second-quarter earnings were above our expectation, we have raised our 2016 profit estimate by a nickel a share, to $2.95 (slightly above management's guidance of $2.88-$2.94). We are sticking with our 2017 forecast of $3.10 a share, which would result in an earnings increase of 5%. WEC Energy's goal for yearly profit growth is 5%-7%.

WEC Energy's subsidiary in Michigan plans to build a gas-fired power plant. Some of the plant's output would be sold to a mining customer in the Upper Peninsula under a 20-year contract. The cost of the 170-megawatt project is estimated at $255 million. The utility would recover half of this from the customer and the other half from utility customers through rate cases. The company requires various regulatory approvals before it can begin construction. Commercial operation of the units is expected in 2019.

Finances are in excellent shape. The fixed-charge coverage dipped in 2015 due to the aforementioned merger-related expenses, but was still above average for a utility. The common-equity ratio is healthy. WEC Energy's return on equity isn't likely to revert to the levels it reached before the Integrys takeover, but should remain respectable. All told, the company has a Financial Strength rating of A+, our second highest.

WEC Energy stock is ranked 1 (Highest) for Safety. The dividend yield is about average for a utility. This might still be appealing to conservative, income-oriented accounts in view of the stock's high quality. However, with the recent price well within our 2019-2021 Target Price Range, total return potential is unspectacular.

Paul E. Debbas, CFA *September 16, 2016*

(A) Diluted EPS. Excl. gains on disc. ops.: '04, 77¢; '05, 2¢; '06, 2¢; '09, 2¢; '10, 1¢; '11, 6¢. '14 & '15 EPS don't add due to rounding or chng. in shs. Next egs. report due late Oct.
(B) Div'ds paid in early Mar., June, Sept. & Dec. ■ Div'd reinv. avail. (C) Incl. intang. In '15: $19.29/sh. (D) In mill., adj. for split. (E) Rate base: Net orig. cost. Rates all'd on com. eq. in WI in '15: 10.0%-10.3%; in IL in '15: 9.05%; in MN in '14: 9.35%; in MI in '16: 9.9%; earned on avg. com. eq., '15: 10.0%. Regul. Climate: WI, Above Avg.; IL, Below Avg.; MN & MI, Avg.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	85

XCEL ENERGY NYSE-XEL

RECENT PRICE 43.79 | P/E RATIO 19.9 (Trailing: 20.8; Median: 15.0) | RELATIVE P/E RATIO 1.05 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 2 Lowered 7/22/16

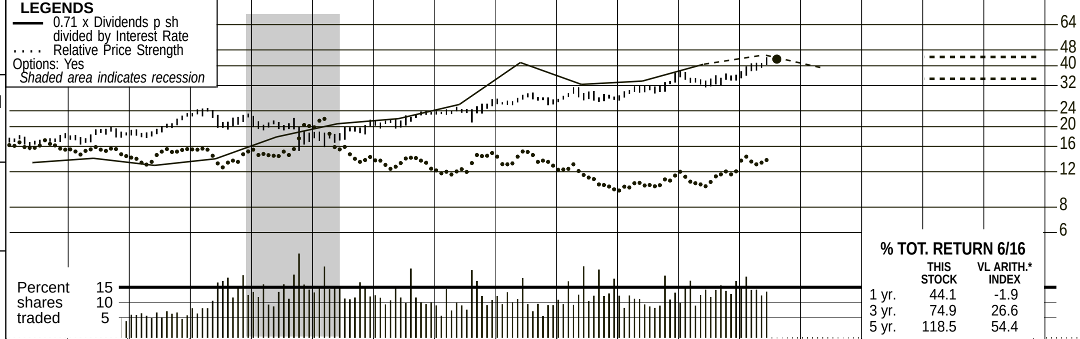
SAFETY 1 Raised 5/1/15

TECHNICAL 3 Raised 7/29/16

BETA .65 (1.00 = Market)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
High:	20.2	23.6	25.0	22.9	21.9	24.4	27.8	29.9	31.8	37.6	38.3	45.4
Low:	16.5	17.8	19.6	15.3	16.0	19.8	21.2	25.8	26.8	27.3	31.8	35.2

LEGENDS
— 0.71 x Dividends p sh divided by Interest Rate
.... Relative Price Strength
Options: Yes
Shaded area indicates recession



Target Price Range
2019 | 2020 | 2021

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+5%)	4%
Low	35	(-20%)	-1%

Insider Decisions

	S	O	N	D	J	F	M	A	M
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	0	12	0	0	0
to Sell	0	0	1	0	0	0	0	0	0

Institutional Decisions

	3Q2015	4Q2015	1Q2016
to Buy	229	261	292
to Sell	221	228	231
Hld's(000)	358878	363202	370041

Percent shares traded 15 10 5

% TOT. RETURN 6/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	44.1	-1.9
3 yr.	74.9	26.6
5 yr.	118.5	54.4

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
34.11	43.56	23.89	19.90	20.84	23.86	24.16	23.40	24.69	21.08	21.38	21.90	20.76	21.92	23.11	21.72	***21.25***	***21.65***	Revenues per sh	***23.25***
4.12	5.09	3.14	3.35	3.27	3.28	3.61	3.45	3.50	3.48	3.51	3.79	4.00	4.10	4.28	4.56	***5.05***	***5.30***	"Cash Flow" per sh	***6.25***
1.60	2.27	.42	1.23	1.27	1.20	1.35	1.35	1.46	1.49	1.56	1.72	1.85	1.91	2.03	2.10	***2.20***	***2.30***	Earnings per sh A	***2.75***
1.48	1.50	1.13	.75	.81	.85	.88	.91	.94	.97	1.00	1.03	1.07	1.11	1.20	1.28	***1.36***	***1.44***	Div'd Decl'd per sh B ■ †	***1.70***
3.63	7.40	6.04	2.49	3.19	3.25	4.00	4.89	4.66	3.91	4.60	4.53	5.27	6.82	6.33	7.26	***6.00***	***5.85***	Cap'l Spending per sh	***5.75***
16.37	17.95	11.70	12.95	12.99	13.37	14.28	14.70	15.35	15.92	16.76	17.44	18.19	19.21	20.20	20.89	***21.70***	***22.60***	Book Value per sh C	***25.50***
339.79	345.02	398.71	398.96	400.46	403.39	407.30	428.78	453.79	457.51	482.33	486.49	487.96	497.97	505.73	507.54	***508.00***	***508.00***	Common Shs Outst'g D	***508.00***
14.3	12.4	NMF	11.6	13.6	15.4	14.8	16.7	13.7	12.7	14.1	14.2	14.8	15.0	15.4	16.5	*Bold figures are*	*Value Line*	Avg Ann'l P/E Ratio	***14.5***
.93	.64	NMF	.66	.72	.82	.80	.89	.82	.85	.90	.89	.94	.84	.81	.84	*estimates*		Relative P/E Ratio	***.90***
6.4%	5.3%	6.6%	5.2%	4.7%	4.6%	4.4%	4.0%	4.7%	5.1%	4.5%	4.2%	3.9%	3.9%	3.8%	3.7%			Avg Ann'l Div'd Yield	***4.3%***

CAPITAL STRUCTURE as of 3/31/16
Total Debt $13988 mill. **Due in 5 Yrs** $4747.0 mill.
LT Debt $13148 mill. **LT Interest** $603.9 mill.
Incl. $164.0 mill. capitalized leases.
(LT interest earned: 3.8x)

Leases, Uncapitalized Annual rentals $241.6 mill.
Pension Assets-12/15 $2883.8 mill. **Oblig.** $3567.9 mill.

Pfd Stock None

Common Stock 507,952,795 shs. **as of 5/4/16**

MARKET CAP: $22 billion (Large Cap)

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		19-21
9840.3	10034	11203	9644.3	10311	10655	10128	10915	11686	11024	***10800***	***11000***	Revenues ($mill)	***11750***
568.7	575.9	645.7	685.5	727.0	841.4	905.2	948.2	1021.3	1063.6	***1115***	***1175***	Net Profit ($mill)	***1400***
24.2%	33.8%	34.4%	35.1%	37.5%	35.8%	33.2%	33.8%	33.9%	35.8%	***35.0%***	***35.0%***	Income Tax Rate	***35.0%***
9.8%	12.5%	15.9%	16.8%	11.7%	9.4%	10.8%	13.4%	12.5%	7.7%	***6.0%***	***6.0%***	AFUDC % to Net Profit	***5.0%***
52.1%	49.7%	52.2%	51.6%	53.1%	51.1%	53.3%	53.3%	53.0%	54.1%	***55.0%***	***54.0%***	Long-Term Debt Ratio	***52.5%***
47.0%	49.4%	47.1%	47.7%	46.3%	48.9%	46.7%	46.7%	47.0%	45.9%	***45.0%***	***46.0%***	Common Equity Ratio	***47.5%***
12371	12748	14800	15277	17452	17331	19018	20477	21714	23092	***24475***	***24875***	Total Capital ($mill)	***27500***
15549	16676	17689	18508	20663	22353	23809	26122	28757	31206	***32825***	***34275***	Net Plant ($mill)	***38400***
6.2%	6.3%	6.0%	6.2%	5.7%	6.5%	6.1%	6.0%	6.0%	5.8%	***6.0%***	***6.0%***	Return on Total Cap'l	***6.5%***
9.6%	9.0%	9.1%	9.3%	8.9%	9.9%	10.2%	9.9%	10.0%	10.0%	***10.0%***	***10.5%***	Return on Shr. Equity	***11.0%***
9.7%	9.1%	9.2%	9.4%	8.9%	9.9%	10.2%	9.9%	10.0%	10.0%	***10.0%***	***10.5%***	Return on Com Equity E	***11.0%***
3.6%	3.1%	3.8%	3.7%	3.6%	4.3%	4.7%	4.5%	4.5%	4.3%	***4.0%***	***4.0%***	Retained to Com Eq	***4.0%***
63%	66%	59%	61%	59%	56%	54%	54%	55%	57%	***62%***	***62%***	All Div'ds to Net Prof	***62%***

ELECTRIC OPERATING STATISTICS

	2013	2014	2015
% Change Retail Sales (KWH)	+.3	+.2	-.6
Large C & I Use (MWH)	23875	24475	23521
Large C & I Revs. per KWH (¢)	6.23	6.47	6.10
Capacity at Peak (Mw)	NA	NA	NA
Peak Load, Summer (Mw)	21258	21429	19583
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+.8	+.9	+.9
Fixed Charge Cov. (%)	321	344	358

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	.5%	- -	*.5%*
"Cash Flow"	2.5%	4.5%	*6.5%*
Earnings	5.0%	6.0%	*5.5%*
Dividends	4.0%	4.5%	*6.0%*
Book Value	4.5%	4.5%	*4.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	2783	2579	2822	2731	10915
2014	3203	2685	2870	2928	11686
2015	2962	2515	2902	2645	11024
2016	2772	***2500***	***2928***	***2600***	***10800***
2017	***2800***	***2550***	***3000***	***2650***	***11000***

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.48	.40	.73	.30	1.91
2014	.52	.39	.73	.39	2.03
2015	.46	.39	.84	.41	2.10
2016	.47	***.43***	***.87***	***.43***	***2.20***
2017	***.54***	***.44***	***.88***	***.44***	***2.30***

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.26	.26	.27	.27	1.06
2013	.27	.27	.28	.28	1.10
2014	.28	.30	.30	.30	1.18
2015	.30	.32	.32	.32	1.26
2016	.32	.34	.34		

BUSINESS: Xcel Energy Inc. is the parent of Northern States Power, which supplies electricity to Minnesota, Wisconsin, North Dakota, South Dakota & Michigan & gas to Minnesota, Wisconsin, North Dakota & Michigan; Public Service of Colorado, which supplies electricity & gas to Colorado; & Southwestern Public Service, which supplies electricity to Texas & New Mexico. Customers: 3.5 mill. electric, 1.9 mill. gas. Elec. rev. breakdown: residential, 31%; sm. comm'l & ind'l, 36%; lg. comm'l & ind'l, 18%; other, 15%. Generating sources not available. Fuel costs: 43% of revs. '15 reported depr. rate: 2.8%. Has 11,700 employees. Chairman, Pres. & CEO: Ben Fowke. Inc.: MN. Address: 414 Nicollet Mall, Minneapolis, MN 55401. Tel.: 612-330-5500. Internet: www.xcelenergy.com.

Xcel Energy's Northern States Power subsidiary has a significant rate case pending in Minnesota. NSP is asking for electric rate increases of $194.6 million (6.4%) in 2016, $52.1 million (1.7%) in 2017, and $50.4 million (1.7%) in 2018, based on a 10% return on a 52.5% common-equity ratio. The staff of the Minnesota commission has yet to put forth its recommendation, but the state Department of Commerce is recommending hikes of $44.6 million in 2016, $75.6 million in 2017, and $10.0 million in 2018, based on a 9.06% return on a 52.5% common-equity ratio. Having a multiyear rate plan is beneficial to the utility because it will help reduce the effects of regulatory lag. Note that NSP has been collecting an interim increase of $163.7 million since the start of 2016. An order is expected in June of 2017.

Frequent rate activity is normal for Xcel's utilities. The company has a goal to reduce the gap between its allowed and earned returns on equity by a half percentage point by 2018. In New Mexico, Southwestern Public Service reached a settlement calling for a $23.5 million rate hike. This awaits a ruling from the state commission, with new tariffs expected to take effect in August. In Texas, SPS is seeking a rate increase of $69 million, based on a 10.25% return on a 53.97% common-equity ratio. Rates will be retroactive to July 20, 2016. In Wisconsin, NSP filed for electric and gas tariff increases of $17.4 million (2.4%) and $4.8 million (3.9%), respectively. New rates will take effect at the start of next year.

We are sticking with our 2016 profit estimate of $2.20 a share. Xcel did not change its earnings guidance of $2.12-$2.27 a share, despite milder-than-normal winter weather in the first quarter and indications that volume growth will be at the low end of the company's expectation. Xcel expects to compensate for these problems through expense management. The primary positive factor is rate relief. This should help boost earnings in 2017, too.

Xcel stock is timely and is top-ranked for Safety. The dividend yield is only average for a utility, and with the recent quotation near the upper end of our 2019-2021 Target Price Range, total return potential is negligible.

Paul E. Debbas, CFA *July 29, 2016*

(A) Diluted EPS. Excl. nonrecurring gain (losses): '02, ($6.27); '10, 5¢; '15, (16¢); gains (losses) on discontinued ops.: '03, 27¢; '04, (30¢); '05, 3¢; '06, 1¢; '09, (1¢); '10, 1¢. Next earnings report due early Aug. (B) Div'ds historically paid mid-Jan., Apr., July, and Oct. ■ Div'd reinvestment plan available. † Shareholder investment plan available. (C) Incl. intangibles. In '15: $5.63/sh. (D) In mill. (E) Rate base: Varies. Rate allowed on com. eq. (blended): 9.8%; earned on avg. com. eq., '15: 9.5%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	65
Earnings Predictability	100

Credit Ratings

ALLETE, Inc. (NYSE: ALE)

Credit Ratings

	Moody's	S&P
Long-term Rating	A3	BBB+
Outlook	Stable	Stable
Watch	-	-
As of Date	1/30/2014	4/16/2010
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *12/9/2008*
	Baa1 (OS) Upgrade *6/6/2008*	BBB+ (OS) Affirm *4/20/2007*
	Baa2 (WP) Affirm *4/10/2008*	BBB+ (OS) Affirm *5/20/2004*
	Baa2 (OS) Affirm *5/27/2004*	BBB+ (WU) Affirm *1/27/2003*
	Baa2 (OS) Affirm *11/15/2003*	BBB+ Affirm *7/19/2002*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
ALLETE Inc.	BBB+	Stable	-	4/16/2010
Empire District Electric Co.	BBB	Negative	-	2/10/2016
MDU Resources Group Inc.	BBB+	Negative	-	11/30/2015
Unitil Corp.	BBB+	Stable	-	12/23/2014
Black Hills Corp.	BBB	Stable	-	7/24/2013
Otter Tail Corp.	BBB	Stable	-	6/21/2013
Vectren Corp.	A-	Stable	-	7/3/2007

Credit Ratings Details

	Moody's	S&P
Long-term Issuer	A3 (OS) Upgrade *1/30/2014*	BBB+ (OS) Affirm *4/16/2010*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *12/9/2008*
	Baa1 (OS) Upgrade *6/6/2008*	BBB+ (OS) Affirm *4/20/2007*
	Baa2 (WP) Affirm *4/10/2008*	BBB+ (OS) Affirm *5/20/2004*
	Baa2 (OS) Affirm *5/27/2004*	BBB+ (WU) Affirm *1/27/2003*
	Baa2 (OS) Affirm *11/15/2003*	BBB+ Affirm *7/19/2002*

Credit Ratings

Alliant Energy Corporation (NYSE: LNT)

Credit Ratings

	Moody's	S&P
Long-term Rating	Baa1	A-
Outlook	Stable	Stable
Watch	-	-
As of Date	7/5/2016	1/11/2013
	A3 (ON) Affirm *8/27/2015*	BBB+ (OS) Affirm *1/24/2012*
	A3 (OS) Upgrade *1/30/2014*	BBB+ (OP) Affirm *7/23/2010*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OS) Affirm *1/5/2006*
	Baa1 (OS) Affirm *9/27/2012*	BBB+ Affirm *1/29/2004*
	Baa1 (ON) Affirm *9/30/2011*	BBB+ Downgrade *12/6/2002*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Alliant Energy Corp.	A-	Stable	-	1/11/2013
Westar Energy Inc.	BBB+	Negative	-	5/31/2016
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
AES Corp.	BB	Stable	-	4/13/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
SCANA Corp.	BBB+	Stable	-	9/3/2015
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
OGE Energy Corp.	A-	Stable	-	5/2/2013
Portland General Electric Co.	BBB	Stable	-	1/29/2010
Sempra Energy	BBB+	Stable	-	10/2/2009

Credit Ratings Details

	Moody's	S&P
Long-term Issuer	Baa1 (OS) Downgrade *7/5/2016*	A- (OS) Upgrade *1/11/2013*
	A3 (ON) Affirm *8/27/2015*	BBB+ (OS) Affirm *1/24/2012*
	A3 (OS) Upgrade *1/30/2014*	BBB+ (OP) Affirm *7/23/2010*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OS) Affirm *1/5/2006*
	Baa1 (OS) Affirm	BBB+ Affirm

Credit Ratings

Alliant Energy Corporation (NYSE: LNT)

	9/27/2012	*1/29/2004*
	Baa1 (ON) Affirm *9/30/2011*	BBB+ Downgrade *12/6/2002*
Senior Unsecured	Baa1 Downgrade *7/5/2016*	Remove *10/16/2014*
	A3 Affirm *8/27/2015*	BBB+ Upgrade *1/11/2013*
	A3 Upgrade *1/30/2014*	BBB SNL Start *9/1/2009*
	Baa1 (WP) Affirm *11/8/2013*	-
	Baa1 SNL Start *9/30/2009*	-
Short-term/Commercial Paper	P-2 Affirm *7/5/2016*	A-2 Affirm *1/5/2006*
	P-2 Affirm *8/27/2015*	A-2 Affirm *1/29/2004*
	P-2 Upgrade *2/28/2005*	A-2 Affirm *12/6/2002*
	P-3 (WP) Affirm *12/29/2004*	A-2 Affirm *10/18/2001*
	P-3 (WR) Downgrade *1/13/2003*	A-2 Downgrade *10/17/2001*
	P-2 (WN) Affirm *10/17/2002*	A-1 SNL Start

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Alliant Energy Resources Inc.			
Long-term Rating	Remove *9/30/2009*	Remove *4/8/2014*	-
	Baa1 (OS) Upgrade *5/12/2006*	A- (OS) Upgrade *1/11/2013*	-
	Baa2 (WP) Affirm *3/9/2006*	BBB+ (OS) Affirm *1/24/2012*	-
	Baa2 SNL Start	BBB+ (OP) Affirm *7/23/2010*	-
	-	BBB+ (OS) Affirm *1/5/2006*	-
	-	BBB+ Affirm *1/29/2004*	-

Credit Ratings

American Electric Power Company, Inc. (NYSE: AEP)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB+	BBB
Outlook	Stable	-	Stable
Watch	-	Positive	-
As of Date	1/31/2014	9/16/2016	9/27/2016
	Baa2 (WP) Affirm *11/8/2013*	BBB (OP) Affirm *9/29/2014*	BBB (OS) Affirm *3/18/2016*
	Baa2 (OS) Affirm *9/16/2013*	BBB (OS) Downgrade *3/7/2003*	BBB (OS) Affirm *9/30/2015*
	Baa2 (OS) Affirm *3/23/2010*	BBB+ (WN) Affirm *1/24/2003*	BBB (OS) Affirm *3/26/2015*
	Baa2 (ON) Affirm *2/4/2009*	BBB+ Downgrade *5/23/2002*	BBB (OS) Affirm *10/1/2014*
	Baa2 (OS) Affirm *1/30/2008*	A- SNL Start	BBB (OS) Affirm *4/7/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
American Electric Power Co. Inc.	BBB+	-	Positive	9/16/2016
PG&E Corp.	BBB+	Positive	-	8/15/2016
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
FirstEnergy Corp.	BBB-	Negative	-	4/28/2016
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
Southern Co.	A-	Negative	-	8/24/2015
Edison International	BBB+	Stable	-	4/8/2014
Xcel Energy Inc.	A-	Stable	-	6/23/2010
NextEra Energy Inc.	A-	Stable	-	3/11/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	BBB+ (WP) Upgrade *9/16/2016*	BBB (OS) Affirm *9/27/2016*
	-	BBB (OP) Affirm *9/29/2014*	BBB (OS) Affirm *3/18/2016*
	-	BBB (OS) Downgrade *3/7/2003*	BBB (OS) Affirm *9/30/2015*
	-	BBB+ (WN) Affirm *1/24/2003*	BBB (OS) Affirm *3/26/2015*
	-	BBB+ Downgrade	BBB (OS) Affirm

Credit Ratings

American Electric Power Company, Inc. (NYSE: AEP)

		5/23/2002	*10/1/2014*
	-	A- SNL Start	BBB (OS) Affirm *4/7/2014*
Senior Unsecured	Baa1 (OS) Upgrade *1/31/2014*	BBB (WP) Upgrade *9/16/2016*	BBB Affirm *3/18/2016*
	Baa2 (WP) Affirm *11/8/2013*	BBB- Downgrade *11/28/2012*	BBB Affirm *9/30/2015*
	Baa2 (OS) Affirm *9/16/2013*	BBB (WR) Downgrade *3/7/2003*	BBB Affirm *3/26/2015*
	Baa2 (OS) Affirm *3/23/2010*	BBB+ SNL Start	BBB Affirm *10/1/2014*
	Baa2 (ON) Affirm *2/4/2009*	-	BBB Affirm *4/7/2014*
	Baa2 (OS) Affirm *1/30/2008*	-	BBB Affirm *2/20/2014*
Short-term/Commercial Paper	P-2 Affirm *1/31/2014*	A-2 (WR) Affirm *3/7/2003*	F2 Affirm *9/27/2016*
	P-2 Affirm *9/16/2013*	A-2 (WN) Affirm *1/24/2003*	F2 Affirm *3/18/2016*
	P-2 Upgrade *9/14/2005*	A-2 Affirm *5/23/2002*	F2 Affirm *9/30/2015*
	P-3 (WP) Affirm *8/26/2005*	A-2 Affirm *6/15/2000*	F2 Affirm *3/26/2015*
	P-3 (WR) Downgrade *2/10/2003*	A-2 SNL Start	F2 Affirm *10/1/2014*
	P-2 (WN) Affirm *12/11/2002*	-	F2 Affirm *4/7/2014*
Subordinated Debt	Remove *12/19/2012*	Remove *12/20/2012*	Remove *2/22/2013*
	Baa3 SNL Start *3/24/2008*	BB+ SNL Start *3/21/2008*	BB+ Affirm *2/27/2012*
	-	-	BB+ Affirm *2/28/2011*
	-	-	BB+ Downgrade *1/26/2010*
	-	-	BBB- SNL Start *3/18/2008*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
AEP Texas Central Co.			

Credit Ratings

Ameren Corporation (NYSE: AEE)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	11/20/2015	12/4/2013	9/27/2016
	Baa1 (OS) Upgrade *4/7/2015*	BBB (WP) Upgrade *3/14/2013*	BBB+ (OS) Affirm *7/7/2016*
	Baa2 (OS) Upgrade *1/31/2014*	BBB- (OS) Affirm *4/3/2012*	BBB+ (OS) Affirm *9/30/2015*
	Baa3 (WP) Affirm *11/8/2013*	BBB- (OP) Affirm *11/22/2011*	BBB+ (OS) Affirm *3/31/2015*
	Baa3 (OS) Downgrade *8/13/2008*	BBB- (OS) Affirm *8/29/2007*	BBB+ (OS) Affirm *10/1/2014*
	Baa2 (WN) Affirm *5/21/2008*	BBB- Downgrade *4/23/2007*	BBB+ (OS) Upgrade *3/14/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Ameren Corp.	BBB+	Stable	-	12/4/2013
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Xcel Energy Inc.	A-	Stable	-	6/23/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OS) Affirm *11/20/2015*	BBB+ (OS) Upgrade *12/4/2013*	BBB+ (OS) Affirm *9/27/2016*
	Baa1 (OS) Upgrade *4/7/2015*	BBB (WP) Upgrade *3/14/2013*	BBB+ (OS) Affirm *7/7/2016*
	Baa2 (OS) Upgrade *1/31/2014*	BBB- (OS) Affirm *4/3/2012*	BBB+ (OS) Affirm *9/30/2015*
	Baa3 (WP) Affirm *11/8/2013*	BBB- (OP) Affirm *11/22/2011*	BBB+ (OS) Affirm *3/31/2015*
	Baa3 (OS) Downgrade	BBB- (OS) Affirm	BBB+ (OS) Affirm

Credit Ratings

Ameren Corporation (NYSE: AEE)

	8/13/2008	*8/29/2007*	*10/1/2014*
	Baa2 (WN) Affirm *5/21/2008*	BBB- Downgrade *4/23/2007*	BBB+ (OS) Upgrade *3/14/2014*
Senior Unsecured	Baa1 Initiate *11/20/2015*	BBB Upgrade *12/4/2013*	BBB+ Affirm *7/7/2016*
	Remove *5/15/2014*	BBB- (WP) Upgrade *3/14/2013*	BBB+ Initiate *11/18/2015*
	Baa2 Upgrade *1/31/2014*	BB+ (WR) Affirm *8/29/2007*	Remove *5/15/2014*
	Baa3 (WP) Affirm *11/8/2013*	BB+ (WN) Downgrade *4/23/2007*	BBB+ Upgrade *3/14/2014*
	Baa3 Initiate *5/15/2009*	BBB- (WN) Downgrade *10/5/2006*	BBB Affirm *3/15/2013*
	Remove *5/15/2007*	BBB (WN) Downgrade *10/3/2005*	BBB Affirm *1/28/2013*
Short-term/Commercial Paper	P-2 Affirm *11/20/2015*	A-2 Upgrade *3/14/2013*	F2 Affirm *9/27/2016*
	P-2 Affirm *4/7/2015*	A-3 (WR) Affirm *8/29/2007*	F2 Affirm *7/7/2016*
	P-2 Affirm *3/13/2014*	A-3 (WN) Affirm *4/23/2007*	F2 Affirm *9/30/2015*
	P-2 Upgrade *1/31/2014*	A-3 Downgrade *10/5/2006*	F2 Affirm *3/31/2015*
	P-3 (WP) Affirm *11/8/2013*	A-2 (WN) Affirm *10/3/2005*	F2 Affirm *10/1/2014*
	P-3 Downgrade *8/13/2008*	A-2 Affirm *7/30/2004*	F2 Affirm *3/14/2014*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Ameren Illinois Co.			
Long-term Rating	A3 (OS) Upgrade *4/7/2015*	BBB+ (OS) Upgrade *12/4/2013*	BBB+ (OS) Affirm *9/27/2016*
	Baa1 (OS) Affirm *5/9/2014*	BBB (WP) Upgrade *3/14/2013*	BBB+ (OS) Affirm *7/7/2016*
	Baa1 (OS) Upgrade *1/31/2014*	BBB- (OS) Affirm *4/3/2012*	BBB+ (OS) Affirm *9/30/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (OP) Affirm *11/22/2011*	BBB+ (OS) Upgrade *3/31/2015*
	Baa2 (OS) Upgrade	BBB- (OS) Upgrade	BBB (OS) Affirm

Credit Ratings

Avista Corporation (NYSE: AVA)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB	-
Outlook	Stable	Stable	-
Watch	-	-	-
As of Date	1/30/2014	3/2/2011	5/20/2011
	Baa2 (WP) Affirm *11/8/2013*	BBB- (OP) Affirm *8/10/2009*	BBB- (OS) Affirm *8/2/2010*
	Baa2 (OS) Upgrade *3/16/2011*	BBB- (OS) Upgrade *2/7/2008*	BBB- (OS) Upgrade *5/19/2009*
	Baa3 (WP) Affirm *2/3/2011*	BB+ (OP) Affirm *4/17/2007*	BB+ (OP) Affirm *2/6/2008*
	Baa3 (OP) Affirm *8/12/2009*	BB+ (OS) Affirm *3/31/2006*	BB+ (OP) Upgrade *8/9/2007*
	Baa3 Upgrade *12/20/2007*	BB+ (OS) Affirm *9/22/2005*	BB (OP) Affirm *7/28/2006*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Avista Corp.	BBB	Stable	-	3/2/2011
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
NiSource Inc.	BBB+	Stable	-	6/18/2015
Black Hills Corp.	BBB	Stable	-	7/24/2013
NorthWestern Corp.	BBB	Stable	-	3/14/2008
IDACORP Inc.	BBB	Stable	-	1/31/2008
El Paso Electric Co.	BBB	Stable	-	8/12/2004

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OS) Upgrade *1/30/2014*	BBB (OS) Upgrade *3/2/2011*	Remove *5/20/2011*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (OP) Affirm *8/10/2009*	BBB- (OS) Affirm *8/2/2010*
	Baa2 (OS) Upgrade *3/16/2011*	BBB- (OS) Upgrade *2/7/2008*	BBB- (OS) Upgrade *5/19/2009*
	Baa3 (WP) Affirm *2/3/2011*	BB+ (OP) Affirm *4/17/2007*	BB+ (OP) Affirm *2/6/2008*
	Baa3 (OP) Affirm *8/12/2009*	BB+ (OS) Affirm *3/31/2006*	BB+ (OP) Upgrade *8/9/2007*
	Baa3 (OS) Upgrade *12/20/2007*	BB+ (OS) Affirm *9/22/2005*	BB (OP) Affirm *7/28/2006*

Credit Ratings

Avista Corporation (NYSE: AVA)

Senior Unsecured	Remove *10/30/2013*	Remove *2/28/2008*	Remove *5/20/2011*
	Baa2 (WR) Upgrade *3/16/2011*	BBB- Upgrade *2/7/2008*	BBB Upgrade *5/19/2009*
	Baa3 (WP) Affirm *2/3/2011*	BB+ Affirm *4/17/2007*	BBB- (OP) Affirm *2/6/2008*
	Baa3 (WR) Upgrade *12/20/2007*	BB+ Affirm *3/31/2006*	BBB- Upgrade *8/9/2007*
	Ba1 (WP) Affirm *6/22/2007*	BB+ Affirm *9/22/2005*	BB+ Affirm *7/28/2006*
	Ba1 Affirm *3/12/2004*	BB+ Affirm *1/10/2005*	BB+ Affirm *2/10/2004*
Short-term/Commercial Paper	-	A-2 Upgrade *3/2/2011*	Remove *5/20/2011*
	-	A-3 Upgrade *2/7/2008*	F3 Affirm *8/2/2010*
	-	B-1 Affirm *4/17/2007*	F3 Upgrade *5/19/2009*
	-	B-1 Affirm *3/31/2006*	B Affirm *2/6/2008*
	-	B-1 Upgrade *9/22/2005*	B Initiate *8/9/2007*
	-	B-2 SNL Start *4/19/2005*	Remove *12/11/2001*
Preferred Stock	Remove *9/15/2007*	-	Remove *9/15/2007*
	Ba3 (WP) Affirm *6/22/2007*	-	BB+ Upgrade *8/9/2007*
	Ba3 Affirm *3/12/2004*	-	BB Affirm *7/28/2006*
	Ba3 Downgrade *10/8/2001*	-	BB Affirm *2/10/2004*
	Ba1 SNL Start	-	BB Downgrade *12/11/2001*
	-	-	BB+ Affirm *9/28/2001*
Trust Preferred	Baa2 (OS) Upgrade *1/30/2014*	BB+ Upgrade *3/2/2011*	Remove *5/20/2011*
	Baa3 (WP) Affirm *11/8/2013*	BB Upgrade *2/7/2008*	BB+ Downgrade *1/22/2010*

Credit Ratings

Black Hills Corporation (NYSE: BKH)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB	BBB+
Outlook	Negative	Stable	Negative
Watch	-	-	-
As of Date	2/12/2016	7/24/2013	9/27/2016
	Baa1 (ON) Affirm *7/14/2015*	BBB- (OP) Affirm *10/16/2012*	BBB+ (ON) Affirm *2/12/2016*
	Baa1 (OS) Upgrade *1/30/2014*	BBB- (OS) Affirm *2/15/2007*	BBB+ (WN) Affirm *7/13/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (ON) Affirm *2/7/2007*	BBB+ (OS) Affirm *6/12/2015*
	Baa2 (OP) Upgrade *9/25/2013*	BBB- (ON) Affirm *9/20/2006*	BBB+ (OS) Affirm *10/1/2014*
	Baa3 (OP) Affirm *10/18/2012*	BBB- (ON) Affirm *5/1/2006*	BBB+ (OS) Upgrade *6/13/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Black Hills Corp.	BBB	Stable	-	7/24/2013
Empire District Electric Co.	BBB	Negative	-	2/10/2016
MDU Resources Group Inc.	BBB+	Negative	-	11/30/2015
Unitil Corp.	BBB+	Stable	-	12/23/2014
Otter Tail Corp.	BBB	Stable	-	6/21/2013
ALLETE Inc.	BBB+	Stable	-	4/16/2010
Vectren Corp.	A-	Stable	-	7/3/2007

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (ON) Affirm *2/12/2016*	BBB (OS) Upgrade *7/24/2013*	BBB+ (ON) Affirm *9/27/2016*
	Baa1 (ON) Affirm *7/14/2015*	BBB- (OP) Affirm *10/16/2012*	BBB+ (ON) Affirm *2/12/2016*
	Baa1 (OS) Upgrade *1/30/2014*	BBB- (OS) Affirm *2/15/2007*	BBB+ (WN) Affirm *7/13/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (ON) Affirm *2/7/2007*	BBB+ (OS) Affirm *6/12/2015*
	Baa2 (OP) Upgrade *9/25/2013*	BBB- (ON) Affirm *9/20/2006*	BBB+ (OS) Affirm *10/1/2014*
	Baa3 (OP) Affirm *10/18/2012*	BBB- (ON) Affirm *5/1/2006*	BBB+ (OS) Upgrade *6/13/2014*

Credit Ratings

Black Hills Corporation (NYSE: BKH)

Senior Unsecured	Baa1 Affirm *2/12/2016*	BBB Upgrade *7/24/2013*	BBB+ (WR) Affirm *2/12/2016*
	Baa1 Affirm *7/14/2015*	BBB- Affirm *2/15/2007*	BBB+ (WN) Affirm *7/13/2015*
	Baa1 Upgrade *1/30/2014*	BBB- Affirm *2/7/2007*	BBB+ Affirm *6/12/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB- Affirm *9/20/2006*	BBB+ Affirm *10/1/2014*
	Baa2 Upgrade *9/25/2013*	BBB- (WR) Affirm *5/1/2006*	BBB+ Upgrade *6/13/2014*
	Baa3 Affirm *2/7/2007*	BBB- (WN) Affirm *2/9/2006*	BBB Affirm *4/7/2014*
Short-term/Commercial Paper	-	Remove *5/13/2003*	F2 Affirm *9/27/2016*
	-	A-2 SNL Start *12/4/2001*	F2 (WR) Affirm *2/12/2016*
	-	-	F2 (WN) Affirm *7/13/2015*
	-	-	F2 Affirm *6/12/2015*
	-	-	F2 Affirm *10/1/2014*
	-	-	F2 Upgrade *6/13/2014*
Subordinated Debt	-	-	BBB- (WR) Affirm *2/12/2016*
	-	-	BBB- (WN) Initiate *11/17/2015*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Black Hills Gas LLC			
Long-term Rating	Baa1 (OS) Upgrade *2/12/2016*	BBB (OS) Upgrade *2/12/2016*	Remove *9/12/2016*
	Baa2 (WP) Affirm *1/21/2016*	BB+ (OP) Affirm *7/13/2015*	BBB (OP) Upgrade *2/12/2016*
	Baa2 (OS) Affirm *7/14/2015*	BB+ (OS) Downgrade *6/23/2008*	BB+ (WP) Affirm *7/13/2015*
	Baa2 (OS) Upgrade *1/30/2014*	BBB- (WN) Affirm *12/13/2007*	BB+ (OP) Affirm *9/12/2014*

Credit Ratings

CMS Energy Corporation (NYSE: CMS)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa2	BBB+	BBB
Outlook	Positive	Stable	Stable
Watch	-	-	-
As of Date	3/14/2016	12/3/2014	9/27/2016
	Baa2 (OS) Upgrade *1/31/2014*	BBB (OP) Affirm *3/10/2014*	BBB (OS) Upgrade *3/2/2016*
	Baa3 (WP) Affirm *11/8/2013*	BBB (OS) Upgrade *3/18/2013*	BBB- (OS) Affirm *4/24/2015*
	Baa3 (OS) Upgrade *3/15/2013*	BBB- (OP) Affirm *5/18/2012*	BBB- (OS) Affirm *2/24/2015*
	Ba1 (OP) Affirm *3/9/2012*	BBB- (OS) Upgrade *5/9/2007*	BBB- (OS) Affirm *10/1/2014*
	Ba1 (OS) Upgrade *6/8/2007*	BB (WP) Affirm *2/12/2007*	BBB- (OS) Affirm *4/7/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Avangrid Inc.	BBB+	Stable	-	4/22/2016
AES Corp.	BB	Stable	-	4/13/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
Ameren Corp.	BBB+	Stable	-	12/4/2013
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	BBB+ (OS) Upgrade *12/3/2014*	BBB (OS) Affirm *9/27/2016*
	-	BBB (OP) Affirm *3/10/2014*	BBB (OS) Upgrade *3/2/2016*
	-	BBB (OS) Upgrade *3/18/2013*	BBB- (OS) Affirm *4/24/2015*
	-	BBB- (OP) Affirm *5/18/2012*	BBB- (OS) Affirm *2/24/2015*
	-	BBB- (OS) Upgrade	BBB- (OS) Affirm

Credit Ratings

CMS Energy Corporation (NYSE: CMS)

		5/9/2007	10/1/2014
	-	BB (WP) Affirm *2/12/2007*	BBB- (OS) Affirm *4/7/2014*
Senior Unsecured	Baa2 (OP) Affirm *3/14/2016*	BBB Upgrade *12/3/2014*	BBB Upgrade *3/2/2016*
	Baa2 (OS) Upgrade *1/31/2014*	BBB- Upgrade *3/18/2013*	BBB- Affirm *4/24/2015*
	Baa3 (WP) Affirm *11/8/2013*	BB+ Upgrade *5/9/2007*	BBB- Affirm *2/24/2015*
	Baa3 (OS) Upgrade *3/15/2013*	B+ (WP) Affirm *2/12/2007*	BBB- Affirm *10/1/2014*
	Ba1 (OP) Affirm *3/9/2012*	B+ (WR) Affirm *1/30/2006*	BBB- Affirm *4/7/2014*
	Ba1 (OS) Upgrade *6/8/2007*	B+ (WN) Affirm *11/1/2005*	BBB- Upgrade *2/21/2014*
Short-term/Commercial Paper	-	A-2 Upgrade *3/18/2013*	F2 Affirm *9/27/2016*
	-	A-3 (WR) Upgrade *5/9/2007*	F2 Upgrade *3/2/2016*
	-	B-1 (WP) Affirm *2/12/2007*	F3 Affirm *4/24/2015*
	-	B-1 (WR) Affirm *1/30/2006*	F3 Affirm *2/24/2015*
	-	B-1 (WN) Affirm *11/1/2005*	F3 Affirm *10/1/2014*
	-	B-1 SNL Start *4/19/2005*	F3 Affirm *4/7/2014*
Preferred Stock	Remove *9/30/2010*	Remove *12/3/2014*	Remove *3/11/2011*
	Ba2 Upgrade *6/8/2007*	BB+ Upgrade *3/18/2013*	BB- Downgrade *1/22/2010*
	Ba3 Affirm *2/13/2007*	BB (WR) Upgrade *5/9/2007*	BB (WR) Upgrade *11/1/2007*
	Ba3 Upgrade *9/27/2006*	B (WP) Affirm *2/12/2007*	B (WP) Affirm *8/6/2007*
	B3 (WR) Upgrade *8/10/2006*	B (WR) Affirm *1/30/2006*	B (WR) Upgrade *3/12/2007*
	Caa1 (WP) Affirm *6/28/2006*	B (WN) Affirm *11/1/2005*	B- (WP) Affirm *2/6/2007*

Credit Ratings

Consolidated Edison, Inc. (NYSE: ED)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	A-	BBB+
Outlook	Stable	Negative	Stable
Watch	-	-	-
As of Date	4/21/2016	11/23/2015	10/26/2015
	A3 (OS) Upgrade *1/30/2014*	A- (OS) Downgrade *3/25/2008*	BBB+ (OS) Affirm *4/24/2015*
	Baa1 (WP) Affirm *11/8/2013*	A (ON) Affirm *6/6/2006*	BBB+ (OS) Affirm *10/22/2014*
	Baa1 (OP) Affirm *7/30/2013*	A (OS) Affirm *6/10/2003*	BBB+ (OS) Affirm *10/22/2013*
	Baa1 (OS) Downgrade *6/29/2009*	A Downgrade *5/16/2003*	BBB+ (OS) Affirm *10/22/2012*
	A2 (WN) Affirm *3/17/2009*	A+ Upgrade *4/30/2002*	BBB+ (OS) Affirm *10/25/2011*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
American Electric Power Co. Inc.	BBB+	-	Positive	9/16/2016
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
Dominion Resources Inc.	BBB+	Stable	-	2/1/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
Edison International	BBB+	Stable	-	4/8/2014

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Affirm *4/21/2016*	A- (ON) Affirm *11/23/2015*	BBB+ (OS) Affirm *10/26/2015*
	A3 (OS) Upgrade *1/30/2014*	A- (OS) Downgrade *3/25/2008*	BBB+ (OS) Affirm *4/24/2015*
	Baa1 (WP) Affirm *11/8/2013*	A (ON) Affirm *6/6/2006*	BBB+ (OS) Affirm *10/22/2014*
	Baa1 (OP) Affirm *7/30/2013*	A (OS) Affirm *6/10/2003*	BBB+ (OS) Affirm *10/22/2013*
	Baa1 (OS) Downgrade	A Downgrade	BBB+ (OS) Affirm

Credit Ratings

Consolidated Edison, Inc. (NYSE: ED)

	6/29/2009	*5/16/2003*	*10/22/2012*
	A2 (WN) Affirm *3/17/2009*	A+ Upgrade *4/30/2002*	BBB+ (OS) Affirm *10/25/2011*
Senior Unsecured	A3 Initiate *5/11/2016*	BBB+ Initiate *5/11/2016*	BBB+ Initiate *5/11/2016*
	-	-	Remove *8/1/2008*
	-	-	BBB+ (OS) Downgrade *3/28/2008*
	-	-	A- (WN) Downgrade *3/20/2008*
	-	-	A Affirm *4/4/2007*
	-	-	A Upgrade *12/6/2005*
Short-term/Commercial Paper	P-2 Affirm *4/21/2016*	A-2 Affirm *3/25/2008*	F2 Affirm *10/26/2015*
	P-2 Affirm *7/30/2013*	A-2 Downgrade *6/6/2006*	F2 Affirm *4/24/2015*
	P-2 Downgrade *6/29/2009*	A-1 Affirm *6/10/2003*	F2 Affirm *10/22/2014*
	P-1 (WN) Affirm *3/17/2009*	A-1 Affirm *5/16/2003*	F2 Affirm *10/22/2013*
	P-1 Affirm *7/20/2004*	A-1 Affirm *4/30/2002*	F2 Affirm *10/22/2012*
	P-1 (WR) Affirm *6/11/2001*	A-1 (WR) Affirm *3/20/2002*	F2 Affirm *10/25/2011*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Consolidated Edison Co. of New York Inc.			
Long-term Rating	A2 (OS) Upgrade *1/30/2014*	A- (ON) Affirm *11/23/2015*	BBB+ (OS) Affirm *10/26/2015*
	A3 (WP) Affirm *11/8/2013*	A- (OS) Downgrade *3/25/2008*	BBB+ (OS) Affirm *4/24/2015*
	A3 (OP) Affirm *7/30/2013*	A (ON) Affirm *6/6/2006*	BBB+ (OS) Affirm *10/22/2014*
	A3 (OS) Downgrade *6/29/2009*	A (OS) Affirm *6/10/2003*	BBB+ (OS) Affirm *10/22/2013*
	A1 (WN) Affirm *3/17/2009*	A Downgrade *5/16/2003*	BBB+ (OS) Affirm *10/22/2012*

Credit Ratings

DTE Energy Company (NYSE: DTE)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	BBB+	BBB+
Outlook	-	Stable	Negative
Watch	Negative	-	-
As of Date	9/27/2016	8/21/2015	9/27/2016
	A3 (OS) Upgrade *1/31/2014*	BBB+ (OP) Affirm *8/19/2013*	BBB+ (OS) Upgrade *2/8/2016*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OS) Upgrade *12/9/2010*	BBB (OS) Affirm *4/24/2015*
	Baa1 (OS) Upgrade *2/8/2013*	BBB (OP) Affirm *6/8/2010*	BBB (OS) Affirm *1/23/2015*
	Baa2 (OP) Affirm *2/27/2012*	BBB (OS) Affirm *1/15/2010*	BBB (OS) Affirm *10/1/2014*
	Baa2 (OS) Affirm *4/22/2005*	BBB (ON) Affirm *5/22/2009*	BBB (OS) Affirm *4/7/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
DTE Energy Co.	BBB+	Stable	-	8/21/2015
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Ameren Corp.	BBB+	Stable	-	12/4/2013
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	BBB+ (OS) Affirm *8/21/2015*	BBB+ (ON) Affirm *9/27/2016*
	-	BBB+ (OP) Affirm *8/19/2013*	BBB+ (OS) Upgrade *2/8/2016*
	-	BBB+ (OS) Upgrade *12/9/2010*	BBB (OS) Affirm *4/24/2015*
	-	BBB (OP) Affirm *6/8/2010*	BBB (OS) Affirm *1/23/2015*
	-	BBB (OS) Affirm	BBB (OS) Affirm

Credit Ratings

DTE Energy Company (NYSE: DTE)

		1/15/2010	*10/1/2014*
	-	BBB (ON) Affirm *5/22/2009*	BBB (OS) Affirm *4/7/2014*
Senior Unsecured	A3 (WN) Affirm *9/27/2016*	BBB Upgrade *12/9/2010*	BBB+ Affirm *9/27/2016*
	A3 (OS) Upgrade *1/31/2014*	BBB- Affirm *12/1/2004*	BBB+ Upgrade *2/8/2016*
	Baa1 (WP) Affirm *11/8/2013*	BBB- SNL Start	BBB Affirm *4/24/2015*
	Baa1 (OS) Upgrade *2/8/2013*	-	BBB Affirm *1/23/2015*
	Baa2 (OP) Affirm *2/27/2012*	-	BBB Affirm *10/1/2014*
	Baa2 (OS) Affirm *4/22/2005*	-	BBB Affirm *4/7/2014*
Short-term/Commercial Paper	P-2 (WN) Affirm *9/27/2016*	A-2 Upgrade *1/15/2010*	F2 Affirm *9/27/2016*
	P-2 Affirm *1/31/2014*	A-3 Downgrade *5/22/2009*	F2 Affirm *2/8/2016*
	P-2 Affirm *2/8/2013*	A-2 Affirm *12/1/2004*	F2 Affirm *4/24/2015*
	P-2 Affirm *4/22/2005*	A-2 Affirm *11/7/2003*	F2 Affirm *1/23/2015*
	P-2 Affirm *1/28/2004*	A-2 Affirm *3/1/2000*	F2 Affirm *10/1/2014*
	P-2 SNL Start *5/16/2001*	A-2 SNL Start	F2 Affirm *4/7/2014*
Subordinated Debt	Baa1 (WN) Affirm *9/27/2016*	BBB- Initiate *12/2/2011*	BBB- Affirm *9/27/2016*
	Baa1 Upgrade *1/31/2014*	-	BBB- Upgrade *2/8/2016*
	Baa2 (WP) Affirm *11/8/2013*	-	BB+ Affirm *4/24/2015*
	Baa2 Upgrade *2/8/2013*	-	BB+ Affirm *1/23/2015*
	Baa3 SNL Start *12/2/2011*	-	BB+ Affirm *10/1/2014*
	-	-	BB+ Affirm *4/7/2014*

Credit Ratings

Edison International (NYSE: EIX)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	BBB+	A-
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	1/30/2014	4/8/2014	9/27/2016
	Baa2 (WP) Affirm *11/8/2013*	BBB- (WP) Affirm *10/21/2013*	A- (OS) Affirm *2/18/2016*
	Baa2 (OS) Upgrade *10/16/2006*	BBB- (OS) Downgrade *9/29/2006*	A- (OS) Affirm *4/24/2015*
	Baa3 (WR) Upgrade *8/6/2004*	BBB (OS) Upgrade *2/16/2005*	A- (OS) Affirm *3/6/2015*
	Ba2 (WP) Affirm *3/22/2004*	BB+ (WR) Upgrade *12/3/2003*	A- (OS) Affirm *10/1/2014*
	Ba2 (WR) Upgrade *11/25/2003*	B- (WU) SNL Start *7/19/2002*	A- (OS) Upgrade *6/4/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Edison International	BBB+	Stable	-	4/8/2014
American Electric Power Co. Inc.	BBB+	-	Positive	9/16/2016
PG&E Corp.	BBB+	Positive	-	8/15/2016
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
FirstEnergy Corp.	BBB-	Negative	-	4/28/2016
Dominion Resources Inc.	BBB+	Stable	-	2/1/2016
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
Southern Co.	A-	Negative	-	8/24/2015
Xcel Energy Inc.	A-	Stable	-	6/23/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Upgrade *1/30/2014*	BBB+ (OS) Upgrade *4/8/2014*	A- (OS) Affirm *9/27/2016*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (WP) Affirm *10/21/2013*	A- (OS) Affirm *2/18/2016*
	Baa2 (OS) Upgrade *10/16/2006*	BBB- (OS) Downgrade *9/29/2006*	A- (OS) Affirm *4/24/2015*
	Baa3 (WR) Upgrade *8/6/2004*	BBB (OS) Upgrade *2/16/2005*	A- (OS) Affirm *3/6/2015*
	Ba2 (WP) Affirm	BB+ (WR) Upgrade	A- (OS) Affirm

Credit Ratings

Edison International (NYSE: EIX)

	3/22/2004	*12/3/2003*	*10/1/2014*
	Ba2 (WR) Upgrade *11/25/2003*	B- (WU) SNL Start *7/19/2002*	A- (OS) Upgrade *6/4/2014*
Senior Unsecured	A3 Upgrade *1/30/2014*	BBB (WR) Upgrade *4/8/2014*	A- Affirm *2/18/2016*
	Baa2 (WP) Affirm *11/8/2013*	BBB- (WP) Affirm *10/21/2013*	A- Affirm *4/24/2015*
	Baa2 SNL Start *3/3/2008*	BBB- SNL Start *9/15/2010*	A- Affirm *3/6/2015*
	-	-	A- Affirm *10/1/2014*
	-	-	A- (WR) Upgrade *6/4/2014*
	-	-	BBB+ (WP) Upgrade *2/21/2014*
Short-term/Commercial Paper	P-2 Affirm *1/30/2014*	A-2 (WR) Upgrade *4/8/2014*	F2 Affirm *9/27/2016*
	P-2 Initiate *12/17/2013*	A-3 (WP) Initiate *12/12/2013*	F2 Affirm *2/18/2016*
	-	-	F2 Affirm *4/24/2015*
	-	-	F2 Affirm *3/6/2015*
	-	-	F2 Affirm *10/1/2014*
	-	-	F2 Affirm *6/4/2014*
Trust Preferred	-	-	Remove *12/20/2004*
	-	-	B+ Upgrade *4/2/2004*
	-	-	CCC Affirm *9/9/2003*
	-	-	CCC (WR) Upgrade *3/7/2002*
	-	-	C (WP) Affirm *10/3/2001*
	-	-	C SNL Start

Subsidiary Credit Ratings Details

Credit Ratings

El Paso Electric Company (NYSE: EE)

Credit Ratings

	Moody's	S&P
Long-term Rating	Baa1	BBB
Outlook	Stable	Stable
Watch	-	-
As of Date	1/30/2014	8/12/2004
	Baa2 (WP) Affirm *11/8/2013*	BBB- SNL Start *7/19/2002*
	Baa2 (OS) Upgrade *2/8/2007*	-
	Baa3 (WP) Affirm *8/29/2006*	-
	Baa3 (WR) Upgrade *9/22/2004*	-
	Ba1 (WP) Affirm *7/2/2004*	-

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
El Paso Electric Co.	BBB	Stable	-	8/12/2004
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
NiSource Inc.	BBB+	Stable	-	6/18/2015
Black Hills Corp.	BBB	Stable	-	7/24/2013
Avista Corp.	BBB	Stable	-	3/2/2011
NorthWestern Corp.	BBB	Stable	-	3/14/2008
IDACORP Inc.	BBB	Stable	-	1/31/2008

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OS) Upgrade *1/30/2014*	BBB (OS) Upgrade *8/12/2004*	-
	Baa2 (WP) Affirm *11/8/2013*	BBB- SNL Start *7/19/2002*	-
	Baa2 (OS) Upgrade *2/8/2007*	-	-
	Baa3 (WP) Affirm *8/29/2006*	-	-
	Baa3 (WR) Upgrade *9/22/2004*	-	-
	Ba1 (WP) Affirm *7/2/2004*	-	-

Credit Ratings

El Paso Electric Company (NYSE: EE)

Senior Unsecured	Baa1 Upgrade *1/30/2014*	BBB SNL Start *5/11/2005*	-
	Baa2 (WP) Affirm *11/8/2013*	-	-
	Baa2 (WR) Upgrade *2/8/2007*	-	-
	Baa3 (WP) Affirm *8/29/2006*	-	-
	Baa3 SNL Start *5/25/2005*	-	-
Senior Secured Debt	-	-	Remove *4/24/2003*
	-	-	BBB- SNL Start

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

Credit Ratings

Exelon Corporation (NYSE: EXC)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa2	BBB	BBB
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	3/24/2016	7/22/2009	9/27/2016
	Baa2 (OS) Affirm *8/31/2015*	BBB (WN) Downgrade *10/21/2008*	BBB (OS) Downgrade *3/25/2016*
	Baa2 (OS) Affirm *4/30/2014*	BBB+ (OS) Affirm *8/29/2007*	BBB+ (WN) Affirm *4/29/2015*
	Baa2 (OS) Affirm *2/7/2013*	BBB+ (WN) Affirm *10/5/2006*	BBB+ (WN) Affirm *4/30/2014*
	Baa2 (ON) Affirm *11/8/2012*	BBB+ (OS) Affirm *9/15/2006*	BBB+ (ON) Affirm *4/7/2014*
	Baa2 (WN) Affirm *6/11/2012*	BBB+ Downgrade *10/3/2005*	BBB+ (ON) Affirm *2/7/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Exelon Corp.	BBB	Stable	-	7/22/2009
American Electric Power Co. Inc.	BBB+	-	Positive	9/16/2016
PG&E Corp.	BBB+	Positive	-	8/15/2016
FirstEnergy Corp.	BBB-	Negative	-	4/28/2016
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
Duke Energy Corp.	A-	Negative	-	10/27/2015
Southern Co.	A-	Negative	-	8/24/2015
Edison International	BBB+	Stable	-	4/8/2014
Xcel Energy Inc.	A-	Stable	-	6/23/2010
NextEra Energy Inc.	A-	Stable	-	3/11/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa2 (OS) Affirm *3/24/2016*	BBB (OS) Affirm *7/22/2009*	BBB (OS) Affirm *9/27/2016*
	Baa2 (OS) Affirm *8/31/2015*	BBB (WN) Downgrade *10/21/2008*	BBB (OS) Downgrade *3/25/2016*
	Baa2 (OS) Affirm *4/30/2014*	BBB+ (OS) Affirm *8/29/2007*	BBB+ (WN) Affirm *4/29/2015*
	Baa2 (OS) Affirm *2/7/2013*	BBB+ (WN) Affirm *10/5/2006*	BBB+ (WN) Affirm *4/30/2014*
	Baa2 (ON) Affirm	BBB+ (OS) Affirm	BBB+ (ON) Affirm

Credit Ratings

Exelon Corporation (NYSE: EXC)

	11/8/2012	*9/15/2006*	*4/7/2014*
	Baa2 (WN) Affirm *6/11/2012*	BBB+ Downgrade *10/3/2005*	BBB+ (ON) Affirm *2/7/2014*
Senior Unsecured	Baa2 Affirm *3/24/2016*	BBB- (WR) Affirm *7/22/2009*	BBB (WR) Downgrade *3/25/2016*
	Baa2 Affirm *8/31/2015*	BBB- (WN) Downgrade *10/21/2008*	BBB+ (WN) Affirm *4/29/2015*
	Baa2 Affirm *4/30/2014*	BBB (WR) Affirm *8/29/2007*	BBB+ (WN) Affirm *4/30/2014*
	Baa2 Affirm *2/7/2013*	BBB (WN) Affirm *10/5/2006*	BBB+ Affirm *4/7/2014*
	Baa2 Affirm *11/8/2012*	BBB (WR) Affirm *9/15/2006*	BBB+ Affirm *2/7/2014*
	Baa2 (WN) Affirm *6/11/2012*	BBB (WN) Downgrade *10/3/2005*	BBB+ Affirm *2/8/2013*
Short-term/Commercial Paper	P-2 Affirm *3/24/2016*	A-2 (WR) Affirm *7/22/2009*	F2 Affirm *9/27/2016*
	P-2 Affirm *8/31/2015*	A-2 (WN) Affirm *11/12/2008*	F2 Affirm *3/25/2016*
	P-2 Affirm *4/30/2014*	A-2 (WR) Affirm *8/29/2007*	F2 Affirm *4/29/2015*
	P-2 Affirm *2/7/2013*	A-2 (WN) Affirm *10/5/2006*	F2 Affirm *4/7/2014*
	P-2 Affirm *11/8/2012*	A-2 (WR) Affirm *9/15/2006*	F2 Affirm *2/7/2014*
	P-2 (WN) Affirm *6/11/2012*	A-2 (WN) Affirm *10/3/2005*	F2 Affirm *2/8/2013*
Subordinated Debt	-	-	BB+ (WR) Downgrade *3/25/2016*
	-	-	BBB- (WN) Affirm *4/29/2015*
	-	-	BBB- (WN) Initiate *6/12/2014*
	-	-	Remove *6/21/2013*
	-	-	BBB- SNL Start *3/12/2012*

Subsidiary Credit Ratings Details

	Moody's	**S&P**	**Fitch Ratings**
Atlantic City Electric Co.			

Credit Ratings

IDACORP, Inc. (NYSE: IDA)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB	-
Outlook	Stable	Stable	-
Watch	-	-	-
As of Date	1/30/2014	1/31/2008	4/21/2011
	Baa2 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *3/27/2006*	BBB (OS) Affirm *4/22/2010*
	Baa2 (OS) Affirm *3/30/2010*	BBB+ (OS) Downgrade *11/29/2004*	BBB (ON) Affirm *3/24/2008*
	Baa2 (ON) Affirm *6/3/2008*	A- (WN) Affirm *6/15/2004*	BBB (OS) Affirm *6/15/2007*
	Baa2 Downgrade *12/3/2004*	A- Affirm *10/3/2003*	BBB (OS) Affirm *12/6/2005*
	Baa1 (WN) Affirm *6/8/2004*	A- Affirm *6/27/2002*	BBB (WR) Downgrade *1/24/2005*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
IDACORP Inc.	BBB	Stable	-	1/31/2008
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
Westar Energy Inc.	BBB+	Negative	-	5/31/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
SCANA Corp.	BBB+	Stable	-	9/3/2015
NiSource Inc.	BBB+	Stable	-	6/18/2015
Avista Corp.	BBB	Stable	-	3/2/2011
NorthWestern Corp.	BBB	Stable	-	3/14/2008
El Paso Electric Co.	BBB	Stable	-	8/12/2004

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OS) Upgrade *1/30/2014*	BBB (OS) Downgrade *1/31/2008*	Remove *4/21/2011*
	Baa2 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *3/27/2006*	BBB (OS) Affirm *4/22/2010*
	Baa2 (OS) Affirm *3/30/2010*	BBB+ (OS) Downgrade *11/29/2004*	BBB (ON) Affirm *3/24/2008*
	Baa2 (ON) Affirm *6/3/2008*	A- (WN) Affirm *6/15/2004*	BBB (OS) Affirm *6/15/2007*
	Baa2 Downgrade *12/3/2004*	A- Affirm *10/3/2003*	BBB (OS) Affirm *12/6/2005*

Credit Ratings

IDACORP, Inc. (NYSE: IDA)

	Baa1 (WN) Affirm *6/8/2004*	A- Affirm *6/27/2002*	BBB (WR) Downgrade *1/24/2005*
Senior Unsecured	Remove *4/25/2012*	-	-
	Baa2 Downgrade *12/3/2004*	-	-
	Baa1 SNL Start	-	-
Short-term/Commercial Paper	P-2 Affirm *1/30/2014*	A-2 Affirm *1/31/2008*	Remove *4/21/2011*
	P-2 Affirm *12/3/2004*	A-2 Affirm *3/27/2006*	F2 Affirm *4/22/2010*
	P-2 Affirm *6/8/2004*	A-2 Affirm *11/29/2004*	F2 Affirm *3/24/2008*
	P-2 SNL Start *1/12/1999*	A-2 (WR) Affirm *6/15/2004*	F2 Affirm *6/15/2007*
	-	A-2 Affirm *10/3/2003*	F2 Affirm *12/6/2005*
	-	A-2 Affirm *6/27/2002*	F2 Affirm *1/24/2005*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Idaho Power Co.			
Long-term Rating	A3 (OS) Upgrade *1/30/2014*	BBB (OS) Downgrade *1/31/2008*	Remove *4/21/2011*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *3/27/2006*	BBB (OS) Affirm *4/22/2010*
	Baa1 (OS) Affirm *3/30/2010*	BBB+ (OS) Downgrade *11/29/2004*	BBB (ON) Affirm *3/24/2008*
	Baa1 (ON) Affirm *6/3/2008*	A- (WN) Affirm *6/15/2004*	BBB (OS) Affirm *6/15/2007*
	Baa1 Downgrade *12/3/2004*	A- Affirm *10/3/2003*	BBB (OS) Downgrade *12/6/2005*
	A3 Affirm *9/17/2001*	A- Affirm *6/27/2002*	BBB+ (WR) Downgrade *1/24/2005*
Senior Unsecured	Remove *4/25/2012*	-	Remove *4/21/2011*
	Baa1 SNL Start *5/2/2007*	-	BBB+ Affirm *3/24/2008*
	-	-	BBB+ Affirm *6/15/2007*

Credit Ratings

NorthWestern Corporation (NYSE: NWE)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	BBB	BBB+
Outlook	Negative	Stable	Stable
Watch	-	-	-
As of Date	1/22/2016	3/14/2008	5/5/2016
	A3 (OS) Affirm *11/5/2014*	BB+ (OP) Affirm *9/21/2007*	BBB+ (OS) Affirm *11/9/2015*
	A3 (OS) Upgrade *1/30/2014*	BB+ (OS) Affirm *7/31/2007*	BBB+ (OS) Affirm *4/24/2015*
	Baa1 (OS) Affirm *7/28/2011*	BB+ (WN) Affirm *4/26/2006*	BBB+ (OS) Upgrade *11/5/2014*
	Baa1 (OS) Upgrade *1/21/2011*	BB+ (WU) Upgrade *4/7/2006*	BBB (WP) Affirm *9/26/2014*
	Baa2 (OP) Initiate *2/25/2010*	BB (WU) Affirm *12/6/2005*	BBB (WP) Affirm *9/27/2013*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
NorthWestern Corp.	BBB	Stable	-	3/14/2008
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
NiSource Inc.	BBB+	Stable	-	6/18/2015
Avista Corp.	BBB	Stable	-	3/2/2011
IDACORP Inc.	BBB	Stable	-	1/31/2008
El Paso Electric Co.	BBB	Stable	-	8/12/2004

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Remove *11/15/2003*	BBB (OS) Upgrade *3/14/2008*	BBB+ (OS) Affirm *5/5/2016*
	Ca Downgrade *7/31/2003*	BB+ (OP) Affirm *9/21/2007*	BBB+ (OS) Affirm *11/9/2015*
	Caa1 (WR) Downgrade *4/25/2003*	BB+ (OS) Affirm *7/31/2007*	BBB+ (OS) Affirm *4/24/2015*
	Ba1 (WN) Downgrade *12/20/2002*	BB+ (WN) Affirm *4/26/2006*	BBB+ (OS) Upgrade *11/5/2014*
	Baa2 (WN) Affirm *8/1/2002*	BB+ (WU) Upgrade *4/7/2006*	BBB (WP) Affirm *9/26/2014*
	Baa2 Downgrade *11/20/2001*	BB (WU) Affirm *12/6/2005*	BBB (WP) Affirm *9/27/2013*
	A3 (ON)	BBB	A

Credit Ratings

NorthWestern Corporation (NYSE: NWE)

Senior Unsecured	Affirm *1/22/2016*	Initiate *4/8/2010*	Affirm *5/5/2016*
	A3 (OS) Affirm *11/5/2014*	Remove *11/1/2009*	A Affirm *11/9/2015*
	A3 (OS) Upgrade *1/30/2014*	BBB SNL Start *11/5/2008*	A Affirm *4/24/2015*
	Baa1 (OS) Affirm *7/28/2011*	-	A (WR) Upgrade *11/5/2014*
	Baa1 (OS) Upgrade *1/21/2011*	-	A- (WP) Affirm *9/26/2014*
	Baa2 (OP) Initiate *2/25/2010*	-	A- (WP) Affirm *9/27/2013*
Short-term/Commercial Paper	P-2 Affirm *1/22/2016*	A-2 SNL Start *2/3/2011*	F2 Affirm *5/5/2016*
	P-2 Affirm *11/5/2014*	-	F2 Affirm *11/9/2015*
	P-2 Affirm *1/30/2014*	-	F2 Affirm *4/24/2015*
	P-2 Initiate *1/21/2011*	-	F2 Affirm *11/5/2014*
	Remove *12/20/2002*	-	F2 Affirm *9/26/2014*
	P-2 (WN) Affirm *8/1/2002*	-	F2 Affirm *9/27/2013*
Preferred Stock	-	-	Remove *11/2/2004*
	-	-	D (WN) Downgrade *9/15/2003*
	-	-	C (WN) Downgrade *8/4/2003*
	-	-	B- Downgrade *4/23/2003*
	-	-	BB (WR) Downgrade *1/16/2003*
	-	-	BBB- (WN) Affirm *12/13/2002*
Trust Preferred	Remove *11/15/2003*	Remove *10/21/2004*	Remove *11/2/2004*
	C Downgrade *7/31/2003*	D Downgrade *7/18/2003*	D (WN) Downgrade *9/15/2003*
	Caa3 (WR)	SD (WR)	C (WN)

Credit Ratings

OGE Energy Corp. (NYSE: OGE)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	A-	A-
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	11/20/2014	5/2/2013	4/15/2016
	Remove *11/15/2014*	BBB+ (WP) Affirm *3/15/2013*	A- (OS) Affirm *9/30/2015*
	A3 (OS) Upgrade *1/31/2014*	BBB+ (OS) Affirm *12/18/2008*	A- (OS) Affirm *4/17/2015*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OP) Affirm *9/23/2008*	A- (OS) Affirm *10/1/2014*
	Baa1 (OS) Affirm *3/14/2013*	BBB+ (OS) Affirm *6/28/2007*	A- (OS) Affirm *3/18/2014*
	Baa1 (OS) SNL Start *11/18/2004*	BBB+ (OS) Affirm *12/10/2004*	A- (OS) Affirm *3/18/2013*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
OGE Energy Corp.	A-	Stable	-	5/2/2013
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
Westar Energy Inc.	BBB+	Negative	-	5/31/2016
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
NiSource Inc.	BBB+	Stable	-	6/18/2015
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013
Portland General Electric Co.	BBB	Stable	-	1/29/2010
NorthWestern Corp.	BBB	Stable	-	3/14/2008

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	A- (OS) Upgrade *5/2/2013*	A- (OS) Affirm *4/15/2016*
	-	BBB+ (WP) Affirm *3/15/2013*	A- (OS) Affirm *9/30/2015*
	-	BBB+ (OS) Affirm *12/18/2008*	A- (OS) Affirm *4/17/2015*
	-	BBB+ (OP) Affirm *9/23/2008*	A- (OS) Affirm *10/1/2014*
	-	BBB+ (OS) Affirm	A- (OS) Affirm

Credit Ratings

OGE Energy Corp. (NYSE: OGE)

		6/28/2007	*3/18/2014*
	-	BBB+ (OS) Affirm *12/10/2004*	A- (OS) Affirm *3/18/2013*
Senior Unsecured	A3 (OS) Initiate *11/20/2014*	BBB+ Upgrade *5/2/2013*	A- Affirm *4/15/2016*
	Remove *11/15/2014*	BBB (WP) Affirm *3/15/2013*	A- Affirm *9/30/2015*
	A3 (OS) Upgrade *1/31/2014*	BBB Affirm *11/9/2004*	A- Affirm *4/17/2015*
	Baa1 (WP) Affirm *11/8/2013*	BBB SNL Start	A- Affirm *10/1/2014*
	Baa1 (OS) Affirm *3/14/2013*	-	A- Affirm *3/18/2014*
	Baa1 (OS) SNL Start *11/18/2004*	-	A- Affirm *3/18/2013*
Short-term/Commercial Paper	P-2 Affirm *1/31/2014*	A-2 Affirm *6/28/2007*	F2 Affirm *4/15/2016*
	P-2 Affirm *3/14/2013*	A-2 Affirm *2/12/2007*	F2 Affirm *9/30/2015*
	P-2 Affirm *11/15/2003*	A-2 Affirm *12/10/2004*	F2 Affirm *4/17/2015*
	P-2 Affirm *9/19/2002*	A-2 Affirm *1/15/2003*	F2 Affirm *10/1/2014*
	P-2 Affirm *8/5/1999*	A-2 Affirm *9/6/2001*	F2 Affirm *3/18/2014*
	P-2 SNL Start	A-2 SNL Start	F2 Affirm *3/18/2013*
Subordinated Debt	Remove *10/5/2010*	-	-
	Baa2 (WR) Downgrade *2/5/2003*	-	-
	Baa1 (WN) Affirm *9/19/2002*	-	-
	Baa1 SNL Start	-	-
Trust Preferred	Remove *10/15/2004*	Remove *10/15/2004*	Remove *10/15/2004*
	Baa2 (WR) Downgrade *2/5/2003*	BBB- Downgrade *1/15/2003*	A- Affirm *5/6/2004*
	Baa1 (WN) Affirm *9/19/2002*	BBB SNL Start	A- Affirm *10/31/2002*

Credit Ratings

Otter Tail Corporation (NASDAQ: OTTR)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa2	BBB	BBB-
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	1/30/2014	6/21/2013	9/27/2016
	Baa3 (WP) Affirm *11/8/2013*	BBB- (OS) Downgrade *9/26/2008*	BBB- (OS) Affirm *7/29/2016*
	Baa3 (OP) Affirm *10/7/2013*	BBB+ (ON) Affirm *9/13/2007*	BBB- (OS) Affirm *9/30/2015*
	Baa3 (OS) Upgrade *12/6/2012*	BBB+ (OS) Affirm *12/22/2005*	BBB- (OS) Affirm *7/31/2015*
	Ba1 (OS) Downgrade *11/30/2009*	BBB+ Downgrade *12/16/2004*	BBB- (OS) Affirm *10/1/2014*
	Baa3 (OS) Downgrade *6/24/2009*	A- Downgrade *9/18/2003*	BBB- (OS) Affirm *7/31/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Otter Tail Corp.	BBB	Stable	-	6/21/2013
Empire District Electric Co.	BBB	Negative	-	2/10/2016
MDU Resources Group Inc.	BBB+	Negative	-	11/30/2015
Unitil Corp.	BBB+	Stable	-	12/23/2014
ALLETE Inc.	BBB+	Stable	-	4/16/2010
Vectren Corp.	A-	Stable	-	7/3/2007

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	BBB (OS) Upgrade *6/21/2013*	BBB- (OS) Affirm *9/27/2016*
	-	BBB- (OS) Downgrade *9/26/2008*	BBB- (OS) Affirm *7/29/2016*
	-	BBB+ (ON) Affirm *9/13/2007*	BBB- (OS) Affirm *9/30/2015*
	-	BBB+ (OS) Affirm *12/22/2005*	BBB- (OS) Affirm *7/31/2015*
	-	BBB+ Downgrade *12/16/2004*	BBB- (OS) Affirm *10/1/2014*
	-	A- Downgrade *9/18/2003*	BBB- (OS) Affirm *7/31/2014*
	Baa2 (OS)	BBB-	BBB-

Credit Ratings

Otter Tail Corporation (NASDAQ: OTTR)

Senior Unsecured	Upgrade *1/30/2014*	Upgrade *6/21/2013*	Affirm *7/29/2016*
	Baa3 (WP) Affirm *11/8/2013*	BB+ Downgrade *12/2/2009*	BBB- Affirm *9/30/2015*
	Baa3 (OP) Affirm *10/7/2013*	BBB- Downgrade *9/26/2008*	BBB- Affirm *7/31/2015*
	Baa3 (OS) Upgrade *12/6/2012*	BBB+ Affirm *9/13/2007*	BBB- Affirm *10/1/2014*
	Ba1 (OS) Downgrade *11/30/2009*	BBB+ Downgrade *12/16/2004*	BBB- Affirm *7/31/2014*
	Baa3 (OS) Downgrade *6/24/2009*	A- SNL Start	BBB- Affirm *4/7/2014*
Short-term/Commercial Paper	-	Remove *5/14/2002*	F3 Affirm *9/27/2016*
	-	A-1 SNL Start	F3 Affirm *7/29/2016*
	-	-	F3 Affirm *9/30/2015*
	-	-	F3 Affirm *7/31/2015*
	-	-	F3 Affirm *10/1/2014*
	-	-	F3 Affirm *7/31/2014*
Preferred Stock	-	Remove *6/21/2013*	Remove *7/2/2013*
	-	BB Downgrade *9/26/2008*	BB Affirm *7/3/2012*
	-	BBB- Affirm *9/13/2007*	BB Affirm *7/7/2011*
	-	BBB- Downgrade *12/16/2004*	BB Downgrade *1/22/2010*
	-	BBB Downgrade *9/18/2003*	BB+ Initiate *6/26/2009*
	-	A- Downgrade *11/14/2001*	Remove *5/7/2004*
Senior Secured Debt	-	-	Remove *5/7/2004*
	-	-	AA- SNL Start

Subsidiary Credit Ratings Details

Credit Ratings

PG&E Corporation (NYSE: PCG)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Positive	Positive	Positive
Watch	-	-	-
As of Date	7/22/2016	8/15/2016	2/22/2016
	Baa1 (OS) Upgrade *12/27/2007*	BBB (OP) Affirm *10/29/2015*	BBB+ (OS) Affirm *4/24/2015*
	Baa3 (WP) Affirm *4/9/2007*	BBB (OS) Affirm *4/10/2015*	BBB+ (OS) Affirm *3/6/2015*
	Baa3 SNL Start *3/3/2005*	BBB (ON) Affirm *8/28/2013*	BBB+ (OS) Affirm *10/1/2014*
	-	BBB (OS) Downgrade *12/8/2011*	BBB+ (OS) Affirm *10/31/2013*
	-	BBB+ (ON) Affirm *3/16/2011*	BBB+ (OS) Affirm *12/13/2012*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
PG&E Corp.	BBB+	Positive	-	8/15/2016
American Electric Power Co. Inc.	BBB+	-	Positive	9/16/2016
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
FirstEnergy Corp.	BBB-	Negative	-	4/28/2016
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
Southern Co.	A-	Negative	-	8/24/2015
Edison International	BBB+	Stable	-	4/8/2014
Xcel Energy Inc.	A-	Stable	-	6/23/2010
NextEra Energy Inc.	A-	Stable	-	3/11/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OP) Affirm *7/22/2016*	BBB+ (OP) Upgrade *8/15/2016*	BBB+ (OP) Affirm *2/22/2016*
	Baa1 (OS) Upgrade *12/27/2007*	BBB (OP) Affirm *10/29/2015*	BBB+ (OS) Affirm *4/24/2015*
	Baa3 (WP) Affirm *4/9/2007*	BBB (OS) Affirm *4/10/2015*	BBB+ (OS) Affirm *3/6/2015*
	Baa3 SNL Start *3/3/2005*	BBB (ON) Affirm *8/28/2013*	BBB+ (OS) Affirm *10/1/2014*
	-	BBB (OS) Downgrade	BBB+ (OS) Affirm

Credit Ratings

PG&E Corporation (NYSE: PCG)

		12/8/2011	*10/31/2013*
	-	BBB+ (ON) Affirm *3/16/2011*	BBB+ (OS) Affirm *12/13/2012*
Senior Unsecured	Baa1 Affirm *7/22/2016*	BBB Upgrade *8/15/2016*	BBB+ Affirm *2/22/2016*
	Baa1 Initiate *2/25/2014*	BBB- Downgrade *12/8/2011*	BBB+ Affirm *4/24/2015*
	-	BBB (WR) Affirm *12/15/2010*	BBB+ Affirm *3/6/2015*
	-	BBB (WN) Affirm *9/10/2010*	BBB+ Affirm *10/1/2014*
	-	BBB SNL Start *3/10/2009*	BBB+ Affirm *10/31/2013*
	-	-	BBB+ Affirm *12/13/2012*
Short-term/Commercial Paper	P-2 Affirm *7/22/2016*	A-2 Initiate *1/23/2014*	F2 Affirm *2/22/2016*
	P-2 Initiate *1/27/2014*	-	F2 Affirm *4/24/2015*
	-	-	F2 Affirm *3/6/2015*
	-	-	F2 Affirm *10/1/2014*
	-	-	F2 Affirm *10/31/2013*
	-	-	F2 Affirm *12/13/2012*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Pacific Gas and Electric Co.			
Long-term Rating	A3 (OP) Affirm *7/22/2016*	BBB+ (OP) Upgrade *8/15/2016*	BBB+ (OP) Affirm *2/22/2016*
	A3 (OS) Upgrade *12/27/2007*	BBB (OP) Affirm *10/29/2015*	BBB+ (OS) Affirm *4/24/2015*
	Baa1 (WP) Affirm *4/9/2007*	BBB (OS) Affirm *4/10/2015*	BBB+ (OS) Affirm *3/6/2015*
	Baa1 (WP) Upgrade *3/3/2005*	BBB (ON) Affirm *8/28/2013*	BBB+ (OS) Affirm *10/1/2014*
	Baa3 (WP) Affirm	BBB (OS) Downgrade	BBB+ (OS) Affirm

Credit Ratings

Pinnacle West Capital Corporation (NYSE: PNW)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	A-	A-
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	6/2/2015	12/4/2013	9/27/2016
	Baa1 (OP) Affirm *11/5/2014*	BBB+ (WP) Affirm *11/26/2013*	A- (OS) Affirm *5/26/2016*
	Baa1 (OS) Upgrade *1/30/2014*	BBB+ (OS) Upgrade *11/28/2012*	A- (OS) Affirm *9/30/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB (OP) Upgrade *6/24/2011*	A- (OS) Upgrade *5/28/2015*
	Baa2 (OS) Upgrade *5/23/2012*	BBB- (OP) Affirm *6/28/2010*	BBB+ (OP) Affirm *10/1/2014*
	Baa3 (OS) Affirm *7/25/2008*	BBB- (OS) Affirm *6/28/2007*	BBB+ (OP) Affirm *5/30/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
Westar Energy Inc.	BBB+	Negative	-	5/31/2016
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
AES Corp.	BB	Stable	-	4/13/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
SCANA Corp.	BBB+	Stable	-	9/3/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
OGE Energy Corp.	A-	Stable	-	5/2/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013
Portland General Electric Co.	BBB	Stable	-	1/29/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Upgrade *6/2/2015*	A- (OS) Upgrade *12/4/2013*	A- (OS) Affirm *9/27/2016*
	Baa1 (OP) Affirm *11/5/2014*	BBB+ (WP) Affirm *11/26/2013*	A- (OS) Affirm *5/26/2016*
	Baa1 (OS) Upgrade *1/30/2014*	BBB+ (OS) Upgrade *11/28/2012*	A- (OS) Affirm *9/30/2015*
	Baa2 (WP) Affirm *11/8/2013*	BBB (OP) Upgrade *6/24/2011*	A- (OS) Upgrade *5/28/2015*
	Baa2 (OS) Upgrade	BBB- (OP) Affirm	BBB+ (OP) Affirm

Credit Ratings

Pinnacle West Capital Corporation (NYSE: PNW)

	5/23/2012	*6/28/2010*	*10/1/2014*
	Baa3 (OS) Affirm *7/25/2008*	BBB- (OS) Affirm *6/28/2007*	BBB+ (OP) Affirm *5/30/2014*
Senior Unsecured	A3 Upgrade *6/2/2015*	-	-
	Baa1 Affirm *11/5/2014*	-	-
	Baa1 Initiate *7/24/2014*	-	-
	Remove *5/9/2014*	-	-
	Baa1 Upgrade *1/30/2014*	-	-
	Baa2 (WP) Affirm *11/8/2013*	-	-
Short-term/Commercial Paper	-	A-2 (WR) Affirm *12/4/2013*	F2 Affirm *9/27/2016*
	-	A-2 (WP) Affirm *11/26/2013*	F2 Affirm *5/26/2016*
	-	A-2 Upgrade *6/24/2011*	F2 Affirm *9/30/2015*
	-	A-3 Affirm *6/28/2007*	F2 Affirm *5/28/2015*
	-	A-3 Affirm *5/8/2006*	F2 Affirm *10/1/2014*
	-	A-3 Affirm *1/26/2006*	F2 Affirm *5/30/2014*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Arizona Public Service Co.			
Long-term Rating	A2 (OS) Upgrade *6/2/2015*	A- (OS) Upgrade *12/4/2013*	A- (OS) Affirm *9/27/2016*
	A3 (OP) Affirm *11/5/2014*	BBB+ (WP) Affirm *11/26/2013*	A- (OS) Affirm *5/26/2016*
	A3 (OS) Upgrade *1/30/2014*	BBB+ (OS) Upgrade *11/28/2012*	A- (OS) Affirm *9/30/2015*
	Baa1 (WP) Affirm *11/8/2013*	BBB (OP) Upgrade *6/24/2011*	A- (OS) Upgrade *5/28/2015*
	Baa1 (OS) Upgrade *5/23/2012*	BBB- (OP) Affirm *6/28/2010*	BBB+ (OP) Affirm *10/1/2014*

Credit Ratings

Portland General Electric Company (NYSE: POR)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	BBB	-
Outlook	Stable	Stable	-
Watch	-	-	-
As of Date	1/30/2014	1/29/2010	11/10/2006
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *1/29/2009*	BBB (OS) Affirm *4/18/2006*
	Baa1 (OS) Upgrade *6/28/2013*	BBB+ (OS) Affirm *1/31/2008*	BBB (OS) Downgrade *12/6/2005*
	Baa2 (OP) Affirm *6/25/2012*	BBB+ (ON) Affirm *2/27/2006*	BBB+ (OS) Upgrade *3/28/2005*
	Baa2 (OS) Affirm *6/29/2010*	BBB+ (OS) Affirm *9/20/2005*	BB (WR) Upgrade *6/4/2003*
	Baa2 (OP) Affirm *11/21/2008*	BBB+ (WR) Affirm *3/11/2005*	BB- (WP) Affirm *5/5/2003*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Portland General Electric Co.	BBB	Stable	-	1/29/2010
Hawaiian Electric Industries Inc.	BBB-	Stable	-	7/19/2016
Westar Energy Inc.	BBB+	Negative	-	5/31/2016
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
SCANA Corp.	BBB+	Stable	-	9/3/2015
NiSource Inc.	BBB+	Stable	-	6/18/2015
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
OGE Energy Corp.	A-	Stable	-	5/2/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Upgrade *1/30/2014*	BBB (OS) Downgrade *1/29/2010*	Remove *11/10/2006*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (ON) Affirm *1/29/2009*	BBB (OS) Affirm *4/18/2006*
	Baa1 (OS) Upgrade *6/28/2013*	BBB+ (OS) Affirm *1/31/2008*	BBB (OS) Downgrade *12/6/2005*
	Baa2 (OP) Affirm *6/25/2012*	BBB+ (ON) Affirm *2/27/2006*	BBB+ (OS) Upgrade *3/28/2005*
	Baa2 (OS) Affirm	BBB+ (OS) Affirm	BB (WR) Upgrade

Credit Ratings

Portland General Electric Company (NYSE: POR)

	6/29/2010	*9/20/2005*	*6/4/2003*
	Baa2 (OP) Affirm *11/21/2008*	BBB+ (WR) Affirm *3/11/2005*	BB- (WP) Affirm *5/5/2003*
Senior Unsecured	Remove *7/13/2012*	Remove *2/24/2012*	Remove *11/10/2006*
	Baa2 (WR) Upgrade *6/9/2005*	BBB Downgrade *1/29/2010*	BBB+ Affirm *4/18/2006*
	Baa3 (WP) Affirm *5/9/2005*	BBB+ Upgrade *11/5/2008*	BBB+ Upgrade *3/28/2005*
	Baa3 Affirm *11/20/2003*	BBB Affirm *1/31/2008*	BB (WR) Upgrade *6/4/2003*
	Baa3 SNL Start	BBB Affirm *9/20/2005*	BB- (WP) SNL Start
	-	BBB (WR) Affirm *3/11/2005*	-
Short-term/Commercial Paper	P-2 Affirm *1/30/2014*	A-2 Affirm *1/29/2009*	Remove *11/10/2006*
	P-2 Affirm *6/28/2013*	A-2 Affirm *1/31/2008*	F2 Affirm *4/18/2006*
	P-2 Affirm *6/25/2012*	A-2 Affirm *9/20/2005*	F2 Affirm *12/6/2005*
	P-2 Upgrade *6/9/2005*	A-2 (WR) Affirm *3/11/2005*	F2 Initiate *3/29/2005*
	P-3 (WP) Affirm *5/9/2005*	A-2 (WN) Affirm *1/24/2005*	Remove *8/1/2002*
	P-3 Affirm *11/20/2003*	A-2 (WR) Affirm *3/10/2004*	F3 (WN) Downgrade *5/22/2002*
Preferred Stock	Remove *7/15/2007*	Remove *1/29/2010*	Remove *3/28/2005*
	Ba1 (WR) Upgrade *6/9/2005*	BBB- Affirm *9/20/2005*	B+ (WR) Upgrade *6/4/2003*
	Ba2 (WP) Affirm *5/9/2005*	BBB- (WR) Affirm *3/11/2005*	B (WP) Affirm *5/5/2003*
	Ba2 Affirm *11/20/2003*	BBB- (WN) Affirm *1/24/2005*	B (WN) Affirm *11/8/2002*
	Ba2 (WR) Affirm *12/11/2002*	BBB- (WR) Affirm *3/10/2004*	B (WN) Downgrade *8/1/2002*
	Ba2 (WN) Downgrade *5/17/2002*	BBB- Affirm *8/8/2003*	BB (WN) Downgrade *5/22/2002*
Senior Secured Debt	A1 Upgrade	A- Downgrade	Remove *11/10/2006*

Credit Ratings

PPL Corporation (NYSE: PPL)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa2	A-	-
Outlook	Stable	Stable	-
Watch	-	-	-
As of Date	5/11/2015	6/1/2015	1/9/2015
	Baa3 (OP) Affirm *6/10/2014*	BBB (WP) Affirm *6/10/2014*	BBB (OP) Affirm *12/10/2014*
	Baa3 (OS) Affirm *1/31/2014*	BBB (OS) Affirm *4/15/2011*	BBB (OS) Affirm *6/11/2014*
	Baa3 (WP) Affirm *11/8/2013*	BBB (WN) Downgrade *3/2/2011*	BBB (OS) Affirm *4/7/2014*
	Baa3 (OS) Downgrade *4/28/2010*	BBB+ (OS) Upgrade *10/27/2010*	BBB (OS) Affirm *12/5/2013*
	Baa2 (ON) Affirm *5/11/2009*	BBB (WP) Affirm *4/28/2010*	BBB (OS) Affirm *12/6/2012*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
PPL Corp.	A-	Stable	-	6/1/2015
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Ameren Corp.	BBB+	Stable	-	12/4/2013
Xcel Energy Inc.	A-	Stable	-	6/23/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa2 (OS) Upgrade *5/11/2015*	A- (OS) Upgrade *6/1/2015*	Remove *1/9/2015*
	Baa3 (OP) Affirm *6/10/2014*	BBB (WP) Affirm *6/10/2014*	BBB (OP) Affirm *12/10/2014*
	Baa3 (OS) Affirm *1/31/2014*	BBB (OS) Affirm *4/15/2011*	BBB (OS) Affirm *6/11/2014*
	Baa3 (WP) Affirm *11/8/2013*	BBB (WN) Downgrade *3/2/2011*	BBB (OS) Affirm *4/7/2014*
	Baa3 (OS) Downgrade	BBB+ (OS) Upgrade	BBB (OS) Affirm

Credit Ratings

PPL Corporation (NYSE: PPL)

	4/28/2010	*10/27/2010*	*12/5/2013*
	Baa2 (ON) Affirm *5/11/2009*	BBB (WP) Affirm *4/28/2010*	BBB (OS) Affirm *12/6/2012*
Short-term/Commercial Paper	-	A-2 Initiate *10/14/2015*	Remove *1/9/2015*
	-	Remove *4/25/2002*	F2 Affirm *12/10/2014*
	-	A-2 SNL Start	F2 Affirm *6/11/2014*
	-	-	F2 Affirm *4/7/2014*
	-	-	F2 Affirm *12/5/2013*
	-	-	F2 Affirm *12/6/2012*

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Kentucky Utilities Co.			
Long-term Rating	A3 (OS) Upgrade *1/31/2014*	A- (OS) Upgrade *6/1/2015*	Remove *1/9/2015*
	Baa1 (WP) Affirm *11/8/2013*	BBB (WP) Affirm *6/10/2014*	A- (OS) Affirm *12/10/2014*
	Baa1 (OS) Downgrade *10/25/2010*	BBB (OS) Affirm *4/15/2011*	A- (OS) Affirm *4/7/2014*
	A2 (WN) Affirm *4/29/2010*	BBB (WN) Downgrade *3/2/2011*	A- (OS) Affirm *12/5/2013*
	A2 (OS) Affirm *2/22/2006*	BBB+ (OS) Affirm *6/12/2007*	A- (OS) Affirm *12/6/2012*
	A2 (OS) Affirm *11/15/2003*	BBB+ (OS) Affirm *2/27/2007*	A- (OS) Affirm *12/6/2011*
Senior Unsecured	A3 Upgrade *1/31/2014*	-	Remove *1/9/2015*
	Baa1 (WP) Affirm *11/8/2013*	-	A Affirm *12/10/2014*
	Baa1 Initiate *9/26/2011*	-	A Affirm *4/7/2014*
	-	-	A Affirm *12/5/2013*
	-	-	A Affirm

Credit Ratings

Public Service Enterprise Group Incorporated (NYSE: PEG)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	(P)Baa2	BBB+	BBB+
Outlook	Positive	Stable	Stable
Watch	-	-	-
As of Date	9/9/2015	5/5/2015	9/14/2016
	(P)Baa2 (OS) Affirm *7/17/2008*	BBB+ (OP) Affirm *5/1/2014*	BBB+ (OS) Affirm *5/5/2016*
	(P)Baa2 SNL Start *12/23/2004*	BBB+ (OS) Upgrade *4/23/2013*	BBB+ (OS) Affirm *8/7/2015*
	-	BBB (OP) Affirm *4/11/2011*	BBB+ (OS) Affirm *10/1/2014*
	-	BBB (OS) Affirm *4/18/2008*	BBB+ (OS) Affirm *8/28/2014*
	-	BBB (OS) Affirm *6/22/2007*	BBB+ (OS) Affirm *4/7/2014*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
Dominion Resources Inc.	BBB+	Stable	-	2/1/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
PPL Corp.	A-	Stable	-	6/1/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Ameren Corp.	BBB+	Stable	-	12/4/2013

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	-	BBB+ (OS) Affirm *5/5/2015*	BBB+ (OS) Affirm *9/14/2016*
	-	BBB+ (OP) Affirm *5/1/2014*	BBB+ (OS) Affirm *5/5/2016*
	-	BBB+ (OS) Upgrade *4/23/2013*	BBB+ (OS) Affirm *8/7/2015*
	-	BBB (OP) Affirm *4/11/2011*	BBB+ (OS) Affirm *10/1/2014*
	-	BBB (OS) Affirm	BBB+ (OS) Affirm

Credit Ratings

Public Service Enterprise Group Incorporated (NYSE: PEG)

		4/18/2008	*8/28/2014*
	-	BBB (OS) Affirm *6/22/2007*	BBB+ (OS) Affirm *4/7/2014*
Senior Unsecured	(P)Baa2 (OP) Affirm *9/9/2015*	-	BBB+ Affirm *9/14/2016*
	(P)Baa2 (OS) Affirm *7/17/2008*	-	BBB+ Affirm *5/5/2016*
	(P)Baa2 Initiate *12/23/2004*	-	BBB+ Affirm *8/7/2015*
	-	-	BBB+ Affirm *10/1/2014*
	-	-	BBB+ Affirm *8/28/2014*
	-	-	BBB+ Affirm *4/7/2014*
Short-term/Commercial Paper	P-2 Affirm *9/9/2015*	A-2 Affirm *4/18/2008*	F2 Affirm *9/14/2016*
	P-2 Affirm *9/15/2006*	A-2 Upgrade *6/22/2007*	F2 Affirm *5/5/2016*
	P-2 (WR) Affirm *9/26/2003*	A-3 (WR) Affirm *9/15/2006*	F2 Affirm *8/7/2015*
	P-2 (WN) Affirm *9/12/2003*	A-3 (WU) Affirm *12/20/2004*	F2 Affirm *10/1/2014*
	P-2 (WN) Affirm *6/16/2003*	A-3 Downgrade *7/30/2004*	F2 Affirm *8/28/2014*
	P-2 Affirm *10/11/2002*	A-2 Affirm *8/28/2003*	F2 Affirm *4/7/2014*
Trust Preferred	Remove *11/16/2007*	Remove *5/20/2010*	-
	Baa3 (ON) Affirm *9/15/2006*	BBB- (WU) Upgrade *8/2/2005*	-
	Baa3 (WR) Affirm *9/12/2003*	BB+ (WU) Affirm *12/20/2004*	-
	Baa3 (WN) Affirm *6/16/2003*	BB+ Affirm *7/30/2004*	-
	Baa3 Affirm *12/13/2002*	BB+ Affirm *8/28/2003*	-
	Baa3 Affirm *10/11/2002*	BB+ SNL Start	-

Credit Ratings

Sempra Energy (NYSE: SRE)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	7/9/2015	10/2/2009	5/5/2016
	Baa1 (OS) Affirm *7/9/2007*	BBB+ (ON) Affirm *7/28/2008*	BBB+ (OS) Affirm *10/1/2015*
	Baa1 (OS) Affirm *1/6/2006*	BBB+ (OS) Affirm *7/9/2007*	BBB+ (OS) Affirm *10/1/2014*
	Baa1 (OS) Affirm *11/15/2003*	BBB+ (OS) Affirm *8/24/2006*	BBB+ (OS) Affirm *8/7/2014*
	Baa1 Downgrade *9/30/2002*	BBB+ (OS) Affirm *11/22/2005*	BBB+ (OS) Affirm *8/7/2013*
	A2 (WN) Affirm *4/22/2002*	BBB+ Affirm *1/14/2005*	BBB+ (OS) Affirm *8/9/2012*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Sempra Energy	BBB+	Stable	-	10/2/2009
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
AES Corp.	BB	Stable	-	4/13/2016
PNM Resources Inc.	BBB+	Stable	-	12/21/2015
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
OGE Energy Corp.	A-	Stable	-	5/2/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013
Portland General Electric Co.	BBB	Stable	-	1/29/2010

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	Baa1 (OS) Affirm *7/9/2015*	BBB+ (OS) Affirm *10/2/2009*	BBB+ (OS) Affirm *5/5/2016*
	Baa1 (OS) Affirm *7/9/2007*	BBB+ (ON) Affirm *7/28/2008*	BBB+ (OS) Affirm *10/1/2015*
	Baa1 (OS) Affirm *1/6/2006*	BBB+ (OS) Affirm *7/9/2007*	BBB+ (OS) Affirm *10/1/2014*
	Baa1 (OS) Affirm *11/15/2003*	BBB+ (OS) Affirm *8/24/2006*	BBB+ (OS) Affirm *8/7/2014*
	Baa1 Downgrade	BBB+ (OS) Affirm	BBB+ (OS) Affirm

Credit Ratings

Sempra Energy (NYSE: SRE)

	9/30/2002	*11/22/2005*	*8/7/2013*
	A2 (WN) Affirm *4/22/2002*	BBB+ Affirm *1/14/2005*	BBB+ (OS) Affirm *8/9/2012*
Senior Unsecured	Baa1 Affirm *7/9/2015*	BBB+ Affirm *7/9/2007*	BBB+ Affirm *5/5/2016*
	Baa1 Affirm *7/9/2007*	BBB+ Affirm *8/24/2006*	BBB+ Affirm *10/1/2015*
	Baa1 Affirm *1/6/2006*	BBB+ Affirm *11/22/2005*	BBB+ Affirm *10/1/2014*
	Baa1 (WR) Downgrade *9/30/2002*	BBB+ Affirm *1/14/2005*	BBB+ Affirm *8/7/2014*
	A2 (WN) SNL Start	BBB+ SNL Start	BBB+ Affirm *8/7/2013*
	-	-	BBB+ Affirm *8/9/2012*
Short-term/Commercial Paper	-	A-2 Affirm *7/9/2007*	Remove *12/6/2005*
	-	A-2 Affirm *8/24/2006*	F1 Affirm *10/14/2003*
	-	A-2 Affirm *11/22/2005*	F1 SNL Start
	-	A-2 Affirm *1/14/2005*	-
	-	A-2 Affirm *10/22/2004*	-
	-	A-2 Affirm *10/7/2003*	-
Trust Preferred	Remove *11/18/2005*	Remove *2/23/2005*	Remove *2/23/2005*
	Baa2 (WR) Downgrade *9/30/2002*	BBB- Affirm *1/14/2005*	A- Affirm *10/14/2003*
	A3 (WN) Affirm *4/22/2002*	BBB- Downgrade *10/7/2003*	A- Affirm *4/4/2002*
	A3 SNL Start	BBB (WR) Downgrade *4/17/2002*	A- SNL Start
	-	BBB+ (WN) SNL Start	-

Subsidiary Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Pacific Enterprises			

Credit Ratings

Vectren Corporation (NYSE: VVC)

Credit Ratings

	S&P
Long-term Rating	A-
Outlook	Stable
Watch	-
As of Date	7/3/2007
	A- (OS) Affirm *1/26/2005*
	A- Affirm *7/23/2003*
	A- Affirm *1/8/2003*
	A- Downgrade *10/12/2001*
	A SNL Start

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Vectren Corp.	A-	Stable	-	7/3/2007
Empire District Electric Co.	BBB	Negative	-	2/10/2016
MDU Resources Group Inc.	BBB+	Negative	-	11/30/2015
Unitil Corp.	BBB+	Stable	-	12/23/2014
Black Hills Corp.	BBB	Stable	-	7/24/2013
Otter Tail Corp.	BBB	Stable	-	6/21/2013
ALLETE Inc.	BBB+	Stable	-	4/16/2010

Credit Ratings Details

	S&P
Long-term Issuer	A- (OS) Affirm *7/3/2007*
	A- (OS) Affirm *1/26/2005*
	A- Affirm *7/23/2003*
	A- Affirm *1/8/2003*
	A- Downgrade *10/12/2001*
	A SNL Start

Subsidiary Credit Ratings Details

Credit Ratings

WEC Energy Group, Inc. (NYSE: WEC)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	A-	BBB+
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	6/29/2016	6/29/2015	5/5/2016
	A3 (OS) Downgrade *5/21/2015*	A- (ON) Affirm *6/23/2014*	BBB+ (OS) Affirm *8/17/2015*
	A2 (WN) Affirm *5/4/2015*	A- (OS) Affirm *6/25/2013*	BBB+ (OS) Downgrade *6/2/2015*
	A2 (ON) Affirm *6/23/2014*	A- (OP) Affirm *6/7/2012*	A- (WN) Affirm *6/24/2014*
	A2 (OS) Upgrade *1/31/2014*	A- (OS) Upgrade *6/27/2011*	A- (OS) Affirm *4/7/2014*
	A3 (WP) Affirm *11/8/2013*	BBB+ (OP) Affirm *3/17/2011*	A- (OS) Affirm *6/14/2013*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
WEC Energy Group Inc.	A-	Stable	-	6/29/2015
Great Plains Energy Inc.	BBB+	Negative	-	5/31/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
AES Corp.	BB	Stable	-	4/13/2016
DTE Energy Co.	BBB+	Stable	-	8/21/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Pinnacle West Capital Corp.	A-	Stable	-	12/4/2013
Alliant Energy Corp.	A-	Stable	-	1/11/2013

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Affirm *6/29/2016*	A- (OS) Affirm *6/29/2015*	BBB+ (OS) Affirm *5/5/2016*
	A3 (OS) Downgrade *5/21/2015*	A- (ON) Affirm *6/23/2014*	BBB+ (OS) Affirm *8/17/2015*
	A2 (WN) Affirm *5/4/2015*	A- (OS) Affirm *6/25/2013*	BBB+ (OS) Downgrade *6/2/2015*
	A2 (ON) Affirm *6/23/2014*	A- (OP) Affirm *6/7/2012*	A- (WN) Affirm *6/24/2014*
	A2 (OS) Upgrade	A- (OS) Upgrade	A- (OS) Affirm

Credit Ratings

WEC Energy Group, Inc. (NYSE: WEC)

	1/31/2014	*6/27/2011*	*4/7/2014*
	A3 (WP) Affirm *11/8/2013*	BBB+ (OP) Affirm *3/17/2011*	A- (OS) Affirm *6/14/2013*
Senior Unsecured	A3 Affirm *6/29/2016*	BBB+ Affirm *7/31/2007*	BBB+ Affirm *5/5/2016*
	A3 (WR) Downgrade *5/21/2015*	BBB+ Affirm *6/8/2006*	BBB+ Affirm *8/17/2015*
	A2 (WN) Affirm *5/4/2015*	BBB+ Affirm *3/29/2005*	BBB+ (WR) Downgrade *6/2/2015*
	A2 Affirm *6/23/2014*	BBB+ Affirm *11/13/2003*	A- (WN) Affirm *6/24/2014*
	A2 Upgrade *1/31/2014*	BBB+ SNL Start	A- Affirm *4/7/2014*
	A3 (WP) Affirm *11/8/2013*	-	A- Affirm *6/14/2013*
Short-term/Commercial Paper	-	A-2 Affirm *7/31/2007*	F2 Affirm *5/5/2016*
	-	A-2 Affirm *6/8/2006*	F2 Affirm *8/17/2015*
	-	A-2 Affirm *3/29/2005*	F2 Affirm *6/2/2015*
	-	A-2 Affirm *11/13/2003*	F2 Affirm *6/24/2014*
	-	A-2 Affirm *3/7/2003*	F2 Affirm *4/7/2014*
	-	A-2 Affirm *10/18/2001*	F2 Affirm *6/14/2013*
Subordinated Debt	Baa1 Affirm *6/29/2016*	BBB Upgrade *6/27/2011*	BBB- Affirm *5/5/2016*
	Baa1 (WR) Downgrade *5/21/2015*	BBB- Affirm *7/31/2007*	BBB- Affirm *8/17/2015*
	A3 (WN) Affirm *5/4/2015*	BBB- SNL Start *5/8/2007*	BBB- (WR) Downgrade *6/2/2015*
	A3 Affirm *6/23/2014*	-	BBB (WN) Affirm *6/24/2014*
	A3 Upgrade *1/31/2014*	-	BBB Affirm *4/7/2014*
	Baa1 (WP) Affirm *11/8/2013*	-	BBB Affirm *6/14/2013*

Credit Ratings

Xcel Energy Inc. (NYSE: XEL)

Credit Ratings

	Moody's	S&P	Fitch Ratings
Long-term Rating	A3	A-	BBB+
Outlook	Stable	Stable	Stable
Watch	-	-	-
As of Date	1/31/2014	6/23/2010	5/5/2016
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OP) Affirm *6/10/2009*	BBB+ (OS) Affirm *11/30/2015*
	Baa1 (OS) Upgrade *4/19/2004*	BBB+ (OS) Upgrade *10/16/2007*	BBB+ (OS) Affirm *4/24/2015*
	Baa3 (WP) Affirm *12/11/2003*	BBB (OS) Affirm *6/8/2005*	BBB+ (OS) Affirm *11/20/2014*
	Baa3 (WR) Affirm *5/20/2003*	BBB (OS) Affirm *6/1/2004*	BBB+ (OS) Affirm *4/7/2014*
	Baa3 (WN) Downgrade *9/5/2002*	BBB (WR) Affirm *3/12/2004*	BBB+ (OS) Affirm *11/14/2013*

Comparison with Peers : S&P - SNL Default Peer Group

Company Name	Long-term Rating	Outlook	Watch	As of Date
Xcel Energy Inc.	A-	Stable	-	6/23/2010
Entergy Corp.	BBB+	Stable	-	8/4/2016
Eversource Energy	A	Positive	-	7/12/2016
Avangrid Inc.	BBB+	Stable	-	4/22/2016
Consolidated Edison Inc.	A-	Negative	-	11/23/2015
DTE Energy Co.	BBB+	Stable	-	8/21/2015
PPL Corp.	A-	Stable	-	6/1/2015
Public Service Enterprise Group Inc.	BBB+	Stable	-	5/5/2015
CMS Energy Corp.	BBB+	Stable	-	12/3/2014
Edison International	BBB+	Stable	-	4/8/2014

Credit Ratings Details

	Moody's	S&P	Fitch Ratings
Long-term Issuer	A3 (OS) Upgrade *1/31/2014*	A- (OS) Upgrade *6/23/2010*	BBB+ (OS) Affirm *5/5/2016*
	Baa1 (WP) Affirm *11/8/2013*	BBB+ (OP) Affirm *6/10/2009*	BBB+ (OS) Affirm *11/30/2015*
	Baa1 (OS) Upgrade *4/19/2004*	BBB+ (OS) Upgrade *10/16/2007*	BBB+ (OS) Affirm *4/24/2015*
	Baa3 (WP) Affirm *12/11/2003*	BBB (OS) Affirm *6/8/2005*	BBB+ (OS) Affirm *11/20/2014*
	Baa3 (WR) Affirm	BBB (OS) Affirm	BBB+ (OS) Affirm

Credit Ratings

Xcel Energy Inc. (NYSE: XEL)

	5/20/2003	*6/1/2004*	*4/7/2014*
	Baa3 (WN) Downgrade *9/5/2002*	BBB (WR) Affirm *3/12/2004*	BBB+ (OS) Affirm *11/14/2013*
Senior Unsecured	A3 Upgrade *1/31/2014*	BBB+ Upgrade *6/23/2010*	BBB+ Affirm *5/5/2016*
	Baa1 (WP) Affirm *11/8/2013*	BBB Upgrade *10/16/2007*	BBB+ Affirm *11/30/2015*
	Baa1 (WR) Upgrade *4/19/2004*	BBB- Affirm *6/1/2004*	BBB+ Affirm *4/24/2015*
	Baa3 SNL Start	BBB- SNL Start	BBB+ Affirm *11/20/2014*
	-	-	BBB+ Affirm *4/7/2014*
	-	-	BBB+ Affirm *11/14/2013*
Short-term/Commercial Paper	P-2 Affirm *1/31/2014*	A-2 Affirm *10/16/2007*	F2 Affirm *5/5/2016*
	P-2 Initiate *6/9/2005*	A-2 Affirm *6/8/2005*	F2 Affirm *11/30/2015*
	Remove *4/19/2004*	A-2 Initiate *6/1/2005*	F2 Affirm *4/24/2015*
	NP (WP) Affirm *12/11/2003*	Remove *6/1/2004*	F2 Affirm *11/20/2014*
	NP (WR) Downgrade *9/5/2002*	A-2 Affirm *3/12/2004*	F2 Affirm *4/7/2014*
	P-3 (WN) Downgrade *7/29/2002*	A-2 (WR) Upgrade *5/14/2003*	F2 Affirm *11/14/2013*
Subordinated Debt	Remove *5/31/2013*	Remove *6/21/2013*	Remove *6/11/2013*
	Baa2 SNL Start *1/10/2008*	BBB Upgrade *6/23/2010*	BBB- Affirm *11/14/2012*
	-	BBB- SNL Start *1/11/2008*	BBB- Affirm *11/18/2011*
	-	-	BBB- Affirm *11/23/2010*
	-	-	BBB- Downgrade *1/22/2010*
	-	-	BBB SNL Start *5/22/2008*

AEP Texas Central Company | Credit Ratings

(SNL Inst Key: 4056979)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa2 (WP) Affirm *11/8/2013* Baa2 (OP) Affirm *9/16/2013* Baa2 (OS) Affirm *6/1/2009* Baa2 (WN) Affirm *2/2/2009* Baa2 (ON) Affirm *1/30/2008*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB+ (OS) Affirm *3/18/2016* BBB+ (OS) Affirm *9/30/2015* BBB+ (OS) Affirm *3/26/2015* BBB+ (OS) Affirm *10/1/2014* BBB+ (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa1 (OS) Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OP) Affirm *9/16/2013* Baa2 (OS) Affirm *6/1/2009* Baa2 (WN) Affirm *2/2/2009* Baa2 (ON) Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB+ (OS) Affirm *9/27/2016* BBB+ (OS) Affirm *3/18/2016* BBB+ (OS) Affirm *9/30/2015* BBB+ (OS) Affirm *3/26/2015* BBB+ (OS) Affirm *10/1/2014* BBB+ (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa1 Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 Affirm *9/16/2013* Baa2 Affirm *6/1/2009* Baa2 (WN) Affirm *2/2/2009* Baa2 Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB Downgrade *3/7/2003* BBB+ SNL Start	A- Affirm *3/18/2016* A- Affirm *9/30/2015* A- Affirm *3/26/2015* A- Affirm *10/1/2014* A- Affirm *4/7/2014* A- Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *3/18/2016* F2 Affirm *9/30/2015* F2 Affirm *3/26/2015* F2 Affirm *10/1/2014* F2 Affirm

AEP Texas Central Company | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			4/7/2014
			F2 Affirm *2/20/2014*
Preferred Stock			
	Remove *12/1/2011*	Remove *12/7/2012*	Remove *12/31/2011*
	Ba1 Affirm *6/1/2009*	BB+ Downgrade *3/7/2003*	BBB Upgrade *2/28/2011*
	Ba1 (WN) Affirm *2/2/2009*	BBB- Downgrade *5/23/2002*	BBB- Downgrade *1/22/2010*
	Ba1 Affirm *1/30/2008*	BBB SNL Start	BBB Downgrade *4/17/2007*
	Ba1 (WR) Downgrade *2/10/2003*		BBB+ Affirm *4/24/2006*
	Baa3 (WN) Affirm *4/19/2002*		BBB+ SNL Start
Trust Preferred			
	Remove *9/30/2004*	Remove *9/30/2004*	Remove *9/30/2004*
	Baa3 (OS) Affirm *11/15/2003*	BB+ Downgrade *3/7/2003*	BBB+ SNL Start
	Baa3 Downgrade *2/10/2003*	BBB- Downgrade *5/23/2002*	
	Baa2 (WN) Affirm *4/19/2002*	BBB SNL Start	
	Baa2 SNL Start		

Ratings News

S&P Global Ratings upgraded the issuer credit ratings of American Electric Power and its subsidiaries to BBB+ from BBB following the company's announcement that it has agreed to sell four Midwest generating plants for about $2.2 billion. S&P upgrades AEP, subsidiaries on $2.2B merchant asset sale	9/19/2016 1:51:00 PM ET
Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET
S&P affirms AEP Texas Central's issuer credit rating Standard & Poor's Ratings Services affirmed its BBB issuer credit rating on AEP Texas Central Co., based on its assessment on the company as a core subsidiary of American Electric Power Co. Inc. The outlook is positive.	9/26/2015 3:06:00 PM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

AEP Texas North Company | Credit Ratings

(SNL Inst Key: 4057034)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa2 (WP) Affirm *11/8/2013* Baa2 (OP) Affirm *9/16/2013* Baa2 (OS) Downgrade *6/1/2009* Baa1 (WN) Affirm *2/2/2009* Baa1 (OS) Affirm *1/30/2008*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB+ (OS) Affirm *3/18/2016* BBB+ (OS) Affirm *9/30/2015* BBB+ (OS) Affirm *3/26/2015* BBB+ (OS) Affirm *10/1/2014* BBB+ (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa1 (OS) Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OP) Affirm *9/16/2013* Baa2 (OS) Downgrade *6/1/2009* Baa1 (WN) Affirm *2/2/2009* Baa1 (OS) Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB+ (OS) Affirm *9/27/2016* BBB+ (OS) Affirm *3/18/2016* BBB+ (OS) Affirm *9/30/2015* BBB+ (OS) Affirm *3/26/2015* BBB+ (OS) Affirm *10/1/2014* BBB+ (OS) Affirm *4/7/2014*
Senior Unsecured			
	Remove *3/1/2013* Baa2 Downgrade *6/1/2009* Baa1 (WN) Affirm *2/2/2009* Baa1 Affirm *1/30/2008* Baa1 (OS) SNL Start *2/12/2003*	Remove *3/2/2013* BBB SNL Start *4/8/2004*	A- Affirm *3/18/2016* A- Affirm *9/30/2015* A- Affirm *3/26/2015* A- Affirm *10/1/2014* A- Affirm *4/7/2014* A- Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *3/18/2016* F2 Affirm *9/30/2015* F2 Affirm *3/26/2015* F2 Affirm *10/1/2014* F2 Affirm

AEP Texas North Company | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			4/7/2014 F2 Affirm *2/20/2014*
Preferred Stock			
	Remove *12/1/2011* Ba1 Downgrade *6/1/2009* Baa3 (WN) Affirm *2/2/2009* Baa3 Affirm *1/30/2008* Baa3 (OS) Downgrade *2/10/2003* Baa2 (WN) Affirm *4/19/2002*	Remove *2/11/2011* BB+ Downgrade *3/7/2003* BBB- Downgrade *5/23/2002* BBB SNL Start	Remove *12/31/2011* BBB Affirm *2/28/2011* BBB Downgrade *1/22/2010* BBB+ Affirm *2/4/2008* BBB+ Affirm *4/17/2007* BBB+ Affirm *4/24/2006*
Senior Secured Debt			
	Remove *6/1/2007* A3 (OS) Downgrade *2/10/2003* A2 (WN) SNL Start		Remove *6/1/2007* A Affirm *4/17/2007* A Affirm *4/24/2006* A SNL Start

Ratings News

S&P Global Ratings upgraded the issuer credit ratings of American Electric Power and its subsidiaries to BBB+ from BBB following the company's announcement that it has agreed to sell four Midwest generating plants for about $2.2 billion. S&P upgrades AEP, subsidiaries on $2.2B merchant asset sale	9/19/2016 1:51:00 PM ET
Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

Appalachian Power Company | Credit Ratings

(SNL Inst Key: 4056972)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa1	BBB+	BBB
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/13/2016	9/16/2016	9/27/2016
History	Baa1 (OS) Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *2/4/2009* Baa2 (ON) Affirm *1/30/2008*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB (OS) Upgrade *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa1 (OS) Affirm *1/13/2016* Baa1 (OS) Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *2/4/2009* Baa2 (ON) Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB (OS) Affirm *9/27/2016* BBB (OS) Upgrade *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa1 Affirm *1/13/2016* Baa1 Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 Affirm *2/6/2013* Baa2 Affirm *1/30/2008* Baa2 (OS) Downgrade *2/10/2003*	BBB+ (WP) Upgrade *9/16/2016* BBB Downgrade *3/7/2003* BBB+ (WN) SNL Start	BBB+ Upgrade *3/18/2016* BBB Affirm *9/30/2015* BBB Affirm *3/26/2015* BBB Affirm *10/1/2014* BBB Affirm *4/7/2014* BBB Affirm *2/20/2014*
Short-term/Commercial Paper			
	P-2 Initiate *1/13/2016*	A-2 Initiate *1/12/2016*	Remove *2/22/2013* F2 Affirm *2/27/2012* F2 SNL Start *2/28/2011*

Appalachian Power Company | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
Subordinated Debt			
	Remove *7/24/2002* Baa2 Affirm *4/19/2002* Baa2 SNL Start		
Preferred Stock			
	Remove *2/14/2012* Ba1 Affirm *1/30/2008* Ba1 (OS) Downgrade *2/10/2003* Baa3 (WN) Affirm *12/11/2002* Baa3 Affirm *4/19/2002* Baa3 SNL Start		Remove *12/6/2011* BB+ Affirm *2/28/2011* BB+ Downgrade *1/22/2010* BBB- Downgrade *9/10/2009* BBB Affirm *4/17/2007* BBB Affirm *6/24/2004*
Senior Secured Debt			
	Remove *1/29/2010* Baa1 Affirm *1/30/2008* Baa1 (OS) Downgrade *2/10/2003* A3 (WN) Affirm *12/11/2002* A3 SNL Start	Remove *2/11/2011* BBB Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A SNL Start	

Ratings News

S&P Global Ratings upgraded the issuer credit ratings of American Electric Power and its subsidiaries to BBB+ from BBB following the company's announcement that it has agreed to sell four Midwest generating plants for about $2.2 billion. S&P upgrades AEP, subsidiaries on $2.2B merchant asset sale	9/19/2016 1:51:00 PM ET
Action items: Moody's lifts Calpine, lowers view on Talen, GenOn; Fitch downgrades Exelon, Peabody SNL Energy presents a periodic rundown of selected ratings actions on U.S.- and Canada-based energy companies.	4/6/2016 10:04:00 AM ET
Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET
Action Items: Moody's downgrades Duke; Fitch lowers Williams, Williams Partners ratings SNL Energy presents a periodic rundown of selected ratings actions on U.S.- and Canada-based energy companies.	1/20/2016 1:18:00 PM ET
S&P assigns corporate credit rating to Appalachian Power Standard & Poor's Ratings Services assigned its A-2 short-term corporate credit rating to Appalachian Power and lowered its AA+/A-1 issue rating on $75 million worth of series 2008A revenue refunding bonds.	1/13/2016 6:12:00 AM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

Indiana Michigan Power Company | Credit Ratings

(SNL Inst Key: 4057003)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa1	BBB+	BBB-
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *1/30/2008* Baa2 (OS) Affirm *11/15/2003* Baa2 Affirm *12/11/2002*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa1 (OS) Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *1/30/2008* Baa2 (OS) Affirm *11/15/2003* Baa2 (OS) Affirm *2/10/2003*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *9/27/2016* BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa1 Upgrade *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 Affirm *2/6/2013* Baa2 Affirm *1/30/2008* Baa2 (OS) Affirm *2/10/2003* Baa2 SNL Start	BBB+ (WP) Upgrade *9/16/2016* BBB (WR) Downgrade *3/7/2003* BBB+ (WN) SNL Start	BBB Affirm *9/27/2016* BBB Affirm *3/18/2016* BBB Affirm *9/30/2015* BBB Affirm *3/26/2015* BBB Affirm *10/1/2014* BBB Affirm *4/7/2014*
Short-term/Commercial Paper			
			Remove *2/22/2013* F2 Affirm *2/27/2012* F2 Affirm *2/28/2011* F2 Affirm *4/26/2010* F2 Affirm

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			4/23/2009 F2 Affirm *2/7/2008*
Subordinated Debt			
		Remove *2/11/2011* BBB- (WR) Downgrade *3/7/2003* BBB (WN) Affirm *1/24/2003* BBB Downgrade *5/23/2002* BBB+ SNL Start	
Preferred Stock			
	Remove *12/1/2011* Ba1 Affirm *1/30/2008* Ba1 (OS) Affirm *2/10/2003* Ba1 Affirm *12/11/2002* Ba1 Affirm *4/19/2002* Ba1 SNL Start		Remove *12/31/2011* BB+ Affirm *2/28/2011* BB+ Downgrade *1/22/2010* BBB- Affirm *2/7/2008* BBB- SNL Start

Ratings News

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Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

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Kentucky Power Company | Credit Ratings

(SNL Inst Key: 4057006)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa2	BBB+	BBB-
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *1/30/2008* Baa2 (OS) Affirm *11/15/2003* Baa2 (OS) Affirm *2/10/2003*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa2 (OS) Affirm *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 (OS) Affirm *2/6/2013* Baa2 (OS) Affirm *1/30/2008* Baa2 (OS) Affirm *11/15/2003* Baa2 (OS) Affirm *2/10/2003*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *9/27/2016* BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa2 Affirm *1/31/2014* Baa2 (WP) Affirm *11/8/2013* Baa2 Affirm *2/6/2013* Baa2 Affirm *1/30/2008* Baa2 (OS) Affirm *2/10/2003* Baa2 (WN) SNL Start	BBB+ (WP) Upgrade *9/16/2016* BBB (WR) Downgrade *3/7/2003* BBB+ (WN) SNL Start	BBB Affirm *3/18/2016* BBB Affirm *9/30/2015* BBB Affirm *3/26/2015* BBB Affirm *10/1/2014* BBB Affirm *4/7/2014* BBB Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *2/22/2013* F2 Affirm *2/27/2012* F2 Affirm *2/28/2011* F2 Affirm *9/9/2010* F2 Affirm

Kentucky Power Company | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			8/20/2009 F2 Affirm *4/24/2008*
Subordinated Debt			
	Remove *6/30/2003* Baa3 (OS) Affirm *2/10/2003* Baa3 Affirm *12/11/2002* Baa3 Affirm *4/19/2002* Baa3 SNL Start		Remove *6/30/2003* BBB- Affirm *6/28/2002* BBB- SNL Start
Senior Secured Debt			
	Remove *5/23/2002* Baa1 SNL Start		Remove *9/30/2002* BBB+ Affirm *6/28/2002* BBB+ SNL Start

Ratings News

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Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

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Ohio Power Company | Credit Ratings

(SNL Inst Key: 4057015)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa1	BBB+	BBB+
Outlook	Positive		Stable
Watch		Positive	
As of Date	5/13/2016	9/16/2016	9/27/2016
History	Baa1 (OS) Downgrade *8/14/2009* A3 (WN) Affirm *1/23/2009* A3 (ON) Affirm *1/30/2008* A3 (OS) Affirm *11/15/2003* A3 (OS) Affirm *2/10/2003*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB+ (OS) Affirm *3/18/2016* BBB+ (OS) Affirm *9/30/2015* BBB+ (OS) Affirm *3/26/2015* BBB+ (OS) Affirm *10/1/2014* BBB+ (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa1 (OP) Affirm *5/13/2016*	BBB+ (WP) Upgrade *9/16/2016*	BBB+ (OS) Affirm *9/27/2016*
	Baa1 (OS) Downgrade *8/14/2009*	BBB (OP) Affirm *9/29/2014*	BBB+ (OS) Affirm *3/18/2016*
	A3 (WN) Affirm *1/23/2009*	BBB (OS) Downgrade *3/7/2003*	BBB+ (OS) Affirm *9/30/2015*
	A3 (ON) Affirm *1/30/2008*	BBB+ (WN) Affirm *1/24/2003*	BBB+ (OS) Affirm *3/26/2015*
	A3 (OS) Affirm *11/15/2003*	BBB+ Downgrade *5/23/2002*	BBB+ (OS) Affirm *10/1/2014*
	A3 (OS) Affirm *2/10/2003*	A- SNL Start	BBB+ (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa1 Affirm *5/13/2016*	BBB+ (WP) Upgrade *9/16/2016*	A- Affirm *3/18/2016*
	Baa1 (WR) Downgrade *8/14/2009*	BBB (WR) Downgrade *3/7/2003*	A- Affirm *9/30/2015*
	A3 (WN) Affirm *1/23/2009*	BBB+ (WN) SNL Start	A- Affirm *3/26/2015*
	A3 Affirm *1/30/2008*		A- Affirm *10/1/2014*
	A3 (OS) Affirm *2/10/2003*		A- Affirm *4/7/2014*
	A3 SNL Start		A- Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *3/18/2016*
			F2 Affirm *9/30/2015*
			F2 Affirm *3/26/2015*
			F2 Affirm *10/1/2014*
			F2 Affirm

Ohio Power Company | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			4/7/2014 F2 Affirm *2/20/2014*
Subordinated Debt			
		Remove *2/11/2011* BBB- (WR) Downgrade *3/7/2003* BBB Downgrade *5/23/2002* BBB+ SNL Start	Remove *7/24/2002* BBB SNL Start
Preferred Stock			
	Remove *12/1/2011* Baa3 (WR) Downgrade *8/14/2009* Baa2 (WN) Affirm *1/23/2009* Baa2 Affirm *1/30/2008* Baa2 (OS) Affirm *2/10/2003* Baa2 (WN) Affirm *4/19/2002*		Remove *12/29/2011* BBB- Affirm *2/28/2011* BBB- Affirm *12/21/2010* BBB- Downgrade *1/22/2010* BBB Affirm *4/17/2007* BBB SNL Start
Senior Secured Debt			
	Remove *4/1/2004* A3 (OS) Affirm *2/10/2003* A3 (WN) Affirm *4/19/2002* A3 SNL Start	Remove *4/1/2004* BBB (WR) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ SNL Start	A- Affirm *3/18/2016* A- SNL Start *3/26/2015*

Ratings News

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Moody's flags possible upgrade at Ohio Power Ohio Power has been flagged for a possible upgrade at Moody's after the rating agency revised its outlook on the American Electric Power subsidiary to positive.	5/16/2016 8:57:00 AM ET
Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

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Public Service Company of Oklahoma | Credit Ratings

(SNL Inst Key: 4057023)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	A3	BBB+	BBB
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa1 (WP) Affirm *11/8/2013* Baa1 (OS) Affirm *1/30/2008* Baa1 (OS) Affirm *11/15/2003* Baa1 Downgrade *2/10/2003* A2 (WN) Affirm *12/11/2002*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB (OS) Affirm *3/18/2016* BBB (OS) Affirm *9/30/2015* BBB (OS) Affirm *3/26/2015* BBB (OS) Affirm *10/1/2014* BBB (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	A3 (OS) Upgrade *1/31/2014* Baa1 (WP) Affirm *11/8/2013* Baa1 (OS) Affirm *1/30/2008* Baa1 (OS) Affirm *11/15/2003* Baa1 Downgrade *2/10/2003* A2 (WN) Affirm *12/11/2002*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB (OS) Affirm *9/27/2016* BBB (OS) Affirm *3/18/2016* BBB (OS) Affirm *9/30/2015* BBB (OS) Affirm *3/26/2015* BBB (OS) Affirm *10/1/2014* BBB (OS) Affirm *4/7/2014*
Senior Unsecured			
	A3 Upgrade *1/31/2014* Baa1 (WP) Affirm *11/8/2013* Baa1 Affirm *1/30/2008* Baa1 (OS) Downgrade *2/10/2003* A2 (WN) SNL Start	BBB+ (WP) Upgrade *9/16/2016* BBB (WR) Downgrade *3/7/2003* BBB+ (WN) SNL Start	BBB+ Affirm *3/18/2016* BBB+ Affirm *9/30/2015* BBB+ Affirm *3/26/2015* BBB+ Affirm *10/1/2014* BBB+ Affirm *4/7/2014* BBB+ Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *3/18/2016* F2 Affirm *9/30/2015* F2 Affirm *3/26/2015* F2 Affirm *10/1/2014* F2 Affirm

Public Service Company of Oklahoma | Credit Ratings

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
			4/7/2014 F2 Affirm *2/20/2014*
Preferred Stock			
	Remove *12/1/2011* Baa3 Affirm *1/30/2008* Baa3 (OS) Downgrade *2/10/2003* Baa1 (WN) Affirm *12/11/2002* Baa1 Affirm *4/19/2002* Baa1 SNL Start	Remove *12/7/2012* BB+ (WR) Downgrade *3/7/2003* BBB- (WN) Affirm *1/24/2003* BBB- Downgrade *5/23/2002* BBB SNL Start	Remove *12/31/2011* BBB- Affirm *2/28/2011* BBB- Downgrade *1/22/2010* BBB Downgrade *2/8/2008* BBB+ Affirm *4/17/2007* BBB+ Downgrade *11/20/2002*
Trust Preferred			
	Remove *5/5/2004* Baa2 (OS) Downgrade *2/10/2003* A3 (WN) Affirm *12/11/2002* A3 Affirm *4/19/2002* A3 SNL Start	Remove *5/5/2004* BB+ (WR) Downgrade *3/7/2003* BBB- (WN) Affirm *1/24/2003* BBB- Downgrade *5/23/2002* BBB SNL Start	Remove *5/5/2004* BBB+ Downgrade *11/20/2002* A- SNL Start
Senior Secured Debt			
	Remove *12/16/2008* A3 (OS) Downgrade *2/10/2003* A1 (WN) Affirm *12/11/2002* A1 SNL Start		

Ratings News

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Fitch Ratings on March 18 upgraded Appalachian Power Co.'s issuer default rating to BBB from BBB-. Fitch upgrades Appalachian Power on improved credit metrics	3/18/2016 4:31:00 PM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

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Southwestern Electric Power Company | Credit Ratings

(SNL Inst Key: 4057026)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	Moody's	*S&P*	*Fitch Ratings*
Long-term Rating	Baa2	BBB+	BBB-
Outlook	Stable		Stable
Watch		Positive	
As of Date	1/31/2014	9/16/2016	9/27/2016
History	Baa3 (WP) Affirm *11/8/2013* Baa3 (OP) Affirm *9/16/2013* Baa3 (OS) Downgrade *7/6/2009* Baa1 (WN) Affirm *2/4/2009* Baa1 (ON) Affirm *1/30/2008*	BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	Moody's	*S&P*	*Fitch Ratings*
Long-term Issuer			
	Baa2 (OS) Upgrade *1/31/2014* Baa3 (WP) Affirm *11/8/2013* Baa3 (OP) Affirm *9/16/2013* Baa3 (OS) Downgrade *7/6/2009* Baa1 (WN) Affirm *2/4/2009* Baa1 (ON) Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Affirm *9/29/2014* BBB (OS) Downgrade *3/7/2003* BBB+ (WN) Affirm *1/24/2003* BBB+ Downgrade *5/23/2002* A- SNL Start	BBB- (OS) Affirm *9/27/2016* BBB- (OS) Affirm *3/18/2016* BBB- (OS) Affirm *9/30/2015* BBB- (OS) Affirm *3/26/2015* BBB- (OS) Affirm *10/1/2014* BBB- (OS) Affirm *4/7/2014*
Senior Unsecured			
	Baa2 Upgrade *1/31/2014* Baa3 (WP) Affirm *11/8/2013* Baa3 Affirm *9/16/2013* Baa3 Downgrade *7/6/2009* Baa1 (WN) Affirm *2/4/2009* Baa1 (ON) Affirm *1/30/2008*	BBB+ (WP) Upgrade *9/16/2016* BBB (WR) Downgrade *3/7/2003* BBB+ (WN) SNL Start	BBB Affirm *3/18/2016* BBB Affirm *9/30/2015* BBB Affirm *3/26/2015* BBB Affirm *10/1/2014* BBB Affirm *4/7/2014* BBB Affirm *2/20/2014*
Short-term/Commercial Paper			
			Remove *2/22/2013* F2 Affirm *2/27/2012* F2 SNL Start *2/28/2011*

Peer Group: None
Agency S&P

	Moody's	*S&P*	*Fitch Ratings*
Preferred Stock			
	Remove *12/1/2011*	Remove *2/11/2011*	Remove *12/31/2011*
	Ba2 (WR) Downgrade *7/6/2009*	BB+ (WR) Downgrade *3/7/2003*	BB+ Affirm *2/28/2011*
	Baa3 (WN) Affirm *2/4/2009*	BBB- (WN) Affirm *1/24/2003*	BB+ Downgrade *6/2/2010*
	Baa3 (ON) Affirm *1/30/2008*	BBB- Downgrade *5/23/2002*	BBB- Downgrade *1/22/2010*
	Baa3 (OS) Downgrade *2/10/2003*	BBB SNL Start	BBB Downgrade *3/28/2008*
	Baa1 (WN) Affirm *4/19/2002*		BBB+ Affirm *4/17/2007*
Trust Preferred			
		Remove *10/1/2008*	
		BB+ (WR) Downgrade *3/7/2003*	
		BBB- (WN) Affirm *1/24/2003*	
		BBB- Downgrade *5/23/2002*	
		BBB SNL Start	
Senior Secured Debt			
	Remove *9/1/2007*		Remove *9/1/2007*
	A3 (OS) Downgrade *2/10/2003*		A Affirm *4/17/2007*
	A1 (WN) Affirm *4/19/2002*		A Affirm *4/24/2006*
	A1 SNL Start		A SNL Start

Ratings News

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Southwestern Electric Power completed an offering of $400.0 million of its 3.900% series J senior unsecured notes. SWEPCO sells $400M of senior notes	3/24/2015 11:54:00 AM ET

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

Wheeling Power Company | Credit Ratings

(SNL Inst Key: 4063994)

Peer Group: None
Agency S&P

Ratings Details

Credit Ratings

	S&P
Long-term Rating	BBB+
Outlook	
Watch	Positive
As of Date	9/16/2016
History	BBB (OP) Initiate *4/30/2015*

Comparison with Peers (S&P)

No Peer data available for selected criteria. Please change your settings.

Credit Ratings Details

	S&P
Long-term Issuer	
	BBB+ (WP) Upgrade *9/16/2016* BBB (OP) Initiate *4/30/2015*

Peer Group: None
Agency S&P

	S&P

Ratings Watch Action Legend: (WP) Watch Positive, (WN) Watch Negative, (WU) Watch Uncertain, (WR) Watch Removed, (OP) Outlook Positive, (ON) Outlook Negative, (OS) Outlook Stable, (OD) Outlook Developing.

Includes credit ratings on or after January 1, 2000. If a listed rating does not have a date, this means that while the rating was available from the ratings agency, the date was not available as of our data collection starting point. SNL does not publish revised Rating Outlooks independent of the credit rating itself. If there is a revised outlook where the credit rating stayed the same SNL lists this as a rating affirmation. Ratings history is comprehensive beginning with SNL's coverage of a company.

Month	Moody's Public Utility Bonds A	Moody's Public Utility Bonds Baa	10-Year Constant Maturity Treasury Bonds	Month	Moody's Public Utility Bonds A	Moody's Public Utility Bonds Baa	10-Year Constant Maturity Treasury Bonds
January, 2009	6.39%	7.90%	2.52%	January, 2013	4.15%	4.66%	1.91%
February, 2009	6.30%	7.74%	2.87%	February, 2013	4.18%	4.74%	1.98%
March, 2009	6.42%	8.00%	2.82%	March, 2013	4.20%	4.72%	1.96%
April, 2009	6.48%	8.03%	2.93%	April, 2013	4.00%	4.49%	1.76%
May, 2009	6.49%	7.76%	3.29%	May, 2013	4.17%	4.65%	1.93%
June, 2009	6.20%	7.30%	3.72%	June, 2013	4.53%	5.08%	2.30%
July, 2009	5.97%	6.87%	3.56%	July, 2013	4.68%	5.21%	2.58%
August, 2009	5.71%	6.36%	3.59%	August, 2013	4.73%	5.28%	2.74%
September, 2009	5.53%	6.12%	3.40%	September, 2013	4.80%	5.31%	2.81%
October, 2009	5.55%	6.14%	3.39%	October, 2013	4.70%	5.17%	2.62%
November, 2009	5.64%	6.18%	3.40%	November, 2013	4.77%	5.24%	2.72%
December, 2009	5.79%	6.26%	3.59%	December, 2013	4.81%	5.25%	2.90%
January, 2010	5.77%	6.16%	3.73%	January, 2014	4.63%	5.09%	2.86%
February, 2010	5.87%	6.25%	3.69%	February, 2014	4.53%	5.01%	2.71%
March, 2010	5.84%	6.22%	3.73%	March, 2014	4.51%	5.00%	2.72%
April, 2010	5.81%	6.19%	3.85%	April, 2014	4.41%	4.85%	2.71%
May, 2010	5.57%	6.15%	3.42%	May, 2014	4.26%	4.69%	2.56%
June, 2010	5.46%	6.18%	3.20%	June, 2014	4.29%	4.73%	2.60%
July, 2010	5.26%	5.98%	3.01%	July, 2014	4.23%	4.66%	2.54%
August, 2010	5.01%	5.55%	2.70%	August, 2014	4.13%	4.65%	2.42%
September, 2010	5.01%	5.53%	2.65%	September, 2014	4.24%	4.79%	2.53%
October, 2010	5.10%	5.62%	2.54%	October, 2014	4.06%	4.67%	2.30%
November, 2010	5.37%	5.85%	2.76%	November, 2014	4.09%	4.75%	2.33%
December, 2010	5.56%	6.04%	3.29%	December, 2014	3.95%	4.70%	2.21%
January, 2011	5.57%	6.06%	3.39%	January, 2015	3.58%	4.39%	1.88%
February, 2011	5.68%	6.10%	3.58%	February, 2015	3.67%	4.44%	1.98%
March, 2011	5.56%	5.97%	3.41%	March, 2015	3.74%	4.51%	2.04%
April, 2011	5.55%	5.98%	3.46%	April, 2015	3.75%	4.51%	1.94%
May, 2011	5.32%	5.74%	3.17%	May, 2015	4.17%	4.91%	2.20%
June, 2011	5.26%	5.67%	3.00%	June, 2015	4.39%	5.13%	2.36%
July, 2011	5.27%	5.70%	3.00%	July, 2015	4.40%	5.22%	2.32%
August, 2011	4.69%	5.22%	2.30%	August, 2015	4.25%	5.23%	2.17%
September, 2011	4.48%	5.11%	1.98%	September, 2015	4.39%	5.42%	2.17%
October, 2011	4.52%	5.24%	2.15%	October, 2015	4.29%	5.47%	2.07%
November, 2011	4.25%	4.93%	2.01%	November, 2015	4.40%	5.57%	2.26%
December, 2011	4.33%	5.07%	1.98%	December, 2015	4.35%	5.55%	2.24%
January, 2012	4.34%	5.06%	1.97%	January, 2016	4.27%	5.49%	2.09%
February, 2012	4.36%	5.02%	1.97%	February, 2016	4.11%	5.28%	1.78%
March, 2012	4.48%	5.13%	2.17%	March, 2016	4.16%	5.12%	1.89%
April, 2012	4.40%	5.11%	2.05%	April, 2016	4.00%	4.75%	1.81%
May, 2012	4.20%	4.97%	1.80%	May, 2016	3.93%	4.60%	1.81%
June, 2012	4.08%	4.91%	1.62%	June, 2016	3.78%	4.47%	1.64%
July, 2012	3.93%	4.85%	1.53%	July, 2016	3.57%	4.16%	1.50%
August, 2012	4.00%	4.88%	1.68%	August, 2016	3.59%	4.20%	1.56%
September, 2012	4.02%	4.81%	1.72%	September, 2016	3.66%	4.27%	1.63%
October, 2012	3.93%	4.56%	1.75%				
November, 2012	3.84%	4.42%	1.65%	**Last 6-months' Average:**	**3.76%**	**4.41%**	**1.66%**
December, 2012	4.00%	4.56%	1.72%	Oct 09 - Mar 10 Average	5.74%	6.20%	3.59%
				Change	1.99%	1.79%	1.93%

Title: Civilian Unemployment Rate
Series ID: UNRATE
Source: US. Bureau of Labor Statistics
Release: Employment Situation
Seasonal Adjustment: Seasonally Adjusted
Frequency: Monthly
Units: Percent
Notes: The unemployment rate represents the number of unemployed as a percentage of the labor force. Labor force data are restricted to people 16 years of age and older, who currently reside in 1 of the 50 states or the District of Columbia, who do not reside in institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces.

This rate is also defined as the U-3 measure of labor underutilization.
The series comes from the 'Current Population Survey (Household Survey)'
The source code is: LNS1400000C

DATE	VALUE		DATE	VALUE	
Jul-09	9.5		Apr-13	7.6	
Aug-09	9.6	6 Month	May-13	7.5	
Sep-09	9.8	Average	Jun-13	7.5	
Oct-09	10.0	Through	Jul-13	7.3	
Nov-09	9.9	Dec-09	Aug-13	7.2	
Dec-09	9.9	9.8	Sep-13	7.2	
Jan-10	9.8		Oct-13	7.2	
Feb-10	9.8		Nov-13	7.0	
Mar-10	9.9		Dec-13	6.7	
Apr-10	9.9		Jan-14	6.6	
May-10	9.6		Feb-14	6.7	
Jun-10	9.4		Mar-14	6.6	
Jul-10	9.4		Apr-14	6.2	
Aug-10	9.5		May-14	6.3	
Sep-10	9.5		Jun-14	6.1	
Oct-10	9.4		Jul-14	6.2	
Nov-10	9.8		Aug-14	6.1	
Dec-10	9.3		Sep-14	5.9	
Jan-11	9.2		Oct-14	5.7	
Feb-11	9.0		Nov-14	5.8	
Mar-11	9.0		Dec-14	5.6	
Apr-11	9.1		Jan-15	5.7	
May-11	9.0		Feb-15	5.5	
Jun-11	9.1		Mar-15	5.5	6 Month
Jul-11	9.0		Apr-15	5.4	Average
Aug-11	9.0		May-15	5.5	Through
Sep-11	9.0		Jun-15	5.3	Jun-15
Oct-11	8.8		Jul-15	5.3	5.4
Nov-11	8.6		Aug-15	5.1	
Dec-11	8.5		Sep-15	5.1	
Jan-12	8.3		Oct-15	5.0	
Feb-12	8.3		Nov-15	5.0	
Mar-12	8.2		Dec-15	5.0	
Apr-12	8.2		Jan-16	4.9	
May-12	8.2		Feb-16	4.9	
Jun-12	8.2		Mar-16	5.0	
Jul-12	8.2		Apr-16	5.0	
Aug-12	8.0		May-16	4.7	6 Month
Sep-12	7.8		Jun-16	4.9	Average
Oct-12	7.8		Jul-16	4.9	Through
Nov-12	7.7	6 Month	Aug-16	4.9	Sep-16
Dec-12	7.9	Average	Sep-16	5.0	4.9
Jan-13	8.0	Through			
Feb-13	7.7	Mar-13			
Mar-13	7.5	7.8			

Embargoed for release at 2:00 p.m., EST, December 16, 2015

Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, December 2015

Advance release of table 1 of the Summary of Economic Projections to be released with the FOMC minutes

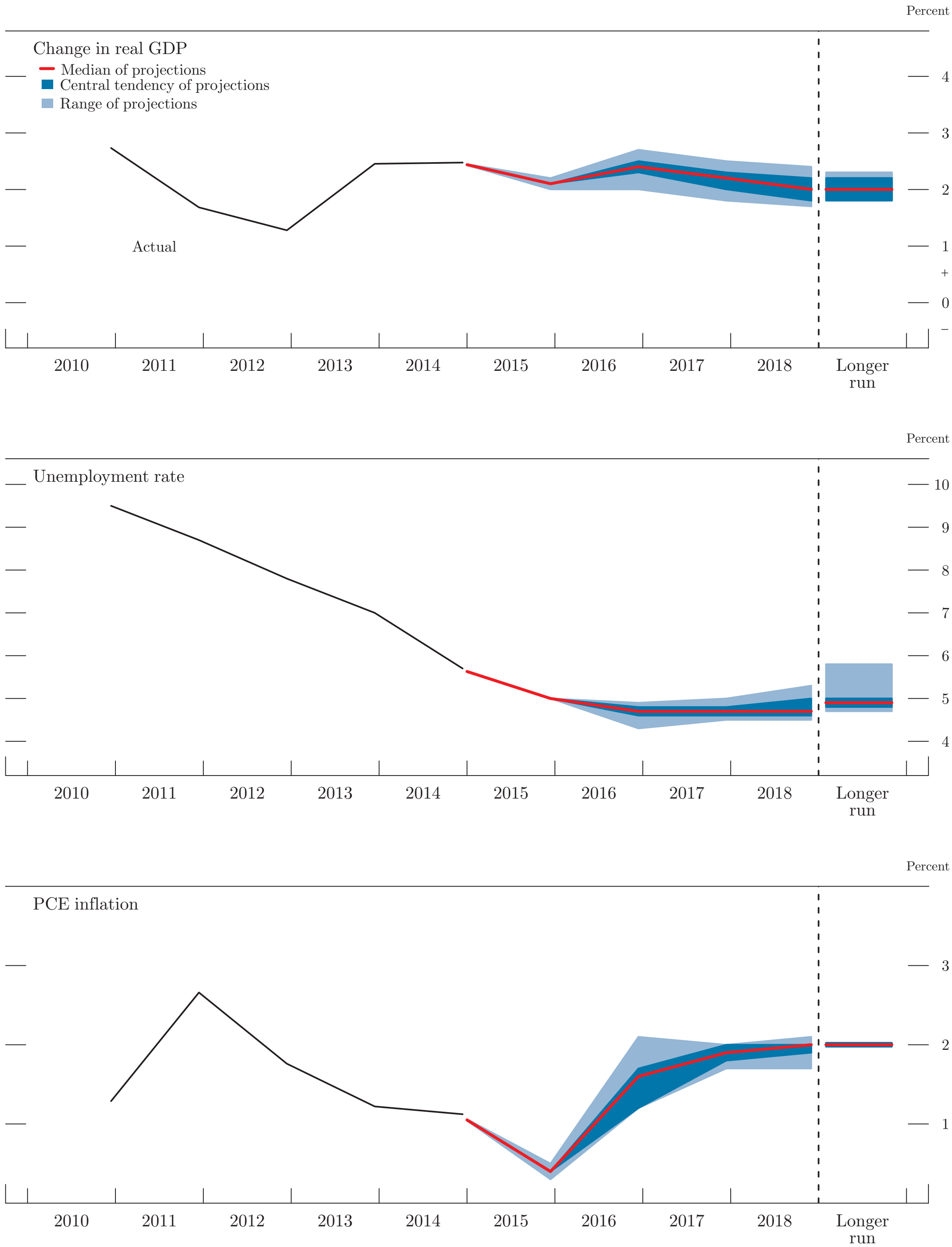
Percent

Variable	Median[1]					Central tendency[2]					Range[3]				
	2015	2016	2017	2018	Longer run	2015	2016	2017	2018	Longer run	2015	2016	2017	2018	Longer run
Change in real GDP	2.1	2.4	2.2	2.0	2.0	2.1	2.3 – 2.5	2.0 – 2.3	1.8 – 2.2	1.8 – 2.2	2.0 – 2.2	2.0 – 2.7	1.8 – 2.5	1.7 – 2.4	1.8 – 2.3
September projection	2.1	2.3	2.2	2.0	2.0	2.0 – 2.3	2.2 – 2.6	2.0 – 2.4	1.8 – 2.2	1.8 – 2.2	1.9 – 2.5	2.1 – 2.8	1.9 – 2.6	1.6 – 2.4	1.8 – 2.7
Unemployment rate	5.0	4.7	4.7	4.7	4.9	5.0	4.6 – 4.8	4.6 – 4.8	4.6 – 5.0	4.8 – 5.0	5.0	4.3 – 4.9	4.5 – 5.0	4.5 – 5.3	4.7 – 5.8
September projection	5.0	4.8	4.8	4.8	4.9	5.0 – 5.1	4.7 – 4.9	4.7 – 4.9	4.7 – 5.0	4.9 – 5.2	4.9 – 5.2	4.5 – 5.0	4.5 – 5.0	4.6 – 5.3	4.7 – 5.8
PCE inflation	0.4	1.6	1.9	2.0	2.0	0.4	1.2 – 1.7	1.8 – 2.0	1.9 – 2.0	2.0	0.3 – 0.5	1.2 – 2.1	1.7 – 2.0	1.7 – 2.1	2.0
September projection	0.4	1.7	1.9	2.0	2.0	0.3 – 0.5	1.5 – 1.8	1.8 – 2.0	2.0	2.0	0.3 – 1.0	1.5 – 2.4	1.7 – 2.2	1.8 – 2.1	2.0
Core PCE inflation[4]	1.3	1.6	1.9	2.0		1.3	1.5 – 1.7	1.7 – 2.0	1.9 – 2.0		1.2 – 1.4	1.4 – 2.1	1.6 – 2.0	1.7 – 2.1	
September projection	1.4	1.7	1.9	2.0		1.3 – 1.4	1.5 – 1.8	1.8 – 2.0	1.9 – 2.0		1.2 – 1.7	1.5 – 2.4	1.7 – 2.2	1.8 – 2.1	
Memo: Projected appropriate policy path															
Federal funds rate	0.4	1.4	2.4	3.3	3.5	0.4	0.9 – 1.4	1.9 – 3.0	2.9 – 3.5	3.3 – 3.5	0.1 – 0.4	0.9 – 2.1	1.9 – 3.4	2.1 – 3.9	3.0 – 4.0
September projection	0.4	1.4	2.6	3.4	3.5	0.1 – 0.6	1.1 – 2.1	2.1 – 3.4	3.0 – 3.6	3.3 – 3.8	-0.1 – 0.9	-0.1 – 2.9	1.0 – 3.9	2.9 – 3.9	3.0 – 4.0

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The September projections were made in conjunction with the meeting of the Federal Open Market Committee on September 16–17, 2015.

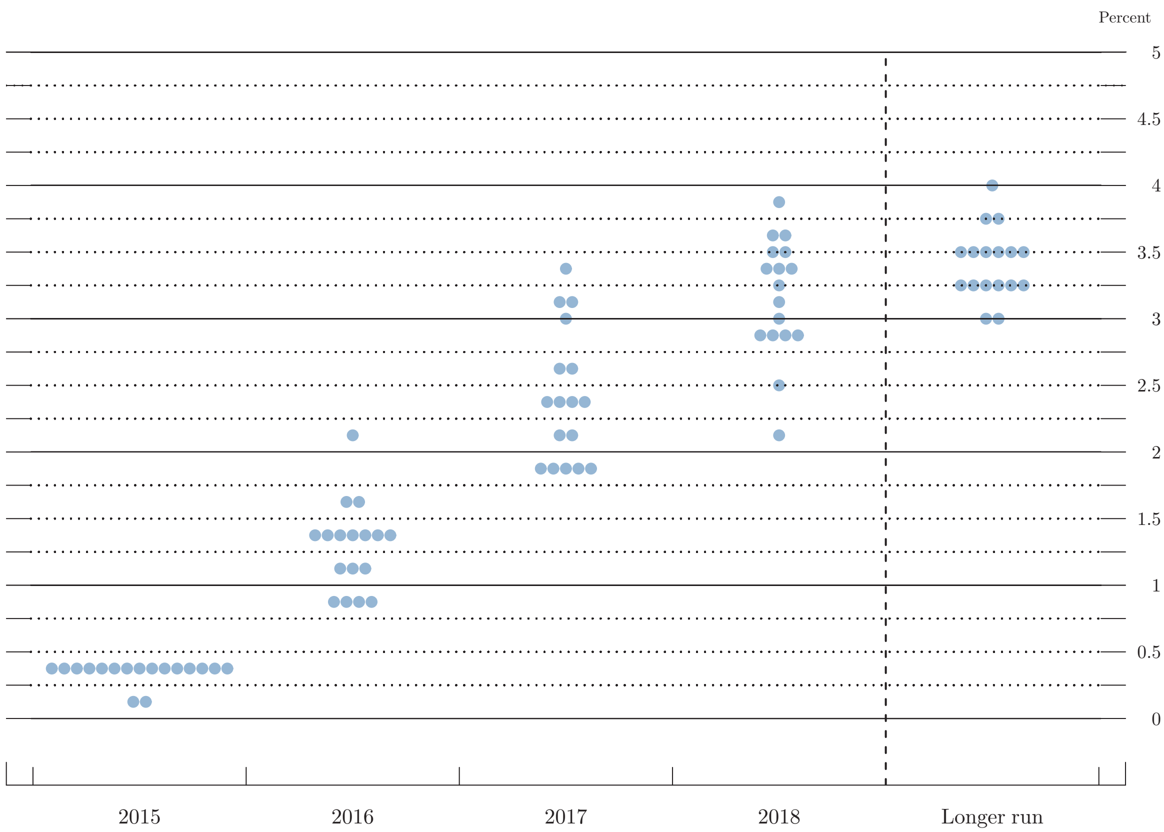
1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

Figure 1. Medians, central tendencies, and ranges of economic projections, 2015–18 and over the longer run



NOTE: Definitions of variables are in the general note to the projections table. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

Explanation of Economic Projections Charts

The charts show actual values and projections for three economic variables, based on FOMC participants' individual assessments of appropriate monetary policy:

- Change in Real Gross Domestic Product (GDP)—as measured from the fourth quarter of the previous year to the fourth quarter of the year indicated, with values plotted at the end of each year.
- Unemployment Rate—the average civilian unemployment rate in the fourth quarter of each year, with values plotted at the end of each year.
- PCE Inflation—as measured by the change in the personal consumption expenditures (PCE) price index from the fourth quarter of the previous year to the fourth quarter of the year indicated, with values plotted at the end of each year.

Information for these variables is shown for each year from 2010 to 2018, and for the longer run.

The solid black line, labeled "Actual," shows the historical values for each variable.

The lightly shaded areas represent the ranges of the projections of policymakers. The bottom of the range for each variable is the lowest of all of the projections for that year or period. Likewise, the top of the range is the highest of all of the projections for that year or period.

The dark shaded areas represent the central tendency, which is a narrower version of the range that excludes the three highest and three lowest projections for each variable in each year or period.

The solid red line depicts the median projection in each period for each variable. The median value in each period is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.

The longer-run projections, which are shown on the far right side of the charts, are the rates of growth, unemployment, and inflation to which a policymaker expects the economy to converge over time—maybe in five or six years—in the absence of further shocks and under appropriate monetary policy. Because appropriate monetary policy, by definition, is aimed at achieving the Federal Reserve's dual mandate of maximum employment and price stability in the longer run, policymakers' longer-run projections for economic growth and unemployment may be interpreted, respectively, as estimates of the economy's normal or trend rate of growth and its normal unemployment rate over the longer run. The longer-run projection shown for inflation is the rate of inflation judged to be most consistent with the Federal Reserve's dual mandate.

Explanation of Policy Path Chart

This chart is based on policymakers' assessments of appropriate monetary policy, which, by definition, is the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her interpretation of the Federal Reserve's dual objectives of maximum employment and stable prices.

Each shaded circle indicates the value (rounded to the nearest ⅛ percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

FEDERAL RESERVE press release

Release Date: December 16, 2015

For immediate release

Information received since the Federal Open Market Committee met in October suggests that economic activity has been expanding at a moderate pace. Household spending and business fixed investment have been increasing at solid rates in recent months, and the housing sector has improved further; however, net exports have been soft. A range of recent labor market indicators, including ongoing job gains and declining unemployment, shows further improvement and confirms that underutilization of labor resources has diminished appreciably since early this year. Inflation has continued to run below the Committee's 2 percent longer-run objective, partly reflecting declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation remain low; some survey-based measures of longer-term inflation expectations have edged down.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee currently expects that, with gradual adjustments in the stance of monetary policy, economic activity will continue to expand at a moderate pace and labor market indicators will continue to strengthen. Overall, taking into account domestic and international developments, the Committee sees the risks to the outlook for both economic activity and the labor market as balanced. Inflation is expected to rise to 2 percent over the medium term as the transitory effects of declines in energy and import prices dissipate and the labor market strengthens further. The Committee continues to monitor inflation developments closely.

The Committee judges that there has been considerable improvement in labor market conditions this year, and it is reasonably confident that inflation will rise, over the medium term, to its 2 percent objective. Given the economic outlook, and recognizing the time it takes for policy actions to affect future economic outcomes, the Committee decided to raise the target range for the federal funds rate to 1/4 to 1/2 percent. The stance of monetary policy remains accommodative after this increase, thereby supporting further improvement in labor market conditions and a return to 2 percent inflation.

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. In light of the current shortfall of inflation from 2 percent, the Committee will carefully monitor actual and expected progress toward its inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipates doing so until normalization of the level of the federal funds rate is well under way. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

Voting for the FOMC monetary policy action were: Janet L. Yellen, Chair; William C. Dudley, Vice Chairman; Lael Brainard; Charles L. Evans; Stanley Fischer; Jeffrey M. Lacker; Dennis P. Lockhart; Jerome H. Powell; Daniel K. Tarullo; and John C. Williams.

For release at 2:00 p.m., EDT, September 21, 2016

Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy, September 2016

Advance release of table 1 of the Summary of Economic Projections to be released with the FOMC minutes

Percent

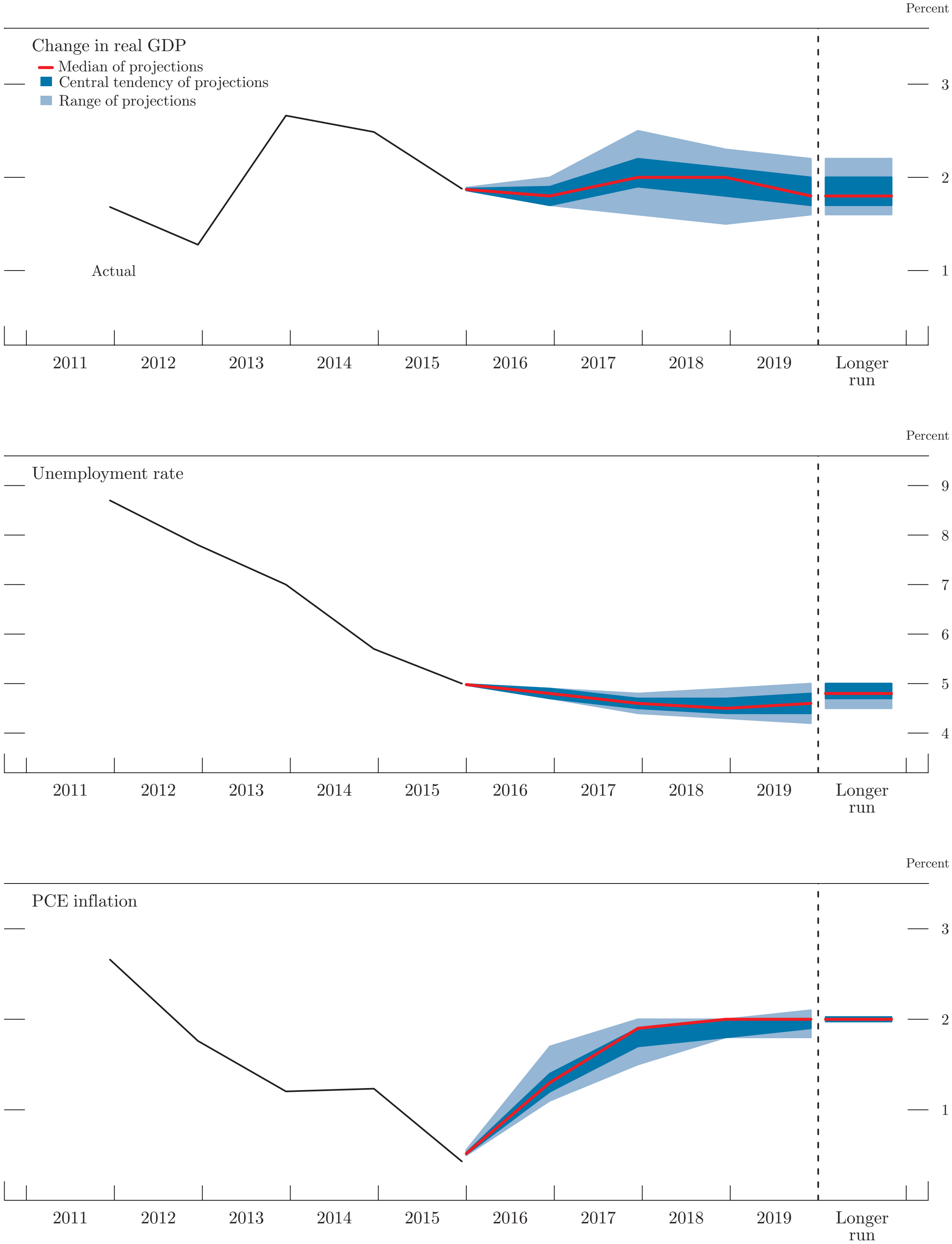
Variable	Median[1]					Central tendency[2]					Range[3]				
	2016	2017	2018	2019	Longer run	2016	2017	2018	2019	Longer run	2016	2017	2018	2019	Longer run
Change in real GDP	1.8	2.0	2.0	1.8	1.8	1.7 – 1.9	1.9 – 2.2	1.8 – 2.1	1.7 – 2.0	1.7 – 2.0	1.7 – 2.0	1.6 – 2.5	1.5 – 2.3	1.6 – 2.2	1.6 – 2.2
June projection	2.0	2.0	2.0	n.a.	2.0	1.9 – 2.0	1.9 – 2.2	1.8 – 2.1	n.a.	1.8 – 2.0	1.8 – 2.2	1.6 – 2.4	1.5 – 2.2	n.a.	1.6 – 2.4
Unemployment rate	4.8	4.6	4.5	4.6	4.8	4.7 – 4.9	4.5 – 4.7	4.4 – 4.7	4.4 – 4.8	4.7 – 5.0	4.7 – 4.9	4.4 – 4.8	4.3 – 4.9	4.2 – 5.0	4.5 – 5.0
June projection	4.7	4.6	4.6	n.a.	4.8	4.6 – 4.8	4.5 – 4.7	4.4 – 4.8	n.a.	4.7 – 5.0	4.5 – 4.9	4.3 – 4.8	4.3 – 5.0	n.a.	4.6 – 5.0
PCE inflation	1.3	1.9	2.0	2.0	2.0	1.2 – 1.4	1.7 – 1.9	1.8 – 2.0	1.9 – 2.0	2.0	1.1 – 1.7	1.5 – 2.0	1.8 – 2.0	1.8 – 2.1	2.0
June projection	1.4	1.9	2.0	n.a.	2.0	1.3 – 1.7	1.7 – 2.0	1.9 – 2.0	n.a.	2.0	1.3 – 2.0	1.6 – 2.0	1.8 – 2.1	n.a.	2.0
Core PCE inflation[4]	1.7	1.8	2.0	2.0		1.6 – 1.8	1.7 – 1.9	1.9 – 2.0	2.0		1.5 – 2.0	1.6 – 2.0	1.8 – 2.0	1.8 – 2.1	
June projection	1.7	1.9	2.0	n.a.		1.6 – 1.8	1.7 – 2.0	1.9 – 2.0	n.a.		1.3 – 2.0	1.6 – 2.0	1.8 – 2.1	n.a.	
Memo: Projected appropriate policy path															
Federal funds rate	0.6	1.1	1.9	2.6	2.9	0.6 – 0.9	1.1 – 1.8	1.9 – 2.8	2.4 – 3.0	2.8 – 3.0	0.4 – 1.1	0.6 – 2.1	0.6 – 3.1	0.6 – 3.8	2.5 – 3.8
June projection	0.9	1.6	2.4	n.a.	3.0	0.6 – 0.9	1.4 – 1.9	2.1 – 2.9	n.a.	3.0 – 3.3	0.6 – 1.4	0.6 – 2.4	0.6 – 3.4	n.a.	2.8 – 3.8

NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The June projections were made in conjunction with the meeting of the Federal Open Market Committee on June 14–15, 2016. One participant did not submit longer-run projections in conjunction with the June 14–15, 2016, meeting. For the September 20–21, 2016, meeting, one participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

For release at 2:00 p.m., EDT, September 21, 2016

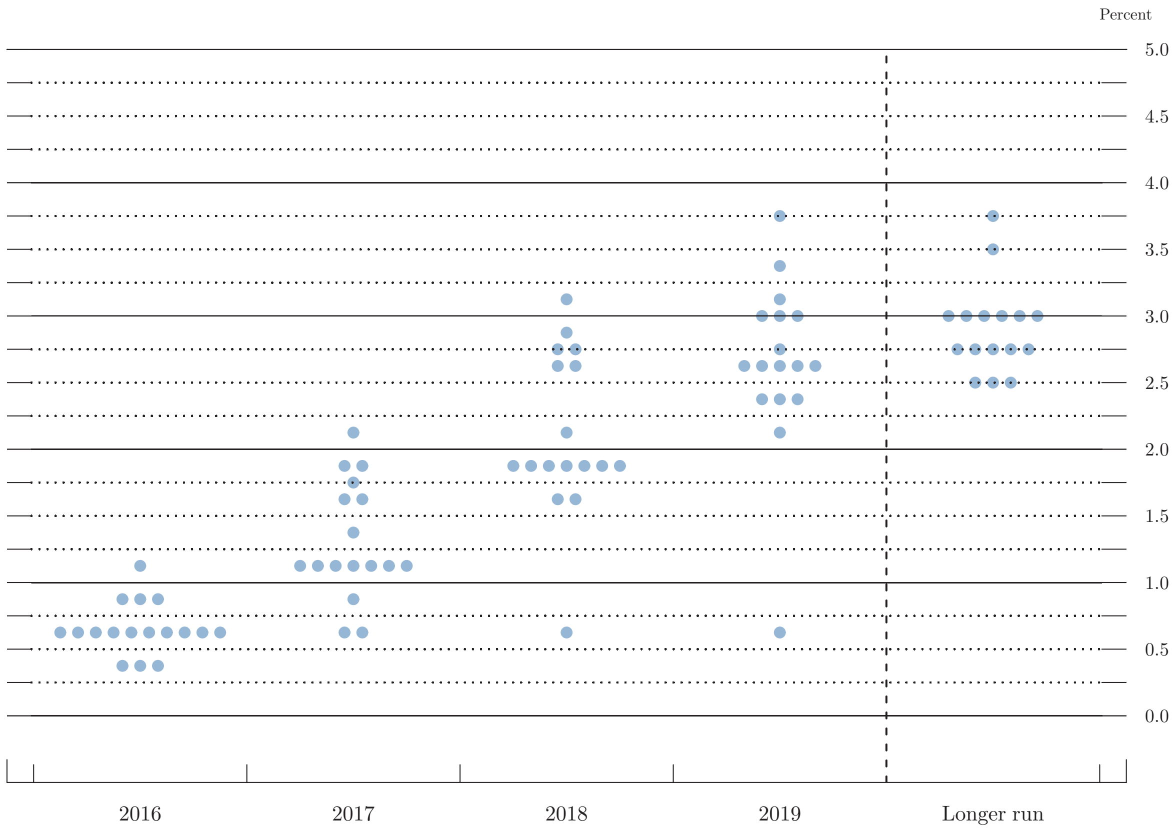
Figure 1. Medians, central tendencies, and ranges of economic projections, 2016–19 and over the longer run



Note: Definitions of variables and other explanations are in the notes to the projections table. The data for the actual values of the variables are annual.

For release at 2:00 p.m., EDT, September 21, 2016

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

For release at 2:00 p.m., EDT, September 21, 2016

Explanation of Economic Projections Charts

The charts show actual values and projections for three economic variables, based on FOMC participants' individual assessments of appropriate monetary policy:

- Change in Real Gross Domestic Product (GDP)—as measured from the fourth quarter of the previous year to the fourth quarter of the year indicated, with values plotted at the end of each year.
- Unemployment Rate—the average civilian unemployment rate in the fourth quarter of each year, with values plotted at the end of each year.
- PCE Inflation—as measured by the change in the personal consumption expenditures (PCE) price index from the fourth quarter of the previous year to the fourth quarter of the year indicated, with values plotted at the end of each year.

Information for these variables is shown for each year from 2011 to 2019, and for the longer run.

The solid black line, labeled "Actual," shows the historical values for each variable.

The lightly shaded areas represent the ranges of the projections of policymakers. The bottom of the range for each variable is the lowest of all of the projections for that year or period. Likewise, the top of the range is the highest of all of the projections for that year or period.

The dark shaded areas represent the central tendency, which is a narrower version of the range that excludes the three highest and three lowest projections for each variable in each year or period.

The solid red line depicts the median projection in each period for each variable. The median value in each period is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.

The longer-run projections, which are shown on the far right side of the charts, are the rates of growth, unemployment, and inflation to which a policymaker expects the economy to converge over time—maybe in five or six years—in the absence of further shocks and under appropriate monetary policy. Because appropriate monetary policy, by definition, is aimed at achieving the Federal Reserve's dual mandate of maximum employment and price stability in the longer run, policymakers' longer-run projections for economic growth and unemployment may be interpreted, respectively, as estimates of the economy's normal or trend rate of growth and its normal unemployment rate over the longer run. The longer-run projection shown for inflation is the rate of inflation judged to be most consistent with the Federal Reserve's dual mandate.

For release at 2:00 p.m., EDT, September 21, 2016

Explanation of Policy Path Chart

This chart is based on policymakers' assessments of appropriate monetary policy, which, by definition, is the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her interpretation of the Federal Reserve's dual objectives of maximum employment and stable prices.

Each shaded circle indicates the value (rounded to the nearest ⅛ percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run.

FEDERAL RESERVE press release

For release at 2 p.m. EDT September 21, 2016

Information received since the Federal Open Market Committee met in July indicates that the labor market has continued to strengthen and growth of economic activity has picked up from the modest pace seen in the first half of this year. Although the unemployment rate is little changed in recent months, job gains have been solid, on average. Household spending has been growing strongly but business fixed investment has remained soft. Inflation has continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation remain low; most survey-based measures of longer-term inflation expectations are little changed, on balance, in recent months.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market conditions will strengthen somewhat further. Inflation is expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of past declines in energy and import prices dissipate and the labor market strengthens further. Near-term risks to the economic outlook appear roughly balanced. The Committee continues to closely monitor inflation indicators and global economic and financial developments.

Against this backdrop, the Committee decided to maintain the target range for the federal funds rate at 1/4 to 1/2 percent. The Committee judges that the case for an increase in the federal funds rate has strengthened but decided, for the time being, to wait for further evidence of continued progress toward its objectives. The stance of monetary policy remains accommodative, thereby supporting further improvement in labor market conditions and a return to 2 percent inflation.

(more)

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. In light of the current shortfall of inflation from 2 percent, the Committee will carefully monitor actual and expected progress toward its inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipates doing so until normalization of the level of the federal funds rate is well under way. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

Voting for the FOMC monetary policy action were: Janet L. Yellen, Chair; William C. Dudley, Vice Chairman; Lael Brainard; James Bullard; Stanley Fischer; Jerome H. Powell; and Daniel K. Tarullo. Voting against the action were: Esther L. George, Loretta J. Mester, and Eric Rosengren, each of whom preferred at this meeting to raise the target range for the federal funds rate to 1/2 to 3/4 percent.

For release at 2 p.m. EDT September 21, 2016

Decisions Regarding Monetary Policy Implementation

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on September 21, 2016:

- The Board of Governors of the Federal Reserve System left unchanged the interest rate paid on required and excess reserve balances at 0.50 percent.

- As part of its policy decision, the Federal Open Market Committee voted to authorize and direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

  > "Effective September 22, 2016, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1/4 to 1/2 percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 0.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
  >
  > The Committee directs the Desk to continue rolling over maturing Treasury securities at auction and to continue reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

  More information regarding open market operations may be found on the Federal Reserve Bank of New York's website.

- The Board of Governors of the Federal Reserve System took no action to change the discount rate (the primary credit rate), which remains at 1.00 percent.

This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

**Transcript of Chair Yellen's Press Conference
September 21, 2016**

CHAIR YELLEN. Good afternoon. At our meeting that concluded earlier today, my colleagues and I on the Federal Open Market Committee discussed overall economic conditions and decided to keep the target range for the federal funds rate at ¼ to ½ percent. We judged that the case for an increase has strengthened but decided for the time being to wait for further evidence of continued progress toward our objectives. Our current policy should help move the economy toward our statutory goals of maximum employment and price stability. I'll have more to say about our decision shortly, but first I will review recent economic developments and the outlook.

Economic growth, which was subdued during the first half of the year, appears to have picked up. Household spending continues to be the key source of that growth. This spending has been supported by solid increases in household income as well as by relatively high levels of consumer sentiment and wealth. Business investment, however, remains soft, both in the energy sector and more broadly. The energy industry has been hard hit by the drop in oil prices since mid-2014, and investment in that sector continued to contract through the first half of the year. However, drilling is now showing signs of stabilizing. Overall, we expect that the economy will expand at a moderate pace over the next few years.

Turning to employment, job gains averaged about 180,000 per month over the past four months, about the same solid pace recorded since the beginning of the year. In the longer run, that's well above the pace that we estimate is needed to provide work for new entrants in the job market. But so far this year, most measures of labor market slack have shown little change. The unemployment rate in August—4.9 percent—was the same as in January. And a broader measure of unemployment has also flattened out—a measure that includes people who want and are available to work but have not searched recently as well as people who are working part time but would rather work full time. The fact that unemployment measures have been holding steady while the number of jobs has grown solidly shows that more people, presumably in response to better employment opportunities and higher wages, have started actively seeking and finding jobs. This is a very welcome development, both for the individuals involved and the nation as a whole. We continue to expect that labor market conditions will strengthen somewhat further over time.

Ongoing economic growth and an improving job market are key factors supporting our inflation outlook. Overall consumer price inflation—as measured by the price index for personal consumption expenditures—was less than 1 percent over the 12 months ending in July, still short of our 2 percent objective. Much of this shortfall continues to reflect earlier declines in energy and import prices. Core inflation, which excludes energy and food prices that tend to be more volatile than other prices, has been running about 1½ percent. As transitory influences holding down inflation fade and as the job market strengthens further, we continue to expect inflation to rise to 2 percent over the next two to three years.

Our inflation outlook also rests importantly on our judgment that longer-run inflation expectations remain reasonably well anchored. However, we can't take the stability of longer-run inflation expectations for granted, and we will continue to carefully monitor actual and expected progress toward our inflation goal. Indeed, we are fully committed to achieving our 2 percent inflation objective.

Let me turn to the economic projections—now extending through 2019—that were submitted for this meeting by the Federal Open Market Committee participants. As always, participants conditioned their projections on their own view of appropriate monetary policy, which in turn depends on each participant's assessment of the multitude of factors that shape the outlook. The median projection for growth of inflation-adjusted gross domestic product, or GDP, is 1.8 percent this year. This figure is somewhat lower than projected in June as a result of the weaker-than-expected growth seen in the first half of the year. In 2017 and 2018, the median growth projection is unchanged at 2 percent, somewhat higher than the median estimate of longer-run normal growth. In 2019, growth edges down to 1.8 percent, in line with its estimated longer-run rate, which has als—which has been revised down a bit since June. The median projection for the unemployment rate stands at 4.8 percent at the end of this year, a touch higher than in June. Over the next three years, the median unemployment rate runs near 4½ percent, modestly below the median estimate of its longer-run normal rate. Finally, the median inflation projection is 1.3 percent this year and rises to 1.9 percent next year and 2 percent in 2018 and 2019.

Returning to monetary policy, the recent pickup in economic growth and continued progress in the labor market have strengthened the case for an increase in the federal funds rate. Moreover, the Committee judges the risks to the outlook to be roughly balanced. So why didn't we raise the federal funds rate at today's meeting? Our decision does not reflect a lack of confidence in the economy. Conditions in the labor market are strengthening, and we expect that to continue. And while inflation remains low, we expect it to rise to our 2 percent objective over time. But with labor market slack being taken up at a somewhat slower pace than in previous years, scope for some further improvement in the labor market remaining, and inflation continuing to run below our 2 percent target, we chose to wait for further evidence of continued progress toward our objectives. This cautious approach to paring back monetary policy support is all the more appropriate given that short-term interest rates are still near zero, which means that we can more effectively respond to surprisingly strong inflation pressures in the future by raising rates than to a weakening labor market and falling inflation by cutting rates.

We continue to expect that the evolution of the economy will warrant only gradual increases in the federal funds rate over time to achieve and maintain our objectives. That's based on our view that the neutral nominal federal funds rate—that is, the interest rate that is neither expansionary nor contractionary and keeps the economy operating on an even keel—is currently quite low by historical standards. With the federal funds rate modestly below the neutral rate, the current stance of monetary policy should be viewed as modestly accommodative, which is appropriate to foster further progress toward our objectives. But since monetary policy is only modestly accommodative, there appears little risk of falling behind the curve in the near future, and gradual increases in the federal funds rate will likely be sufficient to get to a neutral policy stance over the next few years.

This view is consistent with participants' projections of appropriate monetary policy. The median projection for the federal funds rate rises only gradually to 1.1 percent at the end of next year, 1.9 percent at the end of 2018, and 2.6 percent by the end of 2019. Compared with the projections made in June, the median path for the federal funds rate has been revised down ¼ to ½ percentage point. Most participants also marked down their estimate of the longer-run normal federal funds rate, with the median now at 2.9 percent.

As I have noted on previous occasions, participants' projections for the federal funds rate, including the median path, are not a fixed plan for future policy. Policy is not on a preset course. These forecasts represent participants' individual assessments of appropriate policy, given their projections of economic growth, employment, inflation, and other factors at a particular point in time. However, the economic outlook is inherently uncertain, and any assessment of the appropriate path for the federal funds rate will change in response to changes to the economic outlook and associated risks.

Finally, we will continue to reinvest proceeds from maturing Treasury securities and principal payments from agency debt and mortgage-backed securities. As our statement says, we anticipate continuing this policy "until normalization of the level of the federal funds rate is well under way." Maintaining our sizable holdings of longer-term securities should help maintain accommodative financial conditions and should reduce the risk that we might have to lower the federal funds rate to zero in the event of a future large adverse shock.

Thank you. I'd be happy to take your questions.

STEVE LIESMAN. Steve Liesman, CNBC. Madam Chair, critics of the Federal Reserve have said that you look for any excuse not to hike, that the goalposts constantly move. And it looks, indeed, like there are new goalposts now when you say looking for "further evidence" and—and you suggest that it's evidence that labor—labor market slack is "being taken up." Could you explain what "for the time being" means, in terms of a time frame, and what that further evidence you would look for in order to hike interest rates? And also, this notion that the goalposts seem to move, and that you've indeed introduced a new goalpost with this statement. Thank you.

CHAIR YELLEN. I'll try to respond to those questions. Let me try to set out again how the Committee sees the economy and what we're looking for. We're generally pleased with how the U.S. economy is doing. Growth was weak in the first half of the year; we're seeing definite evidence that the economy is now expanding more strongly. As I mentioned, payroll gains in recent months have been solid, averaging around 180,000 per month, which is less than the pace in 2015, but, as I mentioned, it's well above what's needed to provide jobs for new entrants into the labor force over time. The unemployment rate is pretty close to most FOMC participants' estimates of its longer-run equilibrium value. But, as I mentioned, that rate and other measures of labor utilization are little changed since the beginning of the year. I don't see that as bad news, because it may reflect that the strong labor market is attracting people from outside the labor force back into employment. The labor force participation rates increased on balance since late last year. It has—it is on a declining demographic trend, and the fact that it's increased shows a substantial number of people are being attracted into the labor market.

The employment-to-population ratio has also continued to increase. Now, we were not really certain that this is something that would happen as the labor market strengthened, and it's good to see that development has taken place. And that is some news that we've received in recent months, that the labor market does have that potential to have people come back in without the unemployment rate coming down. So we're not seeing strong pressures on utilization suggesting overheating, and my assessment would be, based on this evidence, that the economy has a little more room to run than might have been previously thought. That's good news.

Remember that inflation continues below 2 percent, although we expect it to move up over time. So the Committee agrees that risks to the outlook have become roughly balanced. We expect labor market conditions to continue strengthening. And we are generally agreed that gradual increases in the federal funds rate to remove what is a modest degree of accommodation will be appropriate. But we don't see the economy as overheating now. My colleagues and I exchanged views at this meeting on the appropriate timing of the next step in reducing policy stimulus. Most of us judged that the case for an immediate increase in the federal funds rate is stronger, but that it would be sensible, given the finding of a bit more running room, to wait to see some continued progress—evidence that we continue to progress toward our objectives. So, for the time being, we're going to watch incoming evidence, and you can see from the SEP that most participants do expect that one increase in the federal funds rate will be appropriate this year. And I would expect to see that if we continue on the current course of labor market improvement and there are no major new risks that develop and we simply stay on the current course.

HOWARD SCHNEIDER. Hi. Howard Schneider with Reuters. Chair, thanks for this. I was wondering if you could comment a little bit on the apparent tension between the steady drift down in the long-run rate and the steady drift down in some of the projections and the seeming march toward a rate hike. If the neutral rate's coming down over time and continues coming down and you're eating up accommodation that way anyway, why not wait for the dust to settle on that before moving rates up?

CHAIR YELLEN. So it is true that our estimates of the neutral rate are coming down, and that's what's largely responsible for that shift. At the same time, we generally agree that the stance of monetary policy is somewhat accommodative. So 180,000 jobs a month is a faster pace of employment growth than is sustainable in the longer run. Now, we have seen people come into the labor force and maybe more than would be expected, which is why the unemployment rate hasn't fallen. But that's probably not something that is possible without the economy overheating on an indefinite basis. So policy needs to be forward looking. We don't want the economy to overheat and significantly overshoot our 2 percent inflation objective. That's one risk that we need to address. And I think we generally agree that some gradual increases to remove that accommodation will be appropriate if we stay on this course.

But, as I emphasized, it's not that much accommodation, and the economy has shown evidence that there are more people who are being attracted back into the labor force. So, in that sense, I would characterize it as, we found the economy has a bit more running room. Nevertheless, we don't want the economy to overheat, and if things continue on the current course, I think that some gradual increases will be appropriate. And, mainly, what we discussed today were issues affecting the timing of such increases.

MARTIN CRUTSINGER. Marty Crutsinger with the Associated Press. Last month in your speech at Jackson Hole, you seemed to raise expectations that there could be a rate hike in September. Other Fed officials talked, including Vice Chairman Fischer. They seemed to support that. Fed President Rosengren had some comments that sent the markets plunging. Then we had—Governor Brainard seemed to draw back. Is this hurting the Fed's credibility do you think, or is this just a normal thing that we should be looking for at this time—uncertain time with the economy?

CHAIR YELLEN. Well, I did say at Jackson Hole that I thought the case for a rate increase had strengthened, and that assessment is included in today's statement. So I think most of my colleagues agree—agree with that assessment. I think we are trying to understand some difficult issues. There is less disagreement among participants in the Committee than you might think, listening to speeches and commentary. I think we all agree that the economy is making progress, that we are close to an unemployment rate that is one that's sustainable in the longer run. We all agree we are undershooting our inflation goal, and that we want to make sure we stay on a course that raises that to 2 percent. And we're struggling with a difficult set of issues about what is the "new normal" in this economy and in the global economy more generally, which explains why we keep revising down the rate path. And, you know, it's very important that in a body like ours that a whole range of views are expressed, that we have independent-minded people who gather together and discuss these issues. My colleagues do explain, in their individual speeches, their own perspectives. These are complicated, complex issues, and it just isn't straightforward exactly how to interpret what is appropriate policy and exactly what is going on in the economy. My—my sense is that market participants and the public more generally learn more about the issues that we're grappling with as they listen to this set of speeches. And I think it's a very good thing that the FOMC is not a body that suffers from groupthink. And you see that—you see that's one of the, you know, real worries in an organization, that everybody thinks identically. But there's a lot that we share in common and express, both in our statement and in our speeches. And we are debating and discussing issues pertaining to timing.

JON HILSENRATH. Jon Hilsenrath from the *Wall Street Journal*. Chair Yellen, Donald Trump, the Republican presidential nominee, has charged that the Fed is keeping interest rates artificially low to support the Obama Administration. I'd like to hear what you have to say to that charge. And, on a related note, I wanted to ask you about the Fed's next policy meeting, which is in early November, a week before the next election—given that the case for raising rates, you say today, has strengthened, should the public see that November meeting as a live meeting when a rate action could happen? Thank you.

CHAIR YELLEN. Well, I think Congress very wisely established the Federal Reserve as an independent agency in order to insulate monetary policy from short-term political pressures. And I can say emphatically that partisan politics plays no role in our decisions about the appropriate stance of monetary policy. We are trying to decide what the best policy is to foster price stability and maximum employment and to manage the variety of risks that we see as affecting the outlook. We do not discuss politics at our meetings, and we do not take politics into account in our decisions.

As I said, we're generally pleased with the progress of the economy. And the decision not to raise rates today and to wait for some further evidence that we're continuing on this course is largely based on the judgment that we're not seeing evidence that the economy is overheating, and that we are seeing evidence that people are being drawn in—in larger numbers than at least I would have expected—into the labor market, and that that's healthy to continue, but that, nevertheless, we do need to be forward looking. And if we continue along this course, it likely will be appropriate to raise the federal funds rate. And November you asked about as well. Well, every meeting is live, and we will again assess, as we always do, incoming evidence in November and decide whether or not a move is warranted.

CRAIG TORRES. Madam Chair, Craig Torres from Bloomberg. What observable data would convince you and the Committee that this neutral federal funds rate is starting to move up? There's a popular piece of research by one of your colleagues that suggests that it's at zero right now. And, second, I'm struck by your opening remarks that the economy is—isn't overheating. But does—does that mean the Committee sees this global reach-for-yield going on right now as very low cost to its policy? Thanks.

CHAIR YELLEN. So you asked, first: What evidence would suggest that the neutral real rate is moving up? Well, I think if you saw us revising up our growth forecasts, revising down our estimates, well, with an unchanged path for policy, you know, if you saw this, you would see revisions in the funds rate path. But if unemployment were moving down faster than we had anticipated, if we saw faster growth or upward pressure on inflation, that would be suggestive of the appropriateness of reevaluating whether or not the neutral funds rate had increased. I mean, the downward revisions reflect the fact that, while the economy has made a lot of progress, it's only made that progress in the context of a monetary policy that has been characterized by extremely low interest rates and negative real yields for a very long period of time. Let's see, and then you asked about global factors. So global factors, capital flows—

CRAIG TORRES. —about the global reach-for-yield and whether the Committee saw that as a cost to its accommodative policy right now.

CHAIR YELLEN. So, in most advanced nations now, we have highly accommodative policies, and they seem to be necessary for countries to be able to achieve their inflation and employment objectives. And that's characteristic of a—an environment in which the neutral rate—interest rates both here and in advanced countries around the globe appear to be very low. And that is an environment that, if we do have to live with that for a long time, we have to be aware that it does give rise to a reach for yield as individuals and investors seek to, perhaps, take on risk or lengthen maturities to seek higher—to seek higher yields.

And I think we should be concerned about that to the extent it creates financial stability risks. And we are very aware that those are possible. We engage in regular assessments of financial stability factors that bear on financial stability. Overall, I would say that the threats to financial stability I would characterize, at this point, as moderate. Not—I mean—so, I would characterize it as moderate.

In general, I would not say that asset valuations are out of line with historical norms, but there are areas my colleague President Rosengren has focused on: commercial real estate, where price-to-rent ratios are very high or cap rates are very low. And that's something that has caught our attention. We have a variety of tools other than monetary policy to address such risks. We've recently issued new supervisory guidance pertaining to commercial real estate. I would say, in the area of commercial real estate, while valuations are high, we are seeing some tightening of lending standards and less debt growth associated with that rise in commercial real estate prices. But, more generally, we're not seeing signs of leverage building up or maturity transformation in the way that we saw in the run-up to the crisis, and we're keeping a close eye on it.

SAM FLEMING. Sam Fleming from the *Financial Times*. Two quasi-related questions. One, Bill Dudley earlier this year suggested that political uncertainty in the U.S. may be one of the depressants on business investment at the moment. I wondered if you'd seen any further evidence that election risk was one of the reasons that businesses are holding back at the margin.

A second was a follow-up on your Jackson Hole speech where you presented a fairly optimistic sense of the scope for further monetary stimulus. You did raise the question of automatic stabilizers in the U.S., however. Are you concerned that there is insufficient fiscal backup to the Fed, and too much is effectively being lumped on the shoulders of the central bank if there is a fresh downturn? Thanks.

CHAIR YELLEN. Well, starting with the issue of political uncertainty and investment, investment spending really has been quite weak for some time, and we're really not certain exactly what is causing that. Part of it, of course, has been the huge contraction in drilling activity associated with falling oil prices, but the weakness in investment spending extends beyond—beyond that sector, and I'm not certain of exactly what explains that, whether—I'm not aware of evidence that suggests that it's political uncertainty, but it certainly—I would agree with the finding that it has been weak. Consumer sentiment is perfectly solid. We're seeing a lot of strength in consumer spending, and consumer sentiment certainly seems to be solid.

You asked about scope for further monetary policy action. I was careful in Jackson Hole. I indicated we have a number of tools that we've used before and could use again. I did indicate that I do have concerns about the scope for monetary policy. Nevertheless, at this point our balance sheet is large, and we're not at what we see as the normal level—longer-run level of interest rates. So, at the moment, the funds rate is very low. It's below that normal level. So, at the moment, I would say the zero lower bound is a concern, and we have less scope than I would like to see or expect us to have in the longer run.

Now, I think it would be—it would be worthwhile for other policymakers to think about what role they could play in addressing negative shocks should they come. And I mentioned specifically automatic stabilizers because I think that's an important way in which fiscal policy serves to cushion shocks to the economy. And it would seem to me, without getting into specifics, that there are ways in which the response of fiscal policy to shifts in the economy could be strengthened, which would help take some burden off monetary policy.

BINYAMIN APPELBAUM. Binya Appelbaum, the *New York Times*. In the run-up to the Brexit vote earlier this year, several Fed policymakers cited it as a reason that they were reluctant to raise rates in June because of the uncertainty associated with that vote. In the run-up to the presidential election, I have not heard any Fed policymaker give that as a reason that they might want to delay raising rates in November. Could you explain why the Fed regards Brexit as a greater danger to the American economy than the presidential election that's actually happening here? And, second, there were three dissents at this meeting. Could you explain what the cause of disagreement was, what those policymakers thought?

CHAIR YELLEN. So we are very focused on evaluating, given the way the economy is operating, what is the right policy to foster our goals, and I'm not going to get into politics. I'm just—those are factors that we don't consider, and I don't—I'm not going to get involved in commenting on the election.

In terms of the dissents, as I indicated, the notion that we do have some accommodation, that if we continue on the current path, it's something we will need to remove over time. There's general agreement among participants on that, but the precise timing of what is the right—what is the right timing for removing that accommodation is something on which we had active discussions, and there are a range of opinions. And the dissents represent a judgment on the part of some of my colleagues that it's important to begin that process now.

I certainly agree, and I've said myself, that there are risks in waiting too long to remove accommodation, and we need to take a forward-looking approach. I've always advocated making policy based on forecasts of where the economy is heading and taking account of risks. And there are two particular risks that we need to think about and balance.

One is the risk that the economy runs too hot, that unemploy—the labor market tightens too much, that unemployment falls to a very low level, that we need to tighten policy in a less gradual way than would be ideal, and in the course of doing that, because that is a very difficult thing to accomplish, to gently create a bit more slack in the labor market, we could cause a recession in the process. And so that's something my colleagues and I certainly wouldn't want to be responsible for. We would all like to have a very long expansion, with the labor market operating well for many years to come, and the prospect that we could create—create downside risk for the labor market is something we would like to avoid, and taking "a stitch in time" might be essential to avoiding that.

On the other hand, inflation is running below our 2 percent objective, and it's also important that we make sure we get back to 2 percent. And I have routinely indicated a number of measures of inflation expectations that are running at the low ends of their historical range, and we're watching that as well. And there would also be risks from not seeing inflation move back to our 2 percent objective. And exactly how to balance these two risks, which is more serious—which is a more serious risk—can affect one's judgment about the appropriate timing, and we're all struggling to understand the magnitude and nature of those two risks.

REBECCA JARVIS. Rebecca Jarvis, ABC News. Chair Yellen, at a time when the public is losing faith in many institutions, did the FOMC discuss the importance of today as an opportunity to dispel the thinking that the Fed is politically compromised or beholden to markets?

CHAIR YELLEN. The Federal Reserve is not politically compromised. We do not discuss politics in our meetings. I can't recall any meeting that I have ever attended where politics has been a matter of discussion. I think the public, if they had been watching our meeting on TV today, would have felt that we had a rich, deep, serious, intellectual debate about the risks and the forecasts for the economy, and we struggled mightily with trying to understand one another's points of view and to come out at a balanced place and to act responsibly. And that's my commitment to the American people, that I want to lead an institution that is not political and is—that we are striving to do our very best to pursue the goals the Congress has assigned to us, which are important ones of price stability and maximum employment.

REBECCA JARVIS. Does it concern you, given what Donald Trump has said at this point about the Federal Reserve, that he could go back, if he were President, and look at the minutes and look for signs of the Fed being politically motivated and find them?

CHAIR YELLEN. I have no concern that the pol—the Fed is politically motivated, and I will assure that you will not find any signs of political motivation when the transcripts are released in five years. We—I—it is important that we maintain the confidence of the public, and I do believe that we deserve it. I know that these are difficult decisions, and everybody may not agree with them, but I hope the public will understand that we're striving to do our best to pursue these goals that do matter to all of us.

NANCY MARSHALL-GENZER. Nancy Marshall-Genzer with Marketplace. You mentioned commercial real estate. Are you worried that bubbles could form in the economy because of our prolonged low interest rates?

CHAIR YELLEN. Yes. Of course, we—we are worried that bubbles could form in the economy, and we routinely monitor asset valuations. While nobody can know for sure what type of valuation represents a bubble—that's only something one can tell in hindsight—we are monitoring these measures of valuation, and commercial real estate valuations are high. Rents have moved up over time, but, still, valuations are high relative to rents. And so it is something we've discussed. We called this out in our *Monetary Policy Report* and in other presentations.

And we are—we are, in our supervision with banks, as I indicated, we have issued supervisory guidance to make sure that underwriting standards are sound on these loans, and we're aware—this is something also that we look at in stress tests of the large—the larger banks to see what would happen to their capital positions and to make sure that they hold sufficient capital. And, of course, I think the soundness and state of the banking system has improved substantially, but, of course, we are focused on such things.

PETER BARNES. Chair Yellen, over here. Hi. Quick question on regulation and the scandal at Wells Fargo over phony customer accounts. I know that there are other regulators that have looked into this, but you are also a regulator of Wells Fargo. Have—has the Fed opened a separate investigation into this—these practices at Wells Fargo? And—and wouldn't you, because they do involve issues of consumer protection, potentially of risk management and corporate governance, and are you looking at them broadly across the banking system right now?

CHAIR YELLEN. So, in this specific case, the abuses that occurred took place in a national bank. The Comptroller of the Currency has responsibility there. And on the consumer side, it is the CFPB that has responsibility, but we work cooperatively and closely with those organizations.

And in terms of our overall supervisory responsibility for Wells and other large banking organizations, we are very focused, and this will be a particular focus of our supervision going forward over the next year or so on the compliance environment to make sure that the controls, that the senior management oversight, that the involvement of the boards of directors are appropriate to control these kinds of risks. We have been distressed to see banking organizations responding when a particular problem arises, and what we'd really want to see is robust procedures that ensure that employees are always acting in a legal and ethical manner, and that the incentives that are put in place in these organizations are appropriate and don't serve to foster behavior that could harm the public. And this has been and will be a focus of our supervision.

JIM TANKERSLEY. Hi. Jim Tankersley, *Washington Post*. Over the past year we've seen American policymakers begin to have maybe our most serious discussion about tariffs in the last several decades. If tariffs were to be enacted in the coming year or so, does the Fed have an opinion on what that would do to growth in America?

CHAIR YELLEN. So, you know, that's a political issue that's currently being debated that I really don't want to get into. You know, so—I'm going to—I'm going to pass on that one.

JOHN HELTMAN. Hi. John Heltman with *American Banker*. Back to a question about Wells or related to Wells. One of the concerns that has been raised—that this scandal has raised—is that the bank itself says it doesn't know what was happening, and there are thousands of employees that were involved in this. Some are calling for a breakup, saying that the banks are too big to manage. Do you think that—leaving aside the question of Wells specifically, do you think that it's possible for a bank to get so big that it can't be managed, and that perhaps the best prudential step would be to break it up?

CHAIR YELLEN. So we have high expectations for what we expect to be in place in a large organization or in any banking organization. We expect there to be robust systems of risk management, strong audit functions, a board of directors that is monitoring and supervising and holding senior management accountable for things that happen throughout the organization in a strong compliance environment, and I don't think that these are impossible standards to meet. They may be challenging, but I wouldn't at this point arrive at the conclusion that just because an organization is large, it can't live up to those standards. And those are our expectations, and we intend to hold banking organizations responsible for putting in place that kind of—that kind of risk-management and compliance environment.

JOHN HELTMAN. So, "No"?

CHAIR YELLEN. So I'm not—I'm not endorsing a general conclusion that banks are—banks of that size are too big to manage. I believe they can be, but it may be challenging, and that's what we expect.

ERIK SCHATZKER. Erik Schatzker from Bloomberg Television. Madam Chair, thank you. I have a question about the rate trajectory the Fed outlined today in the dot plot. While there is clearly a wide range, the median expectation is for the fed funds target to rise by ½ percentage point in 2017, ¾ of a point in 2018, and a further ¾ of a point in 2019, bringing us to 2½ to 2¾ percent, and then 2¾ percent to 3 percent in the long run. At the same time, the median forecast for GDP growth is 2 percent for the next two years and 1.8 percent thereafter. And, I should add, the most optimistic projection is for growth of just 2½ percent of all the projections outlined here. So if economic growth is going to be that slow for that long, where will the inflationary forces emerge that would require tightening of 250 basis points from where we are now? And if not inflation, is there some other explanation?

CHAIR YELLEN. So the projections—I agree, the projections for growth are slow. We have further written down our estimate of the longer-run normal growth rate. And what that reflects is an assessment that productivity growth is likely to remain low for an extended time, although it does embody an expectation that it will pick up from the miserable ½ percent pace per year that we have seen over the last five years.

Now, why we would never—and slow growth is a factor. Slow productivity growth is a factor that influences the longer-run normal level of interest rates, and writing down the likely pace of productivity growth is one factor that is responsible for the downward shift in the path that you see for the federal funds rate. That's an important reason for revising down the neutral rate.

But now, let's go to your—the part of your question about inflation. In spite of having such slow growth, disappointing productivity growth, we have a labor market that last year generated an average of about 230,000 jobs a month and so far this year has been generating about 180,000 jobs a month. And that is a very solid pace of job growth and a pace that likely is not sustainable in the longer run, although we've been pleased to see people come back in the labor market. So it certainly is sustainable for some further amount of time.

But I think what ultimately drives inflation, both wage and price growth, is that tightness in the labor market and pressure on resource utilization. And the sad fact is that we are getting that healthy pace of job market growth with very slow growth in output. So this is—I don't think it bears on the inflation outlook. It has prompted a downward shift in the projected path for the neutral and actual federal funds rate, but it is a huge concern because slow productivity growth ultimately means slow growth in living standards. And that's a big concern that policymakers should be focused on.

VICTORIA GUIDA. Hi, Victoria Guida with Politico. Back to Wells Fargo. You know, obviously, this was more of a consumer finance kind of a question, but I'm wondering if you think it does pose safety and soundness questions, if something like this is widespread across a big bank. And you had mentioned that this is going to be a supervisory focus over the coming year. Are there any adjustments that you can speak to that might be warranted, given these revelations?

CHAIR YELLEN. So, as I mentioned, we are going to be focusing on compliance risk management and board oversight not only at Wells, but also across bank holding companies. Of course, consumer issues and issues that involve harm of consumers can become safety and soundness issues. And if there was—at least one of the lessons from the financial crisis, I think, is that abuses of consumers of the sort that we see—saw in subprime lending ultimately did become—become safety and soundness issues. And so, of course, we need to have that concern, and we'll focus there. I think—I can't really at this point give you specifics beyond that.

MICHAEL DERBY. Hi, Mike Derby from Dow Jones Newswires. A large number of congressional Democrats as well as the campaign of Hillary Clinton would like bankers removed from the boards overseeing the regional Fed banks. Also, other reformers would like to see the private ownership of the regional—the bank ownership of the regional Feds ended and that the regional Feds be brought fully into government, and I wanted to know what you thought of those two proposals.

CHAIR YELLEN. So we have a system that Congress did set up in the Federal Reserve Act in which the governance of the Reserve Banks involves banks contributing capital and serving on the boards of directors. We have long recognized inside the Federal Reserve that when we're charged with supervision of banks, having bankers involved in that obviously presents conflict of interest. And we have put in place very strong measures to ensure that those conflicts of interest are not allowed to play out in any—in any way, that bankers are not allowed to be involved in supervision. Dodd-Frank changed the arrangement so that only the Class B and C, or nonbanking, directors can participate in the selection of the president as well.

So I think—I want to make sure the public has confidence that, in spite of the fact that we do have this banker involvement in our boards of directors, that it is not giving rise to any conflicts in our actual conduct of policy. Now, that setup—if that setup is changed, it raises which—it's up to Congress to decide what to do here. It raises complex issues about the governance—the whole governance arrangement in the Reserve Banks in the Federal Reserve, and I would simply caution that if that is looked at, as Congress is entitled to do, that they think through carefully what the ramifications of making changes would be.

KAREN MRACEK. Karen Mracek with Market News International. You mentioned in a previous answer the need to be forward looking, but you've also pointed to the economy not overheating as a reason you could, you know, hold off on raising rates at this one. Monetary policy has traditionally operated with long and variable lags. Do you think this timeline has changed since the financial crisis or due to the use of unconventional tools that the Fed used, and how does that factor into your decisionmaking?

CHAIR YELLEN. So I think the notion that monetary policy operates with long and variable lags—that statement is due to Milton Friedman, and it is one of the essential things to understand about monetary policy, and it has not fundamentally changed at all. And that is why I believe we have to be forward looking, and I'm not in favor of a "whites of their eyes" sort of approach. We need to operate based on forecasts.

But the global economy and the U.S. economy have changed a lot. History doesn't always exactly replay itself. Many of the—those of us sitting around the table, we learned the lesson that if policy is not forward looking, that inflation can pick up to highly undesirable levels, that inflation expectations can be dislodged upward, and the consequence of that can be that, endemically, higher inflation takes place, which—it is very costly to reduce. And absolutely none of us want to relive an episode like that. And so I believe, and my colleagues, that it is important to be forward looking. We're not going to make that mistake again.

But the structure of the economy changes, things do change. The nature of the inflation process has changed, I think, significantly since the bad days of the '70s when the Fed had to face this chronic high-inflation problem. We've seen inflation respond less to the economy, to movements in the unemployment rate—that's sometimes said, "The Phillips curve has become flatter." So we've seen less of a response. That's something we need to factor into our decisionmaking. Inflation expectations appear to be better anchored, and perhaps that's been a result of a long period of low and stable inflation. That's an asset. It's something we didn't have in the 1970s. And, in addition, we have to be attentive to the fact there we've now had a long period in which inflation is actually undershooting our 2 percent objective. And we see some signs that I—we conclude inflation expectations are reasonably well anchored at 2 percent. But we are seeing signs suggesting possible slippage there, and we're a long way from being—facing the problems that Japan faces. But there always a remi—should be a reminder to us that we also would not want to find ourselves in a period where inflation is chronically low—running below our objective, inflation expectations are slipping. And with a low neutral rate, that becomes more important. So things are changed, but the principle of "forward looking" absolutely holds.

PATRICK GILLESPIE. Hi, Patrick Gillespie with CNN. Chair Yellen, you just mentioned one of the economy's major problems: low productivity growth. And one of the solutions that's been proposed widely is better job skills. Many economists say that some workers are staying on the sidelines because they don't—they, you know, they lack new job skills, the ones that would help them obtain better employment. The Fed doesn't have the authority to finance or run its own job training program or apprenticeship, but would you want that authority from Congress? And is it at all frustrating that you know—you and your colleagues know one of the solutions to fixing a major issue in the economy, but you can't take the concrete steps to solving that issue?

CHAIR YELLEN. Well, I do think job training and job skills are important. And we do work in community development, trying to—in the local communities where the Reserve Banks operate, to try to foster broader understanding of what kinds of programs work and how community organizations in state and local governments can put in place programs that will be helpful. I've recently visited a program that was very impressive in Philadelphia. I've visited some in Chicago and other places. So I do believe it's possible to design programs that will help people overcome obstacles in getting jobs that are available. But I definitely think that, you know, while we can play some role in facilitating understanding of what works and what doesn't work that can be helpful, it's certainly worthwhile for policymakers at the federal level, at state and local levels, to be focusing on this, because I think it is an area that would be helpful in making progress.

MARK HAMRICK. Thank you, Madam Chair, Mark Hamrick with Bankrate.com. As we've gotten to this 4.9 percent unemployment rate, as you know, through this year's long recovery, we have yet to see substantial pickup in wage growth. And it seems as if the American middle class continues to express some disappointment about that. Is there better news on the horizon? Do you think it could come in 2017, for example, and if not, when?

CHAIR YELLEN. So I think we have seen some modest pickup in wage growth. It's running a little bit higher than it was over the last two years by a number of important measures. And we have seen income growth pick up recently. I think the Census report was encouraging, showing that there are income gains, both because of more jobs and higher-paying jobs, and that that's occurring throughout the income distribution. It's helping many families. But I do expect—we expect the unemployment rate to decline further, we expect labor market conditions to continue to improve. And my hope and expectation is that we will see some further pickup in wage growth, and that it will be broadly beneficial to American households.

Minutes of the Federal Open Market Committee
September 20–21, 2016

A joint meeting of the Federal Open Market Committee and the Board of Governors was held in the offices of the Board of Governors of the Federal Reserve System in Washington, D.C., on Tuesday, September 20, 2016, at 1:00 p.m. and continued on Wednesday, September 21, 2016, at 9:00 a.m.[1]

PRESENT:

Janet L. Yellen, Chair
William C. Dudley, Vice Chairman
Lael Brainard
James Bullard
Stanley Fischer
Esther L. George
Loretta J. Mester
Jerome H. Powell
Eric Rosengren
Daniel K. Tarullo

Charles L. Evans, Patrick Harker, Robert S. Kaplan, Neel Kashkari, and Michael Strine, Alternate Members of the Federal Open Market Committee

Jeffrey M. Lacker, Dennis P. Lockhart, and John C. Williams, Presidents of the Federal Reserve Banks of Richmond, Atlanta, and San Francisco, respectively

Brian F. Madigan, Secretary
Matthew M. Luecke, Deputy Secretary
David W. Skidmore, Assistant Secretary
Michelle A. Smith, Assistant Secretary
Michael Held, Deputy General Counsel
Richard M. Ashton, Assistant General Counsel
Steven B. Kamin, Economist
Thomas Laubach, Economist
David W. Wilcox, Economist

Thomas A. Connors, Troy Davig, Michael P. Leahy, Stephen A. Meyer, Ellis W. Tallman, Geoffrey Tootell, and William Wascher, Associate Economists

Simon Potter, Manager, System Open Market Account

Lorie K. Logan, Deputy Manager, System Open Market Account

Robert deV. Frierson, Secretary of the Board, Office of the Secretary, Board of Governors

Matthew J. Eichner,[2] Director, Division of Reserve Bank Operations and Payment Systems, Board of Governors

James A. Clouse, Deputy Director, Division of Monetary Affairs, Board of Governors; Maryann F. Hunter, Deputy Director, Division of Banking Supervision and Regulation, Board of Governors

David Bowman, Andrew Figura, Joseph W. Gruber, Ann McKeehan, and David Reifschneider, Special Advisers to the Board, Office of Board Members, Board of Governors

Trevor A. Reeve, Special Adviser to the Chair, Office of Board Members, Board of Governors

Linda Robertson, Assistant to the Board, Office of Board Members, Board of Governors

Eric M. Engen, Joshua Gallin, and Michael G. Palumbo, Senior Associate Directors, Division of Research and Statistics, Board of Governors

Michael T. Kiley, Senior Associate Director, Division of Financial Stability, and Senior Adviser, Division of Research and Statistics, Board of Governors

Antulio N. Bomfim, Ellen E. Meade, and Joyce K. Zickler, Senior Advisers, Division of Monetary Affairs, Board of Governors

David López-Salido, Associate Director, Division of Monetary Affairs, Board of Governors

[1] The Federal Open Market Committee is referenced as the "FOMC" and the "Committee" in these minutes.
[2] Attended through the discussion on financial developments and open market operations.

Elizabeth Klee and Jason Wu, Assistant Directors, Division of Monetary Affairs, Board of Governors; Shane M. Sherlund, Assistant Director, Division of Research and Statistics, Board of Governors; Paul R. Wood, Assistant Director, Division of International Finance, Board of Governors

Penelope A. Beattie,[3] Assistant to the Secretary, Office of the Secretary, Board of Governors

David H. Small, Project Manager, Division of Monetary Affairs, Board of Governors

Sophia H. Allison,[2] Special Counsel, Legal Division, Board of Governors

Jonathan E. Goldberg and Francisco Vazquez-Grande, Senior Economists, Division of Monetary Affairs, Board of Governors

Paul Dozier,[2] Senior Financial Analyst, Division of International Finance, Board of Governors

Randall A. Williams, Information Manager, Division of Monetary Affairs, Board of Governors

Mark A. Gould, First Vice President, Federal Reserve Bank of San Francisco

David Altig, Kartik B. Athreya, and Daniel G. Sullivan, Executive Vice Presidents, Federal Reserve Banks of Atlanta, Richmond, and Chicago, respectively

Mary Daly, Evan F. Koenig, Susan McLaughlin,[2] and Paolo A. Pesenti, Senior Vice Presidents, Federal Reserve Banks of San Francisco, Dallas, New York, and New York, respectively

David Andolfatto, Vice President, Federal Reserve Bank of St. Louis

Thomas D. Tallarini, Jr., Assistant Vice President, Federal Reserve Bank of Minneapolis

Satyajit Chatterjee, Senior Economic Advisor, Federal Reserve Bank of Philadelphia

Cindy Hull,[2] Markets Officer, Federal Reserve Bank of New York

[3] Attended Tuesday session only.

Selection of Committee Officer

By unanimous vote, the Committee selected Michael Held to serve as deputy general counsel, effective September 20, 2016, until the selection of his successor at the first regularly scheduled meeting of the Committee in 2017.

Revisions to Documents Governing Foreign Currency Operations

The manager of the System Open Market Account (SOMA) briefed the Committee on a staff proposal to revise the documents governing the System's foreign currency operations, including the Authorization for Foreign Currency Operations (Foreign Authorization), the Foreign Currency Directive (Foreign Directive), and the Procedural Instructions with Respect to Foreign Currency Operations (Procedural Instructions). The objectives of the proposal were to simplify the organization of the documents, to better reflect the current operating environment, and to clarify guidance provided to the Federal Reserve Bank selected by the Committee to execute open market transactions (Selected Bank). The staff proposed incorporating the material in the Foreign Authorization, Foreign Directive, and Procedural Instructions into a new authorization and directive that would parallel the domestic authorization and directive; the Procedural Instructions document would no longer be necessary. The proposed Foreign Authorization was structured by operation type, including standalone spot and forward transactions; warehousing of funds for the Exchange Stabilization Fund; reciprocal currency arrangements, and standing dollar and foreign currency liquidity swaps; and foreign currency holdings. Proposed substantive changes to procedures and governance included the removal of the Selected Bank's ability to independently decide, within limits, to enter into standalone spot and forward transactions, the addition of a provision for the Foreign Currency Subcommittee (Subcommittee) to give additional guidance to the Selected Bank regarding management of SOMA foreign currency holdings, and the incorporation of procedures that would allow decisions to be made promptly under circumstances in which the normal procedures would not be feasible. Additionally, the definition of and provisions governing the Subcommittee were removed from the Foreign Authorization and incorporated into the Committee's Rules of Procedure and Rules of Organization, as appropriate. By unanimous vote, the proposed Foreign Authorization, Foreign Directive, Rules of Organization, and Rules of Procedure were approved, and the Procedural Instructions were rescinded.[4]

AUTHORIZATION FOR FOREIGN CURRENCY OPERATIONS
(As amended effective September 20, 2016)

IN GENERAL

1. The Federal Open Market Committee (the "Committee") authorizes the Federal Reserve Bank selected by the Committee (the "Selected Bank") to execute open market transactions for the System Open Market Account as provided in this Authorization, to the extent necessary to carry out any foreign currency directive of the Committee:

A. To purchase and sell foreign currencies (also known as cable transfers) at home and abroad in the open market, including with the United States Treasury, with foreign monetary authorities, with the Bank for International Settlements, and with other entities in the open market. This authorization to purchase and sell foreign currencies encompasses purchases and sales through standalone spot or forward transactions and through foreign exchange swap transactions. For purposes of this Authorization, foreign exchange swap transactions are: swap transactions with the United States Treasury (also known as warehousing transactions), swap transactions with other central banks under reciprocal currency arrangements, swap transactions with other central banks under standing dollar liquidity and foreign currency liquidity swap arrangements, and swap transactions with other entities in the open market.

B. To hold balances of, and to have outstanding forward contracts to receive or to deliver, foreign currencies.

2. All transactions in foreign currencies undertaken pursuant to paragraph 1 above shall, unless otherwise authorized by the Committee, be conducted:

A. In a manner consistent with the obligations regarding exchange arrangements under Article IV of the Articles of Agreement of the International Monetary Fund (IMF).[1]

B. In close and continuous cooperation and consultation, as appropriate, with the United States Treasury.

C. In consultation, as appropriate, with foreign monetary authorities, foreign central banks, and international monetary institutions.

D. At prevailing market rates.

STANDALONE SPOT AND FORWARD TRANSACTIONS

3. For any operation that involves standalone spot or forward transactions in foreign currencies:

A. Approval of such operation is required as follows:

i. The Committee must direct the Selected Bank in advance to execute the operation if it would result in the overall volume of standalone spot and forward transactions in foreign currencies, as defined in paragraph 3.C of this Authorization, exceeding $5 billion since the close of the most recent regular meeting of the Committee. The Foreign Currency Subcommittee (the "Subcommittee") must direct the Selected Bank in advance to execute the operation if the Subcommittee believes that consultation with the Committee is not feasible in the time available.

ii. The Committee authorizes the Subcommittee to direct the Selected Bank in advance to execute the operation if it would result in the overall volume of standalone spot and forward transactions in foreign currencies, as defined in paragraph 3.C of this Authorization, totaling $5 billion or less since the close of the most recent regular meeting of the Committee.

B. Such an operation also shall be:

i. Generally directed at countering disorderly market conditions; or

ii. Undertaken to adjust System balances in light of probable future needs for currencies; or

iii. Conducted for such other purposes as may be determined by the Committee.

C. For purposes of this Authorization, the overall volume of standalone spot and forward transactions in foreign currencies is defined as the sum (disregarding signs) of the dollar values of individual foreign currencies purchased and sold, valued at the time of the transaction.

WAREHOUSING

4. The Committee authorizes the Selected Bank, with the prior approval of the Subcommittee and at the request of the United States Treasury, to conduct swap

[4] The approved Foreign Authorization and Foreign Directive are included in these minutes. The approved Rules of Organization and Rules of Procedure, as well as other Committee organizational documents, are available at www.federalreserve.gov/monetarypolicy/rules_authorizations.htm.

transactions with the United States Exchange Stabilization Fund established by section 10 of the Gold Reserve Act of 1934 under agreements in which the Selected Bank purchases foreign currencies from the Exchange Stabilization Fund and the Exchange Stabilization Fund repurchases the foreign currencies from the Selected Bank at a later date (such purchases and sales also known as warehousing).

RECIPROCAL CURRENCY ARRANGEMENTS, AND STANDING DOLLAR AND FOREIGN CURRENCY LIQUIDITY SWAPS

5. The Committee authorizes the Selected Bank to maintain reciprocal currency arrangements established under the North American Framework Agreement, standing dollar liquidity swap arrangements, and standing foreign currency liquidity swap arrangements as provided in this Authorization and to the extent necessary to carry out any foreign currency directive of the Committee.

A. For reciprocal currency arrangements all drawings must be approved in advance by the Committee (or by the Subcommittee, if the Subcommittee believes that consultation with the Committee is not feasible in the time available).

B. For standing dollar liquidity swap arrangements all drawings must be approved in advance by the Chairman. The Chairman may approve a schedule of potential drawings, and may delegate to the manager, System Open Market Account, the authority to approve individual drawings that occur according to the schedule approved by the Chairman.

C. For standing foreign currency liquidity swap arrangements all drawings must be approved in advance by the Committee (or by the Subcommittee, if the Subcommittee believes that consultation with the Committee is not feasible in the time available).

D. Operations involving standing dollar liquidity swap arrangements and standing foreign currency liquidity swap arrangements shall generally be directed at countering strains in financial markets in the United States or abroad, or reducing the risk that they could emerge, so as to mitigate their effects on economic and financial conditions in the United States.

E. For reciprocal currency arrangements, standing dollar liquidity swap arrangements, and standing foreign currency liquidity swap arrangements:

i. All arrangements are subject to annual review and approval by the Committee;

ii. Any new arrangements must be approved by the Committee; and

iii. Any changes in the terms of existing arrangements must be approved in advance by the Chairman. The Chairman shall keep the Committee informed of any changes in terms, and the terms shall be consistent with principles discussed with and guidance provided by the Committee.

OTHER OPERATIONS IN FOREIGN CURRENCIES

6. Any other operations in foreign currencies for which governance is not otherwise specified in this Authorization (such as foreign exchange swap transactions with private-sector counterparties) must be authorized and directed in advance by the Committee.

FOREIGN CURRENCY HOLDINGS

7. The Committee authorizes the Selected Bank to hold foreign currencies for the System Open Market Account in accounts maintained at foreign central banks, the Bank for International Settlements, and such other foreign institutions as approved by the Board of Governors under Section 214.5 of Regulation N, to the extent necessary to carry out any foreign currency directive of the Committee.

A. The Selected Bank shall manage all holdings of foreign currencies for the System Open Market Account:

i. Primarily, to ensure sufficient liquidity to enable the Selected Bank to conduct foreign currency operations as directed by the Committee;

ii. Secondarily, to maintain a high degree of safety;

iii. Subject to paragraphs 7.A.i and 7.A.ii, to provide the highest rate of return possible in each currency; and

iv. To achieve such other objectives as may be authorized by the Committee.

B. The Selected Bank may manage such foreign currency holdings by:

i. Purchasing and selling obligations of, or fully guaranteed as to principal and interest by, a foreign government or agency thereof ("Permitted Foreign Securities") through outright purchases and sales;

ii. Purchasing Permitted Foreign Securities under agreements for repurchase of such Permitted Foreign Securities and selling such securities under agreements for the resale of such securities; and

iii. Managing balances in various time and other deposit accounts at foreign institutions approved by the Board of Governors under Regulation N.

C. The Subcommittee, in consultation with the Committee, may provide additional instructions to the Selected Bank regarding holdings of foreign currencies.

ADDITIONAL MATTERS

8. The Committee authorizes the Chairman:

A. With the prior approval of the Committee, to enter into any needed agreement or understanding with the Secretary of the United States Treasury about the division of responsibility for foreign currency operations between the System and the United States Treasury;

B. To advise the Secretary of the United States Treasury concerning System foreign currency operations, and to consult with the Secretary on policy matters relating to foreign currency operations;

C. To designate Federal Reserve System persons authorized to communicate with the United States Treasury concerning System Open Market Account foreign currency operations; and

D. From time to time, to transmit appropriate reports and information to the National Advisory Council on International Monetary and Financial Policies.

9. The Committee authorizes the Selected Bank to undertake transactions of the type described in this Authorization, and foreign exchange and investment transactions that it may be otherwise authorized to undertake, from time to time for the purpose of testing operational readiness. The aggregate amount of such transactions shall not exceed $2.5 billion per calendar year. These transactions shall be conducted with prior notice to the Committee.

10. All Federal Reserve banks shall participate in the foreign currency operations for System Open Market Account in accordance with paragraph 3G(1) of the Board of Governors' Statement of Procedure with Respect to Foreign Relationships of Federal Reserve Banks dated January 1, 1944.

11. Any authority of the Subcommittee pursuant to this Authorization may be exercised by the Chairman if the Chairman believes that consultation with the Subcommittee is not feasible in the time available. The Chairman shall promptly report to the Subcommittee any action approved by the Chairman pursuant to this paragraph.

12. The Committee authorizes the Chairman, in exceptional circumstances where it would not be feasible to convene the Committee, to foster the Committee's objectives by instructing the Selected Bank to engage in foreign currency operations not otherwise authorized pursuant to this Authorization. Any such action shall be made in the context of the Committee's discussion and decisions regarding foreign currency operations. The Chairman, whenever feasible, will consult with the Committee before making any instruction under this paragraph.

[1] In general, as specified in Article IV, each member of the IMF undertakes to collaborate with the IMF and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates. These obligations include seeking to direct the member's economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability. These obligations also include avoiding manipulating exchange rates or the international monetary system in such a way that would impede effective balance of payments adjustment or to give an unfair competitive advantage over other members.

FOREIGN CURRENCY DIRECTIVE
(As amended effective September 20, 2016)

1. The Committee directs the Federal Reserve Bank selected by the Committee (the "Selected Bank") to execute open market transactions, for the System Open Market Account, in accordance with the provisions of the Authorization for Foreign Currency Operations (the "Authorization") and subject to the limits in this Directive.

2. The Committee directs the Selected Bank to execute warehousing transactions, if so requested by the United States Treasury and if approved by the Foreign Currency Subcommittee (the "Subcommittee"), subject to the limitation that the outstanding balance of United States dollars provided to the United States Treasury as a result of these transactions not at any time exceed $5 billion.

3. The Committee directs the Selected Bank to maintain, for the System Open Market Account:

A. Reciprocal currency arrangements with the following foreign central banks:

Foreign central bank	Maximum amount (millions of dollars or equivalent)
Bank of Canada	2,000
Bank of Mexico	3,000

B. Standing dollar liquidity swap arrangements with the following foreign central banks:

Bank of Canada

Bank of England
Bank of Japan
European Central Bank
Swiss National Bank

C. Standing foreign currency liquidity swap arrangements with the following foreign central banks:

Bank of Canada
Bank of England
Bank of Japan
European Central Bank
Swiss National Bank

4. The Committee directs the Selected Bank to hold and to invest foreign currencies in the portfolio in accordance with the provisions of paragraph 7 of the Authorization.
5. The Committee directs the Selected Bank to report to the Committee, at each regular meeting of the Committee, on transactions undertaken pursuant to paragraphs 1 and 6 of the Authorization. The Selected Bank is also directed to provide quarterly reports to the Committee regarding the management of the foreign currency holdings pursuant to paragraph 7 of the Authorization.
6. The Committee directs the Selected Bank to conduct testing of transactions for the purpose of operational readiness in accordance with the provisions of paragraph 9 of the Authorization.

Developments in Financial Markets and Open Market Operations

The manager reported on developments in financial markets during the period since the Committee met on July 26–27, 2016. Over much of the period, financial market volatility was relatively low, but volatility increased somewhat in the last couple of weeks of the period amid shifting views among market participants about potential monetary policy actions by the Federal Reserve and foreign central banks. The deputy manager followed with a briefing on open market operations and developments in money markets, including investment flows and changes in market interest rates in anticipation of the upcoming implementation of reforms to the money market fund (MMF) industry. Usage of the System's overnight reverse repurchase agreement facility increased modestly in the most recent intermeeting period. Federal funds generally continued to trade close to the middle of the FOMC's target range of ¼ to ½ percent.

The Committee was also briefed on planned revisions to the policies of the Open Market Desk on counterparties for domestic and foreign open market operations. The proposal was intended in part to create a single unified framework for the management of counterparties and to increase the transparency of the Desk's counterparty policies. The Committee indicated its general support for the proposal. Desk staff anticipated that the revisions would be published later this year.

By unanimous vote, the Committee ratified the Desk's domestic transactions over the intermeeting period. There were no intervention operations in foreign currencies for the System's account during the intermeeting period.

Staff Review of the Economic Situation

The information reviewed for the September 20–21 meeting indicated that labor market conditions strengthened in recent months and that real gross domestic product (GDP) was increasing at a faster pace in the third quarter than in the first half of the year. Consumer price inflation continued to run below the Committee's longer-run objective of 2 percent, restrained in part by earlier decreases in energy prices and in prices of non-energy imports. Survey-based measures of longer-run inflation expectations were little changed, on balance, while market-based measures of inflation compensation remained low.

Total nonfarm payroll employment expanded strongly, on average, in July and August. The unemployment rate remained at 4.9 percent in recent months. Both the labor force participation rate and the employment-to-population ratio had edged up since June. The share of workers employed part time for economic reasons was little changed on balance. The rates of private-sector job openings and of hires increased over June and July, and the rate of quits was unchanged. The four-week moving average of initial claims for unemployment insurance benefits continued to be low. Labor productivity in the business sector declined slightly over the four quarters ending in the second quarter of 2016. Measures of labor compensation continued to rise at a moderate pace. Compensation per hour in the business sector rose 2 percent over the four quarters ending in the second quarter, the employment cost index for private workers increased 2½ percent over the 12 months ending in June, and average hourly earnings for all employees increased 2½ percent over the 12 months ending in August.

The unemployment rates for African Americans and for Hispanics remained above the rate for whites, although the differentials in jobless rates across these groups were similar to those before the most recent recession. The employment-to-population ratio for individuals aged 25 to 64 continued to be higher for whites than for African Americans and for Hispanics.

Total industrial production rose slightly, on net, in July and August. The output of the mining sector increased since April after having trended down from late 2014. Manufacturing production was unchanged, on balance, since June and had generally been moving sideways since the end of 2014, as weak export demand and spillovers from the decline in crude oil and natural gas drilling weighed on industrial activity. Although automakers' assembly schedules pointed to some increase in motor vehicle production in the near term, broader indicators of manufacturing production, such as new orders diffusion indexes from national and regional manufacturing surveys, suggested that factory output would remain on a flat trajectory in the coming months.

Real personal consumption expenditures (PCE) appeared to be increasing solidly, on net, in the third quarter. Real PCE rose strongly in July, but the components of the nominal retail sales data used by the Bureau of Economic Analysis to construct its estimate of PCE were flat in August and the pace of light motor vehicle sales softened. Recent readings on key factors that influence consumer spending were consistent with solid real PCE growth for the third quarter as a whole, including continued gains in employment, real disposable personal income, and households' net worth. In addition, consumer sentiment as measured by the University of Michigan Surveys of Consumers remained relatively upbeat through early September.

Recent information on housing activity suggested that real residential investment spending continued to be soft in the third quarter. Starts for new single-family homes declined, on net, in July and August, as did starts for multifamily units. Building permit issuance for new single-family homes—which tends to be a good indicator of the underlying trend in construction—was little changed, on balance, in recent months and was essentially flat since late last year. Sales of new homes increased strongly in July, but sales of existing homes decreased modestly.

Real private expenditures for business equipment and intellectual property appeared to be rising slowly in the third quarter. Nominal shipments of nondefense capital goods excluding aircraft declined in July. However, new orders for these capital goods rose substantially in July and were notably above the level of shipments, suggesting a pickup in business spending for equipment in the near term. Firms' nominal spending for nonresidential structures excluding drilling and mining increased in June and July. The number of oil and gas rigs in operation, an indicator of spending for structures in the drilling and mining sector, continued to edge up through early September. The limited information available suggested that the change in inventory investment would be positive in the third quarter after subtracting substantially from real GDP growth in the second quarter. Except in the energy sector, inventories generally seemed well aligned with the pace of sales.

Nominal outlays for defense through August pointed to flat real federal government purchases in the third quarter. Real state and local government purchases also appeared to be little changed, on net, relative to their level in the previous quarter. Although payrolls for state and local governments expanded in July and August, nominal construction spending by these governments declined in July.

The U.S. international trade deficit widened in June before narrowing substantially in July. Exports increased in both months, with strong growth in July driven by higher agricultural exports. After rising in June, imports retraced some of this gain in July, driven by lower imports of consumer goods and capital goods.

Total U.S. consumer prices, as measured by the PCE price index, increased about ¾ percent over the 12 months ending in July, partly restrained by recent decreases in consumer food prices and earlier declines in consumer energy prices. Core PCE price inflation, which excludes changes in food and energy prices, was a little above 1½ percent over those same 12 months, held down in part by decreases in the prices of non-energy imports over much of this period and the pass-through of earlier declines in energy prices into the prices of other goods and services. Over the 12 months ending in August, total consumer prices as measured by the consumer price index (CPI) rose about 1 percent, while core CPI inflation was around 2¼ percent. The Michigan survey measure of median longer-run inflation expectations edged down in August and was unchanged in early September. The measure of longer-run inflation expectations for PCE prices from the Survey of Professional Forecasters was unchanged in the third quarter. Other measures of longer-run inflation expectations from the Desk's Survey of Primary Dealers and Survey of Market Participants were also unchanged in September.

Foreign real GDP growth slowed noticeably in the second quarter, primarily owing to contractions in Canada and Mexico; economic growth in other foreign economies fell only slightly on average. Wildfires disrupted oil production in Canada, and a second-quarter decline in U.S. manufacturing production weighed on Mexican exports. Aggregate foreign economic growth appeared to pick up in the third quarter amid signs of recovery of oil production in Canada and of improved manufacturing production in Mexico. However, weaker investment readings pointed to a slight moderation of economic activity in China in the third quarter. The outcome of the U.K. referendum on exit from the European Union (Brexit) apparently exerted less drag on economic activity than previously anticipated by many analysts. Nonetheless, recent data suggested that economic growth in Europe remained modest. Inflation was generally subdued in recent months in both the advanced foreign economies (AFEs) and the emerging market economies (EMEs).

Staff Review of Financial Situation

Domestic financial conditions remained accommodative since the July FOMC meeting. Asset prices moved within a fairly narrow range for much of the intermeeting period, although volatility increased somewhat in the last few days of the period as market participants focused on central bank communications in the United States and abroad. Market expectations for a policy rate increase by the end of this year rose a bit since the July FOMC meeting, reportedly reflecting comments of Federal Reserve officials that were viewed, on balance, as suggesting that the case for policy firming had strengthened over recent months. Nominal Treasury yields across the curve edged up. Anticipation of the impending deadline for compliance with MMF reform measures continued to prompt net outflows from prime MMFs and put upward pressure on some term money market rates.

Comments by a number of Federal Reserve officials over the intermeeting period were interpreted by market participants as raising the odds on policy firming by the end of this year. However, domestic economic data releases appeared to be a little softer, on balance, than investors had expected; the August employment report and manufacturing surveys, in particular, were below expectations. Market-based estimates of the probability of a rate hike at the September FOMC meeting were volatile but ended the period slightly lower, on balance, at roughly 15 percent, while the probability of an increase by the end of the year rose slightly to around 50 percent. The medium-term federal funds rate path implied by market quotes edged up on net. Consistent with market-based estimates, respondents to the Desk's September surveys of primary dealers and market participants assigned a probability of about 15 percent to a rate hike at the September meeting. The median respondent in each survey continued to expect one policy firming in 2016, with respondents generally expecting the rate increase to occur at the December meeting. Based on the median responses, the most likely path of the target federal funds rate in 2017 and 2018 was little changed.

Nominal Treasury yields increased moderately, on net, since the July FOMC meeting, reflecting the slight upward revision in the expected path for the federal funds rate and a rise in global bond yields that was apparently spurred by an increased impression among investors that monetary policy in other advanced economies might be less accommodative than previously expected. Measures of forward inflation compensation based on Treasury Inflation-Protected Securities rose slightly but remained near the lower end of their historical range.

Broad stock price indexes moved down, on net, since the July FOMC meeting. Realized and implied volatilities in various asset markets were relatively low during most of the intermeeting period but increased somewhat in the last few days before the meeting as market participants reacted to global central bank communications. Spreads on yields of both investment-grade and high-yield nonfinancial corporate bonds over those on comparable-maturity Treasury securities declined somewhat to levels fairly close to their historical norms.

MMF reform continued to affect several short-term funding markets in advance of the October 14, 2016, compliance date. While total assets under the management of MMFs changed little over the intermeeting period, investors continued to shift from prime funds to government funds. As a result, MMF holdings of commercial paper (CP) and certificates of deposit continued to decline, and prime institutional funds further reduced their weighted-average maturities to historically low levels. Reflecting MMFs' reduced appetite for term lending, spreads of three-month money market rates over rates on comparable-maturity overnight index swap contracts rose during the intermeeting period. Rates on short-term municipal securities and net yields on tax-exempt MMFs also increased sharply, primarily because of outflows from these funds.

Financing conditions for nonfinancial firms remained generally accommodative. While outstanding commercial and industrial loans and CP both declined somewhat in August, gross issuance of corporate bonds was quite large. The overall credit quality of the nonfinancial corporate sector, which had deteriorated a bit over the past few quarters, showed signs of stabilizing over the intermeeting period. Financing conditions in commercial real estate (CRE) markets also remained accommodative. Commercial mortgage-backed securities (CMBS) issuance picked up in August, likely reflecting the narrowing of CMBS spreads—albeit to levels that were still wider than typical—over the past few months. Growth in CRE loans at banks continued to be strong.

Gross issuance of municipal bonds in July and August was strong, credit quality remained stable, and yields on municipal bonds edged down. Although Puerto Rico missed a small debt payment due on August 1, prices of Puerto Rico's benchmark general obligation bonds were roughly unchanged over the intermeeting period.

Financing conditions for households generally continued to be accommodative; however, mortgage markets remained relatively tight for borrowers with low credit scores. Interest rates on 30-year fixed-rate mortgages moved higher, in line with comparable-maturity Treasury yields, but remained at a low level. Mortgage refinancing activity in August was the highest in three years, reflecting lower mortgage rates during June and July. Consumer loan balances continued to increase, with credit card balances expanding at a robust pace.

Global risk asset prices broadly increased amid improving sentiment among investors and low volatility. Capital flows to EMEs continued, and sovereign debt spreads in these economies and corporate bond spreads in both EMEs and AFEs narrowed further. European financial markets remained resilient following the Brexit vote, and European bank equity prices increased on net.

Announcements by foreign central banks garnered investor attention and contributed to somewhat higher asset price volatility later in the period. The European Central Bank left its policy rates and asset purchase program unchanged at its September meeting. Global yields moved higher and the euro strengthened following the meeting, as some market participants had expected an extension of the program. The Bank of Japan (BOJ) left its policy rates unchanged at its July meeting and instead expanded its purchases of exchange-traded stock funds and introduced additional measures to facilitate dollar funding. Japanese bond yields increased notably and the yen appreciated in the aftermath of the announcement. At its September meeting, the BOJ introduced a new monetary policy framework, which includes yield curve control and a commitment to expand the monetary base until inflation exceeds 2 percent and stays above that target in a stable manner. The introduction of the BOJ's new framework elicited little immediate market reaction outside of Japan. At its early August meeting, the Bank of England announced a rate cut, a resumption of its asset purchase program, and a new bank funding program. Longer-term U.K. yields and the pound fell immediately following the announcement but retraced these declines following better-than-expected economic data later in the period. The Bank of England maintained its policy stance at the September meeting, in line with market expectations.

Staff Economic Outlook

In the U.S. economic projection prepared by the staff for the September FOMC meeting, the forecast for real GDP growth in 2016 through 2019 was little changed from the one presented in July. The pace of real GDP growth was forecast to be faster over the second half of this year than in the first half, primarily reflecting a modest increase in the rate of growth of private domestic final purchases and a sizable turnaround in inventory investment. The staff continued to project that real GDP would expand at a modestly faster pace than potential output in 2016 through 2019, supported primarily by increases in consumer spending and, to a lesser degree, by somewhat faster growth in business investment beginning next year. (The staff slightly lowered its assumption for potential output growth over the medium term and in the longer run.) The unemployment rate was forecast to remain flat over the remainder of this year and then to gradually decline through the end of 2019; over this period, the unemployment rate was projected to run below the staff's estimate of its longer-run natural rate.

The forecast for consumer price inflation was essentially unchanged from the previous projection. The staff continued to project that inflation would increase over the next several years, as food and energy prices along with the prices of non-energy imports were expected to begin steadily rising this year. However, inflation was projected to be marginally below the Committee's longer-run objective of 2 percent in 2019.

The staff viewed the uncertainty around its projections for real GDP growth, the unemployment rate, and inflation as similar to the average of the past 20 years. The risks to the forecast for real GDP were seen as tilted to the downside, reflecting the staff's assessment that both monetary and fiscal policy appeared to be better positioned to offset large positive shocks than adverse ones. In addition, the staff continued to see the risks to the forecast from developments abroad as skewed to the downside. Consistent with the downside risks to aggregate demand, the staff viewed the risks to its outlook for the unemployment rate as tilted to the upside. The risks to the projection for inflation were still judged as weighted somewhat to the downside, partly reflecting the possibility that longer-term inflation expectations may have edged down.

Participants' Views on Current Conditions and the Economic Outlook

In conjunction with this FOMC meeting, members of the Board of Governors and Federal Reserve Bank presidents submitted their projections of the most likely outcomes for real GDP growth, the unemployment rate, inflation, and the federal funds rate for each year from 2016 through 2019 and over the longer run.[5] Each participant's projections were conditioned on his or her judgment of appropriate monetary policy. The longer-run projections represented each participant's assessment of the rate to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. These projections and policy assessments are described in the Summary of Economic Projections, which is an addendum to these minutes.

In their discussion of the economic situation and the outlook, participants agreed that information received over the intermeeting period suggested that the labor market had continued to strengthen and growth of economic activity had picked up from the modest pace seen in the first half of the year. Although the unemployment rate was little changed in recent months, job gains had been solid, on average. Household spending had been growing strongly but business fixed investment had remained soft. Inflation had continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation remained low; most survey-based measures of longer-term inflation expectations were little changed, on balance, in recent months. Volatility in domestic and global asset markets was relatively low over most of the intermeeting period, and U.S. financial conditions were broadly accommodative.

Participants generally expected that, with gradual adjustments in the stance of monetary policy, economic activity would expand at a moderate pace and labor market conditions would strengthen somewhat further. Inflation was expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of past declines in energy and import prices dissipated and the labor market strengthened further. A number of participants indicated that there had been little change in their economic outlooks over recent months. A substantial majority now viewed the near-term risks to the economic outlook as roughly balanced, with several of them indicating the risks from Brexit had receded. However, a few still judged that overall risks were weighted to the downside, citing various factors that included the possibility of weaker-than-expected growth in foreign economies, continued uncertainty associated with Brexit, the proximity of policy interest rates to the effective lower bound, or persistent headwinds to economic growth. Participants agreed that the Committee should continue to closely monitor inflation indicators and global economic and financial developments.

Growth in consumer spending appeared to have moderated somewhat in the third quarter from its rapid second-quarter pace, reflecting a softening in retail sales since June. District contacts provided mixed reports, consistent with some easing in growth of sales. Nevertheless, incoming data pointed to still-solid growth in consumption expenditures overall. Many participants noted that they expected household spending to be a primary contributor to economic growth going forward. They saw consumer spending as likely to be supported by a number of factors, including ongoing job gains, rising household income and wealth, improved household balance sheets, and buoyant consumer sentiment.

Economic activity in the second half of the year was expected to be buoyed in part by a pickup in business fixed investment and some rebuilding of inventories. A recent increase in oil drilling rigs in operation was seen as a positive sign for business investment, although the continued low level of oil prices was still weighing on capital investment in the energy industry. Contacts in some Districts suggested that businesses were taking a cautious approach to capital spending even outside of the energy sector—for instance, preferring to modernize existing manufacturing facilities rather than increase capacity by investing in new facilities—in light of continuing sluggish global demand, shorter investment time horizons for businesses, and uncertainty about prospects for

[5] One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate.

government policy and regulation. Nonresidential construction was reported to be strong in a few Districts. However, the sluggishness in the housing sector appeared to have continued into the third quarter. A couple of participants pointed to limited availability of lots and a shortage of skilled labor as restraining residential construction activity in their Districts; in one District, constraints on the supply of new homes for sale were expected to boost spending on home improvements and offset some of the drag from the slowing in new construction.

Participants' reports on the manufacturing sector indicated varying conditions across Districts, but, on the whole, manufacturing activity remained flat. The most recent survey evidence was downbeat, although smoothing through the past several months provided a more neutral signal. A couple of participants noted that the firming in crude oil prices had led to a stabilization in drilling activity. In the agricultural sector, lower crop prices continued to weigh on profit margins, farm income was expected to fall, and loan repayment rates had declined.

Global financial conditions had improved somewhat in recent months. However, participants noted that economic growth in many foreign economies remained subdued, and inflation rates abroad generally continued to be quite low. Some participants continued to see important downside risks from abroad.

Participants generally agreed that labor market conditions had improved appreciably over the course of the year, with monthly payroll gains averaging about 180,000. Reports from several Districts indicated widespread increases in employment over the intermeeting period. Although job gains had slowed from their pace in 2015, average monthly increases so far this year had exceeded most estimates discussed by participants of monthly payroll increases that could be expected to prevail with economic growth proceeding at its longer-run trend rate. In addition, several participants cited the rise in the labor force participation rate since late 2015 or the increase in the employment-to-population ratio—series with downward structural trends—as welcome developments. However, it was noted that the unemployment rate and broader measures of unemployment had changed little since the beginning of the year. Participants generally expected the unemployment rate to run somewhat below their estimates of its longer-run normal rate over the next couple of years, but they offered differing views about the extent of slack that currently remained in the labor market. Some participants pointed to the slowing in payroll gains and modest pickup in wages this year and judged that the labor market had little or no remaining slack. Some others noted that still-muted wage growth, a level of involuntary part-time employment that remained elevated, and recent increases in labor force participation indicated that slack remained in resource utilization, or expressed the view that the longer-run normal rate of unemployment was uncertain and could be lower than current estimates. Participants commented on a staff analysis showing differential patterns of unemployment across racial and ethnic groups that remained after taking education into account; it was suggested that it might be worthwhile to examine such issues further.

Recent readings on headline and core PCE price inflation had come in about as expected, and participants continued to anticipate that headline inflation would rise over the medium term to the Committee's 2 percent objective. It was noted, however, that 12-month core PCE price inflation had been running at a steady rate below 2 percent, and several participants commented on factors that might be expected to restrain increases in inflation. Such factors included the limited evidence of rising cost or price pressures, the apparent low responsiveness of inflation to the rate of labor utilization, a possible downward shift in inflation expectations, and remaining economic slack. The median expectation for inflation over the next 5 to 10 years from the Michigan survey dropped to its historical low of 2.5 percent in August and held steady in September. However, a couple of participants indicated that the drop in some survey-based measures of inflation expectations could be explained by a decline in the number of respondents who had previously expected relatively high inflation outcomes. Overall, survey-based measures of longer-term expectations were judged to have been reasonably stable in recent months. Many participants observed that core CPI inflation had been running appreciably above core PCE inflation; it was noted that different weights on rents and medical prices as well as different measurement of health-care inflation in the two indexes largely accounted for the disparity.

In their discussion of the outlook, participants considered the likelihood of, and the potential benefits and costs associated with, a more pronounced undershooting of the longer-run normal rate of unemployment than envisioned in their modal forecasts. A number of participants noted that they expected the unemployment rate to run somewhat below its longer-run normal rate and saw a firming of monetary policy over the next few years as likely to be appropriate. A few participants referred to historical episodes when the unemployment rate appeared to have fallen well below its estimated longer-run normal level. They observed that monetary tightening in those episodes typically had been followed by recession and a large increase in the unemployment rate. Several participants viewed this historical experience as relevant for the Committee's current decisionmaking and saw it as providing evidence that waiting too long to resume the process of policy firming could pose risks to the economic expansion, or noted that a significant increase in unemployment would have disproportionate effects on low-skilled workers and minority groups. Some others judged this historical experience to be of limited applicability in the present environment because the economy was growing only modestly above trend, inflation was below the Committee's 2 percent objective, and inflation expectations were low—circumstances that differed markedly from those earlier episodes. Moreover, the increase in labor force participation over the past year suggested that there could be greater scope for economic growth without putting undue pressure on labor markets; it was also noted that the longer-run normal rate of unemployment could be lower than previously thought, with a similar implication. Participants agreed that it would be useful to continue to analyze and discuss the dynamics of the adjustment of the economy and labor markets in circumstances when unemployment falls well below its estimated longer-run normal rate.

With regard to recent financial developments, it was noted that regulatory changes and impending MMF reforms likely had led to an increase in certain short-term interest rates, but these developments were expected to have only a small effect on the borrowing costs of nonfinancial corporations and little adverse influence on overall financial market conditions. A few participants expressed concern that the protracted period of very low interest rates might be encouraging excessive borrowing and increased leverage in the nonfinancial corporate sector. Finally, one participant expressed the view that prolonged periods of low interest rates could encourage pension funds, endowments, and investors with fixed future payout obligations to save more, depressing economic growth and adding to downward pressure on the neutral real interest rate.

Participants discussed reasons for the apparent fall over recent years in the neutral real rate of interest—or r*—including lower productivity growth, demographic shifts, and an excess of saving around the world. Although several participants indicated that there was uncertainty as to how long the low level of r* would persist, one pointed to a growing consensus that the long period of slow productivity growth and recent evidence that the neutral rate had fallen across countries suggested that r* was likely to remain low for some time. A number of participants noted that they had revised down their estimates of longer-run r* in their contributions to the Summary of Economic Projections for this meeting. Participants discussed the implications of a fall in longer-run r* for monetary policy, including the possibility that policy interest rates might be closer to the effective lower bound more frequently and for a long period, or that monetary policy was ill equipped to address structural factors such as the decline in productivity growth. A couple of participants noted that a lower estimated value for r* over the near term implied that monetary policy was providing less accommodation than previously thought.

Against the backdrop of their economic projections, participants discussed whether available information warranted taking another step to reduce policy accommodation at this meeting. Participants generally agreed that the case for increasing the target range for the federal funds rate had strengthened in recent months. Many of them, however, expressed the view that recent evidence suggested that some slack remained in the labor market. With inflation continuing to run below the Committee's 2 percent objective and few signs of increased pressure on wages and prices, most of these participants thought it would be appropriate to await further evidence of continued progress toward the Committee's statutory objectives. In contrast, some other participants believed that the economy was at or near full employment and inflation was moving toward 2 percent. They maintained that a further delay in raising the target range would unduly increase the risk of the unemployment rate falling markedly below its longer-run normal level, necessitating a more rapid removal of monetary policy accommodation that could shorten the economic expansion. In addition, several participants expressed concern that continuing to delay an increase in the target range implied a further divergence from policy benchmarks based on the Committee's past behavior or risked eroding its credibility, especially given that recent economic data had largely corroborated the Committee's economic outlook.

Among the participants who supported awaiting further evidence of continued progress toward the Committee's objectives, several stated that the decision at this meeting was a close call. Some participants believed that it would be appropriate to raise the target range for the federal funds rate relatively soon if the labor market continued to improve and economic activity strengthened, while some others preferred to wait for more convincing evidence that inflation was moving toward the Committee's 2 percent objective. Some participants noted the importance of clearly communicating to the public the conditions that would warrant an increase in the policy rate.

Committee Policy Action

In their discussion of monetary policy for the period ahead, members judged that the information received since the Committee met in July indicated that the labor market had continued to strengthen and growth of economic activity had picked up from the modest pace seen in the first half of this year. Although the unemployment rate was little changed in recent months, job gains had been solid, on average. Household spending had been growing strongly but business fixed investment had remained soft. Inflation had continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and in prices of non-energy imports. Market-based measures of inflation compensation remained low; most survey-based measures of longer-term inflation expectations were little changed, on balance, in recent months. In addition, financial conditions remained accommodative.

With respect to the economic outlook and its implications for monetary policy, members continued to expect that, with gradual adjustments in the stance of monetary policy, economic activity would expand at a moderate pace and labor market indicators would strengthen somewhat further. They judged that near-term risks to the economic outlook now appeared roughly balanced.

Members generally acknowledged that labor market conditions had improved appreciably over the past year, evidenced in particular by the solid pace of monthly payroll employment gains. Some of them noted that the increase in the labor force participation rate this year suggested more room for labor supply to expand than previously expected, or contended that the slower progress seen this year in other labor market indicators—such as the unemployment rate, broader measures of labor utilization, job openings and quits, and wage growth—indicated that slack was being taken up at only a modest pace. This view suggested that proceeding cautiously with reducing monetary policy accommodation could promote further labor market improvement. In contrast, a few other members were concerned that, without a prompt resumption of gradual increases in the target range for the federal funds rate, labor market conditions could tighten well beyond normal levels over the next few years, potentially necessitating a subsequent sharp tightening of monetary policy that could shorten the economic expansion.

Members continued to expect inflation to remain low in the near term, but most anticipated that, with gradual adjustments in the stance of monetary policy, it would rise gradually to the Committee's 2 percent objective over the medium term. Many members remarked that there were few signs of emerging inflationary pressures or that progress on inflation had been slow. A couple of other members pointed to recent readings on core CPI inflation as suggesting that PCE price inflation was close to meeting the Committee's 2 percent inflation objective. Nonetheless, in light of the current shortfall of inflation from 2 percent, members agreed that they would continue to carefully monitor actual and expected progress toward the Committee's inflation goal.

After assessing the outlook for economic activity, the labor market, and inflation, as well as the risks around that outlook, the Committee decided to maintain the target range for the federal funds rate at ¼ to ½ percent at this meeting. Members generally agreed that the case for an increase in the policy rate had strengthened. But, with some slack likely remaining in the labor market and inflation continuing to run below the Committee's objective, a majority of members judged that the Committee should, for the time being, await further evidence of progress toward its objectives of maximum employment and 2 percent inflation before increasing the target range for the federal funds rate. It was noted that a reasonable argument could be made either for an increase at this meeting or for waiting for some additional information on the labor market and inflation. A couple of members emphasized that a cautious approach to removing accommodation was warranted given the proximity of policy rates to the effective lower bound, as the Committee had more scope to increase policy rates, if necessary, than to reduce them. Three members preferred to raise the target range for the federal funds rate by 25 basis points at this meeting. They cautioned that postponing policy firming for too long could push the unemployment rate markedly below its longer-run normal rate over the next few years. If so, the Committee might then need to tighten policy more rapidly, thereby posing risks to continued economic expansion. A couple of these members expressed concern about the potential adverse effects on the credibility of the Committee's policy communications if the next step in the gradual removal of accommodation was further postponed.

The Committee agreed that, in determining the timing and size of future adjustments to the target range for the federal funds rate, it would assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment would take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee expected that economic conditions would evolve in a manner that would warrant only gradual increases in the federal funds rate, and that the federal funds rate was likely to remain, for some time, below levels that are expected to prevail in the longer run. However, members emphasized that the actual path of the federal funds rate would depend on the economic outlook as informed by incoming data. Several members judged that it would be appropriate to increase the target range for the federal funds rate relatively soon if economic developments unfolded about as the Committee expected; they saw the new sentence in the third paragraph of the Committee's statement—a sentence indicating that the case for an increase in the federal funds rate had strengthened but that the Committee had decided, for the time being, to wait for further evidence of continued progress toward its objectives—as reflecting this view. A few others, however, emphasized that decisions regarding near-term adjustments in the stance of monetary policy would appropriately remain data dependent and expressed some concern that the new sentence might be misread as indicating that the passage of time rather than the accumulation of evidence would be the key factor in the Committee's decisions at future meetings.

The Committee also decided to maintain its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipated doing so until normalization of the level of the federal funds rate is well under way. Members noted that this policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions.

At the conclusion of the discussion, the Committee voted to authorize and direct the Federal Reserve Bank of New York, until it was instructed otherwise, to execute transactions in the SOMA in accordance with the following domestic policy directive, to be released at 2:00 p.m.:

> "Effective September 22, 2016, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of ¼ to ½ percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 0.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of $30 billion per day.
>
> The Committee directs the Desk to continue rolling over maturing Treasury securities at auction and to continue reinvesting principal payments on all agency debt and agency mortgage-backed securities in agency mortgage-backed securities. The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions."

The vote also encompassed approval of the statement below to be released at 2:00 p.m.:

> "Information received since the Federal Open Market Committee met in July indicates that the labor market has continued to strengthen and growth of economic activity has picked up from the modest pace seen in the first half of this year. Although the unemployment rate is little changed in recent months, job gains have been solid, on average. Household spending has been growing strongly but business fixed investment has remained soft. Inflation has continued to run below the Committee's 2 percent longer-run objective, partly reflecting earlier declines in energy prices and in prices of nonenergy imports. Market-based measures of inflation compensation remain low; most survey-based measures of longer-term inflation expectations are little changed, on balance, in recent months.
>
> Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. The Committee expects that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a

moderate pace and labor market conditions will strengthen somewhat further. Inflation is expected to remain low in the near term, in part because of earlier declines in energy prices, but to rise to 2 percent over the medium term as the transitory effects of past declines in energy and import prices dissipate and the labor market strengthens further. Near-term risks to the economic outlook appear roughly balanced. The Committee continues to closely monitor inflation indicators and global economic and financial developments.

Against this backdrop, the Committee decided to maintain the target range for the federal funds rate at ¼ to ½ percent. The Committee judges that the case for an increase in the federal funds rate has strengthened but decided, for the time being, to wait for further evidence of continued progress toward its objectives. The stance of monetary policy remains accommodative, thereby supporting further improvement in labor market conditions and a return to 2 percent inflation.

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. In light of the current shortfall of inflation from 2 percent, the Committee will carefully monitor actual and expected progress toward its inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant only gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

The Committee is maintaining its existing policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction, and it anticipates doing so until normalization of the level of the federal funds rate is well under way. This policy, by keeping the Committee's holdings of longer-term securities at sizable levels, should help maintain accommodative financial conditions."

Voting for this action: Janet L. Yellen, William C. Dudley, Lael Brainard, James Bullard, Stanley Fischer, Jerome H. Powell, and Daniel K. Tarullo.

Voting against this action: Esther L. George, Loretta J. Mester, and Eric Rosengren.

Mses. George and Mester and Mr. Rosengren dissented because they preferred to increase the target range for the federal funds rate by 25 basis points at this meeting.

Ms. George judged that with the unemployment rate and inflation at or near their longer-run levels, removing some accommodation was warranted and would be consistent with the prescriptions of several frameworks for assessing the appropriate stance of monetary policy. She was concerned that the Committee's recent policy choices had incorporated too much discretion, and her assessment was that by waiting longer to adjust the policy stance and deviating from the appropriate path to policy normalization, the Committee risked eroding the credibility of its policy communications.

Ms. Mester noted that the economy had made considerable progress on the Committee's statutory goals, the outlook for continued progress had been corroborated by recent economic developments, and risks around that outlook had diminished. In these circumstances, she believed it appropriate to gradually increase the target range for the federal funds rate, consistent with the Committee's recent communications. A gradual path would give the Committee a better chance of recalibrating the policy path over time as it gains more insights into the underlying structure of the economy. Further delays in taking the next step on the gradual path might require the Committee to subsequently steepen the policy path to foster its goals, which would be inconsistent with the Committee's recent communications, thereby posing risks to the Committee's credibility.

Mr. Rosengren noted that, since the Committee's most recent policy action in late 2015, significant progress had been made toward the Committee's dual mandate. He believed that with inflation gradually rising and robust employment growth moving the economy very close to full employment, it was appropriate to continue the gradual normalization of monetary policy at this meeting. He believed that a failure to do so could require the

Committee to raise policy interest rates faster and more aggressively later on, which could shorten, rather than lengthen, the duration of the economic expansion.

Consistent with the Committee's decision to leave the target range for the federal funds rate unchanged, the Board of Governors took no action to change the interest rates on reserves or discount rates.

It was agreed that the next meeting of the Committee would be held on Tuesday–Wednesday, November 1–2, 2016. The meeting adjourned at 10:45 a.m. on September 21, 2016.

Notation Vote

By notation vote completed on August 16, 2016, the Committee unanimously approved the minutes of the Committee meeting held on July 26–27, 2016.

Brian F. Madigan
Secretary

Summary of Economic Projections

In conjunction with the Federal Open Market Committee (FOMC) meeting held on September 20–21, 2016, meeting participants submitted their projections of the most likely outcomes for real output growth, the unemployment rate, inflation, and the federal funds rate for each year from 2016 to 2019 and over the longer run.[1] Each participant's projection was based on information available at the time of the meeting, together with his or her assessment of appropriate monetary policy and assumptions about the factors likely to affect economic outcomes. The longer-run projections represent each participant's assessment of the value to which each variable would be expected to converge, over time, under appropriate monetary policy and in the absence of further shocks to the economy. "Appropriate monetary policy" is defined as the future path of policy that each participant deems most likely to foster outcomes for economic activity and inflation that best satisfy his or her individual interpretation of the Federal Reserve's objectives of maximum employment and stable prices.

Most FOMC participants expected that, under appropriate monetary policy, growth in real gross domestic product (GDP) would pick up a bit next year and run at or a little above their individual estimates of its longer-run rate in 2017 and 2018, and a majority of participants expected real GDP growth to be at its longer-run trend rate in 2019. A large majority of participants projected that the unemployment rate will fall to or modestly below their estimates of its longer-run normal level over the next two years. Many participants expected the unemployment rate to edge up to or toward their individual estimates of its longer-run level in 2019. All participants projected that inflation, as measured by the four-quarter percentage change in the price index for personal consumption expenditures (PCE), would increase over the next two years, and all but one expected inflation to be within 0.1 percentage point of the Committee's objective in 2019. Table 1 and figure 1 provide summary statistics for the projections.

As shown in figure 2, almost all participants expected that the evolution of the economy would warrant only gradual increases in the federal funds rate to achieve and maintain the Committee's objectives over time. Participants generally judged that the appropriate level of the federal funds rate in 2019 would still be at or below their estimates of its longer-run rate. However, because the economic outlook is inherently uncertain, participants' assessments of appropriate policy are subject to change in response to revisions to their economic outlooks and associated risks.

Participants generally viewed the level of uncertainty associated with their individual forecasts for economic growth, unemployment, and inflation as broadly similar to the norms of the previous 20 years. Most participants also judged the risks around their projections for economic activity and for the unemployment rate as broadly balanced, while several participants saw the risks to their GDP growth forecasts as weighted to the downside. In addition, most participants saw the risks to their forecasts for inflation as broadly balanced, although some viewed the risks to their inflation forecasts as tilted to the downside.

The Outlook for Economic Activity

The median of participants' projections for the growth rate of real GDP, conditional on their individual assumptions about appropriate monetary policy, was 1.8 percent in 2016, 2 percent in 2017 and 2018, and 1.8 percent in 2019; the median of projections for the longer-run normal GDP growth rate was 1.8 percent. Most participants projected that economic growth will pick up a bit next year and run at or slightly above their individual estimates of its longer-run rate in 2017 and 2018, and a majority of participants expected real GDP growth to be at its longer-run trend rate in 2019. Participants pointed to a number of factors that they expected would contribute to above-trend output growth over the next few years, including some firming in business investment, diminution of the drag on net exports from a strong dollar, continued improvements in household and business balance sheets, and accommodative financial conditions.

The median of participants' projections for real GDP growth in 2016 was lower than the median shown in the June 2016 Summary of Economic Projections (SEP). Many participants who lowered their projections for GDP growth this year attributed their revisions to weaker-than-expected GDP growth in the first half of the year. The medians of participants' projections for real GDP growth in 2017 and 2018 were unchanged

[1] One participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate.

Table 1. Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents, under their individual assessments of projected appropriate monetary policy, September 2016

Percent

Variable	Median[1]					Central tendency[2]					Range[3]				
	2016	2017	2018	2019	Longer run	2016	2017	2018	2019	Longer run	2016	2017	2018	2019	Longer run
Change in real GDP	1.8	2.0	2.0	1.8	1.8	1.7 – 1.9	1.9 – 2.2	1.8 – 2.1	1.7 – 2.0	1.7 – 2.0	1.7 – 2.0	1.6 – 2.5	1.5 – 2.3	1.6 – 2.2	1.6 – 2.2
June projection	2.0	2.0	2.0	n.a.	2.0	1.9 – 2.0	1.9 – 2.2	1.8 – 2.1	n.a.	1.8 – 2.0	1.8 – 2.2	1.6 – 2.4	1.5 – 2.2	n.a.	1.6 – 2.4
Unemployment rate	4.8	4.6	4.5	4.6	4.8	4.7 – 4.9	4.5 – 4.7	4.4 – 4.7	4.4 – 4.8	4.7 – 5.0	4.7 – 4.9	4.4 – 4.8	4.3 – 4.9	4.2 – 5.0	4.5 – 5.0
June projection	4.7	4.6	4.6	n.a.	4.8	4.6 – 4.8	4.5 – 4.7	4.4 – 4.8	n.a.	4.7 – 5.0	4.5 – 4.9	4.3 – 4.8	4.3 – 5.0	n.a.	4.6 – 5.0
PCE inflation	1.3	1.9	2.0	2.0	2.0	1.2 – 1.4	1.7 – 1.9	1.8 – 2.0	1.9 – 2.0	2.0	1.1 – 1.7	1.5 – 2.0	1.8 – 2.0	1.8 – 2.1	2.0
June projection	1.4	1.9	2.0	n.a.	2.0	1.3 – 1.7	1.7 – 2.0	1.9 – 2.0	n.a.	2.0	1.3 – 2.0	1.6 – 2.0	1.8 – 2.1	n.a.	2.0
Core PCE inflation[4]	1.7	1.8	2.0	2.0		1.6 – 1.8	1.7 – 1.9	1.9 – 2.0	2.0		1.5 – 2.0	1.6 – 2.0	1.8 – 2.0	1.8 – 2.1	
June projection	1.7	1.9	2.0	n.a.		1.6 – 1.8	1.7 – 2.0	1.9 – 2.0	n.a.		1.3 – 2.0	1.6 – 2.0	1.8 – 2.1	n.a.	
Memo: Projected appropriate policy path															
Federal funds rate	0.6	1.1	1.9	2.6	2.9	0.6 – 0.9	1.1 – 1.8	1.9 – 2.8	2.4 – 3.0	2.8 – 3.0	0.4 – 1.1	0.6 – 2.1	0.6 – 3.1	0.6 – 3.8	2.5 – 3.8
June projection	0.9	1.6	2.4	n.a.	3.0	0.6 – 0.9	1.4 – 1.9	2.1 – 2.9	n.a.	3.0 – 3.3	0.6 – 1.4	0.6 – 2.4	0.6 – 3.4	n.a.	2.8 – 3.8

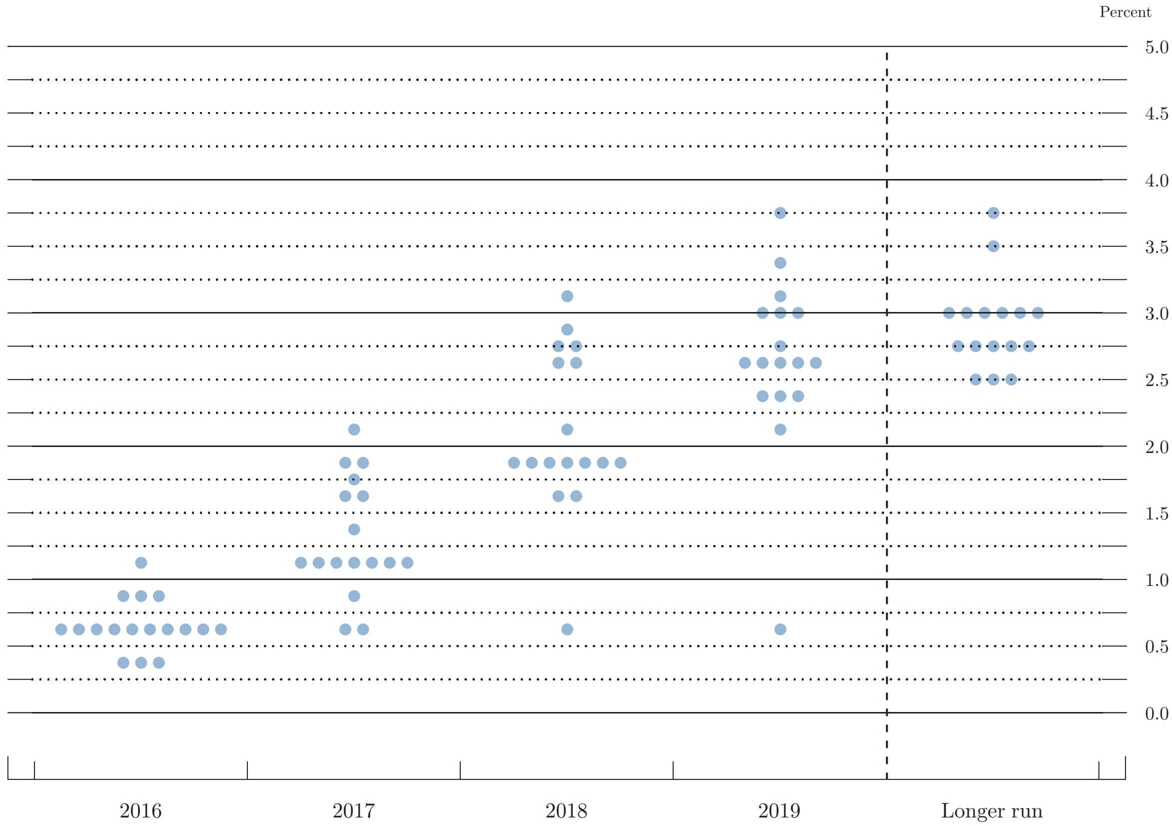
NOTE: Projections of change in real gross domestic product (GDP) and projections for both measures of inflation are percent changes from the fourth quarter of the previous year to the fourth quarter of the year indicated. PCE inflation and core PCE inflation are the percentage rates of change in, respectively, the price index for personal consumption expenditures (PCE) and the price index for PCE excluding food and energy. Projections for the unemployment rate are for the average civilian unemployment rate in the fourth quarter of the year indicated. Each participant's projections are based on his or her assessment of appropriate monetary policy. Longer-run projections represent each participant's assessment of the rate to which each variable would be expected to converge under appropriate monetary policy and in the absence of further shocks to the economy. The projections for the federal funds rate are the value of the midpoint of the projected appropriate target range for the federal funds rate or the projected appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. The June projections were made in conjunction with the meeting of the Federal Open Market Committee on June 14–15, 2016. One participant did not submit longer-run projections in conjunction with the June 14–15, 2016, meeting. For the September 20–21, 2016, meeting, one participant did not submit longer-run projections for the change in real GDP, the unemployment rate, or the federal funds rate.

1. For each period, the median is the middle projection when the projections are arranged from lowest to highest. When the number of projections is even, the median is the average of the two middle projections.
2. The central tendency excludes the three highest and three lowest projections for each variable in each year.
3. The range for a variable in a given year includes all participants' projections, from lowest to highest, for that variable in that year.
4. Longer-run projections for core PCE inflation are not collected.

Figure 1. Medians, central tendencies, and ranges of economic projections, 2016–19 and over the longer run

NOTE: Definitions of variables and other explanations are in the notes to table 1. The data for the actual values of the variables are annual.

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



NOTE: Each shaded circle indicates the value (rounded to the nearest 1/8 percentage point) of an individual participant's judgment of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate.

from June at 2 percent. This pace was slightly above the median projection of the longer-run growth rate of GDP, which was revised down to 1.8 percent.

The median of projections for the unemployment rate at the end of 2016 was 4.8 percent, slightly higher than in June. Based on the median projections, the unemployment rate was anticipated to decline to 4.6 percent in 2017 and to 4.5 percent in 2018 before moving up slightly to 4.6 percent in 2019. The median for 2019 remained below the 4.8 percent median assessment of the longer-run normal unemployment rate, with a majority of participants projecting the unemployment rate in 2019 to be 0.2 percentage point or more below their individual estimates of the longer-run normal rate.

Figures 3.A and 3.B show the distributions of participants' projections for real GDP growth and the unemployment rate from 2016 to 2019 and in the longer run. The distribution of individual projections of GDP growth for 2016 shifted lower relative to the distribution of the June projections, while the distributions for 2017 and 2018 were little changed. The distribution of projections for GDP growth in the longer run shifted down slightly. The distributions of projections for the unemployment rate were little changed except for a shift upward for 2016.

The Outlook for Inflation

In the September SEP, the median of projections for headline PCE price inflation in 2016 was 1.3 percent, a bit lower than in June. The projections for headline PCE price inflation over the next two years and in the longer run were little changed since June, with the median inflation projection still rising to 1.9 percent in 2017 and to the Committee's objective of 2 percent in 2018, then remaining there in 2019. All participants but one projected that inflation will be within 0.1 percentage point of the Committee's objective in 2019. The median of individual projections for core PCE price inflation increases gradually over the next two years.

Figures 3.C and 3.D provide information on the distribution of participants' views about the outlook for inflation. The distribution of projections for headline PCE price inflation for this year shifted down relative to projections for the June meeting, with some participants attributing their forecast revisions to weaker-than-expected incoming data, while the distribution of projections for core PCE price inflation this year narrowed. For 2017 and 2018, the distributions of projections for both total and core PCE price inflation shifted down slightly.

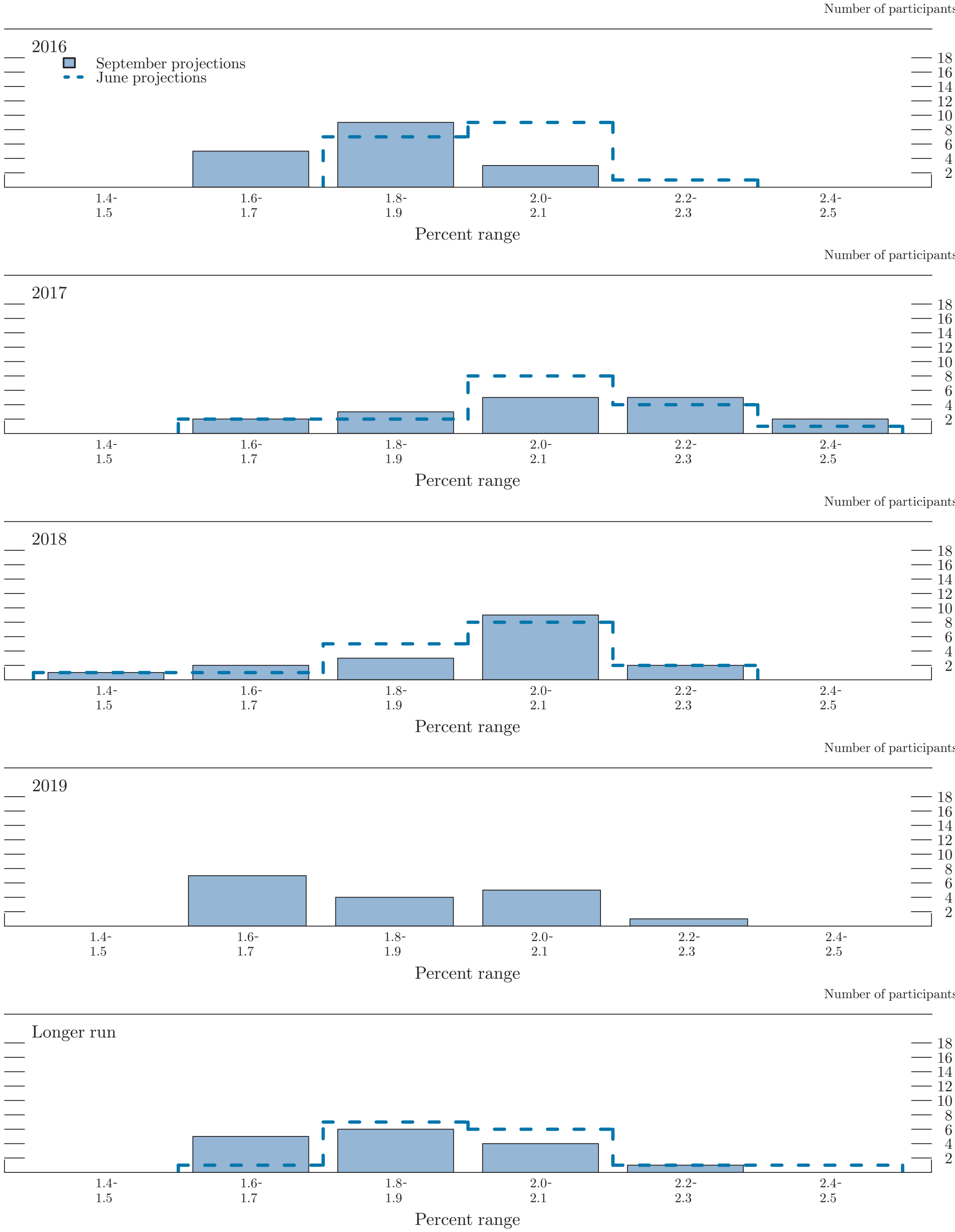
Appropriate monetary policy

Figure 3.E provides the distribution of participants' judgments regarding the appropriate level of the target federal funds rate at the end of each year from 2016 to 2019 and over the longer run.[2] The distributions for 2016 to 2018 shifted down. The median projections of the federal funds rate continued to show gradual increases, from 0.63 percent at the end of 2016 to 1.13 percent at the end of 2017, 1.88 percent at the end of 2018, and 2.63 percent at the end of 2019; the median of the longer-run projections of the federal funds rate was 2.88 percent. Relative to the June projections, the median of the projections for the federal funds rate at the end of 2016 was 0.25 percentage point lower, and for 2017 and 2018, the median projections were each 0.50 percentage point lower. Compared with the June SEP, most participants reduced their projection for the federal funds rate in the longer run; the median moved down 0.13 percentage point, to 2.88 percent.

In discussing their September forecasts, many participants expressed a view that increases in the federal funds rate over the next several years would need to be gradual in light of a short-term neutral interest rate that was currently low and likely to rise only slowly. A number of participants attributed the low level of the short-term neutral rate to the persistence of low productivity growth, continued strength of the dollar, a weak outlook for economic growth abroad, demand for safe longer-term assets, and other factors, and they anticipated that the effects of these factors would fade gradually over time. Some participants noted the proximity of short-term nominal interest rates to the effective lower bound as limiting the Committee's ability to increase monetary accommodation to counter adverse shocks to the economy. These participants judged that, as a result, the Committee should take a cautious approach to removing policy accommodation. Participants cited a number of

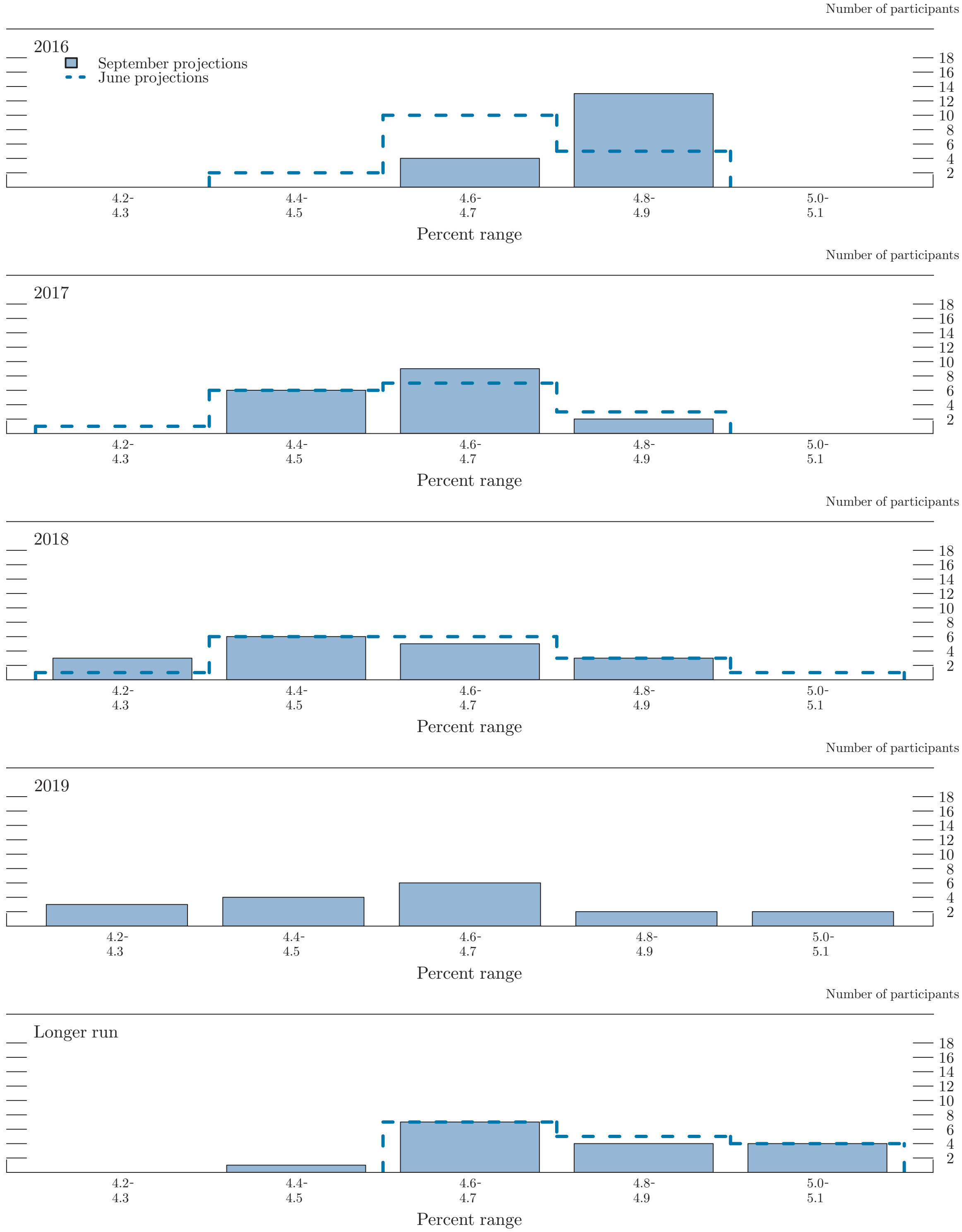
[2] One participant's projections for the federal funds rate, GDP growth, the unemployment rate, and inflation were informed by the view that there are multiple possible medium-term regimes for the U.S. economy, that these regimes are persistent, and that the economy shifts between regimes in a way that cannot be forecast. Under this view, the economy currently is in a regime characterized by expansion of economic activity with low productivity growth and a low short-term real interest rate, but longer-term outcomes for variables other than inflation cannot be usefully projected.

Figure 3.A. Distribution of participants' projections for the change in real GDP, 2016–19 and over the longer run



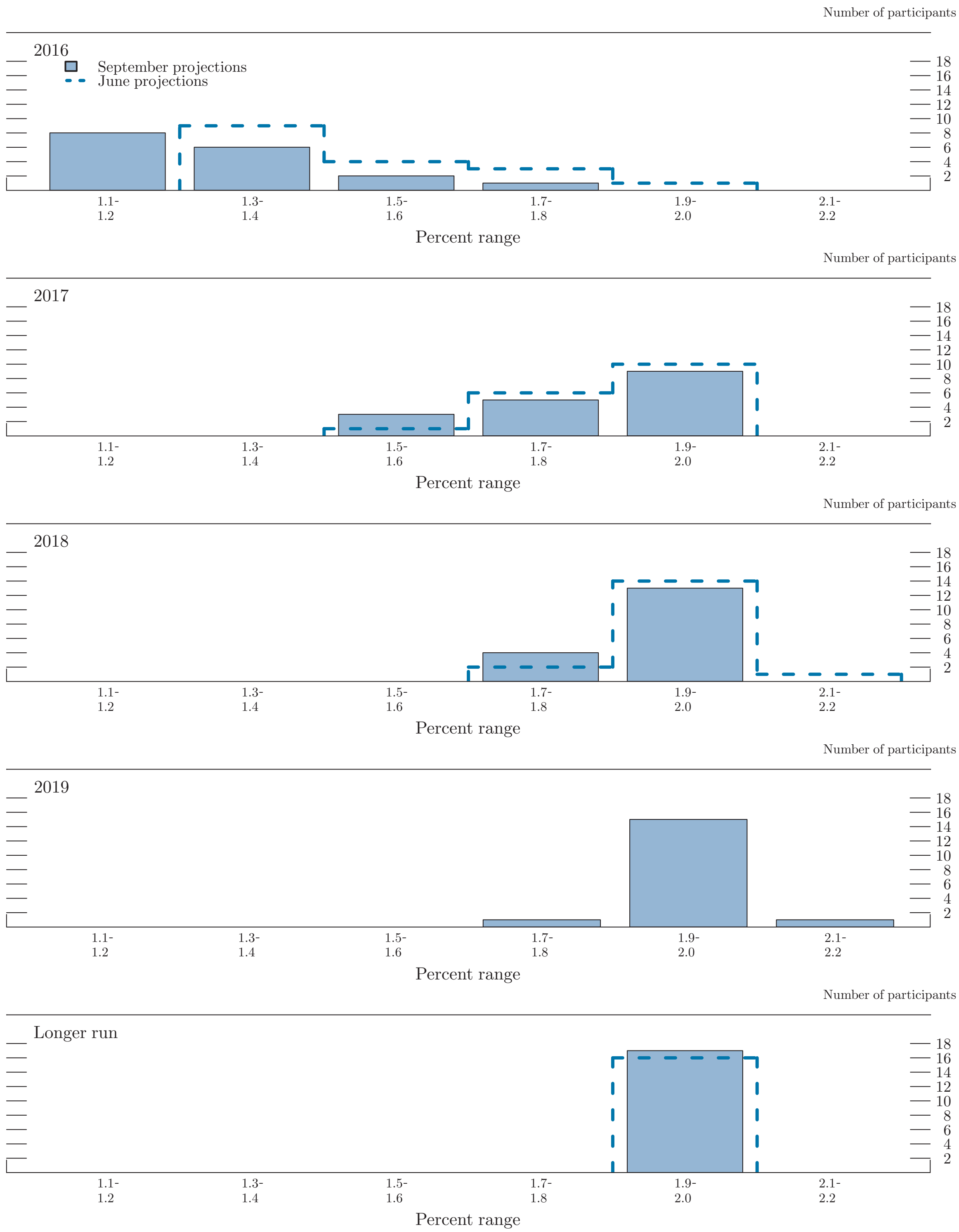
Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.B. Distribution of participants' projections for the unemployment rate, 2016–19 and over the longer run



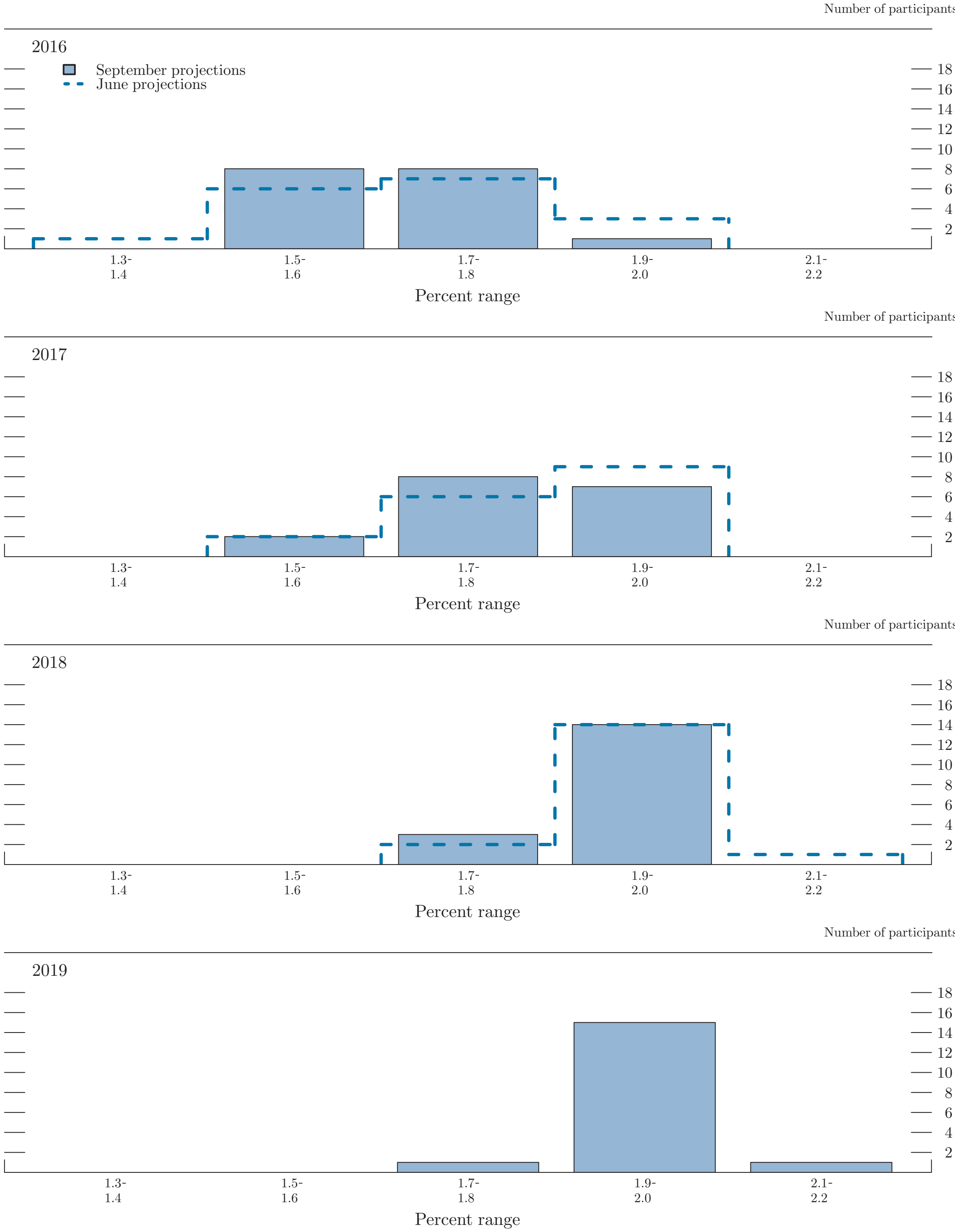
NOTE: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.C. Distribution of participants' projections for PCE inflation, 2016–19 and over the longer run



Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.D. Distribution of participants' projections for core PCE inflation, 2016–19



Note: Definitions of variables and other explanations are in the notes to table 1.

Figure 3.E. Distribution of participants' judgments of the midpoint of the appropriate target range for the federal funds rate or the appropriate target level for the federal funds rate, 2016–19 and over the longer run

NOTE: The midpoints of the target ranges for the federal funds rate and the target levels for the federal funds rate are measured at the end of the specified calendar year or over the longer run. One participant did not submit longer-run projections for the federal funds rate in conjunction with the June 14–15, 2016, meeting. One participant did not submit longer-run projections for the federal funds rate in conjunction with the September 20–21, 2016, meeting.

factors that pushed down their projections of the longer-run federal funds rate, including domestic and global demographic trends and weak productivity growth, which together imply a slower pace of trend output growth.

Uncertainty and risks

The left-hand column of figure 4 shows that, for each variable, all but a few participants judged the levels of uncertainty associated with their September projections for real GDP growth, the unemployment rate, and headline inflation to be broadly similar to the average of the past 20 years, and all but one participant viewed uncertainty around core inflation to be broadly similar to its average historical level.[3] One participant saw uncertainty surrounding real GDP growth as higher than average, down from three participants in June. Participants noted that continued uncertainty about the rate of productivity growth and concerns about international developments were sources of uncertainty attending their forecasts of real GDP growth. Most participants' assessments of the level of uncertainty surrounding their economic projections did not change materially since June.

For each variable, the number of participants viewing the risks as balanced increased since June, and fewer participants assessed the risks to economic growth as weighted to the downside or viewed the risks to unemployment as weighted to the upside (figure 4, top two panels in the right-hand column). Participants who revised their view from an assessment that the risks to GDP growth were to the downside to a view that the risks were broadly balanced cited reasons such as an easing of concerns regarding the potential for global economic and financial conditions to deteriorate. Participants who saw the risks to GDP growth as tilted to the downside attributed this assessment to some signs that the momentum of growth in domestic demand may be slowing, businesses' caution regarding investment and hiring decisions, the risk of adverse shocks to U.S. economic activity from developments abroad, or potential limits to the ability of monetary policy to respond to adverse shocks near the effective lower bound on short-term interest rates. As indicated in the two bottom-right figures, the number of participants who saw the risks to their inflation projections as broadly balanced increased; those who revised their view from an assessment that the risks to inflation were tilted downward pointed to an easing of concerns about global financial developments or accumulating evidence that inflation expectations were remaining anchored at policy-consistent levels. Those who continued to judge that the risks to inflation were weighted to the downside cited the risks associated with encountering negative economic shocks when the policy rate is close to the effective lower bound or with continued low readings on survey-based measures of inflation expectations and financial-market measures of inflation compensation.

Table 2. Average historical projection error ranges
Percentage points

Variable	2016	2017	2018	2019
Change in real GDP[1]	±1.3	±1.9	±2.1	±2.2
Unemployment rate[1]	±0.3	±1.0	±1.7	±2.0
Total consumer prices[2]	±0.8	±1.1	±1.1	±1.1

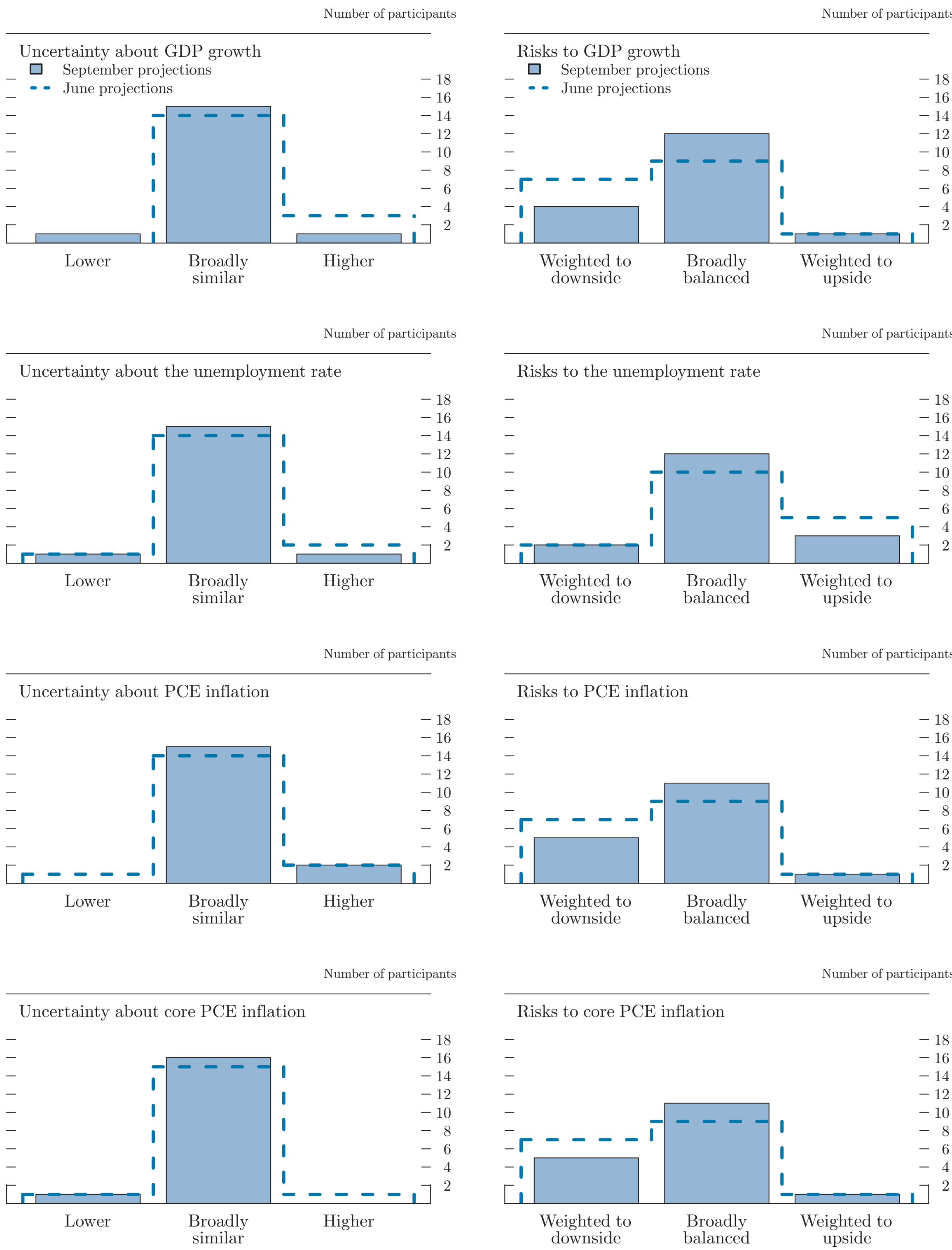
NOTE: Error ranges shown are measured as plus or minus the root mean squared error of projections for 1995 through 2015 that were released in the fall by various private and government forecasters. As described in the box "Forecast Uncertainty," under certain assumptions, there is about a 70 percent probability that actual outcomes for real GDP, unemployment, and consumer prices will be in ranges implied by the average size of projection errors made in the past. For more information, see David Reifschneider and Peter Tulip (2007), "Gauging the Uncertainty of the Economic Outlook from Historical Forecasting Errors," Finance and Economics Discussion Series 2007-60 (Washington: Board of Governors of the Federal Reserve System, November), available at www.federalreserve.gov/pubs/feds/2007/200760/200760abs.html; and Board of Governors of the Federal Reserve System, Division of Research and Statistics (2014), "Updated Historical Forecast Errors," memorandum, April 9, www.federalreserve.gov/foia/files/20140409-historical-forecast-errors.pdf.

1. Definitions of variables are in the general note to table 1.

2. Measure is the overall consumer price index, the price measure that has been most widely used in government and private economic forecasts. Projection is percent change, fourth quarter of the previous year to the fourth quarter of the year indicated.

[3] Table 2 provides estimates of the forecast uncertainty for the change in real GDP, the unemployment rate, and total consumer price inflation over the period from 1996 through 2015. At the end of this summary, the box "Forecast Uncertainty" discusses the sources and interpretation of uncertainty in the economic forecasts and explains the approach used to assess the uncertainty and risks attending the participants' projections.

Figure 4. Uncertainty and risks in economic projections



NOTE: For definitions of uncertainty and risks in economic projections, see the box "Forecast Uncertainty." Definitions of variables are in the notes to table 1.

Forecast Uncertainty

The economic projections provided by the members of the Board of Governors and the presidents of the Federal Reserve Banks inform discussions of monetary policy among policymakers and can aid public understanding of the basis for policy actions. Considerable uncertainty attends these projections, however. The economic and statistical models and relationships used to help produce economic forecasts are necessarily imperfect descriptions of the real world, and the future path of the economy can be affected by myriad unforeseen developments and events. Thus, in setting the stance of monetary policy, participants consider not only what appears to be the most likely economic outcome as embodied in their projections, but also the range of alternative possibilities, the likelihood of their occurring, and the potential costs to the economy should they occur.

Table 2 summarizes the average historical accuracy of a range of forecasts, including those reported in past *Monetary Policy Reports* and those prepared by the Federal Reserve Board's staff in advance of meetings of the Federal Open Market Committee. The projection error ranges shown in the table illustrate the considerable uncertainty associated with economic forecasts. For example, suppose a participant projects that real gross domestic product (GDP) and total consumer prices will rise steadily at annual rates of, respectively, 3 percent and 2 percent. If the uncertainty attending those projections is similar to that experienced in the past and the risks around the projections are broadly balanced, the numbers reported in table 2 would imply a probability of about 70 percent that actual GDP would expand within a range of 1.7 to 4.3 percent in the current year, 1.1 to 4.9 percent in the second year, 0.9 to 5.1 percent in the third year, and 0.8 to 5.2 percent in the fourth year. The corresponding 70 percent confidence intervals for overall inflation would be 1.2 to 2.8 percent in the current year and 0.9 to 3.1 percent in the second, third, and fourth years.

Because current conditions may differ from those that prevailed, on average, over history, participants provide judgments as to whether the uncertainty attached to their projections of each variable is greater than, smaller than, or broadly similar to typical levels of forecast uncertainty in the past, as shown in table 2. Participants also provide judgments as to whether the risks to their projections are weighted to the upside, are weighted to the downside, or are broadly balanced. That is, participants judge whether each variable is more likely to be above or below their projections of the most likely outcome. These judgments about the uncertainty and the risks attending each participant's projections are distinct from the diversity of participants' views about the most likely outcomes. Forecast uncertainty is concerned with the risks associated with a particular projection rather than with divergences across a number of different projections.

As with real activity and inflation, the outlook for the future path of the federal funds rate is subject to considerable uncertainty. This uncertainty arises primarily because each participant's assessment of the appropriate stance of monetary policy depends importantly on the evolution of real activity and inflation over time. If economic conditions evolve in an unexpected manner, then assessments of the appropriate setting of the federal funds rate would change from that point forward.

Ben S. Bernanke | March 30, 2015 6:01am

Why are interest rates so low?

Interest rates around the world, both short-term and long-term, are exceptionally low these days. The U.S. government can borrow for ten years at a rate of about 1.9 percent, and for thirty years at about 2.5 percent. Rates in other industrial countries are even lower: For example, the yield on ten-year government bonds is now around 0.2 percent in Germany, 0.3 percent in Japan, and 1.6 percent in the United Kingdom. In Switzerland, the ten-year yield is currently slightly negative, meaning that lenders must pay the Swiss government to hold their money! The interest rates paid by businesses and households are relatively higher, primarily because of credit risk, but are still very low on an historical basis.

Low interest rates are not a short-term aberration, but part of a long-term trend. As the figure below shows, ten-year government bond yields in the United States were relatively low in the 1960s, rose to a peak above 15 percent in 1981, and have been declining ever since. That pattern is partly explained by the rise and fall of inflation, also shown in the figure. All else equal, investors demand higher yields when inflation is high to compensate them for the declining purchasing power of the dollars with which they expect to be repaid. But yields on inflation-protected bonds are also very low today; the real or inflation-adjusted return on lending to the U.S. government for five years is currently about *minus* 0.1 percent.

Why are interest rates so low? Will they remain low? What are the implications for the economy of low interest rates?

If you asked the person in the street, “Why are interest rates so low?”, he or she would likely answer that the Fed is keeping them low. That’s true only in a very narrow sense. The Fed does, of course, set the benchmark nominal short-term interest rate. The Fed's policies are also the primary determinant of inflation and inflation expectations over the longer term, and inflation trends affect interest rates, as the figure above shows. But what matters most for the economy is the real, or inflation-adjusted, interest rate (the market, or nominal, interest rate minus the inflation rate). The real interest rate is most relevant for capital investment decisions, for example. The Fed's ability to affect real rates of return, especially longer-term real rates, is transitory and limited. Except in the short run, real interest rates are determined by a wide range of economic factors, including prospects for economic growth—not by the Fed.

To understand why this is so, it helps to introduce the concept of the *equilibrium real interest rate* (sometimes called the Wicksellian interest rate, after the late-nineteenth- and early twentieth-century Swedish economist Knut Wicksell). The equilibrium interest rate is the real interest rate consistent with full employment of labor and capital resources, perhaps after some period of adjustment. Many factors affect the equilibrium rate, which can and does change over time. In a rapidly growing, dynamic economy, we would expect the equilibrium interest rate to be high, all else equal, reflecting the high prospective return on capital investments. In a slowly growing or recessionary economy, the equilibrium real rate is likely to be low, since investment opportunities are limited and relatively unprofitable. Government spending and taxation policies also affect the equilibrium real rate: Large deficits will tend to increase the equilibrium real rate (again, all else equal), because government borrowing diverts savings away from private investment.

If the Fed wants to see full employment of capital and labor resources (which, of course, it does), then its task amounts to using its influence over market interest rates to push those rates toward levels consistent with the equilibrium rate, or—more realistically—its best estimate of the equilibrium rate, which is not directly observable. If the Fed were to try to keep market rates persistently too high, relative to the equilibrium rate, the economy would slow (perhaps falling into recession), because capital investments (and other long-lived purchases, like consumer durables) are unattractive when the cost of borrowing set by the Fed exceeds the potential return on those investments. Similarly, if the Fed were to push market rates too low, below the levels consistent with the equilibrium rate, the economy would eventually overheat, leading to inflation—also an unsustainable and undesirable situation. The bottom line is that the state of the economy, not the Fed, ultimately determines the real rate of return attainable by savers and investors. The Fed influences market rates but not in an unconstrained way; if it seeks a healthy economy, then it must try to push market rates toward levels consistent with the underlying equilibrium rate.

This sounds very textbook-y, but failure to understand this point has led to some confused critiques of Fed policy. When I was chairman, more than one legislator accused me and my colleagues on the Fed's policy-setting Federal Open Market Committee of "throwing seniors under the bus" (to use the words of one senator) by keeping interest rates low. The legislators were concerned about retirees living off their savings and able to obtain only very low rates of return on those savings.

I was concerned about those seniors as well. But if the goal was for retirees to enjoy sustainably higher real returns, then the Fed's raising interest rates prematurely would have been exactly the wrong thing to do. In the weak (but recovering) economy of the past few years, all indications are that the equilibrium real interest rate has been exceptionally low, probably negative. A premature increase in interest rates engineered by the Fed would therefore have likely led after a short time to an economic slowdown and, consequently, lower returns on capital investments. The slowing economy in turn would have forced the Fed to capitulate and reduce market interest rates again. This is hardly a hypothetical scenario: In recent years, several major central banks have prematurely raised interest rates, only to be forced by a worsening economy to backpedal and retract the increases. Ultimately, the best way to improve the returns attainable by savers was to do what the Fed actually did: keep rates low (closer to the low equilibrium rate), so that the economy could recover and more quickly reach the point of producing healthier investment returns.

A similarly confused criticism often heard is that the Fed is somehow distorting financial markets and investment decisions by keeping interest rates "artificially low." Contrary to what sometimes seems to be alleged, the Fed cannot somehow withdraw and leave interest rates to be determined by "the markets." The Fed's actions determine the money supply and thus short-term interest rates; it has no choice but to set the short-term interest rate *somewhere*. So where should that be? The best strategy for the Fed I can think of is to set rates at a level consistent with the healthy operation of the economy over the medium term, that is, at the (today, low) equilibrium rate. There is absolutely nothing artificial about that! Of course, it's legitimate to argue about where the equilibrium rate actually is at a given time, a debate that Fed policymakers engage in at their every meeting. But that doesn't seem to be the source of the criticism.

The state of the economy, not the Fed, is the ultimate determinant of the sustainable level of real returns. This helps explain why real interest rates are low throughout the industrialized world, not just in the United States. What features of the economic landscape are the ultimate sources of today's low real rates? I'll tackle that in later posts.

http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low

Financial Times August 23, 2015 11:59 pm

The Fed looks set to make a dangerous mistake


Lawrence Summers

Raising rates this year will threaten all of the central bank's major objectives

Will the Federal Reserve's September meeting see US interest rates go up for the first time since 2006? Officials have held out the prospect that it might, and have suggested that — barring major unforeseen developments — rates will probably be increased by the end of the year. Conditions could change, and the Fed has been careful to avoid outright commitments. But a reasonable assessment of current conditions suggest that raising rates in the near future would be a serious error that would threaten all three of the Fed's major objectives — price stability, full employment and financial stability.

Like most major central banks, the Fed has put its price stability objective into practice by adopting a 2 per cent inflation target. The biggest risk is that inflation will be lower than this — a risk that would be exacerbated by tightening policy. More than half the components of the consumer price index have declined in the past six months — the first time this has happened in more than a decade. CPI inflation, which excludes volatile energy and food prices and difficult-to-measure housing, is less than 1 per cent. Market-based measures of expectations suggest that, over the next 10 years, inflation will be well under 2 per cent. If the currencies of China and other emerging markets depreciate further, US inflation will be even more subdued.

Tightening policy will adversely affect employment levels because higher interest rates make holding on to cash more attractive than investing it. Higher interest rates will also increase the value of the dollar, making US producers less competitive and pressuring the economies of our trading partners.

This is especially troubling at a time of rising inequality. Studies of periods of tight labour markets like the late 1990s and 1960s make it clear that the best social programme for disadvantaged workers is an economy where employers are struggling to fill vacancies.

There may have been a financial stability case for raising rates six or nine months ago, as low interest rates were encouraging investors to take more risks and businesses to borrow money and engage in financial engineering. At the time, I believed that the economic costs of a rate increase exceeded the financial stability benefits, but there were grounds for concern. That debate is now moot. With credit becoming more expensive, the outlook for the Chinese economy clouded at best, emerging markets submerging, the US stock market in a correction, widespread concerns about liquidity, and expected volatility having increased at a near-record rate, markets are themselves dampening any euphoria or overconfidence. The Fed does not have to do the job. At this moment of fragility, raising rates risks tipping some part of the financial system into crisis, with unpredictable and dangerous results.

Why, then, do so many believe that a rate increase is necessary? I doubt that, if rates were now 4 per cent, there would be much pressure to raise them. That pressure comes from a sense that the economy has substantially normalised during six years of recovery, and so the extraordinary stimulus of zero interest rates should be withdrawn. There has been much talk of “headwinds” that require low interest rates now but this will abate before long, allowing for normal growth and normal interest rates.

Whatever merit this view had a few years ago, it is much less plausible as we approach the seventh anniversary of the collapse of Lehman Brothers. It is no longer easy to think of economic conditions that can plausibly be seen as temporary headwinds. Fiscal drag is over. Banks are well capitalised. Corporations are flush with cash. Household balance sheets are substantially repaired.

Much more plausible is the view that, for reasons rooted in technological and demographic change and reinforced by greater regulation of the financial sector, the global economy has difficulty generating demand for all that can be produced. This is the “secular stagnation” diagnosis, or the very similar idea that Ben Bernanke, former Fed chairman, has urged of a “savings glut”. Satisfactory growth, if it can be achieved, requires very low interest rates that historically we have only seen during economic crises. This is why long term bond markets are telling us that real interest rates are expected to be close to zero in the industrialised world over the next decade.

New conditions require new policies. There is much that should be done, such as steps to promote public and private investment so as to raise the level of real interest rates consistent with full employment. Unless these new policies are implemented, inflation sharply accelerates, or euphoria in markets breaks out, there is no case for the Fed to adjust policy interest rates.

The writer is the Charles W Eliot university professor at Harvard and a former US Treasury secretary

The New York Times

The Opinion Pages

The Conscience of a Liberal

PAUL KRUGMAN

Aug 25 10:56 am

One enduring constant of the world economy since 2008 is the chorus of sober-sounding people declaring that the Fed must act responsibly and raise rates. A few years back, rising commodity prices and a flood of money into emerging markets were proof that low rates were dangerously inflationary and must be hiked. Now we have plunging commodity prices and a flood of money out of emerging markets; clearly, this shows that the Fed must do the right thing, and raise rates.

The underlying claim in all such demands is that the low interest rates we've had since 2008 are "unnatural" or "artificial". So it's probably worth repeating that while very low rates may seem strange, they also seem fully justified by the economic situation. The original Wicksellian concept of the natural rate of interest defined that rate as the rate consistent with stable prices, with an economy that was neither too hot nor too cold. If we had had an unnaturally low rate these past 7 years, we should have seen accelerating inflation; we haven't.

Quantitative easing, by the way, is just more of the same. If you are claiming that the Fed has created artificially easy credit, you have to explain how it can do that year after year without producing inflation or an overheating economy. Nobody has ever produced a coherent story about how Fed policy can drive interest rates below their natural level without inflationary effects.

So even if you believe that a low-rate environment is helping to feed a series of bubbles, you have to ask how it can possibly make sense to raise rates when the underlying problem is overall economic weakness, which a rate hike would make worse.

One last point: many people have noted the resemblances between current events and the market instability of 1998. However, few have pointed out that the volatility of 1998 followed a long period in which long-term interest rates never dropped below 5 percent. Hot money doesn't need ultra-low rates to be subject to enthusiasms and sudden losses of confidence.

Aug 25 9:21 am Aug 25 9:21 am 19

It's Getting Tighter

When thinking about the market madness and its possible real effects, here's something you — where by "you" I mean the Fed in particular — really, really need to keep in mind: the markets have already, in effect, tightened monetary conditions quite a lot.

First of all, if break-evens (the difference between interest rates on ordinary bonds and inflation-protected bonds) are any guide, inflation expectations have fallen sharply:

Photo

Credit

Second, while interest rates on Treasuries are down, rates on private securities viewed as even moderately risky are up quite a lot:

Photo

Credit

So real borrowing costs are up sharply for many private borrowers. This is a significant headwind for the U.S. economy, which was hardly growing like gangbusters in any case.

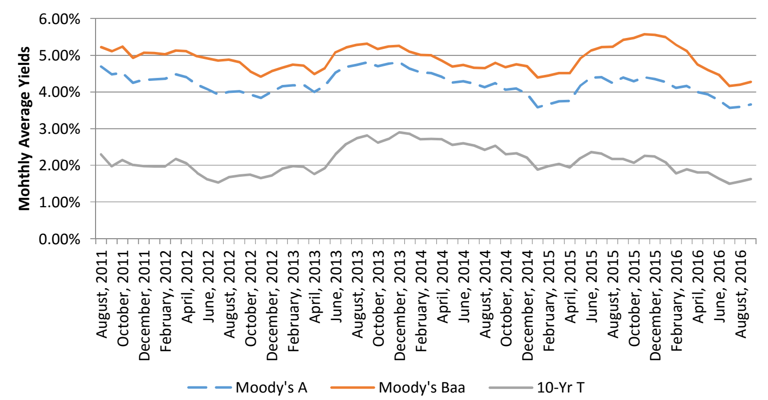
A Fed hike now looks like an even worse idea than it did a few days ago.

http://krugman.blogs.nytimes.com/?module=BlogMain&action=Click&region=Header&pgtype=Blogs&version=Blog Main&contentCollection=Opinion

Yields for Aug 2011 - Sep 2016

	Moody's Public Utility Bonds	Moody's Public Utility Bonds	10-Year Constant Maturity Treasury
Month	Moody's A	Moody's Baa	10-Yr T
August, 2011	4.69%	5.22%	2.30%
September, 2011	4.48%	5.11%	1.98%
October, 2011	4.52%	5.24%	2.15%
November, 2011	4.25%	4.93%	2.01%
December, 2011	4.33%	5.07%	1.98%
January, 2012	4.34%	5.06%	1.97%
February, 2012	4.36%	5.02%	1.97%
March, 2012	4.48%	5.13%	2.17%
April, 2012	4.40%	5.11%	2.05%
May, 2012	4.20%	4.97%	1.80%
June, 2012	4.08%	4.91%	1.62%
July, 2012	3.93%	4.85%	1.53%
August, 2012	4.00%	4.88%	1.68%
September, 2012	4.02%	4.81%	1.72%
October, 2012	3.93%	4.56%	1.75%
November, 2012	3.84%	4.42%	1.65%
December, 2012	4.00%	4.56%	1.72%
January, 2013	4.15%	4.66%	1.91%
February, 2013	4.18%	4.74%	1.98%
March, 2013	4.20%	4.72%	1.96%
April, 2013	4.00%	4.49%	1.76%
May, 2013	4.17%	4.65%	1.93%
June, 2013	4.53%	5.08%	2.30%
July, 2013	4.68%	5.21%	2.58%
August, 2013	4.73%	5.28%	2.74%
September, 2013	4.80%	5.31%	2.81%
October, 2013	4.70%	5.17%	2.62%
November, 2013	4.77%	5.24%	2.72%
December, 2013	4.81%	5.25%	2.90%
January, 2014	4.63%	5.09%	2.86%
February, 2014	4.53%	5.01%	2.71%
March, 2014	4.51%	5.00%	2.72%
April, 2014	4.41%	4.85%	2.71%
May, 2014	4.26%	4.69%	2.56%
June, 2014	4.29%	4.73%	2.60%
July, 2014	4.23%	4.66%	2.54%
August, 2014	4.13%	4.65%	2.42%
September, 2014	4.24%	4.79%	2.53%
October, 2014	4.06%	4.67%	2.30%
November, 2014	4.09%	4.75%	2.33%
December, 2014	3.95%	4.70%	2.21%
January, 2015	3.58%	4.39%	1.88%
February, 2015	3.67%	4.44%	1.98%
March, 2015	3.74%	4.51%	2.04%
April, 2015	3.75%	4.51%	1.94%
May, 2015	4.17%	4.91%	2.20%
June, 2015	4.39%	5.13%	2.36%
July, 2015	4.40%	5.22%	2.32%
August, 2015	4.25%	5.23%	2.17%
September, 2015	4.39%	5.42%	2.17%
October, 2015	4.29%	5.47%	2.07%
November, 2015	4.40%	5.57%	2.26%
December, 2015	4.35%	5.55%	2.24%
January, 2016	4.27%	5.49%	2.09%
February, 2016	4.11%	5.28%	1.78%
March, 2016	4.16%	5.12%	1.89%
April, 2016	4.00%	4.75%	1.81%
May, 2016	3.93%	4.60%	1.81%
June, 2016	3.78%	4.47%	1.64%
July, 2016	3.57%	4.16%	1.50%
August, 2016	3.59%	4.20%	1.56%
September, 2016	3.66%	4.27%	1.63%
Aug 11 - Sep 16 Average	4.22%	4.90%	2.13%
62 months			
period min	3.57%	4.16%	1.50%
period max	4.81%	5.57%	2.90%
Last 6 Months	3.76%	4.41%	1.66%
Oct 2012 - Mar 2013	4.05%	4.61%	1.83%

Fig. 1 Moody's Public Utility and Treasury Bond Yields



1999

MOODY'S®

PUBLIC UTILITY MANUAL

Published By: FIS
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SEE FOLLOWING PAGE FOR COMPLETE LIST OF OFFICES

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1963	4.325	4.32	4.33	4.43	4.38	4.40	4.40	......	4.45	4.45	4.56	......
1962	4.625	4.70	......	4.35	4.33	4.47	4.43	4.51	4.35	4.42	4.32	......
1961	......	4.59	4.45	4.73	4.90	5.07	4.82	4.90	4.80	4.57	4.60	4.625
1960	5.30	5.10	4.98	5.14	5.15	5.18	4.74	......	4.74	5.00	4.90	5.02
1959	4.72	......	4.66	4.77	5.12	5.04	5.12	......	5.65	5.29	......	5.17

MOODY'S AVERAGE OF YIELD ON NEWLY ISSUED Baa PUBLIC UTILITY BONDS (IN PERCENT)

Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1998	6.30	6.51	6.89	6.72	......	6.72	6.99	6.36	......	......	......	......
1997	7.96	......	7.12	......	......	7.44	7.25	7.18	......	......	6.93	7.19
1996	......	......	8.75	......	......	......	8.03	......	......	......	......	......
1995	......	......	......	......	7.95	......	7.79	8.67	7.43	......	7.19	......
1994	7.52	7.29	7.89	8.34	8.57	8.57	......	......	......	......	9.77	......
1993	8.67	7.97	7.84	7.86	7.56	7.21	7.42	7.11	7.27	6.94	......	7.49
1992	8.69	8.91	......	8.65	8.64	8.42	8.63	7.86	8.16	8.99	8.73	......
1991	......	9.59	......	9.53	9.77	......	9.78	9.39	8.65	9.21	8.82	9.07
1990	10.03	9.96	......	10.33	10.30	10.01	10.25	10.05	10.69	10.74	9.99	7.70
1989	......	......	......	10.75	9.65	9.93	9.86	......	9.51	9.61	9.85	......
1988	10.74	10.33	10.07	11.06	10.51	9.88	10.79	9.88	10.75	......	10.30	10.21
1987	9.27	9.27	9.29	9.79	10.50	10.341	11.44	......	11.14	12.06	10.95	10.63
1986	11.25	10.34	9.625	9.39	10.61	10.03	9.67	9.95	10.96	10.56	9.71	9.40
1985	......	......	......	......	11.81	11.50	12.00	......	10.84	12.10	11.72	11.653
1984	......	14.50	......	......	......	15.43	16.00	......	13.419	14.50	13.13	15.25
1983	12.94	13.33	13.02	12.41	12.58	13.28	13.75	13.45	13.13	13.50	13.59	......
1982	18.16	......	18.18	......	16.98	......	16.40	16.26	15.15	14.13	13.23	13.94
1981	15.00	......	16.20	17.50	17.51	16.73	17.74	......	18.75	......	......	18.14
1980		......	15.56	14.67	......	12.38	13.625	13.88	15.02	14.67	......	......
1979	10.15	10.50	10.47	10.70	10.65	......	......	......	10.99	......	13.08	12.45
1978	9.35	9.45	9.53	9.42	9.69	10.00	9.88	......	......	9.75	......	......
1977	......	......	8.85	8.85	8.94	8.78	......	8.59	......	8.98	9.15	9.08
1976	9.90	9.60	9.50	9.61	10.00	9.92	10.10	......	9.45	9.00	9.10	8.61
1975	......	......	......	11.00	10.79	......	11.57	......	......	......	11.30	11.78
1974	8.95	8.70	9.07	9.53	9.45	......	......	......	......	......	......	......
1973	7.625	......	8.04	......	7.97	8.20	8.25	......	8.50	......	......	8.66
1972	......	7.76	7.89	7.95	......	7.95	......	7.85	7.95	7.86	......	......
1971	8.12	7.90	8.47	8.49	8.76	8.94	......	8.67	......	7.97	7.91	8.10
1970	9.625	9.57	9.54	9.37	......	10.47	9.53	10.08	9.81	9.82	9.75	8.95
1969	7.45	......	......	7.77	7.85	......	8.52	......	8.95	8.75	9.45	9.61
1968	6.81	......	......	......	7.25	7.50	7.00	6.84	6.86	6.95	7.34	7.45
1967	......	5.80	5.80	6.00	......	6.50	......	6.50	6.63	6.75	......	......
1966	5.29	5.35	5.83	......	......	5.85	6.20	6.125	......	6.50	6.29	6.38
1965	......	......	......	......	......	......	......	4.94	4.96	......	4.95	......
1964	4.81	4.97	......	4.81	4.74	4.71	4.62	4.80	4.65	4.75	4.55	......
1963	4.80	4.45	4.43	......	......	4.81	4.63	......	......	4.54	......	4.83
1962	......	5.17	......	4.82	4.52	4.97	4.63	......	4.90	......	4.50	4.48
1961	4.96	......	......	5.08	5.10	5.35	5.20	5.10	......	......	4.89	5.15
1960	5.67	......	......	5.33	5.45	5.61	5.40	......	5.08	5.03	5.04	......
1959	5.10	......	......	4.92	5.25	......	5.15	5.05	......	......	......	......

MOODY'S BOND YIELDS BY RATING GROUPS

MOODY'S COMPOSITE AVERAGE OF YIELDS ON PUBLIC UTILITY BONDS (IN PERCENT)

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1999	......	6.87	7.00	7.18	7.16	7.42	7.70	7.66	7.86	7.87	......	......	......
1998	7.00	7.03	7.09	7.13	7.12	7.11	6.99	6.99	6.96	6.88	6.88	6.96	6.84
1997	7.63	7.79	7.68	7.92	8.08	7.94	7.77	7.52	7.57	7.51	7.37	7.25	7.16
1996	7.74	7.20	7.37	7.72	7.88	7.99	8.07	8.02	7.84	8.01	7.76	7.48	7.58
1995	7.91	8.77	8.56	8.41	8.30	7.93	7.71	7.73	7.86	7.62	7.46	7.40	7.21
1994	8.30	7.31	7.44	7.83	8.20	8.32	8.31	8.47	8.41	8.65	8.88	9.00	8.79
1993	7.56	8.23	8.00	7.85	7.76	7.78	7.68	7.53	7.21	7.01	7.00	7.30	7.33
1992	8.57	8.67	8.77	8.84	8.79	8.72	8.64	8.46	8.34	8.32	8.44	8.53	8.36
1991	9.21	9.56	9.31	9.39	9.30	9.29	9.44	9.40	9.16	9.03	8.99	8.93	8.76
1990	9.76	9.44	9.66	9.75	9.87	9.89	9.69	9.66	9.84	10.01	9.94	9.76	9.57
1989	9.66	10.02	10.02	10.16	10.14	9.92	9.49	9.34	9.37	9.43	9.37	9.33	9.31
1988	10.45	10.75	10.11	10.11	10.53	10.75	10.71	10.96	11.09	10.56	9.92	9.89	10.02
1987	9.98	8.77	8.81	8.75	9.30	9.82	9.87	10.01	10.33	11.00	11.32	10.82	10.99
1986	9.46	10.66	10.16	9.33	9.02	9.52	9.51	9.19	9.15	9.42	9.39	9.15	8.96
1985	12.29	12.88	13.00	13.66	13.42	12.89	11.91	11.88	11.93	11.95	11.84	11.33	10.82
1984	14.03	13.40	13.50	14.03	14.30	14.95	15.16	14.92	14.29	14.04	13.68	13.15	12.96
1983	13.31	13.46	13.60	13.28	13.03	13.00	13.17	13.28	13.50	13.35	13.19	13.33	13.48
1982	15.33	16.73	16.72	16.07	15.82	15.60	16.18	16.04	15.22	14.56	13.88	13.58	13.55
1981	15.62	14.22	14.84	14.86	15.32	15.84	15.27	15.87	16.33	16.89	16.76	15.50	15.77
1980	13.15	12.12	13.48	14.33	13.50	12.17	11.87	12.12	12.82	13.29	13.53	14.07	14.48
1979	10.39	9.85	9.84	10.02	10.05	10.23	10.04	9.90	9.97	10.19	11.13	11.73	11.68
1978	9.22	8.87	8.90	8.93	9.05	9.19	9.33	9.38	9.21	9.17	9.37	9.58	9.67
1977	8.58	8.59	8.63	8.66	8.65	8.64	8.53	8.48	8.47	8.43	8.56	8.61	8.65
1976	9.17	9.68	9.50	9.43	9.27	9.31	9.36	9.26	9.07	8.91	8.83	8.77	8.61
1975	9.88	10.10	9.83	9.67	9.88	9.93	9.81	9.81	9.93	9.98	9.94	9.83	9.87
1974	9.27	8.27	8.33	8.44	8.68	8.86	9.08	9.35	9.70	10.11	10.31	10.12	10.02
1973	7.83	7.51	7.61	7.64	7.64	7.63	7.69	7.81	8.06	8.09	8.04	8.11	8.17
1972	7.74	7.85	7.84	7.81	7.87	7.88	7.83	7.80	7.69	7.63	7.63	7.55	7.48
1971	8.13	8.17	7.94	8.08	8.05	8.23	8.39	8.34	8.30	8.12	8.04	7.96	7.92
1970	8.68	8.54	8.47	8.34	8.37	8.72	9.06	9.01	8.83	8.80	8.74	8.77	8.45
1969	7.49	7.02	7.05	7.23	7.26	7.15	7.38	7.49	7.40	7.62	7.91	7.94	8.39
1968	6.49	6.47	6.36	6.39	6.54	6.60	6.60	6.53	6.30	6.27	6.39	6.58	6.85
1967	5.81	5.42	5.25	5.37	5.37	5.59	5.80	5.91	5.96	6.02	6.12	6.39	6.57
1966	5.36	4.85	4.90	5.08	5.21	5.23	5.32	5.39	5.54	5.78	5.72	5.64	5.65
1965	4.60	4.52	4.51	4.51	4.51	4.53	4.56	4.58	4.60	4.64	4.67	4.71	4.82
1964	4.53	4.51	4.51	4.51	4.53	4.53	4.55	4.54	4.54	4.53	4.52	4.53	4.54
1963	4.41	4.38	4.37	4.38	4.39	4.39	4.40	4.42	4.42	4.44	4.44	4.45	4.49
1962	4.51	4.61	4.62	4.60	4.56	4.50	4.47	4.48	4.50	4.49	4.46	4.42	4.41
1961	4.57	4.57	4.51	4.43	4.46	4.49	4.52	4.60	4.67	4.67	4.66	4.63	4.62
1960	4.69	4.92	4.89	4.79	4.70	4.76	4.75	4.71	4.53	4.48	4.56	4.56	4.58
1959	4.70	4.43	4.46	4.43	4.49	4.67	4.77	4.79	4.77	4.89	4.95	4.86	4.86
1958	4.10	3.99	3.87	3.95	3.90	3.89	3.88	3.94	4.16	4.41	4.46	4.40	4.39
1957	4.18	3.98	3.97	3.95	3.94	3.98	4.06	4.19	4.33	4.45	4.48	4.49	4.29
1956	3.54	3.28	3.26	3.27	3.38	3.44	3.44	3.48	3.60	3.73	3.82	3.86	3.93
1955	3.22	3.12	3.15	3.17	3.17	3.19	3.21	3.22	3.26	3.29	3.27	3.28	3.31
1954	3.15	3.31	3.23	3.14	3.13	3.13	3.15	3.13	3.12	3.13	3.11	3.10	3.10
1953	3.45	3.23	3.29	3.33	3.44	3.57	3.62	3.56	3.54	3.58	3.46	3.38	3.37
1952	3.20	3.23	3.19	3.21	3.19	3.19	3.20	3.20	3.20	3.20	3.22	3.19	3.19
1951	3.09	2.85	2.86	2.96	3.07	3.10	3.18	3.19	3.13	3.09	3.14	3.21	3.24
1950	2.82	2.79	2.78	2.78	2.79	2.81	2.81	2.83	2.80	2.84	2.85	2.86	2.87
1949	2.90	2.99	2.99	2.97	2.96	2.95	2.93	2.89	2.86	2.84	2.83	2.81	2.79
1948	3.03	3.03	3.03	3.01	2.97	2.95	2.96	3.02	3.07	3.07	3.07	3.09	3.06
1947	2.78	2.73	2.72	2.73	2.71	2.71	2.72	2.72	2.72	2.78	2.87	2.93	3.02
1946	2.71	2.71	2.65	2.64	2.65	2.69	2.70	2.69	2.70	2.75	2.76	2.77	2.77
1945	2.89	2.97	2.95	2.94	2.94	2.93	2.89	2.87	2.86	2.85	2.84	2.81	2.79
1944	2.97	2.99	2.98	2.97	2.97	2.97	2.96	2.95	2.94	2.94	2.96	2.98	2.96
1943	2.99	3.05	3.02	3.00	3.01	3.00	2.98	2.95	2.96	2.96	2.96	2.98	3.00
1942	3.11	3.13	3.15	3.17	3.13	3.13	3.12	3.09	3.09	3.08	3.07	3.06	3.07
1941	3.11	3.17	3.19	3.17	3.16	3.13	3.10	3.07	3.06	3.07	3.05	3.04	3.12
1940	3.25	3.35	3.33	3.29	3.24	3.30	3.33	3.23	3.23	3.19	3.18	3.14	3.13

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1939	3.48	3.57	3.52	3.48	3.51	3.45	3.42	3.39	3.40	3.70	3.57	3.41	3.38
1938	3.87	4.01	4.07	4.05	4.11	3.90	3.90	3.79	3.76	3.82	3.73	3.65	3.63
1937	3.93	3.68	3.76	3.90	3.99	3.95	3.97	3.92	3.89	3.96	4.08	4.06	4.03
1936	3.88	4.02	3.98	3.98	3.97	3.95	3.91	3.86	3.85	3.83	3.80	3.74	3.69
1935	4.43	4.97	4.76	4.65	4.60	4.43	4.37	4.26	4.28	4.27	4.24	4.17	4.12
1934	5.40	6.24	5.58	5.50	5.31	5.27	5.24	5.23	5.37	5.43	5.30	5.22	5.15
1933	6.25	5.56	5.90	6.41	6.82	6.34	5.99	5.78	5.90	6.31	6.38	6.82	6.82
1932	6.30	6.20	6.36	6.10	6.66	6.98	7.21	6.97	6.03	5.69	5.72	5.84	5.80
1931	5.27	5.09	5.09	4.99	4.97	4.97	5.04	5.00	5.01	5.24	5.79	5.72	6.31
1930	5.05	5.17	5.20	5.10	5.08	5.04	5.03	5.00	4.94	4.87	4.93	5.05	5.21
1929	5.14	4.96	5.00	5.07	5.09	5.09	5.15	5.16	5.22	5.27	5.25	5.24	5.17
1928	4.87	4.79	4.77	4.75	4.75	4.79	4.90	4.93	4.97	4.96	4.93	4.90	4.95
1927	4.96	5.02	5.05	5.03	4.98	4.99	4.98	4.98	4.94	4.92	4.89	4.88	4.84
1926	5.11	5.20	5.15	5.17	5.12	5.08	5.06	5.08	5.09	5.10	5.11	5.07	5.05
1925	5.29	5.44	5.41	5.39	5.35	5.22	5.20	5.25	5.28	5.26	5.24	5.24	5.25
1924	5.61	5.82	5.77	5.76	5.74	5.67	5.59	5.52	5.51	5.52	5.48	5.49	5.46
1923	5.84	5.72	5.73	5.90	5.93	5.88	5.89	5.89	5.77	5.85	5.85	5.85	5.86
1922	5.93	6.40	6.31	6.20	6.05	5.87	5.87	5.83	5.78	5.68	5.67	5.77	5.76
1921	7.17	7.43	7.35	7.35	7.34	7.38	7.41	7.42	7.34	7.08	6.95	6.58	6.37
1920	7.19	6.63	6.76	6.83	7.03	7.30	7.35	7.37	7.48	7.40	7.28	7.31	7.49
1919	6.21	6.08	6.11	6.14	6.09	6.08	6.08	6.10	6.19	6.30	6.28	6.43	6.58

MOODY'S AVERAGE OF YIELDS ON Aaa PUBLIC UTILITY BONDS (IN PERCENT)

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1999	......	6.41	6.56	6.78	6.80	7.09	7.37	7.34	7.54	7.55	......	......	......
1998	6.77	6.85	6.91	6.96	6.94	6.94	6.80	6.80	6.75	6.66	6.63	6.59	6.43
1997	7.42	7.53	7.43	7.70	7.87	7.72	7.55	7.29	7.39	7.33	7.18	7.09	6.99
1996	7.49	6.92	7.11	7.45	7.60	7.73	7.83	7.78	7.59	7.76	7.50	7.21	7.33
1995	7.68	8.53	8.33	8.18	8.08	7.71	7.39	7.51	7.66	7.42	7.23	7.13	6.94
1994	8.07	7.05	7.19	7.60	8.00	8.11	8.07	8.21	8.15	8.41	8.65	8.77	8.55
1993	7.29	7.94	7.75	7.64	7.50	7.44	7.37	7.25	6.94	6.76	6.77	7.06	7.07
1992	8.19	8.22	8.30	8.39	8.36	8.32	8.26	8.12	8.04	8.04	8.06	8.11	8.01
1991	8.85	9.17	8.92	9.04	8.95	8.93	9.10	9.10	8.81	8.65	8.57	8.52	8.38
1990	9.45>	9.08	9.35	9.48	9.60	9.58	9.38	9.36	9.54	9.73	9.66	9.43	9.18
1989	9.32	9.72	9.71	9.87	9.88	9.60	9.13	8.98	9.02	9.10	9.01	8.92	8.92
1988	10.05	10.39	9.77	9.72	10.07	10.29	10.27	10.50	10.66	10.15	9.61	9.52	9.67>
1987	9.52	8.23	8.29	8.21	8.83	9.34	9.37	9.56	9.92	10.53	10.92	10.43	10.64
1986	8.92	10.14	9.65	8.75	8.45	9.07	9.02	8.66	8.59	8.91	8.84	8.59	8.41
1985	11.68	12.47	12.61	13.08	12.77	12.18	11.17	11.18	11.23	11.27	11.23	10.71	10.24
[1][2]1984 .	12.72	....	....	....	....	....	....	....	....	....	13.00	12.66	12.49
1983	12.52	12.29	12.48	12.19	12.00	12.01	12.23	12.69	13.04	12.85	12.66	12.82	13.00
1982	14.22	15.79	15.88	15.05	14.86	14.68	15.32	14.96	13.98	13.24	12.42	12.11	12.32
1981	14.64	13.31	13.95	13.85	14.41	14.83	14.16	14.87	15.41	16.06	15.83	14.43	14.52
1980	12.30	11.33	12.75	13.33	12.27	11.23	10.88	11.48	12.10	12.46	12.79	13.39	13.62
1979	9.86	9.48	9.51	9.61	9.61	9.71	9.49	9.42	9.46	9.69	10.38	10.99	10.96
1978	8.87	8.52	8.57	8.57	8.69	8.83	8.92	9.02	8.86	8.84	9.04	9.19	9.34
1977	8.19	8.14	8.21	8.27	8.21	8.22	8.12	8.10	8.13	8.07	8.18	8.23	8.34
1976	8.63	8.86	8.80	8.74	8.59	8.73	8.84	8.78	8.64	8.57	8.50	8.39	8.15
1975	9.03	8.99	8.79	8.82	9.11	9.05	8.93	9.04	9.20	9.21	9.14	9.03	9.07
1974	8.71	8.00	8.01	8.14	8.36	8.48	8.58	8.83	9.09	9.36	9.50	9.10	9.02
1973	7.60	7.33	7.41	7.45	7.44	7.44	7.51	7.62	7.81	7.78	7.77	7.83	7.86
1972	7.46	7.48	7.53	7.54	7.59	7.61	7.53	7.43	7.41	7.41	7.40	7.30	7.26
1971	7.72	7.70	7.49	7.62	7.59	7.86	8.01	7.96	7.89	7.74	7.69	7.55	7.54
1970	8.31	8.07	8.12	8.07	8.08	8.45	8.79	8.68	8.42	8.39	8.30	8.34	7.97
1969	7.12	6.70	6.78	6.97	6.96	6.88	7.08	7.11	6.99	7.24	7.44	7.48	7.86
1968	6.22	6.24	6.14	6.13	6.26	6.31	6.32	6.28	6.07	6.03	6.14	6.25	6.52
1967	5.58	5.17	5.01	5.16	5.14	5.34	5.55	5.70	5.76	5.82	5.89	6.16	6.30
1966	5.19	4.76	4.82	4.98	5.08	5.10	5.17	5.22	5.34	5.56	5.50	5.40	5.39
1965	4.50	4.41	4.42	4.43	4.42	4.45	4.47	4.48	4.50	4.54	4.57	4.61	4.72
1964	4.42	4.40	4.38	4.39	4.41	4.42	4.44	4.43	4.43	4.43	4.42	4.43	4.44
1963	4.27	4.19	4.19	4.20	4.21	4.23	4.25	4.29	4.31	4.33	4.33	4.34	4.37
1962	4.35	4.44	4.45	4.42	4.38	4.34	4.32	4.35	4.36	4.35	4.30	4.25	4.22
1961	4.37	4.35	4.29	4.23	4.28	4.29	4.31	4.41	4.48	4.47	4.46	4.44	4.44
1960	4.47	4.68	4.63	4.54	4.50	4.54	4.54	4.48	4.31	4.29	4.37	4.36	4.38
1959	4.49	4.23	4.25	4.24	4.31	4.48	4.56	4.60	4.54	4.62	4.74	4.66	4.65
1958	3.87	3.68	3.62	3.67	3.66	3.63	3.64	3.74	3.94	4.17	4.25	4.22	4.19
1957	3.96	3.81	3.74	3.71	3.71	3.77	3.89	4.05	4.21	4.26	4.25	4.22	3.93
1956	3.39	3.14	3.10	3.11	3.23	3.30	3.29	3.30	3.44	3.58	3.63	3.72	3.79
1955	3.09	2.95	3.01	3.05	3.03	3.07	3.08	3.09	3.15	3.19	3.14	3.13	3.17
1954	2.93	3.07	2.96	2.87	2.87	2.90	2.92	2.92	2.90	2.94	2.92	2.92	2.93
1953	3.24	3.05	3.13	3.18	3.30	3.40	3.41	3.32	3.30	3.35	3.20	3.12	3.15
1952	2.99	3.01	2.96	2.99	2.96	2.96	2.97	3.00	3.00	3.00	3.04	3.00	2.99
1951	2.88	2.65	2.67	2.80	2.89	2.91	2.99	2.97	2.90	2.87	2.92	3.00	3.03
1950	2.62	2.56	2.56	2.57	2.59	2.61	2.62	2.64	2.61	2.65	2.66	2.66	2.67
1949	2.67	2.73	2.72	2.71	2.72	2.72	2.71	2.67	2.62	2.61	2.61	2.58	2.58
1948	2.81	2.82	2.82	2.81	2.75	2.74	2.75	2.82	2.87	2.85	2.85	2.85	2.81
1947	2.59	2.54	2.54	2.55	2.52	2.52	2.52	2.53	2.53	2.58	2.67	2.74	2.82
1946	2.51	2.51	2.44	2.44	2.45	2.49	2.48	2.48	2.50	2.55	2.58	2.58	2.60
1945	2.62	2.65	2.64	2.62	2.61	2.63	2.60	2.61	2.63	2.61	2.60	2.60	2.60
1944	2.65	2.67	2.66	2.65	2.64	2.64	2.63	2.62	2.63	2.65	2.66	2.68	2.66
1943	2.65	2.70	2.67	2.67	2.66	2.66	2.63	2.61	2.62	2.64	2.63	2.64	2.68
1942	2.73	2.74	2.77	2.79	2.75	2.75	2.74	2.72	2.72	2.71	2.71	2.69	2.71
1941	2.69	2.77	2.76	2.74	2.75	2.72	2.69	2.65	2.64	2.65	2.63	2.62	2.71
1940	2.77	2.81	2.80	2.76	2.75	2.82	2.85	2.78	2.79	2.74	2.74	2.72	2.72
1939	2.88	2.87	2.87	2.86	2.87	2.83	2.83	2.80	2.83	3.14	3.02	2.87	2.82
1938	3.03	3.10	3.09	3.08	3.10	3.03	3.02	3.01	3.01	3.02	2.98	2.94	2.92
1937	3.21	3.07	3.16	3.29	3.33	3.28	3.25	3.22	3.20	3.21	3.21	3.15	3.11
1936	3.21	3.30	3.26	3.28	3.26	3.23	3.21	3.19	3.20	3.18	3.16	3.13	3.07
1935	3.52	3.69	3.61	3.55	3.55	3.56	3.53	3.47	3.51	3.51	3.48	3.41	3.36
1934	3.92	4.25	4.10	4.03	3.97	3.93	3.85	3.81	3.83	3.87	3.82	3.78	3.74
1933	4.29	4.10	4.17	4.38	4.48	4.41	4.29	4.20	4.14	4.20	4.21	4.46	4.45
1932	4.61	4.92	5.00	4.68	4.70	4.71	4.83	4.76	4.57	4.39	4.32	4.30	4.18
1931	4.36	4.33	4.34	4.30	4.27	4.21	4.21	4.22	4.19	4.27	4.62	4.59	4.81
1930	4.50	4.62	4.66	4.60	4.58	4.58	4.54	4.49	4.43	4.37	4.36	4.38	4.43
1929	4.67	4.55	4.58	4.63	4.63	4.66	4.73	4.70	4.74	4.74	4.73	4.71	4.62
1928	4.51	4.47	4.44	4.43	4.42	4.45	4.53	4.56	4.59	4.54	4.55	4.53	4.56
1927	4.59	4.65	4.66	4.63	4.59	4.61	4.58	4.62	4.57	4.55	4.54	4.53	4.49
1926	4.70	4.78	4.70	4.73	4.66	4.64	4.67	4.68	4.69	4.72	4.74	4.70	4.69
1925	4.82	4.89	4.91	4.86	4.84	4.80	4.74	4.81	4.83	4.79	4.77	4.76	4.80
1924	4.96	5.09	5.04	5.03	5.05	5.00	4.95	4.91	4.88	4.89	4.85	4.90	4.89
1923	5.14	5.09	5.08	5.22	5.31	5.22	5.17	5.13	5.06	5.13	5.11	5.11	5.10
1922	5.23	5.59	5.49	5.37	5.30	5.23	5.14	5.15	5.09	5.03	5.01	5.19	5.11
1921	6.34	6.68	6.58	6.54	6.49	6.56	6.59	6.56	6.35	6.24	5.99	5.81	5.72
1920	6.53	6.13	6.21	6.22	6.35	6.55	6.79	6.77	6.82	6.72	6.50	6.53	6.78
1919	5.68	5.45	5.45	5.51	5.55	5.49	5.57	5.64	5.82	5.86	5.78	5.95	6.10

[1]The **Aaa** public utility average was suspended January 17, 1984, because of a lack of appropriate issues. [2]The **Aaa** utility average was reinstated on October 12. The 1984 high and low for the Average Utility and the **Aaa** Utility, were determined when a **Aaa** Utility was available.

MOODY'S AVERAGE OF YIELDS ON Aa PUBLIC UTILITY BONDS (IN PERCENT)

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1999	......	6.82	6.94	7.11	7.11	7.38	7.67	7.62	7.82	7.82	......	......	......
1998	6.91	6.94	6.99	7.04	7.02	7.02	6.91	6.91	6.87	6.78	6.79	6.89	6.78
1997	7.54	7.68	7.60	7.84	8.00	7.85	7.68	7.43	7.46	7.43	7.28	7.15	7.07
1996	7.57	7.02	7.20	7.55	7.70	7.79	7.87	7.83	7.66	7.84	7.60	7.32	7.44
1995	7.77	8.66	8.45	8.29	8.17	7.80	7.49	7.60	7.71	7.48	7.30	7.22	7.03
1994	8.21	7.18	7.34	7.74	8.12	8.24	8.21	8.38	8.32	8.56	8.78	8.90	8.69
1993	7.44	8.14	7.92	7.76	7.64	7.64	7.54	7.38	7.07	6.89	6.91	7.17	7.18
1992	8.55	8.63	8.76	8.82	8.76	8.69	8.63	8.45	8.30	8.28	8.42	8.51	8.32
1991	9.09	9.39	9.16	9.23	9.14	9.16	9.28	9.26	9.06	8.95	8.92	8.87	8.71
1990	9.65	9.39	9.57	9.60	9.81	9.83	9.60	9.61	9.78	9.87	9.77	9.59	9.42
1989	9.56	9.89	9.93	10.05	10.02	9.79	9.37	9.23	9.27	9.35	9.28	9.25	9.26
1988	10.26	10.52	9.91	9.92	10.29	10.53	10.52	10.76	10.85	10.34	9.78	9.80	9.90
1987	9.77	8.62	8.69	8.64	9.15	9.63	9.61	9.70	10.05	10.66	11.11	10.62	10.78
1986	9.30	10.44	9.98	9.16	8.87	9.38	9.36	9.05	9.03	9.28	9.24	9.01	8.81

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1985	12.06	12.68	12.87	13.50	13.17	12.65	11.68	11.55	11.65	11.68	11.61	11.10	10.57
1984	13.66	13.02	13.04	13.66	13.93	14.66	14.90	14.42	13.67	13.43	13.38	13.00	12.76
1983	12.83	12.74	13.02	12.67	12.43	12.44	12.64	12.86	13.18	13.04	12.88	12.97	13.14
1982	14.79	16.48	16.33	15.57	15.12	15.01	15.78	15.67	14.71	13.92	13.21	12.92	12.76
1981	15.30	14.03	14.65	14.61	15.23	15.61	14.89	15.42	16.14	16.58	16.28	14.88	15.23
1980	13.00	11.95	13.19	14.09	13.49	11.99	11.73	11.96	12.73	13.18	13.33	13.96	14.37
1979	10.22	9.70	9.74	9.89	9.92	10.19	9.95	9.72	9.75	9.94	10.85	11.57	11.47
1978	9.10	8.76	8.79	8.79	8.86	9.02	9.19	9.26	9.11	9.09	9.28	9.46	9.56
1977	8.43	8.41	8.46	8.49	8.51	8.49	8.37	8.32	8.36	8.32	8.44	8.48	8.55
1976	8.92	9.39	9.16	9.12	9.00	9.06	9.07	9.02	8.83	8.69	8.60	8.61	8.45
1975	9.44	9.45	9.23	9.17	9.48	9.50	9.34	9.38	9.52	9.64	9.55	9.45	9.51
1974	9.04	8.15	8.20	8.35	8.56	8.72	8.93	9.17	9.53	10.05	9.93	9.54	9.37
1973	7.72	7.42	7.52	7.50	7.51	7.51	7.59	7.70	7.92	7.94	7.94	8.01	8.07
1972	7.60	7.76	7.71	7.69	7.75	7.76	7.71	7.58	7.49	7.48	7.50	7.42	7.38
1971	8.00	8.08	7.85	8.00	7.96	8.05	8.28	8.16	8.12	7.98	7.87	7.84	7.82
1970	8.52	8.40	8.30	8.17	8.16	8.54	8.90	8.81	8.67	8.66	8.62	8.63	8.33
1969	7.34	6.90	6.89	7.08	7.11	6.99	7.25	7.38	7.34	7.50	7.71	7.75	8.23
1968	6.35	6.32	6.24	6.26	6.38	6.46	6.46	6.38	6.13	6.12	6.26	6.47	6.75
1967	5.66	5.23	5.06	5.20	5.18	5.42	5.67	5.76	5.82	5.90	5.99	6.29	6.40
1966	5.25	4.78	4.84	5.02	5.12	5.12	5.19	5.28	5.44	5.69	5.55	5.48	5.46
1965	4.52	4.44	4.43	4.44	4.44	4.46	4.49	4.50	4.53	4.57	4.60	4.64	4.75
1964	4.44	4.42	4.40	4.42	4.45	4.45	4.46	4.45	4.45	4.44	4.44	4.45	4.46
1963	4.32	4.28	4.28	4.27	4.29	4.29	4.29	4.32	4.33	4.35	4.37	4.37	4.39
1962	4.41	4.50	4.52	4.50	4.47	4.41	4.38	4.40	4.40	4.37	4.35	4.33	4.31
1961	4.46	4.48	4.39	4.29	4.34	4.38	4.42	4.50	4.57	4.58	4.53	4.49	4.50
1960	4.53	4.76	4.68	4.58	4.54	4.57	4.58	4.54	4.36	4.36	4.42	4.45	4.49
1959	4.56	4.27	4.31	4.30	4.40	4.57	4.67	4.64	4.60	4.72	4.79	4.68	4.71
1958	3.92	3.73	3.68	3.73	3.72	3.69	3.70	3.79	3.98	4.24	4.29	4.25	4.22
1957	4.03	3.87	3.81	3.80	3.80	3.85	3.94	4.10	4.25	4.31	4.32	4.30	4.05
1956	3.43	3.17	3.13	3.16	3.30	3.34	3.34	3.37	3.48	3.61	3.69	3.76	3.84
1955	3.13	3.01	3.06	3.09	3.08	3.11	3.12	3.13	3.17	3.21	3.18	3.17	3.23
1954	3.00	3.14	3.03	2.93	2.94	2.97	3.00	2.99	2.98	3.00	2.99	2.99	2.99
1953	3.32	3.11	3.18	3.22	3.35	3.50	3.57	3.41	3.38	3.42	3.27	3.20	3.21
1952	3.05	3.06	3.01	3.05	3.02	3.02	3.04	3.05	3.06	3.06	3.08	3.05	3.05
1951	2.95	2.71	2.73	2.87	2.98	2.97	3.06	3.04	2.96	2.92	2.98	3.09	3.11
1950	2.68	2.64	2.64	2.64	2.65	2.69	2.69	2.71	2.66	2.71	2.72	2.72	2.72
1949	2.76	2.82	2.83	2.82	2.83	2.82	2.80	2.75	2.71	2.69	2.69	2.66	2.65
1948	2.92	2.94	2.92	2.90	2.87	2.86	2.85	2.91	2.96	2.95	2.95	2.96	2.91
1947	2.67	2.60	2.60	2.61	2.59	2.60	2.60	2.60	2.60	2.66	2.79	2.85	2.95
1946	2.58	2.57	2.51	2.49	2.51	2.56	2.56	2.55	2.57	2.62	2.65	2.66	2.66
1945	2.67	2.72	2.69	2.67	2.69	2.69	2.65	2.63	2.65	2.66	2.67	2.64	2.65
1944	2.72	2.74	2.74	2.72	2.71	2.70	2.70	2.70	2.69	2.69	2.72	2.75	2.72
1943	2.73	2.79	2.76	2.75	2.75	2.74	2.71	2.68	2.69	2.70	2.70	2.73	2.77
1942	2.87	2.87	2.91	2.92	2.89	2.89	2.89	2.86	2.86	2.85	2.83	2.81	2.83
1941	2.83	2.88	2.88	2.87	2.90	2.87	2.84	2.80	2.81	2.81	2.76	2.74	2.85
1940	2.92	2.94	2.94	2.92	2.88	2.99	2.99	2.92	2.92	2.88	2.89	2.86	2.85
1939	3.03	3.05	3.01	2.99	3.01	2.96	2.97	2.93	2.97	3.31	3.20	2.99	2.97
1938	3.28	3.35	3.35	3.34	3.42	3.31	3.28	3.26	3.26	3.31	3.23	3.14	3.10
1937	3.45	3.33	3.43	3.53	3.56	3.48	3.47	3.44	3.41	3.43	3.48	3.42	3.37
1936	3.57	3.70	3.68	3.67	3.69	3.65	3.60	3.57	3.55	3.54	3.48	3.35	3.31
1935	4.02	4.40	4.26	4.19	4.11	4.05	4.00	3.93	3.93	3.90	3.85	3.81	3.76
1934	4.66	5.29	4.88	4.73	4.66	4.60	4.52	4.46	4.55	4.65	4.59	4.49	4.48
1933	5.02	4.61	4.76	5.06	5.25	5.15	4.93	4.75	4.73	4.97	5.04	5.47	5.47
1932	5.32	5.54	5.69	5.36	5.52	5.63	5.72	5.70	5.27	4.99	4.86	4.84	4.75
1931	4.68	4.64	4.64	4.57	4.54	4.47	4.48	4.48	4.46	4.58	4.99	4.97	5.36
1930	4.75	4.89	4.93	4.83	4.79	4.77	4.76	4.73	4.67	4.62	4.63	4.68	4.74
1929	4.91	4.75	4.81	4.89	4.88	4.90	4.90	4.91	4.97	5.02	5.05	4.96	4.87
1928	4.68	4.61	4.59	4.57	4.57	4.60	4.70	4.71	4.78	4.77	4.75	4.72	4.75
1927	4.76	4.83	4.86	4.83	4.81	4.80	4.79	4.77	4.72	4.73	4.69	4.69	4.65
1926	4.88	4.91	4.91	4.91	4.88	4.86	4.85	4.89	4.88	4.90	4.89	4.86	4.83
1925	5.03	5.15	5.14	5.13	5.06	4.98	4.97	5.00	5.01	4.98	4.97	4.97	4.96
1924	5.30	5.43	5.40	5.42	5.42	5.35	5.28	5.24	5.23	5.25	5.21	5.20	5.17
1923	5.51	5.36	5.40	5.57	5.58	5.52	5.52	5.60	5.48	5.52	5.53	5.49	5.49
1922	5.48	5.76	5.70	5.65	5.53	5.45	5.51	5.46	5.30	5.22	5.34	5.46	5.41
1921	6.55	6.79	6.67	6.73	6.73	6.74	6.79	6.77	6.67	6.46	6.38	6.05	5.76
1920	6.65	6.22	6.32	6.45	6.54	6.90	6.88	6.68	6.92	6.77	6.59	6.69	6.86
1919	5.83	5.64	5.68	5.71	5.76	5.73	5.73	5.79	5.88	5.96	5.91	6.02	6.19

MOODY'S AVERAGE OF YIELDS ON A PUBLIC UTILITY BONDS (IN PERCENT)

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1999	.....	6.97	7.09	7.26	7.22	7.47	7.74	7.71	7.91	7.93	.....	.....	.....
1998	7.04	7.04	7.12	7.16	7.16	7.16	7.03	7.03	7.00	6.93	6.96	7.03	6.91
1997	7.60	7.77	7.64	7.87	8.03	7.89	7.72	7.48	7.51	7.47	7.35	7.25	7.16
1996	7.75	7.22	7.37	7.73	7.89	7.98	8.06	8.02	7.84	8.01	7.77	7.49	7.59
1995	7.89	8.73	8.52	8.37	8.27	7.91	7.60	7.70	7.83	7.62	7.46	7.43	7.23
1994	8.31	7.33	7.47	7.85	8.22	8.33	8.31	8.47	8.41	8.64	8.86	8.98	8.76
1993	7.59	8.27	8.04	7.90	7.81	7.86	7.75	7.54	7.25	7.04	7.03	7.30	7.34
1992	8.69	8.84	8.93	8.97	8.93	8.87	8.78	8.57	8.44	8.40	8.54	8.63	8.43
1991	9.36	9.71	9.47	9.55	9.46	9.44	9.59	9.55	9.29	9.16	9.12	9.05	8.88
1990	9.86	9.56	9.76	9.85	9.92	10.00	9.80	9.75	9.92	10.12	10.05	9.90	9.73
1989	9.77	10.08	10.07	10.23	10.18	9.99	9.64	9.50	9.52	9.58	9.54	9.51	9.44
1988	10.49	10.76	10.10	10.09	10.54	10.81	10.79	11.04	11.17	10.61	9.97	9.90	10.06
1987	10.10	8.95	9.00	8.93	9.38	9.91	10.02	10.15	10.45	11.22	11.34	10.82	10.98
1986	9.58	10.79	10.26	9.48	9.14	9.59	9.62	9.37	9.29	9.52	9.52	9.28	9.12
1985	12.47	12.99	13.08	13.87	13.61	13.12	12.13	12.07	12.13	12.13	12.01	11.49	10.97
1984	14.03	13.39	13.41	13.87	14.16	14.90	15.09	14.82	14.43	14.17	13.80	13.23	13.11
1983	13.66	14.24	14.26	13.94	13.61	13.50	13.64	13.58	13.57	13.42	13.25	13.38	13.52
1982	15.86	16.83	16.84	16.50	16.31	16.04	16.42	16.42	15.83	15.40	14.79	14.46	14.43
1981	15.95	14.26	14.91	15.14	15.48	16.25	15.74	16.21	16.58	17.16	17.21	16.20	16.29
1980	13.34	12.27	13.55	14.65	13.87	12.53	12.21	12.26	12.96	13.43	13.58	14.12	14.63
1979	10.49	9.90	9.84	10.04	10.10	10.30	10.14	9.98	10.14	10.36	11.40	11.89	11.79
1978	9.29	8.92	8.97	8.98	9.09	9.22	9.40	9.51	9.32	9.28	9.46	9.68	9.70
1977	8.61	8.61	8.65	8.70	8.71	8.71	8.58	8.51	8.49	8.46	8.61	8.64	8.64
1976	9.29	9.90	9.71	9.67	9.53	9.55	9.54	9.37	9.13	8.90	8.79	8.76	8.62
1975	10.09	10.37	9.99	9.72	10.06	10.23	10.10	10.01	10.12	10.19	10.16	10.04	10.11
1974	9.50	8.36	8.42	8.46	8.77	9.00	9.32	9.66	10.03	10.45	10.78	10.46	10.27
1973	7.84	7.52	7.62	7.66	7.63	7.63	7.71	7.82	8.04	8.04	8.02	8.15	8.24
1972	7.72	7.79	7.78	7.77	7.82	7.84	7.77	7.82	7.64	7.61	7.66	7.60	7.48
1971	8.16	8.15	7.89	8.05	8.07	8.34	8.45	8.45	8.40	8.18	8.10	7.96	7.90
1970	8.69	8.69	8.51	8.31	8.31	8.67	9.04	9.06	8.88	8.82	8.76	8.79	8.48
1969	7.54	7.04	7.13	7.27	7.30	7.16	7.41	7.52	7.44	7.63	8.02	8.00	8.59
1968	6.51	6.54	6.37	6.41	6.58	6.62	6.62	6.53	6.27	6.27	6.40	6.59	6.87
1967	5.87	5.46	5.28	5.44	5.42	5.66	5.84	5.94	5.96	6.05	6.18	6.48	6.67
1966	5.39	4.86	4.92	5.14	5.25	5.25	5.40	5.45	5.58	5.81	5.74	5.63	5.67
1965	4.58	4.53	4.51	4.50	4.49	4.50	4.52	4.54	4.58	4.63	4.66	4.71	4.83
1964	4.52	4.49	4.50	4.51	4.52	4.53	4.55	4.54	4.54	4.53	4.51	4.53	4.54
1963	4.39	4.39	4.37	4.37	4.37	4.37	4.37	4.39	4.38	4.40	4.41	4.42	4.46
1962	4.54	4.65	4.66	4.64	4.59	4.51	4.48	4.50	4.53	4.51	4.49	4.45	4.44
1961	4.62	4.64	4.59	4.48	4.48	4.52	4.57	4.65	4.73	4.73	4.71	4.68	4.65
1960	4.78	5.02	5.00	4.91	4.79	4.86	4.84	4.79	4.64	4.57	4.61	4.62	4.65
1959	4.78	4.52	4.50	4.47	4.56	4.77	4.86	4.88	4.89	5.03	4.96	4.90	4.96
1958	4.20	3.93	3.96	4.13	3.95	4.01	3.99	4.04	4.29	4.55	4.56	4.47	4.49
1957	4.24	3.96	4.05	4.05	4.01	4.01	4.09	4.20	4.37	4.55	4.61	4.62	4.36
1956	3.56	3.31	3.29	3.29	3.40	3.48	3.49	3.55	3.63	3.72	3.79	3.82	3.91
1955	3.22	3.13	3.14	3.15	3.15	3.19	3.21	3.21	3.24	3.27	3.30	3.32	3.35
1954	3.16	3.32	3.23	3.16	3.16	3.14	3.16	3.14	3.13	3.12	3.12	3.11	3.11
1953	3.49	3.25	3.30	3.36	3.47	3.63	3.71	3.66	3.61	3.62	3.49	3.40	3.38
1952	3.24	3.29	3.23	3.25	3.23	3.22	3.22	3.22	3.24	3.24	3.26	3.24	3.22
1951	3.11	2.83	2.84	2.95	3.09	3.13	3.21	3.26	3.19	3.14	3.17	3.24	3.29
1950	2.79	2.76	2.76	2.76	2.77	2.79	2.79	2.79	2.76	2.80	2.83	2.86	2.86
1949	2.90	2.99	2.99	2.97	2.96	2.95	2.94	2.90	2.86	2.85	2.83	2.81	2.78
1948	3.02	3.05	3.05	3.02	2.97	2.94	2.94	2.99	3.03	3.05	3.03	3.07	3.06
1947	2.78	2.72	2.72	2.72	2.70	2.70	2.71	2.73	2.73	2.80	2.88	2.93	3.05

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1946	2.71	2.69	2.67	2.66	2.65	2.69	2.70	2.69	2.71	2.75	2.76	2.76	2.76
1945	2.87	2.99	2.98	2.97	2.95	2.92	2.87	2.83	2.80	2.79	2.79	2.77	2.75
1944	2.97	2.99	2.99	2.97	2.99	2.99	2.99	2.96	2.94	2.93	2.94	2.96	2.97
1943	2.99	3.05	3.02	3.01	3.00	3.00	2.98	2.96	2.96	2.96	2.97	2.98	2.99
1942	3.09	3.09	3.09	3.12	3.09	3.10	3.12	3.10	3.10	3.08	3.08	3.07	3.06
1941	3.07	3.15	3.20	3.16	3.14	3.08	3.03	3.00	2.98	3.00	3.00	2.98	3.06
1940	3.24	3.34	3.35	3.34	3.25	3.30	3.34	3.23	3.21	3.18	3.15	3.11	3.10
1939	3.52	3.68	3.59	3.54	3.55	3.50	3.47	3.43	3.41	3.71	3.58	3.41	3.38
1938	3.90	4.01	4.03	3.99	4.08	3.95	3.95	3.86	3.84	3.88	3.79	3.73	3.74
1937	3.98	3.82	3.89	4.00	4.07	4.00	3.99	3.94	3.89	3.96	4.09	4.08	4.03
1936	4.08	4.21	4.17	4.17	4.17	4.14	4.12	4.07	4.06	4.05	4.04	3.95	3.83
1935	4.61	5.18	4.96	4.88	4.79	4.61	4.53	4.42	4.44	4.43	4.40	4.35	4.29
1934	5.55	6.56	5.78	5.66	5.44	5.39	5.40	5.29	5.43	5.56	5.40	5.38	5.36
1933	6.32	5.39	5.77	6.34	6.89	6.50	6.11	5.91	5.98	6.36	6.36	7.06	7.22
1932	6.46	6.17	6.41	6.06	6.83	7.36	7.57	7.28	6.35	5.91	5.81	5.88	5.85
1931	5.12	5.01	5.01	4.98	4.86	4.84	4.87	4.83	4.81	5.05	5.54	5.51	6.24
1930	5.06	5.26	5.29	5.18	5.15	5.04	5.01	4.99	4.95	4.86	4.88	4.96	5.11
1929	5.22	5.05	5.10	5.14	5.14	5.14	5.23	5.24	5.30	5.38	5.34	5.29	5.23
1928	4.95	4.85	4.85	4.82	4.82	4.87	4.99	5.04	5.08	5.05	4.99	4.98	5.05
1927	5.02	5.10	5.13	5.13	5.04	5.04	5.05	5.05	5.02	4.98	4.95	4.92	4.88
1926	5.17	5.29	5.21	5.23	5.20	5.15	5.11	5.13	5.15	5.17	5.18	5.15	5.12
1925	5.42	5.61	5.52	5.53	5.52	5.25	5.25	5.37	5.42	5.40	5.39	5.43	5.36
1924	5.80	6.02	6.00	5.97	5.94	5.91	5.79	5.68	5.70	5.71	5.65	5.62	5.63
1923	5.97	5.85	5.83	6.06	6.04	6.00	6.06	6.02	5.77	5.95	5.98	6.00	6.05
1922	6.00	6.41	6.32	6.22	6.06	5.93	5.91	5.89	5.86	5.69	5.83	5.87	5.95
1921	7.38	7.74	7.65	7.61	7.61	7.66	7.64	7.72	7.67	7.32	7.04	6.55	6.32
1920	7.57	6.87	7.03	7.04	7.36	7.72	7.73	7.82	7.96	7.83	7.75	7.73	7.96
1919	6.38	6.35	6.39	6.41	6.18	6.27	6.19	6.16	6.26	6.44	6.41	6.67	6.79

MOODY'S AVERAGE OF YIELDS ON Baa PUBLIC UTILITY BONDS (IN PERCENT)

Year	Aver.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1999	....	7.30	7.41	7.55	7.51	7.74	8.03	7.97	8.16	8.19	.....	.....	.....
1998	7.26	7.28	7.36	7.37	7.37	7.34	7.21	7.23	7.20	7.13	7.13	7.31	7.24
1997	7.95	8.18	8.02	8.26	8.42	8.28	8.12	7.87	7.92	7.79	7.67	7.49	7.41
1996	8.17	7.64	7.78	8.15	8.32	8.45	8.51	8.44	8.25	8.41	8.15	7.87	7.98
1995	8.29	9.15	8.93	8.78	8.67	8.30	8.01	8.11	8.24	7.98	7.82	7.81	7.63
1994	8.63	7.66	7.76	8.11	8.47	8.61	8.64	8.80	8.74	8.98	9.24	9.35	9.16
1993	7.91	8.57	8.31	8.10	8.11	8.18	8.05	7.93	7.59	7.35	7.27	7.69	7.73
1992	8.86	8.98	9.09	9.16	9.11	9.01	8.90	8.69	8.58	8.54	8.76	8.86	8.69
1991	9.55	9.96	9.68	9.74	9.64	9.64	9.79	9.69	9.47	9.34	9.32	9.28	9.07
1990	10.06	9.74	9.96	10.06	10.13	10.16	9.96	9.92	10.12	10.32	10.28	10.12	9.96
1989	9.97	10.38	10.38	10.50	10.49	10.29	9.80	9.64	9.64	9.70	9.64	9.64	9.60
1988	11.00	11.34	10.65	10.69	11.23	11.38	11.27	11.52	11.69	11.13	10.32	10.35	10.44
1987	10.53	9.27	9.24	9.19	9.85	10.40	10.46	10.62	10.90	11.58	11.91	11.40	11.55
1986	10.00	11.24	10.74	9.91	9.63	10.02	10.03	9.69	9.70	9.96	9.95	9.69	9.49
1985	12.96	13.36	13.44	14.19	14.11	13.62	12.66	12.70	12.73	12.72	12.52	12.04	11.48
1984	14.53	14.05	14.05	14.56	14.82	15.28	15.50	15.50	14.79	14.51	14.17	13.72	13.46
1983	14.20	14.56	14.61	14.33	14.07	14.05	14.16	14.01	14.21	14.10	13.95	14.12	14.23
1982	16.45	17.83	17.83	17.16	17.00	16.68	17.21	17.09	16.37	15.68	15.10	14.81	14.69
1981	16.60	15.30	15.86	15.83	16.14	16.66	16.30	16.98	17.19	17.76	17.71	16.49	17.02
1980	13.95	12.92	14.42	15.26	14.35	12.93	12.63	12.75	13.50	14.07	14.43	14.79	15.29
1979	10.96	10.29	10.27	10.53	10.56	10.70	10.56	10.48	10.50	10.78	11.89	12.48	12.51
1978	9.62	9.27	9.29	9.37	9.54	9.70	9.78	9.73	9.53	9.47	9.69	9.99	10.08
1977	9.06	9.17	9.19	9.20	9.17	9.13	9.02	8.97	8.91	8.85	9.01	9.06	9.08
1976	9.82	10.55	10.31	10.17	9.95	9.91	10.01	9.88	9.67	9.47	9.41	9.34	9.21
1975	10.96	11.57	11.32	10.94	10.86	10.95	10.85	10.80	10.87	10.89	10.89	10.78	10.79
1974	9.84	8.58	8.68	8.81	9.04	9.23	9.48	9.72	10.14	10.59	11.03	11.38	11.40
1973	8.17	7.77	7.88	7.95	7.96	7.91	7.94	8.10	8.47	8.61	8.44	8.44	8.51
1972	8.17	8.37	8.32	8.26	8.30	8.30	8.31	8.36	8.22	8.01	7.94	7.86	7.78
1971	8.63	8.76	8.55	8.63	8.58	8.68	8.79	8.78	8.80	8.59	8.48	8.47	8.44
1970	9.18	9.00	8.96	8.81	8.94	9.20	9.52	9.48	9.34	9.32	9.27	9.29	9.04
1969	7.93	7.42	7.39	7.61	7.68	7.56	7.77	7.92	7.82	8.11	8.47	8.53	8.89
1968	6.87	6.76	6.68	6.75	6.94	6.99	7.01	6.92	6.72	6.67	6.74	7.01	7.23
1967	6.15	5.83	5.63	5.69	5.74	5.93	6.14	6.23	6.29	6.32	6.42	6.63	6.91
1966	5.60	4.99	5.02	5.19	5.39	5.44	5.52	5.61	5.79	6.06	6.07	6.06	6.09
1965	4.78	4.71	4.69	4.68	4.69	4.71	4.77	4.78	4.79	4.82	4.85	4.89	4.97
1964	4.74	4.74	4.74	4.73	4.75	4.73	4.74	4.75	4.75	4.73	4.72	4.72	4.72
1963	4.67	4.65	4.65	4.66	4.67	4.67	4.67	4.67	4.66	4.69	4.66	4.68	4.73
1962	4.75	4.86	4.86	4.85	4.81	4.74	4.68	4.68	4.72	4.74	4.71	4.65	4.66
1961	4.83	4.79	4.76	4.72	4.74	4.77	4.78	4.84	4.90	4.91	4.92	4.89	4.88
1960	4.97	5.20	5.23	5.11	4.96	5.08	5.05	5.03	4.81	4.71	4.82	4.80	4.78
1959	4.96	4.71	4.77	4.69	4.68	4.87	4.97	5.03	5.04	5.17	5.29	5.20	5.13
1958	4.43	4.60	4.23	4.25	4.25	4.23	4.20	4.19	4.44	4.69	4.74	4.67	4.65
1957	4.46	4.26	4.26	4.25	4.24	4.28	4.33	4.41	4.19	4.66	4.73	4.82	4.81
1956	3.78	3.50	3.50	3.51	3.59	3.62	3.65	3.70	3.84	4.02	4.15	4.15	4.18
1955	3.43	3.37	3.38	3.38	3.40	3.40	3.41	3.43	3.46	3.48	3.47	3.48	3.50
1954	3.51	3.72	3.69	3.58	3.53	3.51	3.50	3.48	3.47	3.44	3.41	3.39	3.38
1953	3.73	3.51	3.53	3.56	3.62	3.76	3.80	3.83	3.88	3.93	3.86	3.78	3.72
1952	3.53	3.57	3.55	3.55	3.54	3.54	3.55	3.53	3.50	3.50	3.50	3.47	3.50
1951	3.39	3.21	3.21	3.23	3.31	3.38	3.45	3.49	3.48	3.44	3.49	3.49	3.53
1950	3.18	3.18	3.17	3.16	3.15	3.15	3.15	3.18	3.18	3.19	3.20	3.21	3.21
1949	3.28	3.42	3.40	3.36	3.31	3.30	3.28	3.25	3.25	3.22	3.19	3.17	3.16
1948	3.36	3.30	3.31	3.29	3.28	3.27	3.29	3.34	3.40	3.42	3.44	3.48	3.47
1947	3.08	3.05	3.03	3.04	3.04	3.03	3.04	3.03	3.02	3.06	3.13	3.18	3.25
1946	3.03	3.07	3.00	2.96	2.98	3.02	3.04	3.03	3.02	3.06	3.06	3.07	3.07
1945	3.39	3.50	3.48	3.48	3.49	3.47	3.43	3.40	3.37	3.34	3.29	3.22	3.15
1944	3.52	3.54	3.53	3.52	3.53	3.53	3.53	3.51	3.51	3.51	3.53	3.54	3.50
1943	3.58	3.65	3.61	3.58	3.60	3.60	3.60	3.55	3.55	3.55	3.53	3.55	3.55
1942	3.73	3.83	3.81	3.84	3.79	3.76	3.73	3.68	3.67	3.66	3.66	3.67	3.68
1941	3.84	3.87	3.90	3.90	3.86	3.85	3.83	3.82	3.80	3.80	3.82	3.82	3.85
1940	4.05	4.30	4.23	4.14	4.06	4.10	4.15	3.99	3.98	3.94	3.92	3.88	3.86
1939	4.50	4.66	4.59	4.53	4.62	4.50	4.41	4.39	4.39	4.64	4.48	4.38	4.36
1938	5.26	5.59	5.79	5.80	5.82	5.32	5.33	5.01	4.93	5.05	4.90	4.77	4.77
1937	5.09	4.50	4.55	4.76	4.98	5.02	5.17	5.08	5.04	5.25	5.53	5.59	5.60
1936	4.67	4.88	4.80	4.78	4.77	4.76	4.72	4.62	4.59	4.54	4.53	4.53	4.53
1935	5.56	6.60	6.20	5.99	5.94	5.51	5.41	5.22	5.22	5.25	5.24	5.12	5.07
1934	7.49	8.86	7.58	7.58	7.18	7.17	7.20	7.36	7.68	7.62	7.38	7.21	7.03
1933	9.38	8.14	8.89	9.87	10.64	9.30	8.63	8.26	8.75	9.71	9.90	10.30	10.12
1932	8.78	8.18	8.33	8.31	9.56	10.21	10.70	10.11	7.92	7.48	7.87	8.32	8.41
1931	6.90	6.36	6.37	6.18	6.19	6.36	6.60	6.47	6.60	7.04	8.01	7.80	8.81
1930	5.88	5.92	5.93	5.80	5.77	5.76	5.78	5.78	5.70	5.63	5.82	6.15	6.56
1929	5.76	5.48	5.52	5.62	5.69	5.66	5.72	5.79	5.89	5.92	5.91	6.00	5.96
1928	5.33	5.24	5.20	5.18	5.18	5.23	5.38	5.38	5.43	5.45	5.43	5.38	5.42
1927	5.46	5.51	5.54	5.54	5.49	5.50	5.51	5.48	5.43	5.41	5.39	5.38	5.32
1926	5.67	5.81	5.76	5.80	5.75	5.67	5.61	5.61	5.62	5.62	5.61	5.58	5.54
1925	5.91	6.12	6.08	6.02	5.99	5.85	5.82	5.83	5.87	5.85	5.83	5.81	5.88
1924	6.38	6.73	6.64	6.60	6.55	6.42	6.32	6.23	6.24	6.24	6.21	6.24	6.13
1923	6.75	6.59	6.60	6.73	6.78	6.78	6.80	6.79	6.77	6.81	6.79	6.78	6.80
1922	7.03	7.83	7.74	7.55	7.29	6.86	6.92	6.83	6.88	6.77	6.51	6.56	6.56
1921	8.40	8.51	8.50	8.51	8.52	8.54	8.62	8.64	8.66	8.30	8.40	7.92	7.68
1920	7.99	7.30	7.48	7.59	7.88	8.03	7.99	8.21	8.21	8.29	8.27	8.28	8.36
1919	6.93	6.89	6.91	6.91	6.88	6.84	6.84	6.79	6.80	6.94	7.01	7.08	7.25

Note: The tables above give the monthly average yields of long-term utility bonds (**Aaa**, **Aa**, **A** and **Baa**). All yields are calculated to maturity dates and the list of bonds used is adjusted when required to reflect rating changes or other reasons so that each of the series is comparable throughout the entire period. Average yields for the periods presented are not intended to be indicative of yields which may prevail in the future.

Regulatory Research Associates
REGULATORY FOCUS

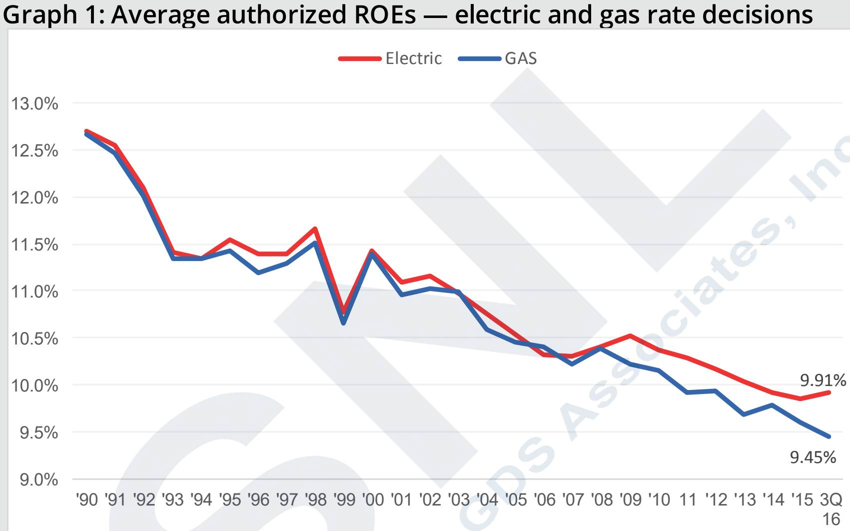
RRA is an offering of S&P Global Market Intelligence

October 14, 2016

MAJOR RATE CASE DECISIONS — JANUARY-SEPTEMBER 2016

The average ROE authorized electric utilities was 9.91% in rate cases decided in the first three quarters of 2016, compared to 9.85% in 2015. There were 24 electric ROE determinations in the first nine months of 2016, versus 30 in all of 2015. This data includes several limited issue rider cases; excluding these cases from the data, the average authorized ROE was 9.64% in rate cases decided in the first nine months of 2016 versus 9.6% in 2015. RRA notes that this differential in electric authorized ROEs is largely driven by Virginia statutes that authorize the State Corporation Commission to approve ROE premiums of up to 200 basis points for certain generation projects (see the Virginia Commission Profile). The average ROE authorized gas utilities was 9.45% in the first three quarters of 2016 versus 9.6% in all of 2015. There were 16 gas cases that included an ROE determination in the first nine months of 2016, the same as in full-year 2015.

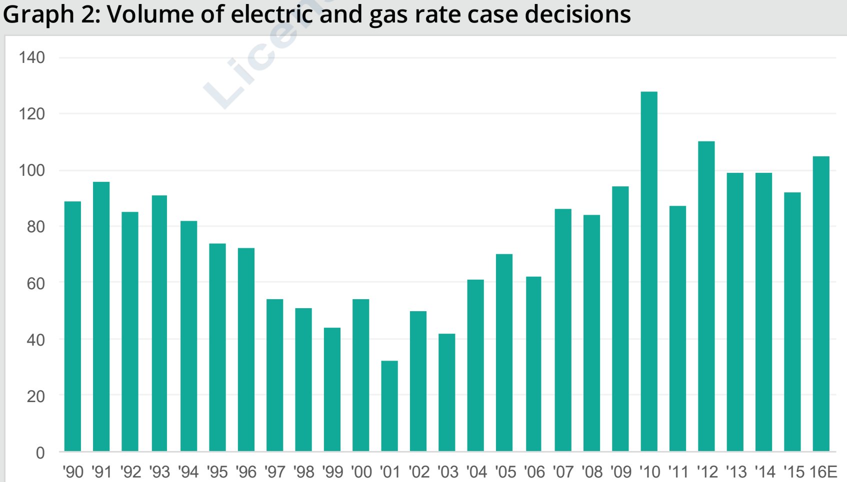
Graph 1: Average authorized ROEs — electric and gas rate decisions



Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

As shown in Graph 2 below, after reaching a low in the early-2000s, the number of rate case decisions for energy companies has generally increased over the last several years, peaking in 2010 at more than 125 cases.

Graph 2: Volume of electric and gas rate case decisions

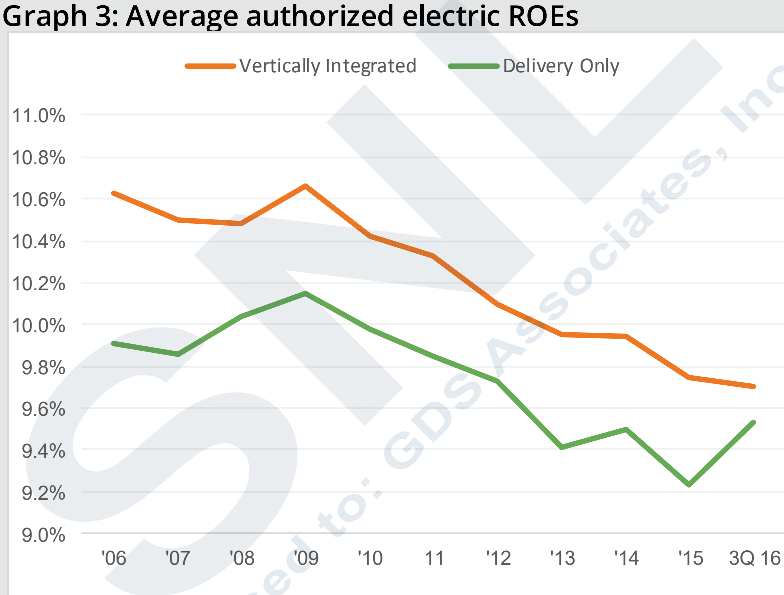


Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Since 2010, the number of rate cases has moderated somewhat but has approximated 90 or more in the last five calendar years. There were 92 electric and gas rate cases resolved in 2015, 99 in both 2014 and 2013, 110 in 2012 and 87 in 2011, and this level of rate case activity remains robust compared to the late 1990s/early 2000s. Increased costs associated with environmental compliance, including possible CO_2 reduction mandates, generation and delivery infrastructure upgrades and expansion, renewable generation mandates and employee benefits argue for the continuation of an active rate case agenda over the next few years. In addition, if the Federal Reserve continues its policy initiated in December 2015 to gradually raise the federal funds rate, utilities eventually would face higher capital costs and would need to initiate rate cases to reflect the higher capital costs in rates. However, the magnitude and pace of any additional Federal Reserve action to raise the federal funds rate is quite uncertain.

Included in tables on pages 6 and 7 of this report are comparisons, since 2006, of average authorized ROEs by settled versus fully litigated cases, general rate cases versus limited issues rider proceedings and vertically integrated cases versus delivery only cases. For both electric and gas cases, no pattern exists in average annual authorized ROEs in cases that were settled versus those that were fully litigated. In some years, the average authorized ROE was higher for fully litigated cases and in others it was higher for settled cases. Regarding electric cases that involve limited issue riders, over the last several years the annual average authorized ROEs in these cases was typically at least 100 basis points higher than in general rate cases, driven by the ROE premiums authorized in Virginia. Limited issue rider cases in which an ROE is determined have had extremely limited use in the gas industry. Comparing electric vertically integrated cases versus delivery only proceedings, RRA finds that the annual average authorized ROEs in vertically integrated cases are from roughly 40 to 70 basis points higher than in delivery only cases, arguably reflecting the increased risk associated with generation assets.

Graph 3: Average authorized electric ROEs



Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

We note that this report utilizes the simple mean for the return averages. In addition, the average equity returns indicated in this report reflect the cases decided in the specified time periods and are not necessarily representative of the returns actually earned by utilities industry wide.

As a result of electric industry restructuring, certain states unbundled electric rates and implemented retail competition for generation. Commissions in those states now have jurisdiction only over the revenue requirement and return parameters for delivery operations, which we footnote in our chronology beginning on page 8, thus complicating historical data comparability. We note that since 2008, interest rates declined significantly, and average authorized ROEs have declined modestly. We also note the increased utilization of limited issue rider proceedings that allow utilities to recover certain costs outside of a general rate case and typically incorporate previously-determined return parameters.

The table on page 4 shows the average ROE authorized in major electric and gas rate decisions annually since 1990, and by quarter since 2012, followed by the number of observations in each period. The tables on page 5 indicate the composite electric and gas industry data for all major cases summarized annually since 2002 and by quarter for the past seven quarters. The individual electric and gas cases decided in the first nine months of 2016 are listed on pages 8-12, with the decision date shown first, followed by the company name, the abbreviation for the state issuing the decision, the authorized rate of return, or ROR, ROE, and percentage of common equity in the adopted capital structure. Next we indicate the month and year in which the adopted test year ended, whether the commission utilized an average or a year-end rate base, and the amount of the permanent rate change authorized. The dollar amounts represent the permanent rate change ordered at the time decisions were rendered. Fuel adjustment clause rate changes are not reflected in this study.

Please Note: Historical data provided in this report may not match data provided on RRA's website due to certain differences in presentation, including the treatment of cases that were withdrawn or dismissed.

Dennis Sperduto

Average Equity Returns Authorized January 1990 - September 2016

Year	Period	Electric Utilities ROE %	Electric Utilities (# Cases)	Gas Utilities ROE %	Gas Utilities (# Cases)
1990	Full Year	12.70	(44)	12.67	(31)
1991	Full Year	12.55	(45)	12.46	(35)
1992	Full Year	12.09	(48)	12.01	(29)
1993	Full Year	11.41	(32)	11.35	(45)
1994	Full Year	11.34	(31)	11.35	(28)
1995	Full Year	11.55	(33)	11.43	(16)
1996	Full Year	11.39	(22)	11.19	(20)
1997	Full Year	11.40	(11)	11.29	(13)
1998	Full Year	11.66	(10)	11.51	(10)
1999	Full Year	10.77	(20)	10.66	(9)
2000	Full Year	11.43	(12)	11.39	(12)
2001	Full Year	11.09	(18)	10.95	(7)
2002	Full Year	11.16	(22)	11.03	(21)
2003	Full Year	10.97	(22)	10.99	(25)
2004	Full Year	10.75	(19)	10.59	(20)
2005	Full Year	10.54	(29)	10.46	(26)
2006	Full Year	10.32	(26)	10.40	(15)
2007	Full Year	10.30	(38)	10.22	(35)
2008	Full Year	10.41	(37)	10.39	(32)
2009	Full Year	10.52	(40)	10.22	(30)
2010	Full Year	10.37	(61)	10.15	(39)
2011	Full Year	10.29	(42)	9.92	(16)
	1st Quarter	10.84	(12)	9.63	(5)
	2nd Quarter	9.92	(13)	9.83	(8)
	3rd Quarter	9.78	(8)	9.75	(1)
	4th Quarter	10.10	(25)	10.07	(21)
2012	**Full Year**	**10.17**	**(58)**	**9.94**	**(35)**
	1st Quarter	10.28	(14)	9.57	(3)
	2nd Quarter	9.84	(7)	9.47	(6)
	3rd Quarter	10.06	(7)	9.60	(1)
	4th Quarter	9.91	(21)	9.83	(11)
2013	**Full Year**	**10.03**	**(49)**	**9.68**	**(21)**
	1st Quarter	10.23	(8)	9.54	(6)
	2nd Quarter	9.83	(5)	9.84	(8)
	3rd Quarter	9.87	(12)	9.45	(6)
	4th Quarter	9.78	(13)	10.28	(6)
2014	**Full Year**	**9.91**	**(38)**	**9.78**	**(26)**
	1st Quarter	10.37	(9)	9.47	(3)
	2nd Quarter	9.73	(7)	9.43	(3)
	3rd Quarter	9.40	(2)	9.75	(1)
	4th Quarter	9.62	(12)	9.68	(9)
2015	**Full Year**	**9.85**	**(30)**	**9.60**	**(16)**
	1st Quarter	10.29	(9)	9.48	(6)
	2nd Quarter	9.60	(7)	9.42	(6)
	3rd Quarter	9.76	(8)	9.47	(4)
2016	**Year to Date**	**9.91**	(24)	**9.45**	**(16)**

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Electric Utilities--Summary Table

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Cap. Struc.	(# Cases)	$ Mil.	(# Cases)
2002	Full Year	8.72	(20)	11.16	(22)	46.27	(19)	-475.4	(24)
2003	Full Year	8.86	(20)	10.97	(22)	49.41	(19)	313.8	(12)
2004	Full Year	8.44	(18)	10.75	(19)	46.84	(17)	1,091.5	(30)
2005	Full Year	8.30	(26)	10.54	(29)	46.73	(27)	1,373.7	(36)
2006	Full Year	8.32	(26)	10.32	(26)	48.54	(25)	1,318.1	(39)
2007	Full Year	8.18	(37)	10.30	(38)	47.88	(36)	1,405.7	(43)
2008	Full Year	8.21	(39)	10.41	(37)	47.94	(36)	2,823.2	(44)
2009	Full Year	8.24	(40)	10.52	(40)	48.57	(39)	4,191.7	(58)
2010	Full Year	8.01	(62)	10.37	(61)	48.63	(57)	4,921.9	(78)
2011	Full Year	8.00	(43)	10.29	(42)	48.26	(42)	2,595.1	(56)
2012	Full Year	7.95	(51)	10.17	(58)	50.69	(52)	3,080.7	(69)
2013	Full Year	7.66	(45)	10.03	(49)	49.25	(43)	3,328.6	(61)
2014	Full Year	7.60	(32)	9.91	(38)	50.28	(35)	2,053.7	(51)
	1st Quarter	7.74	(10)	10.37	(9)	51.91	(9)	203.6	(11)
	2nd Quarter	7.04	(9)	9.73	(7)	47.83	(6)	819.5	(17)
	3rd Quarter	7.85	(3)	9.40	(2)	51.08	(3)	379.6	(5)
	4th Quarter	7.22	(13)	9.62	(12)	48.24	(12)	488.7	(19)
2015	**Full Year**	**7.38**	**(35)**	**9.85**	**(30)**	**49.54**	**(30)**	**1,891.5**	**(52)**
	1st Quarter	7.03	(9)	10.29	(9)	46.06	(9)	311.2	(12)
	2nd Quarter	7.42	(7)	9.60	(7)	49.91	(7)	117.7	(9)
	3rd Quarter	7.23	(8)	9.76	(8)	49.11	(8)	499.1	(13)
2016	**Year to Date**	**7.21**	**(24)**	**9.91**	(24)	**48.20**	(24)	**928.0**	(34)

Gas Utilities--Summary Table

	Period	ROR %	(# Cases)	ROE %	(# Cases)	Cap. Struc.	(# Cases)	$ Mil.	(# Cases)
2002	Full Year	8.80	(20)	11.03	(21)	48.29	(18)	303.6	(26)
2003	Full Year	8.75	(22)	10.99	(25)	49.93	(22)	260.1	(30)
2004	Full Year	8.34	(21)	10.59	(20)	45.90	(20)	303.5	(31)
2005	Full Year	8.25	(29)	10.46	(26)	48.66	(24)	458.4	(34)
2006	Full Year	8.44	(17)	10.40	(15)	47.24	(16)	392.5	(23)
2007	Full Year	8.11	(31)	10.22	(35)	48.47	(28)	645.3	(43)
2008	Full Year	8.49	(33)	10.39	(32)	50.35	(32)	700.0	(40)
2009	Full Year	8.15	(29)	10.22	(30)	48.49	(29)	438.6	(36)
2010	Full Year	7.99	(40)	10.15	(39)	48.70	(40)	776.5	(50)
2011	Full Year	8.09	(18)	9.92	(16)	52.49	(14)	367.0	(31)
2012	Full Year	7.98	(30)	9.94	(35)	51.13	(32)	264.0	(41)
2013	Full Year	7.39	(20)	9.68	(21)	50.60	(20)	494.9	(38)
2014	Full Year	7.65	(27)	9.78	(26)	51.11	(28)	529.2	(48)
	1st Quarter	6.41	(2)	9.47	(3)	50.41	(2)	168.9	(9)
	2nd Quarter	7.29	(3)	9.43	(3)	50.71	(3)	34.9	(8)
	3rd Quarter	7.35	(1)	9.75	(1)	42.01	(1)	103.9	(8)
	4th Quarter	7.54	(10)	9.68	(9)	50.40	(10)	186.5	(15)
2015	**Full Year**	**7.34**	**(16)**	**9.60**	**(16)**	**49.93**	**(16)**	**494.1**	**(40)**
	1st Quarter	7.12	(6)	9.48	(6)	50.83	(6)	120.2	(11)
	2nd Quarter	7.38	(6)	9.42	(6)	50.01	(6)	276.3	(16)
	3rd Quarter	6.59	(5)	9.47	(4)	48.44	(4)	106.3	(8)
2016	**Year to Date**	**7.05**	(17)	**9.45**	(16)	**49.93**	**(16)**	**502.8**	(35)

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Electric Average Authorized ROEs: 2006 — 2016 YTD

Settled versus Fully Litigated Cases

	All Cases		Settled Cases		Fully Litigated Cases	
Year	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.26	(11)	10.37	(15)
2007	10.30	(38)	10.42	(14)	10.23	(24)
2008	10.41	(37)	10.43	(17)	10.39	(20)
2009	10.52	(40)	10.64	(16)	10.45	(24)
2010	10.37	(61)	10.39	(34)	10.35	(27)
2011	10.29	(42)	10.12	(16)	10.39	(26)
2012	10.17	(58)	10.06	(29)	10.28	(29)
2013	10.03	(49)	10.12	(32)	9.85	(17)
2014	9.91	(38)	9.73	(17)	10.05	(21)
2015	9.85	(30)	10.07	(14)	9.66	(16)
2016 YTD	9.91	(24)	9.67	(8)	10.04	(16)

General Rate Cases versus Limited Issue Riders

	All Cases		General Rate Cases		Limited Issue Riders	
Year	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.34	(25)	9.80	(1)
2007	10.30	(38)	10.31	(37)	9.90	(1)
2008	10.41	(37)	10.37	(35)	11.11	(2)
2009	10.52	(40)	10.52	(38)	10.55	(2)
2010	10.37	(61)	10.29	(58)	11.87	(3)
2011	10.29	(42)	10.19	(40)	12.30	(2)
2012	10.17	(58)	10.01	(52)	11.57	(6)
2013	10.03	(49)	9.81	(42)	11.34	(7)
2014	9.91	(38)	9.75	(33)	10.96	(5)
2015	9.85	(30)	9.60	(24)	10.87	(6)
2016 YTD	9.91	(24)	9.64	(16)	10.46	(8)

Vertically Integrated Cases versus Delivery Only Cases

	All Cases		Vertically Integrated Cases		Delivery Only Cases	
Year	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.32	(26)	10.63	(15)	9.91	(10)
2007	10.30	(38)	10.50	(26)	9.86	(11)
2008	10.41	(37)	10.48	(26)	10.04	(9)
2009	10.52	(40)	10.66	(28)	10.15	(10)
2010	10.37	(61)	10.42	(41)	9.98	(17)
2011	10.29	(42)	10.33	(28)	9.85	(12)
2012	10.17	(58)	10.10	(39)	9.73	(13)
2013	10.03	(49)	9.95	(31)	9.41	(11)
2014	9.91	(38)	9.94	(19)	9.50	(14)
2015	9.85	(30)	9.75	(17)	9.23	(7)
2016 YTD	9.91	(24)	9.70	(10)	9.53	(6)

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Gas Average Authorized ROEs: 2006 — 2016 YTD

Settled versus Fully Litigated Cases

	All Cases		Settled Cases		Fully Litigated Cases	
Year	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.40	(15)	10.26	(7)	10.53	(8)
2007	10.22	(35)	10.24	(22)	10.20	(13)
2008	10.39	(32)	10.34	(20)	10.47	(12)
2009	10.22	(30)	10.43	(13)	10.05	(17)
2010	10.15	(39)	10.30	(12)	10.08	(27)
2011	9.92	(16)	10.08	(8)	9.76	(8)
2012	9.94	(35)	9.99	(14)	9.92	(21)
2013	9.68	(21)	9.80	(9)	9.59	(12)
2014	9.78	(26)	9.51	(11)	9.98	(15)
2015	9.60	(16)	9.60	(11)	9.58	(5)
2016 YTD	9.45	(16)	9.42	(9)	9.49	(7)

General Rate Cases versus Limited Issue Riders

	All Cases		General Rate Cases		Limited Issue Riders	
Year	ROE %	(# Cases)	ROE %	(# Cases)	ROE %	(# Cases)
2006	10.40	(15)	10.40	(15)	—	(0)
2007	10.22	(35)	10.22	(35)	—	(0)
2008	10.39	(32)	10.39	(32)	—	(0)
2009	10.22	(30)	10.22	(30)	—	(0)
2010	10.15	(39)	10.15	(39)	—	(0)
2011	9.92	(16)	9.91	(15)	10.00	(1)
2012	9.94	(35)	9.93	(34)	10.40	(1)
2013	9.68	(21)	9.68	(21)	—	(0)
2014	9.78	(26)	9.78	(26)	—	(0)
2015	9.60	(16)	9.60	(16)	—	(0)
2016 YTD	9.45	(16)	9.45	(16)	—	(0)

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Electric Utility Decisions

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital Structure	Test Year	Rate Base	Amt. $ Mil.	Footnotes
1/5/16	MDU Resources Group	ND	7.95	10.50	50.27	12/16	—	15.1	(B,LIR,1)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	9/14	—	-8.1	(B)
1/28/16	Northern India-- Public Service Company	IN	—	—	—	—	—	0.0	(LIR,2)
2/2/16	Kentucky Utilities Company	VA	—	—	—	12/14	—	5.5	(B)
2/23/16	Entergy Arkansas	AR	4.52	9.75	28.46	3/15	—	219.7	(B,*)
2/29/16	Virginia Electric and Power Company	VA	7.90	11.60	49.99	3/17	Average	21.0	(LIR,3)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-9.3	(LIR,4)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	6.6	(LIR,5)
2/29/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	3/17	Average	-16.8	(LIR,6)
3/16/16	Indianapolis Power & Light Company	IN	6.51	9.85	37.33	6/14	Year-end	29.6	(*)
3/25/16	MDU Resources Group	MT	—	—	—	12/14	—	7.4	(B,Z)
3/29/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	3/17	Average	40.4	(LIR,7)
2016	**1ST QUARTER: AVERAGES/TOTAL**		**7.03**	**10.29**	**46.06**			**311.2**	
	OBSERVATIONS		**9**	**9**	**9**			**12**	
4/29/16	Fitchburg Gas and Electric Light Company	MA	8.46	9.80	52.17	12/14	Year-end	2.1	(D)
6/3/16	Baltimore Gas and Electric Company	MD	7.28	9.75	51.90	11/15	Average	44.1	(D,R)
6/8/16	El Paso Electric Company	NM	7.67	9.48	49.29	12/14	Year-end	1.1	
6/15/16	New York State Electric & Gas Corporation	NY	6.68	9.00	48.00	4/17	Average	29.6	(B,D,Z,8)
6/15/16	Rochester Gas and Electric Corporation	NY	7.55	9.00	48.00	4/17	Average	3.0	(B,D,Z,8)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	3.0	(B,Z,9)
6/30/16	Appalachian Power Company	WV	—	—	—	—	—	55.1	(B,LIR,10)
6/30/16	Virginia Electric and Power Company	VA	7.40	10.60	49.99	8/17	Average	-25.7	(LIR,11)
6/30/16	Virginia Electric and Power Company	VA	6.90	9.60	49.99	8/17	Average	5.4	(LIR,12)
2016	**2ND QUARTER: AVERAGES/TOTAL**		**7.42**	**9.60**	**49.91**			**117.7**	
	OBSERVATIONS		**7**	**7**	**7**			**9**	
7/18/16	Northern Indiana Public Service Company	IN	6.74	9.98	47.42	3/15	Year-end	72.5	(B,*)
8/9/16	Kingsport Power Company	TN	6.18	9.85	40.25	12/17	Average	8.6	(B)
8/10/16	Southwestern Public Service Company	NM	—	—	—	—	—	23.5	(B)
8/10/16	Empire District Electric Company	MO	—	—	—	6/15	—	20.4	(B)
8/18/16	El Paso Electric Company	TX	—	—	—	3/15	—	40.7	(I,B)
8/18/16	UNS Electric, Inc.	AZ	7.22	9.50	52.83	12/14	Year-end	15.1	
8/22/16	Virginia Electric and Power Company	VA	—	—	—	8/17	—	21.3	(LIR, B,13)
8/24/16	Atlantic City Electric Company	NJ	7.64	9.75	49.48	12/15	Year-end	45.0	(D,B)

Electric Utility Decisions (continued)

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital Structure	Test Year	Rate Base	Amt. $ Mil.	Footnotes
9/1/16	PacifiCorp	WA	7.30	9.50	49.10	6/15	Year-end	13.7	(Z)
9/8/16	Upper Peninsula Power Company	MI	7.47	10.00	53.49	12/16	Average	4.6	(I,*)
9/28/16	Public Service Company of New Mexico	NM	7.71	9.58	49.61	9/16	Average	61.0	
9/28/16	KCP&L Greater Missouri Operations	MO	—	—	—	—	—	3.0	(B)
9/30/16	Massachusetts Electric Company	MA	7.58	9.90	50.70	6/15	Year-end	169.7	(D)
2016	**3RD QUARTER: AVERAGES/TOTAL**		**7.23**	**9.76**	**49.11**			**499.1**	
	OBSERVATIONS		**8**	**8**	**8**			**13**	
2016	**YEAR-TO-DATE: AVERAGES/TOTAL**		**7.21**	**9.91**	**48.20**			**928.0**	
	OBSERVATIONS		**24**	**24**	**24**			**34**	

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

Gas Utility Decisions

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital Structure	Test Year	Rate Base	Amt. $ Mil.	Footnotes
1/6/16	Oklahoma Natural Gas Company	OK	7.31	9.50	60.50	3/15	Year-end	30.0	(B)
1/6/16	Avista Corporation	WA	7.29	9.50	48.50	09/14	—	10.8	(B)
1/28/16	SourceGas Arkansas	AR	5.33	9.40	39.46	3/15	Year-end	8.0	(B,*)
2/10/16	Liberty Utilities (New England Natural Gas)	MA	7.99	9.60	50.00	12/14	Year-end	7.8	(B)
2/16/16	Public Service Company of Colorado	CO	7.33	9.50	56.51	12/14	Average	39.2	(I,Z,R)
2/25/16	Black Hills Kansas Gas Utility Company	KS	—	—	—	10/15	Year-end	0.8	(LIR,14)
2/29/16	Avista Corporation	OR	7.46	9.40	50.00	12/16	Average	4.5	
3/17/16	Atmos Energy Corporation	KS	—	—	—	3/15	—	2.2	(B)
3/30/16	Indiana Gas Company, Inc.	IN	—	—	—	6/15	Year-end	7.0	(LIR,15)
3/30/16	Northern Indiana Public Service Company	IN	—	—	—	6/15	Year-end	7.6	(LIR,16)
3/30/16	Southern Indiana Gas and Electric Company	IN	—	—	—	6/15	Year-end	2.3	(LIR,15)
2016	1ST QUARTER: AVERAGES/TOTAL		**7.12**	**9.48**	**50.83**			**120.2**	
	OBSERVATIONS		**6**	**6**	**6**			**11**	
4/21/16	Consumers Energy Company	MI	—	—	—	12/16	—	40.0	(I,B)
4/29/16	Fitchburg Gas and Electric Light Company	MA	8.46	9.80	52.17	12/14	Year-end	1.6	
5/5/16	CenterPoint Energy Resources Corp.	MN	7.07	9.49	50.00	9/16	Average	27.5	(I)
5/11/16	Liberty Utilities (Midstates Natural Gas) Corp	MO	—	—	—	1/16	—	0.2	(LIR,17)
5/19/16	Delta Natural Gas Company	KY	—	—	—	12/15	Year-end	1.4	(LIR)
5/19/16	Laclede Gas Company	MO	—	—	—	2/16	Year-end	5.4	(LIR,18)
5/19/16	Missouri Gas Energy	MO	—	—	—	2/16	Year-end	3.6	(LIR,18)

Gas Utility Decisions (continued)

Date	Company	State	ROR %	ROE %	Common Equity as % of Capital Structure	Test Year	Rate Base	Amt. $ Mil.	Footnotes
6/1/16	Maine Natural Gas	ME	7.28	9.55	50.00	9/14	Average	2.5	(B,Z)
6/3/16	Baltimore Gas and Electric Company	MD	7.23	9.65	51.90	11/15	Average	47.9	(R)
6/15/16	New York State Electric & Gas Corporation	NY	6.68	9.00	48.00	4/17	Average	13.1	(B,Z,7)
6/15/16	Rochester Gas and Electric Corporation	NY	7.55	9.00	48.00	4/17	Average	8.8	(B,Z,7)
6/22/16	Northern Indiana Public Service Company	IN	—	—	—	12/15	Year-end	6.7	(LIR,E,19)
6/23/16	San Diego Gas & Electric Co.	CA	—	—	—	12/16	Average	-1.6	(B,Z,20)
6/23/16	Southern California Gas Company	CA	—	—	—	12/16	Average	106.9	(B,Z,9)
6/29/16	Indiana Gas Company, Inc.	IN	—	—	—	12/15	Year-end	10.2	(LIR,21)
6/29/16	Southern Indiana Gas and Electric Co.	IN	—	—	—	12/15	Year-end	2.1	(LIR,21)
2016	**2ND QUARTER: AVERAGES/TOTAL**		**7.38**	**9.42**	**50.01**			**276.3**	
	OBSERVATIONS		**6**	**6**	**6**			**16**	
7/7/16	Cascade Natural Gas Corporation	WA	7.35	—	—	—	—	4.0	(B)
7/19/16	CenterPoint Energy Resources Corp.	OK	—	—	—	12/15	—	0.0	(B,22)
8/4/16	Atmos Energy Corporation	KY	—	—	—	5/17	—	0.5	(B)
8/22/16	Questar Gas Company	UT	—	—	—	—	—	—	(23)
9/1/16	UGI Utilities, Inc.	PA	—	—	—	9/17	—	27.0	(B)
9/2/16	CenterPoint Energy Resources Corp.	AR	4.53	9.50	30.85	9/15	Year-end	14.2	(B,*)
9/23/16	New Jersey Natural Gas Company	NJ	6.90	9.75	52.50	6/16	Year-end	45.0	(B)
9/27/16	Texas Gas Service Company	TX	7.28	9.50	60.10	9/15	Year-end	8.8	
9/29/16	Minnesota Energy Resources Corp.	MN	6.88	9.11	50.32	12/16	Average	6.8	(I,E)
2016	**3RD QUARTER: AVERAGES/TOTAL**		**6.59**	**9.47**	**48.44**			**106.3**	
	OBSERVATIONS		**5**	**4**	**4**			**8**	
2016	**YEAR TO DATE: AVERAGES/TOTAL**		**7.05**	**9.45**	**49.93**			**502.8**	
	OBSERVATIONS		**17**	**16**	**16**			**35**	

Source: Regulatory Research Associates, an offering of S&P Global Market Intelligence

FOOTNOTES

A- Average
B- Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body.
CWIP- Construction work in progress
D- Applies to electric delivery only
DCt Date certain rate base valuation
E- Estimated
F- Return on fair value rate base
Hy- Hypothetical capital structure utilized
I- Interim rates implemented prior to the issuance of final order, normally under bond and subject to refund.
LIR Limited-issue rider proceeding
M- "Make-whole" rate change based on return on equity or overall return authorized in previous case.
R- Revised
Te- Temporary rates implemented prior to the issuance of final order.
U- Double leverage capital structure utilized.
W- Case withdrawn
YE- Year-end
Z- Rate change implemented in multiple steps.
* Capital structure includes cost-free items or tax credit balances at the overall rate of return.

(1) Rate increase approved in renewable resource cost recovery rider.
(2) Case represents the company's transmission, distribution, and storage system improvement charge, or TDSIC rate adjutment mechanism. The case was dismissed by the Commission, with no rate change authorized.
(3) Proceeding determines the revenue requirement for Rider B, which is the mechanism through which the company recovers costs associated with its plan to convert the Altavista, Hopewell, and Southampton Power Stations to burn biomass fuels.
(4) Represents rate decrease associated with the company's Rider R proceeding, which is the mechanism through which the company recovers the investment in the Bear Garden generating facility.
(5) This proceeding determines the revenue requirement for Rider S, which recognizes in rates the company's investment in the Virginia City Hybrid Energy Center.
(6) Decrease authorized through a surcharge, Rider W, which reflects in rates investment in the Warren County Power Station.
(7) Proceeding involves a new gas-fired generation facility, the Greensville County project, and creation of a new rider mechanism, Rider GV, to reflect the related revenue requirement in rates.
(8) Rate increase effective 5/1/16; additional increases to be effective 5/1/17 and 5/1/18.
(9) Settlement adopted with modifications. Rate increase effective retroactive to 1/1/16; additional increases to be effective 1/1/17 and 1/1/18.
(10) Represents the company's joint expanded net energy cost, or ENEC, proceeding.
(11) Represents rate decrease associated with the company's Rider BW proceeding, which is the mechanism through which the company recovers the investment in its Brunswick County Power Station.
(12) Represents the rate increase associated with the company's Rider US-2, which is the mechanism through which the company recovers the revenue requirement associated with three new solar generation facilities.
(13) Case involves the company's request to establish Rider U for recovery of investment and costs associated with a project to underground certain distribution lines.
(14) Case involves the company's gas system reliabillity surcharge, or GSRS, rider and reflects investments made from July 1, 2014 through Oct. 31, 2015.
(15) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between Jan. 1 and June 30, 2015, and certain other investments made between July 1, 2014 and June 30, 2015.
(16) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between July 1, 2014 and June 30, 2015.
(17) Case involves the company's infrastructure system replacement surcharge, or ISRS, rider and reflects incremental investments made from 6/1/15 through 1/31/16.

FOOTNOTES (continued)

(18) Case involves the company's infrastructure system replacement surcharge, or ISRS, rider and reflects incremental investments made from 9/1/15 through 2/29/16.

(19) Case establishes the rates to be charged to customers under the company's transmission, distribution and storage system improvement charge rate adjustment mechanism, and reflects investments made between 7/1/15 and 12/31/15.

(20) Settlement adopted with modifications. Rate decrease effective retroactive to 1/1/16; rate increases to be effective 1/1/17 and 1/1/18.

(21) Case involves company's "compliance and system improvement adjustment" mechanism, and includes compliance-related investments made between 7/1/15 and 12/31/15.

(22) Case involves the company's performance based ratemaking plan.

(23) On 8/22/16, the PSC approved the company's petition to withdraw the rate increase request, effectively closing the case. The request to withdraw the filing comported with provisions of a settlement filed in the Questar/Dominion Resources merger proceeding.

Dennis Sperduto

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Rate Case Summary

Q2 2013
FINANCIAL UPDATE

QUARTERLY REPORT
OF THE U.S. SHAREHOLDER-OWNED
ELECTRIC UTILITY INDUSTRY

About EEI

The Edison Electric Institute (EEI) is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly employ more than 500,000 workers. With more than $85 billion in annual capital expenditures, the electric power industry is responsible for millions of additional jobs. Reliable, affordable, and sustainable electricity powers the economy and enhances the lives of all Americans. EEI has 70 international electric companies as Affiliate Members, and 250 industry suppliers and related organizations as Associate Members. Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

About EEI's Quarterly Financial Updates

EEI's quarterly financial updates present industry trend analyses and financial data covering 56 U.S. shareholder-owned electric utility companies. These 56 companies include 50 electric utility holding companies whose stocks are traded on major U.S. stock exchanges and six electric utilities who are subsidiaries of non-utility or foreign companies. Financial updates are published for the following topics:

Dividends	Rate Case Summary
Stock Performance	SEC Financial Statements (Holding Companies)
Credit Ratings	FERC Financial Statements (Regulated Utilities)
Construction	Fuel

For EEI Member Companies

The EEI Finance and Accounting Division is developing current year and historical data sets that cover a wide range of industry financial and operating metrics. We look forward to serving as a resource for member companies who wish to produce customized industry financial data and trend analyses for use in:

- Investor relations studies and presentations
- Internal company presentations
- Performance benchmarking
- Peer group analyses
- Annual and quarterly reports to shareholders

We Welcome Your Feedback

EEI is interested in ensuring that our financial publications and industry data sets best address the needs of member companies and the financial community. We welcome your comments, suggestions and inquiries.

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Future EEI Finance Meetings

48th EEI Financial Conference
November 10-13 , 2013
Orlando World Center Marriott
Orlando, FL

For more information about EEI Finance Meetings,
please contact Debra Henry, (202) 508-5496, dhenry@eei.org

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The 56 U.S. Shareholder-Owned Electric Utilities

The companies listed below all serve a regulated distribution territory. Other utilities, such as transmission provider ITC Holdings, are not shown below because they do not serve a regulated distribution territory. However, their financial information is included in relevant EEI data sets, such as transmission-related construction spending.

ALLETE, Inc. (ALE)
Alliant Energy Corporation (LNT)
Ameren Corporation (AEE)
American Electric Power Company, Inc. (AEP)
Avista Corporation (AVA)
Black Hills Corporation (BKH)
CenterPoint Energy, Inc. (CNP)
Cleco Corporation (CNL)
CMS Energy Corporation (CMS)
Consolidated Edison, Inc. (ED)
Dominion Resources, Inc. (D)
DPL, Inc. (DPL)
DTE Energy Company (DTE)
Duke Energy Corporation (DUK)
Edison International (EIX)
El Paso Electric Company (EE)
Empire District Electric Company (EDE)
Energy Future Holdings Corp. (formerly TXU Corp.)
Entergy Corporation (ETR)
Exelon Corporation (EXC)
FirstEnergy Corp. (FE)
Great Plains Energy Incorporated (GXP)
Hawaiian Electric Industries, Inc. (HE)
Iberdrola USA
IDACORP, Inc. (IDA)
Integrys Energy Group, Inc. (TEG)
IPALCO Enterprises, Inc.
MDU Resources Group, Inc. (MDU)
MGE Energy, Inc. (MGEE)
MidAmerican Energy Holdings Company
NextEra Energy, Inc. (NEE)
NiSource Inc. (NI)
Northeast Utilities (NU)
NorthWestern Corporation (NWE)
NV Energy, Inc. (NVE)
OGE Energy Corp. (OGE)
Otter Tail Corporation (OTTR)
Pepco Holdings, Inc. (POM)
PG&E Corporation (PCG)
Pinnacle West Capital Corporation (PNW)
PNM Resources, Inc. (PNM)
Portland General Electric Company (POR)
PPL Corporation (PPL)
Public Service Enterprise Group Inc. (PEG)
Puget Energy, Inc.
SCANA Corporation (SCG)
Sempra Energy (SRE)
Southern Company (SO)
TECO Energy, Inc. (TE)
UIL Holdings Corporation (UIL)
Unitil Corporation (UTL)
UNS Energy Corporation (UNS)
Vectren Corporation (VVC)
Westar Energy, Inc. (WR)
Wisconsin Energy Corporation (WEC)
Xcel Energy, Inc. (XEL)

Companies Listed by Category
(as of 12/31/12)

Please refer to the Quarterly Financial Updates webpage for previous years' lists.

Given the diversity of utility holding company corporate strategies, no single company categorization approach will be useful for all EEI members and utility industry analysts. Never-the-less, we believe the following classification provides an informative framework for tracking financial trends and the capital markets' response to business strategies as companies depart from the traditional regulated utility model.

Regulated	80%+ of total assets are regulated
Mostly Regulated	50% to 80% of total assets are regulated
Diversified	Less than 50% of total assets are regulated

Categorization of the 50 publicly traded utility holding companies is based on year-end business segmentation data presented in 10Ks, supplemented by discussions with company IR departments. Categorization of the six non-publicly traded companies (*shown in italics*) is based on estimates derived from FERC Form 1 data and information provided by parent company IR departments.

The EEI Finance and Accounting Division continues to evaluate our approach to company categorization and business segmentation. In addition, we can produce customized categorization and peer group analyses in response to member company requests. We welcome comments, suggestions and feedback from EEI member companies and the financial community.

Regulated (37 of 56)

ALLETE, Inc.
Alliant Energy Corporation
Ameren Corporation
American Electric Power Company, Inc.
Avista Corporation
Black Hills Corporation
Cleco Corporation
CMS Energy Corporation
Consolidated Edison, Inc.
DPL, Inc.
DTE Energy Company
Duke Energy Corporation
Edison International
El Paso Electric Company
Empire District Electric Company
Entergy Corporation
Great Plains Energy Incorporated
Iberdrola USA
IDACORP, Inc.
Integrys Energy Group
IPALCO Enterprises, Inc.
Northeast Utilities
NorthWestern Energy
NV Energy, Inc.
PG&E Corporation
Pinnacle West Capital Corporation
PNM Resources, Inc.
Portland General Electric Company
Puget Energy, Inc.
Southern Company
TECO Energy, Inc.
UIL Holdings Corporation
Unitil Corporation
UNS Energy Corporation
Westar Energy, Inc.
Wisconsin Energy Corporation
Xcel Energy, Inc.

Mostly Regulated (17 of 56)

CenterPoint Energy, Inc.
Dominion Resources, Inc.
Exelon Corporation
First Energy Corp.
Hawaiian Electric Industries, Inc.
MGE Energy, Inc.
MidAmerican Energy Holdings
NextEra Energy, Inc.
NiSource Inc.
OGE Energy Corp.
Otter Tail Corporation
Pepco Holdings, Inc.
PPL Corporation
Public Service Enterprise Group, Inc.
SCANA Corporation
Sempra Energy
Vectren Corporation

Diversified (2 of 56)

Energy Future Holdings
MDU Resources Group, Inc.

Note: Based on assets at 12/31/12

Q2 2013

Rate Case Summary

HIGHLIGHTS

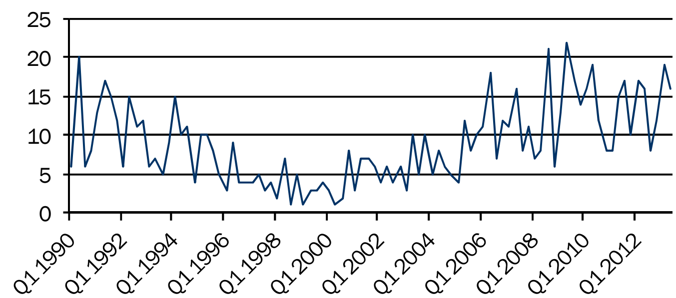
- Shareholder-owned electric utilities filed 16 rate cases in Q2 2013, extending the industry's trend of elevated rate case activity.
- The quarter's average awarded ROE, at 9.77%, is the lowest in several decades. Both Ameren and Commonwealth Edison submitted filings in Illinois as part of those companies' ongoing formula rate plan. The ROE requested in both filings was 8.72%, thus contributing to a record low average requested ROE in Q2 as well.
- In the recent quarter, utilities' efforts to implement clauses and trackers have been a relatively strong driver of cases compared to other quarters, as were utilities' efforts to adjust for slow demand growth.
- Eight of the ten cases decided in Q2 incorporated settlements or partial settlements. These are often silent on details, but in Q2 enough was revealed to allow for an examination of the issues, summarized herein.

COMMENTARY

Shareholder-owned electric utilities filed 16 rate cases in Q2 2013, continuing the trend since the turn of the century of rising rate case activity. The trend largely reflects a construction cycle driven by the need to replace aging infrastructure and reduce the environmental impact of power generation. Capital expenditures, operation and maintenance expenses, and efforts by utilities to implement adjustment clauses/trackers/riders are generally the main drivers of rate case filings, with capital expenditures usually the leading driver. In the recent quarter, utilities' efforts to implement clauses and trackers have been a relatively strong driver of cases compared to other quarters, as were utilities' efforts to adjust for slow demand growth.

I. Number of Rate Cases Filed (Quarterly)

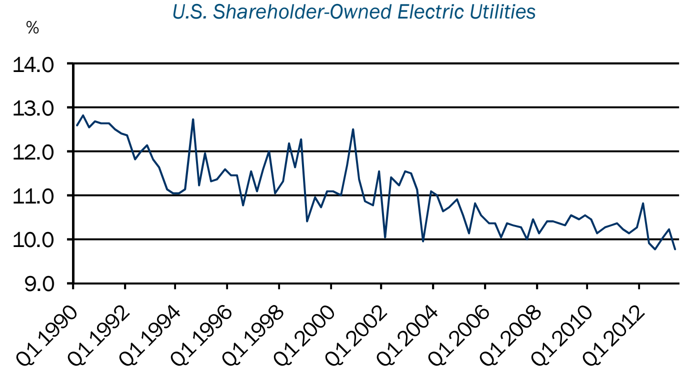
U.S. Shareholder-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

II. Average Awarded ROE (Quarterly)

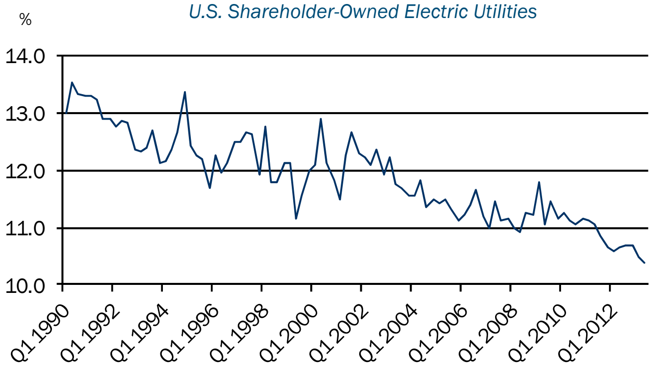
U.S. Shareholder-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

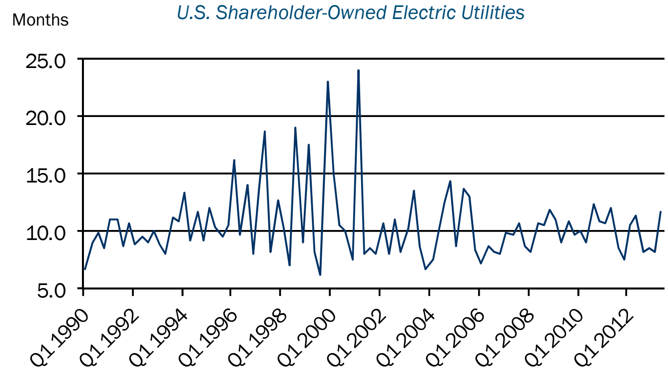
The average awarded return on equity (ROE) in Q2 was 9.77%, the lowest in the last several decades (a period of steadily declining awarded ROEs). Falling interest rates account for much of this trend. Attempts by state commissions to moderate rate increases during times of financial hardship for many customers have also contributed in recent years.

III. Average Requested ROE (Quarterly)



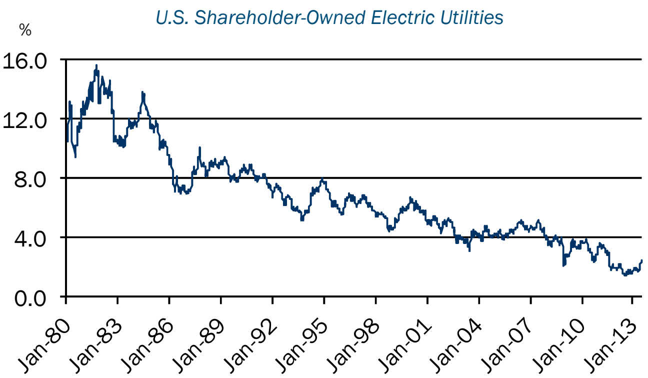
Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

IV. Average Regulatory Lag (Quarterly)



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

V. 10-Year Treasury Yield (1/1980 — 6/2013)



Source: U.S. Federal Reserve

The average requested ROE, at 10.4% was similarly the lowest in decades, and for similar reasons.

Regulatory Lag

Average regulatory lag in Q2 was 11.8 months, the highest in two years and slightly above the roughly 10-month average in recent years. During industry restructuring in the late 1990s and early 2000s, the volatility of regulatory lag increased and the average rose to almost 13 months. Outside of this period, regulatory lag has been fairly consistent at about 10 months.

During times of rapidly rising spending, utilities attempt to recover costs by filing rate cases. However, rate case decisions are based primarily on historical costs, and preparing for and administrating a case takes time. If costs continue to rise, rates may already be outdated by the time the commission decides the case and puts rates into effect. We define regulatory lag as the time between a rate case filing and decision because those events are specific and measureable. We consider this a rough proxy for the time between when a utility needs recovery and when new rates take effect.

Some analysts have argued that regulatory lag is actually longer when other delays are considered, such as the time needed to prepare for a case. This suggests an average closer to twice what our definition measures, or close to two years. However it is measured, lag obstructs utilities' ability to earn their allowed return when costs are rising and can ultimately increase their borrowing costs. Electric utilities often fall short of achieving their allowed return due to regulatory lag. Therefore, the decline in allowed ROEs across the industry may over-compensate, in some cases, for declining interest rates.

Commissions can allow utilities to shorten regulatory lag through the use of innovative rate approaches such as interim rate increases, adjustment clauses and other recovery mechanisms, the use of projected costs in rate cases, and construction work-in-progress (CWIP). CWIP allows a utility to partly recover construction financing costs before a project comes online. These approaches have the added benefit of helping to smooth the introduction of rate increases rather than forcing rates to suddenly jump after a case is decided. Commissions and state legislatures can support utilities' financial health and help curb future rate increases due to increased borrowing costs by helping utilities reduce lag.

Filed Cases

Capital expenditures, as they are in almost every quarter, were the main driver of rate cases in Q2. Kentucky Utilities, in its case in Virginia, filed to recover for what it describes as its "most significant environmental compliance building program in its history." Northern States Power in Wisconsin filed for recovery for investment in generation (including nuclear plants), distribution and transmission. Kentucky Power filed to acquire part of a coal plant.

Utility efforts to implement adjustment clauses, trackers and riders strongly influenced filings in Q2 compared to other quarters. Concerns about slow demand growth also appeared in a significant number of cases. Tampa Electric filed in part to recover for revenue shortfalls associated with sluggish revenue growth in its service territory. Low cus-

VI. Rate Case Data: From Tables I-V

U.S. Shareholder-Owned Electric Utilities

Quarter	Number of Rate Cases Filed	Average Awarded ROE	Average Requested ROE	Average 10-Year Treasury Yield	Average Regulatory Lag
Q4 1988	1	NA	14.30	8.96	NA
Q1 1989	4	NA	15.26	9.21	NA
Q2 1989	4	NA	13.30	8.77	NA
Q3 1989	14	NA	13.65	8.11	NA
Q4 1989	13	NA	13.47	7.91	NA
Q1 1990	6	12.62	13.00	8.42	6.71
Q2 1990	20	12.85	13.51	8.68	9.07
Q3 1990	6	12.54	13.34	8.70	9.90
Q4 1990	8	12.68	13.31	8.40	8.61
Q1 1991	13	12.66	13.29	8.02	11.00
Q2 1991	17	12.67	13.23	8.13	11.00
Q3 1991	15	12.49	12.89	7.94	8.70
Q4 1991	12	12.42	12.90	7.35	10.70
Q1 1992	6	12.38	12.77	7.30	8.90
Q2 1992	15	11.83	12.86	7.38	9.61
Q3 1992	11	12.03	12.81	6.62	9.00
Q4 1992	12	12.14	12.36	6.74	10.10
Q1 1993	6	11.84	12.33	6.28	8.87
Q2 1993	7	11.64	12.39	5.99	8.10
Q3 1993	5	11.15	12.70	5.62	11.20
Q4 1993	9	11.04	12.12	5.61	10.90
Q1 1994	15	11.07	12.15	6.07	13.40
Q2 1994	10	11.13	12.37	7.08	9.28
Q3 1994	11	12.75	12.66	7.33	11.80
Q4 1994	4	11.24	13.36	7.84	9.26
Q1 1995	10	11.96	12.44	7.48	12.00
Q2 1995	10	11.32	12.26	6.62	10.40
Q3 1995	8	11.37	12.19	6.32	9.50
Q4 1995	5	11.58	11.69	5.89	10.60
Q1 1996	3	11.46	12.25	5.91	16.30
Q2 1996	9	11.46	11.96	6.72	9.80
Q3 1996	4	10.76	12.13	6.78	14.00
Q4 1996	4	11.56	12.48	6.34	8.12
Q1 1997	4	11.08	12.50	6.56	13.80
Q2 1997	5	11.62	12.66	6.70	18.70
Q3 1997	3	12.00	12.63	6.24	8.33
Q4 1997	4	11.06	11.93	5.91	12.70
Q1 1998	2	11.31	12.75	5.59	10.20
Q2 1998	7	12.20	11.78	5.60	7.00
Q3 1998	1	11.65	NA	5.20	19.00
Q4 1998	5	12.30	12.11	4.67	9.11
Q1 1999	1	10.40	NA	4.98	17.60
Q2 1999	3	10.94	11.17	5.54	8.33
Q3 1999	3	10.75	11.57	5.88	6.33
Q4 1999	4	11.10	12.00	6.14	23.00
Q1 2000	3	11.08	12.10	6.48	15.10
Q2 2000	1	11.00	12.90	6.18	10.50
Q3 2000	2	11.68	12.13	5.89	10.00
Q4 2000	8	12.50	11.81	5.57	7.50
Q1 2001	3	11.38	11.50	5.05	24.00
Q2 2001	7	10.88	12.24	5.27	8.00
Q3 2001	7	10.78	12.64	4.98	8.62
Q4 2001	6	11.57	12.29	4.77	8.00
Q1 2002	4	10.05	12.22	5.08	10.80
Q2 2002	6	11.41	12.08	5.10	8.16
Q3 2002	4	11.25	12.36	4.26	11.00
Q4 2002	6	11.57	11.92	4.01	8.25

VI. Rate Case Data: From Tables I-V (cont.)

U.S. Shareholder-Owned Electric Utilities

Quarter	Number of Rate Cases Filed	Average Awarded ROE	Average Requested ROE	Average 10-Year Treasury Yield	Average Regulatory Lag
Q1 2003	3	11.49	12.24	3.92	10.20
Q2 2003	10	11.16	11.76	3.62	13.60
Q3 2003	5	9.95	11.69	4.23	8.80
Q4 2003	10	11.09	11.57	4.29	6.83
Q1 2004	5	11.00	11.54	4.02	7.66
Q2 2004	8	10.64	11.81	4.60	10.00
Q3 2004	6	10.75	11.35	4.30	12.50
Q4 2004	5	10.91	11.48	4.17	14.40
Q1 2005	4	10.55	11.41	4.30	8.71
Q2 2005	12	10.13	11.49	4.16	13.70
Q3 2005	8	10.84	11.32	4.21	13.00
Q4 2005	10	10.57	11.14	4.49	8.44
Q1 2006	11	10.38	11.23	4.57	7.33
Q2 2006	18	10.39	11.38	5.07	8.83
Q3 2006	7	10.06	11.64	4.90	8.33
Q4 2006	12	10.38	11.19	4.63	8.11
Q1 2007	11	10.30	11.00	4.68	9.88
Q2 2007	16	10.27	11.44	4.85	9.82
Q3 2007	8	10.02	11.13	4.73	10.80
Q4 2007	11	10.44	11.16	4.26	8.75
Q1 2008	7	10.15	10.98	3.66	7.33
Q2 2008	8	10.41	10.93	3.89	10.80
Q3 2008	21	10.42	11.26	3.86	10.60
Q4 2008	6	10.38	11.21	3.25	11.90
Q1 2009	13	10.31	11.79	2.74	11.10
Q2 2009	22	10.55	11.01	3.31	9.13
Q3 2009	17	10.46	11.43	3.52	10.90
Q4 2009	14	10.54	11.15	3.46	9.69
Q1 2010	16	10.45	11.24	3.72	10.00
Q2 2010	19	10.12	11.12	3.49	9.00
Q3 2010	12	10.27	11.07	2.79	12.40
Q4 2010	8	10.30	11.17	2.86	10.90
Q1 2011	8	10.35	11.11	3.46	10.80
Q2 2011	15	10.24	11.06	3.21	12.00
Q3 2011	17	10.13	10.86	2.43	8.64
Q4 2011	10	10.29	10.66	2.05	7.60
Q1 2012	17	10.84	10.57	2.04	10.50
Q2 2012	16	9.92	10.66	1.82	11.40
Q3 2012	8	9.78	10.68	1.64	8.20
Q4 2012	12	10.05	10.69	1.71	8.65
Q1 2013	19	10.23	10.49	1.95	8.24
Q2 2013	16	9.77	10.40	2.00	11.80

NA = Not available
Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

tomer growth in part prompted Baltimore Gas and Electric's filing.

Both Ameren and Commonwealth Edison submitted filings in Illinois as part of those companies' ongoing formula rate plan. The ROE requested in both filings was 8.72%, thus contributing to the record low average requested ROE in Q2. However, while the requested ROE is low for both companies, the certainty of earning that ROE and lack of lag that is part of the formula rate plan help to offset any deleterious effects of the low return.

Baltimore Gas and Electric's filing is, in part, an attempt to correct for the company's estimate that its earned overall return for the year ending 7/31/2013 will be only 5.68%. The company also hopes to implement an electric reliability investment initiative (and an associated tracker mechanism) to be based on guidelines established by the Maryland commission, based on its review of Maryland utilities' reliability performance and a Maryland Governor's Task Force's recommendations following a severe wind storm that affected the company's service territory. The company proposed measures that could be completed between 2014 and 2018 at an estimated cost of $136 million. The measures are expected to improve the company's reliability by about 10% compared to its average performance between 2010 and 2012.

Decided Cases

Eight of the ten cases decided in Q2 incorporated settlements or partial settlements. Settlements are often silent on details related to the case, but in Q2 enough details were revealed to allow for a fairly complete examination of the cases decided during the quarter.

Duke Energy Ohio

Duke's settlement granted the company recovery of an $11 million vegetation management expense (the amount the company spent in the test year) and a $4.4 million baseline expense for storms, but did not allow the company's requested storm deferral and tracking mechanism or any recovery of incremental expenses associated with 2012 storms. However, the company can request deferral of incremental storm costs after 2012. Also, the company noted that under pre-existing rates it would earn a return of 4.79% on rate base. The commission observed that such a rate of return is "insufficient to provide [the company] with reasonable compensation for the service it renders to customers."

San Diego Gas & Electric

San Diego Gas & Electric's order allowed attrition rate increases for 2013-2015 based on the Consumer Price Index – Urban, with some modification. This resulted in rate increases of 2.65% for 2013 and 2.75% for both 2014 and 2015. The commission also extended the company's "Z-factor" mechanism that allows utilities to request recovery, under certain circumstances, for significant unforeseen expenses between rate cases, subject to a $5 million deductible. The order also allowed the company recovery of costs associated with the San Onofre Nuclear Generating Station, subject to refund, pending a reasonableness review.

Consumers Energy in Michigan

Consumers Energy entered into a settlement that was approved without addressing advanced metering infrastructure issues, including whether the program should be suspended and whether the customer opt-out fee proposed by the company would be appropriate.

Duke Energy Progress in North Carolina

Duke Energy Progress entered into a settlement that was approved with a rider that allows the company to earn a return on coal inventory above that authorized in rates. The parties to the settlement did not agree, however, on Duke's proposal to implement an experimental rider to reduce rates to industrial customers. The commission similarly did not approve the rider, finding no substantial evidence that the reduction in industrial customers and industrial activity was caused by industrial electric rates. The chairman dissented on this issue, saying that the company's "industrial rates have been measurably higher than those of neighboring electric utilities and even higher than its own industrial rates in South Carolina."

Maui Electric in Hawaii

Maui Electric (MECO) entered into a settlement in Q2 that would have awarded the company a 10% ROE. However, the commission reduced the ROE to 9% because the 10% ROE was outside the 9%-9.75% range proposed by the Division of Consumer Advocacy (one of the parties to the settlement). The commission said that half the reduction was due to "updated economic and financial market conditions" and that the other half of the adjustment reflected "apparent system inefficiencies which negatively impact MECO's customers." The commission said the company "appears to have failed to adequately and sufficiently plan for and implement the necessary modifications to its existing operations to accept a more appropriate level of wind energy generation made available to MECO, negatively impacting ratepayers through higher electricity rates." The commission also disallowed $1.3 million associated with pension costs and other post-retirement-benefits. To derive the disallowance, the commission relied on a three-year average, rather than the test year estimate adopted in the settlement for these costs. The commission further disallowed some amounts associated with integrated resource planning and customer information system costs. The commission said this decision is intended to serve notice to MECO and other Hawaiian Electric utilities that they "appear to lack movement to a sustainable business model to address technological advancements and increasing customer expectations. The commission observes that some mainland electric utilities have begun to define, articulate and implement the vision for the 'electric utility of the future.' Without such a long-term, customer focused business strategy, it is difficult to ascertain whether [the Hawaiian Electric utilities'] increasing capital investments are strategic investments or simply a series of unrelated capital projects that effectively expand utility rate base and increase profits but appear to provide limited or little customer value."

Tucson Electric Power

In Q2, Tucson Electric Power entered into a settlement that approved the company's proposed lost fixed-cost recovery decoupling mechanism, which is targeted at fixed costs lost as a result of the commission's energy efficiency standard and distributed generation requirements. The adjustment is capped at 1% with any excess deferred. The settlement also approved an environmental compliance adjustor to help the company recover, between rate cases, any costs resulting from environmental standards established by federal agencies. Recovery through the adjustor is limited to 0.25% of the company's total retail revenue per year. The settlement increased the monthly residential customer charge from $7 to $10, the commercial single-phase service customer charge from $8 to $15.50, the commercial three-phase service customer charge from $14 to $20.50, and the large-customer customer charge from $371.88 to $775. The commission said that the $10 residential customer charge was a "small part of the overall average bill of over $84" and well less than the $56 average monthly fixed costs per residential customer. The commission disallowed the settlement's energy efficiency resource plan (EERP), which would have given the company a return of and on energy efficiency resource investments over five years through a demand-side management surcharge. [The company currently recovers energy efficiency (EE) program costs, including a performance incentive, through a demand side management (DSM) surcharge over one year.] The commission said "Adoption of the EERP . . . would represent a fundamental shift in the way we have addressed cost recovery of EE/DSM. While TEP's present EE/DSM recovery mechanism classifies EE/DSM costs as expenses, the proposed EERP would treat them as invested capital. . . . Although we are aware that EE/DSM programs can provide benefits to customers; nonetheless, the record before us shows that these programs come with substantial costs. . . . We want to be clear that we support cost effective energy efficiency. However, we believe the time has come for us to engage in a full consideration of the issues related to EE/DSM programs and their cost recovery, including whether EE/DSM should be considered as a resource in integrated resource plans." The commission opened a new generic docket on the issue. One of the five commissioners voted no on the settlement and order without written dissent.

Puget Sound Energy in Washington

Puget Sound Energy filed an expedited rate case in response to the commission's interest in breaking "the current pattern of almost continuous rate cases." The filing was for delivery services only and excluded power costs and property taxes. A settlement allowed for the company to establish a rate plan consisting of a series of 3% annual increases intended to avoid the need to file a general rate case over a period of years, and a decoupling mechanism with a baseline revenue per customer for the rate plan period. The rate plan period extends at least until March 2016, the next time the company will be allowed to file a new rate case, or until March 2017, if the company decides not to file another case first.■

Edison Electric
INSTITUTE

Rate Case Summary

Q4 2015
FINANCIAL UPDATE

QUARTERLY REPORT
OF THE U.S. SHAREHOLDER-OWNED
ELECTRIC UTILITY INDUSTRY

About EEI

The Edison Electric Institute (EEI) is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans, operate in all 50 states and the District of Columbia, and directly employ more than 500,000 workers. With $100 billion in annual capital expenditures, the electric power industry is responsible for millions of additional jobs. Reliable, affordable, and sustainable electricity powers the economy and enhances the lives of all Americans. EEI has 70 international electric companies as Affiliate Members, and 270 industry suppliers and related organizations as Associate Members. Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

About EEI's Quarterly Financial Updates

EEI's quarterly financial updates present industry trend analyses and financial data covering 52 U.S. shareholder-owned electric utility companies. These 52 companies include 47 electric utility holding companies whose stocks are traded on major U.S. stock exchanges and five electric utilities who are subsidiaries of non-utility or foreign companies. Financial updates are published for the following topics:

Dividends	Rate Case Summary
Stock Performance	SEC Financial Statements (Holding Companies)
Credit Ratings	FERC Financial Statements (Regulated Utilities)
Construction	Fuel

EEI Finance Department material can be found online at: www.eei.org/QFU

For EEI Member Companies

The EEI Finance and Accounting Division is developing current year and historical data sets that cover a wide range of industry financial and operating metrics. We look forward to serving as a resource for member companies who wish to produce customized industry financial data and trend analyses for use in:

- Investor relations studies and presentations
- Internal company presentations
- Performance benchmarking
- Peer group analyses
- Annual and quarterly reports to shareholders

We Welcome Your Feedback

EEI is interested in ensuring that our financial publications and industry data sets best address the needs of member companies and the financial community. We welcome your comments, suggestions and inquiries.

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Future EEI Finance Meetings

EEI Wall Street Briefing
February 10, 2016
University Club
New York, New York

EEI Financial Conference
November 6-9, 2016
JW Marriott Desert Ridge Resort & Spa
Phoenix, Arizona

For more information about EEI Finance Meetings, please contact Debra Henry, (202) 508-5496, dhenry@eei.org

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The 52 U.S. Shareholder-Owned Electric Utilities

The companies listed below all serve a regulated distribution territory. Other utilities, such as transmission provider ITC Holdings, are not shown below because they do not serve a regulated distribution territory. However, their financial information is included in relevant EEI data sets, such as transmission-related construction spending.

ALLETE, Inc. (ALE)
Alliant Energy Corporation (LNT)
Ameren Corporation (AEE)
American Electric Power Company, Inc. (AEP)
AVANGRID, Inc. (AGR)
Avista Corporation (AVA)
Berkshire Hathaway Energy
Black Hills Corporation (BKH)
CenterPoint Energy, Inc. (CNP)
Cleco Corporation (CNL)
CMS Energy Corporation (CMS)
Consolidated Edison, Inc. (ED)
Dominion Resources, Inc. (D)
DPL, Inc.
DTE Energy Company (DTE)
Duke Energy Corporation (DUK)
Edison International (EIX)
El Paso Electric Company (EE)
Empire District Electric Company (EDE)
Energy Future Holdings Corp. (formerly TXU Corp.)
Entergy Corporation (ETR)
Eversource Energy (ES)
Exelon Corporation (EXC)
FirstEnergy Corp. (FE)
Great Plains Energy Incorporated (GXP)
Hawaiian Electric Industries, Inc. (HE)
IDACORP, Inc. (IDA)
IPALCO Enterprises, Inc.
MDU Resources Group, Inc. (MDU)
MGE Energy, Inc. (MGEE)
NextEra Energy, Inc. (NEE)
NiSource Inc. (NI)
NorthWestern Corporation (NWE)
OGE Energy Corp. (OGE)
Otter Tail Corporation (OTTR)
Pepco Holdings, Inc. (POM)
PG&E Corporation (PCG)
Pinnacle West Capital Corporation (PNW)
PNM Resources, Inc. (PNM)
Portland General Electric Company (POR)
PPL Corporation (PPL)
Public Service Enterprise Group Inc. (PEG)
Puget Energy, Inc.
SCANA Corporation (SCG)
Sempra Energy (SRE)
Southern Company (SO)
TECO Energy, Inc. (TE)
Unitil Corporation (UTL)
Vectren Corporation (VVC)
WEC Energy Group, Inc. (WEC)
Westar Energy, Inc. (WR)
Xcel Energy, Inc. (XEL)

Companies Listed by Category
(as of 12/31/2015)

Please refer to the Quarterly Financial Updates webpage for previous years' lists.

Given the diversity of utility holding company corporate strategies, no single company categorization approach will be useful for all EEI members and utility industry analysts. Never-the-less, we believe the following classification provides an informative framework for tracking financial trends and the capital markets' response to business strategies as companies depart from the traditional regulated utility model.

Regulated	80%+ of total assets are regulated
Mostly Regulated	50% to 80% of total assets are regulated
Diversified	Less than 50% of total assets are regulated

Categorization of the 47 publicly traded utility holding companies is based on year-end business segmentation data presented in 10Ks, supplemented by discussions with company IR departments. Categorization of the five non-publicly traded companies (*shown in italics*) is based on estimates derived from FERC Form 1 data and information provided by parent company IR departments.

The EEI Finance and Accounting Division continues to evaluate our approach to company categorization and business segmentation. In addition, we can produce customized categorization and peer group analyses in response to member company requests. We welcome comments, suggestions and feedback from EEI member companies and the financial community.

Regulated (36 of 52)

ALLETE, Inc.
Alliant Energy Corporation
Ameren Corporation
American Electric Power Company, Inc.
AVANGRID, Inc.
Avista Corporation
Black Hills Corporation
Cleco Corporation
CMS Energy Corporation
Consolidated Edison, Inc.
DPL, Inc.
DTE Energy Company
Duke Energy Corporation
Edison International
El Paso Electric Company
Empire District Electric Company
Entergy Corporation
Eversource Energy
Great Plains Energy Incorporated
IDACORP, Inc.
IPALCO Enterprises, Inc.
NorthWestern Energy
OGE Energy Corp.
Otter Tail Corporation
Pepco Holdings, Inc.
PG&E Corporation
Pinnacle West Capital Corporation
PNM Resources, Inc.
Portland General Electric Company
Puget Energy, Inc.
Southern Company
TECO Energy, Inc.
UIL Holdings Corporation
Unitil Corporation
Westar Energy, Inc.
Wisconsin Energy Corporation
Xcel Energy, Inc.

Mostly Regulated (13 of 52)

Berkshire Hathaway Energy
CenterPoint Energy, Inc.
Dominion Resources, Inc.
Exelon Corporation
FirstEnergy Corp.
MGE Energy, Inc.
NextEra Energy, Inc.
NiSource Inc.
PPL Corporation
Public Service Enterprise Group, Inc.
SCANA Corporation
Sempra Energy
Vectren Corporation

Diversified (3 of 52)

Energy Future Holdings
Hawaiian Electric Industries, Inc.
MDU Resources Group, Inc.

Note: Based on assets at 12/31/2014

Q4 2015

Rate Case Summary

HIGHLIGHTS

- Investor-owned electric utilities filed 11 new rate cases in Q4 while 20 cases were decided. The combined total indicates rate case activity continues at a heightened level.
- The average awarded ROE in Q4 was 9.62%, a near-record low in our over-three-decades of data. During Q3, two commissions noted the significant decline in capital market costs when rejecting higher requested ROEs.
- An emerging trend in the electric utility industry is the attempt by companies to introduce three-part rates for residential customers. Three-part rates better capture the nature of costs utilities incur to serve customers and can help diminish cost shifting between customers, particularly when usage patterns vary dramatically (as is increasingly the case with growing use of rooftop solar and battery storage).

COMMENTARY

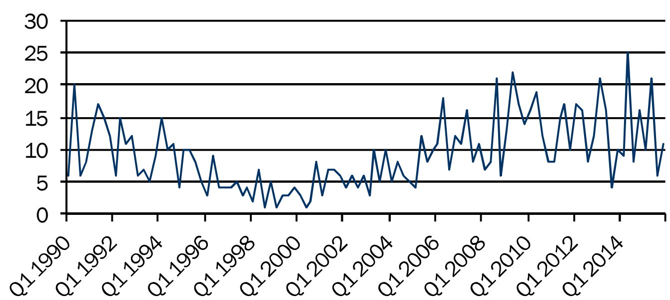
Investor-owned electric utilities filed 11 new rate cases in Q4 2015 while decisions were reached in 20 cases; the combined total indicates that regulatory activity in the industry continues at a heightened level. The average awarded ROE for Q4 was 9.62%, the second lowest in our more than three decades of historical data and consistent with the declining trend during the period. The average requested ROE in Q4, at 10.33%, was also near the minimum in our dataset and consistent with a similar continuous downward trend. Regulatory lag in Q4, at 9.44 months, was near the long-term average lag of about 10 months.

Filed Cases in Q4

As is typical in the industry, electric utilities' need to recover for capital expenditures was the primary reason for Q4 filings. Empire District in Missouri filed in part to convert a generating plant to a combined-cycle unit. Baltimore Gas filed in part to recover for investments in Smart Grid and safety/system reliability investments. Smart Grid investments accounted for $137.1 million of the company's requested

I. Number of Rate Cases Filed (Quarterly)

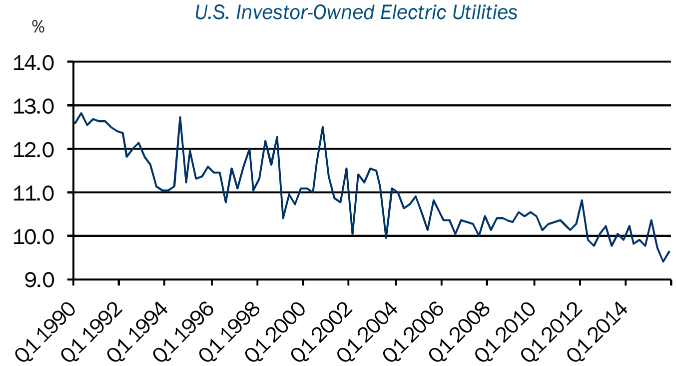
U.S. Investor-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

II. Average Awarded ROE (Quarterly)

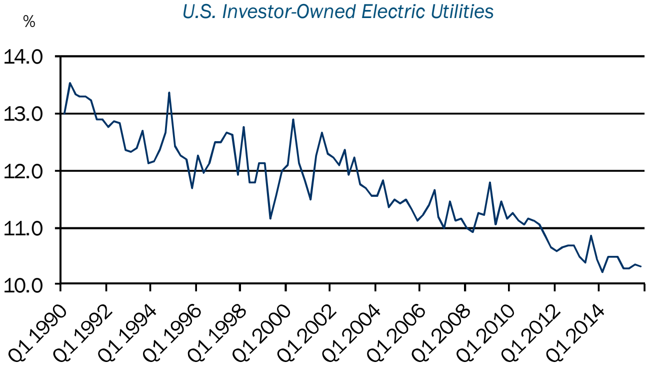
U.S. Investor-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

III. Average Requested ROE (Quarterly)

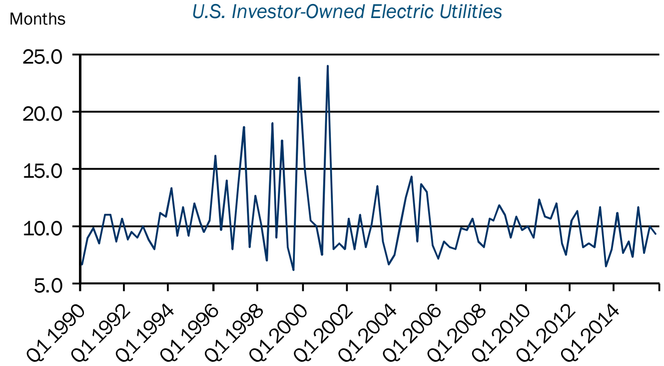
U.S. Investor-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

IV. Average Regulatory Lag (Quarterly)

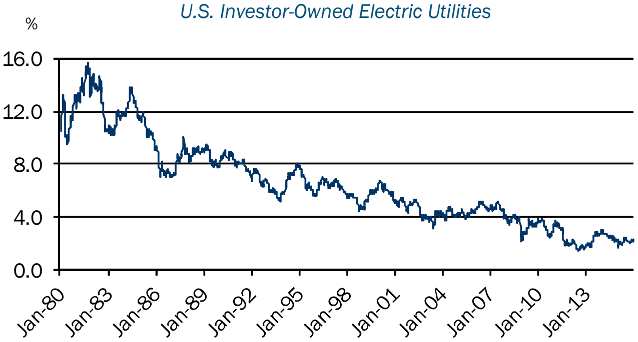
U.S. Investor-Owned Electric Utilities



Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

V. 10-Year Treasury Yield (1/1980 — 12/2015)

U.S. Investor-Owned Electric Utilities



Source: U.S. Federal Reserve

$213 million (electric and gas) increase. PacifiCorp in Washington state filed in part to recover emission control investments at a coal plant.

Utility interest in implementing or modifying rate mechanisms, such as trackers, is often a primary driver of rate filings; this was true in Q4. Massachusetts Electric filed in part to increase the cap on its capital investment recovery mechanism from $170 million to $285 million and would like to implement a property tax tracker mechanism. Baltimore Gas and Electric would like to implement a tracker mechanism to recover increased costs associated with using Baltimore's underground conduit system. PacifiCorp in Washington filed in part to implement a revenue decoupling mechanism; if the mechanism is approved, the company indicated it would not need to file another case asking for an increase until 4/1/2018.

An additional driver of filings in Q4 was the desire to increase customer charges. Empire District in Missouri filed in part to increase its residential customer charge from $12.52 to $14.47 and its commercial customer charge from $22 to $23.47. Northern Indiana Public Service would like to increase its residential customer charge from $11 to $20.

An emerging trend in the electric utility industry (and other utility industries as well) is the attempt by companies to introduce three-part rates for residential customers. The three components of such rates are a fixed customer charge, a variable demand charge, and a volumetric usage charge. Three-part rates have been common for commercial and industrial customers for many years, but such a rate design for residential customers is uncommon. Three-part rates better capture the nature of costs utilities incur to serve customers and can help diminish cost shifting between customers, particularly when usage patterns vary dramatically (as is increasingly the case with growing use of rooftop solar and battery storage). Oklahoma Gas and Electric filed in Q4 to implement a three-part rate for residential customers. Under this new rate structure, the customer charge increases from $13 to $26.54, the demand charge is $2.75 per kilowatt, and the usage charge is reduced commensurately.

Miscellaneous

Tucson Electric Power filed in part to recover for declining use per customer and lower overall sales; the company would also like to implement economic development rates. PacifiCorp in Washington is asking for expedited treatment in its case since it meets the related requirements; these specify that the filing asks for: 1) less than a 3% increase in gross annual revenues, 2) an increase in gross revenues of no more than 3% from any class of service, and 3) no change in the allowed ROE or capital structure. Dayton Power and Light is filing its first base rate case in 24 years. In its filing, Oklahoma Gas and Electric said it terminated its supply agreements to free up power to serve its native customers at low prices.

Decided Cases in Q4

ROE and Capital Structure

Orange & Rockland's joint proposal (JP) that was approved by the New York commission authorized a 9% ROE and a 48% equity share of the capital structure. The commission found this consistent with other major utilities operating under multi-year rate plans, saying "this level of equity adequately balances the need to maintain a utility's financial strength with the revenue requirement impact of relatively

VI. Rate Case Data: From Tables I-V

U.S. Investor-Owned Electric Utilities

Quarter	Number of Rate Cases Filed	Average Awarded ROE	Average Requested ROE	Average 10-Year Treasury Yield	Average Regulatory Lag
Q4 1988	1	NA	14.30	8.96	NA
Q1 1989	4	NA	15.26	9.21	NA
Q2 1989	4	NA	13.30	8.77	NA
Q3 1989	14	NA	13.65	8.11	NA
Q4 1989	13	NA	13.47	7.91	NA
Q1 1990	6	12.62	13.00	8.42	6.71
Q2 1990	20	12.85	13.51	8.68	9.07
Q3 1990	6	12.54	13.34	8.70	9.90
Q4 1990	8	12.68	13.31	8.40	8.61
Q1 1991	13	12.66	13.29	8.02	11.00
Q2 1991	17	12.67	13.23	8.13	11.00
Q3 1991	15	12.49	12.89	7.94	8.70
Q4 1991	12	12.42	12.90	7.35	10.70
Q1 1992	6	12.38	12.77	7.30	8.90
Q2 1992	15	11.83	12.86	7.38	9.61
Q3 1992	11	12.03	12.81	6.62	9.00
Q4 1992	12	12.14	12.36	6.74	10.10
Q1 1993	6	11.84	12.33	6.28	8.87
Q2 1993	7	11.64	12.39	5.99	8.10
Q3 1993	5	11.15	12.70	5.62	11.20
Q4 1993	9	11.04	12.12	5.61	10.90
Q1 1994	15	11.07	12.15	6.07	13.40
Q2 1994	10	11.13	12.37	7.08	9.28
Q3 1994	11	12.75	12.66	7.33	11.80
Q4 1994	4	11.24	13.36	7.84	9.26
Q1 1995	10	11.96	12.44	7.48	12.00
Q2 1995	10	11.32	12.26	6.62	10.40
Q3 1995	8	11.37	12.19	6.32	9.50
Q4 1995	5	11.58	11.69	5.89	10.60
Q1 1996	3	11.46	12.25	5.91	16.30
Q2 1996	9	11.46	11.96	6.72	9.80
Q3 1996	4	10.76	12.13	6.78	14.00
Q4 1996	4	11.56	12.48	6.34	8.12
Q1 1997	4	11.08	12.50	6.56	13.80
Q2 1997	5	11.62	12.66	6.70	18.70
Q3 1997	3	12.00	12.63	6.24	8.33
Q4 1997	4	11.06	11.93	5.91	12.70
Q1 1998	2	11.31	12.75	5.59	10.20
Q2 1998	7	12.20	11.78	5.60	7.00
Q3 1998	1	11.65	NA	5.20	19.00
Q4 1998	5	12.30	12.11	4.67	9.11
Q1 1999	1	10.40	NA	4.98	17.60
Q2 1999	3	10.94	11.17	5.54	8.33
Q3 1999	3	10.75	11.57	5.88	6.33
Q4 1999	4	11.10	12.00	6.14	23.00
Q1 2000	3	11.08	12.10	6.48	15.10
Q2 2000	1	11.00	12.90	6.18	10.50
Q3 2000	2	11.68	12.13	5.89	10.00
Q4 2000	8	12.50	11.81	5.57	7.50
Q1 2001	3	11.38	11.50	5.05	24.00
Q2 2001	7	10.88	12.24	5.27	8.00
Q3 2001	7	10.78	12.64	4.98	8.62
Q4 2001	6	11.57	12.29	4.77	8.00
Q1 2002	4	10.05	12.22	5.08	10.80
Q2 2002	6	11.41	12.08	5.10	8.16
Q3 2002	4	11.25	12.36	4.26	11.00
Q4 2002	6	11.57	11.92	4.01	8.25

VI. Rate Case Data: From Tables I-V (cont.)

U.S. Investor-Owned Electric Utilities

Quarter	Number of Rate Cases Filed	Average Awarded ROE	Average Requested ROE	Average 10-Year Treasury Yield	Average Regulatory Lag
Q1 2003	3	11.49	12.24	3.92	10.20
Q2 2003	10	11.16	11.76	3.62	13.60
Q3 2003	5	9.95	11.69	4.23	8.80
Q4 2003	10	11.09	11.57	4.29	6.83
Q1 2004	5	11.00	11.54	4.02	7.66
Q2 2004	8	10.64	11.81	4.60	10.00
Q3 2004	6	10.75	11.35	4.30	12.50
Q4 2004	5	10.91	11.48	4.17	14.40
Q1 2005	4	10.55	11.41	4.30	8.71
Q2 2005	12	10.13	11.49	4.16	13.70
Q3 2005	8	10.84	11.32	4.21	13.00
Q4 2005	10	10.57	11.14	4.49	8.44
Q1 2006	11	10.38	11.23	4.57	7.33
Q2 2006	18	10.39	11.38	5.07	8.83
Q3 2006	7	10.06	11.64	4.90	8.33
Q4 2006	12	10.38	11.19	4.63	8.11
Q1 2007	11	10.30	11.00	4.68	9.88
Q2 2007	16	10.27	11.44	4.85	9.82
Q3 2007	8	10.02	11.13	4.73	10.80
Q4 2007	11	10.44	11.16	4.26	8.75
Q1 2008	7	10.15	10.98	3.66	7.33
Q2 2008	8	10.41	10.93	3.89	10.80
Q3 2008	21	10.42	11.26	3.86	10.60
Q4 2008	6	10.38	11.21	3.25	11.90
Q1 2009	13	10.31	11.79	2.74	11.10
Q2 2009	22	10.55	11.01	3.31	9.13
Q3 2009	17	10.46	11.43	3.52	10.90
Q4 2009	14	10.54	11.15	3.46	9.69
Q1 2010	16	10.45	11.24	3.72	10.00
Q2 2010	19	10.12	11.12	3.49	9.00
Q3 2010	12	10.27	11.07	2.79	12.40
Q4 2010	8	10.30	11.17	2.86	10.90
Q1 2011	8	10.35	11.11	3.46	10.80
Q2 2011	15	10.24	11.06	3.21	12.00
Q3 2011	17	10.13	10.86	2.43	8.64
Q4 2011	10	10.29	10.66	2.05	7.60
Q1 2012	17	10.84	10.57	2.04	10.50
Q2 2012	16	9.92	10.66	1.82	11.40
Q3 2012	8	9.78	10.68	1.64	8.20
Q4 2012	12	10.05	10.69	1.71	8.65
Q1 2013	21	10.23	10.48	1.95	8.24
Q2 2013	16	9.77	10.40	2.00	11.80
Q3 2013	4	10.06	10.85	2.71	6.55
Q4 2013	10	9.90	10.46	2.75	8.14
Q1 2014	9	10.23	10.22	2.76	11.30
Q2 2014	25	9.83	10.48	2.62	7.83
Q3 2014	8	9.89	10.48	2.50	8.67
Q4 2014	16	9.78	10.47	2.28	7.42
Q1 2015	10	10.37	10.29	2.17	11.80
Q2 2015	21	9.73	10.30	2.17	7.74
Q3 2015	6	9.40	10.35	2.22	10.00
Q4 2015	11	9.62	10.33	2.19	9.44

NA = Not available
Source: SNL Financial / Regulatory Research Assoc. and EEI Rate Department

expensive equity capital." Staff had recommended an 8.5% ROE and the commission said that it has "been very consistent in past years in adopting ROEs in JPs based on the expectation that, in any fully litigated case, the ROE would very likely hew closely to the level recommended in Staff's testimony." In this case, the commission found that the larger ROE "is appropriate in the context of an agreement that provides customers with numerous other material benefits. One of the benefits is a multi-year rate plan, where the company takes on additional financial and business risks by agreeing not to reset the rate of return or many cost elements. These additional risks are usually recognized by adding a stay-out premium to the ROE."

In Consumers Energy's case in Michigan, the commission authorized a 10.3% ROE, which is 0.4% less than the company requested, but 0.3% more than the administrative law judge and some others recommended. The commission said "Consumers has planned an ambitious capital investment program, much of which is related to environmental and generation expenditures that are unavoidable and are saddled with time requirements. . . . Consumers showed, using Staff's exhibit, that the average ROE resulting from recently decided cases in Michigan, Indiana, Ohio, Pennsylvania, and Wisconsin was 10.26%. The Commission acknowledges that ROEs, nationally, have shown a steady decline (as they have in Michigan), and [notes] that Michigan's economy has stabilized; but finds that, under present circumstances, it is reasonable to assume that investor expectations may be rising." Commissioner Sally A. Talberg (I) dissented, saying an allowed ROE of 10% "is more reasonable based on the record evidence."

In Northern States Power's case in Wisconsin, the company had asked for a 10.2% ROE, the ROE that the commission authorized in the company's previous rate case. The commission authorized a 10% ROE in the Q4 case, finding that "factors such as forward-looking test years, annual rate cases, and higher levels of fixed charges, mitigate some risks and suggest that a lower return is reasonable. The Commission has traditionally made gradual, rather than dramatic, adjustments to the return on equity. . . . [The authorized ROE] reflects all of the financial conditions that affect a utility's cost of equity and as a result, it is not reasonable to identify a specific reduction attributable to any single factor, such as the level of customer charges." Commissioner Huebsch dissented, supporting a 9.75% ROE and saying that the reduction in the authorized ROE "is too small a step in relation to the record from across the industry and across the country. In the interest of ratepayers and in keeping Wisconsin's energy prices competitive, a reduction to 9.75% . . . is incremental in a way to diminish the impact upon the company's ability to attract capital and more closely reflects the current market."

The commission also said that it is responsible for protecting customers from activities that might harm the financial health of the regulated utility, including activities by the parent company that prioritize non-utility needs over those of the utility. This extends to the capital structure and dividend policy of the parent company and to both foreseen and unforeseen capital requirements of the utility. Consequently, the commission ruled that it would be reasonable to restrict the company from paying standard dividends, including pass-through of subsidiary dividends, if the common equity ratio falls below 52.5%.

Customer Charges

In Northern States Power's case in Wisconsin, the commission voted to increase the residential customer charge from $8 to $14. The company had requested an increase to $18, subsequently amended to $17.25. The commission commented that this case has "a robust record for the Commission to make a decision regarding which functional costs components are appropriate to be considered for recovery through the customer charge. . . . Increasing the customer charge will put [the company] in a better position to accommodate a wide range of customer behavior and to be able to more appropriately respond to the impacts that flow from the increasingly more diverse choices individual customers can, or may in the future, make to manage their energy supply and use. [The company] also considered the increasing number of customers that are expressing more interest in having more choices in their energy supply, along with the increasing number of options available in the market for customers to manage their load. [The company] supports the evolution of the grid, but as more customers choose to generate some or more of their own energy onsite, or invest in options to change how they use energy, the company wants to ensure that other customers, who do not, or cannot, make these investments do not bear a disproportionate share of the costs of providing basic electric service to all customers. Indeed, [the company] proposed its customer charge increase in order to reduce intra-class subsidies. Similarly, under [the company's] proposal, a fundamental price signal remains intact, which is that customers who use more energy will have higher bills, and customers who use less energy will have lower bills. Lastly, increasing the amount of fixed costs [the company] recovers through customer charges instead of through energy charges helps [the company] become less dependent upon customer consumption levels as the basis for cost recovery."

In DTE Electric's case in Michigan, the company had requested an increase in the residential customer charge from $6 to $10 and in the commercial customer charge from $8.78 to $16. The commission rejected the requests, finding the company's cost of service study flawed, because a number of the costs, while customer-related, are costs that did not vary with the number of customers on the system. The order said, "The Commission has determined that the costs to be included in the customer charge are the marginal costs associated with attaching a customer to the system. . . . the [National Association of Regulatory Utility Commissioners] Manual likewise supports only using the marginal costs of customer attachment in developing the customer charge."

In Southwestern Public Service's case in Texas the company requested an increase in the customer charge from $7.60 to $9.50, which the commission accepted, based on the reasoning of the administrative law judge, who said "The cost of service to the residential class has increased. Therefore the service connection charge for the residential class should also increase. [This will] alleviate some of the inequity of customers with higher load factors that use capacity more efficiently bearing some of the capacity costs caused by residential customers that use the system less efficiently. . . . an argument could be made for increasing the service connection charge to the full, component cost of service, which the preponderance of evidence shows is $11.42 per month. However, given the consideration . . . concerning (a) energy conservation incentives; (b) untoward effects on lower income customers; . . . SWPS's proposal to raise the residential service connectivity charge to $9.50 is an appropriate compromise and should be adopted."

Incentive Compensation

In Consumers Energy's case in Michigan, the commission reduced the company's requested expenses associated with restricted stock compensation and the supplemental executive retirement plan by $12 million, finding "the benefits to ratepayers are not commensurate with the costs" and "the Commission is able to identify few, if any, metrics . . . that are tied to ratepayer benefits." The commission also denied the requested level of long-term incentive compensation proposed by the company, saying the company failed to demonstrate the benefits of the compensation were commensurate with the costs and that "Consumers' long-term incentive compensation is tied closely to company earnings and cash flow measurements that overwhelmingly benefit shareholders."

In Commonwealth Edison's case in Illinois the commission disallowed costs associated with a profit-sharing contribution the company made to its employee savings plan, because the contribution was based on financial metrics, rather than operational metrics. The company had argued that the employee savings plan is an employee benefit, and consequently not financially based incentive compensation, and that the company had included these costs in previous filings without dispute.

In Southwestern Public Service's case in Texas the company said that the financially based incentives had been removed from the incentive compensation part of its filing. However, some intervenors in the case argued that all incentives are financially based and should be disallowed. The Office of Public Utility Counsel recommended a partial reduction to the company's filing for incentive compensation "to better reflect that the plan has a financially-based trigger and incents each employee to meet financially-based performance goals." The commission adopted this partial reduction, saying "SWPS has sufficiently demonstrated that some portion of the plan is tied to performance-based objectives and is part of the necessary expense of attracting and retaining qualified . . . employees. Therefore, removing all the expense of the plan . . . would be improper."

PPL Electric Utilities (Pennsylvania)

PPL Electric Utilities entered into a settlement the commission approved in Q4. The settlement is silent on many rate parameters but disallows a company-requested $14.09 increase to the residential customer charge. The settlement also requires the company to hold a collaborative with all interested parties before 3/1/2016 on the possibility of the company's implementing a revenue decoupling charge. The company is also required to study the legality, feasibility and technical requirements of interconnecting distributed generation storage and battery facilities with its system. Further, the company is to hold a collaborative by 5/1/2016 with all interested stakeholders to discuss the possibility of customers in the assistance program participating in the competitive shopping market. The company is to increase its customer assistance program credits by half of the residential rate increase and its Low Income Usage Reduction Program funding by $0.5 million starting 1/1/2016.

Mississippi Power

In Q4, the Mississippi commission approved a settlement in the Kemper integrated coal gasification combined-cycle plant case. The granted rate increase of $126.1 million reflects only those parts of the plant that are currently in service, including a lignite mine. This order follows the commission's rescission of its previous order adopting rate recognition of the plant, after the Mississippi Supreme Court reversed and remanded the order to the commission. The Southern Mississippi Electric Power Association was to purchase 15% of the plant, but terminated that agreement. The decision also follows the commission's approval of the company's request to implement an interim rate increase. In approving the interim rates, the commission observed that the company was on the "brink of bankruptcy."

Miscellaneous

In Orange & Rockland's case in Q4, the approved Joint Proposal (JP), adhering to New York's statewide Reforming the Energy Vision initiative, adopted a distributed energy resource project intended to defer construction of a new electric substation in Pomona. The JP caps total spending on the project at $9.5 million, and the company can recover $0.4 million per year for the project through base rates. An ROE incentive up to 100 basis points is associated with the project, 50 basis points for achieving targeted cost savings and 50 basis points for achieving load reduction benchmarks.

In Virginia Electric & Power's biennial review case, the commission excluded revenues and costs associated with the company's serving a semi-conductor facility (Micron), finding that facility was not located in "Dominion's exclusive territory established by the Commission. . . . Dominion understandably did not seek the Commission's authority to serve a customer of a municipal utility [Manassas] . . . because the statute does not grant the Commission authority over such a transaction. Under this statutory scheme, Micron has no ability to seek regulatory relief from the Commission . . . Indeed Manassas has not disposed of its right to serve Micron . . . and Micron ultimately remains under the jurisdiction of the municipal electric utility . . . Accordingly, the Commission finds that Micron is not a Virginia jurisdictional customer of Dominion for purposes of the Commission's determination of the utility's earned return . . . This finding increases the Company's biennial review earnings by approximately $5.4 million."

In Commonwealth Edison's case in Illinois, the commission disallowed costs associated with the merger between Exelon (parent of Commonwealth Edison) and Pepco Holdings. The commission found that the merger expenses were prudent and reasonable, but because the District of Columbia commission had not yet approved the merger, savings generated to offset the costs of the merger were not yet likely.

In DTE Electric's case in Michigan, the company proposed a 10.75% ROE. The commission staff and the administrative law judge suggested a 10% ROE. The commission awarded the company a 10.3% ROE, noting that "DTE Electric has an ambitious capital investment program, much of which is related to environmental and generation expenditures that are unavoidable and are saddled with time requirements. . . . Nationally, and in Michigan, ROEs have shown a steady decline, and . . . Michigan's economy has stabilized; . . . economic conditions in DTE's service territory have improved markedly, and access to credit is no longer an issue . . . the Commission finds that the risk associated with DTE Electric has also decreased, and that an ROE of 10.3% appropriately reflects these changes."

In PECO Energy's case in Pennsylvania, an approved settlement determined that new large-volume customers with on-site generation are to be served under the company-proposed pilot Capacity Reservation Rider (CRR). Under the rider, customers pay a reservation fee associated with the potential for them to need access to the distribution system when customer-owned generation is offline. The company's Auxiliary Service Rider serves customers whose generation was online before 1/1/2016. Based on data the company collects before its next rate case, the company may propose to put customers who were online before 1/1/2016 on the CRR. The settlement requires the company to collect data on distribution costs associated with customers taking service at transmission voltage levels or close to a substation, and on usage for all distributed generation on the company's system, and make this data available to the parties to the settlement.■

Deal Profile

Dominion Resources, Inc. acquires Questar Corporation

Deal Overview

Buyer	Dominion Resources, Inc.
Target	Questar Corporation
Deal Type	Utility
Agreement Date	1/31/2016
Announcement Date	2/1/2016
Announced Deal Value ($000)	4,400,337
Short-term and Current Long-term Debt ($000)	581,800
Non-current Long-term Debt ($000)	1,004,400
Cash and Cash Equivalents ($000)	0
Current Investments ($000)	0
Current Inventories ($000)	104,700
Announced Transaction Value ($000)	5,881,837
Status	Pending
Expected Completion Date	9/1/2016 - 12/31/2016
Announced Deal Value Per Share ($)	25.00

Deal Pricing Ratios

	Announcement	Completion
Transaction Value/ EBITDA (x)	9.2	NA
Transaction Value/ Energy Operating Revenues (x)	5.14	NA
Transaction Value/ Assets (%)	140.47	NA
Price/ Adj. Op. Cash Flows (x)	8.46	NA
Deal Value/ Book Value (%)	337.8	NA
Deal Value/ Earnings (x)	20.2	NA
Transaction Value/ Gas Throughput ($/MCF)	34.20	NA
Transaction Value/ Gas Customer Acquired ($/customer)	5,993.63	NA

Deal Terms

Description of Consideration
Dominion Resources Inc. will pay $25 per share in cash to acquire Questar Corporation. Dominon will also assume approx. $1.48 billion in net debt of Questar Corp.

Minority Interest Deal?	No
Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market
Maximum Termination Fee ($000)	99,000
Minimum Termination Fee ($000)	0

Deal Summary

Richmond, Va.-based Dominion Resources Inc. has agreed to acquire Salt Lake City-based Questar Corporation.

Deal Valuation

In the Money Options	286,488
In the Money Strike Price ($)	12.46
In the Money As Of	1/31/2016
Total Deal Value Shares	176,156,253

Consideration Breakout

Cash ($000)	4,396,744

Consideration Not Included in Deal Value Calculation

Debt Assumed ($000)	1,481,500

Additional Deal Information

Post-Completion Year	Deal Accretive?	Earnings Accretion (%)	Earnings Accretion ($)	Est. Cost Savings (%)	Est. Cost Savings ($000)
1	Accretive	NA	NA	NA	NA

Regulatory Approval Detail

Deal Profile

Dominion Resources, Inc. acquires Questar Corporation

Regulatory Agency	Filing Date	Date Agency Returned Ruling	Regulatory Agency Approved?	Regulatory Application Waived?
Federal Trade Commission	NA	NA	No	No
Idaho Public Utilities Commission	NA	NA	No	No
Public Service Commission of Utah	NA	NA	No	No
Wyoming Public Service Commission	NA	NA	No	No

Deal Advisers - Financial Advisers

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	RBC Capital Markets LLC	-	-	-
		Mizuho Bank	-	-	-
Seller	Yes	Goldman Sachs & Co.	-	-	-

Deal Advisers - Legal Counsel

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	McGuireWoods LLP	Joanne Katsantonis	-	-
			Jay Hughes		
Seller	Yes	Kirkland & Ellis LLP	Alexander D. Fine	-	-
			Brendan J. Reed		

Press Release

Dominion Resources, Questar Corporation to Combine

- Premium addition to Dominion's existing portfolio of high-performing, regulated energy infrastructure assets - Transaction would be earnings accretive and supportive of Dominion's credit ratings targets - Adds to Dominion's inventory of top-quality, low-risk assets available for Dominion Midstream - Transaction to benefit Questar customers as focus remains on safe, efficient, reliable operations - Combined company would serve about 4.8 million electric & gas customer accounts in seven states

Company Release - 02/01/2016 07:00

RICHMOND, Va., Feb. 1, 2016 /PRNewswire/ -- Dominion Resources, Inc. (NYSE: D) and Questar Corporation (NYSE: STR) today announced an agreement for the companies to combine, in an all-cash transaction in which Dominion has agreed to pay Questar shareholders $25 per share – about $4.4 billion – and assume Questar's outstanding debt.

The transaction would be accretive to Dominion upon closing – expected by year-end 2016 – with limited impact on the company's balance sheet. Dominion intends to finance the transaction in a manner that supports the company's existing credit ratings targets, using equity, mandatory convertibles and debt at Dominion, and equity at Dominion Midstream Partners, LP (NYSE: DM). The Dominion-Questar combination also is expected to support Dominion's 2017 earnings growth rate and allow the company to reach the top of or exceed its 2018 growth targets.

Questar, headquartered in Salt Lake City, Utah, is a natural gas distribution, pipeline, storage and cost-of-service gas supply company. It serves nearly 1 million homes and businesses in Utah, Wyoming and Idaho, with approximately 97 percent of those customer accounts in Utah. Questar employs about 1,700 people and has about $4.2 billion in assets, including approximately 27,500 miles of gas distribution pipeline, 3,400 miles of gas transmission pipeline and 56 billion cubic feet of working gas storage. Its regional cost-of-service gas supply business has provided reliable supply and saved Questar Gas customers more than $1 billion over the past 35 years under a public service commission-approved framework.

Thomas F. Farrell II, chairman, president and chief executive officer of Dominion, said:

"Dominion is very pleased to join with Questar. Like Dominion, Questar has a history of safe and reliable operations, integrity and a firm commitment to its employees and the communities it serves. Questar's customers can count on a continuation of the high-quality service they have enjoyed for years.

"This addition is well-aligned with Dominion's existing strategic focus on core regulated energy infrastructure operations. Questar boasts best-in-sector customer growth in states with strong pro-business credentials and constructive regulatory environments. These high-performing regulated assets will improve Dominion's balance between electric and gas operations and provide enhanced scale and diversification into Questar's regulatory jurisdictions.

"Of note, Dominion Midstream investors will benefit from the addition of Questar, as it is expected to contribute more than $425 million of EBITDA to Dominion's inventory of top-quality, low-risk MLP-eligible assets, supporting Dominion Midstream's targeted annual cash distribution growth rate of 22 percent.

"Questar is the ideal mix for Dominion shareholders and Dominion Midstream unitholders alike."

Ron Jibson, chairman, president and chief executive officer of Questar, said:

"Questar is excited to be joining the Dominion family of companies and serve as the hub of its Western operations. Our similar cultures and commitment to customers, shareholders, communities and employees make this a win-win transaction. Dominion's reputation among its peers and analysts is unmatched. We're proud to become part of America's most-admired gas and electric utility."

Adds geographic diversity to Dominion portfolio

Questar would provide enhanced geographic diversity to Dominion's natural gas operations. Dominion's existing operations lie in the heart of the mid-Atlantic, whereas Questar's system is the "hub of the Rockies" and a principal source of gas supply to Western states. Dominion expects the value of the Questar pipeline system to rise over time as Utah and other Western states seek to comply with the requirements of the U.S. Environmental Protection Agency's Clean Power Plan and meet state-mandated renewable standards, with increasing reliance on low-carbon, gas-fired electric generation.

The combined company would serve about 2.5 million electric utility customers and 2.3 million gas utility customers in seven states. It also would operate more than 15,500 miles of natural gas transmission, gathering and storage pipelines, one of the nation's largest natural gas storage systems, and approximately 24,300 megawatts of generation.

Separate from this transaction, Dominion has committed about $1 billion for three solar generating facilities located in Beaver, Iron and Millard counties, Utah. These solar facilities are backed by long-term power purchase agreements with local electric utilities.

Terms of transaction & advisers

Upon transaction closing, Questar shareholders will receive $25 in cash for each share of Questar common stock. This represents an approximate 30 percent premium to the volume-weighted average stock price of Questar's last 20 trading days ended Jan. 29, 2016.

Pending approvals, Questar will operate as a first-tier, wholly owned subsidiary of Dominion and maintain its significant presence, local management structure and headquarters in Salt Lake City. Dominion has also agreed to increase community involvement and charitable investment in the communities currently served by Questar.

The transaction requires approval of Questar's shareholders and clearance from the Federal Trade Commission under the Hart-Scott-Rodino Act. Questar and Dominion also will file for review and approval, if required, from the Utah Public Service Commission and the Wyoming Public Service Commission, and provide information regarding the transaction to the Idaho Public Utilities Commission.

RBC Capital Markets, LLC, and Mizuho Bank, Ltd., have provided committed financing and are acting in the role of financial advisers to Dominion. Goldman, Sachs & Co. served as the exclusive financial adviser to Questar.

McGuireWoods LLP served as legal counsel to Dominion and Kirkland & Ellis LLP served as legal counsel to Questar.

Conference call today

Dominion leadership will discuss the announced combination on the company's fourth-quarter earnings conference call at 12 p.m. ET today. Domestic callers should dial (877) 410-5657. The passcode for the call is "Dominion." International callers should dial (334) 323-9872. Participants should dial in 10 to 15 minutes prior to the scheduled start time. Members of the media are invited to listen.

A live webcast of the conference call also will be available on the company's investor information page at www.dom.com/investors.

About Dominion

Dominion is one of the nation's largest producers and transporters of energy, with a portfolio of approximately 24,300 megawatts of generation, 12,200 miles of natural gas transmission, gathering and storage pipeline, and 6,500 miles of electric transmission lines. Dominion operates one of the nation's largest natural gas storage systems with 933 billion cubic feet of storage capacity and serves utility and retail energy customers in 14 states. For more information about Dominion visit the company's website at www.dom.com.

About Questar

Questar Corp. is a Rockies-based integrated natural gas company operating through three principal subsidiaries: **Questar Gas** provides retail natural gas distribution in Utah, Wyoming and Idaho; **Wexpro** develops and produces natural gas on behalf of Questar Gas; and **Questar Pipeline** operates interstate natural gas pipelines and storage facilities in the Western U.S. For more information, visit Questar's website at: www.questar.com.

This news release includes certain "forward-looking information." Examples include information as to Dominion's expectations, beliefs, plans, goals, objectives and future financial or other performance or assumptions concerning matters discussed in this release. Factors that could cause actual results to differ from those in the forward-looking statements may accompany the statements themselves. In addition, Dominion's business is influenced by many factors that are difficult to predict, involve uncertainties that may materially affect actual results and are often beyond our ability to control or estimate precisely, such as the ability to obtain the required approval of Questar's shareholders; the risk that Dominion or Questar may be unable to obtain necessary regulatory approvals for the transaction or required regulatory approvals may delay the transaction or cause the parties to abandon the transaction; the risk that conditions to the closing of the transaction or the committed debt financing may not be satisfied; and the risk that an unsolicited offer for the assets or capital stock of Questar may interfere with the transaction. We have identified and will in the future identify a number of these factors in our SEC Reports on Forms 10-K and 10-Q. We refer you to those discussions for further information. Any forward-looking statement speaks only as of the date on which it is made, and we undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which it is made.

Additional information and where to find it

This communication may be deemed to be solicitation material in respect of the merger of Questar and a subsidiary of Dominion. In connection with the merger, Questar intends to file relevant materials with the SEC, including a proxy statement in preliminary and definitive form, and deliver a copy of the proxy statement to its shareholders. Investors of Questar are urged to read the definitive proxy statement and other relevant documents carefully and in their entirety when they become available because they will contain important information about Dominion, Questar, the merger and related matters. Investors may obtain a free copy of these materials (when they are available) and other documents filed by Questar with the SEC at the SEC's website at www.sec.gov, at Questar's website at www.questar.com or by sending a written request to Questar at Questar Corporation, Corporate Secretary, 333 South State St., P.O. Box 45433, Salt Lake City, UT 84145-0433. Security holders also may read and copy any reports, statements and other information filed by Questar with the SEC, at the SEC public reference room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 or visit the SEC's website for further information on its public reference room.

Participants in the solicitation

Dominion, Questar and certain of their respective directors, executive officers and other persons may be deemed to be participants in the solicitation of proxies in respect of the transaction. Information regarding Dominion's directors and executive officers is available in Dominion's proxy statement filed with the SEC on March 23, 2015, in connection with its 2015 annual meeting of stockholders, and information regarding Questar's directors and executive officers is available in Questar's proxy statement filed with the SEC on April 17, 2015, in connection with its 2015 annual meeting of shareholders. Other information regarding persons who may be deemed participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the proxy statement and other relevant materials to be filed with the SEC when they become available.

To view the original version on PR Newswire, visit:http://www.prnewswire.com/news-releases/dominion-resources-questar-corporation-to-combine-300212626.html

SOURCE Dominion Resources, Inc.

http://www.reuters.com/article/us-questar-m-a-dominion-idUSKCN0VA2BW

Business | Mon Feb 1, 2016 1:41pm EST

Power producer Dominion to buy Questar in natural gas push

By Swetha Gopinath and Anet Josline Pinto

Dominion Resources Inc (D.N) said it would buy Questar Corp (STR.N) for about $4.4 billion in cash, the latest power producer to bet on stable revenues from natural gas distribution at a time when power demand is waning.

The deal is the third in a series of mergers between power producers and gas utilities, which are benefiting from a glut of shale gas and federal regulation that mandates the use of the fuel in power generation.

Duke Energy Corp (DUK.N), the largest U.S. power company by generation capacity, said in October it would buy Piedmont Natural Gas Co (PNY.N) for $4.9 billion, while Southern Co (SO.N) announced an $8 billion deal for AGL Resources Inc (GAS.N) in August.

Dominion on Monday also reported a fourth-quarter profit that missed analysts' average estimate, hurt by weak power demand due to the milder-than-normal weather.

Dominion's $25-per-share offer represents a premium of nearly 23 percent to Questar's Friday close.

Questar's shares were trading at $24.94 in early afternoon, while Dominion's shares were down about 1 percent at $71.18.

Morningstar analysts called the deal "cheap", noting that the price was 19 times Questar's 2016 earnings, compared with similar transactions over the past two years that averaged 24 times forward earnings.

Dominion will assume $1.6 billion of Questar's debt as part of the deal, which will immediately add to earnings, Dominion executives said on a conference call.

With Questar's acquisition, Dominion will get about 27,500 miles (44,250 km) of gas distribution pipelines, 3,400 miles of gas transmission pipeline and 56 billion cubic feet of working gas storage.

The combined company will serve 2.5 million electric utility customers and 2.3 million gas utility customers.

Questar will operate as a unit of Dominion after close, expected by the end of 2016.

The company's pipeline assets will be dropped into Dominion's master limited partnership, Dominion Midstream Partners LP, after the deal closes, executives said.

RBC Capital Markets LLC and Mizuho Bank Ltd were Dominion's financial advisers and McGuireWoods LLP its legal counsel.

Goldman Sachs & Co (GS.N) advised Questar, while Kirkland & Ellis LLP provided legal counsel.

(Reporting by Swetha Gopinath and Anet Josline Pinto in Bengaluru; Editing by Maju Samuel and Sriraj Kalluvila)

Article

Monday, February 01, 2016 7:21 AM ET

UPDATE: Dominion to acquire Questar in $4.4B all-cash deal

By Sheharyar Khan

Dominion Resources Inc. announced a $4.4 billion all-cash deal to acquire Questar Corp. early Feb. 1 to create a combined entity that would serve 2.5 million electric utility customers and 2.3 million gas utility customers in seven states.

The deal will see Questar stockholders receive $25 per share in cash: a 30% premium to their price over the last 20 trading days ended Jan. 29. Dominion will also assume Questar's outstanding debt and is targeting completion of the deal by the end of this year.

The transaction will be financed with a combination of equity, mandatory convertibles and debt at Dominion, and equity at Dominion Midstream Partners LP. RBC Capital Markets LLC and Mizuho Bank Ltd. have provided committed financing and are acting as financial advisers to Dominion.

Salt Lake City, Utah-based Questar is a natural gas distribution, pipeline, storage and cost-of-service gas supply company that serves nearly 1 million homes and businesses in Utah, Wyoming and Idaho. Questar also owns 56 Bcf of working gas storage.

The combined entity will have access to more than 15,500 miles of natural gas transmission, gathering and storage pipelines, and approximately 24,300 MW of generation.

Dominion is the latest power sector heavyweight to make a multi-billion dollar acquisition in the natural gas sphere after Duke Energy Corp. and Southern Co.

Duke in October 2015 announced a deal to acquire Piedmont Natural Gas Co. Inc. for about $4.9 billion in cash, or $60 per share. Southern Co. is acquiring AGL Resources Inc. for $7.94 billion in cash, or $66 per share, under a deal announced in August 2015.

The acquisition is also expected to support Dominion's 2017 earnings growth rate and allow the company to reach the top of or exceed its 2018 growth targets. More importantly, the addition of Questar will contribute more than $425 million of EBITDA to Dominion's inventory of master limited partnership-eligible assets, supporting Dominion Midstream's targeted annual cash distribution growth rate of 22%.

The deal requires Questar shareholder approval and clearance from the Federal Trade Commission under the Hart-Scott-Rodino Act. The companies will also seek approval from the Utah Public Service Commission and the Wyoming Public Service Commission, if required, and provide information regarding the transaction to the Idaho Public Utilities Commission.

Goldman Sachs & Co. served as the exclusive financial adviser while Kirkland & Ellis LLP served as the legal counsel to Questar. McGuireWoods LLP served as legal counsel to Dominion.

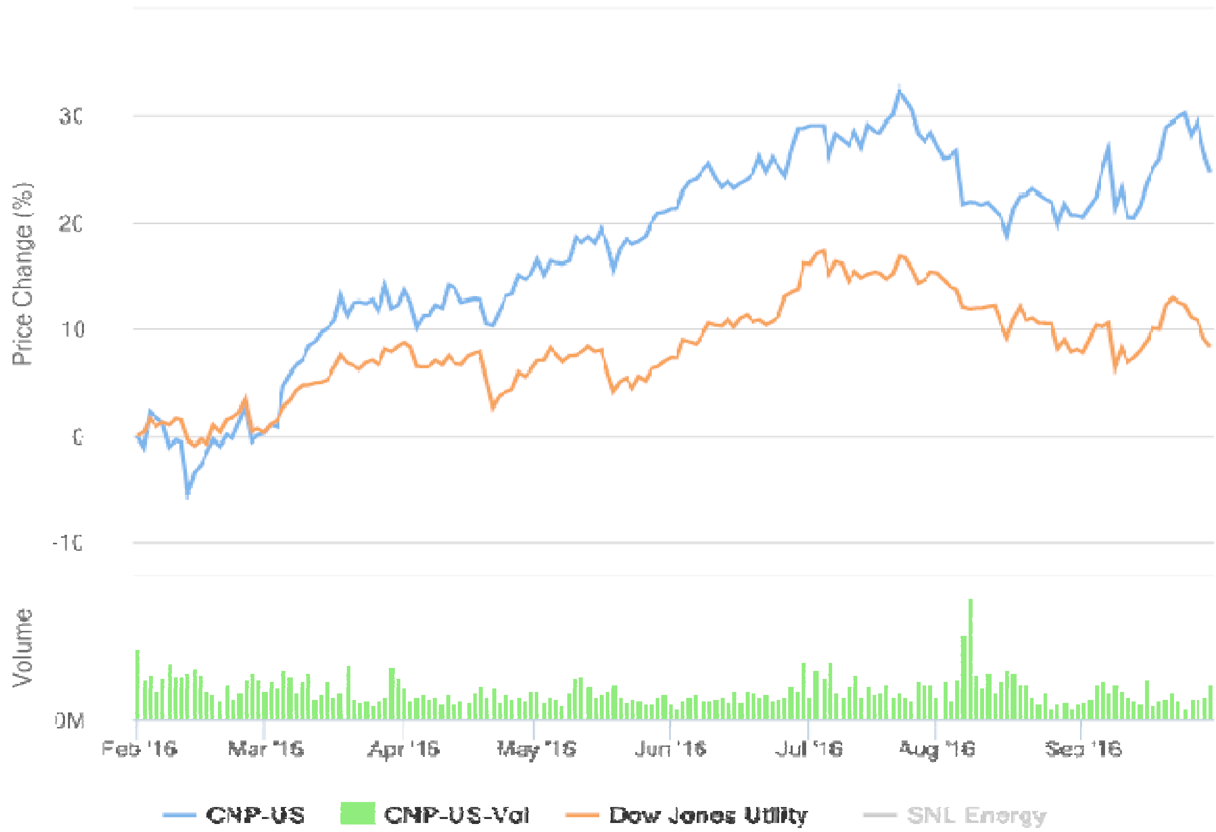
Dominion will discuss the combination during its fourth-quarter earnings call at 12 p.m. ET on Feb. 1.

Check back on SNL for continuing coverage of Dominion's proposed acquisition of Questar.

CenterPoint Energy, Inc. | Stock Chart

NYSE:CNP (SNL Inst Key: 4074390)

		CNP	DJUA
Period:	2/1/16 - 9/30/16		
Metric:	Price Change (%)	24.76%	8.39%
Frequency:	Daily		



Price Change (%) - 2/1/2016 to 9/30/2016

Pricing Date	*CNP-US*	*CNP-US-Vol*	*Dow Jones Utility*
9/30/2016	24.76	5,115,785	8.39
2/1/2016	0.00	10,143,180	0.00

Article

Monday, February 01, 2016 7:43 AM ET

CenterPoint exploring sale of Enable Midstream, REIT model for utilities

By Sheharyar Khan

CenterPoint Energy Inc. is exploring a sale of Enable Midstream Partners.

The Houston-based company said Feb. 1 that it was evaluating strategic alternatives for its investments in Enable Midstream, which may also include a spin-off. CenterPoint owns a 50% general partner interest and a 55.4% limited partner interest in Enable Midstream, and jointly controls it with OGE Energy Corp. which owns a 26.3% limited partner interest in the partnership, according to SNL Energy data.

The announcement follows CenterPoint's recently announced $363 million preferred equity investment in Enable Midstream.

"With continued connections and drilling activity across its system, Enable is well-positioned for long-term growth as commodity markets recover. We believe that now is the right time to explore options for unlocking the value of our strategic investment, reflecting our continuous commitment to drive value for shareholders," CenterPoint Energy President and CEO Scott Prochazka said in a statement.

Furthermore, CenterPoint Energy is exploring the real estate investment trust, or REIT, business model for all or part of its utility businesses. "The REIT structure has recently received significant attention in the regulated utility industry in Texas and could have substantial potential for CenterPoint. We will continue to study the possibilities and monitor developments, including related regulatory proceedings and will present any findings to our shareholders at the appropriate time," Prochazka said.

CenterPoint Energy said that it will inform the market of further details once a specific action is approved by its board.

In a separate Feb. 1 announcement, CenterPoint Energy issued its 2016 EPS guidance in range of $1.12 to $1.20, and reaffirmed its expected 2015 EPS guidance range of $1.05 to $1.10.

Tuesday, February 02, 2016 11:29 AM ET Exclusive

CenterPoint seen as likely to spin off stake in Enable Midstream

By Nish Amarnath

CenterPoint Energy Inc. looks likely to spin off its interest in Enable Midstream Partners, owing to difficulties in offloading its stake in the master limited partnership amid a whopping tax liability, low commodity prices and expected production declines, market watchers said.

The Houston-based electric and gas utility on Feb. 1 announced a strategic review of its investment in Enable, which it formed in 2013 with OGE Energy Corp. and ArcLight Capital Partners LLC.

One complicating factor is CenterPoint's roughly $1.8 billion of deferred tax liabilities accumulated over a number of years, according to statements made during earnings calls, Ali Agha, managing director of equity research at SunTrust Robinson Humphrey Inc., told SNL Energy. "If there's any exit of [CenterPoint's] ownership of Enable, the tax bill becomes due immediately," Agha said.

A spinoff and a stake sale are both on the table, but CenterPoint may decide to split up its midstream and utilities businesses to limit the latter's exposure to midstream volatility, he added.

Other market observers concurred that a stake sale could be less feasible. "The problem is finding a buyer who'd make that type of acquisition and whether [that buyer] would be willing to take additional volumetric and commodity price risk," said Michael Llanos, an energy infrastructure analyst at Standard & Poor's Ratings Services.

In spite of robust growth in Enable Midstream's volumes in 2015, Llanos said he expects the MLP to contend with falling volumes in 2016 as an offshoot of commodity price pressures. He said such declines could help push Enable's leverage beyond 4x in 2016. Enable's adjusted leverage for the 12-month period ended Sept. 30, 2015, was 3.87x, according to a report from Fitch Ratings.

CenterPoint expects to take a noncash impairment on its limited partnership interest in Enable Midstream on its fourth-quarter and full-year 2015 financials, the company said in a Feb. 1 news release. This write-off could be the tip of the iceberg. "There could be more impairments going forward," said Christopher Muir, an equity analyst at S&P Capital IQ.

Muir said he expects a spinoff to be a more likely outcome because of challenges involved in getting a decent price for Enable's assets in a stake sale. "They would want to receive a cash price that's higher than what their shareholders would receive in a spinoff. I don't think that's going to happen," he said. Market participants told SNL Energy that the only prospective buyers that would show any enthusiasm in picking up CenterPoint's stake in Enable would be investment-grade MLPs.

The time is ripe for exploring the possibility of unlocking the value of CenterPoint's investment in Enable Midstream, but it is too early to say whether a spinoff will happen, Leticia Lowe, a spokesperson for CenterPoint Energy in Houston, said in an interview.

Enable has $1.3 billion in credit revolvers available. In a separate series of transactions, the MLP signed an agreement in January to replace its intercompany debt to CenterPoint with hybrid capital. CenterPoint will buy $363 million of 10% series A preferred units, and Enable will pay $363 million of notes due 2017 to an affiliate of CenterPoint Energy Resources Corp.

S&P dropped outlooks for Enable and CenterPoint to negative from stable during the last week of January, with BBB- and A- ratings, respectively. Fitch has downgraded Enable to BBB- from BBB, maintaining a stable outlook.

The utility company's stock rose 4.2%, to $18.62, on Feb. 1, while Enable Midstream Partners' units dipped 3.7%, to $7.30.

S&P Ratings and Capital IQ + SNL Financial are owned by McGraw Hill Financial Inc.

Article amended at 1:35 p.m. ET on Feb. 2, 2016, to clarify the nature of Enable Midstream Partners' recent debt transaction with an affiliate of CenterPoint Energy Resources Corp.

Segment Analysis

CenterPoint Energy, Inc. (NYSE: CNP)

Grouped By: **Financials** | Segment

	2011 FY	2012 FY	2013 FY	2014 FY	2015 FY
Period Ended	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015
Energy Operating Revenue ($000)					
Segment: Electric Transmission & Distribution	2,337,000	2,540,000	2,570,000	2,845,000	2,845,000
Segment: Natural Gas Distribution	2,841,000	2,342,000	2,863,000	3,301,000	2,632,000
Segment: Energy Services	2,511,000	1,784,000	2,401,000	3,179,000	1,957,000
Segment: Midstream Investments	NA	NA	0	0	0
Segment: Other Operations	11,000	11,000	14,000	15,000	14,000
Segment: Eliminations	(215,000)	(233,000)	(124,000)	(114,000)	(62,000)
Segment: Interstate Pipelines	553,000	502,000	186,000	NA	NA
Segment: Field Services	412,000	506,000	196,000	NA	NA
Segment Operating Revenue/ Operating Revenue (%)					
Segment: Electric Transmission & Distribution	27.66	34.08	31.70	30.84	38.52
Segment: Natural Gas Distribution	33.62	31.43	35.32	35.78	35.63
Segment: Energy Services	29.72	23.94	29.62	34.46	26.50
Segment: Midstream Investments	NA	NA	0.00	0.00	0.00
Segment: Other Operations	0.13	0.15	0.17	0.16	0.19
Segment: Eliminations	NM	NM	NM	NM	NM
Segment: Interstate Pipelines	6.54	6.74	2.29	NA	NA
Segment: Field Services	4.88	6.79	2.42	NA	NA
Net Income ($000)					
Segment: Electric Transmission & Distribution	NA	NA	NA	NA	NA
Segment: Natural Gas Distribution	NA	NA	NA	NA	NA
Segment: Energy Services	NA	NA	NA	NA	NA
Segment: Midstream Investments	NA	NA	NA	NA	NA
Segment: Other Operations	NA	NA	NA	NA	NA
Segment: Eliminations	NA	NA	NA	NA	NA
Segment: Interstate Pipelines	NA	NA	NA	NA	NA
Segment: Field Services	NA	NA	NA	NA	NA
Segment Net Income/ Total Net Income (%)					
Segment: Electric Transmission & Distribution	NA	NA	NA	NA	NA
Segment: Natural Gas Distribution	NA	NA	NA	NA	NA
Segment: Energy Services	NA	NA	NA	NA	NA
Segment: Midstream Investments	NA	NA	NA	NA	NA
Segment: Other Operations	NA	NA	NA	NA	NA
Segment: Eliminations	NA	NA	NA	NA	NA
Segment: Interstate Pipelines	NA	NA	NA	NA	NA
Segment: Field Services	NA	NA	NA	NA	NA
Cash Flow: Capital Expenditures ($000)					
Segment: Electric Transmission & Distribution	538,000	599,000	759,000	818,000	934,000

Segment Analysis

CenterPoint Energy, Inc. (NYSE: CNP)

Segment: Natural Gas Distribution	295,000	359,000	430,000	525,000	601,000
Segment: Energy Services	5,000	6,000	3,000	3,000	5,000
Segment: Midstream Investments	NA	NA	0	0	0
Segment: Other Operations	54,000	40,000	35,000	56,000	35,000
Segment: Eliminations	0	0	0	0	0
Segment: Interstate Pipelines	98,000	132,000	29,000	NA	NA
Segment: Field Services	201,000	52,000	16,000	NA	NA
Segment Capital Expend/ Capital Expenditures (%)					
Segment: Electric Transmission & Distribution	45.17	50.42	59.67	58.35	59.30
Segment: Natural Gas Distribution	24.77	30.22	33.81	37.45	38.16
Segment: Energy Services	0.42	0.51	0.24	0.21	0.32
Segment: Midstream Investments	NA	NA	0.00	0.00	0.00
Segment: Other Operations	4.53	3.37	2.75	3.99	2.22
Segment: Eliminations	0.00	0.00	0.00	0.00	0.00
Segment: Interstate Pipelines	8.23	11.11	2.28	NA	NA
Segment: Field Services	16.88	4.38	1.26	NA	NA
Total Assets ($000)					
Segment: Electric Transmission & Distribution	11,221,000	11,174,000	9,605,000	10,066,000	10,049,000
Segment: Natural Gas Distribution	4,636,000	4,775,000	4,976,000	5,464,000	5,657,000
Segment: Energy Services	1,089,000	839,000	895,000	978,000	857,000
Segment: Midstream Investments	NA	NA	4,518,000	4,521,000	2,594,000
Segment: Other Operations	2,318,000	2,600,000	3,026,000	3,368,000	2,902,000
Segment: Eliminations	(3,322,000)	(2,974,000)	(1,150,000)	(1,197,000)	(725,000)
Segment: Interstate Pipelines	3,867,000	4,004,000	0	NA	NA
Segment: Field Services	1,894,000	2,453,000	0	NA	NA
Segment Assets/ Assets (%)					
Segment: Electric Transmission & Distribution	51.70	48.86	43.92	43.39	47.10
Segment: Natural Gas Distribution	21.36	20.88	22.75	23.55	26.52
Segment: Energy Services	5.02	3.67	4.09	4.22	4.02
Segment: Midstream Investments	NA	NA	20.66	19.49	12.16
Segment: Other Operations	10.68	11.37	13.84	14.52	13.60
Segment: Eliminations	NM	NM	NM	NM	NM
Segment: Interstate Pipelines	17.82	17.51	0.00	NA	NA
Segment: Field Services	8.73	10.73	0.00	NA	NA

Note: SNL uses a variety of sources to retrieve financial information for each company we cover. For Energy companies, SNL mines data from documents filed by the company, surveys, and other sources of public information.

UBS | Global Research | 26 October 2015

Duke Energy
The Duke of North Carolina

Equities

Americas
Electric Utilities

12-month rating	**Neutral**
12m price target	**US$74.00**
Price	**US$72.30**
RIC: DUK.N **BBG:** DUK US	

Trading data and key metrics

52-wk range	US$89.36-67.74
Market cap.	US$50.0bn
Shares o/s	692m (COM)
Free float	97%
Avg. daily volume ('000)	1,192
Avg. daily value (m)	US$86.0
Common s/h equity (12/15E)	US$40.3bn
P/BV (12/15E)	1.2x
Net debt / EBITDA (12/15E)	4.3x

EPS (UBS, diluted) (US$)

	12/15E	
	UBS	**Cons.**
Q1	1.24	1.24
Q2	0.95	0.95
Q3E	1.50	1.51
Q4E	0.88	0.92
12/15E	4.59	4.64
12/16E	4.90	4.87
12/17E	5.06	5.11

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Duke the latest utility to pay-up (27x P/E 2017E) for gas growth

Duke announced the acquisition of Piedmont Natural Gas (PNY) for $4.9Bn equity value ($60/sh vs $42/sh Friday close) as another electric utility executes on natural gas M&A. Piedmont is concentrated in North Carolina (70% of rate base) and also has ownership in the Atlantic Coast and Constitution pipelines. Piedmont has been growing EBITDA and ratebase at ~9% along with 1.6-2.0% customer growth, notable premiums to Duke's ~4% earnings growth target (<2% 2010A-2015E EPS CAGR) and ~1% customer growth.

Supports existing growth rate while offering EPS accretion in 2017

Duke guides to EPS accretion in 2017 which "enhances" Duke's long-term 4-6% EPS target. In 2Q15 Duke described its guidance as a "target" rather than a deliverable and we see the deal as helping to push growth back towards the midpoint. We estimate $0.10/sh EPS accretion (~2%) in 2017E which would increase our 2013A-2017E EPS CAGR to 4.5% from 4.0% currently. The $6.7Bn enterprise value is expected to be financed with (1) assumption of $1.8Bn; (2) a $500-$750Mn equity forward; (3) holding company debt; and (4) cash. Potential sources of cash include a dividend from Florida to Duke Corp from the Crystal River 3 securitization ($600Mn) and Latin American repatriation ($300Mn).

Continuation of growing interest in natural gas and emphasis on sales growth

Following Southern/AGL Resources in August 2015, TECO/New Mexico Gas Company in May 2013, and numerous pipeline stakes we see electric utilities increasingly interested in gas infrastructure. As electric demand stagnates (Duke previously characterized as "anemic") we expect to see more interest in gas utilities and utes that see real growth.

Valuation: Maintain $74 Price Target; deal posts limited accretion amidst debt

Valuation is based on 2017E P/E. Deal helps to fill the earnings gap from international but high transaction multiple leaves limited accretion and raises questions about lack of investment opportunities for Duke's cash flows.

Highlights (US$m)	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
Revenues	19,624	24,598	23,925	25,096	25,970	26,576	27,371	28,406
EBIT (UBS)	5,026	5,885	6,511	6,427	6,948	7,230	7,515	7,917
Net earnings (UBS)	2,480	3,067	3,214	3,178	3,384	3,498	3,635	3,908
EPS (UBS, diluted) (US$)	4.32	4.35	4.55	4.59	4.90	5.06	5.26	5.66
DPS (US$)	3.03	3.09	3.16	3.28	3.39	3.54	3.69	3.94
Net (debt) / cash	(38,875)	(39,594)	(40,498)	(41,141)	(45,364)	(47,630)	(50,039)	(47,622)

Profitability/valuation	12/12	12/13	12/14	12/15E	12/16E	12/17E	12/18E	12/19E
EBIT margin %	25.6	23.9	27.2	25.6	26.8	27.2	27.5	27.9
ROIC (EBIT) %	10.8	9.5	10.7	11.0	11.3	11.0	10.9	11.3
EV/EBITDA (core) x	9.0	10.1	9.6	9.5	9.1	7.0	6.7	6.4
P/E (UBS, diluted) x	14.9	16.0	16.2	15.8	14.8	14.3	13.7	12.8
Equity FCF (UBS) yield %	(3.2)	0.4	0.0	0.6	(3.7)	0.4	0.3	10.3
Net dividend yield %	4.7	4.5	4.3	4.5	4.7	4.9	5.1	5.4

Source: Company accounts, Thomson Reuters, UBS estimates. UBS adjusted EPS is stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement. Valuations: based on an average share price that year, (E): based on a share price of US$72.30 on 26 Oct 2015 16:12 EDT

www.ubs.com/investmentresearch

Modest accretion as high purchase price a drag

We estimate that the deal is accretive by $0.10-$0.13/sh in 2017/2018 (2.0-3.0%) with synergies and $0.08-$0.11/sh excluding synergies. From the Duke-Progress transaction in 2011 Duke management commented that it believed the synergies on that deal would be in the range of 5-7% total non-fuel O&M, consistent with other transactions. For the Piedmont transaction management commented that synergies were not a consideration in the accretion and we view them as immaterial as well. Given the magnitude of debt financing (details on the subsequent page) a 50bp increase in the interest rate would reduce accretion by ~$0.01-$0.02/sh.

We estimate ~2% EPS accretion for the $4.9Bn transaction.

Figure 1: DUK-PNY Accretion Calculation

PNY Resources Transaction - Initial Accretion Analysis (Pro-Forma)						
Duke Energy - Legacy	**2013A**	**2014A**	**2015E**	**2016E**	**2017E**	**2018E**
Pre-Transaction Net Income ($Mn) - *UBSe*	3,067	3,214	3,178	3,384	3,498	3,635
Pre-Transaction Shares (Mn) - *UBSe*	706	707	693	691	691	691
Pre-Transaction EPS	**$ 4.35**	**$ 4.55**	**$ 4.59**	**$ 4.90**	**$ 5.06**	**$ 5.26**
PNY Adj. Net Income ($Mn)	134	144	148	161	180	201
PNY O&M	253	271				
Synergies assumption 5%-7% - UBSe			16	16	16	16
PNY Shares Outstanding (Mn)	79.2					
Deal Terms						
Total Consideration per Share	**$60.00**	**All cash**				
Financing ($Mn):		$4,752				
Debt		$3,127	Expected issuance			
Cash		$1,000	~$300M/yr from International + ~$600M from CR3 securitization			
Equity		$625	Expected forward sale of $500M-$750M			
Total		**4,752**				
DUK Share Price (as of 42303)		**$72.01**				
Increase in Shares Outstanding (Mn)		**8.7**	**8.7**	**-**	**-**	
		Total				
Combined Net Income ($Mn)		3,358	3,326	3,545	3,678	3,836
Incremental After-Tax Interest Expense ($Mn) at ~4%			81	81	81	81
After-tax Synergies [6% of PNY O&M]			11	11	11	11
Pro-Forma Revised Combined Net Income ($Mn)			**3,255**	**3,475**	**3,607**	**3,765**
New Shares Outstanding			701.7	699.6	699.6	699.6
Pro-Forma Revised Combined EPS			**$ 4.64**	**$ 4.97**	**$ 5.16**	**$ 5.38**
*Change in EPS (Accretion/Dilution)**			**$ 0.05**	**$ 0.07**	**$ 0.09**	**$ 0.12**
% Change in EPS			*1.2%*	*1.4%*	*1.8%*	*2.3%*

**Note: The companies anticipate closing the deal in 2H16. 2015/2016 accretion is illustrative.*

P/E Multiples	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
DUK	16.6x	15.8x	15.7x	14.7x	14.2x	13.7x
PNY	25.0x	23.2x	22.6x	20.8x	18.6x	16.6x
Pro-Forma DUK + PNY (DUK at $72.01)			15.5x	14.5x	14.0x	13.4x
Regulated Average		*17.9x*	*17.8x*	*16.7x*	*15.8x*	*15.1x*
PNY Takeout Implied P/E		33.0x	32.1x	29.5x	26.4x	23.6x

Source: Company Filings, FactSet, and UBS Estimates

Accretion premised on heavy debt financing

Duke is financing the $6.7Bn enterprise value by assuming $1,800Mn of Piedmont debt, issuing $500-$750Mn equity via a forward sale, and pointed at ~$1Bn of cash indicating that the remaining ~$3.3Bn will be financed with Duke holding company debt. The incremental after-tax interest expense on the deal will erase nearly half of Piedmont's consensus 2017E earnings. The ~75% debt-to-total capitalization implied for the deal is on the high-end of the spectrum as utilities continue to take advantage of historically low interest rates to execute on M&A.

Figure 2: Piedmont Financing

Piedmont Transaction Financing (UBSe $Mn)	
Enterprise Value	6,700
Assumption of PNY Debt	1,800
DUK Equity ($500-$750Mn)	625
DUK Cash (~$1Bn)	1,000
DUK Holding Co Debt	3,275
Debt-to-Capitalization	76%
After-Tax Interest (at 4%)	85
PNY Consensus 2017 NI	180

Source: Company Filings, FactSet, and UBSe

Deal sets new high watermark for the industry

Duke's proposed acquisition of Piedmont continues the upward trend in 2015 of implied takeout P/E multiples and is well above both Southern Company/AGL Resources in August (21.6x 2017E) and Emera-TECO in September (21.2x 2017E). The DUK-PNY transaction represents a 42% premium to Friday's close of $42.22 and a 65% premium to where shares traded as recently as last month. We see the early underperformance in shares (~2% underperformance in early Monday trading) related primarily to the significant premium paid for shares.

Figure 3: Recent Utility Transactions: Average 20-21x implied 2017E P/E multiple, 2016E-17E

	Deal Announcement	Deal Equity Value ($mn)	2016 Earnings ($mn)	2017 Earnings ($mn)	Implied 2016 P/E	Implied 2017 P/E	Target States
DUK-PNY	10/26/2015	4,900	161	180	30.4x	27.2x	**North Carolina**, Tenessee, South Carolina
SO - AGL	8/24/2015	8,000	361	371	22.2x	21.6x	Illinois, **Georgia**, Virginia, New Jersey, Florida, Tennessee, Maryland
EMA - TE	9/4/2015	6,474	276	306	23.5x	21.2x	Florida
NEE-HE	12/3/2014	3,500	160	170	21.9x	20.6x	Hawaii
IBE - UIL	2/26/2015	3,000	138	146	21.7x	20.5x	**Connecticut** / Western Massachusetts
Macq - CNL	10/20/2014	3,400	151.2	166	22.5x	20.4x	Louisiana
EXC-POM	4/30/2014	6,800	358	405	19.0x	16.8x	Washington DC, **Maryland**, New Jersey
WEC-TEG	6/23/2014	5,715	328	361	17.4x	15.8x	City of **Chicago**, Michigan's U.P, Lower Michigan, Minnesota
Average Implied Deal P/E Multiple -->					**22.3x**	**20.5x**	

Source: FactSet and Company Filings

Transaction expected to close in 4Q16

The deal requires approval from the North Carolina commission as well as the US Department of Justice and FTC. Approval is not required in South Carolina and Tennessee but management commented that it has been communicating with the relevant regulators to keep them informed. The transaction is also subject to majority shareholder approval of Piedmont but not Duke.

Moody's downgrade possible with high leverage employed

While S&P's corporate credit rating is currently A-/Stable, Moody's currently sits at a consolidated senior unsecured rating of A3 on negative outlook. Considering the expected deployment of over $3B debt for the acquisition (on a $50B+ base), we think it's somewhat likely that Moody's may take this opportunity to bring their rating down a notch. We take note that Moody's negative outlook for Duke Energy (consolidated) is strongly reflective of the negative outlook for Duke Energy Progress, currently rated two notches higher at A1 but under stress from an expected decline in credit metrics due to increased O&M expense and higher debt levels from coal ash basin remediation.

Use of cash from a possible extension of bonus depreciation could mitigate credit deterioration.

However, while the high degree of leverage and 27x P/E takeout multiple are negative for credit, we also note that the acquisition of a contiguous regulated utility is positive for business risk. Use of cash from a possible extension of bonus depreciation could mitigate credit deterioration, especially considering that any reduction in ratebase as a result of deferred taxes would be replaced with Piedmont ratebase that is expected to grow at 9% going forward.

As illustrated in the table below, we project the expected deterioration in DUK's credit metrics as calculated by UBSe in-line with S&P and Moody's methodology.

Figure 4: DUK Credit Metrics (pre-acquisition) vs S&P and Moody's

S&P Corp Credit Rating A-/Stable	2014	2015E	2016E	2017E	2018E
S&P calc FFO/Debt	18.3%	18%-20%	17%-19%		
UBSe (adjusted, see below)	18.3%	19.6%	18.7%	18.4%	18.1%
UBSe (adjusted) - post PNY acquisition			17.8%	17.5%	17.3%
S&P calc Debt/EBITDA	4.9x	4.6x-4.8x	4.6x-4.8x		
UBSe (adjusted, see below)	4.9x	4.6x	4.7x	4.7x	4.8x
UBSe (adjusted) - post PNY acquisition			5.0x	5.0x	5.0x
S&P: "There are no meaningful insulation measures in place that protect any subsidiary from its parent and, therefore, all issuer credit ratings are in line with Duke's group credit profile of 'a-'."					
UBSe metrics with S&P Adjustments (pre-acquisition)					
GAAP Debt	42,534	42,434	46,556	47,678	50,278
Operating leases	1,233	1,233	1,233	1,233	1,233
Pension	413	413	413	413	413
Cash	(2,036)	(1,293)	(1,192)	(48)	(239)
PPAs	1,089	1,089	1,089	1,089	1,089
AROs	1,898	1,898	1,898	1,898	1,898
Accrued interest	418	418	418	418	418
Other	129	129	129	129	129
UBSe Adjusted Debt	45,678	46,321	50,545	52,811	55,219
GAAP EBITDA	8,389	9,155	9,736	10,122	10,494
Operating leases	160	160	160	160	160
Pension	(58)	(58)	(58)	(58)	(58)
Stock comp	61	61	61	61	61
PPAs	151	151	151	151	151
AROs	246	246	246	246	246
Other	441	441	441	441	441
UBSe Adjusted EBITDA	9,390	10,155	10,737	11,122	11,495
GAAP EBITDA	8,389	9,155	9,736	10,122	10,494
Interest expense	(1,622)	(1,678)	(1,913)	(2,026)	(2,106)
Tax adjustments	(200)	(200)	(200)	(200)	(200)
Operating leases	96.8	97	97	97	97
Pension	-64.4	(64)	(64)	(64)	(64)
Cap interest	-75	(75)	(75)	(75)	(75)
Stock comp	61	61	61	61	61
PPAs	74.4	74	74	74	74
AROs	1287.3	1,287	1,287	1,287	1,287
Other	434.8	435	435	435	435
UBSe Adjusted FFO	8,382	9,092	9,438	9,711	10,003
Moody's Senior Unsecured Duke Energy Corp A3, negative outlook (pre-acquisition)					
Moody's calc CFO (pre-working Cap)/Debt	17%-18%				
UBSe CFO (pre-working Cap)	7,299	7,605	8,021	8,302	8,598
UBSe Debt	42,534	42,434	46,556	47,678	50,278
UBSe CFO (pre-working Cap)/Debt	17.2%	17.9%	17.2%	17.4%	17.1%
UBSe CFO (pre-working Cap)/Debt - post PNY acquisition			16.3%	16.5%	16.3%
Moodys: "The negative outlook on Duke's rating reflects consolidated financial metrics that are weak for its currentA3 rating and likely to decline slightly over the next few years, persistently high levels of debt at the holding company level, future financing needs for pipeline and other parent company investments, and challenges at some of its international businesses, which the company has Moody's notes that Duke Energy initiated a $1.5 billion accelerated stock repurchase plan in April of this year [and has a] nearly $2 billion [commitment] in the Atlantic Coast Pipeline and a smaller $250 million investment in the Sabal Trail Pipeline."					

Source: S&P, Moody's, UBS estimates

Natural gas utility comps shows magnitude of premium

Below we show comparable natural gas utilities highlighting the magnitude of Piedmont's premium P/E following the deal.

Figure 5: Natural Gas Utilities Comps

Company	Price 10/26/2015	Mkt Cap ($MM)	Enterprise Value	Current Dividend	Current Yield	DPS CAGR 3-Yr Hist	DPS CAGR 2-Yr Fwd	2014 ROE	P/E 2015	P/E 2016	EV/EBITDA 2015	EV/EBITDA 2016
Gas Utilities												
AGL Resources, Inc.	$62.29	$7,460	$11,482	$2.04	3.3%	2.9%	4.0%	15.3%	20.9x	20.4x	10.0x	9.6x
Atmos Energy Corp.	$61.80	$6,075	$8,777	$1.56	2.6%	2.7%	5.5%	10.5%	20.1x	19.0x	9.7x	9.0x
CenterPoint Energy, Inc.	$18.76	$8,011	$15,399	$0.99	5.3%	6.3%	4.3%	13.8%	17.9x	16.8x	8.1x	7.9x
MDU Resources Group, Inc.	$18.75	$3,679	$6,092	$0.73	3.9%	2.7%	1.7%	9.9%	19.8x	15.2x	11.2x	9.5x
National Fuel Gas Co.	$52.04	$4,470	$6,295	$1.58	3.0%	2.8%	2.6%	12.4%	17.8x	18.0x	7.4x	7.5x
New Jersey Resources Corp.	$30.98	$2,639	$3,423	$0.90	3.1%	5.9%	6.1%	25.9%	17.8x	18.3x	12.0x	13.2x
NiSource, Inc.	$19.57	$6,233	$16,140	$1.04	3.2%	3.8%	2.3%	8.8%	15.6x	18.6x	12.0x	11.2x
Northwest Natural Gas Co.	$48.37	$1,304	$2,113	$1.86	3.9%	1.8%	3.1%	7.7%	23.4x	21.3x	10.2x	9.1x
ONE Gas, Inc.	$49.17	$2,520	$3,648	$1.20	2.5%	NA	6.7%	7.2%	22.6x	21.0x	9.9x	9.3x
Questar Corp.	$20.86	$3,580	$5,110	$0.84	4.1%	7.5%	6.9%	18.5%	16.3x	15.8x	8.2x	8.1x
Piedmont Natural Gas Co., Inc.	$57.73	$3,344	$5,121	$1.32	3.1%	3.2%	3.5%	10.7%	30.9x	29.2x	12.4x	11.4x
UGI Corp.	$36.21	$6,203	$10,639	$0.91	2.5%	5.7%	8.2%	9.5%	18.6x	16.8x	8.5x	7.6x
Vectren Corp.	$46.62	$3,802	$5,456	$1.52	3.3%	1.3%	5.3%	10.6%	19.0x	17.9x	7.8x	7.1x
WGL Holdings, Inc.	$62.19	$3,066	$4,180	$1.85	3.0%	4.2%	5.0%	12.0%	20.6x	20.4x	11.4x	9.8x
Southwest Gas Corp.	$61.74	$2,881	$4,405	$1.62	2.6%	11.5%	4.8%	9.7%	19.9x	18.4x	8.2x	7.8x
Gas Utilities Average					3.3%	4.5%	4.7%	12.2%	20.1x	19.1x	9.8x	9.2x

Source: FactSet

Forecast returns

Forecast price appreciation	+2.4%
Forecast dividend yield	4.6%
Forecast stock return	+7.0%
Market return assumption	5.6%
Forecast excess return	+1.4%

Statement of Risk

Risks to our estimates and price targets include: unfavorable terms of regulatory approval, including clawback to customers of synergies; mild weather; unfavorable environmental legislation; unexpected plant outages; commodity price risk; foreign country and currency risk; and unattained merger synergies.

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12-Month Rating	**Definition**	**Coverage**[1]	**IB Services**[2]
Buy	FSR is > 6% above the MRA.	49%	33%
Neutral	FSR is between -6% and 6% of the MRA.	40%	26%
Sell	FSR is > 6% below the MRA.	12%	18%
Short-Term Rating	**Definition**	**Coverage**[3]	**IB Services**[4]
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%

Source: UBS. Rating allocations are as of 30 September 2015.
1:Percentage of companies under coverage globally within the 12-month rating category. 2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.
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Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Duke Energy[2, 4, 5, 6a, 6b, 7, 16]	DUK.N	Neutral	N/A	US$73.74	23 Oct 2015
Piedmont Natural Gas Inc[16]	PNY.N	Not Rated	N/A	US$42.22	23 Oct 2015

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

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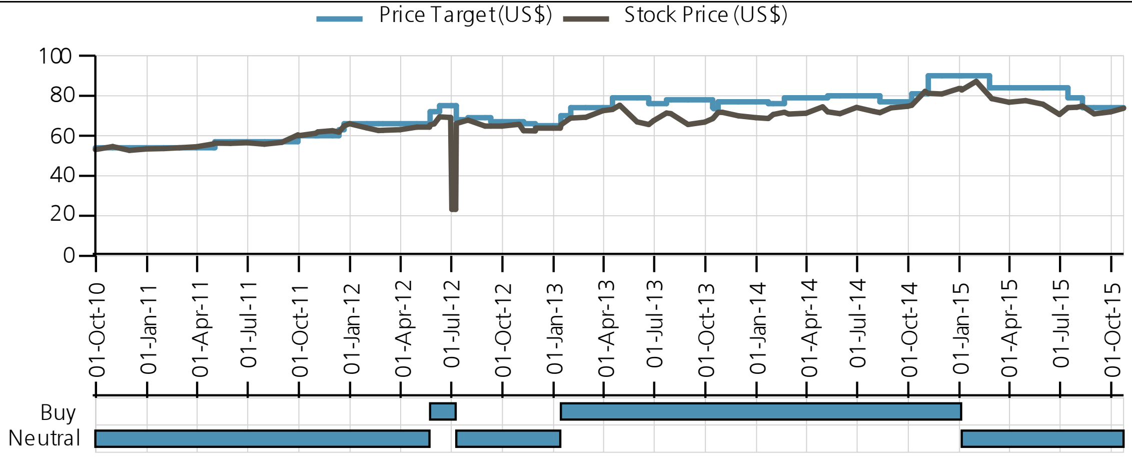
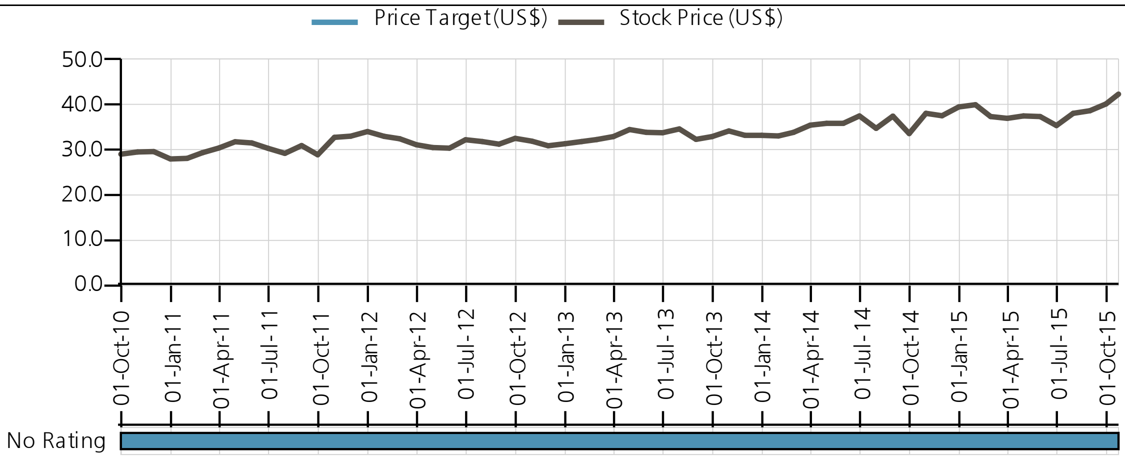
Duke Energy (US$)



Source: UBS; as of 23 Oct 2015

Piedmont Natural Gas Inc (US$)



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Deal Profile

Duke Energy Corporation acquires Piedmont Natural Gas Company, Inc.

Deal Overview

Buyer	Duke Energy Corporation
Target	Piedmont Natural Gas Company, Inc.
Deal Type	Utility
Agreement Date	10/24/2015
Announcement Date	10/26/2015
Announced Deal Value ($000)	4,794,905
Short-term and Current Long-term Debt ($000)	410,000
Non-current Long-term Debt ($000)	1,384,450
Cash and Cash Equivalents ($000)	10,664
Current Investments ($000)	250
Current Inventories ($000)	65,459
Obligations under Capital Leases ($000)	0
Announced Transaction Value ($000)	6,512,982
Status	Pending
Expected Completion Date	7/1/2016 - 12/31/2016
Announced Deal Value Per Share ($)	60.00

Deal Pricing Ratios

	Announcement	Completion
Transaction Value/ EBITDA (x)	14.7	NA
Transaction Value/ Energy Operating Revenues (x)	4.73	NA
Transaction Value/ Assets (%)	131.54	NA
Price/ Adj. Op. Cash Flows (x)	13.09	NA
Deal Value/ Book Value (%)	338.0	NA
Price/ Tangible Book (%)	350.1	NA
Deal Value/ Earnings (x)	33.2	NA
Transaction Value/ Gas Throughput ($/MCF)	14.33	NA
Transaction Value/ Gas Customer Acquired ($/customer)	6,422.05	NA

Deal Terms

Description of Consideration
Duke Energy Corp. will pay $60.00 per share in cash to acquire each outstanding share of Piedmont Natural Gas Company Inc. Duke Energy will also assume approx. $1.72 billion net debt of Piedmont Natural Gas.

Minority Interest Deal?	No
Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market
Maximum Termination Fee ($000)	125,000
Minimum Termination Fee ($000)	0

Deal Summary

Charlotte, N.C.-based Duke Energy Corporation has agreed to acquire Charlotte, N.C.-based Piedmont Natural Gas Company Inc. Piedmont Natural Gas is an energy services company primarily engaged in the distribution of natural gas to residential, commercial, industrial and power-generation utility customers.

Deal Valuation

Total Deal Value Shares	79,915,075

Consideration Breakout

Cash ($000)	4,794,905

Consideration Not Included in Deal Value Calculation

Debt Assumed ($000)	1,718,077

Regulatory Approval Detail

Regulatory Agency	Filing Date	Date Agency Returned Ruling	Regulatory Agency Approved?	Regulatory Application Waived?

Deal Profile

Duke Energy Corporation acquires Piedmont Natural Gas Company, Inc.

Federal Trade Commission	NA	NA	No	No
North Carolina Utilities Commission	NA	NA	No	No

Deal Advisers - Financial Advisers

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Barclays Capital Inc.	-	-	-
Seller	Yes	Goldman Sachs & Co.	-	-	-

Deal Advisers - Legal Counsel

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Sidley Austin LLP	Thomas A. Cole	-	-
			Imad I. Qasim		
Seller	Yes	Kirkland & Ellis LLP	George P. Stamas	-	-
			Mark D. Director		
			Alexander D. Fine		
			Andrew M. Herman		
			Brendan J. Reed		

Article

Tuesday, October 27, 2015 3:33 PM ET Extra

Duke/Piedmont deal gets mixed reviews as Wall Street questions valuation

By Sarah Smith

Duke Energy Corp.'s proposed acquisition of Piedmont Natural Gas Co. Inc. has drawn mixed analyst responses, including some skepticism about the recently announced deal's financial terms.

Wells Fargo Securities LLC analysts said in an Oct. 26 note that they see the deal as rational from a strategic standpoint based on the companies' overlapping footprints and their established relationship. They touted Piedmont as one of the best local distribution companies, with above-average customer growth potential that could benefit Duke.

But while Macquarie Capital (USA) Inc. analysts said in an Oct. 27 note that the deal has the potential to help Duke counter financial issues stemming from the company's international operations, they did not express confidence in that outcome.

"[W]e are concerned that while this transaction boosts the weighting of regulated earnings, it may have been driven by [Duke]'s expectations of ongoing weakness in its international operations," the Macquarie analysts said. "We are hopeful that [Duke] sees substantial untapped value in combining the two, in order to justify the ~4x rate base which they are paying."

Duke has agreed to pay $60 per share in the $4.9 billion cash transaction, representing a roughly 40% premium to Piedmont's Oct. 23 closing price, the companies said. The enterprise value of the deal is set to be $6.7 billion, including assumed debt.

The Wells Fargo analysts said they were "somewhat surprised" at the premium and multiple levels, especially considering that Piedmont had traded at a 25% to 30% price-to-earnings premium to Duke.

Still, the deal is expected to be accretive for Duke in the relatively near term, the Wells Fargo analysts noted, and Duke has said it expects the deal to increase the company's 4% to 6% long-term growth rate.

The Wells Fargo analysts said the transaction also appears to be a win for Piedmont, noting that the deal's cash reliance and valuation are favorable for the takeover target. Not all industry observers shared this positive outlook, though. One J.J.B. Hilliard W.L. Lyons LLC analyst downgraded Piedmont from "neutral" to "underperform," citing little potential for a higher per-share takeover premium for Piedmont shareholders.

Neither the Wells Fargo nor the Macquarie analysts said regulatory approvals should be a notable hurdle. Duke already has a footprint in the Carolinas, where Piedmont operates, and relationships with the regulators in those states. The North Carolina Utilities Commission, the only state regulator from which Duke needs formal approval for the merger, is ranked by SNL affiliate RRA as in the upper range of average in terms of its regulatory climate.

Article

Tuesday, October 27, 2015 3:25 PM ET Extra

Fitch, S&P warn of credit rating cut at Duke Energy

By Sheharyar Khan

Standard & Poor's Ratings Services lowered Duke Energy Corp.'s rating outlook to negative to account for borrowing associated with the proposed acquisition of Piedmont Natural Gas Co. Inc.

The acquisition value comprises $4.9 billion in cash and about $1.8 billion in net debt that Duke Energy will inherit from Piedmont. The company plans to fund the $4.9 billion portion with a combination of debt, between $500 million and $750 million of newly issued equity and other cash sources.

While the acquisition will modestly enhance Duke's business risk profile, the terms of the proposed financing will lead to weaker credit protection measures following the close of the transaction, S&P said. "We view the extensive use of debt to fund the transaction as pointing to the potential for additional increases in debt leverage to fund other growth opportunities, leading to further weakness in Duke's core credit ratios," the rating agency said.

Concurrently, Fitch Ratings has also placed Duke Energy's long-term issuer default rating on watch negative for similar reasons. Fitch expects to resolve the negative watch once a more definitive financing plan is in place and any regulatory requirements are known.

UBS Securities analyst Julien Dumoulin-Smith maintained a rating of "neutral" on Duke, with a $74 price target, and said the deal would help the utility fill in the earnings gap created by the performance of its international businesses. However, the transaction's high multiple, an implied 2017 price-to-earnings ratio of 27.2x, "leaves limited accretion and raises questions about lack of investment opportunities for Duke's cash flows," Dumoulin-Smith wrote in an Oct. 27 research note. A half-dozen other pending large utility mergers have implied 2017 P/E ratios no higher than 21.6x.

Dumoulin-Smith also expects that Moody's may lower its A3 consolidated senior unsecured rating of Duke by a notch, and said Moody's negative outlook on Duke is related to subsidiary Duke Energy Progress LLC because of increased operation and maintenance expenses and higher debt attributable to coal ash basin remediation at the subsidiary.

Macquarie Capital (USA) Inc. analysts also maintained a "neutral" rating on Duke, with a $75 price target, and said they were not concerned about Duke's ability to raise the needed equity and debt for the acquisition. Macquarie said its main concern with Duke is the "ongoing weakness" in its international operations, primarily in Brazil.

SNL Energy affiliate Regulatory Research Associates said only North Carolina, where both Duke and Piedmont are headquartered, will conduct a regulatory review of the proposed transaction. RRA sees the state as generally supportive of utility mergers and notes in most cases, regulatory proceedings in the state have been resolved through settlements.

Article

Tuesday, February 09, 2016 6:53 PM ET Extra

UPDATE: Algonquin looks to boost regulated earnings in $2.4B Empire District deal

By Dan Testa

The march of North American utilities toward consolidation took its latest step Feb. 9 with the announcement of a deal by Algonquin Power & Utilities Corp. to acquire Empire District Electric Co. in a $2.4 billion all-cash deal. In a sign that mergers and acquisitions among utilities continue to be active in 2016, it was the second major merger announced on Feb. 9, following news of Fortis Inc.'s $11.3 billion deal to acquire ITC Holdings Corp.

Under the deal, which the companies aim to close in first quarter 2017, Empire District will be acquired by a subsidiary of Liberty Utilities Co., which is a subsidiary of Algonquin.

"The business combination should be quite intuitive to everyone who understands the Algonquin story," Algonquin President and CEO Ian Robertson said on a conference call to discuss the deal. "It is eerily similar to the business mix of Empire and of Liberty Utilities and so we feel that we're staying very much, if you will, on the fairway, as we think about this going forward."

Empire District disclosed in mid-December 2015 it was exploring strategic alternatives, amid an M&A climate in which cash acquisitions of regulated utilities are happening at attractive multiples. The $34-per-share price for Empire District represents, according to a news release, a 21% premium to Empire District's closing price but a 50% premium to its unaffected share price on Dec. 10, 2015, just before media reports emerged that it was seeking buyers. The $2.4 billion aggregate purchase price, including the assumption by Algonquin of $900 million in debt, represents a 1.49x multiple of Empire District's projected 2016 rate base and a 9.2x multiple of Empire District's 2017 EBITDA.

The deal will radically transform Algonquin's business mix from one in which 51% of its earnings are derived from regulated businesses and 49% from unregulated, to one where Algonquin derives 72% of its earnings from its regulated business and 28% from unregulated.

Algonquin expects the acquisition to be immediately accretive to earnings, growing EPS 7% to 9% annually for the first three years after closing, and growing funds from operations 12% to 14% over the same time period. "The acquisition of Empire represents a continuation of our disciplined growth strategy which strengthens and diversifies Algonquin's existing businesses and strategically expands our regulated utility footprint in the mid-west United States," Robertson said in a statement. "The addition of this large, well run utility to the Algonquin family will support our 10% annual dividend growth target through significant accretion to shareholder cash flows and earnings."

Closing of the deal requires the approval of state regulators in Arkansas, Kansas, Missouri and Oklahoma, as well as the FCC, FERC and the Committee on Foreign Investment in the United States. To finance the transaction, Algonquin has obtained $1.6 billion in bridge debt financing from CIBC Capital Markets, J.P. Morgan, Scotiabank and Wells Fargo.

Wells Fargo Securities LLC acted as lead merger adviser and JPMorgan acted as lead financial and strategic adviser to Algonquin Power, while Husch Blackwell LLP served as transaction legal counsel and Choate Hall & Stewart LLP served as finance legal counsel to the company.

Moelis & Co. LLC acted as exclusive financial adviser to Empire, and Cahill Gordon & Reindel LLP served as legal counsel to the company.

Deal Profile

Algonquin Power & Utilities Corp. acquires Empire District Electric Company

Deal Overview

Buyer	Algonquin Power & Utilities Corp.
Actual Acquirer	Liberty Utilities Co.
Target	Empire District Electric Company
Deal Type	Utility
Agreement Date	2/9/2016
Announcement Date	2/9/2016
Announced Deal Value ($000)	1,492,206
Short-term and Current Long-term Debt ($000)	16,554
Non-current Long-term Debt ($000)	862,999
Cash and Cash Equivalents ($000)	1,860
Current Inventories ($000)	60,295
Announced Transaction Value ($000)	2,309,604
Status	Pending
Expected Completion Date	1/1/2017 - 3/31/2017
Announced Deal Value Per Share ($)	34.00

Deal Summary

Oakville, Ontario-based Algonquin Power & Utilities Corp. unit Salem, N.H.-based Liberty Utilities Co. has agreed to acquire all of the outstanding shares of Joplin, Mo.-based Empire District Electric Company. Empire District Electric Company is a utility providing electric, natural gas, and water services with customers in Missouri, Kansas, Oklahoma, and Arkansas.

Deal Valuation

Total Deal Value Shares	43,888,404

Consideration Breakout

Cash ($000)	1,492,206

Consideration Not Included in Deal Value Calculation

Debt Assumed ($000)	817,398

Deal Pricing Ratios

	Announcement	Completion
Transaction Value/ EBITDA (x)	10.4	NA
Transaction Value/ Energy Operating Revenues (x)	3.72	NA
Transaction Value/ Assets (%)	93.78	NA
Price/ Adj. Op. Cash Flows (x)	7.22	NA
Deal Value/ Book Value (%)	185.4	NA
Deal Value/ Earnings (x)	25.6	NA
Transaction Value/ Electricity Sold ($/MWH)	NM	NA
Transaction Value/ Elec. Customer Acquired ($/customer)	NM	NA
Transaction Value/ Gas Throughput ($/MCF)	275.21	NA

Deal Terms

Description of Consideration
Algonquin Power & Utilities Corp. will pay $34.00 in cash to acquire all of the outstanding shares of Empire District Electric Co. Algonquin Power & Utilities will also assume approx. $0.82 billion net debt of Empire District Electric Co.

Minority Interest Deal?	No
Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	Market Expansion
Est. Restructuring Charges ($000)	17,000
Maximum Termination Fee ($000)	53,000
Minimum Termination Fee ($000)	0

Additional Deal Information

		Earnings Accretion	Earnings Accretion	Est. Cost Savings	Est. Cost Savings

Deal Profile

Algonquin Power & Utilities Corp. acquires Empire District Electric Company

Post-Completion Year	Deal Accretive?	(%)	($)	(%)	($000)
1	Accretive	7.00	NA	NA	NA
2	Accretive	7.00	NA	NA	NA
3	Accretive	7.00	NA	NA	NA

Regulatory Approval Detail

Regulatory Agency	Filing Date	Date Agency Returned Ruling	Regulatory Agency Approved?	Regulatory Application Waived?
Federal Energy Regulatory Commission	3/16/2016	5/6/2016	Yes	No
Federal Trade Commission	NA	7/29/2016	Yes	No
Oklahoma Corporation Commission	3/16/2016	5/12/2016	Yes	No
Arkansas Public Service Commission	3/16/2016	NA	No	No
Committee on Foreign Investment in the United States	NA	NA	No	No
FCC	NA	NA	No	No
Kansas Corporation Commission	3/16/2016	NA	No	No
Missouri Public Service Commission	3/16/2016	NA	No	No

Deal Advisers - Financial Advisers

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Wells Fargo Securities LLC	-	-	-
		J.P. Morgan Securities LLC	-	-	-
Seller	Yes	Moelis & Co. LLC	-	13,695	-

Deal Advisers - Legal Counsel

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Husch Blackwell LLP	James G. Goettsch	-	-
		Choate Hall & Stewart LLP	-	-	-
Seller	Yes	Cahill Gordon & Reindel LLP	Michael A. Sherman	-	-
		Van Ness Feldman LLP	Margaret H. Claybour	-	-

Article

Tuesday, February 09, 2016 4:18 PM ET

Algonquin Power to acquire Empire District in all-cash deal

By Michael Lustig

Algonquin Power & Utilities Corp. said Feb. 9 that it will acquire Empire District Electric Co. in an all-cash transaction for $2.4 billion, including the assumption of $900 million in debt.

The purchase price is $34 per share, which the companies said is a 21% premium to Empire District's closing share price on Feb. 8 and a 50% premium to the closing price on Dec. 10, 2015, right before Empire District officials confirmed they were exploring strategic alternatives for the company, which serves primarily southwestern Missouri.

Algonquin said in a news release that, if the transaction is completed, Empire District would become a subsidiary of its Liberty Utilities Co. regulated utility business. Empire District's headquarters would remain in Joplin, Mo., and its management and employees would be retained.

Liberty Utilities has regulated water, natural gas, and electric transmission and distribution operations in 10 U.S. states. Algonquin is headquartered in Ontario, and in its news release announcing the acquisition of Empire District expressed the deal values in Canadian dollars as well: C$3.4 billion, including the assumption of C$1.3 billion in debt.

Algonquin Power has obtained a $1.6 billion fully committed bridge debt financing from CIBC Capital Markets, J.P. Morgan, Scotiabank and Wells Fargo to finance the deal. Permanent financing is expected to be obtained by placements of common equity, preferred equity, convertible debentures and long-term debt.

More to come.

Article

Thursday, February 11, 2016 5:39 PM ET Extra

UPDATE: Empire District CEO says future challenges led utility to pursue sale

By Darren Sweeney

Empire District Electric Co.'s size and the "challenges" it faces with geographic diversity and environmental compliance are among several factors that led the utility's board of directors to pursue strategic alternatives, President and CEO Bradley Beecher said Feb. 11 on a conference call with analysts and investors.

The call was held after Oakville, Ontario-headquartered Algonquin Power & Utilities Corp. said Feb. 9 it will acquire Empire District in an all-cash transaction for $2.4 billion, including the assumption of $900 million in debt.

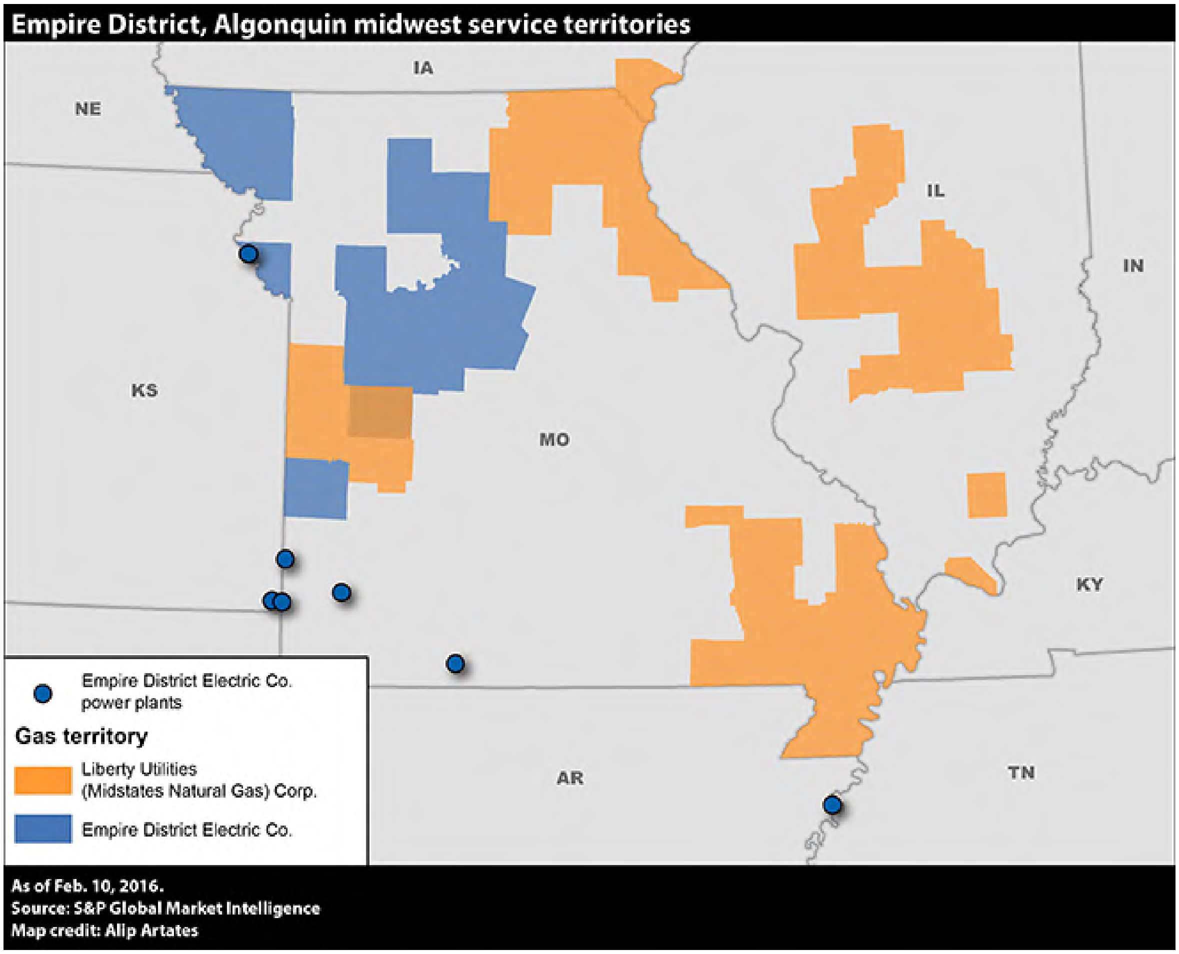
"There isn't any one single, silver bullet that says why we pursued this," Beecher said in response to an analyst's question on the call. "We've all talked about Empire's size through the years. At 218,000 customers, if you looked at the whole scale of the electric IOU universe … we were on the bottom — one or two or three in size. And so, that gives us some challenges with scale. It gives us challenges with geographic diversity. When we have storms like the Joplin tornado … we just don't have that many other places to spread things across."

The CEO added that Empire District, which is headquartered in Joplin, Mo., also has "geographic risk," especially with the mild weather the region experienced in the fourth quarter. "We've got challenges, quite frankly, ahead of us as we look at Clean Power Plan and how we're going to run coal less, and how do we replace it with renewable assets," Beecher said.

Empire District's generation portfolio largely consists of coal and natural gas power plants. "This is a place where Algonquin's other competency, the other side of their firm, can really help us as we try to develop a least-cost plan for customers as really we burn less coal as we're going to in the future," Beecher said. "It was really a combination of all those things that led our board to pursue and look at this kind of alternative."

The CEO later added that the Clean Power Plan "was not a determining factor in choosing Algonquin."

Empire District disclosed in December 2015 it was exploring strategic alternatives. The $34-per-share price for Empire District represents a 21% premium to Empire District's closing price but a 50% premium to its unaffected share price on Dec. 10, 2015, just before media reports emerged that it was seeking buyers. The $2.4 billion aggregate purchase price, including the assumption of debt, represents a 1.49x multiple of Empire District's projected 2016 rate base and a 9.2x multiple of Empire District's 2017 EBITDA.



UBS Securities LLC analyst Julien Dumoulin-Smith said in a Feb. 10 report that the transaction price is "in-line with several other recent US utility takeover smid-cap utility premiums from foreign acquirers."

The analyst pointed to Fortis Inc.'s acquisition of ITC Holdings Corp. as the most recent example. Fortis, a Canadian utility, on Feb. 9 announced an $11.3 billion deal to acquire Michigan-based utility ITC Holdings. Fortis is offering $22.57 in cash and 0.7520 Fortis shares for every ITC share. The total consideration of $44.90 per share equates to a 33% premium to ITC's unaffected closing price on Nov. 27, 2015.

The new company

Under the deal, which the companies aim to close in the first quarter of 2017, Empire District will be acquired by a subsidiary of Liberty Utilities Co., which is a subsidiary of Algonquin. The new company will be known as Liberty Utilities — Central. Empire branding, however, will be maintained for no less than five years. Beecher will become president and CEO of Liberty Utilities — Central.

"Onto itself, we think that Liberty Utilities — Central will enjoy greater economies of scale, purchasing power [and] the ability to deliver customer care perhaps better than Liberty Utilities and Empire District could do on their own," Algonquin President and CEO Ian Robertson said on the Feb. 11 call. "We're obviously optimistic about the prospects for Liberty Utilities — Central."

As far as synergies, a Liberty Utilities subsidiary acquired natural gas distribution assets in Missouri and neighboring states in 2012 from Atmos Energy Corp.

Robertson noted that the company also owns "a number of small water utilities" in Missouri. "So, we're in the water and gas business," he said in response to an analyst's question. "We don't have any electric operations in Missouri or Arkansas."

Obstacles

Closing of the deal requires the approval of state regulators in Arkansas, Kansas, Missouri and Oklahoma, as well as the FCC, FERC and the Committee on Foreign Investment in the United States. Robertson said that Algonquin and Liberty Utilities have been through the regulatory process in Missouri and Arkansas, which are Empire District's primary service territories.

"We're active in both those states now and have been active in Missouri since 2005," Robertson said. "So, we're highly confident. We understand the standards … in terms of the approval process."

In his report, Dumoulin-Smith wrote: "While rates in [Arkansas] have recently been shifted to coincide with rate-making in [Missouri], we emphasize a 'change of control' across all four states would still seemingly require proof of net benefits."

UBS also noted that Empire District is involved in a rate case before the Missouri Public Service Commission, in which the utility looks to make new combined-

Article

cycle, gas turbine investments and retrofit coal plants in order to comply with the U.S. EPA's Mercury and Air Toxics Standards.

"We suspect cost saving synergies and scale in construction efforts would enable more palatable rates given the relatively higher rates charged by EDE for customers vs. peers," Dumoulin-Smith wrote.

Empire and Algonquin executives expressed optimism that the rate case would be resolved this year, with the revenue requirement not overlapping with the merger application.

Ashleigh Cotting contributed to this article.

Duke Energy Corporation acquires Piedmont Natural Gas Company, Inc. | Deal Profile

SNL Deal Key 206587

Deal Overview

Buyer	Duke Energy Corporation
Target	Piedmont Natural Gas Company, Inc.
Deal Type	Utility
Announcement Date	10/26/2015
Status	Completed
Definitive Agreement Date	10/24/2015
Completion Date	10/3/2016

Deal Terms

Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market
Goodwill Generated ($000)	3,500,000
Total Merger Costs ($000)	2,100

Termination Conditions

Maximum Termination Fee ($000)	125,000
Minimum Termination Fee ($000)	0

Deal Ratios

Event Ratios

	Announcement	***Completion***
Deal Value/ Common Equity (%)	337.9	320.4
Deal Value/ Tangible Common Equity (%)	350.1	331.0
Deal Value/ Tang Common Equity, Aggregate Basis (%)	353.3	325.4
Deal Value/ Assets (%)	96.84	86.01
Deal Value/ Estimated EPS, per Share Basis (x)	32.1	30.8
Deal Value/ Earnings (x)	33.2	34.9
Deal Value/ EBITDA (x)	10.8	10.8
Transaction Value/ EBITDA (x)	14.7	15.3
Transaction Value/ Operating Revenue (x)	4.73	5.91
Transaction Value/ Assets (%)	131.54	121.96
Deal Value/ Adjusted Operating Cash Flows (x)	13.09	15.92
Transaction Value/ Gas	14.33	14.12

Deal Summary

Charlotte, N.C.-based Duke Energy Corporation has acquired Charlotte, N.C.-based Piedmont Natural Gas Company Inc. Piedmont Natural Gas is an energy services company primarily engaged in the distribution of natural gas to residential, commercial, industrial and power-generation utility customers.

Deal Valuation

Description of Consideration

Duke Energy Corp. paid $60.00 per share in cash to acquire each outstanding share of Piedmont Natural Gas Company Inc. Duke Energy also assumed approx. $2 billion net debt of Piedmont Natural Gas.

Deal Valuation

	Announcement	***Completion***
Deal Value ($M)	4,794.91	4,794.91
Deal Value, As Reported ($M)	4,900.00	NA
Deal Value per Share ($)	60.00	60.00
Deal Value per Share, As Reported ($)	60.00	60.00
Transaction Value ($M)	6,512.98	6,799.12
Transaction Value, As Reported ($M)	6,700.00	NA
Percent of Equity Ownership Acquired (%)	100.00	100.00

Equity & Equity Derivatives

	Announcement	***Completion***
Common Shares Acquired (actual)	79,915,075	79,915,075
Shares Used to Calculate Deal Value (actual)	79,915,075	79,915,075

Deal Consideration Breakout

	Announcement	***Completion***
Cash ($000)	4,794,905	4,794,905

Additional Consideration

	Announcement	***Completion***
Debt Assumed ($000)	1,718,077	2,004,216

Key Financial Metrics

Throughput ($/Mcf)		
Transaction Value/ Gas Customers ($/customer)	6,422.05	6,603.02
Target's LTM P/E (x)	23.3	34.9

Deal Premiums	
Deal Premium 1 Day Before (%)	42.11
Deal Premium 5 Day Before (%)	41.11
Deal Premium 1 Month Before (%)	52.75
Deal Premium 3 Month Before (%)	65.65

	Announcement	***Completion***
Short-term and Current Long-term Debt ($000)	410,000	240,000
Non-current Long-term Debt ($000)	1,384,450	1,821,184
Total Debt ($000)	1,794,450	2,061,184
Cash and Cash Equivalents ($000)	10,664	13,487
Current Investments ($000)	250	276
Current Inventories ($000)	65,459	43,205
Obligations under Capital Leases ($000)	0	NA

Regulatory Approvals

Regulatory Agency	***Filing Date***	***Date Agency Returned Ruling***	***Regulatory Agency Approved?***	***Regulatory Application Waived?***
Federal Trade Commission	NA	12/21/2015	Yes	No
North Carolina Utilities Commission	1/15/2016	9/29/2016	Yes	No
Tennessee Regulatory Authority	1/15/2016	3/14/2016	Yes	No

Financial Advisers

Party Advised	***Firm Name***	***Adviser Name***	***Adviser Fees ($000)***	***Fairness Opinion Fee ($000)***
Buyer	Barclays Capital Inc.	-	-	-
Seller	Goldman Sachs & Co.	-	24,000	-

Legal Counsel

Party Advised	***Firm Name***	***Adviser Name***	***Adviser Fees ($000)***
Buyer	Sidley Austin LLP	Thomas A. Cole	-
		Imad I. Qasim	
Seller	Kirkland & Ellis LLP	George P. Stamas	-
		Mark D. Director	
		Alexander D. Fine	
		Andrew M. Herman	
		Brendan J. Reed	

Deal Profile

Great Plains Energy Inc. acquires Westar Energy, Inc.

Deal Overview

Buyer	Great Plains Energy Inc.
Target	Westar Energy, Inc.
Deal Type	Utility
Agreement Date	5/29/2016
Announcement Date	5/31/2016
Announced Deal Value ($000)	8,558,819
Short-term and Current Long-term Debt ($000)	468,642
Non-current Long-term Debt ($000)	3,150,478
Cash and Cash Equivalents ($000)	3,471
Current Inventories ($000)	301,340
Announced Transaction Value ($000)	11,873,127
Status	Pending
Expected Completion Date	3/20/2017 - 6/19/2017
Announced Deal Value Per Share ($)	60.00

Deal Pricing Ratios

	Announcement	Completion
Transaction Value/ EBITDA (x)	11.8	NA
Transaction Value/ Energy Operating Revenues (x)	4.87	NA
Transaction Value/ Assets (%)	109.88	NA
Price/ Adj. Op. Cash Flows (x)	9.56	NA
Deal Value/ Book Value (%)	231.5	NA
Price/ Tangible Book (%)	231.5	NA
Deal Value/ Earnings (x)	27.7	NA
Transaction Value/ Electricity Sold ($/MWH)	NM	NA
Transaction Value/ Elec. Customer Acquired ($/customer)	NM	NA
Transaction Value/ Gas Throughput ($/MCF)	NM	NA

Deal Terms

Description of Consideration
Great Plains Energy Inc. will pay $60.00 per share in a combination of cash and common stock to acquire each outstanding shares of Westar Energy, Inc. Westar shareholders will receive $60.00 per share of total consideration for each share comprised of $51.00 per share in cash and $9.00 per share in Great Plains Energy common stock, subject to a 7.5 percent collar based upon the Great Plains Energy common stock price at the time of the closing of the transaction, with the exchange ratio for the stock consideration ranging between 0.2709 to 0.3148 shares of Great Plains Energy common stock for each Westar share of common stock, representing a consideration mix of 85 percent cash and 15 percent stock. In addition to this, Great Plains Energy Inc. will also assume $3.3 billion of Westar's net debt.

Minority Interest Deal?	No
Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market
Maximum Termination Fee ($000)	280,000

Deal Summary

Kansas City, Mo.-based Great Plains Energy Inc. has agreed to acquire Topeka, Kan.-based Westar Energy Inc. Westar Energy, Inc. is Kansas' largest electric utility.

Deal Valuation

Total Deal Value Shares	142,646,974

Consideration Breakout

Cash ($000)	7,274,996
Common Stock ($000)	1,283,823

Consideration Not Included in Deal Value Calculation

Debt Assumed ($000)	3,314,309

Deal Profile

Great Plains Energy Inc. acquires Westar Energy, Inc.

Minimum Termination Fee ($000)	0

Additional Deal Information

Post-Completion Year	Deal Accretive?	Earnings Accretion (%)	Earnings Accretion ($)	Est. Cost Savings (%)	Est. Cost Savings ($000)
1	Neutral	NA	NA	NA	NA
2	Accretive	NA	NA	NA	NA

Regulatory Approval Detail

Regulatory Agency	Filing Date	Date Agency Returned Ruling	Regulatory Agency Approved?	Regulatory Application Waived?
Federal Energy Regulatory Commission	NA	NA	No	No
Federal Trade Commission	NA	NA	No	No
Kansas Corporation Commission	NA	NA	No	No

Deal Advisers - Financial Advisers

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Goldman Sachs & Co	-	-	-
Seller	Yes	Guggenheim Securities LLC	-	-	-

Deal Advisers - Legal Counsel

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Bracewell LLP	John G. Klauberg	-	-
			Frederick J. Lark		
Seller	Yes	Baker Botts LLP	William S. Lamb	-	-
			Michael Didriksen		

Fortis Inc. acquires ITC Holdings Corp. | Deal Profile

SNL Deal Key 209711

Deal Overview

Buyer	Fortis Inc.
Actual Acquirer	FortisUS Inc.
Target	ITC Holdings Corp.
Deal Type	Utility
Announcement Date	2/9/2016
Status	Completed
Definitive Agreement Date	2/9/2016
Completion Date	10/14/2016

Deal Terms

Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market

Termination Conditions

Maximum Termination Fee ($000)	245,000
Minimum Termination Fee ($000)	0

Deal Ratios

Event Ratios

	Announcement	Completion
Deal Value/ Common Equity (%)	416.7	392.0
Deal Value/ Tangible Common Equity (%)	NM	NM
Deal Value/ Tang Common Equity, Aggregate Basis (%)	NM	NM
Deal Value/ Assets (%)	94.24	88.38
Deal Value/ Estimated EPS, per Share Basis (x)	NM	21.7
Deal Value/ Earnings (x)	27.9	29.8
Deal Value/ EBITDA (x)	9.4	9.6
Transaction Value/ EBITDA (x)	15.3	15.8
Transaction Value/ Operating Revenue (x)	10.77	10.87
Transaction Value/ Assets (%)	152.98	144.96
Deal Value/ Adjusted Operating Cash Flows (x)	12.79	9.20
Transaction Value/ Gas Throughput ($/Mcf)	NM	NA

Deal Summary

St. John's, Newfoundland and Labrador-based Fortis Inc. unit Lyons Falls, N.Y.-based FortisUS Inc. has acquired Novi, Mich.-based ITC Holdings Corp. ITC Holdings is the largest independent electric transmission company in the United States.

Deal Valuation

Description of Consideration

Fortis Inc. paid $22.57 per share in cash and exchanged 0.7520 shares of its common stock to acquire ITC Holdings Corp. Fortis also assumed approx. $4.56 billion net debt of ITC Holdings Corp.

Deal Valuation

	Announcement	Completion
Deal Value ($M)	6,978.73	7,129.68
Deal Value, As Reported ($M)	6,900.00	NA
Deal Value per Share ($)	44.87	45.83
Deal Value per Share, As Reported ($)	44.90	NA
Transaction Value ($M)	11,329.27	11,693.89
Transaction Value, As Reported ($M)	11,300.00	11,300.00
Percent of Equity Ownership Acquired (%)	100.00	100.00

Equity & Equity Derivatives

	Announcement	Completion
Common Shares Acquired (actual)	153,931,521	153,931,521
Exchange Ratio, Common to Common	0.7520	0.7520
In-the-money Options Outstanding (actual)	3,795,936	3,795,936
Strike Price of In-the-money Options ($)	25.96	25.96
In-Money Options Outstanding As Of	2/8/2016	2/8/2016
Shares Used to Calculate Deal Value (actual)	157,727,457	157,727,457

Deal Consideration Breakout

	Announcement	Completion
Cash ($000)	3,474,234	3,474,234

Transaction Value/ Gas Customers ($/customer)	999.99	NA
Target's LTM P/E (x)	24.5	29.6

Deal Premiums

Deal Premium 1 Day Before (%)	13.94
Deal Premium 5 Day Before (%)	14.20
Deal Premium 1 Month Before (%)	13.05
Deal Premium 3 Month Before (%)	41.19

Shareholder Value

Accretion / Dilution

Year	*Earnings Accretion (%)*	*Earnings Accretion ($)*
1 - Accretive	5.00	NA

Common Stock ($000)	3,432,709	3,580,026

Additional Consideration

	Announcement	*Completion*
Debt Assumed ($000)	4,350,547	4,564,218

Key Financial Metrics

	Announcement	*Completion*
Short-term and Current Long-term Debt ($000)	694,327	451,232
Non-current Long-term Debt ($000)	3,709,878	4,146,892
Total Debt ($000)	4,404,205	4,598,124
Cash and Cash Equivalents ($000)	24,167	6,054
Current Investments ($000)	0	NA
Current Inventories ($000)	29,491	27,852

Regulatory Approvals

Regulatory Agency	*Filing Date*	*Date Agency Returned Ruling*	*Regulatory Agency Approved?*	*Regulatory Application Waived?*
Committee on Foreign Investment in the United States	NA	7/8/2016	Yes	No
FCC	NA	9/21/2016	Yes	No
Federal Energy Regulatory Commission	4/28/2016	9/23/2016	Yes	No
Federal Trade Commission	NA	8/10/2016	Yes	No
Illinois Commerce Commission	5/13/2016	8/24/2016	Yes	No
Kansas Corporation Commission	NA	10/11/2016	Yes	No
Missouri Public Service Commission	5/9/2016	9/14/2016	Yes	No
Oklahoma Corporation Commission	NA	8/16/2016	Yes	No
Public Service Commission of Wisconsin	NA	9/22/2016	Yes	No
U.S. Department of Justice	NA	8/10/2016	Yes	No

Financial Advisers

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*	*Fairness Opinion Fee ($000)*
Buyer	Goldman Sachs & Co.	-	-	-

	Scotia Capital Inc.		-	-
Seller	Barclays Capital Inc.	-	20,700	1,000
	Morgan Stanley & Co. LLC		20,700	-
	Lazard Freres & Co. LLC		4,500	2,500

Legal Counsel

Party Advised	***Firm Name***	***Adviser Name***	***Adviser Fees ($000)***	
Buyer	White & Case LLP	John M. Reiss	-	
		Matthew J. Kautz		
		Daniel A. Hagan		
	Davies Ward Phillips Vineberg	James R. Reid	-	
		Carol D. Pennycook		
		Raj Juneja		
		Robin Upshall		
		Kimberly Brown		
Seller	Simpson Thacher & Bartlett LLP	Mario A. Ponce	-	
		Brian E. Chisling		
		Risë B. Norman		
	Jones Day	Robert A. Profusek	-	
		Andrew M. Levine		
	Stuntz Davis & Staffier PC	Linda G. Stuntz	-	
		Ellen S. Young		

Great Plains Energy Incorporated | Financial Highlights

NYSE:GXP (SNL Inst Key: 4057005)

Periods Last Five Quarters /Interims

	2015 FQ2	2015 FQ3	2015 FQ4	2016 FQ1	2016 FQ2
Fiscal Period Ended	6/30/2015	9/30/2015	12/31/2015	3/31/2016	6/30/2016
Period Restated?	No	No	No	No	No
Restatement Date	NA	NA	NA	NA	NA
Spot Exchange Rate	1.000000	1.000000	1.000000	1.000000	1.000000
Average Exchange Rate	1.000000	1.000000	1.000000	1.000000	1.000000
Accounting Principle	U.S. GAAP	U.S. GAAP	U.S. GAAP	U.S. GAAP	U.S. GAAP
Balance Sheet Highlights ($000)					
Current Assets	788,100	824,000	664,200	611,100	741,800
Net PP&E	8,537,900	8,590,100	8,499,000	8,694,600	8,798,700
Total Assets	10,762,200	10,844,100	10,738,600	10,743,100	11,010,300
Non-current Long-term Debt	3,486,700	3,763,500	3,750,200	3,744,400	3,495,000
Total Equity	3,618,800	3,709,900	3,695,500	3,689,900	3,685,400
Total Capitalization, at Book Value	7,909,900	7,815,600	7,856,200	7,913,700	8,019,600
Income Statement Highlights ($000)					
Energy Operating Revenue	609,000	781,400	562,700	572,100	670,800
Operating Expense	489,100	524,700	479,300	482,200	483,500
Recurring EBITDA	218,700	358,900	192,500	195,600	295,800
Recurring EBIT	118,900	256,400	87,000	89,300	187,000
Net Income before Taxes	68,900	205,400	36,000	38,100	49,100
Net Income before Extra	44,400	126,800	22,900	26,400	32,000
Net Income	44,400	126,800	22,900	26,400	32,000
Reported Net Operating Income	119,900	256,700	83,400	89,900	182,300
Cash Flow Statement Highlights ($000)					
Cash Flow from Operating Activities	117,300	390,600	145,800	127,300	169,300
Cash Flow from Investing Activities	(166,100)	(165,600)	(172,200)	(153,700)	(188,300)
Cash Flow from Financing Activities	48,800	(226,200)	26,700	22,900	18,400
Other Cash Flow	0	0	0	0	0
Net Increase in Cash and Cash Equivalents	0	(1,200)	300	(3,500)	(600)
Operating Free Cash Flow	(31,600)	236,500	(10,400)	(6,300)	500

Balance Sheet Ratios/ Capital (%)

	2015 FQ2	2015 FQ3	2015 FQ4	2016 FQ1	2016 FQ2
Total Equity/ Total Assets	33.63	34.21	34.41	34.35	33.47
Working Capital ($000)	(460,600)	700	(251,500)	(288,200)	(635,000)
Long-term Debt/ Book Capital	44.08	48.15	47.74	47.32	43.58
Debt/ Book Capitalization	54.25	52.53	52.96	53.37	54.05
Total Debt/ Total Equity	1.19	1.11	1.13	1.14	1.18
Preferred Incl. Mezzanine/ Book-Value Capital	0.49	0.50	0.50	0.49	0.49
Income Statement Ratios (%)					
Recurring Revenue Growth	(6.70)	(0.67)	1.31	3.51	10.33
Net Income Growth	(14.78)	(13.98)	17.44	39.68	(27.93)
EPS after Extra Growth	(17.6)	(13.7)	25.0	41.7	(28.6)
Dividend Payout Ratio	87.50	29.88	175.00	154.41	131.25
Electric Revenue/ Operating Revenue	100.00	100.00	100.00	100.00	100.00
Gas Revenue/ Operating Revenue	0.00	0.00	0.00	0.00	0.00
Operations & Maintenance/ Operating Expense	41.65	39.34	44.11	42.08	40.87
Electric Generation/ Operating Expense	30.40	33.66	27.21	28.12	29.47
Gas Cost/ Operating Expense	0.00	0.00	0.00	0.00	0.00
Operating D&A/ Operating Expense	17.07	15.70	17.67	17.67	17.64
Profitability Ratios (%)					
ROAA	1.66	4.69	0.85	0.98	1.18
ROAE	4.91	13.84	2.47	2.86	3.47
ROACE	4.92	13.95	2.46	2.85	3.46
Liquidity Ratios (x)					
Pre-tax Interest Coverage Excl. AFUDC	2.36	4.97	1.59	1.71	1.35
Pre-tax Interest and Pfd Coverage Excl. AFUDC	2.34	4.93	1.58	1.70	1.35
Adjusted Cash Flow Coverage	4.84	7.79	3.14	3.89	2.69
Recurring EBITDA/ Adjusted Interest & Preferred	4.26	6.89	3.64	3.69	2.19
Rprtd: Fixed Charge Ratio	NA	NA	NA	1.69	NA
Adjusted Operating Cash Flow/ Capital Expenditures (%)	102.29	199.09	42.27	78.88	108.42
Per Share Information ($)					
Common Shares Outstanding (actual)	154,326,427	154,364,189	154,403,671	154,710,946	154,754,049
Avg Diluted Shares (actual)	154,500,000	154,800,000	154,900,000	155,000,000	154,800,000
Basic Book Value per Share	23.20	23.78	23.68	23.60	23.56
Basic Tangible Book Value per Share	NA	NA	21.53	NA	NA

	2015 FQ2	2015 FQ3	2015 FQ4	2016 FQ1	2016 FQ2
Price/ Operating Cash Flow	8.1	2.7	7.0	9.7	7.1
Common Dividends Declared per Share	0.2450	0.2450	0.2625	0.2625	0.2625
Basic EPS after Extra	0.28	0.82	0.15	0.17	0.20
Diluted EPS after Extraordinary	0.28	0.82	0.15	0.17	0.20
EPS after Extra Growth (%)	(17.6)	(13.7)	25.0	41.7	(28.6)

S&P Global Market Intelligence uses a variety of sources to retrieve financial information for each company we cover. For Energy companies, S&P Global Market Intelligence mines data from documents filed by the company, surveys, and other sources of public information.

NextEra Energy, Inc. acquires Hawaiian Electric Industries, Inc. | Deal Profile

SNL Deal Key 198706

Deal Overview

Buyer	NextEra Energy, Inc.
Target	Hawaiian Electric Industries, Inc.
Deal Type	Utility
Announcement Date	12/3/2014
Status	Terminated
Definitive Agreement Date	12/3/2014
Termination Date	7/16/2016

Deal Terms

Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	Market Expansion

Termination Conditions

Maximum Termination Fee ($000)	90,000
Minimum Termination Fee ($000)	0

Deal Ratios

Event Ratios

	Announcement
Deal Value/ Common Equity (%)	148.6
Deal Value/ Tangible Common Equity (%)	157.0
Deal Value/ Tang Common Equity, Aggregate Basis (%)	159.7
Deal Value/ Assets (%)	24.90
Deal Value/ Estimated EPS, per Share Basis (x)	15.7
Deal Value/ Earnings (x)	14.8
Deal Value/ EBITDA (x)	5.1
Transaction Value/ EBITDA (x)	7.1
Transaction Value/ Operating Revenue (x)	1.21
Transaction Value/ Assets (%)	34.57
Deal Value/ Adjusted Operating Cash Flows (x)	7.85
Transaction Value/ Electricity Sold ($/MWh)	NM
Transaction Value/ Gas Throughput ($/Mcf)	NM

Deal Summary

Juno Beach, Fla.-based NextEra Energy Inc. would have acquired Honolulu-based Hawaiian Electric Industries Inc (HEI). As a result of combination of NextEra and HEI, contingent to the agreement, Hawaiian Electric would have spin-off ASB Hawaii, the parent company of American Savings Bank to HEI shareholders and establish it as an independent publicly traded company.

Deal Valuation

Description of Consideration

NextEra Energy Inc. would have exchanged 0.2413 shares of its common stock to acquire each outstanding share of Hawaiian Electric Industries Inc. NextEra Energy Inc. would have also assumed net debt of Hawaiian Electric valued at approximately $1.04 billion. In addition to this, shareholders of HEI would have received $0.50 per share one-time special cash dividend immediately prior to the closing of the transaction.

Deal Valuation

	Announcement
Deal Value ($M)	2,643.57
Deal Value, As Reported ($M)	2,600.00
Deal Value per Share ($)	25.36
Deal Value per Share, As Reported ($)	25.00
Transaction Value ($M)	3,688.45
Transaction Value, As Reported ($M)	4,300.00
Percent of Equity Ownership Acquired (%)	100.00

Equity & Equity Derivatives

	Announcement
Common Shares Acquired (actual)	104,229,178
Exchange Ratio, Common to Common	0.2413
Shares Used to Calculate Deal Value (actual)	104,229,178

Deal Consideration Breakout

	Announcement	*Completion*
Common Stock ($000)	2,643,569	NA

Transaction Value/ Gas Customers ($/customer)	999.99
Transaction Value/ Electric Customers ($/customer)	NM
Target's LTM P/E (x)	16.5

Deal Premiums

Deal Premium 1 Day Before (%)	(10.06)
Deal Premium 5 Day Before (%)	(7.70)
Deal Premium 1 Month Before (%)	(10.25)
Deal Premium 3 Month Before (%)	0.13

Shareholder Value

Accretion / Dilution

Year	*Earnings Accretion (%)*	*Earnings Accretion ($)*
1 - Neutral	NA	NA

Additional Consideration

	Announcement
Debt Assumed ($000)	1,044,884
Dividend to Seller ($000)	52,114

Key Financial Metrics

	Announcement
Short-term and Current Long-term Debt ($000)	150,576
Non-current Long-term Debt ($000)	1,618,466
Cash and Cash Equivalents ($000)	192,555
Current Investments ($000)	531,603

Regulatory Approvals

Regulatory Agency	*Filing Date*	*Date Agency Returned Ruling*	*Regulatory Agency Approved?*	*Regulatory Application Waived?*
Federal Energy Regulatory Commission	1/29/2015	3/27/2015	Yes	No
Federal Trade Commission	8/7/2015	9/8/2015	Yes	No
Hawaii Public Utilities Comm	1/29/2015	NA	No	No

Financial Advisers

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*	*Fairness Opinion Fee ($000)*
Buyer	Citigroup Global Markets Inc.	-	-	-
	Blackstone Advisory Ptnrs L.P.		-	-
Seller	J.P. Morgan Securities LLC	Paul M. Dabbar	6,000	-
		Jay Donald Horine		
		R.A. McDonough		
		Pankaj Vasudev		

Legal Counsel

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*
Buyer	Wachtell Lipton Rosen & Katz	Edward D. Herlihy	-

		Lawrence S. Makow	
Seller	Skadden Arps Slate Meagher	Michael P. Rogan	-
		Marc S. Gerber	
		Clifford M. Naeve	
		Jerry L. Pfeffer	
		Robert W. Warnement	

NextEra Energy, Inc. acquires 80.03% of Oncor Electric Delivery Company LLC | Deal Profile

SNL Deal Key 214834

Deal Overview

Buyer	NextEra Energy, Inc.
Target	Oncor Electric Delivery Company LLC
Seller	Energy Future Holdings Corp.
Deal Type	Utility
Announcement Date	7/29/2016
Status	Pending
Definitive Agreement Date	7/29/2016
Renegotiation Date	9/18/2016
Expected Completion Date	1/1/2017 - 3/31/2017

Deal Terms

Accounting Method	Acquisition
Merger of Equals?	No
Bankruptcy Sale?	Yes
Geographic Expansion?	In Market

Termination Conditions

Maximum Termination Fee ($000)	275,000
Minimum Termination Fee ($000)	0

Private Equity Involvement

PE Investor(s)/Sponsor(s)	Energy Capital Partners LLC
	GS Capital Partners LP
	KKR & Co. L.P.
	Quintana Capital Group L.P.
	Stockwell Capital LLC
	TPG Capital Mgmt LP
Deal Structure	Corporate Divestiture
Exiting Investor(s)	Energy Capital Partners LLC
	GS Capital Partners LP
	KKR & Co. L.P.
	Quintana Capital Group L.P.
	Stockwell Capital LLC
	TPG Capital Mgmt LP

Deal Ratios

Event Ratios

Deal Summary

Juno Beach, Fla.-based NextEra Energy Inc. has agreed to acquire 80.03% indirect interest in Dallas-based Oncor Electric Delivery Co. LLC from Dallas-based Energy Future Holdings Corp. As a part of the transaction, NextEra Energy is committed to retaining local management, the Dallas headquarters and the Oncor name. Oncor Electric Delivery Company is a regulated electricity transmission and distribution company, provides electricity delivery services to end-use consumers through its electrical systems.

Deal Valuation

Description of Consideration

As per amended terms as of September 18, 2016, NextEra Energy Inc. has agreed increase the purchase price by $300 million to acquire Energy Future Holdings Corp.'s 80.03% of indirect interest in Oncor Electric Delivery Co. LLC. As per amended terms, total enterprise value for this acquisition will be $18.7 billion. Prior to amendment, NextEra Energy Inc. has agreed to acquire Energy Future Holdings Corp.'s 80.03% of indirect interest in Oncor Electric Delivery Co. LLC for total enterprise value of approximately $18.4 billion. The consideration will primarily consist of cash and common stock.

Deal Valuation

	Announcement
Transaction Value ($M)	18,700.00
Transaction Value, As Reported ($M)	18,700.00
Percent of Equity Ownership Acquired (%)	80.03

Deal Consideration Breakout

	Announcement	*Completion*
Unclassified ($000)	18,700,000	NA
Cash ($000)	NA	NA
Common Stock ($000)	NA	NA

Key Financial Metrics

	Announcement
Short-term and Current Long-term Debt ($000)	1,133,000
Non-current Long-term Debt ($000)	5,650,000
Total Debt ($000)	6,783,000
Cash and Cash Equivalents ($000)	1,000

	Announcement
Transaction Value/ EBITDA (x)	12.4
Transaction Value/ Operating Revenue (x)	6.01
Transaction Value/ Assets (%)	118.77
Transaction Value/ Gas Throughput ($/Mcf)	NM
Transaction Value/ Gas Customers ($/customer)	999.99

Current Investments ($000)	0
Current Inventories ($000)	95,000

Shareholder Value

Accretion / Dilution

Year	*Earnings Accretion (%)*	*Earnings Accretion ($)*
1 - Accretive	NA	NA

Regulatory Approvals

Regulatory Agency	*Filing Date*	*Date Agency Returned Ruling*	*Regulatory Agency Approved?*	*Regulatory Application Waived?*
FCC	NA	NA	No	No
Federal Energy Regulatory Commission	NA	NA	No	No
Federal Trade Commission	NA	NA	No	No
Public Utility Commission of Texas	NA	NA	No	No

Financial Advisers

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*	*Fairness Opinion Fee ($000)*
Buyer	Credit Suisse Secs (USA) LLC	-	-	-
	Bank of America Merrill Lynch		-	-
	Deutsche Bank Securities Inc.		-	-
	J.P. Morgan Securities LLC		-	-
	Wells Fargo Securities LLC		-	-
	UBS Securities LLC		-	-
Seller	Evercore Partners Inc.	-	-	-
	Barclays Capital Inc.		-	-

Legal Counsel

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*

Buyer	Chadbourne & Parke LLP	William Greason	-	
Seller	Jones Day	Corinne Ball	-	
		Patricia J. Villareal		
	Kirkland & Ellis LLP	Andrew T. Calder	-	
		John D. Pitts		
		Kevin L. Morris		
		James H.M. Sprayregen		
		Edward O. Sassower, P.C.		
	Cravath Swaine & Moore LLP	-	-	

Deal Profile

NextEra Energy, Inc. acquires Hawaiian Electric Industries, Inc.

Deal Overview

Buyer	NextEra Energy, Inc.
Target	Hawaiian Electric Industries, Inc.
Deal Type	Utility
Agreement Date	12/3/2014
Announcement Date	12/3/2014
Announced Deal Value ($000)	2,643,569
Short-term and Current Long-term Debt ($000)	150,576
Non-current Long-term Debt ($000)	1,618,466
Cash and Cash Equivalents ($000)	192,555
Current Investments ($000)	531,603
Postretirement Benefits ($000)	274,909
Announced Transaction Value ($000)	3,963,362
Status	Pending
Expected Completion Date	10/1/2015 - 12/31/2015
Announced Deal Value Per Share ($)	25.36

Deal Pricing Ratios

	Announcement	Completion
Transaction Value/ EBITDA (x)	7.7	NA
Transaction Value/ Energy Operating Revenues (x)	1.21	NA
Transaction Value/ Assets (%)	37.14	NA
Price/ Adj. Op. Cash Flows (x)	7.85	NA
Deal Value/ Book Value (%)	144.4	NA
Price/ Tangible Book (%)	152.3	NA
Deal Value/ Earnings (x)	14.8	NA
Transaction Value/ Electricity Sold ($/MWH)	NM	NA
Transaction Value/ Elec. Customer Acquired ($/customer)	NM	NA
Transaction Value/ Gas Throughput ($/MCF)	NM	NA

Deal Terms

Description of Consideration
NextEra Energy Inc. will exchange 0.2413 shares of its common stock to acquire each outstanding share of Hawaiian Electric Industries Inc. NextEra Energy Inc. will also assume liability of Hawaiian Electric valued at approximately $1.32 billion.

Minority Interest Deal?	No
Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	Market Expansion
Maximum Termination Fee ($000)	90,000
Minimum Termination Fee ($000)	0
Exchange Ratio (Common For Common)	0.2413

Deal Summary

Juno Beach, Fla.-based NextEra Energy Inc. has agreed to acquire Honolulu-based Hawaiian Electric Industries Inc (HEI). As a result of combination of NextEra and HEI, contingent to the agreement, Hawaiian Electric will spin-off ASB Hawaii, the parent company of American Savings Bank to HEI shareholders and establish it as an independent publicly traded company.

Deal Valuation

Total Deal Value Shares	104,229,178

Consideration Breakout

Common Stock ($000)	2,643,569

Consideration Not Included in Deal Value Calculation

Debt Assumed ($000)	1,319,793

Deal Profile

NextEra Energy, Inc. acquires Hawaiian Electric Industries, Inc.

Additional Deal Information

Post-Completion Year	Deal Accretive?	Earnings Accretion (%)	Earnings Accretion ($)	Est. Cost Savings (%)	Est. Cost Savings ($000)
1	Neutral	NA	NA	NA	NA

Deal Advisers - Financial Advisers

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Citigroup Global Markets Inc.	-	-	-
		Blackstone Advisory Ptnrs L.P.	-	-	-
Seller	Yes	J.P. Morgan Securities LLC	-	30,000	-

Deal Advisers - Legal Counsel

Party Advised	Adviser Hired?	Firm Name	Adviser Name	Adviser Fees ($000)	Fairness Opinion Fee ($000)
Buyer	Yes	Wachtell Lipton Rosen & Katz	Edward D. Herlihy	-	-
			Lawrence S. Makow		
Seller	Yes	Skadden Arps Slate Meagher	Michael P. Rogan	-	-
			Marc S. Gerber		
			Clifford M. Naeve		
			Jerry L. Pfeffer		
			Robert W. Warnement		

Article

Monday, August 24, 2015 8:40 AM ET Extra

UPDATE: Southern Co. to acquire AGL Resources in $12B deal

By Sarah Smith and Sibyl Layag

Southern Co. on Aug. 24 announced a $12 billion transaction to acquire AGL Resources Inc., forming a utility powerhouse with about 9 million customers and a projected regulated rate base of about $50 billion.

The boards of directors of both companies have approved the agreement, which has a total equity value of about $8 billion. AGL Resources shareholders would receive $66 in cash for each share of common stock they hold. The value represents a premium of 36.3% to the volume-weighted average stock price of AGL Resources over the last 20 trading days ended Aug. 21, according to a release.

The transaction is expected to be accretive to Southern Co.'s earnings per share in the first full year after the transaction is closed and contribute to an expected long-term EPS growth of 4% to 5%.

The merger would create the second-largest U.S. utility company, comprising 11 regulated electric and natural gas distribution companies. The company would operate nearly 200,000 miles of electric transmission and distribution lines and over 80,000 miles of gas pipelines, as well as a generating capacity of about 46,000 MW.

The companies said that investors, customers and communities can expect to benefit from stronger reliability, improved current and future energy infrastructure development, possible expansion of customer-focused business models, and an overall platform well-positioned for growth across the energy value chain.

"For some time we have expressed our desire to explore opportunities to participate in natural gas infrastructure development. With AGL Resources' experienced team operating premier natural gas utilities and their investments in several major infrastructure projects, this is a natural fit for both companies," said Thomas Fanning, chairman, president and CEO of Southern Co.

Fanning said during an Aug. 24 analyst call that the deal would prepare Southern Co. for a more prominent, stable role in the utility business, particularly in light of changing technology, customer behavior trends, market forces and regulatory environments. Southern Co. and AGL Resources boast more than 1,500 Bcf of combined natural gas consumption and throughput volume per year, which would make the united organization "the most important user of natural gas in the United States," Fanning said. "[AGL has] a lot more institutional knowledge, a deeper bench … and a broader reach. [We] think all these things are really exciting."

Access to gas supplies will be critical going forward, he noted, and merging with AGL Resources opens opportunities for Southern Co. to participate in gas infrastructure expansion work.

"We believe that the acquisition of AGL better positions Southern Co. to succeed in [the] future, particularly a future in which there is a need for more gas infrastructure," Fanning said.

Southern Co. said it plans to fund the deal through debt and equity, with roughly $3 billion in equity issuances spaced out through 2019. Company officials said the equity issuance will be timed to maintain their ability to invest in additional opportunities.

Southern Co. officials also said that, based on conversations with credit rating agencies, the company expects to maintain its ratings throughout the acquisition process. They emphasized that AGL Resources' diversified regulated businesses are a plus that would contribute to the combined entity's risk profile.

The two companies would continue to operate as separate entities pending approvals and closing, according to the release. After closing, AGL Resources would retain its own management team, board of directors and corporate headquarters in Atlanta. Existing customers will continue to be served by their respective utilities.

Southern Co. has committed financing from Citigroup Global Markets Inc., which also intends to put long-term financing in place prior to closing.

Citigroup Global Markets Inc. also is serving as the exclusive financial adviser, and Jones Day, Gibson Dunn & Crutcher LLP and Troutman Sanders LLP are serving as legal counsel to Southern Co. Goldman Sachs & Co. is serving as the exclusive financial adviser and Cravath Swaine & Moore LLP is serving as legal counsel to AGL Resources.

Article updated at 12:10 p.m. ET on Aug. 24, 2015, to add information from the merger conference call.

Wednesday, August 26, 2015 9:50 AM ET Exclusive

Analysts applaud Southern's plan to diversify, grow with AGL acquisition

By Sarah Smith

Analysts largely welcomed Southern Co.'s decision to acquire AGL Resources Inc. as a sensible strategic move, citing the ability of midstream gas investment to diversify Southern Co.'s operations and drive earnings growth.

Guggenheim Securities LLC analyst Shahriar Pourreza on Aug. 25 called the $12 billion deal a "great call" and said it was the best use of Southern Co.'s capital. The acquisition, which was announced Aug. 24, has the potential to bring Southern Co.'s earnings per share growth in line with the company's peers, diversifies the company's businesses and positions the company to take advantage of future gas midstream opportunities, Pourreza said.

"We see as best strategic move in years," Pourreza wrote, estimating that the deal could be 6% to 7% accretive in the coming years.

BMO Capital Markets' Michael Worms said in an Aug. 24 note that he sees the transaction as a positive step for Southern Co. Moving toward natural gas is "inevitable" for electric utilities looking for supplemental growth opportunities while maintaining a low risk profile, the note said. Worms said BMO expects the deal to be moderately accretive in the near term and to become more accretive once some of the pipelines AGL Resources has invested in start to come online.

Southern Co. to acquire AGL Resources Inc.

Deal overview	
Buyer	Southern Co.
Target	AGL Resources Inc.
Announcement date	08/24/15
Announced deal value ($000)	7,944,362
Short-term and current long-term debt ($000)	584,000
Non-current long-term debt ($000)	3,452,000
Cash and cash equivalents ($000)	25,000
Announced transaction value ($000)	12,060,362
Expected completion date	07/01/16 - 12/31/16
Announced deal value per share ($)	66.00
Deal pricing ratios at announcement	
Transaction value/EBITDA (x)	9.7
Transaction value/energy operating revenues (x)	2.7
Transaction value/assets (%)	87.2
Deal value/book value (%)	200.7
Price/tangible book (%)	394.5
Deal value/earnings (x)	21.0
Transaction value/gas throughput ($/Mcf)	14.2
Transaction value/gas customer acquired ($/customer)	2,660.0

Data as of Aug. 24, 2015.
Source: SNL Energy

Macquarie Research analysts said they expect the deal to be only moderately accretive to Southern Co.'s earnings per share, but they emphasized that the acquisition is crucial to helping the company diversify away from the risks of its major projects, such as the delayed and over-budget integrated gasification combined-cycle project in Kemper County and the Vogtle nuclear power project.

Southern Co. said it plans to fund its acquisition of AGL Resources in part through debt and equity, with roughly $3 billion in equity issuances spaced out through 2019. Morgan Stanley analysts on Aug. 25 said they approve of Southern Co.'s decision to pace its equity issuance, noting that issuing all the equity by 2017 would probably have hurt the deal's accretion potential.

As it stands, the Morgan Stanley analysts said they expect EPS accretion of 8 cents in 2016 and 14 cents in 2017, not counting synergies. Had Southern Co. decided to issue equity on a shortened timeline, the earnings per share accretion could have been limited to 4 cents per share for 2017, according to the Morgan Stanley report.

While Southern Co. is paying a relatively high — 36% — premium for AGL, Pourreza noted that AGL has recently been trading at a discount to its gas utility peers. The purchase price is about 22 times AGL Resources' earnings, which Pourreza said is in line with comparable utility deals.

"We believe the premium is justified by the above-mentioned growth [Southern Co.] should receive, and upside potential from large gas pipeline developments in which AGL is already participating," Pourreza said.

The Morgan Stanley analysts, too, said the transaction is a sound strategic move and appears to be worth the premium Southern Co. agreed to pay.

Analysts expressed mixed opinions, however, about whether the Southern Co.-AGL Resources deal would face regulatory issues. Macquarie analysts were concerned about whether the transaction would face time-consuming and possibly contentious approval proceedings at the New Jersey Board of Public Utilities and the Maryland Public Service Commission.

Pourreza, on the other hand, does not anticipate major pushback in any of the states where the merger would need approval, "not even in Maryland." The Maryland PSC has a reputation for being tough on utility transactions, Pourreza said, but because the deal would affect only about 6,000 customers in the state, the commission is unlikely to have significant objections to the acquisition.

Mizuho Securities USA Inc. said in an Aug. 24 note that approvals from the Maryland PSC and the Illinois Commerce Commission approvals are likely to be tough to attain, while KeyBanc Capital Markets analysts in an Aug. 24 note said they think Southern Co. "has a good reputation and is respected by regulators for its customer focus," paving the way for regulatory approvals.

Southern Company acquires AGL Resources Inc. | Deal Profile

SNL Deal Key 204996

Deal Overview

Buyer	Southern Company
Target	AGL Resources Inc.
Deal Type	Utility
Announcement Date	8/24/2015
Status	Completed
Definitive Agreement Date	8/23/2015
Completion Date	7/1/2016

Deal Terms

Accounting Method	Acquisition
Merger of Equals?	No
Geographic Expansion?	In Market
Goodwill Generated ($000)	6,769,000
Total Merger Costs ($000)	11,000

Termination Conditions

Maximum Termination Fee ($000)	201,000
Minimum Termination Fee ($000)	0
Lock-up Agreement?	No

Deal Ratios

Event Ratios

	Announcement	***Completion***
Deal Value/ Common Equity (%)	200.7	197.5
Deal Value/ Tangible Common Equity (%)	394.5	376.8
Deal Value/ Tang Common Equity, Aggregate Basis (%)	395.4	375.8
Deal Value/ Assets (%)	57.41	55.41
Deal Value/ Estimated EPS, per Share Basis (x)	22.0	21.7
Deal Value/ Earnings (x)	21.0	23.2
Deal Value/ EBITDA (x)	NA	6.9
Transaction Value/ EBITDA (x)	9.3	10.4
Transaction Value/ Operating Revenue (x)	2.60	3.35
Transaction Value/ Assets (%)	83.36	82.93
Deal Value/ Adjusted Operating Cash Flows (x)	7.94	7.71

Deal Summary

Atlanta-based Southern Company has acquired Atlanta-based AGL Resources Inc. AGL Resources is an energy services holding company with operations in natural gas distribution, retail operations, wholesale services and midstream operations.

Deal Valuation

Description of Consideration

Southern Company paid $66 per share in cash to acquire each outstanding share of AGL Resources Inc. In addition to this, Southern Co. will assume approx. $3.945 billion net debt of AGL Resources.

Deal Valuation

	Announcement	***Completion***
Deal Value ($M)	7,943.31	7,943.31
Deal Value, As Reported ($M)	7,900.00	8,000.00
Deal Value per Share ($)	66.00	66.00
Deal Value per Share, As Reported ($)	66.00	66.00
Transaction Value ($M)	11,533.31	11,888.31
Transaction Value, As Reported ($M)	12,000.00	NA
Percent of Equity Ownership Acquired (%)	100.00	100.00

Equity & Equity Derivatives

	Announcement	***Completion***
Common Shares Acquired (actual)	120,071,870	120,071,870
In-the-money Options Outstanding (actual)	627,550	627,550
Strike Price of In-the-money Options ($)	36.41	36.41
In-Money Options Outstanding As Of	12/31/2014	12/31/2014
Shares Used to Calculate Deal Value (actual)	120,699,420	120,699,420

Deal Consideration Breakout

	Announcement	***Completion***
Cash ($000)	7,924,743	7,924,743

Additional Consideration

Transaction Value/ Gas Throughput ($/Mcf)	13.62	16.13
Transaction Value/ Gas Customers ($/customer)	2,543.74	2,592.87
Target's LTM P/E (x)	15.2	23.2

Deal Premiums

Deal Premium 1 Day Before (%)	37.90
Deal Premium 5 Day Before (%)	32.48
Deal Premium 1 Month Before (%)	39.59
Deal Premium 3 Month Before (%)	32.05

Shareholder Value

Accretion / Dilution

Year	*Earnings Accretion (%)*	*Earnings Accretion ($)*
1 - Accretive	NA	NA

	Announcement	*Completion*
Debt Assumed ($000)	3,590,000	3,945,000

Key Financial Metrics

	Announcement	*Completion*
Short-term and Current Long-term Debt ($000)	584,000	1,027,000
Non-current Long-term Debt ($000)	3,452,000	3,273,000
Cash and Cash Equivalents ($000)	25,000	20,000
Current Inventories ($000)	421,000	335,000

Regulatory Approvals

Regulatory Agency	*Filing Date*	*Date Agency Returned Ruling*	*Regulatory Agency Approved?*	*Regulatory Application Waived?*
California Public Utilities Commission	11/9/2015	3/17/2016	Yes	No
Federal Trade Commission	NA	12/4/2015	Yes	No
Georgia Public Service Commission	12/17/2015	4/14/2016	Yes	No
Illinois Commerce Commission	10/8/2015	6/7/2016	Yes	No
Maryland Public Service Commission	11/3/2015	5/3/2016	Yes	No
New Jersey Board of Public Utilities	10/16/2015	6/29/2016	Yes	No
Tennessee Regulatory Authority	NA	NA	Yes	No
Virginia State Corporation Commission	10/26/2015	2/23/2016	Yes	No

Financial Advisers

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*	*Fairness Opinion Fee ($000)*
Buyer	Citigroup Global Markets Inc.	-	-	-
Seller	Goldman Sachs & Co.	-	34,500	-

Legal Counsel

Party Advised	*Firm Name*	*Adviser Name*	*Adviser Fees ($000)*
Buyer	Jones Day	William B. Rowland	-
		Bryan E. Davis	
		Robert A. Profusek	
		Lizanne Thomas	
	Gibson Dunn & Crutcher LLP	-	-
	Troutman Sanders LLP	Eric A. Koontz	-
		Kevin C. Greene	
		Frank A. Schiller	
Seller	Cravath Swaine & Moore LLP	Richard Hall	-
		Andrew R. Thompson	

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

American Municipal Power, Inc. Blue Ridge Power Agency Craig-Botetourt Electric Cooperative Indiana Michigan Municipal Distributors Association Indiana Municipal Power Agency Old Dominion Electric Cooperative, Inc. Wabash Valley Power Association, Inc. Complainants, v. Appalachian Power Company Columbus Southern Power Company Indiana Michigan Power Company Kentucky Power Company Kingsport Power Company Ohio Power Company Wheeling Power Company AEP Appalachian Transmission Company, Inc. AEP Indiana Michigan Transmission Company, Inc. AEP Kentucky Transmission Company, Inc. AEP Ohio Transmission Company, Inc. AEP West Virginia Transmission Company, Inc. Respondents.	Docket No. EL17-____-000

NOTICE OF COMPLAINT

(________, 2016)

Take notice that on October 27, 2016, American Municipal Power, Inc., Blue Ridge Power Agency, Craig-Botetourt Electric Cooperative, Indiana Michigan Municipal Distributors Association, Indiana Municipal Power Agency, Old Dominion Electric Cooperative, Inc. and Wabash Valley Power Association, Inc. (collectively, "Joint Complainants") filed a formal complaint against Appalachian Power Company, Columbus Southern Power Company, Indiana Michigan Power Company, Kentucky Power Company, Kingsport Power Company, Ohio Power Company, Wheeling Power Company, AEP Appalachian Transmission Company, Inc., AEP Indiana Michigan Transmission Company, Inc., AEP Kentucky Transmission Company, Inc., AEP Ohio Transmission Company, Inc., and AEP West Virginia Transmission Company, Inc. (collectively, "Respondents" or "AEP East Companies") pursuant to Section 206 of the Federal Power Act and Rule 206 of the Federal Energy Regulatory Commission's ("FERC" or "Commission") Rules of Practice and Procedure, alleging that the 10.99% base return on common equity currently included in the formula transmission rates of the AEP East Companies is unjust and unreasonable and should be reduced as of the date of the Complaint.

Joint Complainants certify that copies of the complaint were served in accordance with Rule 206(c).

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR §§ 385.211 and 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. The Respondents' answer and all interventions or protests must be filed on or before the comment date. The Respondents' answer, motions to intervene, and protests must be served on the Complainants.

The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically should submit an original and 5 copies of their protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, DC 20426.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, DC. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date: 5:00 pm Eastern Time on _______, 2016.

Kimberly D. Bose,
Secretary

Document Content(s)

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