ASSOCIATIONS EXHIBIT NO. A-2

Exhibit No. A-2

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Inquiry Regarding the Commission's Policy for Determining Return on Equity	))	Docket No. PL19-4-000

Affidavit of Michael P. Gorman

On behalf of the Associations:
Aluminum Association,
American Chemistry Council,
American Forest and Paper Association,
American Public Power Association,
Electricity Consumers Resource Council,
Industrial Energy Consumers of America,
National Rural Electric Cooperative Association, and
Transmission Access Policy Study Group

June 26, 2019

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Affidavit of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility regulation and a Managing Principal of Brubaker & Associates, Inc., energy, economic and regulatory consultants.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to this Affidavit.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A This testimony is presented on behalf of the Aluminum Association, American Chemistry Council, American Forest and Paper Association, American Public Power Association, Electricity Consumers Resource Council, Industrial Energy Consumers of America, National Rural Electric Cooperative Association, and Transmission Access Policy Study Group (collectively, "Associations").

Q WHAT IS THE PURPOSE OF YOUR AFFIDAVIT?

A I will respond to specific questions included in the Federal Energy Regulatory Commission ("FERC" or "Commission") Notice of Inquiry ("NOI") regarding the Commission's policy for determining a return on equity ("ROE").

Performance of the DCF Model

Q DOES THE COMMISSION LIST THE INFORMATION IT SEEKS ON PERFORMANCE OF THE DCF MODEL?

A Yes. The Commission is seeking several comments concerning the results of a Discounted Cash Flow ("DCF") model over time under different investment conditions, including the following:

1. C1. The DCF model assumes stock prices are equal to the present value of future cash flows. Is there evidence of situations when these assumptions are inaccurate?

2. C2. Have current and projected proxy group earnings over the last 10 to 20 years increased in a manner that would justify any increase in their stock price over the same period, consistent with DCF model assumptions?

3. C3. Does the DCF methodology perform over a wide range of interest rate conditions?

4. C3.a. What specific assumptions of the DCF model, if any, do not work well in low or high interest rate environments?

5. C3.b. Is there evidence that the volatility of price-to-earnings ("P/E") ratios over the last 10 to 20 years, assumed to be consistent with DCF methodology, has been driven by wide swings in interest rates over this period? If so, would the constant P/E assumption impact the award of reasonable ROE?

C1.

Q THE DCF MODEL ASSUMES STOCK PRICES ARE EQUAL TO THE PRESENT VALUE OF PROJECTED FUTURE CASH FLOWS. IS THERE EVIDENCE OF SITUATIONS WHEN THESE ASSUMPTIONS ARE INACCURATE?

A No, the DCF model is reliable in all markets. Because stock market prices efficiently incorporate relevant available information, they recognize that utilities' cash flows can vary over time, and also recognize that growth outlooks can change based on market, industry and company factors. Observable stock prices do reflect the expected present value of future cash flows, in all markets. This is not surprising, as rights to expected future cash flows are what investors acquire by paying present market prices for a stock.

Again, the DCF model is reliable and accurately tracks securities valuation across various market conditions. The DCF model is particularly appropriate for utility companies because dividends are a primary driver of annual returns and volatility of returns. A significant component of total expected annual investor return for making investments in utility stocks is derived from annual dividends, with the remainder of the expected return made up of expected growth – growth in earnings, dividends and stock price. Equity analysts' assessment of utility stock investments include considerable detail on a company's ability to pay dividends and ability to grow earnings and dividends over time. Indeed, in large part, utility executives' periodic earnings call meetings with security analysts focus significantly on rate base growth,

ability to pay and grow dividends, and the stability and predictability of cash flows needed to meet the utility's obligations, including dividend payments.[1]

Market participants view utility stocks as a hybrid investment that offers investors both periodic cash returns (dividends) and stock price appreciation. These periodic cash returns tend to align with market interest rates, and growth outlooks largely track factors that drive earnings growth. For the operating utility subsidiaries of publicly-traded "utility" stocks, these earnings growth factors prominently include rate base or capital investment growth. The valuations and P/E ratios of the parent stocks are affected by growth in earnings, changes in market interest rates, and other factors.[2] Anticipated dividend payments are a primary factor used by market participants to assess risks and expected return for investments in utility stocks.

The DCF model values utility stock based on anticipated dividend payments, market interest rates and growth outlooks, or, when solved in the other direction for regulatory purposes, solves for the discount rate that aligns anticipated dividend payments with current stock market prices. Thus, the DCF model provides a straightforward way of evaluating an economically logical valuation or expected return for utility stocks.

[1] *S&P Global Ratings Industry Top Trends 2019*: "North America Regulated Utilities," November 8, 2018, provided as Exhibit No. A-3, pages 1-6.
[2] *Id*.

Q PLEASE EXPLAIN WHY A DCF MODEL IS PARTICULARLY APPROPRIATE FOR UTILITY STOCKS.

A Again, the valuation and expected return outlooks for utility investments are derived based on dividend payments. The significance of a dividend portion of a return for a utility company versus that of the overall market illustrates this point very clearly.

This is illustrated in Table 1 below. Based on the Edison Electric Institute Utility Index ("EEI Index"),[3] I show the annual return experienced by this electric utility index over the last five years in comparison to the S&P 500. The total annual return is based on the two factors: (1) change in stock price from end of year to beginning of year; and (2) dividend income. As shown below in Table 1, return on the EEI Index over this 11-year period has actually exceeded the total return on the S&P 500. But more important, the annual return on utility stocks is far more stable than that of general market investments, as proxied by the S&P 500.

[3]The EEI Index is composed of 32 electric utility companies that are publicly traded, and are largely holding companies for electric utilities. Developing the index above relied on all utility companies that had data available over the period 2008-2018 and consistently paid dividends during this time period.

TABLE 1

Total Investment Return

Edison Electric Index (EEI)			S&P 500		
	Total	Dividend		Total	Dividend
Year	Return	Yield	Year	Return	Yield
2018	5.99%	3.33%	2018	-4.38%	1.98%
2017	18.00%	3.60%	2017	21.83%	2.02%
2016	21.30%	3.97%	2016	11.96%	2.21%
2015	-4.88%	3.44%	2015	1.38%	2.13%
2014	39.22%	4.40%	2014	13.69%	2.06%
2013	7.69%	4.39%	2013	32.39%	2.15%
2012	17.64%	4.90%	2012	16.00%	2.29%
2011	8.32%	4.79%	2011	2.11%	2.11%
2010	14.30%	5.02%	2010	15.06%	2.02%
2009	-27.31%	3.37%	2009	26.46%	2.44%
2008	9.31%	3.53%	2008	-37.00%	2.42%
Average	10.0%	4.1%	**Average**	9.05%	2.17%
Std. Dev.	16.6%	0.7%	**Std. Dev.**	18.80%	0.16%

Source: Exhibit No. A-4

Utility stock dividends stabilize the total annual returns on utility stocks. This variability reduction is evident by the lower standard deviation of annual returns. Hence, the investment risk of an electric utility is lower than the overall market, as proxied by the S&P 500, because the returns are more stable.

More specifically, for utility stocks, over 40% of the total annual return is produced through dividend payments. In contrast, for the S&P 500, dividend payments represent approximately 20% of annual returns. Further, because annual investment

returns on utility stocks are largely tied to the dividends, the variability of the stock price annual return is also reduced. This reduction results because compensation to utility investors is largely produced through more stable and predictable dividend payments compared to the market in general. In contrast, investors in the broader stock market expect much lower compensation from dividend payments and are more focused on growth in stock price, which is driven by future earnings and market factors rather than more heavily weighted toward far more stable annual dividend returns.

Q WHY DOES THIS ILLUSTRATION OF ANNUAL RETURNS DEMONSTRATE THAT THE DCF MODEL IS PARTICULARLY APPROPRIATE FOR REGULATED UTILITY STOCK INVESTMENTS?

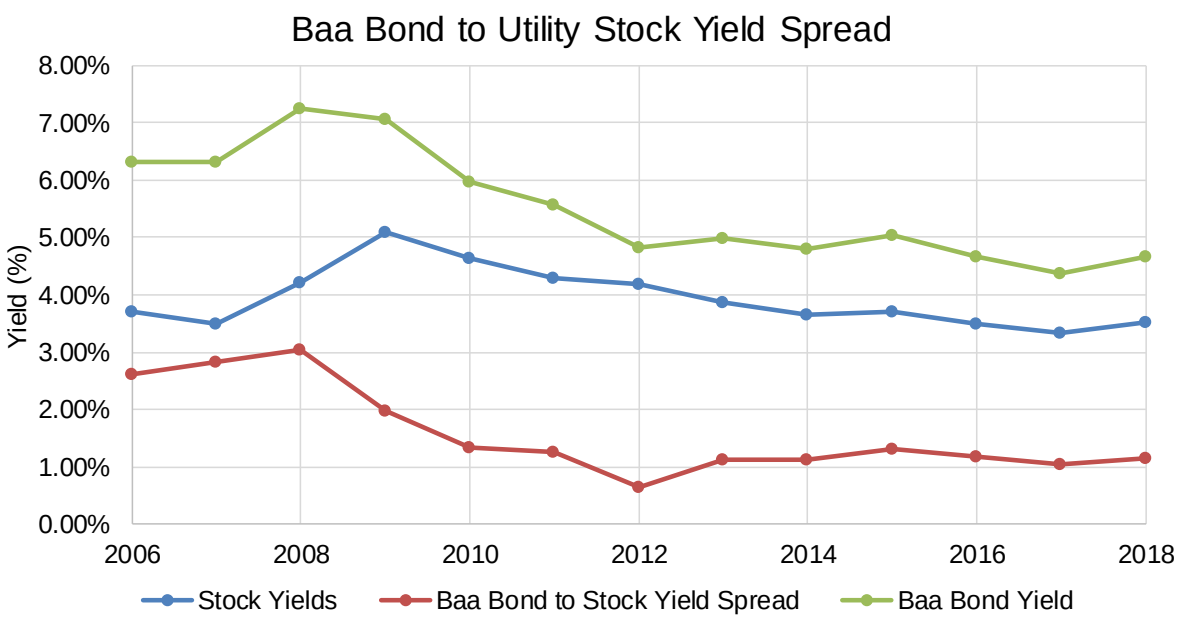
A A valuation model, like the DCF, that focuses predominantly on dividend cash flows is the key valuation factor for assessing a utility stock investment. Moreover, in applying the DCF model, the aspect that requires inferences about what investors expect concerns future growth — not present dividend yields, which are visible. When making comparisons across stocks, the greater the share of investors' total expected near-term return that derives from dividends rather than capital appreciation, the smaller the relative effect of any error in inferring future growth. Consequently, the DCF model is especially reliable for stocks with relatively high dividend yields, which utility stocks generally have.

Q PLEASE EXPLAIN WHY YOU BELIEVE UTILITY STOCK YIELDS MOVE IN RELATIONSHIP TO CHANGES IN MARKET INTEREST RATES AND THUS SUPPORT THE ACCURACY AND RELIABILITY OF THE DCF MODEL.

A There is a consistent and reliable spread between utility stock yields and utility bond yields that support this conclusion. Utility stocks and bonds are two competing investments that provide annual income return to investors. Because bond yields track changes in market interest rates, and utility stock yields track changes in utility bond yields, this is clear evidence that utility stock valuations are impacted by interest rate changes.

This relationship is illustrated in Figure 1 below.

Figure 1



Source: Exhibit No. A-5

As shown in Figure 1, since 2010, the yield spreads between utility stocks and utility bonds have averaged 1.13% and have held rather steady near that level. The graph shows some volatility during earlier periods of market distress, such as 2007-2008. Excluding these periods of market distress, however, shows that the variation in yield spread between utility bonds and utility stock dividend yields has been tight, in the range of 0.63%–1.29%. The annual nominal and real spread of utility stocks and utility bonds is shown on my Exhibit No. A-5, page 1.

This is evidence that utility stock values do respond to changes in market interest rates. From a DCF perspective, a dividend yield on a utility stock does change with changes in market interest rates. Hence, a DCF model is a reasonable model in both high and low interest rate environments, because the utility stock value will change in order to adjust the yield to correspond with prevailing interest rate market levels. This conclusion is economically logical, because utility stocks are hybrid investments that produce both annual returns, similar to a fixed investment vehicle such as a bond, but they also provide growth similar to a stock investment.

Q WHY DO YOU BELIEVE THAT THE DCF MODEL IS APPROPRIATE BUT MAY NEED TO REFLECT CHANGES IN RELATIONSHIPS BETWEEN DIVIDEND GROWTH, STOCK PRICE, AND EARNINGS?

A The DCF model can accommodate both constant growth outlooks and non-constant multi-growth outlooks. Under a constant growth model, the DCF model assumes that

dividends grow at the same rate indefinitely.[4] However, under non-constant growth periods, the model can be constructed to reflect dividends growing over an intermediate period at a rate that could not be sustained long-term, followed by a return to steady-state or constant growth at some point in the future. When this occurs, the DCF model can accommodate changing market and valuation factors, such as changing P/E ratios, variation in interest rates, and changing growth outlooks.

Under a constant growth DCF model, the investor-required return is measured based on the following:

$$K = (D_1 \div P) + G \qquad \text{Equation 1}$$

Where:

K = Required Return
D_1 = Dividend After Investment
P = Price of Stock
G = Growth

Equation 1 above can produce different results over time based on changes to the dividend and dividend growth. Under the constant growth model, D_1 is expected to reflect a constant payout ratio of earnings such that D is equal to earnings times 1 minus earnings retention ratio. If, however, a utility is retaining more earnings in order to fund abnormal rate base growth, or is paying out a larger percentage of earnings, because the earnings are not needed in the utility, the utility's dividend payout ratio can change over time. This changing dividend payout ratio can cause a period of non-constant growth for the utility or, conversely, a period of above-average growth.

[4]Exhibit No. A-3, pages 9-10.

From a valuation perspective, the DCF model is stated as follows:

$$P_0 = D_1 \div (K - G) \qquad \text{Equation 2}$$

Where:

P = Stock Price
D = Dividend After Investment
K = Required Return
G = Growth

As shown in the equation above, if the growth increases, then stock price, P, will increase, because the denominator of the equation will increase, and vice versa, all else equal. Therefore, changing growth outlooks can change the valuation of a utility stock and impact valuation metrics, such as P/E ratios.

C2.

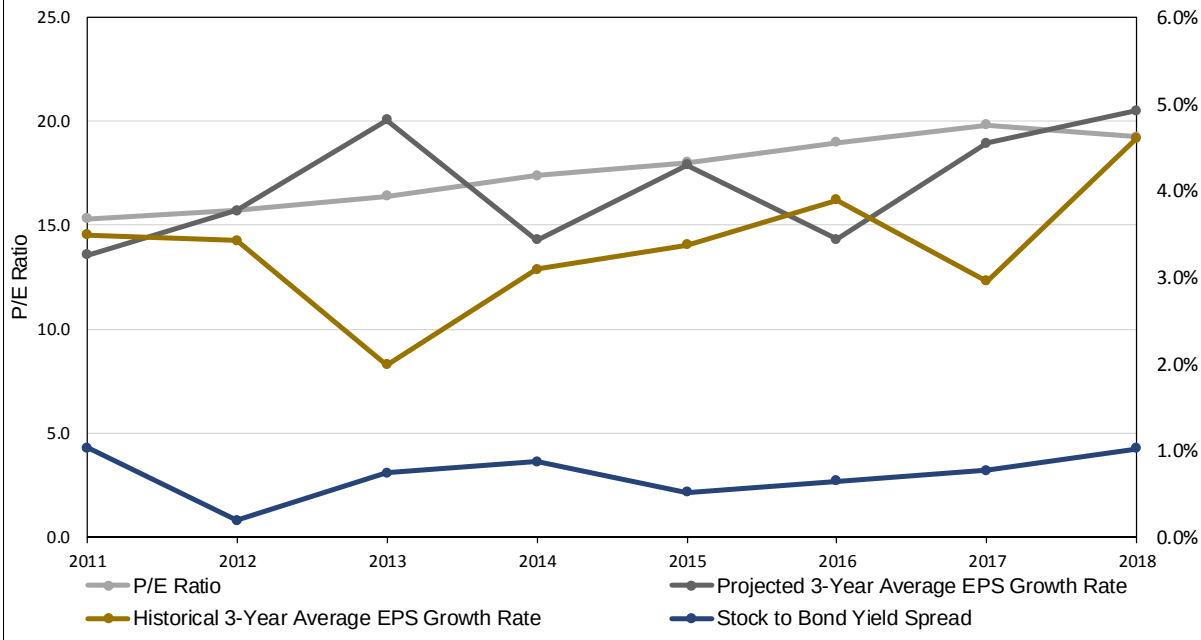
Q HAVE CURRENT AND PROJECTED PROXY COMPANY EARNINGS OVER THE LAST 10 TO 20 YEARS INCREASED IN A MANNER THAT WOULD JUSTIFY ANY INCREASES IN THEIR STOCK PRICES OVER THE SAME PERIOD, CONSISTENT WITH DCF MODEL ASSUMPTIONS?

A Yes. Changes in stock price have followed changes in interest rates and changes in utility stock growth outlooks. Therefore, utility proxy groups made up of the utility industry proxy companies do track those companies' earnings. This is illustrated in Figure 2 below. On this figure, I track P/E ratios for the Electric Utility Index in comparison to a three-year average historical earnings growth rate and a three-year projected earnings growth rate for the same companies. As shown on this graph below, the historical and projected earnings increase as the P/E ratio increases. This is

a clear indication that, as utility companies modify their dividend payout ratios and the earnings growth outlooks change, the stock price accommodates this changing growth outlook and the P/E ratio adjusts.

Figure 2

P/E Ratio, EPS Growth Rate (Historical and Projected), and Utility Stock to Bond Yield Spread



Source: Exhibit No. A-6

Figure 2 above also illustrates that earnings outlooks for utility companies based on historical and projected growth rates change regularly over time, with a corresponding change in the stock P/E ratio. As the graph shows, earnings outlooks are not constant over time, but change based on changes in market, industry, and company-specific factors. As a result, the changing outlook for earnings growth and historical earnings growth over time illustrates the importance of critically reviewing whether or not a constant growth or a multi-growth stage DCF model will produce a

more accurate estimate of the current market ROE. The graph also shows the influence changing interest rates have on P/E ratios, as the yield spread between utility stock and bond yields generally aligns with changes in P/E ratios and somewhat offsets the uncertainty about future earnings outlooks.

C3.

Q HOW DOES THE DCF METHODOLOGY PERFORM OVER A WIDE RANGE OF INTEREST RATE CONDITIONS?

A Utility stock valuations are impacted by changes in market interest rates. Hence, the DCF model accurately tracks changes in utility valuation and required return based on changes to market interest rates, as well as changes in growth.

Utility stock yield spreads to utility bond yields typically track within a relatively narrow range, except during periods of distressed markets, as shown above in Figure 1. The utility stock/bond yield spread is predictable, and it has a strong correlation to market interest rates. Because the DCF model is primarily driven by dividends, and the utility stock yield tracks market interest rates, it is economically logical to conclude that the DCF model produces reliable results over ranges in market interest rates, *i.e.*, in both high and low interest rate environments, for utility companies.

C3.a.

Q WHAT SPECIFIC ASSUMPTIONS OF THE DCF MODEL, IF ANY, DO NOT WORK WELL IN LOW OR HIGH INTEREST RATE ENVIRONMENTS?

A The DCF model produces economically logical results in both high and low interest rate markets. However, a specific form of the DCF model that relies on constant growth will not work well if the constant growth rate is taken directly from near-term projections of per-share earnings growth that are not intended as long-term projections or are not sustainable as long-term dividend growth rates.

C3.b.

Q IS THERE EVIDENCE THAT THE VOLATILITY OF PRICE-TO-EARNINGS RATIOS OVER THE LAST 10 TO 20 YEARS, ASSUMED TO BE CONSTANT IN THE DCF METHODOLOGY, HAS BEEN DRIVEN BY THE WIDE SWINGS IN INTEREST RATES OVER THIS PERIOD? IF SO, WOULD THE CONSTANT P/E ASSUMPTION IMPACT THE AWARD OF REASONABLE ROEs?

A Yes, utility stock prices do react to changes in interest rates and changes in growth outlooks. When the DCF model is applied, it is based on the current valuation of stock based on current market conditions which reflect which reflect both current and expected interest rate outlooks, as well as the utility's growth outlook. The DCF model can accurately capture these market outlooks and will reliably estimate the investor required return implied by the market's valuation of the investment.

However, the assumption of constant or non-constant growth needs to be captured in properly modeling the current market outlook in order to develop a DCF model which accurately estimates valuation and/or return requirements. The changes in valuation in past periods are irrelevant for establishing the current valuation and market required return that are built into observable utility stock price. Therefore, the DCF model must be based on current relevant market-, industry-, and company-specific factors.

Market conditions do change, as do utility stock valuations and investors' required returns. These are not constant over time as implied by the question. Rather, as capital market conditions change, the market's appetite for risky investments is impacted by general market conditions, and the market's valuation of stocks based on investment risk differentials will impact the valuation of all market securities, including utility stocks.

Proxy Groups

Q PLEASE DESCRIBE THIS SECTION OF YOUR AFFIDAVIT.

A I will respond to the following questions included in the Commission's NOI:

1. D1. Should proxy groups for electric utilities, as well as natural gas and oil pipelines, consist only of companies with corresponding regulated businesses?

2. D1.b. Are the corresponding proxy groups sufficiently large given the continued consolidation in the industries?

3. D2.a. Should the Commission approach to proxy group selection change depending on which financial models it considers when determining a just and reasonable ROE, and if so, how?

D1

Q SHOULD PROXY GROUPS FOR ELECTRIC UTILITIES, AS WELL AS NATURAL GAS AND OIL PIPELINES, CONSIST ONLY OF COMPANIES WITH CORRESPONDING REGULATED BUSINESSES?

A Yes. The proxy group should be an accurate proxy to the subject company's/companies' comparable investment risk, and the market return derived from the proxy group should represent fair compensation for the subject utility company's market required return. The proxy companies should be limited to companies that operate in (and are viewed by investors as operating in) the same industry. This is critical, because observable risk parameters may not appropriately describe differences in investment characteristics for securities that reflect different industry groups.

This is evidenced by several factors, including the following:

1. Two securities can have the same bond rating, but observable risk and required market returns by market participants can be very different.

2. Regulated utility companies generally have investment return outlooks for investors that are more stable and predictable for non-regulated companies, even if they have the same bond rating.

Q PLEASE EXPLAIN THE MARKET EVIDENCE THAT SHOWS THAT TWO SECURITIES CAN HAVE THE SAME BOND RATING, BUT THEIR INVESTMENT RISK AND MARKET-REQUIRED RETURNS CAN BE VERY DIFFERENT.

A This is shown in Exhibit No. A-5, page 2. There, a U.S. Treasury security with a bond rating of AAA can be compared to a AAA-rated corporate bond. As shown on this exhibit, while both securities have the same bond rating, the yield on a 30-year Treasury bond has been 84 basis points lower than the yield on a AAA-rated corporate bond. (Column 8, line 41).

Spreads between utility and corporate Baa bond yields also vary over time, largely tracking the market's appetite for more risky or less risky investments. Specifically, as shown under Column 10, the Baa yield spread over a four-year period is relatively neutral; however, the spread has ranged between 10 to 20 basis points since 2008, a period of the last recession followed by a period where the market generally paid a premium for more stable, less risky investments. During this time period, Baa-rated utility bond yields were sold in the market at a lower yield than Baa corporate bond yields. Again, this is observable market evidence that, while risk factors may suggest risk comparability, the market valuation of the security suggests that utilities fall into a grouping of low-risk stable investments and are priced differently than general corporate securities.

Q PLEASE EXPLAIN WHY THE RETURN OUTLOOKS FOR REGULATED COMPANIES CAN BE VERY DIFFERENT FROM A DEREGULATED COMPANY, EVEN IF THEY HAVE THE SAME BOND RATING.

A This was illustrated above in my Table 1. As shown in that table, utility stock total annual returns are materially impacted by the payment of annual dividends, which reduce both annual return volatility and utility annual return relative to the total returns on the general market. Indeed, dividend payments represent 40% to 50% of the annual return on utility stocks which is much more significant than the dividend component of the annual return for general stock investments – approximately average 20% of the annual return over time.

D1.b.

Q ARE THE CORRESPONDING PROXY GROUPS SUFFICIENTLY LARGE GIVEN THE CONTINUED CONSOLIDATION IN THE INDUSTRIES?

A Yes. While the number of independent companies in the industry for regulated electric and gas industry have been contracting, the number of *The Value Line Investment Survey* ("*Value Line*") universe regulated utility companies available to select a comparable risk proxy group is still adequate to produce a reliable estimate of the current market cost of equity for regulated utility companies.

D2.a.

Q SHOULD THE COMMISSION'S APPROACH TO PROXY GROUP SELECTION CHANGE DEPENDING ON WHICH FINANCIAL MODELS IT CONSIDERS WHEN DETERMINING THE JUST AND REASONABLE ROE AND, IF SO, HOW?

A Not if the financial models used are market-based. The selection of a proxy group should be an effort to identify publically traded companies that have similar investment risk to that of the subject company. The market-based model used to estimate the required return from the proxy group should not be a factor in establishing parameters which are used to develop the proxy group selection. However, both market factors used to identify proxy group companies of comparable risk and data input and models used to estimate an ROE from those proxy groups should all be based on economically logical factors that will support the development of an ROE that reasonably captures investors' return requirements.

I do not recommend use of the non-market-based "Expected Earnings" model based on forecast Earnings/Book ("E/B") ratios. If that model were to be used, however, it would need to be limited to proxies with market/book ratios resembling those of operating utilities, i.e., ratios near unity. Otherwise, the utilized E/B ratios will not be comparable to the expected E/B ratios of operating utilities.

D4.

Q IS IT NECESSARY EXCLUDE OUTLIER PROXY RESULTS?

A Given a large proxy group, outlier tests are needed if decisional significance is placed on the range (as distinguished from distribution) of proxy results. In that event, the *Coakley* Briefing Order identified for consideration possible low and high outlier tests. However, if the proxy group is large and the only effect of including a low (or high) outlier is to shift the identified median to the next lowest (or highest) value in the central portion of the distribution of proxy results, I would question whether any outliers should be excluded, because in that case no significance is being placed on the outlier's specific value; its use is as if the outlier value were adjusted to be set equal to the nearest proxy result that is found to be logical and retained.

Q ASSUMING OUTLIER TESTS ARE NEEDED, WHAT, IF ANY, ARE APPROPRIATE LOW-END OUTLIER TESTS?

A. For approximately a decade, in numerous cases, the Commission has employed a low-end outlier test equal to the applicable utility bond yield plus 100 basis points. In its Opinion No. 531 at P 122, the Commission explained that:

> The purpose of the low-end outlier test is to exclude from the proxy group those companies whose ROE estimates are below the average bond yield or are above the average bond yield but are sufficiently low that an investor would consider the stock to yield essentially the same return as debt.

Requiring a 100 basis point margin over prevailing bond yields is a reasonable way to identify proxy group companies whose stock returns are distinguishable from utility bond returns.

Q PLEASE EXPLAIN.

A No matter the market condition, a 100 basis point difference is significant to investors and sufficiently large to distinguish the return on a proxy's equity from a bond yield. In any event, yield spreads for utility stock dividends over utility bond yields are relatively stable during most markets. The only notable exception would be during distressed markets where the market demands abnormal risk premiums to invest in securities of greater risk.

Q DOES OBSERVABLE MARKET EVIDENCE DEMONSTRATE THAT RISK PREMIUMS DO NOT VARY WIDELY ACROSS CHANGES IN INTEREST RATE LEVELS OVER TIME?

A Yes. Valuation changes for bonds and stock securities across various market conditions and changes in interest rate levels can be observed by comparing the yield spread of utility stock dividend yields versus utility bond yields. In most market conditions, these Baa bond yield spreads versus utility stock yield are relatively stable. This is an important and observable distinction in risk premiums. Specifically, bond yield spreads change as bond prices are revalued based on investment risk and income requirements. As such, the market's response to changing interest rates is reflected in

bond yields. Investors' responses to market changes involving investment risk characteristics, such as changes in interest rates, also impact stock valuation. As utility stock value increases or decreases, the yield adjusts with the change in stock price, because dividend payments are relatively stable. As such, risk premium changes from Baa bond yields versus utility stock yields can be observed by simply tracking the spread between Baa bond yields and utility stock dividend yields.

This spread is shown above in Figure 1. Importantly, only during times of significant market distress does it widen substantially. In most market conditions, this Baa bond vs. stock dividend spread generally hovers around 100 basis points, which equals the Commission's minimum risk premium for utility stock versus utility bonds. This is illustrated above in Figure 1.

As illustrated in Figure 1 above, a minimum DCF return spread over a Baa bond yield of 100 basis points implies that the DCF return needs at least a 200-basis point growth component, if the yield spread for Baa bonds to stock is 100 basis points. This implied minimum growth component is approximately equal to the long-term inflation projections made by the target for the Federal Reserve.[5] For these reasons, the Commission's threshold test of a 100-basis point risk premium for utility stock return versus Baa utility bond yield is economically logical.

Generally, using a constant spread over an "A" bond yield would also produce a meaningful low-end estimate to describe the difference between an economically logical stock expected return versus a bond expected return. In either instance, the

[5]Federal Reserve Board Press Release: "Federal Reserve issues FOMC statement of longer-run goals and policy strategy," January 25, 2012, provided as Exhibit No. A-3, pages 17-18.

yield spreads are relatively stable, at least in terms of measuring the low-end point, where the return on the stock is no longer distinguishable from the return on the bond.

D4.a.

Q THROUGH APPLICATION OF A LOW-END OUTLIER TEST THE COMMISSION CURRENTLY EXCLUDES FROM THE PROXY GROUP COMPANIES WHOSE ROE FAILS TO EXCEED THE AVERAGE 10-YEAR BOND YIELD BY APPROXIMATELY 100 BASIS POINTS. SHOULD THE LOW-END OUTLIER TEST CONTINUE TO BE BASED ON A FIXED VALUE RELATIVE TO THE COSTS OF DEBT OR (A) SHOULD IT BE BASED ON ITS VALUE RELATIVE TO THE MEDIAN (I.E., LESS THAN 50 PERCENT OF THE MEDIAN); OR (B) STILL REFLECT THE COST OF DEBT BUT VARY BASED ON INTEREST RATES?

A For the reasons outlined above, a 100 basis point spread is reasonable and should not be widened under current market conditions.

D4.b.

Q HOW, IF AT ALL, SHOULD THE COMMISSION'S APPROACH TO OUTLIERS VARY AMONG DIFFERENT FINANCIAL MODELS?

A The approach used for testing outliers should not vary across financial models. Assuming an outlier test is used (but see discussion above), outliers should be

removed, if they produce economically illogical estimates of an investor required return and therefore should not be referenced in determining a relied-upon range.

D6.

Q WHAT WOULD BE THE IMPACT OF THE COMMISSION MODIFYING THE CREDIT RATING SCREEN TO INCLUDE ALL INVESTMENT GRADE UTILITIES IN THE PROXY GROUP?

A The effect would be to produce less risk-comparable proxy groups, and therefore to produces less-accurate estimates of the subject utility's cost of equity. Under current circumstances and for the great majority of FERC-regulated electric utilities, continuing to apply the Commission's established "one notch" credit rating screen (in conjunction with other standard screens[6]) will produce a robust proxy group from which to accurately estimate a utility's current market cost of equity.

[6] Companies that clearly are out of line with the industry range of norms, or are in the midst of specific company factors which may distort their market data should be excluded from these broad industry proxy group ranges. Hence, the Commission should continue to exclude companies that are involved in mergers and acquisitions, exclude companies that have suspended or reduced dividend payments over the last two years, or exclude companies that have entered into a period of abnormal activity such that their market factors will be impacted and market-based models will be distorted based on these events that are unrelated to the provision of providing utility service.

D7.

Q TO WHAT EXTENT DO CREDIT RATINGS CORRESPOND TO THE ROE REQUIRED BY INVESTORS?

A Credit ratings are a reasonable means of estimating proxy group investment risk and can accurately be the primary factor that identifies proxy companies that are similar in investment risk to a subject company.

A credit rating reflects the predictability and stability of the utility's cash flows in order to support its debt service obligations – both principal and interest payments. The same cash flows that are used to assess credit risk are also the cash flows available to the utility needed to meet its stock investors' return requirements (*i.e.*, dividend payments and earnings/dividends growth). Stock investors are paid after bond holders, so equity investors have more risk than bond holders, due to this priority claim to cash flows. Nonetheless, the stability and predictability of utilities' cash flows impact both bond holders' and equity holders' investment risk in a similar manner.

D9.

Q WHAT CIRCUMSTANCES OR FACTORS, IF ANY, WARRANT AN ADJUSTMENT FROM THE MIDPOINT/MEDIAN TO OTHER POINTS WITHIN THE ZONE OF REASONABLENESS (*E.G.*, LOWER OR UPPER MIDPOINT/MEDIAN)?

A Because the present NOI concerns base ROEs (with incentives, including ROE adders, being addressed separately in Docket No. PL19-3), I will answer in terms of the

circumstances under which the base ROE should be placed elsewhere than at the median of the proxy group distribution. Such placement should be rare. It should occur only when it is not possible to identify a reasonably risk-representative proxy group of adequate size, in which case the base ROE should be placed at a different percentile of the proxy group distribution — a percentile lower than 50 when the subject utility or service is markedly less risky than the proxy group, or conversely a percentile higher than 50 when the subject utility or service is markedly more risky than the proxy group.

D10.

Q THE COMMISSION CURRENTLY USES MIDPOINTS TO DETERMINE THE CENTRAL TENDENCY OF THE ZONE OF REASONABLENESS WHEN DETERMINING RTO-WIDE ROEs. SHOULD THE COMMISSION ADOPT A POLICY OF USING MEDIANS FOR THIS PURPOSE?

A Yes. The median more accurately describes the central tendency of the proxy group results, and the midpoint does not. Given the large, nationwide proxy groups that the Commission now uses, midpoints are erratic and prone to distortion, as I will explain below. For this reason, the midpoint should never be used.

Q HAS THE COMMISSION PROVIDED DIRECTION ON WHEN IT BELIEVES THE USE OF A PROXY GROUP MIDPOINT IS APPROPRIATE?

A Yes. In a 2004 opinion, the Commission used the midpoint of proxy group consisting of a subset of the parents of the subject TOs themselves, and explained:

> Given that the ROE will apply across-the-board to all members of the Midwest ISO, rather than to a single company of average risk, we must consider their full range of risks and business profiles. To that end, the proxy group used to define the range of reasonableness in this case consists of a subset of the Midwest ISO TOs to which the ROE will actually apply. This is a departure from prior ROE cases, in which the selected proxy group is deemed to be comparable to the risks faced by a single gas pipeline or electric utility. Here, we are dealing with a group of utilities with differing risks and business rankings. In our view, the differing ROEs in this group fairly brackets the range of reasonableness for all Midwest ISO TOs.[7]

In other words, the Commission viewed the lowest and highest DCF results as equivalent to the costs of equity for, respectively, the single least risky and single most risky Midcontinent Independent System Operator, Inc. ("MISO") transmission owner ("TO"), and the Commission was more concerned in that case with minimizing the extent to which the uniform allowed base ROE was unsuitable for those unusual MISO TOs than it was with identifying a base ROE that was reasonably apt for most of the MISO TOs.

[7] Docket No. ER02-485-003, *Midwest Independent Transmission System Operator, Inc.*, Order on Remand, 106 FERC ¶ 61,302, P 9 (2004).

Q DOES THAT REASONING CONTINUE TO SUPPORT USE OF THE PROXY GROUP MIDPOINT?

A No, for two reasons. First, the Commission relied, in part, on the fact that the ROE being determined in that docket was to be applied to "a group of utilities with differing risks and business rankings." As noted in the cited paragraph above, the proxy group in that docket was comprised of a subset of MISO TOs. More recently, the Commission has relied on a national proxy group based on a credit rating screen of plus/minus one notch of the *Value Line* universe of electric utilities. With that expanded proxy group screening, and with the increased geographic dispersion of the investments of today's publicly-traded utility stocks, there is no basis to view the lowest and highest proxy results as equivalent to the costs of equity for, respectively, the single least risky and single most risky TOs in a given RTO.

Second, the midpoint is not a statistically reliable measure. Following the application of reasonable criteria to identify publicly-traded companies that are risk comparable and should be included in the proxy group, the utilized central tendency measure should represent the weight of the proxy group results, in order to provide a representative distillation of the proxy group results into a reasonable estimate of the current market cost of equity for the proxy group.

Q PLEASE EXPLAIN.

A The median of the distribution of retained proxy group results is the middlemost number of that distribution when it is sorted in ascending order.[8] The median is also known as the 50th percentile of the distribution of results. The median estimate is determined by rank ordering all the proxy group results in order to find this median point estimate of proxy group results.

In contrast, the midpoint is simply the average of the highest and lowest single point estimates within the proxy group results. In contrast to the median, the midpoint is calculated using only two point estimates within the proxy group results – the high and the low estimates. The midpoint estimate may bear no relationship to all the remaining proxy group results because they simply are not used in calculating the midpoint of the proxy group range. As such, the median is based on all the companies' proxy group results, whereas the midpoint is based on only two point estimates within the proxy group results. Therefore, the median more accurately describes the results of the proxy group than does the midpoint.

Q WHY IS THE MEDIAN MORE ACCURATE THAN THE MIDPOINT IN DESCRIBING THE PROXY GROUP CENTRAL TENDENCY?

A While the median is often used to measure of central tendency, the midpoint, however, is not.[9] The midpoint evenly weights the highest and lowest proxy group results, while discarding the rest. These most-disparate results are the ones *least*

[8] If there are an even number such results, the median is the average of the middle two.
[9] Exhibit No. A-3, pages 19-20.

representative of the weight of proxy group results, and the ones *most* likely to have been distorted by measurement error or input noise. The midpoint methodology lends itself to being influenced and biased by outlier results which are atypical of the results for the overwhelming majority of the proxy group determined to be risk-comparable to the RTO utilities to which ROE is going to apply. Accordingly, the midpoint is less accurate than the median approach.

The Commission has previously rationalized the use of the midpoint methodology for RTO-wide ROEs as a way of accounting for various and diverse risk profiles of the utilities within the RTO.[10] Considering that the Commission relies on a proxy group that includes companies with credit ratings of +/- one notch of the utilities within the RTO, the proxy group's DCF and Capital Asset Planning Model ("CAPM") results will have already accounted for the various and diverse risk profiles of the utilities within the RTO. Absent any concrete evidence that an adjustment needs to be made within the range of proxy group results, the median, or 50th percentile, should be utilized as it is the very definition of the measure of the central tendencies of the results. And even if such an adjustment is supported, it should be tied to a percentile of the entire proxy group distribution, not to highest and lowest results that form the proxy group range.

[10]Docket No. ER02-485-003, *Midwest Independent Transmission System Operator, Inc.*, Order on Remand, 106 FERC ¶ 61,302, P 9 (2004).

Q PLEASE EXPLAIN WHY THE MEDIAN IS THE MORE ACCURATE MEASUREMENT OF CENTRAL TENDENCY.

A As mentioned previously, the median is the middlemost value of the entire distribution of results. In other words, there are an equal number of results above and below the median, making it a preferred measure of central tendency. As such, the median also mitigates the impacts of single outliers, whether high or low. For example, consider the following data set that includes nine observations that range from 0 to 20.

0	3	4	5	6	7	8	9	20

Based on the dataset above, the median is 6, as it is the middlemost value of all the results when lined up in ascending order. As I mentioned earlier, the median mitigates the bias or skew of outlier results. Had the highest value been 100 instead of 20, it would not change the median observation. Similarly, had the 0 been -100, the median would still be 6. The mean, which gives equal weight to each observation, is 6.9. The mean of 6.9 is relatively close to the median, however it is easy to see that the highest outlier value of 20 has biased the mean upward. By comparison, the midpoint of the dataset above, which is the average of the bookend observations of 0 and 20, is 10. Also of note, the midpoint methodology completely ignores the seven observations between the highest and lowest values. This impact is exacerbated when looking at the results of a well-defined and very large proxy group of 30 or more companies. Importantly, the midpoint value of 10 is higher than every observation except the highest single outlier (*i.e.*, 20).

A more pragmatic example would be to look at something like home values in the United States. A house in Los Angeles named, "The One," is listed for $500 million. For sake of argument and for illustration purposes, I will use $0 as the cheapest house in the United States. The *midpoint* of these two home values is $250 million. There are likely less than 10 homes in the United States that have a value of $250 million and in no way represent the central tendency of U.S. home values. As reported by Zillow.com, the *median* home value is approximately $227 thousand. In other words, the midpoint is approximately 1100x greater than the median.

In a scenario where an analyst has correctly developed a proxy group that is deemed risk-comparable to that of the utility, or group of utilities, to which the awarded ROE would be applicable, a true measure of central tendency is desired. Given the proxy group companies are located throughout the United States, and likely have credit ratings both above and below the ratings of the RTO members, a wide range of diverse and unique risks will be accounted for to the extent that the median is used as the measure of central tendency when determining ROE.

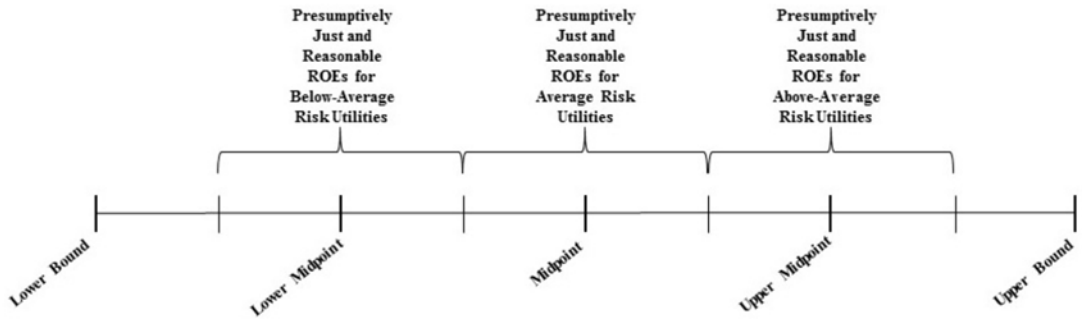
Q HAS THE COMMISSION OPINED ON WHAT THE PRINCIPAL CONSIDERATION SHOULD BE IN DETERMINING THE ROE BEING SET FOR THE UTILITY OR UTILITIES?

A Yes. In paragraph 26 of the *Coakley* Briefing Order, the Commission states:

> [T]he principal consideration for determining whether an existing ROE within the overall zone of reasonableness has become unjust and unreasonable is the risk profile of the utility or utilities for which the Commission is setting the ROE. This is consistent with the

> Commission's well-established policy on relative risk analysis, in which the presumptively just and reasonable ROE for an average-risk utility is the relevant measure of central tendency for the entire zone of reasonableness while the presumptively just and reasonable ROE for an above- or below-average risk utility is the relevant measure of central tendency for either the upper or lower half of the zone of reasonableness, respectively.

In establishing the zone of reasonableness for a diverse group of average risk utilities, the Commission has proposed in the Briefing Orders that the range of potentially lawful ROEs constitutes one quarter of the zone of reasonableness, centered on the midpoint.



Paragraph 28 of the *Coakley* Briefing Order places a lot of emphasis on the central tendency. As explained in detail above, the midpoint is heavily influenced by outlier results and the measurement errors they likely embody. It is not an accurate, reliable, or stable measure of central tendency. The median, in contrast, is an accurate, reliable, and stable measure of central tendency.

D10.a.

Q WOULD THE USE OF MULTIPLE ROE METHODOLOGIES, AS PROPOSED IN THE COAKLEY BRIEFING ORDER, UNDERCUT THE COMMISSION'S CURRENT RATIONALE FOR USING THE MIDPOINT IN RTO-WIDE BASE ROE?

A Regardless of the ROE methodology used to estimate the current market cost of equity from a proxy group, the statistical tool that most accurately describes the proxy group's central tendency results is the median. As compared to the midpoint, the median produces a more representative distillation of the proxy group results and a more reliably representative indication of the subject utility's cost of equity. That should be the dispositive consideration. Moreover, the use of non-DCF methodologies in the manner proposed in the *Coakley* Briefing Order does further undercut the rationale stated in *MISO*, 106 FERC ¶ 61, 302 (2004). For example, the range of "Expected Earnings" results will tend to be driven by the range of proxy company M/B ratios. This can be seen, for example, in MISO Briefing Order P 55, where the top of the Expected Earnings range would be set by Vectren Corp., and is associated with an M/B ratio of approximately 2.24.[11] There is no basis to believe that the M/B range of the respondent operating companies whose transmission ROEs are at issue in that case extends that high.

[11] See the March 2015 Value Line for Vectren Corp., which is available to the Commission in the record of Docket No. EL14-12 as Exhibit No. S-3, at 95.

D10.b.

Q SHOULD THE SIZE OF THE PROXY GROUP BE CONSIDERED IN THIS DECISION?

A A larger proxy group only makes the problems associated with midpoints worse. A larger proxy group may well have a wider range of proxy group results (it cannot be narrower), and there is no reason to believe the midpoint of that same or wider range will more accurately represent the full distribution of proxy group results. Consider again the home price distribution I discussed earlier. On any one block, the median, midpoint, and average home prices are all likely to be fairly close. But if we expand the distribution to encompass the millions of U.S. homes, it will encompass the $500 million parcel, and the midpoint of the associated range will be wildly unrepresentative. That said, there is no statistically valid basis to reference the midpoint of even a smaller proxy group.

Financial Model Choice

E1.

Q WHAT MODELS DO INVESTORS USE TO EVALUATE UTILITY EQUITIES?

A There is little disagreement in regulatory proceedings that the methods generally relied on by investment practitioners, the investment community, and academic circles include DCF and CAPM models. I am not aware of any evidence that "risk premium" methods based on the outcomes of regulatory proceedings are widely used by

investors. However, different variants of the risk premium model are commonly used in regulatory proceedings. In general, these three models – DCF, CAPM, and Risk Premium – and only these three models, have gained wide acceptance in modern regulatory proceedings.

E2.

Q WHAT ROLE DO CURRENT CAPITAL MARKET CONDITIONS PLAY IN THE CHOICE OF MODEL USED BY INVESTORS TO EVALUATE UTILITY EQUITIES?

A Investors' model choices do not vary depending on capital market conditions such that the selection of the models that should be used to quantify investors' required rate of return on equity should vary depending on capital market conditions. Rather, in all foreseeable capital market conditions, investors' required rate of return on equity as of any given period can be modeled with reasonable accuracy by applying well-designed market-based models to that period's capital market data.

E2.a.

Q IF CAPITAL MARKET CONDITIONS FACTOR INTO THE CHOICE OF MODEL, HOW DO INVESTORS DETERMINE AND EVALUATE THOSE CONDITIONS?

A Not applicable.

E3.

Q ARE ANY MODELS THOUGHT TO BE SUPERIOR OR INFERIOR TO OTHERS? IF SO, WHY?

A The DCF model most accurately reflects the unique return outlooks for a utility stock investment. A well-constructed CAPM will also provide meaningful results. A risk premium model relies on the premise that past regulatory decisions accurately found the cost of equity as of the time giving rise to the bond yield to which that allowed ROE is compared. As such, when applied using valid inputs, the risk premium method produces results that, while not entirely devoid of value, are less direct than re-measuring the cost of equity using a current DCF and/or CAPM model. Like taking a photograph of a photograph of a photograph, each successive recycling of past results through the use of a risk premium method can take the outcome further and further away from accurately identifying the current cost of equity. The "Expected Earnings" method, based on forecast earnings-to-book ratios, is not related to the market cost of equity that is required to attract capital for investment in utility assets. As such, it is worse than "inferior"; it is entirely unsuitable for use in determining utilities' cost of equity. Dr. Cornell provides additional discussion of this method and its deficiencies.

E4.

Q HOW ARE ALTERNATIVE MODELS REDUNDANT OR COMPLEMENTARY WITH EACH OTHER AND/OR THE DCF MODEL?

A Multiple reliable market-based models, when applied appropriately, can produce more reliable and stable information from which to accurately estimate the current market cost of equity. Accordingly, well-developed CAPM model and/or risk premium models can complement the DCF model in applying market information to accurately estimate the current market cost of equity.

E5.

Q TO WHAT EXTENT DO ALTERNATIVE MODELS AVOID ANY DEFICIENCIES OF THE DCF MODEL AND/OR OPERATE BETTER IN DIVERSE CAPITAL MARKET CONDITIONS?

A As I discussed earlier (see responses to Question C3 and its subparts), the DCF model operates well in diverse capital market conditions. Nonetheless, it can usefully be supplemented with select other methods *if* they are market-based and well designed.

E6.

Q TO THE EXTENT THAT INVESTORS USE MULTIPLE MODELS, SHOULD THE COMMISSION COMBINE THEM IN ITS ANALYSIS OR USE THE "BEST" ONE THAT WOULD APPLY IN ALL MARKET CONDITIONS?

A There are too many investors and investor-utilized models for the Commission to adopt a standard of using every model utilized by some investor. The Commission should use no more than three models, all of them market-based, and all designed well to operate robustly across a wide-range of market conditions, including present conditions. Having selected that small set of one to three approved market-based models, the Commission should trust the model results.

E7.

Q IF THE COMMISSION WERE TO CONSIDER MULTIPLE MODELS, HOW SHOULD IT WEIGH THEM?

A In future proceedings,[12] it would be reasonable to weight equally each of the one to three approved market-based models.

[12] In ongoing case-specific proceedings that were filed and litigated through trial-type evidentiary hearings under the understanding that the DCF method was the Commission's primary or exclusive tool, it would be reasonable to give extra weight to the DCF model.

E8.

Q TO WHAT EXTENT IS IT REASONABLE FOR THE COMMISSION TO USE A SIMPLIFIED VERSION OF A MODEL THAT DOES NOT REFLECT ALL THE VARIABLES THAT INVESTORS CONSIDER?

A A simplified version of the DCF model may not accurately reflect the multiple market factors which are needed to accurately measure the current market cost of equity. The Commission should continue to maintain reliable data inputs and to reflect dividend growth outlooks in producing an accurate ROE estimate.

E8.a.

Q IS THE USE OF A SIMPLIFIED MODEL JUSTIFIED FOR EASE OF ADMINISTRATION AND PREDICTABILITY OF RESULT?

A No. See E8.

E9.

Q HOW, IF AT ALL, SHOULD THE COMMISSION CONSIDER STATE ROEs?

A State-allowed ROEs should be considered relevant by FERC, because for typical vertically-integrated utilities a much larger share of revenues comes through state-regulated than FERC-regulated cost-based rates. State-allowed ROEs therefore give some indication of ROEs that have been embraced by the market participants as constructive, able to support strong investment grade bond ratings, to attract an abundant amount of capital to support large capital programs, and to support strong

stock prices. Accordingly, the Commission should consider state ROEs in order to get some observable market evidence where ROEs have supported utilities' ability to develop strong credit standing, access to capital and maintain large capital programs. Moreover, risk premium analysis can usefully reference state commission rather than FERC outcomes, because there are more of the former, and because a large share of the relatively few FERC transmission ROE outcomes represent continued application of past ROE approvals rather than fresh determinations of the cost of equity. Alternatively or in addition, because state-allowed ROEs exhibit considerable regulatory lag and "gradualism" (falling and rising later and slower than does the cost of equity itself), referencing recent state ROE allowances would tend to stabilize ROEs over time, while still taking eventual account of changing equity market conditions.

E9.a.

Q HOW AND WHY DO STATE ROEs VARY BY STATE?

A State-allowed ROEs vary for numerous reasons, prominently including ROE incentive deducts and adders and the fact that in their calculations of the weighted average cost of capital ("WACC"), some state regulators include low-cost short-term debt or limit the equity ratio for ratemaking to less than its actual level. When taken out of context, certain state-allowed ROEs may appear to be out of line with industry norms, even though the resulting pre-incentive WACC is in line with industry norms. Such variations make the *range* of state-allowed ROEs uninformative in identifying either

the cost of equity or a reasonable ROE stabilization method. However, that problem can be avoided through an approach that combines a large number of recent state-allowed ROEs, by utilizing them for risk premium analysis or by referencing their median or mean.

E9.b.

Q HOW ARE CERTAIN STATE ROEs MORE OR LESS COMPARABLE TO COMMISSION ROEs?

A See response to Question E9.a.

E10.

Q IF THE COMMISSION CONSIDERS STATE ROEs, HOW SHOULD IT COMPARE FERC-JURISDICTIONAL TRANSMISSION ROEs WITH STATE ROEs THAT APPLY TO UTILITIES THAT ARE (A) DISTRIBUTION AND TRANSMISSION COMPANIES; OR (B) DISTRIBUTION, GENERATION, AND TRANSMISSION COMPANIES?

A Both credit rating agencies and investors view (and are right in viewing) FERC-regulated transmission service as financially less risky than generation service, and similar in risk to distribution service, absent commodity cost recovery risk. For example, variations in emissions regulations, in the cost of natural gas, or in tax policies applicable to wind generation can drastically change the market competitiveness of a given generator, while having no effect on transmission owners'

ability to recover their allowed revenue requirement, which if they so choose and file can be calculated through automatically adjusting, comprehensive formula rates. Accordingly, in setting electric transmission ROEs, the Commission should look to the ROEs allowed by state commissions to generation-divested utilities.

E11.

Q TO WHAT EXTENT, IF ANY, SHOULD THE COMMISSION EXERCISE JUDGMENT IN USING FINANCIAL MODELS TO SET ROEs UNDER VARIOUS CAPITAL MARKET CONDITIONS?

A The Commission should exercise careful judgment to identify market-based financial models that will reliability indicate the cost of equity under a wide range of capital market conditions. It should then rely on the results of those models, as applied by credible expert witnesses through record evidence, and should not substitute its intuition for that systematic estimate.

First Prong of ROE Determination

G4.

Q IN SINGLE UTILITY RATE CASES, THE COMMISSION DETERMINES THE CENTRAL TENDENCY OF THE ZONE OF REASONABLENESS BASED ON THE MEDIAN OF THE PROXY GROUP ROEs. IS THE APPROACH OUTLINED IN THE COAKLEY AND MISO BRIEFING ORDERS APPROPRIATE IN SINGLE UTILITY RATE CASES GIVEN THAT THE PROXY COMPANY ROEs TEND TO CLUSTER NEAR THE CENTER OF THE ZONE OF REASONABLENESS, MAKING THE MIDDLE QUARTILE RELATIVELY NARROW?

A The fact that most proxy results cluster near each other is not a problem; it is an empirical indication that the true result indicated by that model resides within that cluster. As a statistically superior measure of central tendency, the median recognizes that statistical fact. Midpoints and other range-based measures (including range "quartiles" as diagrammed in the referenced orders) do not. The midpoint produces a statistically inferior estimate of the central tendency of proxy group results and does not produce an economically logical assessment of the information provided by the proxy group regarding the current market cost of equity for the subject utilities or utility. In interpreting proxy group results, therefore, the Commission should look to medians, not midpoints.

G4.a.

Q WOULD IT BE REASONABLE TO DETERMINE THE CENTRAL TENDENCIES OF THE UPPER AND LOWER HALVES OF THE ZONE OF REASONABLENESS FOR SINGLE UTILITIES BASED ON A MIDPOINT ANALYSIS, SO AS TO PRODUCE APPROXIMATELY EQUAL RANGES OF PRESUMPTIVELY JUST AND REASONABLE ROEs FOR BELOW AVERAGE, AVERAGE, AND ABOVE AVERAGE RISK UTILITIES?

A No. The midpoint of the analysis simply does not accurately measure the central tendency of the proxy group results. It discards most of the information contained in the proxy results distribution, and is too highly influenced by outlier estimates that are the ones most likely to embody unrepresentative inputs or other distortions. For these reasons, the central tendency of the proxy group results should be identified by looking to the proxy group distribution's median. To the extent it is necessary to identify a point value other than the median (whether because the proxy group cannot be made risk-representative, or for the dubious purpose of quantifying a rebuttable presumption that above-center ROEs remain just and reasonable), the Commission should look to another percentile of the distribution rather than to a range, such as the $25^{th,}$, 37.5^{th}, 62.5^{th}, or 75^{th} percentile.

Model Mechanics and Implementation

General Issues/Issues that Affect Multiple Models

H.1.1.

Q ARE IBES DATA A GOOD PROXY FOR "INVESTOR CONSENSUS?"

A IBES provides the consensus growth rate estimates of its participating analysts. Compared to a single analyst's growth rate, a consensus formed by averaging multiple analysts' estimates is more likely to accurately summarize the various growth rates that informed study period stock price formation.

There have been many academic studies conducted on which growth rate estimates more accurately reflect the consensus market outlook. These studies were summarized in *New Regulatory Finance*, a book by Dr. Morin, in which he identifies the following academic studies:

> Important papers include Brown and Rozeff (1978), Cragg and Malkiel (1968, 1982), Harris (1986), Vander Weide and Carleton (1988), Lys and Sohn (1990), and Easterwood and Nutt (1999).[13]

According to Dr. Morin, these reports state that analysts' projected growth rates more accurately reflect market expectations than do growth rates derived from historical data.

Dr. Morin goes on to cite consensus analysts' growth rate estimates and indicates a preference for more than one analyst growth rate estimate in capturing market expectations:

[13] *New Regulatory Finance*, Roger A. Morin, PhD, Public Utilities Reports, Inc., at 299 and 302 (2006), provided as Exhibit No. A-3, pages 12 and 15.

> These firms include most large institutional investors, such as pension funds, banks, and insurance companies. Representative of industry practices, the Zacks Investment Research Web site is a central location whereby investors are able to research the different analyst estimates for any given stock without necessarily searching for each individual analyst.
>
> * * *
>
> The forecast 5-year growth rates are normalized in order to remove short-term distortions. Forecasts are updated when analysts formally change their stated predictions.
>
> * * *
>
> Exclusive reliance on a single analyst's growth forecast runs the risk of being unrepresentative of investors' consensus forecast.[14]

As outlined above, it is generally accepted that consensus analysts' growth rate estimates, which are not skewed by single growth rate estimates, may more accurately capture market expectations and reflect the growth rates built into observable stock prices.

Q HAS THE COMMISSION COMMENTED ON ITS PREFERENCE FOR USING CONSENSUS ANALYSTS' GROWTH RATE ESTIMATES RELATIVE TO A SINGLE ANALYST'S GROWTH RATE ESTIMATES SUCH AS *THE VALUE LINE INVESTMENT SURVEY*?

A Yes. The Commission has already considered and rejected the use of *Value Line* short-term growth rates, in lieu of, or in supplementing, the IBES growth rates as a short-term growth rate stage in the two-stage DCF model. Specifically, in Opinion No. 551, the Commission stated as follows:

[14] *Id*., pages 301 and 302, provided as Exhibit No. A-3, pages 14 and 15.

> We reject MISO TOs' request for clarification that the growth projections published by Value Line constitute an acceptable and comparable source of short-term earnings growth estimates that may be considered for use in the two-step DCF analysis. In Opinion No. 531, the Commission held that "in future public utility cases, the Commission will adopt the same two-step DCF methodology it uses in natural gas and oil pipeline cases." [footnote omitted] While the Commission has refrained from mandating the exclusive use of IBES data in its natural gas and oil pipeline rate of return cases, the Commission has stated that "IBES data is the preferred data source for computing the short-term growth rate." [footnote omitted] The Commission has explained that the "IBES data is a compilation of projected growth rates from various knowledgeable financial advisors within the investment community." [footnote omitted] As such, the IBES short-term growth estimates generally represent consensus growth rate estimates by a number of analysts. By contrast, the Commission has rejected the use of Value Line growth estimates in gas pipeline ROE cases, because they are the estimates of a single analyst and thus do not constitute such consensus estimates. [footnote omitted][15]

Q DO YOU BELIEVE THAT THE IBES GROWTH RATE IS A MORE RELIABLE ESTIMATE OF INVESTOR OUTLOOKS THAN IS *VALUE LINE*?

A Yes. As outlined by Dr. Morin's book concerning academic empirical studies and findings by the Commission, a consensus analysts' growth rate projection which reflects the views of many analysts' advice to investors is more likely to reflect investor outlooks than a growth rate produced by a single analyst, or from historical data. *Value Line* is a single analyst source and does not provide a consensus of what security analysts' advice is to the investing public.

[15]Assn. of Bus. Advocating Tariff Equity, et al., v. Midcontinent Indep. Sys. Operator, Inc., et al., Opinion No. 551, 156 FERC ¶ 61,234 at P 62 (2016) ("Opinion No. 551").

Further, *Value Line*'s growth rate represents a growth from its historical base to the three- to five-year forecast period. *Value Line* describes its growth rate as follows:

> Example: To calculate the compound annual sales growth from 2001-2003 to 2007-2009, we take sales per share for each of the years 2001, 2002, and 2003 and average them. Then we take the sales per share for the years 2007-2009, as shown in the far right column of the large statistical section of our report.[16]

Value Line uses a normalized historical base over a three-year period to project growth from the average of the three-year period out to a three- to five-year projection beyond the end of the latest year. This growth rate cannot accurately be used to grow earnings or dividends in the most recent quarter (annualized). It is simply not designed to produce an earnings growth rate from this starting point. The starting point for the Commission's two-step DCF analysis is the most recent quarterly dividend (annualized). Moreover, where IBES-participating analysts remove non-recurring losses or gains from GAAP-style baseline earnings in order to produce a more representative growth rate, *Value Line* tends to rely instead on a coarser, mechanical averaging of three past years. *Value Line*'s growth rate methodology simply is not the best information to reflect the growth outlook for future dividends, as required by the Commission DCF model. Importantly, if the growth of dividends is misstated, then the DCF model will be misstated, and the DCF return estimate will not be reliable or accurate. Therefore, *Value Line* growth rates should not be used with IBES growth rates.

[16] *Value Line Selection & Opinion,* August 6, 2004, page 2186), provided as Exhibit No. A-3, page 24.

H.1.1.a.

Q IF NOT, ARE THERE BETTER ALTERNATIVES, SUCH AS BLOOMBERG, ZACKS, S&P CAPITAL, MORNINGSTAR, AND VALUE LINE?

A The five sources listed in Question H.1.1.a are of two distinct types. Bloomberg and Zacks aggregate multiple analysts and report consensus growth rates. So does reuters.com, which publishes IBES growth rates and (unlike Yahoo Finance) discloses the number of contributing analysts. As such, all of these sources are comparable and can reasonably be referenced, although the Commission should be alert to the risk that parties or witnesses will opportunistically vary their growth rate sourcing in order to shop for supportive data. To mitigate that risk and in order to best capture the growth outlook reflected in market prices, to the extent multiple sources of analyst consensus growth rates are used, they should be combined to produce one composite five-year growth rate per proxy company, rather than generating a separate DCF distribution for each growth rate source.

In contrast, the growth rates published by S&P Capital, Morningstar, and *Value Line* are those of a single analyst. The Commission's previous finding that a consensus analyst growth projection is preferred to a single analyst's growth rate estimate is still based on sound academic empirical evidence. Accordingly, these singe-analyst estimates should not be used as the source of DCF model inputs.

H.1.1.b.

Q SHOULD THE COMMISSION COMBINE DATA FROM MULTIPLE SOURCES?

A The Commission should seek to use the data source(s) that most accurately reflects market outlooks, such as using analysts' consensus to source estimates of five-year earnings growth. To the extent the Commission chooses to use more than one source of consensus analysts' growth rate data, they should be combined into a single composite consensus, as discussed in response to Question H.1.1.a.

H1.1.c.

Q WHAT WEIGHT, IF ANY, SHOULD BE GIVEN TO AN ESTIMATE IF THE NUMBER AND IDENTITY OF ANALYSTS CONTRIBUTING TO THE ESTIMATE IS NOT AVAILABLE?

A As I stated in response to Question H.1.1.a, consensus estimates for a particular proxy company's growth rate that are known to combine the estimates of numerous analysts should receive more weight. For example, suppose that for a given proxy company two growth rates are available in the record. The first is 5% from IBES via reuters.com and known to be sourced from three analysts, and the second is 6% from Bloomberg and known to be sourced from three analysts. In that case, the DCF model should use a composite five-year[17] growth rate of [(5% x 2) + (6% x 3)]/5 = 5.6%.

[17] This would be the short-term growth rate, prior to being combined with or transitioning to a long-term, GDP-based growth rate.

H.1.2.

Q TO WHAT EXTENT DOES MODEL RISK AFFECT ALL ROE METHODOLOGIES?

A While no model is perfect, not all models are equal. The DCF model has been used by FERC and other regulators for many years, and the fact that it has produced allowed ROEs adequate to attract capital is demonstrated by the fact that utility stock prices are high and utilities have ample capital to invest in new assets. To the extent analysts are proposing deviations from standard methodologies, the Commission should require verifiable and complete evidence supporting the change in methodology or the ROE adder. The "Expected Earnings" method does not even attempt to measure the cost of equity, so model "risk" may not be the best term to describe its deficiency. Model "irrelevance" may be a better term.

H.1.3.

Q THE DCF MODEL INCORPORATES DATA AT THE PARENT/HOLDING COMPANY LEVEL (E.G., STOCK PRICE). THE COMMISSION ADJUDICATES CASES AT THE OPERATING COMPANY LEVEL, FOR WHICH THERE IS NO PUBLIC DATA LIKE STOCK PRICES, GROWTH RATES, AND BETAS. WHAT IMPACT DOES THIS DISPARITY HAVE ON THE RESULTS OF THE DCF AND OTHER MODELS?

A To measure the current market cost of equity, a proxy group of publicly traded companies is necessary in order to gain information that could produce an accurate

and reliable estimate of the current market cost of equity. Practically speaking, publicly traded parent company holding company data will predominantly make up these proxy group estimates. There has been no evidence that the parent company data is not producing reliable and accurate estimates of rates of return that can be applied to operating utility subsidiaries of the holding companies. Therefore, the Commission should continue to rely on observable evidence and sound financial models to estimate current market returns of proxy groups of regulated utility companies, in order to measure a rate of return that is consistent with the *Hope* and *Bluefield*[18] standards.

As I noted in response to Question D10.a., the difference between parent/holding companies and operating electric utilities does undermine the representativeness of "Expected Earnings" results. Proxy company M/B ratios are quite different from those of operating utilities, when the market prices of the latter are revealed by acquisition-type transactions. Consequently, the projected E/B ratios of publicly-traded proxy companies are not a reliable guide to the projected E/B ratios that would apply to operating utilities.

[18]Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va., 262 U.S. 679 (1923) and Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944).

H.1.4.

Q SHOULD THE COMMISSION CONTINUE TO RELY ON THE EFFICIENT MARKET HYPOTHESIS, WHICH UNDERLIES THE DCF AND CAPM MODELS? WHY OR WHY NOT?

A Yes. The *Hope* and *Bluefield* standards clearly suggest that the market models can be used to produce an accurate estimate of the current investor required return. The efficient market hypothesis states that investors will rely on all relevant information in order to form/make investment decisions. All relevant information is available to investors to form economically logical outlooks for growth in dividends, risk spreads between utility stock yields and utility bond yields, and utility bond yields and Treasury yields. All of this information can be used to opine on the reasonableness of the rate of return estimates made from DCF, CAPM, and risk premium studies.

H.1.4.a.

Q IF YES, SHOULD THE COMMISSION CONTINUE TO EMPLOY OUTLIER SCREENS, M&A SCREENS, ETC., FOR THE DCF AND CAPM MODELS SINCE THESE MODELS NEED TO INCORPORATE ALL RELEVANT INFORMATION?

A The established fact that stock market prices efficiently incorporate all relevant public information does not imply that all stocks' prices provide a representative and reliable basis for inferring the cost of equity for a given utility. I have discussed screening criteria in response to Questions D4, D6, and D7.

H.1.5.

Q SHOULD GROWTH RATES BE BASED ON VALUE LINE, IBES, OR ALTERNATIVE ESTIMATES?

A As I discussed in response to Question H.1.1 and its subparts, consensus analysts' growth rate estimates are the most reliable source of the near-term portion of the dividend growth expectation embedded in market prices and therefore suitable for use in the DCF model. Therefore, a consensus growth rate estimate published by IBES or other consensus analysts' growth rate estimates produce a better and more reliable estimate than does a growth rate estimate published by *Value Line*.

H.1.6.

Q SHOULD THE SAME GROWTH RATE SOURCES BE USED ACROSS MODELS, IF MORE THAN ONE MODEL IS USED TO DETERMINE THE ROE?

A Yes. Consistent use of growth rate estimates that accurately gauge the market's outlook should be the primary focus in both measuring short-term growth and long-term growth. In principle, these growth rate estimates should not vary across different models. However, there is a practicality limit to that principle in the event the equity risk premium used in CAPM model is based on a DCF analysis of the approximately 400 dividend-paying member of the S&P 500, as referenced in the *Coakley* and MISO briefing orders. Although there would be a significant subscription cost and calculation burden involved in using multiple sources of analyst consensus

growth rates for a proxy group of electric utility parent companies, that task is manageable as there are now fewer than 40 such companies. Extending that approach to a CAPM-component DCF study of approximately 400 companies makes the task an order of magnitude more burdensome, and should not be required.

DCF

H.2.a.2.

Q COULD TERMINAL STOCK VALUE BE USED IN PLACE OF LONG-TERM GROWTH PROJECTIONS? IF SO, HOW SHOULD TERMINAL STOCK VALUE BE DETERMINED?

A A terminal value DCF methodology would not produce a more reliable estimate than the Commission's current two-stage growth DCF study. Indeed, the two methodologies are mathematically very similar, if done consistently. However, the ability to arrive at a terminal stock price introduces far more uncertainty into the methodology, which can minimize the Commission's ability to accurately estimate the DCF return estimate.

Specifically, the Commission's current two-step DCF methodology uses a composite growth rate within a constant growth rate methodology that gives way to a short-term growth outlook and a long-term sustainable growth outlook. In contrast, a terminal value stock DCF methodology could project cash flows based on a shorter term cash flow window which encapsulates short-term dividend growth and a stock price at the end of a holding period. However, the stock at the end of the holding

period would need to be estimated from the flow of cash flows that would reflect a short-term growth rate, and a contraction to long-term steady-state growth. As such, the terminal stock price should reflect the value of the stock based on the long-term sustainable growth rate estimate. The DCF study would then reflect a period of short-term growth and at the end of the holding period the terminal stock price would reflect the value based on long-term sustainable growth.

H.2.a.3.

Q DO INVESTMENT ANALYSTS PROJECT EARNINGS/DIVIDENDS GROWTH BEYOND FIVE YEARS, AND IF NOT, WHY NOT, AND IS GROSS DOMESTIC PRODUCT ("GDP") AN APPROPRIATE PROXY FOR LONG-TERM GROWTH?

A No, investment analysts only project earnings and dividends out over the next five years. Longer-term growth projections for an individual stock are highly uncertain and can be significantly impacted by changes in market conditions, company conditions, and other factors. Indeed, long-term growth reflects a part of the risk of investing in a utility equity security, because the ability to project that far out is so uncertain. However, analysts' three- to five-year growth rate outlooks are relevant in establishing the current value, and efficient market hypothesis tells us that these longer term outlooks are based on macroeconomic factors available to market participants in order to make informed investment decisions.

H.2.a.4

Q HOW SHOULD THE COMMISSION WEIGHT SHORT-TERM AND LONG-TERM EARNINGS/DIVIDEND GROWTH PROJECTIONS?

A The current FERC methodology of weighting the short-term and long-term growth rate estimates is reasonable. However, alternatively, the Commission could use a multi-growth stage DCF model in order to give varying weights to various stages of growth. Such a multi-stage growth model, in which three-to-five-year growth projections would be used as the growth rate for no longer than five years, is consistent with the intent of the authoring analysts. Thereafter, they would transition in stages to a long-term growth rate no higher than the long-term forecast rate of nominal GDP growth.

H.2.a.5.

Q THE COMMISSION USES A CONSTANT GROWTH DCF MODEL. SHOULD THE COMMISSION CONSIDER USING A MULTI-STAGE DCF MODEL? IF SO, HOW WOULD THE COMMISSION DETERMINE THE LENGTH OF EACH STAGE OF A PROXY COMPANY'S GROWTH?

A Yes. See my response above to Question H.2.a.4.

H.2.a.6.

Q ARE SIX MONTHS OF AVERAGE HIGH/LOW HISTORICAL MONTHLY STOCK PRICES AN APPROPRIATE MEASURE FOR THE CURRENT STOCK PRICE "P"?

A In measuring the current market cost of equity, the Commission should strive to minimize the risk of skewing the estimate based on aberrant price and market data. The period studied should be long enough to eliminate aberrant market data but should not be so long that it does not currently reflect current market conditions. The Commission's practice of using six-month dividend yields and six-month bond yields is a reasonable approach.

CAPM

H.2.b.4.

Q. SHOULD THE COMMISSION EMPLOY MORE SOPHISTICATED VERSIONS OF THE CAPM MODEL THAT CONSIDER MORE VARIABLES INSTEAD OF ONLY BETA, SUCH AS THE FAMA-FRENCH MODEL?

A Dr. Cornell is providing the Associations' principal statement on this issue. I agree with him that the right answer is "no." But I will supplement his statement with two additional points. As I recently showed in the Docket Nos. EL14-12 and EL15-45 paper hearings,[19] the "size premium" adjustment to the standard CAPM model that has been applied by transmission owner witnesses in several recent proceedings was based

[19] See Exhibit No. JC-100 at 16-26, provided as Exhibit No. A-3, pages 30-40.

on a mismatch, in which the size adjustment is quantified using Duff & Phelps data and designed for application to Duff & Phelps betas, but is then applied to Value Line betas. The two sources' betas are not comparable, as only the latter incorporates a "Blume" adjustment—meaning it is moved towards 1.0, which in the case of utility betas almost always means it is raised.[20] Curing this mismatch removes most of the effect of the "size adjustment."[21] Furthermore, Duff & Phelps does not recommend or utilize that adjustment in isolation; it also makes a sector-based ("industry") adjustment, which in the case of the utility sector points in the opposite direction, and indeed more than offsets the "size adjustment."[22]

Expected Earnings

H.2.c.2.

Q. WHAT, IF ANY, CONCERNS REGARDING CIRCULARITY ARE THERE WITH USING THE EXPECTED EARNINGS ANALYSIS TO DETERMINE THE BASE ROE, AS OPPOSED TO USING THE ANALYSIS FOR CORROBORATIVE PURPOSES?

A Dr. Cornell is providing the Associations' principal statement on this issue and other Expected Earnings issues. I agree with him that the Expected Earnings method should not be used. But I will supplement his statement with evidence that the E/B and M/B

[20] *See id*. at 17-24, provided as Exhibit No. A-3, pages 31-38.
[21] *See id.*, Table 1, provided as Exhibit No. A-3, page 36.
[22] *See id*. at 24-25, provided as Exhibit No. A-3, pages 38-39.

ratios of parent-level holding companies are not representative of the E/B and M/B ratios operating utilities.

In recent study periods, FirstEnergy Corp. has commonly provided transmission owner witnesses' highest E/B result. It does so because Value Line's fifth-year E/B projection for that company jumped from 12.5% as of February 16, 2018[23] to 15.5% as of May 18, 2018.[24] Between those two consecutive quarterly Value Line reports, FE's projected share count and projected dividends did not change, and its projected earnings and earnings/share actually declined. The change that drove the increase in FE's projected E/B ratio was a 25% decrease in projected book value per share, from $24 to $18, apparently due to accounting changes associated with the bankruptcy filing of FE's nonregulated subsidiaries. While that drastic decrease in the denominator of FE's E/B ratio had an outsized effect on the highest E/B ratio to be found among electric utility stocks, there is no basis to infer a corresponding change to such stocks' *representative* E/B ratio, much less the ratio representative of operating utility companies.

Consider also NextEra's recent acquisition (from Southern Company) of Gulf Power Company. NextEra paid approximately Gulf Power Company's net book value: On January 1, 2019, it paid "approximately $4.47 billion in cash consideration" and assumed "approximately $1.3 billion of Gulf Power debt,"[25] thus committing approximately $5.77 billion. In exchange, it acquired an operating utility with a year-

[23]See Exhibit No. A-3, page 41.
[24] See Exhibit No. A-3, page 42.
[25] NextEra, Inc., SEC Form 10-K for 2018 at 98 (Feb. 15, 2019), provided as Exhibit No. A-3, pages 44-45.

end 2018 regulatory book value of $5.32 billion.[26] Thus, this transaction indicates a utility-level M/B ratio of approximately 1.08, much closer to unity than the contemporaneous M/B ratios of NextEra (approximately 2.54[27]) or Southern (approximately 1.80[28]).

An even lower M/B ratio for an operating utility is indicated by the April 2013 acquisition of Atlantic Path 15 by Duke-American Transmission Company. The seller received "a total sale price of approximately $56 million,"[29] in exchange for an entity whose book value equity ("Total Proprietary Capital") exceeded $60 million.[30] Thus, the M/B ratio indicated[31] by that transaction is below unity.

Circa 2007, Alliant subsidiary Interstate Power and Light Company ("IPL") sold its transmission system to the nascent ITC Midwest—not only selling the associated transmission assets, but doing so as a going concern with its transmission

[26] Gulf Power Co. FERC Form 1 for 2018 at 111, line 85 ("Total Assets" of $5,320,620,672), provided as Exhibit No. A-3, page 47.
[27] Yahoo Finance identifies NEE's year-end 2018 market price as $173.82 (provided as Exhibit No. A-3, page 48). See https://finance.yahoo.com/quote/NEE/history?p=NEE&.tsrc=fin-srch. The February 15, 2019 Value Line (provided as Exhibit No. A-3, page 49) for NEE estimates a year-end 2018 book value per share of $68.30. Applying those amounts' ratio, NEE's year-end 2018 M/B was approximately 2.54.
[28] Yahoo Finance identifies SO's year-end 2018 market price as $43.92, provided as Exhibit No. A-3, page 50. See https://finance.yahoo.com/quote/SO/history?p=SO. The February 15, 2019 Value Line for SO (provided as Exhibit No. A-3, page 51) estimates a year-end 2018 book value per share of $24.35. Applying those amounts' ratio, SO's year-end 2018 M/B was approximately 1.80.
[29] Atlantic Power Corporation SEC Form 10-Q for the Quarter Ended March 31, 2013, at 12 (available at https://www.sec.gov/Archives/edgar/data/1419242/000104746913005749/a2214227z10-q.htm and provided as Exhibit No. A-3, page 53).
[30] Atlantic Path 15, LLC, FERC Form 3-Q for the Quarter Ended March 31, 2013, at 112 line 16 (FERC eLibrary No. 20130430-8004 and provided as Exhibit No. A-3, page 55). The transaction also included assumption of debt, which is excluded from both sides of the foregoing comparison.
[31] The SEC Form 10-Q also states (at 12), provided as Exhibit No. A-3, page 53, that Atlantic Power "recorded a gain on sale of approximately $7.0 million," which would suggest an M/B ratio slightly more than unity rather than slightly less than unity.

personnel transferred to ITC Midwest. *See generally ITC Holdings Corp.* 121 FERC ¶ 61,229 (2007). IPL expected to receive approximately $165.7 million in "Net Proceeds Above Net Book Value of Assets," which were estimated to be $423.2 million at the anticipated time of closing.[32] Thus, this transaction indicates a utility-level M/B ratio of approximately 1.39,[33] a significant portion of which presumably reflected the market value of ITC Holdings' substantial non-cost incentive ROE adders and ability to profit through double-leveraging. At the exchange-traded parent level, as of year-end 2007, ITC Holdings' M/B ratio was approximately 4.3.[34]

[32] Exhibit CAH-1, Schedule K [~Spiegel R:08904.002 IA, MN, WI COALITION/As organized before 7.24.07/Alliant Filing Documents (SPU 07-11)/Compiled Searchable.pdf at 257 of 541], provided as Exhibit No. A-3, page 57.
[33] That is, in $ millions, (165.7 + 423.2)/423.2=1.39.
[34] According to the September 16, 2016 Value Line for ITC Holdings (provided as Exhibit No. A-3, page 58), its split-adjusted, year-end 2007 book value per share was $4.37, and its contemporaneous market price was between $12.6 and $19.5; https://www.historicalstockprice.com specifies $18.81. The ratio $18.81/$4.37 exceeds 4.3.

Similarly, when FE subsidiary Monongahela Power Company ("Mon Power") sold its Ohio operations to Columbus Southern (a subsidiary of AEP) at year-end 2005, it did so for a utility-level M/B ratio of approximately 1.17[35]—much closer to unity than the M/B ratios of either FE (1.64[36]) or AEP (1.58[37]).

Risk Premium

H.2.d.1.

Q SHOULD THE ANALYSIS BE HISTORICAL OR FORWARD-LOOKING?

A The risk premium analysis should be "forward-looking," but that is best achieved by referencing actual bond yields, which at any given historical time reflect bond investors' forward-looking expectations of future interest rate offerings. It should not combine equity risk premiums found by comparing allowed ROEs to past actual bond yields with a projection of future bond yields. In particular, it would not be rational to derive a risk premium based on actual past utility bond yields, and then add that risk premium to current forecasts of future utility bond yields. Moreover, if regulator-

[35] See Letter from Allegheny Energy Senior Attorney Randall B. Palmer to FERC Secretary Magalie Roman Salas, Docket No. ER05-1312 (Apr. 11, 2006), eLib. 20060411-5026. Mon Power sold assets and associated accounts with a net book value of $44,589,133 for cash or accounts payable valued at $52,369,133, i.e., at a M/B ratio of 1.17. This calculation is conservatively high in that it does not include Mon Power's sale of power at below market prices. Further context for this transaction is provided in Mon Power's FERC Form 1 for 2005, eLib. 20060419-8007, at Page 109.1 (provided as Exhibit No. A-3, page 60), and a contemporaneous AEP press release, https://www.aepohio.com/info/news/viewRelease.aspx?releaseID=217.

[36] See February 20, 2015 Value Line for FE (provided as Exhibit No. A-3, page 61), showing 2005 market price per share range of $37.7 to $53.4 and 2005 year-end book value per share of $27.86; averaging the first two amounts and dividing by the third produces an M/B ratio of 1.63).

[37] See March 20, 2015 Value Line for AEP (provided as Exhibit No. A-3, page 62), showing 2005 market price per share range of $32.3 to $40.8 and 2005 year-end book value per share of $23.08; averaging the first two amounts and dividing by the third produces an M/B ratio of 1.58).

allowed ROEs are utilized in identifying the equity risk premium, the data set of past ROE allowances should be limited to decisions that reflect contemporary findings by the Commission of the current market cost of equity, relative to the contemporaneous actual bond yield. Significant timing lags can distort the observed past relationship between the cost of equity and bond yields and thereby distort the output of a risk premium model.

H.2.d.2.

Q IS A RISK PREMIUM ANALYSIS COMPATIBLE WITH A FINDING OF ANOMALOUS CAPITAL MARKET CONDITIONS? WHY OR WHY NOT?

A The particular application of the risk premium method referenced in the *Coakley* and MISO briefing orders (as further referenced in the NOI) assumes a linear relationship between bond yields and the cost of equity, and assumes that equity risk premiums vary *only* with changes in bond yields. This is an oversimplistic and invalid assumption. The fact is that other factors also affect equity risk premiums. Indeed, market literature makes it clear that risk premiums are driven by changes and differences in investment risk. However, if that assumption is followed, and if (as was asserted in Opinion No. 531) "anomalous" market conditions produce an unreliable relationship between bond yields and the cost of equity, then such conditions make such risk premium analysis unreliable.

However, this issue is not unique to the risk premium method. If "anomalous" capital market conditions is used in the same way as Opinions Nos. 531 and 551—

meaning conditions under which proven models can no longer be trusted to estimate the cost of equity from visible financial market data—then *no* empirically-grounded estimate of the cost of equity is compatible with anomalous capital market conditions. If the Commission finds market conditions to be anomalous in that sense, it should refrain from attempting to reach its own estimate of what equity costs, and instead should simply rely on the recent average of state commission allowed ROEs for similar services. However, the Commission has identified no basis to conclude that market conditions are anomalous in that sense. For example, just because interest rates move, that is not an indication that market prices of bonds and equities do not adjust to reflect prevailing interest rates or outlooks for future changes in interest rates.

H.2.d.3.

Q UNLIKE THE FINANCIAL MODELS DISCUSSED ABOVE, THE RISK PREMIUM ANALYSIS PRODUCES A SINGLE ROE RATHER THAN A ZONE OF REASONABLENESS. DOES THIS CHARACTERISTIC REQUIRE THE COMMISSION TO USE THE RISK PREMIUM MODEL DIFFERENTLY THAN THE OTHER MODELS?

A To the extent the various models are applied independently (rather than being combined at the individual-proxy level), each should be used to identify a single point value estimate of the cost of equity, as I have discussed in response to Question D10 and its subparts. Accordingly, all of the adopted market-based models can and should be used in the same way; for example, there is no good reason to reference risk the

premium method for purposes of setting a replacement ROE while ignoring it for purposes of evaluating whether an existing ROE remains reasonable.

In any case, a risk premium analysis can be used to develop a range or distribution, just like the proxy-based DCF and CAPM methods. It is simply inaccurate to state that the risk premium method can only create a point estimate. For example, past regulatory determinations can be compared to and then added to the yields on more than one class of bonds, thereby generating a range.

H.2.d.3.i.

Q IS THERE A METHOD BY WHICH THE RISK PREMIUM ROE COULD BE ADJUSTED UPWARD FOR AN ABOVE AVERAGE RISK UTILITY OR DOWNWARD FOR A BELOW AVERAGE RISK UTILITY? IF NOT, IS IT REASONABLE TO CONSIDER THE RESULTS OF A RISK PREMIUM ANALYSIS WHEN DETERMINING THE ROE OF AN ABOVE OR BELOW AVERAGE RISK UTILITY?

A Equity risk premiums are typically measured over a standard bond yield, and the risk premium method is commonly applied using past regulatory decisions to stand in for the past cost of equity, without differentiating among decisions involving utilities of other than average risk. As these common practices are not inherent features of risk premium analysis, it is possible to apply the risk premium method differently so as to account for the atypical risk of a particular subject utility. For example, where properly supported, the analysis could exclude past cases in which the past-case utility

had a credit rating more than one "notch" different from that of the utility presently at issue, and/or could apply the identified equity risk premium to the bond yield applicable to the subject utility's own credit rating.

Q DOES THIS CONCLUDE YOUR AFFIDAVIT?

A Yes.

Qualifications of Michael P. Gorman

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Michael P. Gorman. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q PLEASE STATE YOUR OCCUPATION.

A I am a consultant in the field of public utility regulation and a Managing Principal with the firm of Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

Q PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A In 1983 I received a Bachelor of Science Degree in Electrical Engineering from Southern Illinois University, and in 1986, I received a Master's Degree in Business Administration with a concentration in Finance from the University of Illinois at Springfield. I have also completed several graduate level economics courses.

In August of 1983, I accepted an analyst position with the Illinois Commerce Commission ("ICC"). In this position, I performed a variety of analyses for both formal and informal investigations before the ICC, including: marginal cost of energy, central dispatch, avoided cost of energy, annual system production costs, and working capital. In October of 1986, I was promoted to the position of Senior

Analyst. In this position, I assumed the additional responsibilities of technical leader on projects, and my areas of responsibility were expanded to include utility financial modeling and financial analyses.

In 1987, I was promoted to Director of the Financial Analysis Department. In this position, I was responsible for all financial analyses conducted by the Staff. Among other things, I conducted analyses and sponsored testimony before the ICC on rate of return, financial integrity, financial modeling and related issues. I also supervised the development of all Staff analyses and testimony on these same issues. In addition, I supervised the Staff's review and recommendations to the Commission concerning utility plans to issue debt and equity securities.

In August of 1989, I accepted a position with Merrill-Lynch as a financial consultant. After receiving all required securities licenses, I worked with individual investors and small businesses in evaluating and selecting investments suitable to their requirements.

In September of 1990, I accepted a position with Drazen-Brubaker & Associates, Inc. ("DBA"). In April 1995, the firm of Brubaker & Associates, Inc. was formed. It includes most of the former DBA principals and Staff. Since 1990, I have performed various analyses and sponsored testimony on cost of capital, cost/benefits of utility mergers and acquisitions, utility reorganizations, level of operating expenses and rate base, cost of service studies, and analyses relating to industrial jobs and economic development. I also participated in a study used to revise the financial policy for the municipal utility in Kansas City, Kansas.

At BAI, I also have extensive experience working with large energy users to distribute and critically evaluate responses to requests for proposals ("RFPs") for electric, steam, and gas energy supply from competitive energy suppliers. These analyses include the evaluation of gas supply and delivery charges, cogeneration and/or combined cycle unit feasibility studies, and the evaluation of third-party asset/supply management agreements. I have participated in rate cases on rate design and class cost of service for electric, natural gas, water and wastewater utilities. I have also analyzed commodity pricing indices and forward pricing methods for third party supply agreements and have also conducted regional electric market price forecasts.

In addition to our main office in St. Louis, the firm also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

Q HAVE YOU EVER TESTIFIED BEFORE A REGULATORY BODY?

A Yes. I have sponsored testimony on cost of capital, revenue requirements, cost of service and other issues before the Federal Energy Regulatory Commission and numerous state regulatory commissions including: Arkansas, Arizona, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Michigan, Mississippi, Missouri, Montana, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming, and before the provincial regulatory boards in Alberta and Nova Scotia, Canada. I have also sponsored testimony before the Board of Public Utilities in Kansas City, Kansas;

presented rate setting position reports to the regulatory board of the municipal utility in Austin, Texas, and Salt River Project, Arizona, on behalf of industrial customers; and negotiated rate disputes for industrial customers of the Municipal Electric Authority of Georgia in the LaGrange, Georgia district.

Q PLEASE DESCRIBE ANY PROFESSIONAL REGISTRATIONS OR ORGANIZATIONS TO WHICH YOU BELONG.

A I earned the designation of Chartered Financial Analyst ("CFA") from the CFA Institute. The CFA charter was awarded after successfully completing three examinations which covered the subject areas of financial accounting, economics, fixed income and equity valuation and professional and ethical conduct. I am a member of the CFA Institute's Financial Analyst Society.

Acronyms and Abbreviations

Associations	Aluminum Association, American Chemistry Council, American Forest and Paper Association, American Public Power Association, Electricity Consumers Resource Council, Industrial Energy Consumers of America, National Rural Electric Cooperative Association, and Transmission Access Policy Study Group
BAI	Brubaker & Associates, Inc.
CAPM	Capital Asset Pricing Model
CFA	Chartered Financial Analyst
Commission	Federal Energy Regulatory Commission
DBA	Drazen-Brubaker & Associates, Inc.
DCF	Discounted Cash Flow
E/B	Earnings/Book
EEI	Edison Electric Institute
FERC	Federal Energy Regulatory Commission
GDP	Gross Domestic Product
Hope and *Bluefield*	*Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n of W. Va.*, 262 U.S. 679 (1923) and *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944)
IBES	Institutional Brokers' Estimate System
IPL	Interstate Power and Light Company
ICC	Illinois Commerce Commission
MISO TO	Midcontinent Independent System Operator, Inc.
NOI	Notice of Inquiry
P/E	Price-to-Earnings
RFP	Request for Proposals
ROE	Return on Equity
TO	Transmission Owner
Value Line	*The Value Line Investment Survey*
WACC	Weighted Average Cost of Capital

ASSOCIATIONS EXHIBIT NO. A-3

S&P Global
Ratings

Industry Top Trends 2019

North America Regulated Utilities

November 8, 2018

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Key Takeaways

- **Ratings Outlook:** Rating trends across regulated electric, gas, and water utilities in North America remain mostly stable, reflecting generally supportive regulatory oversight. However, the industry's financial measures weakened in 2018 as a result of U.S. tax reform, robust capital spending, and flat to slightly negative load growth. In general, those utilities most affected by these developments were those who strategically operate with a minimal financial cushion at their current rating.
- **Forecasts:** We expect only modest financial improvement in 2019, reflecting somewhat improving margins partially offset by rising debt. Margin improvement will reflect productivity improvements from technological investments, favorable fuel cost trends, and higher revenues from robust capital investments and acquisitions.
- **Assumptions:** We expect overall capital spending to remain elevated through 2020, primarily due to rising infrastructure spending needs. Sales growth will generally remain flat to slightly negative, reflecting customer growth offset by conservation.
- **Risks and Opportunities:** To grow, utilities are merging and acquiring higher-risk businesses outside of the industry. The transformation of fossil generation to renewables provides utilities with an opportunity to grow while reducing their environmental risks. Also, increasing electric vehicles sales will lead to higher load growth, partially offsetting the negative effects of conservation.
- **Industry Trends:** The North America utility industry is mostly stable with some downside ratings exposure. Weaker credit measures from tax reform will likely persist in 2019, reflecting tax-related rate reductions carryovers. However, we expect that some utilities will offset this reduced revenue with further equity infusions or asset sales. Other developing trends include rising interest rates, inflation, technology, climate change, and regulatory lag, which could further stress the industry's credit quality.

Ratings trends and outlook

North America Regulated Utilities

Chart 1

Ratings distribution

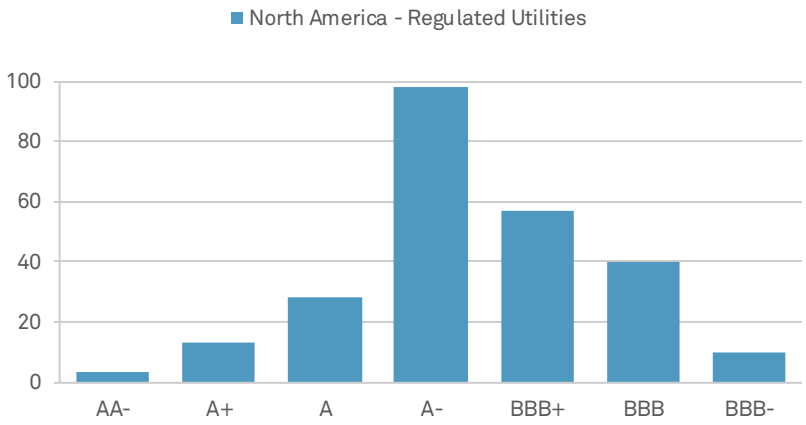


Chart 2

Ratings outlooks

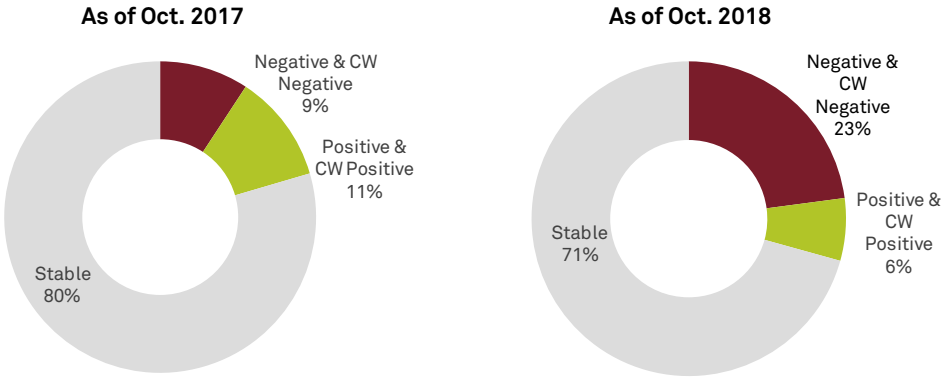
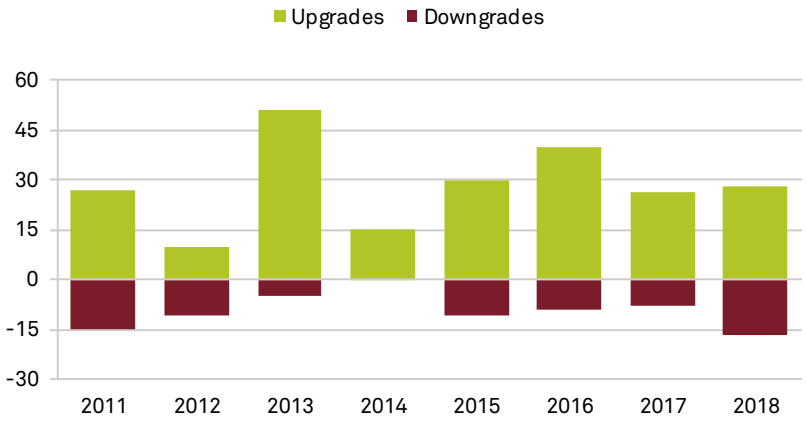


Chart 3

Ratings upgrades and downgrades



Source: S&P Global Ratings. Ratings data as of October 15, 2018

Industry credit metrics

North America Regulated Utilities

Chart 4

Debt / EBITDA (median, adjusted)

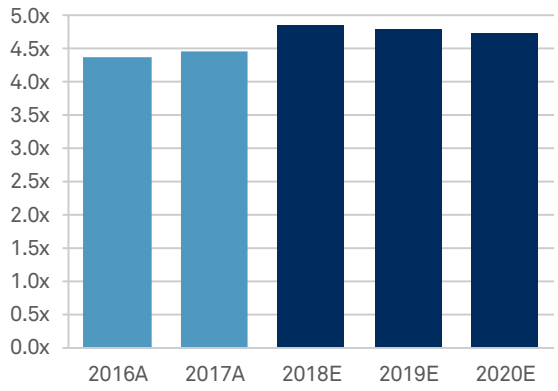


Chart 5

FFO / Debt (median, adjusted)

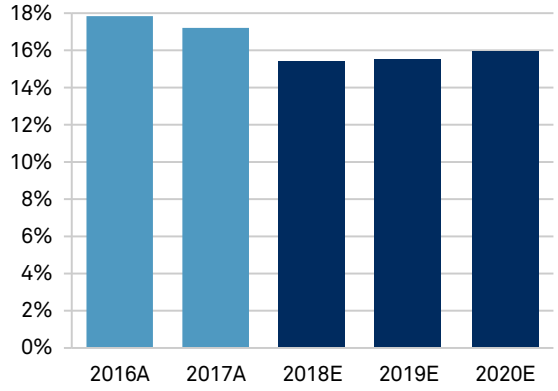


Chart 6

Cash flow and primary uses

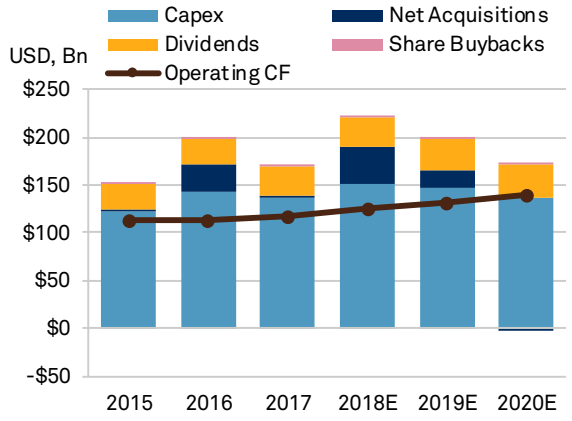


Chart 7

Equity Issuance

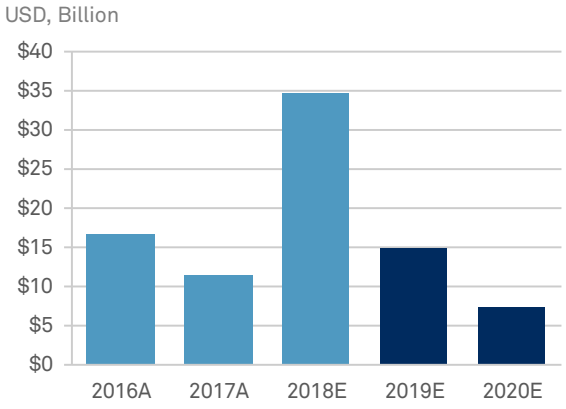
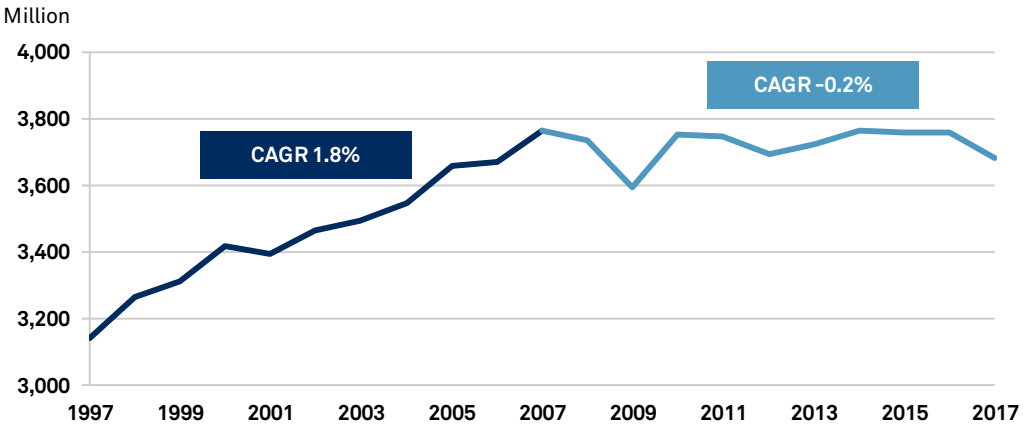


Chart 8

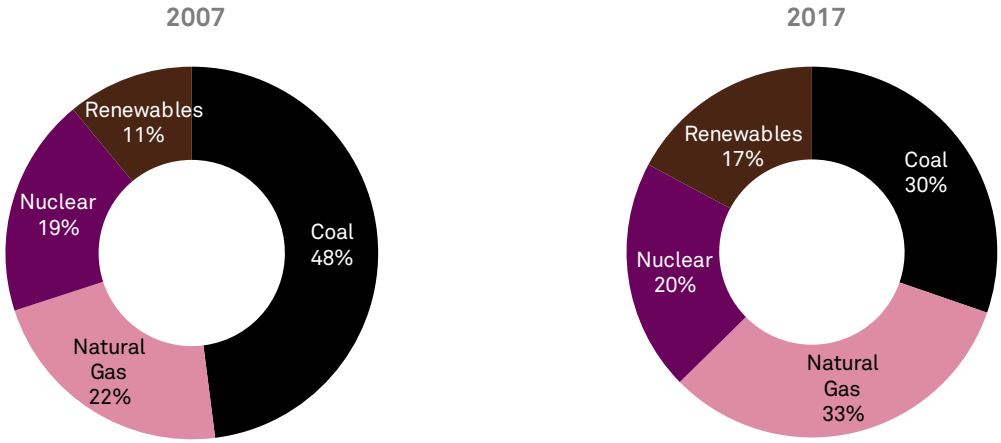
Total U.S. megawatt hours sold



Source: S&P Global Ratings, S&P Global Market Intelligence, EIA U.S. sales growth 1990-2016. FFO--Funds from operations.

Chart 9

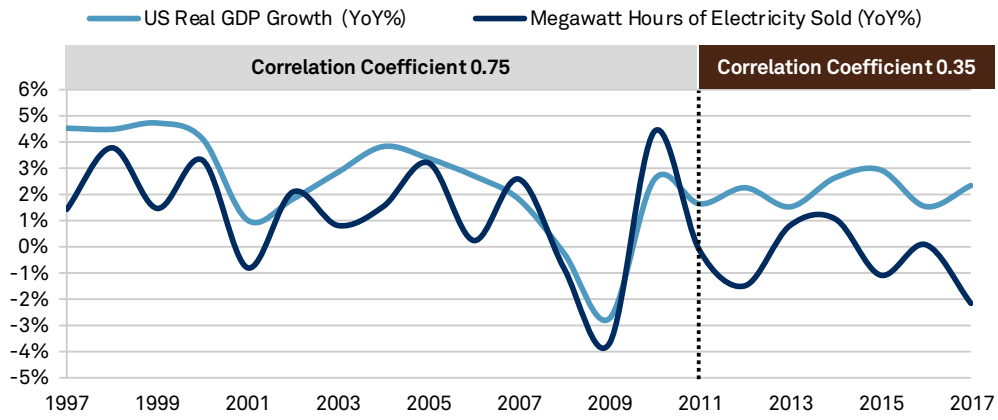
Generation Mix By Energy Source



Source: S&P Global Ratings, S&P Global Market Intelligence

Chart 10

Correlation Of U.S. GDP and Electricity Sales



Source: S&P Global Ratings

Industry outlook

Key assumptions

1. Conservation has reduced demand tied to economic growth

Historically, a strong correlation existed between economic growth and the demand for electricity. Since 2011, conservation has significantly curtailed sales growth, leading to a very weak correlation between utility sales and economic growth. Our base case incorporates flat to slightly negative sales growth over the next three years, reflecting new customer growth offset by conservation. To achieve growth, we expect that utilities will pursue mergers with other utilities as well as acquisitions of slightly higher-risk businesses outside of the direct utility industry.

2. Regulation and public policy support earnings and cash flow

We expect that regulators will continue to provide utilities with constructive frameworks that support credit quality. For most regulators, the requirement that utilities provide safe, reliable, and affordable utility services remains a priority. This regulatory perspective is balanced against an increasing awareness that the utility infrastructure in North America is aging, and that utilities may have to invest necessary capital to maintain and improve the infrastructure apparatus for electric, gas, and water systems. Such regulated infrastructure capital spending most often translates to low-risk rate base growth. In addition, regulatory support ensuring timely recovery of costs generally remains favorable for utilities' credit quality. Numerous cost recovery riders, trackers, and forward mechanisms provide more timely recovery of utility costs and reduce the regulatory lag. As such, we expect low-risk rate base growth to drive utilities' earnings and cash flows despite flat to slightly negative sales growth. From a public policy perspective, we also expect utilities will be given sufficient time to adapt to various public policy initiatives, including those relating to renewable energy, grid resilience, reduced emissions, improved technology, and higher safety standards.

3. Elevated capital spending to meet infrastructure needs

We assume that capital spending for North America's regulated electric, gas and water utilities will remain robust for 2019 and 2020 at about $140 billion annually. In general, we expect that the industry will invest in smaller scale infrastructure projects that improve safety and reliability and boost productivity. Capital spending can provide margin growth when sales are diminished by recovering investments made on a growing rate base and by reducing cost through technology investments. Furthermore, capital spending is often welcomed by policymakers that appreciate the economic stimulus and the benefits of a safer and more reliable service. The speed with which the regulatory process turns the new spending into higher rates to begin to pay for the capital investment is an important factor in our assumptions and forecast. Any extended lag between spending and recovery can exacerbate the negative effect on credit metrics and therefore ratings. Investments in new generation with reduced emissions will drive higher capital spending. These types of investments would focus on renewable and natural gas-fired generation. Other areas of investment would include smart grids, electric vehicle charging stations, batteries, mergers within the industry, and acquisitions outside of the utility industry.

4. Generally flat operating and maintenance expense

We expect utilities to continue to lower operating and maintenance expenses through productivity initiatives and technological improvements. Because utilities earn on their capital investments, each dollar saved in operating expense provides headroom in the

customer bill for increased capital investments, boosting a utility's financial performance without excessively increasing the customer bill. The deployment of technology such as digital meters can increase efficiency of operations while also securing the integrity of a utility's operations. Furthermore, investing in solar generation not only reduces operating and environmental risks, compared to fossil fuel generation, but also lowers a utility's operating and maintenance expenses. A solar generation installation requires very few people to operate, which reduces maintenance expenses, and it does not require any fossil fuel to generate electricity. As a comparison, coal generation burns fossil fuel to generate electricity and a nuclear generating facility could require thousands of employees to safely operate and maintain the facility.

5. Equity, hybrids, and asset sales to support credit quality

In2018, North America regulated utilities took steps to preserve credit quality, by issuing common equity and hybrid securities, and by selling assets to support their financial measures. In particular, the industry utilities issued about $35 billion of common equity in 2018, compared to about $10 billion in 2017 and about $15 billion in 2016. Driving this trend were weaker financial measures because of U.S. tax reform, robust capital spending, and M&A. For 2019, we expect equity issuance to temper to about $15 billion. Credit quality remains important to the utility industry and the large 2018 equity issuances demonstrates that utilities will take the necessary steps to protect credit quality when facing financial challenges.

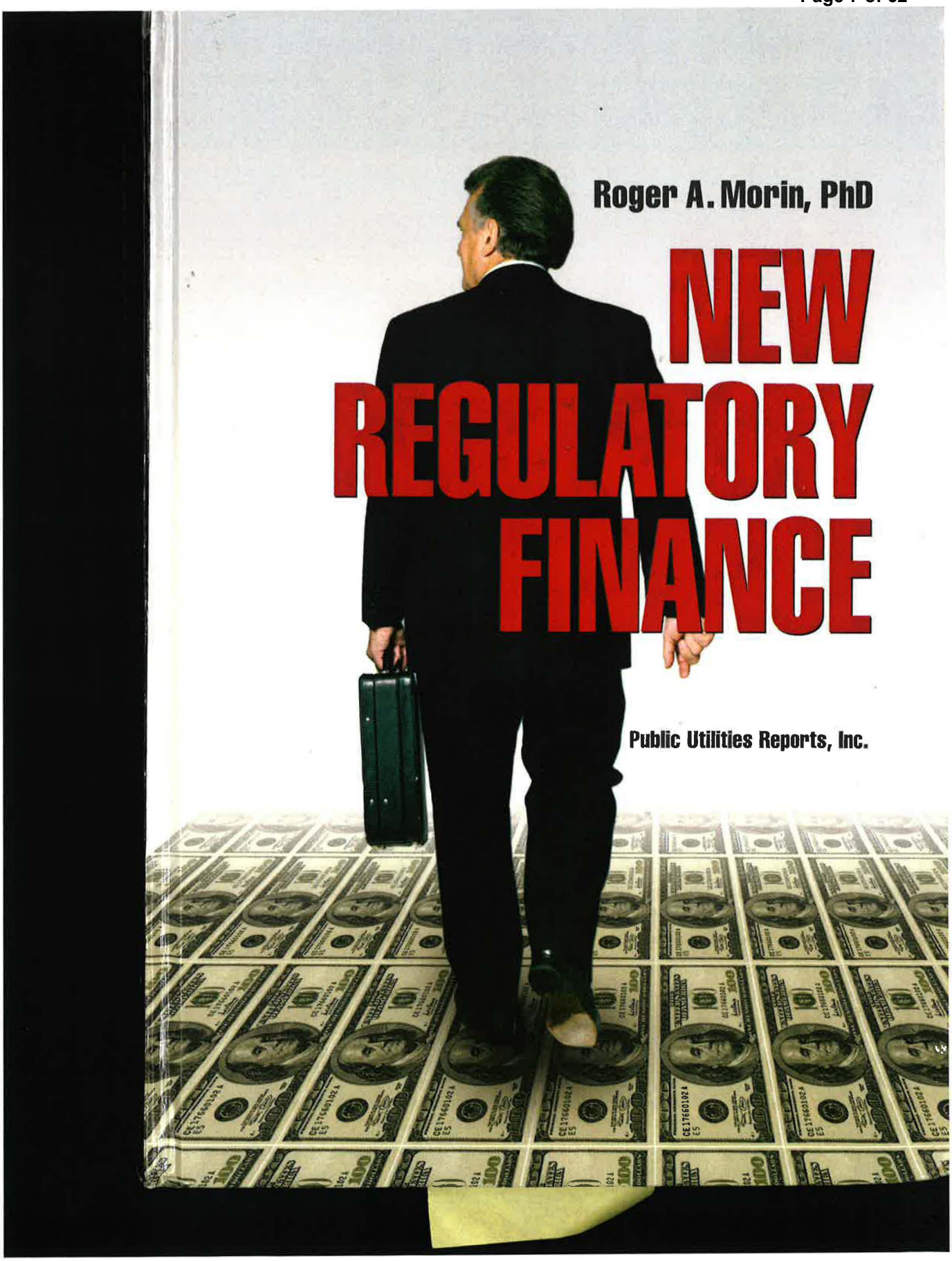
Key risks and opportunities

1. Mergers and acquisitions

In order to respond to sector challenges and disruption, we expect continued M&A activity despite rising interest rates. Due to conservation and sluggish load growth, two primary M&A strategies have developed within the industry. The first is to grow the absolute size of the utility business across multiple states and regulatory jurisdictions. This strategy attempts to reduce costs by identifying synergies and implements best practices across utilities. Canadian and U.S. utilities have also been focusing on growing by diversifying their utility portfolio (gas utilities buying electric utilities and vice versa, and even an electric/gas utility holding company acquiring water utilities) or cross-border combinations (mostly Canadian holding companies acquiring U.S. utilities). The second strategy is to grow through the acquisition of slightly higher-risk businesses (contracted assets) outside of the utility industry. Low interest rates by historical standards, strong stock prices, and plentiful leverage have justified paying large multiples of late. We've also seen holding companies once again thinking about rationalizing their portfolios with selective sales and purchases of smaller, less strategic utilities to gain scale within a jurisdiction or exit if scale is not feasible. Cost of capital has been slowly rising but is still well below the historical average. As a result, 2019 could bring more transactions before higher interest rates start to dissuade purchasers.

2. Generation transformation and disruption

Regulated electric utilities have been modifying their generation fleets to reduce emissions from power plants, electing to close aging coal plants and build low or zero emissions generation. Utilities have been shifting away from building bigger baseload generating stations, particularly coal and nuclear, to more modular construction that can be scaled up at an existing site on an as-needed basis. Improved economics associated with renewable generation support this trend, and utilities are able to benefit from efficiencies of scale.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Public Utilities Reports, Inc.

EXAMPLE 8-1

We have the following market data for Utility X:

current dividend per share = $1.62
current stock price = $25.00
expected dividend growth = 4%

From Equation 8-8, the standard DCF model produces a cost of equity of:

$$K = D_1 / P_0 + g$$
$$= D_0(1+g) / P_0 + g$$
$$= \$1.62\ (1.04) / \$25 + .04$$
$$= 6.7\% + 4.0\% = 10.7\%$$

Note that next year's expected dividend is the current spot dividend increased by the expected growth rate in dividends. In general, implementation of the approach requires finding D_0 and P_0 from readily available sources of market data; the growth rate, g, can be estimated using several techniques. One way is to rely on analysts' long-term growth forecasts. Chapter 9 will discuss the application of the DCF formulation in detail.

Standard DCF Model Assumptions

The assumptions underlying the standard DCF model have been the source of controversy, confusion, and misunderstanding in rate hearings. This section clarifies these assumptions.

Theories are simplifications of reality and the models articulated from theories are necessarily abstractions from and simplifications of the existing world so as to facilitate understanding and explanation of the real world. The DCF model is no exception to the rule. The assumptions of the standard DCF model are as follows:

Assumption #1. The four assumptions discussed earlier in conjunction with the general classical theory of security valuation still remain in force.

Assumption #2. The discount rate, K, must exceed the growth rate, g. In other words, the standard DCF model does not apply to growth stocks. In Equation 8-7, it is clear that as g approaches K, the denominator gets progressively smaller, and the price of the stock infinitely large. If g exceeds K, the price becomes negative, an implausible situation. In the derivation of the standard

DCF equation (8-7) from the general stock valuation equation (8-5), it was necessary to assume g is less than K in order for the series of terms to converge toward a finite number. With this assumption, the present value of steadily growing dividends becomes smaller as the discounting effect of K in the denominator more than offsets the effect of such growth in the numerator.

This assumption is realistic for most public utilities. Investors require a return commensurate with the amount of risk assumed, and this return likely exceeds the expected growth rate in dividends for most public utilities. Although it is possible that a firm could sustain very high growth rates for a few years, no firm could double or triple its earnings and dividends indefinitely.

Assumption #3. The dividend growth rate is constant in every year to infinity. This assumption is not as problematic as it appears. It is not necessary that g be constant year after year to make the model valid. The growth rate may vary randomly around some average expected value. Random variations around trend are perfectly acceptable, as long as the mean expected growth is constant. The growth rate must be ''expectationally constant,'' to use formal statistical jargon. This assumption greatly simplifies the model without detracting from its usefulness.

If investors expect growth patterns to prevail in the future other than constant infinite growth, more complex DCF models are available. For example, investors may expect dividends to grow at a relatively modest pace for the first 5 years and to resume a higher normal steady-state course thereafter, or conversely. The general valuation framework of Equation 8-5 can handle such situations. The ''non-constant growth'' model presented later in the chapter is a popular version of the DCF model.

It should be pointed out that the standard DCF model does not require infinite holding periods to remain valid. It simply assumes that the stock will be yielding the same rate of return at the time of sale as it is currently yielding. Example 8-2 illustrates this point.

Another way of stating this assumption is that the DCF model assumes that market price grows at the same rate as dividends. Although g has been specified in the model to be the expected rate of growth in dividends, it is also implicitly the expected rate of increase in stock price (expected capital gain) as well as the expected growth rate in earnings per share. This can be seen from Equation 8-7, which in period 1 would give:

$$P_1 = D_2 / (K - g)$$

But $D_2 = D_1(1 + g)$ and $P_0 = D_1 / (K - g)$

so that $P_1 = D_1(1 + g)/(K - g) = P_0(1 + g)$

EXAMPLE 8-2

We have the following market data for Utility X:

current dividend per share = \$1.62
current stock price = \$13.00
expected dividend growth = 4%

Consider a 3-year holding period. If both price and dividend grow at the 4% expected rate, dividends for each of the next 3 years are \$1.68, \$1.75, and \$1.82, respectively, and the price at the end of the third year is \$13 $(1 + .04)^3$ = \$14.62. If the investor sells the stock at the end of the third year, the return expected by the investor is still 17%, because the present value of the dividend stream and the stock price at resale is exactly equal to the current purchase price:

$$P_0 = \frac{1.68}{1.17} + \frac{1.75}{1.17^2} + \frac{1.82}{1.17^3} + \frac{14.62}{1.17^3}$$

$$= \$13.00$$

The same result obtains for any value of "n," that is, for any length of holding period. The main result of the DCF model does not depend on the value of n. In other words, the DCF model is independent of the investor holding period.

Hence, g is the expected growth in stock price. Similarly, if a fixed fraction of earnings are distributed in dividends, then:

$$D_1 = aE_1 \quad \text{and} \quad D_2 = aE_2$$

where a is the constant payout ratio and E the earnings per share. Since $D_2 = D_1(1 + g)$, we also have $E_2 = E_1 (1 + g)$ and, hence, g is the expected growth in earnings per share.

Yet another way to express the idea that the validity of the standard DCF model does not depend on the value of the investor's holding period is to say that investors expect the ratio of market price to dividends (or earnings) in year n, P_n/D_n, to be the same as the current price/dividend ratio, P_0/D_0. This must be true if the infinite growth assumption is made. Investors will only expect $(P/E)_n$ to differ from $(P/E)_0$ if they believe that the growth following year n will differ from the growth expected before year n, since the price in year n is the present value of all subsequent dividends from {n + 1} to infinity.

The constancy of the price/earnings (P/E) assumption is not prohibitive to DCF usage. If there is reason to believe that stock price will grow at a different

rate than dividends (for example, if the stock price is expected to converge to book value), a slightly more complex model is warranted. Such a model is presented in section 8.6.

Assumption #4. Investors require the same return K every year. The assumption of a flat yield curve was alluded to earlier, but requires elaboration. A firm's cost of capital, K, varies directly with the risk of the firm. By assuming the constancy of K, the model abstracts from the effects of a change in risk on the value of the firm. If K is to remain constant, the firm's capital structure policy and dividend payout policy must be assumed to remain stable so as to neutralize any effect of capital structure changes or dividend policy changes on K.

The assumption of a constant dividend payout policy not only simplifies the mathematics but also insulates the model from any effects of dividend policy on risk, if any, and hence on K. Besides, this assumption was indirectly stated earlier; a constant dividend policy implies that dividends and earnings grow at the same rate. The assumption of a constant dividend payout is realistic. Most firms, including utilities, tend to maintain a fixed payout rate when it is averaged over several years.

The simplification of a constant capital structure may be acceptable if the utility exhibits a near constant debt-equity ratio over time and is expected to do so in the future.

Assumption #5. The standard DCF model assumes no external financing. All financing is assumed to be conducted by the retention of earnings. No new equity issues are used or, if they are, they are neutral in effect with respect to existing shareholders. Without this assumption, the per share dividends could be watered down by a new stock issue, violating the constant growth assumption. A more comprehensive model allowing for external stock financing is presented in a later section.

8.4 The Determinants of Dividend Growth

It is instructive to describe the factors that cause growth in dividends to occur and to disaggregate the growth term in the standard DCF model into its contributory elements.

The "retention ratio" is defined as the percentage of earnings retained by the firm for reinvestment. The fraction of earnings not ploughed back into the firm's asset base is paid out as dividends, and is referred to as the "dividend payout ratio." Under the DCF assumption of no external financing, if a firm is expected to retain a fraction b of its earnings and expected to earn a book return of r on common equity investments, then its earnings, dividends, book

Year	Eq Ba
1	$10
2	$10
3	$11
4	$11
5	$12
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In summary:

But:

so that:

includes many *ad hoc* forecasts from statistical models, ranging from the naive methods of simple averages, moving averages, etc. to the sophisticated time-series techniques such as the Box-Jenkins modeling techniques. The literature suggests that analysts' earnings forecasts incorporate all the public information available to the analysts and the public at the time the forecasts are released. This finding implies that analysts have already factored historical growth trends into their forecast growth rates, making reliance on historical growth rates somewhat redundant and, at worst, potentially double counting growth rates which are irrelevant to future expectations. Furthermore, these forecasts are statistically more accurate than forecasts based solely on historical earnings, dividends, book value equity, and the like.

Summary of Empirical Research

Important papers include Brown and Rozeff (1978), Cragg and Malkiel (1968, 1982), Harris (1986), Vander Weide and Carleton (1988), Lys and Sohn (1990), and Easterwood and Nutt (1999).

The study by Brown and Rozeff (1978) shows that analysts, as proxied by Value Line analysts, make better forecasts than could be obtained using only historical data, because analysts have available not only past data but also a knowledge of such crucial factors as rate case decisions, construction programs, new products, cost data, and so on. Brown and Rozeff test the accuracy of analysts' forecasts versus forecasts based on past data only, and conclude that their evidence of superior analyses means that analysts' forecasts should be used in studies of cost of capital. Their evidence supports the hypothesis that Value Line analysts consistently make better predictions than historical time-series models.

Using the IBES consensus earnings forecasts as proxies for investor expectation, Harris (1986) estimates the cost of equity using expected rather than historical earnings growth rates. In his review of the literature on financial analysts' forecasts, Harris concludes that a growing body of knowledge shows that analysts' earnings forecasts are indeed reflected in stock prices. Elton, Gruber, and Gultekin (1981) show that stock prices react more to changes in analysts' forecasts of earnings than they do to changes in earnings themselves, suggesting the usefulness of analysts' forecasts as surrogates for market expectations. In an extensive National Bureau of Economic Research study using analysts' earnings forecasts, Cragg and Malkiel (1982) present detailed empirical evidence that the average analyst's expectation is more similar to expectations being reflected in the marketplace than historical growth rates, and that it is the best possible source of DCF growth rates. The authors show that historical growth rates do not contain any information that is not already impounded in analysts' growth forecasts. They conclude that the expectations formed by Wall Street professionals get quickly and thoroughly impounded

into the prices of securities and that the company valuations made by analysts are reflected in security prices.

Vander Weide and Carleton (1988) update the Cragg and Malkiel study and find overwhelming evidence that the consensus analysts' forecasts of future growth is superior to historically oriented growth measures in predicting the firm's stock price. Their results also are consistent with the hypothesis that investors use analysts' forecasts, rather than historically oriented growth calculations, in making stock buy-and-sell decisions. A study by Timme and Eiseman (1989) produced similar results.

Using virtually all publicly available analyst earnings forecasts for a large sample of companies (over 23,000 individual forecasts by 100 analyst firms), Lys and Sohn (1990) show that stock returns respond to individual analyst earnings forecasts, even when they are closely preceded by earnings forecasts made by other analysts or by corporate accounting disclosures. Using actual and IBES data from 1982–1995, Easterwood and Nutt (1999) regress the analysts' forecast errors against either historical earnings changes or analysts' forecasting errors in the prior years. Results show that analysts tend to underreact to negative earnings information, but overreact to positive earnings information.

The more recent studies provide evidence that analysts make biased forecasts and misinterpret the impact of new information.[11] For example, several studies in the early 1990s suggest that analysts either systematically underreact or overreact to new information. Easterwood and Nutt (1999) discriminate between these different reactions and reported that analysts underreact to negative information, but overreact to positive information. The recent studies do not necessarily contradict the earlier literature. The earlier research focused on whether analysts' earnings forecasts are better at forecasting future earnings than historical averages, whereas the recent literature investigates whether the analysts' earnings forecasts are unbiased estimates of future earnings. It is possible that even if the analysts' forecasts are biased, they are still closer to future earnings than the historical averages, although this hypothesis has not been tested in the recent studies. One way to assess the concern that analysts' forecasts may be biased upward is to incorporate into the analysis the growth forecasts of independent research firms, such as Value Line, in addition to the analyst consensus forecast. Unlike investment banking firms and stock brokerage firms, independent research firms such as Value Line have no incentive to distort earnings growth estimates in order to bolster interest in common stocks.

[11] Other relevant papers corroborating the superiority of analysts' forecasts as predictors of future returns versus historical growth rates include: Fried and Givoly (1982), Moyer, Chatfield and Kelley (1985), and Gordon, Gordon and Gould (1989).

Some argue that analysts tend to forecast earnings growth rates that exceed those actually achieved and that this optimism biases the DCF results upward. The magnitude of the optimism bias for large rate-regulated companies in stable segments of an industry is likely to be very small. Empirically, the severity of the optimism problem is unclear for regulated utilities, if a problem exists at all. It is interesting to note that Value Line forecasts for utility companies made by independent analysts with no incentive for over- or understating growth forecasts are not materially different from those published by analysts in security firms with incentives not based on forecast accuracy, and may in fact be more robust. If the optimism problem exists at all, it can be circumvented by relying on multiple-stage DCF models that substitute long-term economic growth for analysts' growth forecasts in the second and/or third stages of the model.

Empirical studies have also been conducted showing that investors who rely primarily on data obtained from several large reputable investment research houses and security dealers obtain better results than those who do not.[12] Thus, both empirical research and common sense indicate that investors rely primarily on analysts' growth rate forecasts rather than on historical growth rates alone.

Ideally, one could decide which analysts make the most reliable forecasts and then confine the analysis to those forecasts. This would be impractical since reliable data on past forecasts are generally not available. Moreover, analysts with poor track records are replaced by more competent analysts, so that a poor forecasting record by a particular firm is not necessarily indicative of poor future forecasts. In any event, analysts working for large brokerage firms typically have a following, and investors who heed a particular analyst's recommendations do exert an influence on the market. So, an average of all the available forecasts from large reputable investment houses is likely to produce the best DCF growth rate.

Growth rate forecasts are available online from several sources. For example, Value Line Investment Analyzer, IBES (Institutional Brokers' Estimate System), Zacks Investment Research, Reuters, First Call, Yahoo Finance, and Multex Web sites provide analysts' earnings forecasts on a regular basis by reporting on the results of periodic (usually monthly) surveys of the earnings growth forecasts of a large number of investment advisors, brokerage houses, and other firms that engage in fundamental research on U.S. corporations. These firms include most large institutional investors, such as pension funds, banks, and insurance companies. Representative of industry practices, the Zacks Investment Research Web site is a central location whereby investors

[12] Examples of these studies include Stanley, Lewellen and Schlarbaum (1981) and Touche Ross Co. (1982).

are able to research the different analyst estimates for any given stock without necessarily searching for each individual analyst. Zacks gathers and compiles the different estimates made by stock analysts on the future earnings for the majority of U.S. publicly traded companies. Estimates of earnings per share for the upcoming 2 fiscal years, and a projected 5-year growth rate in such earnings per share are available at monthly intervals. The forecast 5-year growth rates are normalized in order to remove short-term distortions. Forecasts are updated when analysts formally change their stated predictions.

Exclusive reliance on a single analyst's growth forecast runs the risk of being unrepresentative of investors' consensus forecast. One would expect that averages of analysts' growth forecasts, such as those contained in IBES or Zacks, are more reliable estimates of investors' consensus expectations likely to be impounded in stock prices.[13] Averages of analysts' growth forecasts rather than a single analyst's growth forecasts are more reliable estimates of investors' consensus expectations.

One problem with the use of published analysts' forecasts is that some forecasts cover only the next one or two years. If these are abnormal years, they may not be indicative of longer-run average growth expectations. Another problem is that forecasts may not be available in sufficient quantities or may not be available at all for certain utilities, for example water utilities, in which case alternate methods of growth estimation must be employed.

Some financial economists are uncomfortable with the assumption that the DCF growth rates are perpetual growth rates, and argue that above average growth can be expected to prevail for a fixed number of years and then the growth rate will settle down to a steady-state, long-run level, consistent with that of the economy. The converse also can be true whereby below-average growth can be expected to prevail for a fixed number of years and then the growth rate will resume a higher steady-state, long-run level. Extended DCF models are available to accommodate such assumptions, and were discussed in Chapter 8.

Earnings versus Dividend Forecasts

Casual inspection of the Zacks Investment Research, First Call Thompson, and Multex Web sites reveals that earnings per share forecasts dominate the information provided. There are few, if any, dividend growth forecasts. Only Value Line provides comprehensive long-term dividend growth forecasts. The wide availability of earnings forecasts is not surprising. There is an abundance of evidence attesting to the importance of earnings in assessing investors'

[13] The earnings growth rates published by Zacks, First Call, Reuters, Value Line, and IBES contain significant overlap since all rely on virtually the same population of institutional analysts who provide such forecasts.

expectations. The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually used by analysts reveal the dominance of earnings and conclude that earnings are considered far more important than dividends. Finally, Value Line's principal investment rating assigned to individual stocks, Timeliness Rank, is based primarily on earnings, accounting for 65% of the ranking.

Historical Growth Rates Versus Analysts' Forecasts

Obviously, historical growth rates as well as analysts' forecasts provide relevant information to the investor with regard to growth expectations. Each proxy for expected growth brings information to the judgment process from a different light. Neither proxy is without blemish; each has advantages and shortcomings. Historical growth rates are available and easily verifiable, but may no longer be applicable if structural shifts have occurred. Analysts' growth forecasts may be more relevant since they encompass both history and current changes, but are nevertheless imperfect proxies.

9.5 Growth Estimates: Sustainable Growth Method

The third method of estimating the growth component in the DCF model, alternately referred to as the ''sustainable growth'' or ''retention ratio'' method, can be used by investment analysts to predict future growth in earnings and dividends. In this method, the fraction of earnings expected to be retained by the company, b, is multiplied by the expected return on book equity, r, to produce the growth forecast. That is,

$$g = b \times r$$

The conceptual premise of the method, enunciated in Chapter 8, Section 8.4, is that future growth in dividends for existing equity can only occur if a portion of the overall return to investors is reinvested into the firm instead of being distributed as dividends.

For example, if a company earns 12% on equity, and pays all the earnings out in dividends, the retention factor, b, is zero and earnings per share will not grow for the simple reason that there are no increments to the asset base (rate base). Conversely, if the company retains all its earnings and pays no dividends, it would grow at an annual rate of 12%. Or again, if the company earns 12% on equity and pays out 60% of the earnings in dividends, the

Press Release

January 25, 2012

Federal Reserve issues FOMC statement of longer-run goals and policy strategy

For release at 2:00 p.m. EST

Share

Following careful deliberations at its recent meetings, the Federal Open Market Committee (FOMC) has reached broad agreement on the following principles regarding its longer-run goals and monetary policy strategy. The Committee intends to reaffirm these principles and to make adjustments as appropriate at its annual organizational meeting each January.

The FOMC is firmly committed to fulfilling its statutory mandate from the Congress of promoting maximum employment, stable prices, and moderate long-term interest rates. The Committee seeks to explain its monetary policy decisions to the public as clearly as possible. Such clarity facilitates well-informed decisionmaking by households and businesses, reduces economic and financial uncertainty, increases the effectiveness of monetary policy, and enhances transparency and accountability, which are essential in a democratic society.

Inflation, employment, and long-term interest rates fluctuate over time in response to economic and financial disturbances. Moreover, monetary policy actions tend to influence economic activity and prices with a lag. Therefore, the Committee's policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks, including risks to the financial system that could impede the attainment of the Committee's goals.

The inflation rate over the longer run is primarily determined by monetary policy, and hence the Committee has the ability to specify a longer-run goal for inflation. The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate. Communicating this inflation goal clearly to the public helps keep longer-term inflation expectations firmly anchored, thereby fostering price stability and moderate long-term interest rates and enhancing the Committee's ability to promote maximum employment in the face of significant economic disturbances.

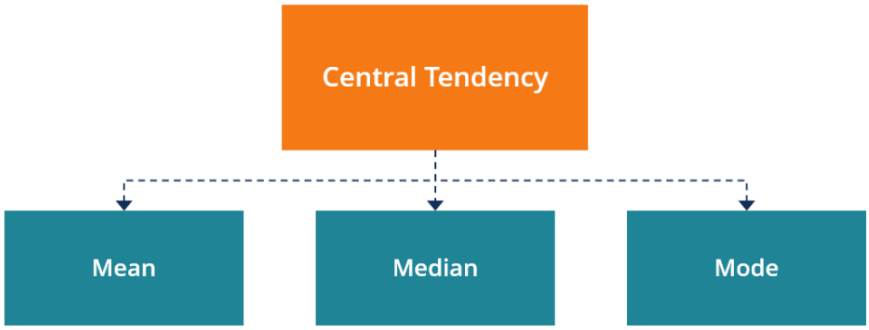
The maximum level of employment is largely determined by nonmonetary factors that affect the structure and dynamics of the labor market. These factors may change over time and may not be directly measurable. Consequently, it would not be appropriate to specify a fixed goal for employment; rather, the Committee's policy decisions must be informed by assessments of the maximum level of employment, recognizing that such assessments are necessarily uncertain and subject to revision. The Committee considers a wide range of indicators in making these assessments. Information about Committee participants' estimates of the longer-run normal rates of output growth and unemployment is published four times per year in the FOMC's Summary of Economic Projections. For example, in the most recent projections, FOMC participants' estimates of the longer-run normal rate of unemployment had a central tendency of 5.2 percent to 6.0 percent, roughly unchanged from last January but substantially higher than the corresponding interval several years earlier.

In setting monetary policy, the Committee seeks to mitigate deviations of inflation from its longer-run goal and deviations of employment from the Committee's assessments of its maximum level. These objectives are generally complementary. However, under circumstances in which the Committee judges that the objectives are not complementary, it follows a balanced approach in promoting them, taking into account the magnitude of the deviations and the potentially different time horizons over which employment and inflation are projected to return to levels judged consistent with its mandate.

Last Update: January 25, 2012

Central tendency is a descriptive summary of a dataset through a single value that reflects the center of the data distribution. Along with the variability (dispersion) of a dataset, central tendency is a branch of descriptive statistics.

The central tendency is one of the most quintessential concepts in statistics. Although it does not provide information regarding the individual values in the dataset, it delivers a comprehensive summary of the whole dataset.



Measures of Central Tendency

Generally, the central tendency of a dataset can be described using the following measures:

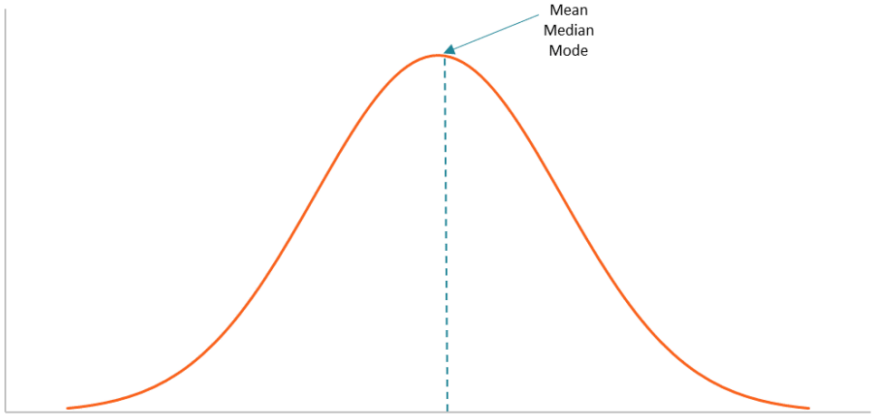
- **Mean (Average):** Represents the sum of all values in a dataset divided by the total number of the values.
- **Median:** The middle value in a dataset that is arranged in ascending order (from the smallest value to the largest value). If a dataset contains an even number of values, the median of the dataset is the mean of the two middle values.
- **Mode:** Defines the most frequently occurring value in a dataset. In some cases, a dataset may contain multiple modes while some datasets may not have any mode at all.

including, but not limited to, geometric mean, harmonic mean, midrange, and geometric median.

The selection of central tendency as a measure depends on the properties of a dataset. For instance, mode is the only central tendency measure of categorical data while a median works best with ordinal data.

Although mean is regarded as the best measure of central tendency for quantitative data, it is not always the case. For example, mean may not work well with quantitative datasets that contain extremely large or extremely small values. The extreme values may distort the mean. Thus, you may consider other options of central tendency.

The measures of central tendency can be found using a formula or definition. Also, they can be identified using a frequency distribution graph. Note that for the datasets that follow a normal distribution, the mean, median, and mode are located on the same spot on the graph.



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THE VALUE LINE Investment Survey®

PAGES 2183-2190

File in page order in the *Selection & Opinion* binder.

PART 2 — *Selection & Opinion* — AUGUST 6, 2004

The Value Line View

In This Issue

In Three Parts: Part 1 is the Summary & Index. This is Part 2, Selection & Opinion. Part 3 is Ratings & Reports. Volume LIX, Number 49.

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ECONOMIC AND STOCK MARKET COMMENTARY

The economic picture is mixed as we near the midpoint of the third quarter. Recent reports, for example, show a modest easing in retail sales, housing starts, industrial production, and factory use. Other data, though, indicate that existing home sales are increasing; that there are fewer mass layoff announcements than earlier in 2004; and that consumer confidence remains strong. These crosscurrents held the nation's gross domestic product to a rather modest 3.0% rate of increase in the second quarter. Slower growth in consumer spending and increasing strength in capital goods demand were the main factors in the recent GDP performance.

There are reasons for the U.S. economy's slowing rate of growth. One reason is the continuing rise in energy prices. Higher oil prices, and the resultant rise in heating bills, air conditioning costs, and the tab for filling up a gasoline tank act as tax increases by taking funds out of the hands of consumers. The earlier rise in certain interest rates (notably home mortgages) and the recent decline in stock prices are also putting some pressure on the business expansion.

There are also bright spots. For openers, the housing market remains strong, both in terms of demand and prices. In fact, the further rise in real estate values is helping to partially offset the negative wealth effect of falling equity prices. The recent drop in mortgage rates, meantime, is likely to give housing a boost in the second half. Finally, second-quarter earnings were generally positive and favorable comparisons should continue in the second half.

We expect the economic ship to continue sailing forward. True, the recent move by the Federal Reserve to nudge up short-term interest rates and some possible further rate hikes going forward may limit GDP growth to a certain extent. Nevertheless, the economic uptrend is likely to remain securely in place. In fact, we think there is sufficient momentum around for GDP growth to average 3%, or better, in the second half of 2004.

Investors are uneasy. We think some concern is realistic given the recent slowing in growth, the risks of higher inflation, and the tenuous global outlook. That said, we think the recent drop in stock prices has taken some of these risks into account. As such, equity valuations now appear to be quite reasonable.

Conclusion: We continue to think the market's risks and potential rewards are fairly well balanced. Please refer to the inside back cover of *Selection & Opinion* for our Asset Allocation Model's current reading.

CLOSING STOCK MARKET AVERAGES AS OF PRESS TIME

	7/22/2004	7/29/2004	%Change 1 week	%Change 12 months
Dow Jones Industrial Average	10050.33	10129.24	+0.8%	+10.0%
Standard & Poor's 500	1096.84	1100.43	+0.3%	+11.2%
N.Y. Stock Exchange Composite	6390.63	6394.07	+0.1%	+14.8%
NASDAQ Composite	1889.06	1881.06	-0.4%	+8.6%
NASDAQ 100	1408.51	1398.55	-0.7%	+9.7%
American Stock Exchange Index	1244.31	1229.60	-1.2%	+29.6%
Value Line (Geometric)	352.25	352.83	+0.2%	+13.7%
Value Line (Arithmetic)	1529.94	1534.77	+0.3%	+20.2%
London (FT-SE 100)	4306.3	4418.7	+2.6%	+6.8%
Tokyo (Nikkei)	11285.04	11116.84	-1.5%	+13.0%
Russell 2000	546.52	549.83	+0.6%	+16.1%

Model Portfolios: Recent Developments

PORTFOLIO I

We are purchasing *Getty Images* stock for Portfolio I this week. The company sells and licenses still and moving images and associated products and services to advertisers and design agencies. The images are marketed and distributed via its Internet site. Since going public in early 1998, *Getty's* top line has expanded nicely, reflecting internal growth supplemented by a handful of acquisitions. The company moved into profitability in 2002, and it looks like 2004 will be a strong year in this regard. Indeed, its second-quarter financial report made for excellent reading, with revenues and earnings rising sharply. And, based on *Getty's* view of its business environment, the company raised its forecast for its likely financial performance for the second half of the year. As such, the stock, though not trading at a bargain-basement price, should be a good addition to our group. To make room for *GYI* shares, we are selling Omnicare stock, whose Timeliness rank fell to 3 (Average) in the wake of an earnings shortfall.

PORTFOLIO II

The latest earnings season ended on an upbeat note for Portfolio II. In particular, our insurance-related holdings all picked up additional support from investors after posting strong results that exceeded our expectations. *Chubb* led the way, with strong premium growth, favorable loss experience, and successful expense-control initiatives driving a nearly 30% gain in operating earnings during the June quarter. Insurance-broker *A.J. Gallagher* fell just short of this level, as share net rose 26%. *Marsh & McLennan's* performance was more subdued, though the company still managed to deliver 11% profit growth, despite continued weakness in its investment-management subsidiary. Meanwhile, chemical-makers *DuPont* and *Eastman Chemical* also saw their share prices advance after releasing generally favorable second-quarter results. Investors, however, were less impressed with tool-manufacturer *Stanley Works*, which gave up some ground in the market despite exceeding its previous earnings guidance.

PORTFOLIO III

More than 25% of the stocks in Portfolio III are well-known consumer products companies. Our holdings include *Coca-Cola*, *Hormel Foods*, *W.M. Wrigley, Jr.*, *Pepsico*, and *Anheuser Busch*. Traditionally, these companies have held up fairly well during market downturns, thereby providing some downside protection for investors. Unfortunately, that has not been the case thus far in the September quarter, as these stocks have all experienced substantial declines in price since the beginning of July. Some of the weakness is attributable to near-term profit concerns (e.g., *Coca-Cola* and *Pepsi*), but the majority of the selloff seems to stem from a rotation by investors out of the consumer-products sector. Our long-term view for all of these companies remains unchanged; hence we plan on maintaining our positions for the time being, with the possibility of increasing our holdings in these stocks if prices continue to decline. As such, we are once again not making any changes to Portfolio III this week.

PORTFOLIO I: STOCKS WITH ABOVE-AVERAGE YEAR-AHEAD PRICE POTENTIAL

(primarily suitable for more aggressive investors)

Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	Financial Strength	Industry Name
785	ACDO	Accredo Health	33.92	2	3	19.7	Nil	1.00	B+	Pharmacy Services
1585	BFAM	Bright Horizons Family	52.25	2	3	27.9	Nil	0.80	B+	Educational Services
786	CVS	CVS Corp.	41.88	1	3	18.6	0.6	0.80	A+	Pharmacy Services
1253	CELG	Celgene Corp.	51.37	1	3	NMF	Nil	1.30	B+	Drug
658	CERN	Cerner Corp.	44.62	2	3	26.9	Nil	1.00	B+	Healthcare Information
1724	CHS	Chico's FAS	41.22	2	3	26.6	Nil	1.35	B+	Retail (Special Lines)
945	CHD	Church & Dwight	44.66	2	2	19.8	0.7	0.50	A	Household Products
2185	CTSH	Cognizant Technology	27.11	2	3	41.7	Nil	1.00	B+	Computer Software/Svcs
1256	CVD	Covance Inc.	35.26	1	3	24.3	Nil	0.95	B+	Drug
1387	FO	Fortune Brands	71.37	2	2	16.0	1.8	0.85	A	Diversified Co.
388	GYI	Getty Images	54.25	1	3	33.9	Nil	1.70	B+	Information Services
822	HELE	Helen of Troy Ltd.	31.18	2	3	12.6	Nil	0.90	B+	Toiletries/Cosmetics
450	POG	Patina Oil & Gas	29.36	1	3	14.3	0.7	0.90	B+	Natural Gas (Div.)
224	PDCO	Patterson Cos.	73.64	2	2	28.4	Nil	0.55	A	Medical Supplies
1753	PETM	PETsMART Inc.	29.88	1	3	24.9	0.4	1.05	B+	Retail (Special Lines)
1278	PFE	Pfizer, Inc.	31.62	1	1	14.9	2.3	0.85	A++	Drug
226	RMD	ResMed Inc.	47.38	1	3	24.9	Nil	1.00	B+	Medical Supplies
1595	STRA	Strayer Education	99.15	2	3	37.4	0.3	0.65	B++	Educational Services
232	SYK	Stryker Corp.	46.88	1	2	33.5	0.2	0.70	A	Medical Supplies
2222	SYMC	Symantec Corp.	44.96	1	3	31.4	Nil	1.05	B++	Computer Software/Svcs

To qualify for purchase in the above portfolio, a stock must have a Timeliness rank of 1 and a Financial Strength Rating of at least B+. If a stock's Timeliness rank falls below 2, it will be automatically removed. Stocks in the above portfolio are selected and monitored by Charles Clark, Assistant Research Director.

PORTFOLIO II: STOCKS FOR INCOME AND POTENTIAL PRICE APPRECIATION

(primarily suitable for more conservative investors)

Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	Financial Strength	Industry Name
592	CB	Chubb Corp.	68.39	3	2	11.0	2.3	1.10	A	Insurance (Prop/Cas.)
947	CL	Colgate-Palmolive	53.45	3	1	19.8	1.8	0.70	A++	Household Products
1238	DD	Du Pont	42.25	2	1	18.0	3.3	1.00	A++	Chemical (Basic)
1969	EMN	Eastman Chemical	44.12	1	3	19.2	4.0	0.95	B+	Chemical (Diversified)
1387	FO	Fortune Brands	71.37	2	2	16.0	1.8	0.85	A	Diversified Co.
2152	AJG	Gallagher (Arthur J.)	30.99	2	1	15.5	3.2	0.90	A+	Financial Svcs. (Div.)
1014	GE	Gen'l Electric	33.29	3	1	21.5	2.4	1.30	A++	Electrical Equipment
1492	GIS	Gen'l Mills	45.25	3	2	15.8	2.7	0.55	B++	Food Processing
1494	HNZ	Heinz (H.J.)	36.93	3	1	16.1	3.1	0.55	A+	Food Processing
1393	ITT	ITT Industries	78.40	3	1	18.0	0.9	0.90	A	Diversified Co.
215	JNJ	Johnson & Johnson	55.68	2	1	18.7	2.0	0.70	A++	Medical Supplies
904	LEG	Leggett & Platt	26.27	3	2	19.5	2.1	1.05	A	Furn/Home Furnishings
1887	MBG	Mandalay Resort Group	67.48	NR	3	22.5	1.6	0.95	B+	Hotel/Gaming
2162	MMC	Marsh & McLennan	45.07	2	2	14.5	3.0	1.20	A+	Financial Svcs. (Div.)
919	PCL	Plum Creek Timber	31.19	3	2	23.1	4.5	0.70	B+	Paper/Forest Products
503	SHW	Sherwin-Williams	39.87	3	2	15.3	1.8	1.00	A	Chemical (Specialty)
2123	SOTR	SouthTrust Corp.	38.82	NR	2	17.3	2.6	0.95	B++	Bank
1368	SWK	Stanley Works	41.81	2	3	14.9	2.7	1.00	B++	Machinery
2126	SNV	Synovus Financial	25.41	3	2	17.5	2.7	1.10	B++	Bank
626	USB	U.S. Bancorp	28.29	3	3	13.2	3.6	1.25	B++	Bank (Midwest)

To qualify for purchase in the above portfolio, a stock must have a yield that is in the top half of the Value Line universe, a Timeliness Rank of at least 3 (unranked stocks may be selected occasionally), and a Safety Rank of 3 or better. If a stock's Timeliness Rank falls below 3, that stock will be automatically removed. Stocks are selected and monitored by Robert M. Greene, CFA, Senior Industry Analyst.

PORTFOLIO III: STOCKS WITH LONG-TERM PRICE GROWTH POTENTIAL

(primarily suitable for investors with a 3- to 5-year horizon)

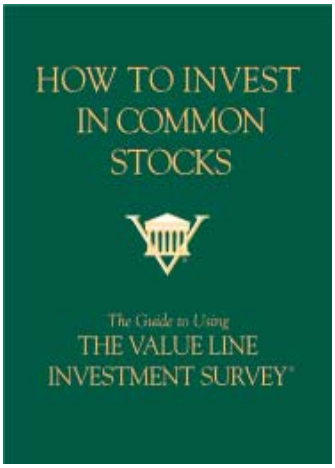
Ratings & Reports Page	Ticker	Company	Recent Price	Time-liness	Safety	P/E	Yield%	Beta	3- to 5-yr Appreciation Potential	Industry Name
1205	AFL	AFLAC Inc.	38.93	2	2	16.9	1.0	0.95	40 - 95%	Insurance (Life)
1537	BUD	Anheuser-Busch	52.33	3	1	18.9	1.9	0.60	55 - 90	Beverage (Alcoholic)
1252	BMY	Bristol-Myers Squibb	23.57	4	3	15.7	4.8	1.05	25 - 110	Drug
1546	KO	Coca-Cola	43.68	2	1	20.6	2.4	0.65	50 - 85	Beverage (Soft Drink)
411	COP	ConocoPhillips	76.66	2	2	9.6	2.3	0.85	10 - 50	Petroleum (Integrated)
1864	DIS	Disney (Walt)	22.84	2	3	22.2	0.9	1.30	75 - 165	Entertainment
616	FITB	Fifth Third Bancorp	49.86	3	1	15.6	2.7	1.00	70 - 100	Bank (Midwest)
1562	FUJIY	Fuji Photo ADR	30.38	3	1	21.0	0.8	0.70	80 - 115	Foreign Electronics
596	HCC	HCC Insurance Hldgs.	30.00	3	3	10.9	1.0	0.95	65 - 150	Insurance (Prop/Cas.)
1496	HRL	Hormel Foods	29.13	3	1	17.8	1.6	0.60	55 - 90	Food Processing
215	JNJ	Johnson & Johnson	55.68	2	1	18.7	2.0	0.70	45 - 80	Medical Supplies
823	EL	Lauder (Estee)	43.91	2	2	24.4	0.7	0.90	60 - 105	Toiletries/Cosmetics
602	PRE	PartnerRe Ltd.	51.12	3	3	6.7	2.7	1.05	45 - 115	Insurance (Prop/Cas.)
1552	PEP	PepsiCo, Inc.	51.19	3	1	22.3	1.8	0.65	35 - 75	Beverage (Soft Drink)
1278	PFE	Pfizer, Inc.	31.62	1	1	14.9	2.3	0.85	90 - 135	Drug
922	RYN	Rayonier Inc. (REIT)	43.89	3	3	20.0	5.1	0.95	15 - 70	Paper/Forest Products
1524	SWY	Safeway Inc.	20.94	3	3	15.5	Nil	0.90	65 - 140	Grocery
1760	TJX	TJX Companies	23.16	3	3	16.5	0.8	1.10	30 - 95	Retail (Special Lines)
782	TMX	Telefonos de Mexico ADR	30.99	3	3	8.2	4.2	0.80	60 - 140	Foreign Telecom.
1515	WWY	Wrigley (Wm.) Jr.	60.25	3	1	26.8	1.6	0.60	25 - 60	Food Processing

To qualify for purchase in the above portfolio, a stock must have worthwhile and longer-term appreciation potential. Among the factors considered for selection are a stock's Timeliness and Safety Rank and its 3- to 5-year appreciation potential. (Occasionally a stock will be unranked (NR), usually because of a short trading history or a major corporate reorganization.) Stocks in the above portfolio are selected and monitored by William R. Pekowitz, Jr., Senior Analyst.

Understanding The Value Line Page: Annual Rates

There is a wealth of information included with each company report found in the Ratings & Reports section of *The Investment Survey*. In addition to a stock's Timeliness and Safety rank, the Value Line page is packed with quarterly and annual financial performance figures, important balance sheet statistics, and, of course, our analysts' commentary, estimates, and projections. Indeed, there is much more to the page than we have just mentioned, so it is understandable that those new to *The Survey* may be a bit intimidated, at first. That's why we have a guide on how to use it, namely, *How To Invest In Common Stocks—The Guide to Using The Value Line Investment Survey*.

A picture of the front cover of *The Guide* is found nearby. We hasten to note that it, along with a wide range of useful investment information, can be found on our Web site. To find it, go to www.valueline.com, then click on Education near the top-center of our home page. You should then see a page displayed with a column of buttons along the left side—click on the one labeled How To Invest Guides. Selecting the top link on this new page will get you where you want to be. That is, a copy of *The Guide* should become available for viewing.



With this brief introduction out of the way, we thought we would take this opportunity to answer a question that often comes up about the Annual Rates box, found just to the left of the analysts' comment on the Value Line page. In particular, subscribers often want to know how the annual rates of change for various per-share figures are calculated. To help us here, we decided to take a page out of the above-mentioned investment guide. Using Stryker Corporation as an example, we have largely followed the discussion of the calculation of annual rates of change found on page 14 of *How To Invest In Common Stocks*. Our calculation method is detailed below, along with a reproduction of the annual rates box from our latest report on Stryker Corporation (dated June 4, 2004). We note that this is just a small example of the kind of helpful information that is available on our Web site, and we invite subscribers to check in with us often.

Calculating Annual Rates of Change (Growth Rates)

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '01-'03 to '07-'09
Sales	20.5%	24.5%	*15.5%*
"Cash Flow"	24.5%	28.0%	*19.0%*
Earnings	22.0%	22.5%	*22.0%*
Dividends	26.0%	12.5%	*22.5%*
Book Value	20.5%	20.5%	*16.0%*

In an attempt to eliminate short-term fluctuations that may distort results, Value Line uses a three-year base period and a three-year ending period when calculating growth rates.

Example: To calculate the compound annual sales growth from 2001-2003 to 2007-2009, we take sales per share for each of the years 2001, 2002, and 2003 and average them. Then we take the sales per share for the years 2007-2009, as shown in the far right column of the large statistical section of our report.

In the case of Stryker Corporation, the three-year base period average is $7.76. The three-year ending period average is $18.40. The compound annual growth rate over the six years from 2002 (the middle year) to 2008 (again, the middle year) is 15.5%, rounded.

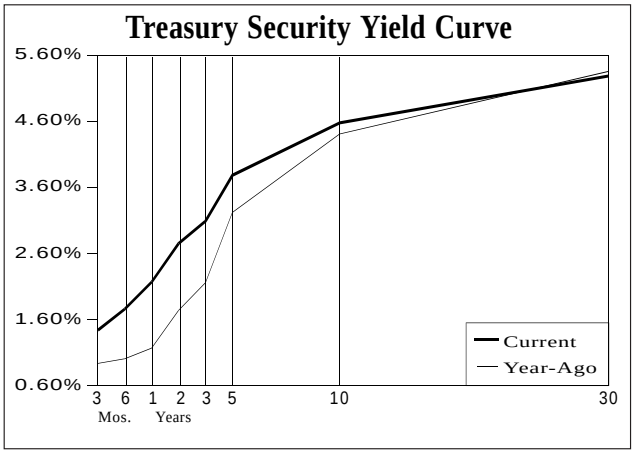
Investors often try to calculate a growth rate from one starting year to one ending year, and then can't understand why the number they get is not the same as the one published by Value Line. If they used a three-year base period and three-year ending period, they would get the same results we do.

www.valueline.com

Selected Yields

	Recent (7/29/04)	3 Months Ago (4/29/04)	Year Ago (7/31/03)
TAXABLE			
Market Rates			
Discount Rate	2.25	2.00	2.00
Federal Funds	1.25	1.00	1.00
Prime Rate	4.25	4.00	4.00
30-day CP (A1/P1)	1.38	1.00	1.03
3-month LIBOR	1.69	1.18	1.11
Bank CDs			
6-month	0.93	0.73	0.72
1-year	1.38	0.98	0.80
5-year	3.66	3.12	2.59
U.S. Treasury Securities			
3-month	1.44	0.97	0.94
6-month	1.76	1.13	1.01
1-year	2.17	1.54	1.17
5-year	3.79	3.65	3.22
10-year	4.58	4.54	4.41
30-year	5.29	5.31	5.36
30-year Zero	5.41	5.45	5.57

	Recent (7/29/04)	3 Months Ago (4/29/04)	Year Ago (7/31/03)
Mortgage-Backed Securities			
GNMA 6.5%	4.94	4.69	5.14
FHLMC 6.5% (Gold)	4.90	4.80	5.34
FNMA 6.5%	4.89	4.76	5.28
FNMA ARM	2.67	2.80	2.95
Corporate Bonds			
Financial (10-year) A	5.52	5.48	5.60
Industrial (25/30-year) A	6.08	6.14	6.48
Utility (25/30-year) A	6.05	6.06	6.29
Utility (25/30-year) Baa/BBB	6.51	6.44	6.77
Foreign Bonds (10-Year)			
Canada	4.82	4.72	4.84
Germany	4.27	4.20	4.19
Japan	1.83	1.53	0.95
United Kingdom	5.18	5.01	4.52
Preferred Stocks			
Utility A	6.80	6.91	6.74
Financial A	6.23	6.20	6.00
Financial Adjustable A	5.46	5.50	5.19



	Recent (7/29/04)	3 Months Ago (4/29/04)	Year Ago (7/31/03)
TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	4.88	4.95	5.07
25-Bond Index (Revs)	5.31	5.28	5.42
General Obligation Bonds (GOs)			
1-year Aaa	1.47	1.25	0.95
1-year A	1.62	1.40	1.21
5-year Aaa	3.03	2.85	2.77
5-year A	3.29	3.16	3.27
10-year Aaa	3.85	3.90	4.04
10-year A	4.20	4.26	4.62
25/30-year Aaa	4.96	4.89	5.07
25/30-year A	5.19	5.12	5.41
Revenue Bonds (Revs) (25/30-Year)			
Education AA	5.17	5.10	5.10
Electric AA	5.07	5.01	5.24
Housing AA	5.25	5.20	5.25
Hospital AA	5.45	5.45	5.40
Toll Road Aaa	5.22	5.13	5.38

Federal Reserve Data

BANK RESERVES

(Two-Week Period; in Millions, Not Seasonally Adjusted)

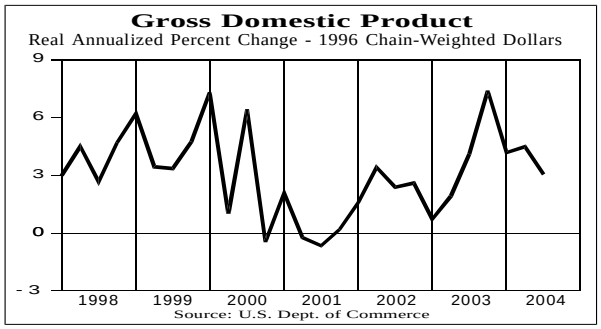
	Recent Levels			Average Levels Over the Last...		
	7/21/04	7/7/04	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	1375	1945	-570	1664	1531	1670
Borrowed Reserves	242	223	19	156	113	126
Net Free/Borrowed Reserves	1133	1722	-589	1508	1418	1544

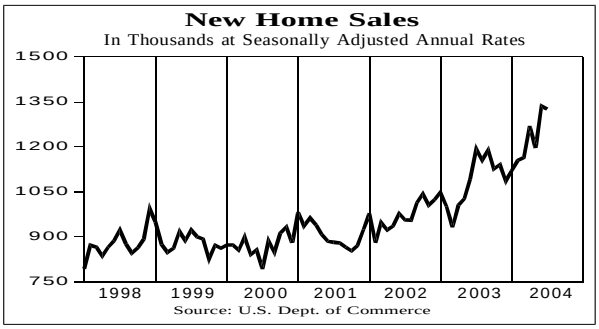
MONEY SUPPLY

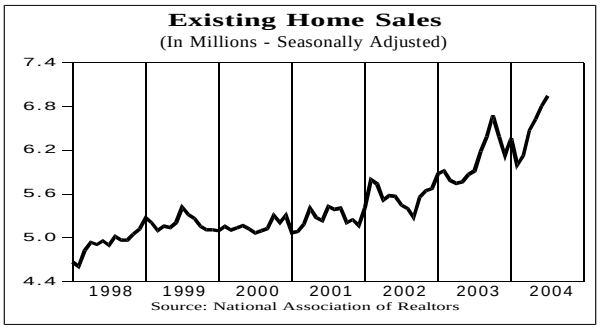
(One-Week Period; in Billions, Seasonally Adjusted)

	Recent Levels			Growth Rates Over the Last...		
	7/19/04	7/12/04	Change	3 Mos.	6 Mos.	12 Mos.
M1 (Currency+demand deposits)	1316.4	1310.0	6.4	2.7%	4.3%	3.2%
M2 (M1+savings+small time deposits)	6286.3	6288.0	-1.7	5.5%	7.1%	3.6%
M3 (M2+large time deposits)	9288.1	9267.1	21.0	7.5%	9.2%	5.1%

Tracking the Economy







Major Insider Transactions†

PURCHASES

Latest Full-Page Report	Timeliness Rank	Company	Insider, Title	Date	Shares Traded	Shares Held(a)	Price Range	Recent Price
746	3	ADTRAN, Inc.	W.L. Marks, Dir.	7/19/04	2,600	3,328	$24.92	25.00
2110	2	Commerce Bancorp NJ	W. Schwartz Jr., Dir.	7/16/04	4,000	38,753	$52.06	49.82
1678	3	Dollar General Corp.	J.L. Clayton, Dir.	7/15/04	52,700	634,252	$18.95-$19.00	19.01
594	3	Everest Re Group Ltd.	J. Weber, Dir.	7/22/04	1,000	4,838	$72.06	73.16
1014	3	Gen'l Electric	C. Gonzalez, Dir.	7/20/04	10,000	101,152	$33.10-$33.11	33.29
2125	4	SunTrust Banks	R.M. Beall II, Dir.	7/21/04	1,000	3,000	$66.19	65.85
2128	3	Wachovia Corp.	L.L. Smith, Dir.	7/16/04	10,000	33,000	$44.56	44.41

SALES

Latest Full-Page Report	Timeliness Rank	Company	Insider, Title	Date	Shares Traded	Shares Held(a)	Price Range	Recent Price
2171	2	Adobe Systems	J.E. Warnock, Co-Chair.	7/15/04	115,261	1,072,688	$43.38	40.43
944	4	Blyth Inc.	R.B. Goergen, Chair.	7/15/04	300,000	10,509,854	$35.00	34.77
1428	3	Goldman Sachs	K.W. Kennedy, Exec. VP	7/21/04	50,000	1,075,728	$89.14	88.71
270	1	Hunt (J.B.)	J.W. Walton, Exec. VP	7/20/04	60,000	143,274	$37.05	37.39
2205	3	Microsoft Corp.	J.S. Raikes, Officer	7/21/04	500,000	8,440,334	$29.46	28.58
2210	3	Oracle Corp.	L. Ellison, CEO	7/21/04	1,000,000	NA	$10.33-$10.76	10.25
1956	4	Rowan Cos.	C. Palmer, Dir.	7/21/04	173,700	359,559	$25.55	24.15

* *Beneficial owner of more than 10% of common stock.*
(a) Beneficial ownership at end of month in which transaction occurred.
† *Includes only large transactions in U.S.-traded stocks; excludes shares held in the form of limited partnerships, excludes options & family trusts.*

Major Insider Transactions are obtained from Vickers Stock Research Corporation.

Market Monitor

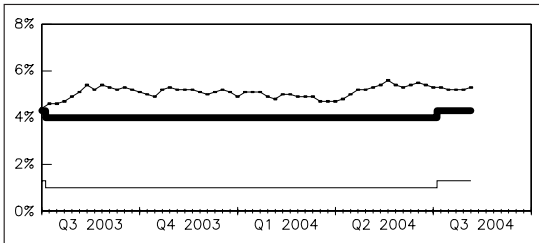
Valuations and Yields	7/29	7/22	13-week range	50-week range	Last market top (4-5-2004)	Last market bottom (10-9-2002)
Median price-earnings ratio of VL stocks	17.5	17.7	17.5 - 18.9	17.5 - 20.1	19.7	14.1
P/E (using 12-mo. est'd EPS) of DJ Industrials	15.8	15.7	15.7 - 17.7	15.7 - 19.5	18.7	15.2
Median dividend yield of VL stocks	1.7%	1.7%	1.6 - 1.8%	1.6 - 1.9%	1.6%	2.4%
Div'd yld. (12-mo. est.) of DJ Industrials	2.2%	2.2%	2.1 - 2.2%	2.0 - 2.3%	2.1%	2.6%
Prime Rate	4.3%	4.3%	4.0 - 4.3%	4.0 - 4.3%	4.0%	4.8%
Federal Funds	1.3%	1.3%	1.0 - 1.3%	1.0 - 1.3%	1.0%	1.8%
91-day T-bill rate	1.4%	1.4%	1.0 - 1.4%	0.9 - 1.4%	0.9%	1.6%
Moody's Aaa Corporate bond yield	5.9%	5.8%	5.8 - 6.2%	5.3 - 6.2%	5.6%	6.1%
30-year Treasury bond yield	5.3%	5.2%	5.2 - 5.6%	4.7 - 5.6%	5.0%	4.7%
Bond yield minus average earnings yield	0.2%	0.2%	0.2 - 0.7%	-0.1 - 0.7%	0.5%	-1.0%

Market Sentiment	Wk. Ending 7/29	Wk. Ending 7/22	10-week average	13-week range	Last market top (4-5-2004)	Last market bottom (10-9-2002)
% of total NYSE short sales by:						
Public	49	52	48	40 - 52	51	53
NYSE specialists	23	21	24	21 - 28	29	37
Other NYSE members	28	27	28	22 - 36	20	10
Total NYSE short sales/total NYSE volume	14.6%	14.4%	14.4%	12.9 - 14.9%	12.9%	12.9%
Short interest/avg. daily volume (5 weeks)	5.4	5.5	5.5	4.8 - 5.8	5.1	5.3
Odd-lot sales/purchases	1.3	1.2	1.0	0.7 - 1.3	1.2	1.1
CBOE put volume/call volume	.73	.74	.86	.73 - 1.12	.72	.96

VALUE LINE ASSET ALLOCATION MODEL

(Based only on economic and financial factors)

	Current (effective 5/21/04)	Previous
Common Stocks	65%-75%	75%-85%
Cash and Treasury Issues	35%-25%	25%-15%



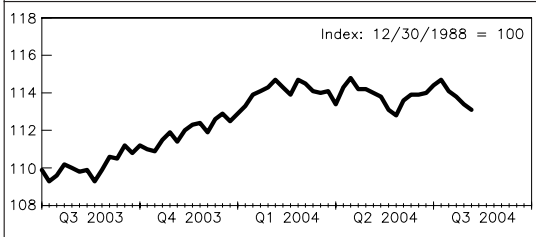
INTEREST RATES

Prime Rate

Federal Funds

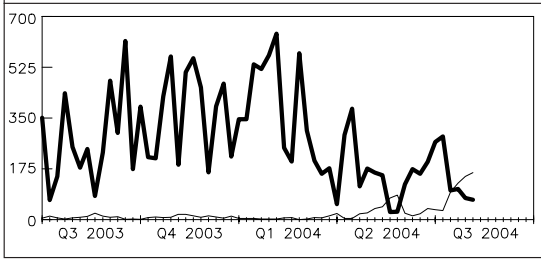
30-Year Treasury Bond

	Recent	Previous Week
Prime Rate	4.3%	4.3%
Federal Funds	1.3%	1.3%
30-Yr. Treasury	5.3%	5.2%



VALUE LINE UNIVERSE

	Recent	Previous Week
Advances	612	519
Declines	1051	1143
Issues Traded	1674	1675
Market Value ($ Trillion)	13.931	13.991



VALUE LINE COMPOSITE

New Highs

New Low

	Recent	Previous Week
New Highs	68	74
New Lows	162	148

INDUSTRY PRICE PERFORMANCE LAST SIX WEEKS ENDING 7/28/2004

7 Best Performing Industries

Steel (Integrated)	+15.8%
Steel (General)	+6.4%
Chemical (Basic)	+5.3%
Trucking	+5.2%
Petroleum (Producing)	+4.6%
Tire & Rubber	+4.5%
Petroleum (Integrated)	+4.3%

7 Worst Performing Industries

Semiconductor Equip	-24.2%
Wireless Networking	-22.0%
Semiconductor	-19.3%
Entertainment Techn.	-14.7%
Telecom. Equipment	-14.7%
Power	-13.9%
Internet	-13.2%

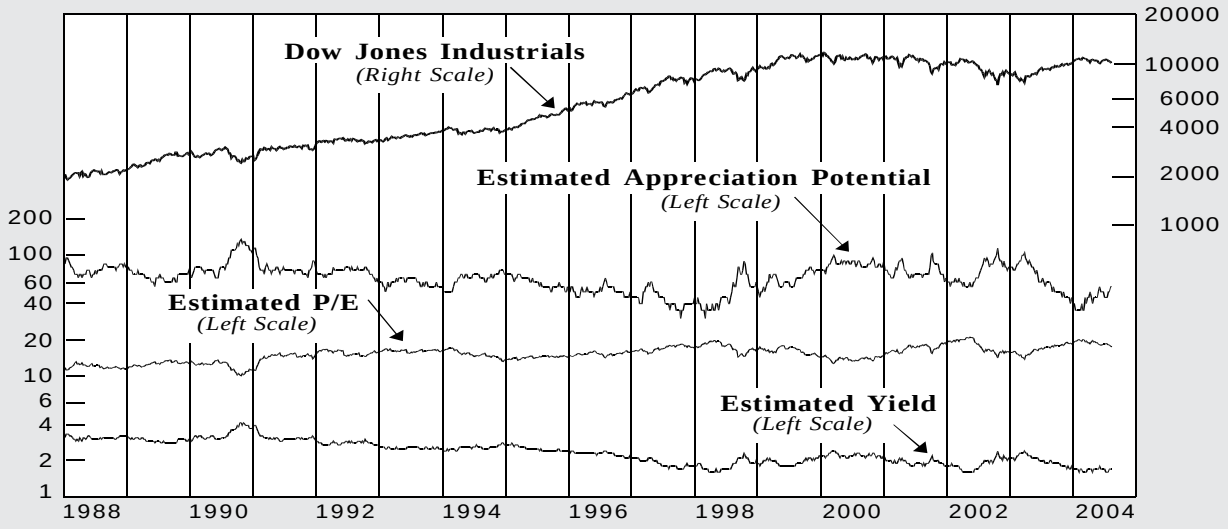
The corresponding change in the Value Line Arithmetic Average is -4.5%

CHANGES IN FINANCIAL STRENGTH RATINGS

Company	Prior Rating	New Rating	Ratings & Reports Page
Amer. Ital. Pasta	B+	B	1482
Winn-Dixie Stores	B	C++	1530

Stock Market Averages

VALUE LINE ESTIMATED P/E, YIELD, APPRECIATION POTENTIAL VERSUS DOW JONES INDUSTRIALS *(JANUARY 1, 1988- JULY 28, 2004)*



THE VALUE LINE GEOMETRIC AVERAGES

	Composite* 1646 stocks	Industrials 1530 stocks	Rails 7 stocks	Utilities 109 stocks
7/23/2004	347.82	296.91	1139.96	223.95
7/26/2004	344.71	294.20	1134.67	222.68
7/27/2004	349.61	298.57	1137.33	223.75
7/28/2004	348.26	297.22	1162.47	224.66
7/29/2004	352.83	301.23	1177.12	226.31
%Change last 4 weeks	-5.0%	-5.4%	+0.9%	-0.1%

Arithmetic Composite* 1646 stocks
1511.14
1498.02
1519.76
1514.41
1534.77
-4.6%

THE DOW JONES AVERAGES

Composite 65 stocks	Industrials 30 stocks	Transportation 20 stocks	Utilities 15 stocks
2950.86	9962.22	3043.44	276.92
2950.45	9961.92	3048.60	276.01
2974.79	10085.14	3063.60	276.23
2989.62	10117.07	3086.33	278.11
3006.82	10129.24	3129.42	280.05
-1.2%	-2.0%	-1.3%	+1.6%

** Excludes approximately 30 closed-end funds covered in Ratings & Reports in the following industries: Investment Companies (Foreign Funds), Issue 2; Investment Companies, Issue 6.*

WEEKLY VALUE LINE GEOMETRIC AVERAGES *(JULY 1, 2003 - JULY 29, 2004)*

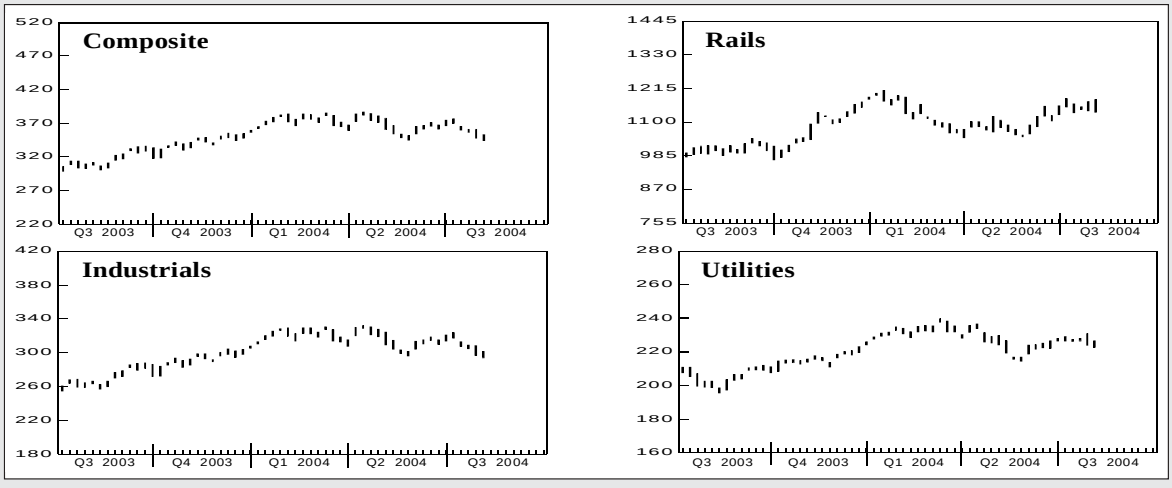


Exhibit No. JC-100

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Association of Businesses Advocating Tariff Equity Coalition of MISO Transmission Customers Illinois Industrial Energy Consumers Indiana Industrial Energy Consumers, Inc. Minnesota Large Industrial Group Wisconsin Industrial Energy Group v. Midcontinent Independent System Operator, Inc., *et al*.	))))))))))	Docket No. EL14-12-003

Affidavit of Michael P. Gorman

On behalf of

Joint Complainants

February 13, 2019

VI. SIZE PREMIUM ADJUSTMENT

Q PLEASE SUMMARIZE AGAIN THE POSITIONS MISO TO WITNESS DR. AVERA LISTED FOR SUPPORTING HIS PROPOSAL TO ADD A SIZE PREMIUM ADJUSTMENT TO THE CAPM RETURN ESTIMATE.

A The Commission cited Dr. Avera's testimony in describing the appropriateness of accepting his recommendation for adding a size premium adjustment to his Base CAPM return estimate. The Commission stated as follows:

> According to the CAPM, the expected return on a security should consist of the riskless rate, plus a premium to compensate for the systematic risk of the particular security, which is represented by the beta coefficient. The size adjustment reflects the fact that differences in investors' required rates of return that are related to firm size are not fully captured by beta. Accordingly, [Morningstar, Inc.] developed size premiums that are appropriately added to the theoretical CAPM cost of equity estimates to account for the level of a firm's market capitalization in determining the cost of equity. (Opinion No. 551 at P 263) (emphasis added) (footnote omitted).

Importantly, neither Dr. Avera in his testimony, nor the Commission in its final order, demonstrated that the Morningstar analysis could be applied to the CAPM based on the manner in which Dr. Avera constructed it, or provided support for the basic assertion that required rates of return for regulated utilities are not fully captured by the utility's published *Value Line* beta. These are two critical elements in order to produce a reasonable basis for adjusting the results of a traditional CAPM study.

Q WAS DR. AVERA'S SIZE PREMIUM ADJUSTMENT DEVELOPED IN A MANNER THAT CAN PRODUCE AN ACCURATE CAPM RESULT?

A No. Dr. Avera's CAPM methodology produces a result that is unreliable and flawed. Specifically, his Base CAPM analysis reflects beta factors to measure risk and return which are not compatible with the beta factor used to measure the size premium adjustment. The combination of the two disconnected measures of investment risk and return does not produce an accurate estimate of the risk or required return of a proxy group company. Importantly, which I will show here, correcting this beta deficiency shows that Dr. Avera's Base CAPM methodology without a size premium adjustment is the most reliable CAPM method.

Q PLEASE DESCRIBE WHY DR. AVERA'S BASE CAPM AND SMALL SIZE PREMIUM ADJUSTMENT CANNOT BE COMBINED TO PRODUCE AN ACCURATE CAPM RETURN ESTIMATE.

A Dr. Avera mismatches beta estimates used to produce his Base CAPM return estimate, and the beta estimate used to produce a size premium adjustment to the Base CAPM. The combination of these two very different beta estimates does not produce an accurate or reasonable basis for estimating risk or the required return for a security. Indeed, the source Dr. Avera relies on cautions against using betas measured differently within the same cost of capital analysis.[6] Dr. Avera made this error.

[6]Duff & Phelps, *2015 Valuation Handbook, Guide to Cost of Capital*, at page 5-7, attached as Exhibit No. JC-101, page 5.

Q PLEASE DESCRIBE WHY YOU BELIEVE THE BETAS USED BY DR. AVERA FOR HIS BASE CAPM RETURN ESTIMATE AND HIS SIZE PREMIUM ADJUSTMENT ARE DIFFERENT, AND NOT COMPATIBLE.

A For his Base CAPM study, he used a *Value Line* published beta. However, Dr. Avera relied on a beta that is developed by Morningstar (now Duff & Phelps) to produce his size premium adjustment. These two betas are not measured the same and Dr. Avera's proposal to add the size premium adjustment to his Base CAPM does not produce an accurate measure of risk or required return.

For his Base CAPM return study, Dr. Avera relies on a *Value Line* published beta. *Value Line* measures a "raw" beta based on a regression of the monthly returns of the individual companies, relative to the New York Stock Exchange Index, over a five-year period. *Value Line* then adjusts this "raw" beta for the long-term tendency of betas to converge on the market beta of 1. *Value Line* makes this adjustment by giving the raw beta estimate a weight by two-thirds, and weights the market beta of 1 by one-third, to produce an adjusted beta. *Value Line* publishes its adjusted beta, not its raw beta. *Value Line* asserts that this beta adjustment process takes backward-looking betas and adjusts them to produce forward-looking risk/return characteristics.[7]

In contrast, in measuring the size premium adjustment relied on by Dr. Avera, Duff & Phelps estimates a "raw" beta by regressing the monthly returns on the stock Market Index that are in excess of a 30-day U.S. Treasury yield over the period January 1926 through the most recent period. Unlike the *Value Line* published betas,

[7]Exhibit No. JC-101, pages 6 and 12.

the Duff & Phelps raw beta is not adjusted for the long-term tendency of betas to converge on the market beta of 1 over time. Therefore, the Duff & Phelps and *Value Line* betas are not measured consistently and are not compatible when combined within a CAPM study and, thus, will not accurately measure the security risk or required return.[8]

Q YOU MENTIONED THAT DUFF & PHELPS WARNS AGAINST USING BETAS MEASURED DIFFERENTLY TO MEASURE A REQUIRED RETURN. PLEASE EXPLAIN.

A Specifically, Duff & Phelps states that:

> Note that significant differences can exist among beta estimates for the same stock published by different financial reporting services. One of the implications of this is that a valuation analyst should try to use betas for guideline companies used in a valuation from the same source.[9]

It continues to say that using betas from the same source can help to avoid an apples-and-oranges mixture of betas calculated using different methodologies.[10]

[8] *Id.*

[9] Duff & Phelps, *2015 Valuation Handbook, Guide to Cost of Capital*, page 5-7, attached as Exhibit No. JC-101, page 5; and Morningstar, *Ibbotson SBBI 2014 Classic Yearbook*, pages 99 and 109, attached as Exhibit No. JC-101, pages 11 and 12.

[10] *Id.*

Q CAN DR. AVERA'S METHODOLOGY BE CORRECTED TO USE THE SAME BETA MEASUREMENT IN BOTH HIS BASE CAPM AND FOR HIS SMALL CAPITALIZATION ADDER?

A Generally it can, but not to the extent necessary to use two betas that are not measured consistently so as to produce a composite beta, Base CAPM return, and the size premium adjustment. I will note, specifically, that when Dr. Avera's CAPM is corrected to consistently use a "raw" beta in both the Base CAPM analysis, and the measure of the size premium adjustment, the resulting CAPM return would align with the Base CAPM estimate using the *Value Line* adjusted beta, but without a size premium adjustment. In other words, this correction of Dr. Avera's CAPM analysis, a Base plus a size premium adjustment, using a "raw" beta in both steps of the CAPM study produces a result that is similar to Dr. Avera's Base CAPM using a *Value Line* adjusted beta.

Q PLEASE CONTINUE.

A As developed on my Exhibit No. JC-102, and summarized in Table 1 below, I modified Dr. Avera's Base CAPM and size premium adjustment to consistently use only a "raw" beta in both steps of the CAPM study.[11] When this is done, the resulting CAPM return using Dr. Avera's Base CAPM and size premium adjustment, produces

[11] *Value Line*'s published betas can be converted to a raw beta estimate by reversing its beta adjustment methodology. *Value Line* produces its adjusted beta by applying one-third weight to a market beta of 1, and two-thirds weight to the raw regression beta. The raw regression beta can be estimated by subtracting one-third from the published beta, and multiplying that product by 1.5.

a very similar result to Dr. Avera's Base CAPM return based on only *Value Line* adjusted beta, but without a size premium adjustment.

In Table 1 below, under Column 1, I present the results of Dr. Avera's Base CAPM, and the size premium adjustment. Under Column 1, on line 1, Dr. Avera's Base CAPM return range is 7.86% to 10.87%, with a midpoint of 9.37%. On line 2, I show his CAPM after his size premium adjustment is included, and the CAPM range increased to 7.50% to 12.61%, with a midpoint of 10.06%.

Under Column 2, I revised Dr. Avera's Base CAPM analysis to use a "raw" beta in both the Base CAPM and size premium adjustment of the study. Hence, in this scenario, both the Base CAPM and the size premium adjustment are consistently based on the same "raw" beta methodologies. With this adjustment, the Base CAPM return estimate for Dr. Avera's analysis decreases to 6.14% to 10.66%, with a base midpoint of 8.4%, from 7.86% to 10.87%, and a midpoint of 9.37%. Then with the same size premium adjustment proposed by Dr. Avera, the adjusted Base and size premium adjustment CAPM results increases to 5.78% to 12.40%, with a midpoint estimate of 9.09%.

TABLE 1

CAPM Study

Line	Description	Avera Methodology (1)	Regression Beta Methodology (2)
1	Base CAPM	7.86% to 10.87%	6.14% to 10.66%
	Midpoint	9.37%	8.40%
2	Adjusted CAPM	7.50% to 12.61%	5.78% to 12.40%
	Midpoint	10.06%	9.09%

Source:
Exhibit No. JC-102, pages 1 and 2.

As shown in Table 1 above, when a consistent beta methodology is used to measure both the Base CAPM and the size premium adjustment, the resulting CAPM return midpoint of 9.09% (Column 2, line 2) is reasonably comparable to Dr. Avera's Base CAPM return using a *Value Line* adjusted beta, midpoint of 9.37%, but without a size premium adjustment (Column 1, line 1). This demonstration shows that Dr. Avera's use of betas that are not calculated using the same methodology has the effect of inflating the CAPM return estimate, which distorts the measurement of risk and fair return based on market data.

Q DOES A CAPM ANALYSIS EXCLUDING A SIZE PREMIUM ADJUSTMENT PRODUCE A FAIR RISK-ADJUSTED RETURN THAT WILL ALSO PASS TESTS OF ECONOMIC LOGIC?

A Yes. *Value Line*'s adjustment to the raw regression beta is done in order to increase a CAPM return estimate for companies with betas smaller than 1 and decrease a CAPM return estimate for companies with betas greater than 1. In effect, it results in a flattening of the security market line, an increase to the intercept point, and produces a forward-looking CAPM return estimate because of the belief that all companies' risk and required return will converge on the market risk and required return over time.[12]

As noted by Dr. Avera, adding the size premium adjustment to his Base CAPM is done because it is expected that the Base CAPM understates forward-looking expected risk and return for companies without due consideration of market capitalization risk.

The effect of a CAPM return for utility companies using either of the two methodologies is similar. Specifically, using an adjusted *Value Line* beta produces a higher CAPM estimate for a utility company because these companies have betas lower than 1, reflecting their below market investment risk. Similarly, a majority of the utilities receive a size premium adjustment larger than 1, which increases their CAPM return toward the market expected return by adding a size premium adjustment to the CAPM return. Hence, both the use of an adjusted *Value Line* beta, and adding a

[12]Additionally, using the long-term yield as the risk-free rate instead of the short-term yield has the effect of raising the intercept and flattening the security market line.

size premium adjustment, increases the CAPM return estimate for electric utility companies.

Q DO THE DUFF & PHELPS BOOKS WHICH DR. AVERA RELIES ON FOR THE SIZE PREMIUM ADJUSTMENT ALSO MAKE NOTE OF OTHER IMPORTANT RISK CHARACTERISTICS IN ACCURATELY MEASURING A UTILITY'S INVESTMENT RISK AND REQUIRED RETURN?

A Yes. The Duff & Phelps books, in addition to a market size premium adjustment, also note that the industry risk is also an important factor in measuring a required return. This is important because regulated utility companies' industry risk is lower than companies in other industries.

For example, utility companies typically have investment grade bond ratings, franchised or monopolistic service territories and limited competition, have access to significant amounts of capital under terms and prices, and are typically managed by competent executives that are good at managing capital and utility infrastructure assets. In contrast, non-regulated small companies may not have an investment grade bond rating, may have limited access to capital for maintenance of existing or asset growth, and may not have effective management. It is simply not legitimate to arbitrarily assume that a utility company has similar risk to a non-regulated small company based on market capitalization alone.

In addition to its size premium adjustment, Duff & Phelps also recommends consideration of industry-specific risk. This broader assessment of investment risk

and more accurate gauging of risk and return are based on the premise that because historical raw betas do not accurately measure investment risk and required returns that a buildup method may produce a more accurate return estimate. In Duff & Phelps' buildup method, a required return on a security is based on the following formula:

$$R = RF + MRP + SPA + IRA$$[13]

The formula includes components for the required return (R), the risk-free rate (RF), a market risk premium (MRP), a size premium adjustment (SPA), and an industry premium adjustment (IRA). The size premium adjustment is the same as that used by Dr. Avera in his analyses.

For regulated utility companies, Duff & Phelps estimates the industry risk adjustment to be a negative risk premium of 4.24%. This industry risk premium and the size premium adjustment were both measured using the Duff & Phelps' beta methodology. Hence, they can be applied producing consistent results. These two risk adjustments with a Duff & Phelps derived market risk premium of 7%, and Dr. Avera's risk-free rates, as shown on my Exhibit No. JC-102, page 3, produce a CAPM return in the range of 5.10% to 7.20% with a midpoint of 6.15%. Again, using a consistent beta methodology employed by Duff & Phelps, produces a CAPM return estimate that is lower than the CAPM return estimate using a traditional CAPM return, and a *Value* Line adjusted beta.

[13]Exhibit No. JC-101 at page 7.

For these reasons, a size premium adjustment for a regulated utility company should only be considered along with recognizing the low-risk nature of the regulated utility industry. This recognition of size premium adjustment as well as industry risk more fully measures the investment risk of a regulated utility company and produces a CAPM return estimate that more accurately measures risk and return compared to the inconsistent model used by Dr. Avera.

VII. PROPOSED CAPM METHODOLOGY

Q BASED ON YOUR COMMENTS ABOVE, PLEASE DESCRIBE THE CAPM METHODOLOGY YOU RECOMMEND THE COMMISSION USE TO DEVELOP THE COMPOSITE ZOR.

A For the reasons outlined below, I recommend the Commission use the methodology outlined here to help form its composite ZOR. This methodology includes the following:

1. A market risk premium estimate should be based on a forward-looking expected return on the market. Using the DCF return on the market should reflect a two-step DCF methodology, using the dividend-paying companies' growth rates as a short-term stage, and the long-term Gross Domestic Product ("GDP") growth rate as the long-term stage. Two-thirds weight should be given to the short-term stage growth, and one-third weight to the long-term stage.

2. *Value Line* adjusted betas should be used as the forward-looking measure of investment risk for the companies in the proxy group.

3. Six-month average U.S. Treasury bond yields should be used as the risk-free rate proxy. The six-month period should be the same time period as used to produce the DCF study in the proceeding.

FIRSTENERGY NYSE-FE

RECENT PRICE **30.89** | P/E RATIO **12.6** (Trailing: 13.5, Median: 16.0) | RELATIVE P/E RATIO **0.66** | DIV'D YLD **4.7%** | **VALUE LINE**

TIMELINESS 3 Raised 8/11/17
SAFETY 3 Lowered 2/22/13
TECHNICAL 3 Lowered 2/9/18
BETA .70 (1.00 = Market)

2021-23 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+60%)	*16%*
Low	30	(-5%)	*4%*

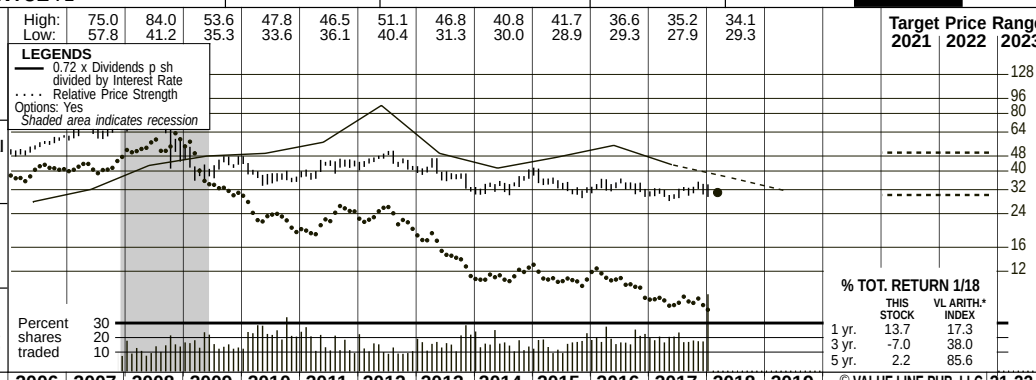
Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	1	0	0	0
Options	0	3	0	0	4	0	0	3	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	1Q2017	2Q2017	3Q2017
to Buy	274	269	258
to Sell	222	228	229
Hld's(000)	382370	388940	401521

High:	75.0	84.0	53.6	47.8	46.5	51.1	46.8	40.8	41.7	36.6	35.2	34.1						
Low:	57.8	41.2	35.3	33.6	36.1	40.4	31.3	30.0	28.9	29.3	27.9	29.3						



Target Price Range

2021	2022	2023

% TOT. RETURN 1/18

	THIS STOCK	VL ARITH.* INDEX
1 yr.	13.7	17.3
3 yr.	-7.0	38.0
5 yr.	2.2	85.6

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	© VALUE LINE PUB. LLC	21-23
40.83	37.31	37.76	36.35	36.03	42.00	44.70	41.70	43.76	38.87	36.57	35.60	35.74	35.48	32.92	*31.45*	*29.80*	*27.30*	Revenues per sh	*29.75*
6.45	4.79	7.60	7.55	7.22	8.34	9.04	8.80	8.50	5.75	6.05	6.30	4.55	6.33	6.53	*6.40*	*6.20*	*5.90*	"Cash Flow" per sh	*6.75*
2.54	1.47	2.77	2.84	3.82	4.22	4.38	3.32	3.25	1.88	2.13	2.97	.85	2.00	2.10	*2.60*	*2.40*	*2.60*	Earnings per sh [A]	*3.00*
1.50	1.50	1.91	1.71	1.85	2.05	2.20	2.20	2.20	2.20	2.20	1.65	1.44	1.44	1.44	1.44	*1.44*	*1.44*	Div'd Decl'd per sh [B] ■	*1.60*
3.35	2.60	2.57	3.66	4.12	5.36	9.47	7.23	6.44	5.45	7.09	6.90	8.42	6.83	6.93	*6.60*	*5.85*	*4.65*	Cap'l Spending per sh	*5.00*
23.92	25.13	26.04	27.86	28.30	29.45	27.17	28.08	28.03	31.75	31.29	30.32	29.49	29.33	14.11	*15.40*	*17.45*	*19.80*	Book Value per sh [C]	*24.00*
297.64	329.84	329.84	329.84	319.21	304.84	304.84	304.84	304.84	418.22	418.22	418.63	421.10	423.56	442.34	*445.00*	*478.00*	*540.00*	Common Shs Outst'g [D]	*548.00*
13.0	22.5	14.1	16.1	14.2	15.6	15.6	13.0	11.7	22.4	21.1	13.1	39.8	17.0	15.9	*12.0*			Avg Ann'l P/E Ratio	*13.5*
.71	1.28	.74	.86	.77	.83	.94	.87	.74	1.41	1.34	.74	2.10	.86	.83	*.60*			Relative P/E Ratio	*.75*
4.6%	4.5%	4.9%	3.7%	3.4%	3.1%	3.2%	5.1%	5.8%	5.2%	4.9%	4.3%	4.3%	4.2%	4.3%	4.6%			Avg Ann'l Div'd Yield	*4.0%*
13627	12712	13339	16258	15294	14903	15049	15029	14562	*14000*	*14250*	*14750*	Revenues ($mill)	*16250*
1342.0	1015.0	991.0	752.0	891.0	1245.0	356.0	844.0	892.0	*1155*	*1290*	*1395*	Net Profit ($mill)	*1660*
36.7%	19.6%	38.6%	41.3%	41.1%	36.1%	5.6%	35.7%	37.8%	*38.0%*	*25.0%*	*25.0%*	Income Tax Rate	*25.0%*
3.9%	12.8%	16.6%	9.3%	8.1%	6.0%	33.1%	13.9%	11.5%	*7.0%*	*6.0%*	*5.0%*	AFUDC % to Net Profit	*4.0%*
52.4%	58.2%	59.5%	54.2%	53.7%	55.5%	60.7%	60.7%	74.5%	*75.5%*	*66.5%*	*65.5%*	Long-Term Debt Ratio	*63.0%*
47.7%	41.8%	40.5%	45.8%	46.3%	44.5%	39.3%	39.3%	25.5%	*24.5%*	*28.0%*	*34.5%*	Common Equity Ratio	*37.0%*
17383	20467	21124	28996	28263	28523	31596	31613	24433	*27750*	*29900*	*31175*	Total Capital ($mill)	*35600*
17723	19164	19788	30337	32903	33252	35783	37214	29387	*30675*	*31750*	*32475*	Net Plant ($mill)	*34700*
9.7%	6.9%	6.3%	4.0%	4.9%	6.0%	2.7%	4.3%	5.7%	*6.0%*	*6.0%*	*6.0%*	Return on Total Cap'l	*6.0%*
16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	2.9%	6.8%	14.3%	*17.0%*	*13.0%*	*13.0%*	Return on Shr. Equity	*12.5%*
16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	2.9%	6.8%	14.3%	*17.0%*	*14.5%*	*12.5%*	Return on Com Equity [E]	*12.5%*
8.1%	4.0%	3.8%	NMF	NMF	2.6%	NMF	1.9%	4.5%	*7.5%*	*6.5%*	*6.0%*	Retained to Com Eq	*6.0%*
50%	66%	68%	117%	103%	74%	NMF	72%	68%	*55%*	*58%*	*56%*	All Div'ds to Net Prof	*53%*

Bold figures are Value Line estimates

CAPITAL STRUCTURE as of 9/30/17
Total Debt $22665 mill. **Due in 5 Yrs** $8216 mill.
LT Debt $21089 mill. **LT Interest** $995 mill.
Incl. $75 mill. capitalized leases.
(LT interest earned: 2.3x)
Leases, Uncapitalized Annual rentals $125 mill.

Pension Assets-12/16 $6213 mill.
Oblig $9246 mill.

Pfd Stock None

Common Stock 444,858,003 shs.

MARKET CAP: $14 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2014	2015	2016
% Change Retail Sales (KWH)	+1.1	-.8	+.3
Avg. Indust. Use (MWH)	NMF	NMF	NMF
Avg. Indust. Revs. per KWH (¢)	NA	NA	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)	+.3	+.3	+.5
Fixed Charge Cov. (%)	118	206	208

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '14-'16 to '21-'23
Revenues	-.5%	-3.5%	*-2.0%*
"Cash Flow"	-2.5%	-5.5%	*2.0%*
Earnings	-6.0%	-10.0%	*9.0%*
Dividends	-2.5%	-8.0%	*1.5%*
Book Value	-1.0%	-3.5%	*Nil*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	3897	3468	4123	3541	15029
2016	3869	3401	3917	3375	14562
2017	3547	3309	3714	*3430*	*14000*
2018	*3650*	*3450*	*3700*	*3450*	*14250*
2019	*3750*	*3550*	*3900*	*3550*	*14750*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.53	.46	.95	.06	2.00
2016	.77	.34	.89	.10	2.10
2017	.69	.58	.92	*.41*	*2.60*
2018	*.70*	*.50*	*.85*	*.35*	*2.40*
2019	*.75*	*.55*	*.90*	*.40*	*2.60*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.36	.36	.36	.36	1.44
2015	.36	.36	.36	.36	1.44
2016	.36	.36	.36	.36	1.44
2017	.36	.36	.36	.36	1.44
2018					

BUSINESS: FirstEnergy Corp. is a holding company for Ohio Edison, Pennsylvania Power, Cleveland Electric, Toledo Edison, Metropolitan Edison, Penelec, Jersey Central Power & Light, West Penn Power, Potomac Edison, & Mon Power. Provides electric service to 6.1 million customers in OH, PA, NJ, WV, MD, & NY. Acq'd Allegheny Energy 2/11. Electric revenue breakdown by customer class not available. Generating sources: coal, 44%; nuclear, 26%; purchased, 30%. Fuel costs: 38% of revenues. '16 reported deprec. rate: 2.5%. Has 15,700 employees. Chairman: George M. Smart. President & CEO: Charles E. Jones. Incorporated: Ohio. Address: 76 South Main Street, Akron, Ohio 44308-1890. Telephone: 800-736-3402. Internet: www.firstenergycorp.com.

FirstEnergy made some substantial financing moves. The company issued $850 million of common stock and $1.62 billion of preferred stock that is mandatorily convertible after 18 months. FirstEnergy is using the proceeds to retire debt and fund its pension plan. This will strengthen the company's balance sheet and lower its pension expense beginning this year. FirstEnergy affirmed its expectation to maintain the common dividend at the current level. Wall Street had a favorable reaction to the announcement, sending the stock price surging more than 10% on the day of the announcement.

FirstEnergy aims to become an entirely regulated company. It established a restructuring working group to make recommendations to management. Last year, FirstEnergy stated its hope to achieve this goal by mid-2018, but this now appears ambitious. The company strategy arose from the struggles of its nonregulated businesses in recent years, which have been hurt by unfavorable conditions in the power markets. In fact, FirstEnergy's main nonregulated subsidiary might not be able to retire the $515 million of debt that is due from April through yearend. (The parent company and utilities would not be part of a bankruptcy filing.) FirstEnergy has written down and sold some nonutility assets, and will likely sell or close additional facilities. The company had a setback when federal regulators rejected its proposal to transfer a nonregulated coal-fired plant to its utilities in West Virginia. In all, earnings are even more unpredictable than usual.

The regulated operations are faring well. FirstEnergy's utilities in Pennsylvania and New Jersey received rate relief last year. The company's utilities in Ohio asked the state commission to approve a three-year, $450 million electric system modernization plan. It is asking for a ruling by May. FirstEnergy plans to spend $800 million-$1.2 billion on transmission annually through 2021, and some 90% of this will be recovered through a forward-looking federal regulatory mechanism.

This stock's dividend yield is about a percentage point above the utility average. However, dividend growth prospects are ill-defined.

Paul E. Debbas, CFA *February 16, 2018*

(A) Diluted EPS. Excl. nonrec. gain (losses): '10, (68¢); '11, 33¢; '12, (29¢); '13, ($2.07); '14, (17¢); '15, (63¢); '16, ($16.59); '17, (42¢); gain from disc. ops.: '14, 20¢. Next earnings report due late Feb. **(B)** Div'ds paid early Mar., June, Sep. & Dec. 5 div'ds declared in '04, 3 in '13. ■ Div'd reinvestment plan avail. **(C)** Incl. intang.: In '16: $14.99/sh. **(D)** In mill. **(E)** Rate base: Depr. orig. cost. Rates all'd on com. eq.: 9.75%-11.9%; earned on avg. com. eq., '16: 7.0%. Regulatory Climate: OH Above Avg.; PA, NJ Avg.; MD, WV Below Avg.

Company's Financial Strength	B+
Stock's Price Stability	85
Price Growth Persistence	10
Earnings Predictability	40

FIRSTENERGY NYSE-FE

RECENT PRICE **33.24** | P/E RATIO **33.2** (Trailing: 16.1, Median: 15.0) | RELATIVE P/E RATIO **1.87** | DIV'D YLD **4.3%** | **VALUE LINE**

TIMELINESS 4 Lowered 5/4/18
SAFETY 3 Lowered 2/22/13
TECHNICAL 2 Raised 5/18/18
BETA .65 (1.00 = Market)

2021-23 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	50	(+50%)	*14%*
Low	30	(-10%)	*3%*

Insider Decisions

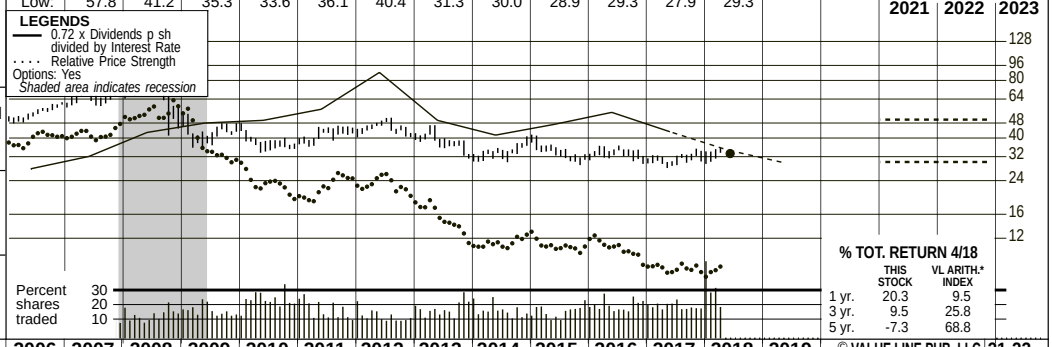
	J	A	S	O	N	D	J	F	M
to Buy	0	0	1	0	0	0	0	0	0
Options	0	4	0	0	3	0	0	3	12
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	2Q2017	3Q2017	4Q2017
to Buy	269	258	245
to Sell	228	229	200
Hld's(000)	388940	401521	375942

	High:	75.0	84.0	53.6	47.8	46.5	51.1	46.8	40.8	41.7	36.6	35.2	35.6
	Low:	57.8	41.2	35.3	33.6	36.1	40.4	31.3	30.0	28.9	29.3	27.9	29.3

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



Target Price Range

2021	2022	2023

% TOT. RETURN 4/18

	THIS STOCK	VL ARITH.* INDEX
1 yr.	20.3	9.5
3 yr.	9.5	25.8
5 yr.	-7.3	68.8

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	© VALUE LINE PUB. LLC	21-23
40.83	37.31	37.76	36.35	36.03	42.00	44.70	41.70	43.76	38.87	36.57	35.60	35.74	35.48	32.92	31.49	*24.25*	*22.30*	Revenues per sh	*24.25*
6.45	4.79	7.60	7.55	7.22	8.34	9.04	8.80	8.50	5.75	6.05	6.30	4.55	6.33	6.53	6.54	*3.45*	*4.30*	"Cash Flow" per sh	*5.25*
2.54	1.47	2.77	2.84	3.82	4.22	4.38	3.32	3.25	1.88	2.13	2.97	.85	2.00	2.10	2.73	*1.00*	*2.15*	Earnings per sh [A]	*2.75*
1.50	1.50	1.91	1.71	1.85	2.05	2.20	2.20	2.20	2.20	2.20	1.65	1.44	1.44	1.44	1.44	*1.44*	*1.44*	Div'd Decl'd per sh [B] ■	*1.60*
3.35	2.60	2.57	3.66	4.12	5.36	9.47	7.23	6.44	5.45	7.09	6.90	8.42	6.83	6.93	6.38	*5.85*	*4.65*	Cap'l Spending per sh	*5.00*
23.92	25.13	26.04	27.86	28.30	29.45	27.17	28.08	28.03	31.75	31.29	30.32	29.49	29.33	14.11	8.81	*12.30*	*14.80*	Book Value per sh [C]	*18.00*
297.64	329.84	329.84	329.84	319.21	304.84	304.84	304.84	304.84	418.22	418.22	418.63	421.10	423.56	442.34	445.33	*478.00*	*540.00*	Common Shs Outst'g [D]	*548.00*
13.0	22.5	14.1	16.1	14.2	15.6	15.6	13.0	11.7	22.4	21.1	13.1	NMF	17.0	15.9	11.4	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*14.5*
.71	1.28	.74	.86	.77	.83	.94	.87	.74	1.41	1.34	.74	NMF	.86	.83	.57			Relative P/E Ratio	*.80*
4.6%	4.5%	4.9%	3.7%	3.4%	3.1%	3.2%	5.1%	5.8%	5.2%	4.9%	4.3%	4.3%	4.2%	4.3%	4.6%			Avg Ann'l Div'd Yield	*4.0%*
13627	12712	13339	16258	15294	14903	15049	15029	14562	14022	*11600*	*12000*	Revenues ($mill)	*13300*
1342.0	1015.0	991.0	752.0	891.0	1245.0	356.0	844.0	892.0	1213.0	*865*	*1155*	Net Profit ($mill)	*1520*
36.7%	19.6%	38.6%	41.3%	41.1%	36.1%	5.6%	35.7%	37.8%	37.2%	*28.0%*	*28.0%*	Income Tax Rate	*28.0%*
3.9%	12.8%	16.6%	9.3%	8.1%	6.0%	33.1%	13.9%	11.5%	6.5%	*9.0%*	*6.0%*	AFUDC % to Net Profit	*5.0%*
52.4%	58.2%	59.5%	54.2%	53.7%	55.5%	60.7%	60.7%	74.5%	84.3%	*70.5%*	*69.5%*	Long-Term Debt Ratio	*67.0%*
47.7%	41.8%	40.5%	45.8%	46.3%	44.5%	39.3%	39.3%	25.5%	15.7%	*23.0%*	*30.5%*	Common Equity Ratio	*33.0%*
17383	20467	21124	28996	28263	28523	31596	31613	24433	25040	*25375*	*26400*	Total Capital ($mill)	*30300*
17723	19164	19788	30337	32903	33252	35783	37214	29387	28879	*29875*	*31225*	Net Plant ($mill)	*35600*
9.7%	6.9%	6.3%	4.0%	4.9%	6.0%	2.7%	4.3%	5.7%	7.0%	*5.0%*	*6.0%*	Return on Total Cap'l	*6.5%*
16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	2.9%	6.8%	14.3%	30.9%	*8.0%*	*14.0%*	Return on Shr. Equity	*15.5%*
16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	2.9%	6.8%	14.3%	30.9%	*8.0%*	*14.0%*	Return on Com Equity [E]	*15.5%*
8.1%	4.0%	3.8%	NMF	NMF	2.6%	NMF	1.9%	4.5%	14.6%	*NMF*	*5.0%*	Retained to Com Eq	*6.5%*
50%	66%	68%	117%	103%	74%	NMF	72%	68%	53%	*NMF*	*67%*	All Div'ds to Net Prof	*58%*

CAPITAL STRUCTURE as of 3/31/18
Total Debt $19097 mill. **Due in 5 Yrs** $8359 mill.
LT Debt $16740 mill. **LT Interest** $787 mill.
Incl. $91 mill. capitalized leases.
(LT interest earned: 2.4x)
Leases, Uncapitalized Annual rentals $146 mill.

Pension Assets-12/17 $6704 mill.
Oblig $10167 mill.
Pfd Stock None

Common Stock 476,909,318 shs.

MARKET CAP: $16 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2015	2016	2017
% Change Retail Sales (KWH)	-.8	+.3	-2.1
Avg. Indust. Use (MWH)	NMF	NMF	NMF
Avg. Indust. Revs. per KWH (¢)	NA	NA	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)	+.3	+.5	+.5
Fixed Charge Cov. (%)	206	208	249

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '15-'17 to '21-'23
Revenues	-1.5%	-3.5%	*-5.0%*
"Cash Flow"	-1.5%	-1.0%	*-3.5%*
Earnings	-4.5%	-1.0%	*3.0%*
Dividends	-2.5%	-8.0%	*2.0%*
Book Value	-5.0%	-10.5%	*.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	3897	3468	4123	3541	15029
2016	3869	3401	3917	3375	14562
2017	3557	3309	3714	3442	14022
2018	2976	*2724*	*3100*	*2800*	*11600*
2019	*3100*	*2800*	*3200*	*2900*	*12000*

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.53	.46	.95	.06	2.00
2016	.77	.34	.89	.10	2.10
2017	.71	.59	.95	.49	2.73
2018	.04	*d.04*	*.55*	*.45*	*1.00*
2019	*.60*	*.45*	*.70*	*.40*	*2.15*

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2014	.36	.36	.36	.36	1.44
2015	.36	.36	.36	.36	1.44
2016	.36	.36	.36	.36	1.44
2017	.36	.36	.36	.36	1.44
2018	.36				

BUSINESS: FirstEnergy Corp. is a holding company for Ohio Edison, Pennsylvania Power, Cleveland Electric, Toledo Edison, Metropolitan Edison, Penelec, Jersey Central Power & Light, West Penn Power, Potomac Edison, & Mon Power. Provides electric service to 6.1 million customers in OH, PA, NJ, WV, MD, & NY. Acq'd Allegheny Energy 2/11. Electric revenue breakdown by customer class not available. Generating sources: coal, 44%; nuclear, 26%; purchased, 30%. Fuel costs: 33% of revenues. '17 reported deprec. rate: 2.4%. Has 15,700 employees. Chairman: George M. Smart. President & CEO: Charles E. Jones. Incorporated: Ohio. Address: 76 South Main Street, Akron, Ohio 44308-1890. Telephone: 800-736-3402. Internet: www.firstenergycorp.com.

FirstEnergy has deconsolidated almost all of its nonregulated operations. These filed for Chapter 11 bankruptcy protection, and are now separate from FirstEnergy. Thus, its financial statements now reflect an almost entirely regulated company. The move resulted in a gain of $2.50 a share from discontinued operations in the first quarter of 2018.

The stock has been the top performer among electric utility issues so far in 2018. The price is up 9% in what has been a poor year for most equities in this industry. The market reacted favorably to the financing moves the company made in January, when it issued $850 million of common stock and $1.62 billion of preferred that is mandatorily convertible in 2019. The proceeds were used to reduce debt and contribute to the pension plan.

Our 2018 earnings estimate requires an explanation. The preferred stock that FirstEnergy issued in early 2018 was sold at a discount, and the difference is being amortized until the shares become convertible. This is why earnings were negligible in the first quarter, and might well fall into the red in the June period. Management's guidance for "operating" earnings this year is $2.25-$2.55 a share. Although earnings from continuing operations will almost certainly fall short of the dividend this year, the payout is not at risk of a cut.

The regulated businesses have some opportunities, but also a possible risk. The utilities in Ohio should soon receive a ruling from the state commission regarding a proposed three-year, $450 million electric system modernization plan. The company plans to spend $800 million-$1.2 billion on transmission annually through 2021. However, the company incurred $355 million of storm-related costs in the March quarter, $230 million of which were expenses. Of that, $220 million was deferred for future recovery. However, Jersey Central Power & Light was criticized in New Jersey for its performance following the storms, so the possibility of a write-off of some storm costs cannot be ruled out.

The yield of this untimely stock is above the utility average. However, the board hasn't raised the payout since that was cut in 2014, and dividend growth prospects are not well defined.

Paul E. Debbas, CFA *May 18, 2018*

Company's Financial Strength	B+
Stock's Price Stability	85
Price Growth Persistence	10
Earnings Predictability	40

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(A) Diluted EPS. Excl. nonrec. gain (losses): '11, 33¢; '12, (29¢); '13, ($2.07); '14, (17¢); '15, (63¢); '16, ($16.59); '17, ($6.61); gains from disc. ops.: '14, 20¢; '18, $2.50. '17 EPS don't sum due to rounding. Next egs. report due late July. **(B)** Div'ds paid early Mar., June, Sep. & Dec. 5 div'ds decl. in '04, 3 in '13. ■ Div'd reinv. plan avail. **(C)** Incl. intang. In '17: $12.71/sh. **(D)** In mill. **(E)** Rate base: Depr. orig. cost. Rates all'd on com. eq.: 9.75%-11.9%; earned on avg. com. eq., '17: 18.5%. Regul. Clim.: OH Above Avg.; PA, NJ Avg.; MD, WV Below Avg.

Section 1: 10-K (10-K)

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d)
OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended **December 31, 2018**

Commission File Number	Exact name of registrants as specified in their charters, address of principal executive offices and registrants' telephone number	IRS Employer Identification Number
1-8841	**NEXTERA ENERGY, INC.**	59-2449419
2-27612	**FLORIDA POWER & LIGHT COMPANY**	59-0247775

700 Universe Boulevard
Juno Beach, Florida 33408
(561) 694-4000

State or other jurisdiction of incorporation or organization: Florida

		Name of exchange on which registered
Securities registered pursuant to Section 12(b) of the Act:		
NextEra Energy, Inc.:	Common Stock, $0.01 Par Value	New York Stock Exchange
	6.123% Corporate Units	New York Stock Exchange
Florida Power & Light Company: None		

Indicate by check mark if the registrants are well-known seasoned issuers, as defined in Rule 405 of the Securities Act of 1933.

NextEra Energy, Inc. Yes þ No o Florida Power & Light Company Yes þ No o

Indicate by check mark if the registrants are not required to file reports pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934.

NextEra Energy, Inc. Yes o No þ Florida Power & Light Company Yes o No þ

Indicate by check mark whether the registrants (1) have filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) have been subject to such filing requirements for the past 90 days.

NextEra Energy, Inc. Yes þ No o Florida Power & Light Company Yes þ No o

Indicate by check mark whether the registrants have submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months.

NextEra Energy, Inc. Yes þ No o Florida Power & Light Company Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrants' knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ

Indicate by check mark whether the registrants are a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company.

NextEra Energy, Inc.	Large Accelerated Filer þ	Accelerated Filer o	Non-Accelerated Filer o	Smaller Reporting Company o	Emerging Growth Company o
Florida Power & Light Company	Large Accelerated Filer o	Accelerated Filer o	Non-Accelerated Filer þ	Smaller Reporting Company o	Emerging Growth Company o

If an emerging growth company, indicate by check mark if the registrants have elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Securities Exchange Act of 1934. ¨

Indicate by check mark whether the registrants are shell companies (as defined in Rule 12b-2 of the Securities Exchange Act of 1934). Yes ¨ No þ

Aggregate market value of the voting and non-voting common equity of NextEra Energy, Inc. held by non-affiliates at June 29, 2018 (based on the closing market price on the Composite Tape on June 29, 2018) was $78,550,110,752.

There was no voting or non-voting common equity of Florida Power & Light Company held by non-affiliates at June 29, 2018.

Number of shares of NextEra Energy, Inc. common stock, $0.01 par value, outstanding at January 31, 2019: 478,167,505

(a) Prior period amounts have been retrospectively adjusted as discussed in Note 14.

The components of NEE's deferred tax assets relating to net operating loss carryforwards and tax credit carryforwards at December 31, 2018 are as follows:

	Amount	Expiration Dates
	(millions)	
Net operating loss carryforwards:		
State	269	2019-2038
Foreign	81 [(a)]	2019-2038
Net operating loss carryforwards	$ 350	
Tax credit carryforwards:		
Federal	$ 2,915	2028-2038
State	344 [(b)]	2019-2044
Tax credit carryforwards	$ 3,259	

(a) Includes $60 million of net operating loss carryforwards with an indefinite expiration period.
(b) Includes $188 million of ITC carryforwards with an indefinite expiration period.

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7. Jointly-Owned Electric Plants

Certain NEE subsidiaries own undivided interests in the jointly-owned facilities described below, and are entitled to a proportionate share of the output from those facilities. The subsidiaries are responsible for their share of the operating costs, as well as providing their own financing. Accordingly, each subsidiary's proportionate share of the facilities and related revenues and expenses is included in the appropriate balance sheet and statement of income captions. NEE's and FPL's respective shares of direct expenses for these facilities are included in fuel, purchased power and interchange expense, O&M expenses, depreciation and amortization expense and taxes other than income taxes and other - net in NEE's and FPL's consolidated statements of income.

NEE's and FPL's proportionate ownership interest in jointly-owned facilities is as follows:

	December 31, 2018			
	Ownership Interest	Gross Investment[(a)]	Accumulated Depreciation[(a)]	Construction Work in Progress
		(millions)		
FPL:				
St. Lucie Unit No. 2	85%	$ 2,227	$ 912	$ 51
Scherer Unit No. 4	76%	$ 1,222	$ 445	$ 21
NEER:				
Duane Arnold	70%	$ 70	$ 9	$ 13
Seabrook	88.23%	$ 1,205	$ 337	$ 85
Wyman Station Unit No. 4	87.49%	$ 28	$ 6	$ —
Stanton	65%	$ 135	$ —	$ —
Corporate and Other:				
Transmission substation assets located in Seabrook, New Hampshire	88.23%	$ 81	$ 13	$ 11

(a) Excludes nuclear fuel.

8. Acquisitions

Gulf Power Company - On January 1, 2019, NEE acquired the outstanding common shares of Gulf Power Company (Gulf Power), a rate-regulated electric utility under the jurisdiction of the FPSC. Gulf Power serves more than 460,000 customers in eight counties throughout northwest Florida and has approximately 9,400 miles of transmission and distribution lines and 2,300 MW of electric generating capacity. The aggregate purchase price included approximately $4.47 billion in cash consideration, excluding post-closing working capital adjustments, and

the assumption of approximately $1.3 billion of Gulf Power debt. The cash purchase price was funded through $4.5 billion of borrowings by NEECH in December 2018 under certain short-term bi-lateral term loan agreements which mature in June 2019; the proceeds of which borrowings were restricted and included in noncurrent other assets on NEE's consolidated balance sheet at December 31, 2018. NEE incurred approximately $26 million in acquisition-related costs during the year ended December 31, 2018, which are reflected in merger-related expenses in NEE's consolidated statements of income. NEE is in the process of evaluating the purchase accounting considerations, including the initial purchase price allocation.

Other - In July 2018, NEE acquired the outstanding common shares of the entity that owns Florida City Gas (FCG), which serves approximately 110,000 residential and commercial natural gas customers in Florida's Miami-Dade, Brevard, St. Lucie and Indian River counties with 3,700 miles of natural gas pipeline, for approximately $530 million in cash subject to certain adjustments. Upon closing, NEE transferred FCG to FPL.

In December 2018, NEE acquired a 100% interest in an entity that indirectly owns Oleander Power Project, an approximately 791 MW natural gas-fired, simple-cycle combustion turbine electric generation facility located near Cocoa, Florida, and a 100% interest in an entity that owns a 65% interest in Stanton Energy Center Unit A, an approximately 660 MW combined-cycle electric generation facility located near Orlando, Florida for approximately $200 million in cash, subject to certain adjustments.

Trans Bay Cable, LLC - In November 2018, a wholly owned subsidiary of NextEra Energy Transmission, LLC (NEET) entered into an agreement to acquire the outstanding membership interests of Trans Bay Cable, LLC (Trans Bay) for approximately $1.05 billion, including the assumption of debt, pending, among other things, approval of the California Public Utilities Commission and the FERC. Trans Bay owns and operates a 53-mile, high-voltage direct current underwater transmission cable system in California extending from Pittsburg to San Francisco, with utility rates set by the FERC and revenues paid by the California Independent System Operator. The acquisition is expected to close in late 2019. NEECH guarantees the payment obligation under the agreement.

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9. Variable Interest Entities (VIEs)

At December 31, 2018, NEE had 31 VIEs which it consolidated and had interests in certain other VIEs which it did not consolidate.

FPL - FPL is considered the primary beneficiary of, and therefore consolidates, a VIE that is a wholly owned bankruptcy remote special purpose subsidiary that it formed in 2007 for the sole purpose of issuing storm-recovery bonds pursuant to the securitization provisions of the Florida Statutes and a financing order of the FPSC. FPL is considered the primary beneficiary because FPL has the power to direct the significant activities of the VIE, and its equity investment, which is subordinate to the bondholder's interest in the VIE, is at risk. Storm restoration costs incurred by FPL during 2005 and 2004 exceeded the amount in FPL's funded storm and property insurance reserve, resulting in a storm reserve deficiency. In 2007, the VIE issued $652 million aggregate principal amount of senior secured bonds (storm-recovery bonds), primarily for the after-tax equivalent of the total of FPL's unrecovered balance of the 2004 storm restoration costs, the 2005 storm restoration costs and to reestablish FPL's storm and property insurance reserve. In connection with this financing, net proceeds, after debt issuance costs, to the VIE (approximately $644 million) were used to acquire the storm-recovery property, which includes the right to impose, collect and receive a storm-recovery charge from all customers receiving electric transmission or distribution service from FPL under rate schedules approved by the FPSC or under special contracts, certain other rights and interests that arise under the financing order issued by the FPSC and certain other collateral pledged by the VIE that issued the bonds. The storm-recovery bonds are payable only from and are secured by the storm-recovery property. The bondholders have no recourse to the general credit of FPL. The assets of the VIE were approximately $77 million and $148 million at December 31, 2018 and 2017, respectively, and consisted primarily of storm-recovery property, which are included in both current and noncurrent regulatory assets on NEE's and FPL's consolidated balance sheets. The liabilities of the VIE were approximately $76 million and $147 million at December 31, 2018 and 2017, respectively, and consisted primarily of storm-recovery bonds, which are included in current portion of long-term debt and long-term debt on NEE's and FPL's consolidated balance sheets.

NEER - NEE consolidates 30 NEER VIEs. NEER is considered the primary beneficiary of these VIEs since NEER controls the most significant activities of these VIEs, including operations and maintenance, and has the obligation to absorb expected losses of these VIEs.

Prior to January 1, 2018, a subsidiary of NEER was the primary beneficiary of, and therefore consolidated, NEP, which consolidated NEP OpCo because of NEP's controlling interest as the general partner of NEP OpCo. At December 31, 2017, NEE owned a controlling non-economic general partner interest in NEP and a limited partner interest in NEP OpCo, and presented limited partner interests in NEP and NEP OpCo as a noncontrolling interest in NEE's consolidated financial statements. At December 31, 2017, NEE owned common units of NEP OpCo representing a noncontrolling interest in NEP's operating projects of approximately 65.1%. The assets and liabilities of NEP were approximately $8.4 billion and $6.2 billion, respectively, at December 31, 2017, and primarily consisted of property, plant and equipment and long-term debt. During the third quarter of 2017, changes to NEP's governance structure were made that, among other things, enhanced NEP unitholder governance rights. The new governance structure established a NEP board of directors, which elected board members commenced service in January 2018. As a result of these governance changes, NEP is no longer a VIE and NEP was deconsolidated from NEE in January 2018 (see Note 1 - NextEra Energy Partners, LP) resulting in NEE no longer indirectly consolidating NEP OpCo. NEP OpCo continues to be a VIE and NEE records its noncontrolling interest in NEP OpCo as an equity method investment (See Other below).

THIS FILING IS

Item 1: [X] An Initial (Original) Submission OR [ ] Resubmission No. ____

Form 1 Approved
OMB No.1902-0021
(Expires 12/31/2019)
Form 1-F Approved
OMB No.1902-0029
(Expires 12/31/2019)
Form 3-Q Approved
OMB No.1902-0205
(Expires 12/31/2019)

FERC FINANCIAL REPORT
FERC FORM No. 1: Annual Report of Major Electric Utilities, Licensees and Others and Supplemental Form 3-Q: Quarterly Financial Report

These reports are mandatory under the Federal Power Act, Sections 3, 4(a), 304 and 309, and 18 CFR 141.1 and 141.400. Failure to report may result in criminal fines, civil penalties and other sanctions as provided by law. The Federal Energy Regulatory Commission does not consider these reports to be of confidential nature

Exact Legal Name of Respondent (Company)	Year/Period of Report
Gulf Power Company	End of 2018/Q4

Name of Respondent: 20190418-8005 FERC PDF (Unofficial) 04/17/2019 Gulf Power Company	This Report Is: (1) [X] An Original (2) [ ] A Resubmission	Date of Report *(Mo, Da, Yr)* 04/17/2019	Year/Period of Report End of 2018/Q4

COMPARATIVE BALANCE SHEET (ASSETS AND OTHER DEBITS) (Continued)

Line No.	Title of Account (a)	Ref. Page No. (b)	Current Year End of Quarter/Year Balance (c)	Prior Year End Balance 12/31 (d)
53	(Less) Noncurrent Portion of Allowances		0	0
54	Stores Expense Undistributed (163)	227	0	0
55	Gas Stored Underground - Current (164.1)		0	0
56	Liquefied Natural Gas Stored and Held for Processing (164.2-164.3)		0	0
57	Prepayments (165)		18,671,764	19,544,973
58	Advances for Gas (166-167)		0	0
59	Interest and Dividends Receivable (171)		0	374,003
60	Rents Receivable (172)		670,100	674,775
61	Accrued Utility Revenues (173)		56,649,754	66,526,476
62	Miscellaneous Current and Accrued Assets (174)		0	0
63	Derivative Instrument Assets (175)		79,177	22,315
64	(Less) Long-Term Portion of Derivative Instrument Assets (175)		0	0
65	Derivative Instrument Assets - Hedges (176)		23,045	8,155
66	(Less) Long-Term Portion of Derivative Instrument Assets - Hedges (176		0	0
67	Total Current and Accrued Assets (Lines 34 through 66)		292,570,672	305,687,901
68	**DEFERRED DEBITS**			
69	Unamortized Debt Expenses (181)		9,095,551	9,289,183
70	Extraordinary Property Losses (182.1)	230a	0	0
71	Unrecovered Plant and Regulatory Study Costs (182.2)	230b	57,137,861	62,026,032
72	Other Regulatory Assets (182.3)	232	747,042,131	551,240,344
73	Prelim. Survey and Investigation Charges (Electric) (183)		6,549,910	4,625,820
74	Preliminary Natural Gas Survey and Investigation Charges 183.1)		0	0
75	Other Preliminary Survey and Investigation Charges (183.2)		0	0
76	Clearing Accounts (184)		-328,581	230,724
77	Temporary Facilities (185)		0	0
78	Miscellaneous Deferred Debits (186)	233	2,292,167	4,297,116
79	Def. Losses from Disposition of Utility Plt. (187)		0	0
80	Research, Devel. and Demonstration Expend. (188)	352-353	431,320	0
81	Unamortized Loss on Reaquired Debt (189)		15,146,148	16,327,494
82	Accumulated Deferred Income Taxes (190)	234	183,704,668	197,098,781
83	Unrecovered Purchased Gas Costs (191)		0	0
84	Total Deferred Debits (lines 69 through 83)		1,021,071,175	845,135,494
85	TOTAL ASSETS (lines 14-16, 32, 67, and 84)		5,320,620,672	4,941,569,904

NextEra Energy, Inc. (NEE)

NYSE - Nasdaq Real Time Price. Currency in USD

Add to watchlist Visitors trend 2W ↑ 10W ↑ 9M ↑ Quote Lookup

207.97 -0.23 (-0.11%)

As of 11:01AM EDT. Market open.

Time Period: Dec 15, 2018 - Jan 15, 2019 Show: Historical Prices

Frequency: Daily Apply

Currency in USD Download Data

Date	Open	High	Low	Close*	Adj Close**	Volume
Jan 15, 2019	171.39	175.81	170.75	174.72	172.47	2,315,300
Jan 14, 2019	174.62	174.62	169.35	171.23	169.02	3,838,900
Jan 11, 2019	175.14	176.14	173.65	175.71	173.45	2,215,000
Jan 10, 2019	173.30	175.62	172.55	175.39	173.13	2,846,200
Jan 09, 2019	173.56	174.00	172.05	172.79	170.56	1,761,900
Jan 08, 2019	172.15	173.79	171.57	173.54	171.30	2,649,900
Jan 07, 2019	171.65	172.94	170.50	172.28	170.06	2,369,500
Jan 04, 2019	169.15	172.59	168.66	172.53	170.31	2,712,200
Jan 03, 2019	169.91	171.16	168.67	169.41	167.23	2,315,200
Jan 02, 2019	172.68	173.30	169.01	169.83	167.64	2,637,400
Dec 31, 2018	173.01	174.03	171.28	173.82	171.58	1,604,400
Dec 28, 2018	172.60	174.37	171.62	172.72	170.49	1,731,000
Dec 27, 2018	170.54	172.16	167.95	172.16	169.94	2,490,400
Dec 26, 2018	168.07	170.37	164.78	170.34	168.15	2,098,400
Dec 24, 2018	174.45	175.38	166.92	168.08	165.91	1,657,500
Dec 21, 2018	174.40	178.56	173.24	174.11	171.87	6,037,100
Dec 20, 2018	174.50	176.55	172.39	174.91	172.66	3,278,100
Dec 19, 2018	176.50	177.18	173.64	174.52	172.27	3,359,400
Dec 18, 2018	176.25	177.82	175.42	176.00	173.73	2,941,000
Dec 17, 2018	182.36	182.36	174.87	175.65	173.39	3,286,900

*Close price adjusted for splits. **Adjusted close price adjusted for both dividends and splits.

People Also Watch

Symbol	Last Price	Change	% Change
D Dominion Energy, Inc.	79.13	-0.10	-0.12%
SO Southern Company (The)	56.28	+0.01	+0.01%
AEP American Electric Power Company	90.87	-0.03	-0.03%
PPL PPL Corporation	31.60	+0.02	+0.06%
WEC WEC Energy Group, Inc.	85.06	-0.20	-0.23%

NEXTERA ENERGY NYSE-NEE

RECENT PRICE **178.17** | P/E RATIO **23.8** (Trailing: 26.2, Median: 16.0) | RELATIVE P/E RATIO **1.41** | DIV'D YLD **2.8%** | **VALUE LINE**

TIMELINESS 3 Lowered 3/9/18
SAFETY 1 Raised 2/16/18
TECHNICAL 2 Raised 1/25/19
BETA .60 (1.00 = Market)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	210	(+20%)	7%
Low	170	(-5%)	2%

Insider Decisions

	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	0	1	0	0	1	2	2	1	1
to Sell	0	2	2	0	2	3	2	2	2

Institutional Decisions

	1Q2018	2Q2018	3Q2018
to Buy	577	607	612
to Sell	645	586	560
Hld's(000)	359118	358698	365576

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
High:	73.8	60.6	56.3	61.2	72.2	89.8	110.8	112.6	132.0	159.4	184.2	180.9								
Low:	33.8	41.5	45.3	49.0	58.6	69.8	84.0	93.7	102.2	117.3	145.1	168.7								
	26.13	28.27	30.00	38.75	37.47	40.13	37.82	36.39	36.88	33.62	34.80	38.42	37.93	34.52	36.51	***33.45***	***36.80***	***39.70***	Revenues per sh	***46.75***
	5.36	5.60	6.18	6.77	6.85	8.03	8.75	9.62	9.29	8.69	10.54	12.10	12.92	12.97	12.11	***14.65***	***15.90***	***17.40***	"Cash Flow" per sh	***20.75***
	2.45	2.46	2.32	3.23	3.27	4.07	3.97	4.74	4.82	4.56	4.83	5.60	6.06	5.78	6.50	6.68	***8.25***	***9.00***	Earnings per sh A	***11.00***
	1.20	1.30	1.42	1.50	1.64	1.78	1.89	2.00	2.20	2.40	2.64	2.90	3.08	3.48	3.93	4.44	***5.00***	***5.65***	Div'd Decl'd per sh B ■ †	***7.00***
	3.75	3.75	4.09	9.22	12.32	12.80	14.52	13.89	15.93	22.31	15.36	15.84	18.17	20.59	22.80	***26.00***	***18.70***	***18.70***	Cap'l Spending per sh	***18.75***
	18.91	20.25	21.52	24.49	26.35	28.57	31.35	34.36	35.92	37.90	41.47	44.96	48.97	52.01	59.89	***68.30***	***69.85***	***73.30***	Book Value per sh C	***85.00***
	368.53	372.24	394.85	405.40	407.35	408.92	413.62	420.86	416.00	424.00	435.00	443.00	461.00	468.00	471.00	***500.00***	***535.00***	***535.00***	Common Shs Outst'g D	***535.00***
	12.6	13.6	17.9	13.7	18.9	14.5	13.4	10.8	11.5	14.4	16.6	17.3	16.9	20.7	21.6	24.8	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***17.0***
	.72	.72	.95	.74	1.00	.87	.89	.69	.72	.92	.93	.91	.85	1.09	1.09	1.34			Relative P/E Ratio	***.95***
	3.9%	3.9%	3.4%	3.4%	2.7%	3.0%	3.5%	3.9%	4.0%	3.6%	3.3%	3.0%	3.0%	2.9%	2.8%	2.7%			Avg Ann'l Div'd Yield	***3.7%***
	15643	15317	15341	14256	15136	17021	17486	16155	17195	16727	***19700***	***21250***	Revenues ($mill)	***25000***
	1615.0	1957.0	2021.0	1911.0	2062.0	2465.0	2752.0	2693.0	3074.0	3186.0	***4400***	***4960***	Net Profit ($mill)	***6100***
	16.8%	21.4%	22.4%	26.6%	26.9%	32.3%	30.8%	29.3%	24.4%	***29.0%***	***24.5%***	***24.5%***	Income Tax Rate	***24.5%***
	7.9%	4.4%	4.4%	10.8%	7.0%	6.7%	6.9%	8.2%	6.7%	***10.0%***	***5.0%***	***5.0%***	AFUDC % to Net Profit	***4.0%***
	55.7%	55.5%	58.2%	59.1%	57.1%	55.0%	54.2%	53.3%	52.7%	***44.0%***	***45.5%***	***45.5%***	Long-Term Debt Ratio	***46.0%***
	44.3%	44.5%	41.8%	40.9%	42.9%	45.0%	45.8%	46.7%	47.3%	***56.0%***	***54.5%***	***54.5%***	Common Equity Ratio	***54.0%***
	29267	32474	35753	39245	42009	44283	49255	52159	59671	***60925***	***68550***	***71975***	Total Capital ($mill)	***84200***
	36078	39075	42490	49413	52720	55705	61386	66912	72416	70334	***80800***	***86350***	Net Plant ($mill)	***101700***
	6.9%	7.4%	7.0%	6.2%	6.2%	7.0%	6.8%	6.3%	6.3%	***6.5%***	***7.5%***	***8.0%***	Return on Total Cap'l	***8.0%***
	12.5%	13.5%	13.5%	11.9%	11.4%	12.4%	12.2%	11.1%	10.9%	***9.5%***	***12.0%***	***12.5%***	Return on Shr. Equity	***13.5%***
	12.5%	13.5%	13.5%	11.9%	11.4%	12.4%	12.2%	11.1%	10.9%	***9.5%***	***12.0%***	***12.5%***	Return on Com Equity E	***13.5%***
	6.5%	7.8%	7.4%	5.6%	5.2%	6.0%	6.1%	4.4%	4.4%	***3.0%***	***4.5%***	***4.5%***	Retained to Com Eq	***5.0%***
	47%	42%	46%	53%	54%	51%	50%	60%	60%	***66%***	***59%***	***61%***	All Div'ds to Net Prof	***61%***

CAPITAL STRUCTURE as of 9/30/18
Total Debt $32587 mill. **Due in 5 Yrs** $14147 mill.
LT Debt $27048 mill. **LT Interest** $1136 mill.

(LT interest earned: 4.0x)

Pension Assets-12/17 $4020 mill.
Oblig $2593 mill.

Pfd Stock None

Common Stock 477,945,257 shs.

MARKET CAP: $85 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2015	2016	2017
% Change Retail Sales (KWH)	+5.6	-.8	-.9
Avg. Indust. Use (MWH)	277	255	NA
Avg. Indust. Revs. per KWH (¢)	6.69	6.11	NA
Capacity at Peak (Mw)	26073	NA	NA
Peak Load, Summer (Mw)	22717	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	+1.4	+1.3	NA
Fixed Charge Cov. (%)	348	339	278

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '15-'17 to '22-'24
Revenues	.5%	.5%	*3.5%*
"Cash Flow"	6.5%	6.5%	*7.5%*
Earnings	7.5%	5.5%	*9.0%*
Dividends	8.5%	9.5%	*10.5%*
Book Value	8.5%	8.5%	*7.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	3835	3817	4805	3698	16155
2017	3972	4404	4808	4011	17195
2018	3850	4069	4418	4390	16727
2019	***4600***	***4900***	***5600***	***4600***	***19700***
2020	***4950***	***5300***	***6050***	***4950***	***21250***

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	1.41	.93	1.62	1.82	5.78
2017	1.90	1.68	1.79	1.13	6.50
2018	2.06	1.64	2.10	.88	6.68
2019	***2.15***	***2.20***	***2.25***	***1.65***	***8.25***
2020	***2.35***	***2.35***	***2.45***	***1.85***	***9.00***

QUARTERLY DIVIDENDS PAID B ■ †

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.77	.77	.77	.77	3.08
2016	.87	.87	.87	.87	3.48
2017	.9825	.9825	.9825	.9825	3.93
2018	1.11	1.11	1.11	1.11	4.44
2019					

BUSINESS: NextEra Energy, Inc. (formerly FPL Group, Inc.) is a holding company for Florida Power & Light Company (FPL) and Gulf Power, which provide electricity to 5.5 million customers in eastern, southern, & northwestern Florida. NextEra Energy Resources is a nonregulated power generator with nuclear, gas, & renewable ownership. Has 79.9% stake in NextEra Energy Partners. Rev. breakdown: residential, 55%; commercial, 35%; industrial & other, 10%. Generating sources: gas, 71%; nuclear, 23%; coal, 4%; purchased, 2%. Fuel costs: 24% of revs. '17 reported depr. rate (util.): 3.7%. Has 13,900 employees. Chairman, Pres. and CEO: James L. Robo. Inc.: FL. Address: 700 Universe Blvd., Juno Beach, FL 33408. Tel.: 561-694-4000. Internet: www.nexteraenergy.com.

NextEra Energy completed the acquisition of assets from Southern Company at the start of 2019. The last asset was Gulf Power, an electric company serving the Florida panhandle. Earlier, NextEra added Florida City Gas (a gas utility) and two nonregulated gas-fired generating assets in the Sunshine State. NextEra paid $5.1 billion and assumed $1.4 billion of Gulf Power debt. It financed the deal with $4.5 billion of debt. Management estimates that the transaction will boost share net by $0.15 in 2020 and $0.20 in 2021.

NextEra's operations are performing well. The company's main utility subsidiary, Florida Power & Light, is benefiting from rate increases and the healthy economy in its service area. FPL will get additional rate relief when a 1,750-megawatt gas-fired plant is completed in mid-2019. The company is also adding utility-owned solar capacity, which is recovered through a regulatory mechanism. NextEra Energy Resources is expanding its portfolio of wind and solar projects. This subsidiary had a backlog of 8,900 mw at year-end 2018. And the lower federal tax rate boosted profits by $0.45 a share last year. All told, we think earnings will wind up within the company's targeted ranges of $8.00-$8.50 a share this year and $8.70-$9.20 next year. However . . .

There are a couple of causes for concern. Renewable-energy projects affected by the bankruptcy of Pacific G&E contribute $0.13-$0.15 a share to annual earnings. What will happen here remains to be seen. Separately, a 31%-owned gas pipeline project has had delays and cost overruns.

We expect a hefty dividend increase soon. NextEra has stated its expectation for 12%-14% annual dividend growth through at least 2020, and we estimate the directors will raise the annual disbursement by $0.56 a share (12.6%).

NextEra's solid performance has not gone unnoticed on Wall Street. The stock was one of the top performers in 2017, and posted a total return of over 14% in 2018. At its current valuation, this issue doesn't stand out among utilities for either its dividend yield or its 3- to 5-year total return potential.

Paul E. Debbas, CFA *February 15, 2019*

(A) Diluted EPS. Excl. nonrecur. gains (losses): '03, 5¢; '11, (24¢); '13, (80¢); '16, 47¢; '17, 91¢; '18, $7.19; gain on disc. ops.: '13, 44¢. '15 EPS don't sum due to rounding. Next earnings report due late April. **(B)** Div'ds historically paid in mid-Mar., mid-June, mid-Sept., & mid-Dec. ■ Div'd reinvestment plan avail. † Shareholder investment plan avail. **(C)** Incl. def'd charges. In '17: $8.27/sh. **(D)** In mill., adj. for stock split. **(E)** Rate allowed on com. eq. in '17: 9.6%-11.6%; earned on avg. com. eq., '17: 11.7%. Regulatory Climate: Average.

Company's Financial Strength	A+
Stock's Price Stability	100
Price Growth Persistence	80
Earnings Predictability	70

The Southern Company (SO)
NYSE - Nasdaq Real Time Price. Currency in USD

Add to watchlist | Visitors trend 2W ↑ 10W ↑ 9M ↑ | Quote Lookup

56.28 -0.00 (-0.01%)
As of 11:02AM EDT. Market open.

Summary | Company Outlook NEW | Chart | Conversations | Statistics | Historical Data | Profile | Financials | Analysis | Options | Holders | Sustainability

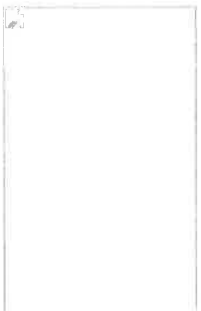
Time Period: Dec 15, 2018 - Jan 15, 2019 Show: Historical Prices
Frequency: Daily Apply

Currency in USD Download Data

Date	Open	High	Low	Close*	Adj Close**	Volume
Jan 15, 2019	46.08	47.09	46.07	46.79	45.69	5,433,100
Jan 14, 2019	46.19	46.46	45.55	46.16	45.07	6,328,900
Jan 11, 2019	46.22	46.79	45.82	46.61	45.51	6,137,000
Jan 10, 2019	45.60	46.42	45.38	46.34	45.25	4,634,900
Jan 09, 2019	45.80	46.04	45.32	45.49	44.42	6,687,600
Jan 08, 2019	44.61	45.97	44.50	45.88	44.80	7,246,200
Jan 07, 2019	44.51	44.76	44.18	44.61	43.56	5,397,800
Jan 04, 2019	44.12	44.73	44.04	44.71	43.66	5,680,700
Jan 03, 2019	43.76	44.69	43.76	44.34	43.30	9,405,500
Jan 02, 2019	43.89	43.95	43.26	43.72	42.69	5,756,100
Dec 31, 2018	43.96	44.15	43.43	43.92	42.89	4,394,000
Dec 28, 2018	44.01	44.38	43.76	43.95	42.92	4,722,700
Dec 27, 2018	43.60	43.95	42.93	43.95	42.92	7,048,100
Dec 26, 2018	43.14	43.66	42.50	43.64	42.61	5,686,400
Dec 24, 2018	44.94	45.26	42.93	43.02	42.01	5,339,800
Dec 21, 2018	44.94	46.24	44.82	45.09	44.03	12,739,700
Dec 20, 2018	45.28	45.69	44.48	45.09	44.03	8,836,400
Dec 19, 2018	45.74	46.04	45.08	45.28	44.21	8,112,000
Dec 18, 2018	46.20	46.58	45.41	45.53	44.46	6,184,700
Dec 17, 2018	47.40	47.68	45.88	46.00	44.92	6,726,300

People Also Watch

Symbol	Last Price	Change	% Change
DUK Duke Energy Corporation (Holdin	90.52	+0.61	+0.68%
D Dominion Energy, Inc.	79.14	-0.08	-0.10%
AEP American Electric Power Company	90.90	0.00	0.00%
ED Consolidated Edison, Inc.	89.73	+0.08	+0.09%
EXC Exelon Corporation	49.54	-0.62	-1.24%



SOUTHERN COMPANY NYSE-SO

RECENT PRICE **48.73** | P/E RATIO **17.0** (Trailing: 14.5, Median: 16.0) | RELATIVE P/E RATIO **1.01** | DIV'D YLD **5.1%** | VALUE LINE

TIMELINESS 3 Raised 3/2/18
SAFETY 2 Lowered 2/21/14
TECHNICAL 4 Lowered 2/15/19
BETA .50 (1.00 = Market)

2022-24 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+35%)	*11%*
Low	50	(+5%)	*6%*

Insider Decisions

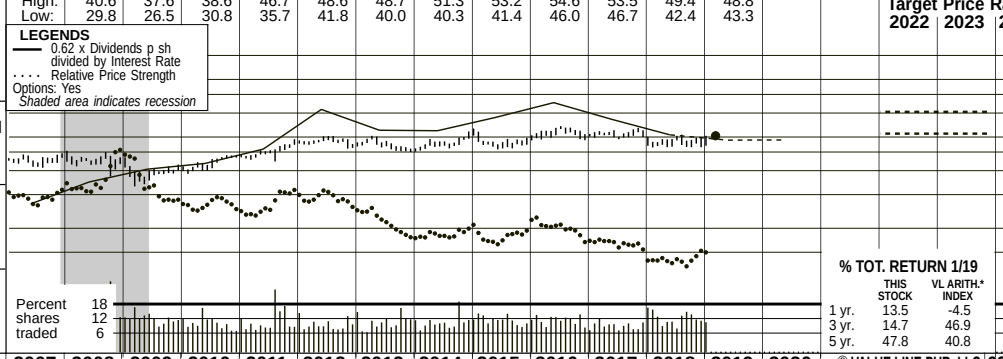
	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	1	0	0	0	0	1
to Sell	0	0	0	0	1	0	0	0	3

Institutional Decisions

	1Q2018	2Q2018	3Q2018
to Buy	523	509	501
to Sell	595	530	556
Hld's(000)	577028	582212	583272

	High:	40.6	37.6	38.6	46.7	48.6	48.7	51.3	53.2	54.6	53.5	49.4	48.8
	Low:	29.8	26.5	30.8	35.7	41.8	40.0	40.3	41.4	46.0	46.7	42.4	43.3

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



% TOT. RETURN 1/19

	THIS STOCK	VL ARITH.* INDEX
1 yr.	13.5	-4.5
3 yr.	14.7	46.9
5 yr.	47.8	40.8

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	© VALUE LINE PUB. LLC	22-24
15.31	16.05	18.28	19.24	20.12	22.04	19.21	20.70	20.41	19.06	19.26	20.34	19.18	20.09	22.86	*23.10*	*24.00*	*25.00*	Revenues per sh	*28.00*
3.53	3.65	4.03	4.01	4.22	4.43	4.43	4.51	4.91	5.18	5.27	5.28	5.47	5.69	6.64	*6.40*	*6.70*	*7.00*	"Cash Flow" per sh	*7.75*
1.97	2.06	2.13	2.10	2.28	2.25	2.32	2.36	2.55	2.67	2.70	2.77	2.84	2.83	3.21	*2.90*	*3.05*	*3.25*	Earnings per sh A	*3.75*
1.39	1.42	1.48	1.54	1.60	1.66	1.73	1.80	1.87	1.94	2.01	2.08	2.15	2.22	2.30	2.38	*2.46*	*2.54*	Div'd Decl'd per sh B ■	*2.78*
2.72	2.85	3.20	4.01	4.65	5.10	5.70	4.85	5.23	5.54	6.16	6.58	6.22	7.38	7.37	*8.35*	*7.15*	*6.40*	Cap'l Spending per sh	*5.25*
13.13	13.86	14.42	15.24	16.23	17.08	18.15	19.21	20.32	21.09	21.43	21.98	22.59	25.00	23.98	*24.35*	*25.20*	*26.15*	Book Value per sh C	*29.50*
734.83	741.50	741.45	746.27	763.10	777.19	819.65	843.34	865.13	867.77	887.09	907.78	911.72	990.39	1007.6	*1040.0*	*1050.0*	*1060.0*	Common Shs Outst'g D	*1090.0*
14.8	14.7	15.9	16.2	16.0	16.1	13.5	14.9	15.8	17.0	16.2	16.0	15.8	17.8	15.5	*15.6*	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*15.0*
.84	.78	.85	.87	.85	.97	.90	.95	.99	1.08	.91	.84	.80	.93	.78	*.85*			Relative P/E Ratio	*.85*
4.7%	4.7%	4.4%	4.5%	4.4%	4.6%	5.5%	5.1%	4.6%	4.3%	4.6%	4.7%	4.8%	4.4%	4.6%	5.3%			Avg Ann'l Div'd Yield	*4.9%*
15743	17456	17657	16537	17087	18467	17489	19896	23031	*24000*	*25200*	*26500*							Revenues ($mill)	*30650*
1910.0	2040.0	2268.0	2415.0	2439.0	2567.0	2647.0	2757.0	3269.0	*3075*	*3305*	*3530*							Net Profit ($mill)	*4180*
31.9%	33.5%	35.0%	35.6%	34.8%	33.8%	33.4%	28.5%	25.2%	*20.0%*	*20.0%*	*20.0%*							Income Tax Rate	*20.0%*
14.9%	13.7%	10.2%	9.4%	11.6%	13.9%	13.2%	11.9%	7.6%	*7.0%*	*6.0%*	*6.0%*							AFUDC % to Net Profit	*4.0%*
53.2%	51.2%	50.0%	49.9%	51.5%	49.5%	52.8%	61.5%	64.5%	*63.0%*	*62.0%*	*61.5%*							Long-Term Debt Ratio	*59.5%*
43.6%	45.7%	47.1%	47.3%	45.8%	47.3%	44.0%	35.7%	35.0%	*36.5%*	*37.5%*	*38.0%*							Common Equity Ratio	*40.0%*
34091	35438	37307	38653	41483	42142	46788	69359	68953	*69100*	*70150*	*72850*							Total Capital ($mill)	*79700*
39230	42002	45010	48390	51208	54868	61114	78446	79872	*80400*	*84100*	*86925*							Net Plant ($mill)	*91900*
6.9%	7.0%	7.2%	7.3%	6.8%	7.1%	6.6%	4.9%	5.9%	*5.5%*	*5.5%*	*6.0%*							Return on Total Cap'l	*6.5%*
12.0%	11.8%	12.2%	12.5%	12.1%	12.1%	12.0%	10.3%	13.3%	*12.0%*	*12.0%*	*12.5%*							Return on Shr. Equity	*13.0%*
12.4%	12.2%	12.5%	12.8%	12.5%	12.5%	12.6%	11.0%	13.4%	*12.0%*	*12.0%*	*12.5%*							Return on Com Equity E	*13.0%*
3.2%	3.0%	3.4%	3.6%	3.2%	3.2%	3.1%	2.5%	3.9%	*2.0%*	*2.5%*	*2.5%*							Retained to Com Eq	*3.5%*
75%	77%	73%	73%	75%	75%	76%	78%	72%	*80%*	*78%*	*76%*							All Div'ds to Net Prof	*73%*

CAPITAL STRUCTURE as of 9/30/18
Total Debt $47002 mill. **Due in 5 Yrs** $18156 mill.
LT Debt $41425 mill. **LT Interest** $1450 mill.
(LT interest earned: 3.2x)

Leases, Uncapitalized Annual rentals $149 mill.
Pension Assets-12/17 $12992 mill.
Oblig $13808 mill.
Pfd Stock $324 mill. **Pfd Div'd** $17 mill.
Incl. 10 mill. shs. 5% cum. pfd. ($25 stated value); 334,210 shs. 4.4%-5.25% cum. pfd. ($100 par).

Common Stock 1,028,888,684 shs.
MARKET CAP: $50 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2015	2016	2017
% Change Retail Sales (KWH)	-.7	+.2	-2.6
Avg. Indust. Use (MWH)	3371	3105	3016
Avg. Indust. Revs. per KWH (¢)	5.88	6.01	6.18
Capacity at Yearend (Mw)	44223	46291	46936
Peak Load, Summer (Mw) F	36794	35781	34874
Annual Load Factor (%)	59.9	61.5	61.4
% Change Customers (yr-end)	+.9	+1.0	+1.0
Fixed Charge Cov. (%)	433	330	318

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '15-'17 to '22-'24
Revenues	1.0%	.5%	*4.5%*
"Cash Flow"	4.0%	4.0%	*4.0%*
Earnings	3.0%	3.0%	*3.5%*
Dividends	4.0%	3.5%	*3.0%*
Book Value	4.5%	3.5%	*3.0%*

QUARTERLY REVENUES (mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	3992	4459	6264	5181	19896
2017	5771	5430	6201	5629	23031
2018	6372	5627	6159	***5842***	***24000***
2019	***6500***	***6000***	***6600***	***6100***	***25200***
2020	***6850***	***6300***	***6950***	***6400***	***26500***

EARNINGS PER SHARE A

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2016	.57	.71	1.22	.33	2.83
2017	.73	.73	1.08	.67	3.21
2018	.93	.63	1.13	***.21***	***2.90***
2019	***.85***	***.70***	***1.10***	***.40***	***3.05***
2020	***.90***	***.75***	***1.15***	***.45***	***3.25***

QUARTERLY DIVIDENDS PAID B ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2015	.525	.5425	.5425	.5425	2.15
2016	.5425	.56	.56	.56	2.22
2017	.56	.58	.58	.58	2.30
2018	.58	.60	.60	.60	2.38
2019					

BUSINESS: The Southern Company, through its subs., supplies electricity to 4.6 million customers in GA, AL, FL, and MS. Also has a competitive generation business. Acq'd AGL Resources (renamed Southern Company Gas, 4.5 mill. customers in GA, FL, NJ, IL, VA, & TN) 7/16. Electric rev. breakdown: residential, 37%; commercial, 31%; industrial, 18%; other, 14%. Retail revs. by state: GA, 49%; AL, 35%; FL, 9%; MS, 7%. Generating sources: gas & oil, 42%; coal, 27%; nuclear, 15%; other, 7%; purchased, 9%. Fuel costs: 32% of revs. '17 reported depr. rate (utility): 2.9%. Has 31,300 employees. Chairman, President and CEO: Thomas A. Fanning. Inc.: DE. Address: 30 Ivan Allen Jr. Blvd., N.W., Atlanta, GA 30308. Tel.: 404-506-0747. Internet: www.southerncompany.com.

Southern Company completed a series of asset sales at the start of 2019. The company sold electric and gas utilities in Florida, plus two gas-fired generating assets there, for more than $5 billion. It plans to use the proceeds to reduce debt and offset part of its equity needs.

Construction of two units at the Vogtle nuclear station continues. This project has had significant delays and cost overruns, and is now expected to be completed in 2020 and 2021. Last year, the company took a $0.78-a-share writedown of construction costs that will not be recovered from Georgia Power's customers. If future cost overruns exceed $800 million, the utility will be responsible for a disproportionate amount of these overruns. Thus, Georgia Power still faces construction risk.

Earnings should improve this year and next. In 2019, the year-to-year comparisons in the second and fourth quarters should be easy. The utilities should benefit from rate relief and customer growth. Beginning in 2020, the aforementioned asset sales will increase profits by an estimated $0.04-$0.05 a share annually. Southern Company was scheduled to report fourth-quarter earnings in late February.

The share count has increased significantly in recent years. Besides the cost overruns for Georgia Power's nuclear project, Mississippi Power had similar problems with a coal-gasification project. This led to significant writedowns from 2013 through 2017. Thus, Southern Company wound up issuing stock to help finance the cost overruns and support the common-equity ratio.

Nicor Gas filed a general rate case. The utility is seeking a $230 million increase, based on a 10.6% return on equity. An order is expected by October.

This stock has one of the highest dividend yields of any electric utility issue. This is due to the problems with the two major projects and the remaining construction risk with Vogtle. Despite these difficulties, Southern Company has provided steady dividend growth, which we project will continue through 2022-2024. The stock has appeal for income-seeking investors willing to assume the risks regarding Vogtle construction.

Paul E. Debbas, CFA *February 15, 2019*

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	20
Earnings Predictability	95

(A) Diluted EPS. Excl. nonrec. gain (losses): '03, 6¢; '09, (25¢); '13, (83¢); '14, (59¢); '15, (25¢); '16, (28¢); '17, ($2.37); '18, (78¢). '15 EPS don't sum due to rounding. Next earnings report due late Feb. **(B)** Div'ds paid in early Mar., June, Sept., and Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. def'd chgs. In '17: $16.36/sh. **(D)** In mill. **(E)** Rate base: AL, MS, fair value; FL, GA, orig. cost. All'd return on com. eq. (blended): 12.5%; earn. on avg. com. eq., '17: 12.5%. Regul. Climate: GA, AL Above Avg.; MS, FL Avg. **(F)** Winter peak in '15.

Section 1: 10-Q (10-Q)

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-Q

ý **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2013

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

COMMISSION FILE NUMBER 001-34691

ATLANTIC POWER CORPORATION
(Exact name of registrant as specified in its charter)

British Columbia, Canada	**55-0886410**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Federal Street, 30th Floor Boston, MA	**02110**
(Address of principal executive offices)	(Zip code)

(617) 977-2400
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data

facility for the project, which included a $290 million construction loan and a $20 million 5-year letter of credit facility. In July 2012 we funded approximately $190 million of our equity contribution (net of financing costs). In December 2012, the project received tax equity investments in aggregate of $225 million from a consortium of four institutional tax equity investors along with an approximately $44 million tax equity investment of our own. On May 2, 2013, we sold our tax equity ownership in Canadian Hills to an institutional investor and received net cash proceeds of $42.1 million. The cash proceeds will be held for general corporate purposes and to invest in future accretive growth opportunities. The project's outstanding construction loan was repaid by the proceeds from these tax equity investors, decreasing the project's short-term debt by $265 million as of December 31, 2012. Canadian Hills has no debt at March 31, 2013.

The acquisition of Canadian Hills was accounted for as an asset purchase and is consolidated in our consolidated balance sheets at March 31, 2013 and December 31, 2012. We own 99% of the project and consolidate it in our consolidated financial statements. Income attributable to the tax equity investors is classified as noncontrolling interests and is allocated utilizing the hypothetical liquidation book value method ("HLBV").

Table of Contents

ATLANTIC POWER CORPORATION

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

(Unaudited)

2. Acquisitions and divestments (Continued)

2013 Divestments

(a) Gregory

On April 2, 2013 we and the other owners of Gregory, entered into a purchase and sale agreement with an affiliate of NRG Energy, Inc. to sell the project for approximately $272.8 million including working capital adjustments. We expect to receive net cash proceeds for our ownership interest of approximately $33.7 million in the aggregate, after repayment of project-level debt and transaction expenses. We intend to use the net proceeds from the sale for general corporate purposes and to invest in future accretive growth opportunities. We expect the sale of Gregory to close in the third quarter of 2013.

(b) Auburndale, Lake and Pasco

On January 30, 2013, we entered into a purchase and sale agreement for the sale of our Florida Projects for approximately $140 million, with working capital adjustments. The sale closed on April 12, 2013 and we received net cash proceeds of approximately $117 million in the aggregate, after repayment of project-level debt at Auburndale and settlement of all outstanding natural gas swap agreements at Lake and Auburndale. This includes approximately $92 million received at closing and cash distributions from the Florida Projects of approximately $25 million received since January 1, 2013. We used a portion of the net proceeds from the sale to fully repay our senior credit facility, which had an outstanding balance of approximately $64.1 million on the closing date. The Florida Projects are accounted for as assets held for sale in the consolidated balance sheets at March 31, 2013 and December 31, 2012 and as a component of discontinued operations in the consolidated statements of operations for the three months ended March 31, 2013 and 2012. See Note 10, *Assets held for sale*, for further information.

(c) Path 15

On March 11, 2013 we entered into a purchase and sale agreement with Duke-American Transmission Company, a joint venture between Duke Energy Corporation and American Transmission Co., to sell our interests in Path 15. The sale closed on April 30, 2013 and we received net cash proceeds from the sale, including working capital adjustments, of approximately $52 million, plus a management agreement termination fee of $4.0 million, for a total sale price of approximately $56 million. The cash proceeds will be held for general corporate purposes and to invest in future accretive growth opportunities. In April 2013, we recorded a gain on sale of approximately $7.0 million. All project level debt issued by Path 15, totaling $137.2 million as of March 31, 2013, transferred with the sale. Path 15 is accounted for as an asset held for sale in the consolidated balance sheets at March 31, 2013 and December 31, 2012 and as a component of discontinued operations in the consolidated statements of operations for the three months ended March 31, 2013 and 2012. See Note 10, *Assets held for sale*, for further information.

2012 Divestments

(d) Primary Energy Recycling Corporation

THIS FILING IS	
Item 1: ☒ An Initial (Original) Submission	OR ☐ Resubmission No. ____

Form 1 Approved
OMB No.1902-0021
(Expires 12/31/2014)
Form 1-F Approved
OMB No.1902-0029
(Expires 12/31/2014)
Form 3-Q Approved
OMB No.1902-0205
(Expires 05/31/2014)

FERC FINANCIAL REPORT
FERC FORM No. 1: Annual Report of Major Electric Utilities, Licensees and Others and Supplemental Form 3-Q: Quarterly Financial Report

These reports are mandatory under the Federal Power Act, Sections 3, 4(a), 304 and 309, and 18 CFR 141.1 and 141.400. Failure to report may result in criminal fines, civil penalties and other sanctions as provided by law. The Federal Energy Regulatory Commission does not consider these reports to be of confidential nature

Exact Legal Name of Respondent (Company)	**Year/Period of Report**
Atlantic Path 15, LLC	**End of** 2013/Q1

Name of Respondent	This Report is:	Date of Report *(mo, da, yr)*	Year/Period of Report
Atlantic Path 15, LLC	(1) [x] An Original (2) [ ] A Resubmission	03/31/2013	end of 2013/Q1

COMPARATIVE BALANCE SHEET (LIABILITIES AND OTHER CREDITS)

Line No.	Title of Account (a)	Ref. Page No. (b)	Current Year End of Quarter/Year Balance (c)	Prior Year End Balance 12/31 (d)
1	PROPRIETARY CAPITAL			
2	Common Stock Issued (201)	250-251	0	0
3	Preferred Stock Issued (204)	250-251	0	0
4	Capital Stock Subscribed (202, 205)		0	0
5	Stock Liability for Conversion (203, 206)		0	0
6	Premium on Capital Stock (207)		0	0
7	Other Paid-In Capital (208-211)	253	94,452,404	94,452,404
8	Installments Received on Capital Stock (212)	252	0	0
9	(Less) Discount on Capital Stock (213)	254	0	0
10	(Less) Capital Stock Expense (214)	254b	0	0
11	Retained Earnings (215, 215.1, 216)	118-119	-33,949,244	-36,941,614
12	Unappropriated Undistributed Subsidiary Earnings (216.1)	118-119	0	0
13	(Less) Reaquired Capital Stock (217)	250-251	0	0
14	Noncorporate Proprietorship (Non-major only) (218)		0	0
15	Accumulated Other Comprehensive Income (219)	122(a)(b)	0	0
16	Total Proprietary Capital (lines 2 through 15)		60,503,160	57,510,790
17	LONG-TERM DEBT			
18	Bonds (221)	256-257	62,541,471	62,541,471
19	(Less) Reaquired Bonds (222)	256-257	0	0
20	Advances from Associated Companies (223)	256-257	0	0
21	Other Long-Term Debt (224)	256-257	0	0
22	Unamortized Premium on Long-Term Debt (225)		0	0
23	(Less) Unamortized Discount on Long-Term Debt-Debit (226)		0	0
24	Total Long-Term Debt (lines 18 through 23)		62,541,471	62,541,471
25	OTHER NONCURRENT LIABILITIES			
26	Obligations Under Capital Leases - Noncurrent (227)		0	0
27	Accumulated Provision for Property Insurance (228.1)		0	0
28	Accumulated Provision for Injuries and Damages (228.2)		0	0
29	Accumulated Provision for Pensions and Benefits (228.3)		0	0
30	Accumulated Miscellaneous Operating Provisions (228.4)		0	0
31	Accumulated Provision for Rate Refunds (229)		0	0
32	Long-Term Portion of Derivative Instrument Liabilities		0	0
33	Long-Term Portion of Derivative Instrument Liabilities - Hedges		0	0
34	Asset Retirement Obligations (230)		0	0
35	Total Other Noncurrent Liabilities (lines 26 through 34)		0	0
36	CURRENT AND ACCRUED LIABILITIES			
37	Notes Payable (231)		0	0
38	Accounts Payable (232)		65,006	754,963
39	Notes Payable to Associated Companies (233)		0	0
40	Accounts Payable to Associated Companies (234)		25,891	408,760
41	Customer Deposits (235)		0	0
42	Taxes Accrued (236)	262-263	0	0
43	Interest Accrued (237)		1,476,394	238,926
44	Dividends Declared (238)		0	0
45	Matured Long-Term Debt (239)		0	0

VOL 2 Larsen Direct

STATE OF IOWA

BEFORE THE IOWA UTILITIES BOARD

IN RE:	DOCKET NO. SPU-07- 07-11
INTERSTATE POWER AND LIGHT COMPANY AND ITC MIDWEST LLC	

DIRECT TESTIMONY OF JOHN O. LARSEN

Q. Please state your name and business address.

A. My name is John Larsen. My business address is 4902 North Biltmore Lane, Madison, Wisconsin 53718.

Q. By whom are you presently employed and in what capacity?

A. I am employed as the Vice President of Alliant Energy Corporation's ("Alliant Energy") Technical and Integrated Services Business Unit. In this capacity, I am responsible for electric and gas delivery system engineering and planning, transmission services, generation asset engineering and resource planning, R&D, energy trading, market operations, and fuel portfolio strategy. I am testifying on behalf of Interstate Power and Light Company ("IPL," or "Company"), a wholly owned subsidiary of Alliant Energy, in this proceeding.

Q. What is your educational background?

A. I hold a Bachelor of Science degree in Electrical Engineering from the University of North Dakota and have trained at the Kellogg School of Management at Northwestern University in utility finance.

Exhibit___(CAH-1)
Schedule K
Page 1 of 2

INTERSTATE POWER AND LIGHT COMPANY
TRANSMISSION TRANSACTION
ESTIMATION OF NET PROCEEDS ABOVE
NET BOOK VALUE OF ASSETS SOLD*
AS OF DECEMBER 31, 2007
IN MILLIONS

Line No.	Description		
1	Sales Price	$	750.0
2	Net Book Value of the Transmission Assets		(423.2)
3	Amount of CWIP covered by sales price		(19.1)
4	Transmission Materials and Supplies		(0.8)
	Transaction Costs:		
5	Outside Accounting Fees		(2.0)
6	Employee Grants		(2.6)
7	Investment Banker		(1.3)
8	Outside Legal Fees		(0.9)
9	Real Estate Contractors		(0.6)
10	Other Costs		(0.8)
11	Closing Transaction Adjustments, if any		-
12	Book Income Tax Expense on Gain (page 2)		(133.0)
13	Net Proceeds Above Net Book Value of Assets	$	165.7
14	Amount of Net Proceeds to be Accounted for as Regulatory Liability	$	60.0

*All amounts shown above are estimated except for the sales price.

File Name: Net Proceeds Calculation.xls
Sheet Name: Exhibit-P1

3/21/2007

ITC HOLDINGS CORP. NYSE-ITC

RECENT PRICE **46.22** | P/E RATIO **23.9** (Trailing: 30.0, Median: 22.0) | RELATIVE P/E RATIO **1.26** | DIV'D YLD **1.9%** | **VALUE LINE**

TIMELINESS — Suspended 2/19/16
SAFETY **2** Raised 6/24/11
TECHNICAL — Suspended 2/19/16
BETA .70 (1.00 = Market)

2019-21 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	65	(+40%)	*11%*
Low	50	(+10%)	*5%*

Insider Decisions

	N	D	J	F	M	A	M	J	J
to Buy	0	0	0	0	1	0	1	0	0
Options	0	0	8	0	0	8	6	1	8
to Sell	0	0	0	0	0	0	3	1	0

Institutional Decisions

	4Q2015	1Q2016	2Q2016
to Buy	203	145	129
to Sell	163	230	190
Hld's(000)	134973	129567	129827

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	© VALUE LINE PUB. LLC	19-21
High:					10.1	13.7	19.5	20.0	17.6	21.3	27.3	26.6	35.6	42.0	44.0	47.5				
Low:					8.7	8.2	12.6	10.8	10.8	8.2	20.6	22.1	25.5	31.2	30.3	36.5				
Revenues per sh	--	--	--	--	1.37	2.06	1.76	3.31	4.15	4.13	4.58	4.92	5.30	5.98	6.59	6.84	*7.80*	*8.85*		*11.75*
"Cash Flow" per sh	--	--	--	--	.35	.68	.58	1.10	1.37	1.44	1.53	1.73	1.88	2.24	2.40	2.54	*2.95*	*3.35*		*4.50*
Earnings per sh A	--	--	--	--	.03	.35	.31	.56	.73	.86	.95	1.10	1.20	1.47	1.54	1.56	*1.85*	*2.15*		*2.75*
Div'd Decl'd per sh B ■ †	--	--	--	--	--	.18	.36	.38	.40	.42	.44	.46	.49	.54	.61	.70	*.81*	*.93*		*1.30*
Cap'l Spending per sh	--	--	--	--	.83	1.19	1.32	2.23	2.70	2.69	2.55	3.62	5.12	5.22	4.73	4.48	*6.50*	*6.70*		*6.75*
Book Value per sh C	--	--	--	--	2.14	2.64	4.18	4.37	6.24	6.73	7.34	8.18	9.03	10.25	10.76	11.19	*12.25*	*13.55*		*18.00*
Common Shs Outst'g D	--	--	--	--	92.04	99.69	127.19	128.75	148.96	150.25	152.15	153.97	156.75	157.50	155.14	152.70	*154.00*	*155.00*		*158.00*
Avg Ann'l P/E Ratio	--	--	--	--	--	26.3	33.0	27.6	23.2	17.1	20.0	21.4	20.7	20.4	23.8	22.8	*Bold figures are Value Line estimates*			*20.5*
Relative P/E Ratio	--	--	--	--	--	1.40	1.78	1.47	1.40	1.14	1.27	1.34	1.32	1.15	1.25	1.15				*1.30*
Avg Ann'l Div'd Yield	--	--	--	--	--	1.9%	3.5%	2.4%	2.3%	2.8%	2.3%	1.9%	2.0%	1.8%	1.7%	2.0%				*2.3%*
Revenues ($mill)					223.6	426.2	617.9	621.0	696.8	757.4	830.5	941.3	1023.0	1044.8	*1200*	*1370*				*1875*
Net Profit ($mill)					33.2	73.3	109.2	130.9	145.7	171.7	187.9	233.5	244.1	242.4	*290*	*335*				*460*
Income Tax Rate					29.2%	33.3%	38.1%	37.2%	36.1%	35.6%	36.6%	33.7%	38.1%	36.9%	*38.0%*	*38.0%*				*38.0%*
AFUDC % to Net Profit					15.0%	14.7%	13.8%	13.1%	11.9%	12.5%	16.0%	16.3%	10.6%	14.4%	*14.0%*	*12.0%*				*9.0%*
Long-Term Debt Ratio					70.3%	72.4%	70.8%	70.6%	69.1%	67.8%	63.8%	67.9%	70.2%	70.4%	*69.5%*	*67.0%*				*64.5%*
Common Equity Ratio					29.7%	27.6%	29.2%	29.4%	30.9%	32.2%	36.2%	32.1%	29.8%	29.6%	*30.5%*	*33.0%*				*35.5%*
Total Capital ($mill)					1794.5	2041.5	3177.3	3445.9	3614.3	3903.9	3910.2	5025.8	5598.1	5770.0	*6200*	*6395*				*8050*
Net Plant ($mill)					1197.9	1960.4	2304.4	2542.1	2872.3	3415.8	4134.6	4846.5	5496.9	6109.6	*6945*	*7805*				*10175*
Return on Total Cap'l					3.0%	5.7%	5.4%	5.7%	6.1%	6.3%	6.7%	6.2%	6.0%	5.9%	*6.0%*	*7.0%*				*7.0%*
Return on Shr. Equity					6.2%	13.0%	11.8%	12.9%	13.0%	13.6%	13.3%	14.5%	14.6%	14.2%	*15.5%*	*16.0%*				*16.0%*
Return on Com Equity E					6.2%	13.0%	11.8%	12.9%	13.0%	13.6%	13.3%	14.5%	14.6%	14.2%	*15.5%*	*16.0%*				*16.0%*
Retained to Com Eq					NMF	4.5%	5.4%	6.8%	7.1%	8.0%	8.0%	9.3%	8.9%	7.8%	*9.0%*	*9.0%*				*9.0%*
All Div'ds to Net Prof					115%	66%	54%	48%	45%	41%	40%	36%	39%	45%	*43%*	*43%*				*45%*

% TOT. RETURN 8/16

	THIS STOCK	VL ARITH.* INDEX
1 yr.	41.0	10.9
3 yr.	61.2	29.8
5 yr.	96.8	84.5

Target Price Range 2019 | 2020 | 2021

CAPITAL STRUCTURE as of 6/30/16
Total Debt $4598.1 mill. **Due in 5 Yrs** $1725.2 mill.
LT Debt $4146.9 mill. **LT Interest** $185.0 mill.
(LT interest earned: 2.6x)

Pension Assets-12/15 $58.1 mill.
Oblig $97.2 mill.

Pfd Stock None

Common Stock 153,372,055 shs.
as of 7/22/16

MARKET CAP: $7.1 billion (Large Cap)

CURRENT POSITION ($MILL.)	2014	2015	6/30/16
Cash Assets	27.7	13.8	6.1
Receivables	101.0	104.3	147.9
Inventory (FIFO)	30.9	25.8	27.8
Other	27.2	25.3	179.3
Current Assets	186.8	169.2	361.1
Accts Payable	108.0	124.3	146.9
Debt Due	175.0	395.3	451.2
Other	180.0	199.6	186.8
Current Liab.	463.0	719.2	785.0
Fix Chg. Cov.	309%	266%	262%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '13-'15 to '19-'21
Revenues	14.0%	8.5%	*10.5%*
"Cash Flow"	16.5%	10.5%	*11.0%*
Earnings	23.0%	12.5%	*10.5%*
Dividends	21.5%	8.0%	*13.0%*
Book Value	16.0%	9.5%	*9.0%*

Calendar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	217.3	229.8	238.8	255.4	941.3
2014	258.6	263.2	270.1	231.1	1023.0
2015	272.5	275.1	273.2	224.0	1044.8
2016	280.1	298.0	***306.9***	***315***	***1200***
2017	***335***	***340***	***345***	***350***	***1370***

Calendar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2013	.32	.30	.37	.48	1.47
2014	.43	.34	.47	.30	1.54
2015	.43	.46	.42	.24	1.56
2016	.42	.46	***.48***	***.49***	***1.85***
2017	***.50***	***.55***	***.55***	***.55***	***2.15***

Calendar	QUARTERLY DIVIDENDS PAID B ■ † Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.1175	.1175	.126	.126	.49
2013	.126	.126	.1425	.1425	.54
2014	.1425	.1425	.1625	.1625	.61
2015	.1625	.1625	.1875	.1875	.70
2016	.1875	.1875	.2155		

BUSINESS: ITC Holdings Corp. engages in the transmission of electricity in the United States. The company operates primarily as a conduit, moving power from generators to local distribution systems either through its own system or in conjunction with neighboring transmission systems. Acquired Michigan Electric Transmission Company 10/06; Interstate Power & Light's transmission assets 12/07. Has assets in Michigan, Iowa, Minnesota, Illinois, Missouri, and Kansas. Operations are regulated by the Federal Energy Regulatory Commission (FERC). '15 reported depreciation rate: 2.1%. Has about 600 employees. Chairman, President & CEO: Joseph L. Welch. Inc.: Michigan. Address: 27175 Energy Way, Novi, Michigan 48377. Tel.: 248-946-3000. Internet: www.itctransco.com.

The acquisition of ITC Holdings is progressing. Fortis, a Canadian company with utilities in the U.S., would pay US$22.57 in cash plus .752 of a Fortis share for each ITC share. The Fortis shares trade on a Canadian exchange, so the value of the deal will fluctuate based not only on the price of Fortis stock, but on the exchange rate between the U.S. and Canadian dollars. The transaction is now valued at almost $47.00 a share. Each company's stockholders have approved the combination, as have the regulators in Oklahoma and Illinois. The Federal Energy Regulatory Commission (FERC) and the commissions in three other states must still rule on the deal. The companies expect it to be completed by yearend.

We advise ITC holders to sell their shares on the open market. The recent price is just 2% below the value of the buyout, so there isn't much upside potential for ITC holders. There is downside risk if the deal fails to win regulatory approval, however. The Timeliness rank of ITC stock is suspended due to the pending acquisition.

ITC is taking charges associated with the Fortis deal and for the possible refund of previously collected revenues. Merger-related costs reduced earnings by $0.14 a share in the first half of 2016. More significantly, over the past several quarters, the company has been taking reserves for the probable refund of previously collected revenues. This lowered profits by $0.11 a share in the first two quarters of 2016. Transmission users have filed two complaints with FERC against transmission owners in the Midwest, contending that allowed returns on equity are too high and should be reduced. An administrative law judge has recommended cuts in the allowed ROEs, but FERC has yet to rule on either complaint. Each percentage point reduction in ITC's allowed ROE would reduce the company's earning power by $30 million after taxes.

The board of directors has raised the dividend. The increase was $0.11 a share (14.9%) annually. However, unlike most utilities, ITC's dividend yield is still below the market median. Of course, ITC is not like other utilities, being the sole publicly traded transmission-only company.

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

(A) Diluted earnings. '15 earnings don't add to full-year total due to rounding. Next earnings report due late Oct. **(B)** Dividends historically paid in early March, June, Sept., and Dec. ■ Dividend reinvestment plan available. † Shareholder investment plan available. **(C)** Incl. intangibles. In '15: $1.26 billion, $8.24/sh. **(D)** In millions, adjusted for stock split. **(E)** Rates allowed on common equity: 12.16%-13.88%. Earned on avg. com. eq., '15: 14.2%. Regulatory Climate: Above Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	90
Earnings Predictability	90

THIS FILING IS	
Item 1: [X] An Initial (Original) Submission	OR [ ] Resubmission No. ____

Form 1 Approved
OMB No. 1902-0021
(Expires 7/31/2008)
Form 1-F Approved
OMB No. 1902-0029
(Expires 6/30/2007)
Form 3-Q Approved
OMB No. 1902-0205
(Expires 6/30/2007)

FERC FINANCIAL REPORT
FERC FORM No. 1: Annual Report of Major Electric Utilities, Licensees and Others and Supplemental Form 3-Q: Quarterly Financial Report

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Exact Legal Name of Respondent (Company)	**Year/Period of Report**
MONONGAHELA POWER COMPANY	**End of** 2005/Q4

Name of Respondent	This Report is:	Date of Report (Mo, Da, Yr)	Year/Period of Report
MONONGAHELA POWER COMPANY	(1) X An Original (2) __ A Resubmission	04/17/2006	2005/Q4

IMPORTANT CHANGES DURING THE QUARTER/YEAR (Continued)

1. See item 3 below.

2. None

3.

On December 31, 2005, Monongahela completed the sale of its Ohio electric T&D assets to Columbus Southern for net cash proceeds of $51.8 million. The purchase price for the assets was the net book value at the time of closing, plus $10.0 million, less certain property taxes. The sale included a power sales agreement under which Monongahela will provide power to Columbus Southern for the Ohio retail customer base from the time of closing through May 31, 2007 at $45 per megawatt-hour, which is projected to be less than the projected market price for power. During 2005, Monongahela recorded a loss on the sale of $29.3 million based on the estimated value, at December 31, 2005, of Monongahela's power sales agreement with Columbus Southern to provide power at below-market prices from December 31, 2005 through May 31, 2007, partially offset by approximately $8.0 million, representing the purchase price less net book value of the assets at December 31, 2005 and approximately $2.0 million in expenses associated with the sale.

On September 30, 2005, Monongahela completed the sale of its natural gas operations in West Virginia to Mountaineer Gas Holdings Limited Partnership, a partnership composed of IGS Utilities LLC, IGS Holdings LLC and affiliates of ArcLight Capital Partners, LLC, for approximately $161.0 million in cash and the assumption of approximately $87.0 million of long-term debt. The assets sold included all of the issued and outstanding capital stock of Mountaineer Gas and certain other assets related to the West Virginia natural gas operations, subject to certain post closing adjustments

4. None

5. See note 3 above.

Here are the Commission orders pertaining to the sale of the Gas Operations.

Securities and Exchange Commission
Case No. 70-10270
Order Authorizing Sale of Gas Utility Company
September 21, 2005

Public Service Commission of West Virginia
Case No. 04-1596-G-PC
Order approving Sale of Gas Operations
August 24, 2005

Federal Energy Regulatory Commission
Transaction Identification No. 20050048
Early Termination of waiting period for the sale of Gas Operations Granted
October 27, 2004

FIRSTENERGY NYSE-FE

RECENT PRICE **38.62** | P/E RATIO **14.3** (Trailing: 15.4, Median: 15.0) | RELATIVE P/E RATIO **0.78** | DIV'D YLD **3.7%** | **VALUE LINE**

TIMELINESS 4 Lowered 12/12/14
SAFETY 3 Lowered 2/22/13
TECHNICAL 4 Lowered 2/6/15
BETA .70 (1.00 = Market)

2018-20 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	45	(+15%)	7%
Low	30	(-20%)	-2%

Insider Decisions

	M	A	M	J	J	A	S	O	N
to Buy	0	0	0	0	0	0	0	0	0
Options	1	0	0	0	0	0	0	0	0
to Sell	1	0	2	0	0	1	0	1	0

Institutional Decisions

	1Q2014	2Q2014	3Q2014
to Buy	211	208	178
to Sell	238	210	219
Hld's(000)	303716	300665	311569

	2015	2016	2017
High:	43.4	53.4	61.7
Low:	35.2	37.7	47.8

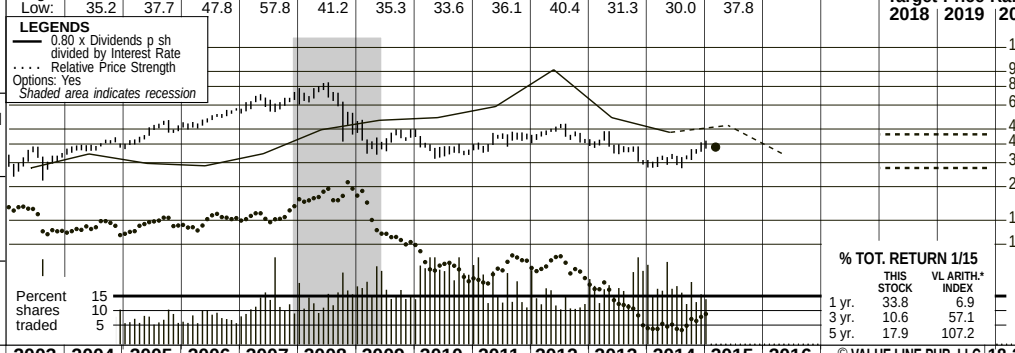
	2018	2019	2020
High:	75.0	84.0	53.6
Low:	57.8	41.2	35.3

	2021	2022	2023
High:	47.8	46.5	51.1
Low:	33.6	36.1	40.4

	2024	2025	2026
High:	46.8	40.8	41.7
Low:	31.3	30.0	37.8

Target Price Range 2018 | 2019 | 2020

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



% TOT. RETURN 1/15

	THIS STOCK	VL ARITH.* INDEX
1 yr.	33.8	6.9
3 yr.	10.6	57.1
5 yr.	17.9	107.2

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	© VALUE LINE PUB. LLC	18-20
27.19	31.31	26.88	40.83	37.31	37.76	36.35	36.03	42.00	44.70	41.70	43.76	38.87	36.57	35.60	*36.10*	*36.60*	*37.55*	Revenues per sh	*40.25*
6.89	7.28	5.48	6.45	4.79	7.60	7.55	7.22	8.34	9.04	8.80	8.50	5.75	6.05	6.30	*5.55*	*6.25*	*6.40*	"Cash Flow" per sh	*7.00*
2.50	2.69	2.84	2.54	1.47	2.77	2.84	3.82	4.22	4.38	3.32	3.25	1.88	2.13	2.97	*2.10*	*2.75*	*2.80*	Earnings per sh [A]	*3.00*
1.50	1.50	1.50	1.50	1.50	1.91	1.71	1.85	2.05	2.20	2.20	2.20	2.20	2.20	1.65	1.44	*1.44*	*1.48*	Div'd Decl'd per sh [B] ■	*1.60*
2.69	2.74	2.86	3.35	2.60	2.57	3.66	4.12	5.36	9.47	7.23	6.44	5.45	7.09	6.90	*8.60*	*6.95*	*6.80*	Cap'l Spending per sh	*7.50*
19.63	20.72	24.86	23.92	25.13	26.04	27.86	28.30	29.45	27.17	28.08	28.03	31.75	31.29	30.32	*31.05*	*32.35*	*33.70*	Book Value per sh [C]	*37.75*
232.45	224.53	297.64	297.64	329.84	329.84	329.84	319.21	304.84	304.84	304.84	304.84	418.22	418.22	418.63	*421.00*	*423.50*	*426.00*	Common Shs Outst'g [D]	*433.50*
11.3	9.2	10.9	13.0	22.5	14.1	16.1	14.2	15.6	15.6	13.0	11.7	22.4	21.1	13.1	*16.1*	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	*12.5*
.64	.60	.56	.71	1.28	.74	.86	.77	.83	.94	.87	.74	1.41	1.34	.74	*.85*			Relative P/E Ratio	*.80*
5.3%	6.1%	4.8%	4.6%	4.5%	4.9%	3.7%	3.4%	3.1%	3.2%	5.1%	5.8%	5.2%	4.9%	4.3%	4.3%			Avg Ann'l Div'd Yield	*4.3%*
11989	11501	12802	13627	12712	13339	16258	15294	14903	*15200*	*15500*	*16000*							Revenues ($mill)	*17500*
951.0	1265.0	1309.0	1342.0	1015.0	991.0	752.0	891.0	1245.0	*895*	*1165*	*1190*							Net Profit ($mill)	*1340*
42.1%	38.6%	40.3%	36.7%	19.6%	38.6%	41.3%	41.1%	36.1%	*30.5%*	*37.0%*	*37.0%*							Income Tax Rate	*37.0%*
2.0%	2.1%	2.4%	3.9%	12.8%	16.6%	9.3%	8.1%	6.0%	*12.0%*	*6.0%*	*6.0%*							AFUDC % to Net Profit	*6.0%*
46.5%	48.6%	49.7%	52.4%	58.2%	59.5%	54.2%	53.7%	55.5%	*56.0%*	*55.5%*	*55.5%*							Long-Term Debt Ratio	*55.0%*
52.4%	51.4%	50.3%	47.7%	41.8%	40.5%	45.8%	46.3%	44.5%	*44.0%*	*44.5%*	*44.5%*							Common Equity Ratio	*45.0%*
17527	17570	17846	17383	20467	21124	28996	28263	28523	*29600*	*30850*	*32125*							Total Capital ($mill)	*36400*
13998	14667	15383	17723	19164	19788	30337	32903	33252	*35500*	*37025*	*38450*							Net Plant ($mill)	*43000*
7.1%	9.0%	9.0%	9.7%	6.9%	6.3%	4.0%	4.9%	6.0%	*4.5%*	*5.5%*	*5.0%*							Return on Total Cap'l	*5.0%*
10.1%	14.0%	14.6%	16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	*7.0%*	*8.5%*	*8.5%*							Return on Shr. Equity	*8.0%*
10.2%	13.9%	14.6%	16.2%	11.9%	11.6%	5.7%	6.8%	9.8%	*7.0%*	*8.5%*	*8.5%*							Return on Com Equity [E]	*8.0%*
4.2%	7.4%	7.7%	8.1%	4.0%	3.8%	NMF	NMF	2.6%	*2.0%*	*4.0%*	*4.0%*							Retained to Com Eq	*4.0%*
59%	47%	47%	50%	66%	68%	117%	103%	74%	*68%*	*52%*	*53%*							All Div'ds to Net Prof	*52%*

CAPITAL STRUCTURE as of 9/30/14
Total Debt $21538 mill. **Due in 5 Yrs** $8875 mill.
LT Debt $18531 mill. **LT Interest** $965 mill.
Incl. $154 mill. capitalized leases.
(LT interest earned: 2.4x)

Leases, Uncapitalized Annual rentals $202 mill.
Pension Assets-12/13 $6171 mill.
Oblig. $8263 mill.
Pfd Stock None

Common Stock 420,792,515 shs.
as of 10/31/14
MARKET CAP: $16 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2011	2012	2013
% Change Retail Sales (KWH)	+.1	+3.5	+.9
Avg. Indust. Use (MWH)	NMF	NMF	NMF
Avg. Indust. Revs. per KWH (¢)	NA	NA	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. (%)	206	236	294

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '11-'13 to '18-'20
Revenues	.5%	-2.0%	*1.0%*
"Cash Flow"	1.0%	-6.0%	*2.0%*
Earnings	- -	-11.0%	*3.5%*
Dividends	3.0%	- -	*-3.5%*
Book Value	2.5%	2.0%	*3.0%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	3986	3757	4051	3500	15294
2013	3724	3512	4020	3647	14903
2014	4189	3496	3888	***3627***	***15200***
2015	***4050***	***3750***	***4000***	***3700***	***15500***
2016	***4200***	***3850***	***4150***	***3800***	***16000***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.78	.52	1.05	d.23	2.13
2013	.51	.47	.88	1.11	2.97
2014	.34	.27	.79	***.70***	***2.10***
2015	***.65***	***.50***	***.85***	***.75***	***2.75***
2016	***.65***	***.50***	***.90***	***.75***	***2.80***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2011	.55	.55	.55	.55	2.20
2012	.55	.55	.55	.55	2.20
2013	.55	.55	.55	.55	2.20
2014	.36	.36	.36	.36	1.44
2015	.36				

BUSINESS: FirstEnergy Corp. is a holding company for Ohio Edison, Pennsylvania Power, Cleveland Electric, Toledo Edison, Metropolitan Edison, Penelec, Jersey Central Power & Light, West Penn Power, Potomac Edison, & Mon Power. Provides electric service to over 6 million customers in OH, PA, NJ, WV, MD, & NY. Acq'd Allegheny Energy 2/11. Electric revenue breakdown by customer class not available. Generating sources: coal, 44%; nuclear, 26%; purchased, 30%. Fuel costs: 43% of revenues. '13 reported deprec. rate: 2.6%. Has 15,800 employees. Chairman: Anthony J. Alexander. President & CEO: Charles E. Jones. Inc.: Ohio. Address: 76 South Main Street, Akron, Ohio 44308-1890. Tel.: 800-736-3402. Internet: www.firstenergycorp.com.

FirstEnergy has made progress in some of its regulatory matters. The Federal Energy Regulatory Commission granted the company's request for forward-looking tariff regulation, effective at the start of 2015. (The utility's allowed return on equity in this business is now 12.38%, but this might be lowered.) The West Virginia commission approved a settlement calling for a total rate increase of $63 million for FirstEnergy's two utilities in the state, effective February 25th. The company's four utilities in Pennsylvania reached a settlement calling for rate hikes totaling $293 million. A ruling is expected by May 19th. This settlement, and the order in West Virginia, were "black box" agreements in which an allowed ROE was not specified.

Other regulatory matters are pending. FirstEnergy is asking the Ohio commission to approve a three-year extension of its Electric Security Plan. This would include 15-year agreements through which the company's utilities in the state would purchase the output of some generating assets, including the Davis-Besse nuclear unit and the Sammis coal-fired plant. Jersey Central Power & Light filed for a tariff hike of $9.1 million, based on an 11% ROE. However, an administrative law judge recommended a cut of $107.5 million. Each of these matters will probably be resolved within the next several weeks.

A dividend increase is possible next year—if not sooner. FirstEnergy is waiting for its regulatory matters to be resolved so that it can gauge the earning power of its utility operations. We estimate a dividend hike in 2016. However, we think the disbursement won't approach its previous $2.20-a-share level, even over the 3- to 5-year period.

Earnings should return to a more normal level this year, followed by a modest increase in 2016. Last year, some unusual (but not nonrecurring) charges reduced profits. FirstEnergy's earnings growth will probably be driven by its regulated utility operations.

The dividend yield of this untimely stock is a bit above the utility average. With the recent price above the midpoint of our 2018-2020 Target Price Range, total return potential is unimpressive.

Paul E. Debbas, CFA *February 20, 2015*

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	25
Earnings Predictability	65

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(A) Dil. EPS. Excl. nonrec. gain (losses): '05, (28¢); '09, (3¢); '10, (68¢); '11, 33¢; '12, (29¢); '13, ($2.07); '14, (17¢); gains from disc. ops.: '05, 5¢; '13, 4¢; '14, 20¢. '12 EPS don't add due to rounding. Next earnings report due early May. **(B)** Div'ds paid early Mar., June, Sep. & Dec. 5 div'ds decl. in '04, 3 in '13. ■ Div'd reinv. avail. **(C)** Incl. intang.: In '13: $19.76/sh. **(D)** In mill. **(E)** Rate base: Depr. orig. cost. Rates all'd on com. eq.: 9.75%-12.9%; earned on avg. com. eq., '13: 9.3%. Reg. Climate: OH Above Avg.; PA, NJ Avg.; MD, WV Below Avg.

AMERICAN ELEC. PWR. NYSE-AEP

RECENT PRICE **55.26** | P/E RATIO **16.5** (Trailing: 16.1, Median: 13.0) | RELATIVE P/E RATIO **0.90** | DIV'D YLD **3.9%** | **VALUE LINE**

TIMELINESS 3 Raised 3/6/15
SAFETY 2 Raised 9/19/14
TECHNICAL 3 Raised 3/20/15
BETA .70 (1.00 = Market)

2018-20 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	70	(+25%)	*10%*
Low	45	(-20%)	*Nil*

Insider Decisions

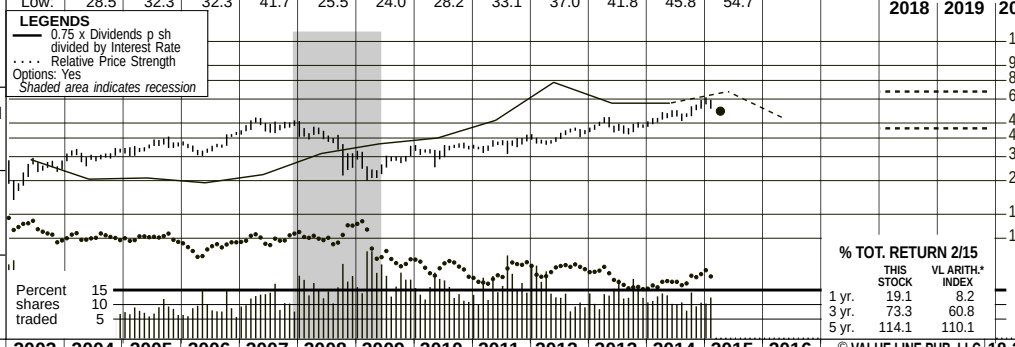
	A	M	J	J	A	S	O	N	D
to Buy	0	0	0	0	0	0	0	0	0
Options	0	12	0	0	0	0	0	0	0
to Sell	0	6	0	0	2	0	0	0	0

Institutional Decisions

	2Q2014	3Q2014	4Q2014
to Buy	338	325	361
to Sell	267	301	308
Hld's(000)	323714	326207	326985

	High:	35.5	40.8	43.1	51.2	49.1	36.5	37.9	41.7	45.4	51.6	63.2	65.4
	Low:	28.5	32.3	32.3	41.7	25.5	24.0	28.2	33.1	37.0	41.8	45.8	54.7

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



% TOT. RETURN 2/15

	THIS STOCK	VL ARITH.* INDEX
1 yr.	19.1	8.2
3 yr.	73.3	60.8
5 yr.	114.1	110.1

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	© VALUE LINE PUB. LLC	18-20
35.63	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	***34.75***	***34.55***	***35.85***	Revenues per sh	***41.00***
6.36	5.11	7.65	6.99	5.76	5.89	5.96	6.67	6.80	6.84	6.32	6.29	6.83	6.64	6.75	***7.25***	***7.50***	***7.85***	"Cash Flow" per sh	***9.25***
2.69	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	***3.50***	***3.65***	Earnings per sh [A]	***4.50***
2.40	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***	Div'd Decl'd per sh [B] ■	***2.65***
4.47	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	***8.65***	***9.30***	***8.05***	Cap'l Spending per sh	***8.50***
25.79	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	***34.35***	***35.75***	***37.25***	Book Value per sh [C]	***42.25***
194.10	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	***490.00***	***492.00***	***494.00***	Common Shs Outst'g [D]	***500.00***
14.3	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	*Bold figures are Value Line estimates*		Avg Ann'l P/E Ratio	***13.0***
.82	2.23	.71	.69	.61	.66	.73	.70	.87	.79	.67	.85	.75	.88	.81	.84			Relative P/E Ratio	***.80***
6.2%	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%			Avg Ann'l Div'd Yield	***4.5%***
12111	12622	13380	14440	13489	14427	15116	14945	15357	17020	***17000***	***17700***							Revenues ($mill)	***20450***
1036.0	1131.0	1147.0	1208.0	1365.0	1248.0	1513.0	1443.0	1549.0	1634.0	***1675***	***1755***							Net Profit ($mill)	***2185***
29.3%	33.0%	31.1%	31.3%	29.7%	34.8%	31.7%	33.9%	36.2%	37.8%	***36.0%***	***36.0%***							Income Tax Rate	***36.0%***
5.4%	9.9%	9.8%	9.9%	10.9%	10.4%	10.6%	11.2%	7.3%	***9.0%***	***10.0%***	***7.0%***							AFUDC % to Net Profit	***7.0%***
54.8%	56.7%	58.3%	59.1%	54.4%	53.1%	50.7%	50.6%	51.1%	***49.0%***	***50.0%***	***49.0%***							Long-Term Debt Ratio	***48.5%***
44.9%	43.0%	41.4%	40.7%	45.4%	46.7%	49.3%	49.4%	48.9%	***51.0%***	***50.0%***	***51.0%***							Common Equity Ratio	***51.5%***
20222	21902	24342	26290	28958	29184	29747	30823	32913	***34050***	***35300***	***36050***							Total Capital ($mill)	***41100***
24284	26781	29870	32987	34344	35674	36971	38763	40997	44117	***46750***	***48650***							Net Plant ($mill)	***54300***
6.6%	6.7%	6.3%	6.2%	6.2%	5.7%	6.6%	6.1%	6.0%	***6.0%***	***6.0%***	***6.0%***							Return on Total Cap'l	***6.5%***
11.3%	11.9%	11.3%	11.2%	10.3%	9.1%	10.3%	9.5%	9.6%	***9.5%***	***9.5%***	***9.5%***							Return on Shr. Equity	***10.5%***
11.3%	12.0%	11.4%	11.3%	10.4%	9.1%	10.3%	9.5%	9.6%	***9.5%***	***10.0%***	***10.0%***							Return on Com Equity [E]	***10.5%***
5.2%	5.7%	5.1%	5.1%	4.6%	3.1%	4.2%	3.5%	3.7%	***4.0%***	***4.0%***	***4.0%***							Retained to Com Eq	***4.5%***
54%	53%	55%	55%	56%	66%	60%	63%	62%	***64%***	***63%***	***64%***							All Div'ds to Net Prof	***61%***

CAPITAL STRUCTURE as of 9/30/14
Total Debt $19340 mill. **Due in 5 Yrs** $9356 mill.
LT Debt $15677 mill. **LT Interest** $713 mill.
Incl. $2230 mill. securitized bonds.
(LT interest earned: 3.7x)

Leases, Uncapitalized Annual rentals $288 mill.
Pension Assets-12/13 $4711 mill.
Oblig. $4841 mill.
Pfd Stock None

Common Stock 489,240,481 shs.
as of 10/23/14
MARKET CAP: $27 billion (Large Cap)

ELECTRIC OPERATING STATISTICS

	2011	2012	2013
% Change Retail Sales (KWH)	+1.2	-2.1	-1.5
Avg. Indust. Use (MWH)	NA	NA	NA
Avg. Indust. Revs. per KWH (¢)	4.95	4.69	NA
Capacity at Peak (Mw)	NA	NA	NA
Peak Load (Mw)	NA	NA	NA
Annual Load Factor (%)	NA	NA	NA
% Change Customers (yr-end)	NA	NA	NA
Fixed Charge Cov. (%)	286	280	326

ANNUAL RATES of change (per sh)

	Past 10 Yrs.	Past 5 Yrs.	Est'd '11-'13 to '18-'20
Revenues	-10.0%	-1.5%	*4.0%*
"Cash Flow"	- -	- -	*4.5%*
Earnings	.5%	1.5%	*5.5%*
Dividends	-1.5%	4.0%	*5.0%*
Book Value	3.5%	4.5%	*4.5%*

QUARTERLY REVENUES ($ mill.)

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	3625	3551	4156	3613	14945
2013	3826	3582	4176	3773	15357
2014	4648	4044	4302	4026	17020
2015	***4350***	***4100***	***4500***	***4050***	***17000***
2016	***4550***	***4250***	***4700***	***4200***	***17700***

EARNINGS PER SHARE [A]

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2012	.80	.75	1.00	.43	2.98
2013	.75	.73	1.10	.60	3.18
2014	1.15	.80	1.01	.39	3.34
2015	***1.00***	***.80***	***1.15***	***.55***	***3.50***
2016	***1.05***	***.85***	***1.20***	***.55***	***3.65***

QUARTERLY DIVIDENDS PAID [B] ■

Calendar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2011	.46	.46	.46	.47	1.85
2012	.47	.47	.47	.47	1.88
2013	.47	.49	.49	.50	1.95
2014	.50	.50	.50	.53	2.03
2015	.53				

BUSINESS: American Electric Power Company, Inc. (AEP), through 10 operating utilities, serves 5.3 mill. customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, and West Virginia. Electric revenue breakdown: residential, 40%; commercial, 23%; industrial, 19%; wholesale, 15%; other, 3%. Sold 50% stake in Yorkshire Holdings (British utility) '01; sold SEEBOARD (British utility) '02; sold Houston Pipeline '05. Generating sources not available. Fuel costs: 36% of revenues. '13 reported deprec. rates (utility): 1.1%-7.9%. Has 18,500 employees. Chairman, President & CEO: Nicholas K. Akins. Inc.: New York. Address: 1 Riverside Plaza, Columbus, Ohio 43215-2373. Tel.: 614-716-1000. Internet: www.aep.com.

What will American Electric Power do with its nonregulated generating assets in Ohio? The company had proposed a purchased-power agreement with four plants, which was intended to provide these assets with a stable source of income. The state commission rejected AEP's proposal, but did not prohibit purchased-power contracts. Now, the company must decide whether to put forth a revised proposal, or sell the assets. In fact, AEP has hired an investment-banking firm to evaluate a sale. Another company with nonregulated generating units in Ohio, Duke Energy, reached an agreement to sell these plants last year. Duke fared better than it had originally expected, although the units were still sold at a loss. In any case, AEP has been striving to make itself a more regulated company in recent years. We don't know when management will announce its plans.

We estimate mid-single-digit earnings growth this year and next. We are basing our estimates on retention of AEP's nonregulated generating assets. Due to conditions in the power markets, the income from these assets will probably decline in 2015 and 2016. Even so, rising profits from the regulated operations should outweigh this falloff. Some of AEP's utilities are asking for rate increases, and the company's electric transmission operations are increasing their contribution as more capital is invested in this area. Over the next three years, AEP has budgeted more than $4.8 billion for transmission capital expenditures. Our earnings estimates for 2015 and 2016 are at the midpoint of management's targeted ranges of $3.40-$3.60 a share and $3.45-$3.85 a share, respectively.

Rate cases are pending in West Virginia and Kentucky. In West Virginia, Appalachian Power is seeking a rate hike of $226 million, based on a 10.62% return on equity. An order is due on May 26th. Kentucky Power filed for a rate increase of $70 million, based on the same 10.62% ROE. New tariffs should take effect in mid-2015.

This stock has a dividend yield and 3- to 5-year total return potential that are about average, by utility standards.

Paul E. Debbas, CFA *March 20, 2015*

(A) Diluted EPS. Excl. nonrec. gains (losses): '02, ($3.86); '03, ($1.92); '04, 24¢; '05, (62¢); '06, (20¢); '07, (20¢); '08, 40¢; '10, (7¢); '11, 89¢; '12, (38¢); '13, (14¢); discont. ops.: '02, (57¢); '03, (32¢); '04, 15¢; '05, 7¢; '06, 2¢; '08, 3¢. '11 EPS don't add due to rounding. Next egs. report due late Apr. **(B)** Div'ds historically paid early Mar., June, Sept., & Dec. ■ Div'd reinvest. plan avail. **(C)** Incl. intang. In '13: $18.20/sh. **(D)** In mill. **(E)** Rate base: various. Rates all'd on com. eq.: 9.65%-10.9%; earned on avg. com. eq., '13: 9.9%. Regul. Clim.: Avg.

Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	60
Earnings Predictability	90

ASSOCIATIONS EXHIBIT NO. A-4

Federal Energy Regulatory Commission

Total Investment Return

Edison Electric Index (EEI)			S&P 500		
Year	Total Return	Dividend Yield	Year	Total Return	Dividend Yield
2018	6.0%	3.33%	2018	-4.38%	1.98%
2017	18.0%	3.60%	2017	21.83%	2.02%
2016	21.3%	3.97%	2016	11.96%	2.21%
2015	-4.9%	3.44%	2015	1.38%	2.13%
2014	39.2%	4.40%	2014	13.69%	2.06%
2013	7.7%	4.39%	2013	32.39%	2.15%
2012	17.6%	4.90%	2012	16.00%	2.29%
2011	8.3%	4.79%	2011	2.11%	2.11%
2010	14.3%	5.02%	2010	15.06%	2.02%
2009	-27.3%	3.37%	2009	26.46%	2.44%
2008	9.3%	3.53%	2008	-37.00%	2.42%
Average	10.0%	4.1%	**Average**	9.05%	2.17%
Std. Dev.	16.6%	0.7%	**Std. Dev.**	18.80%	0.16%

Notes

Some EEI utilities were excluded from the data set due to data limitations or concerns including:

Mergers & Acquisitions: Scana Corp and Vectren Corp.

Avangrid and Evergy Inc lacked sufficient historical data.

PG&E is in bankruptcy and has suspended dividends.

Insufficient historical dividend information for MDU Resource Group Inc, Unitil Corp, and NiSource Inc.

Insufficient historical stock price data for El Paso Electric Co.

Federal Energy Regulatory Commission

Edison Electric Index

Year	Price	Dividend	Price Change	Total Return	Annual Growth	Dividend Yield
2018	$66.50	$2.15	$1.73	5.99%	2.67%	3.33%
2017	$64.77	$2.04	$8.15	18.00%	14.40%	3.60%
2016	$56.62	$1.92	$8.36	21.30%	17.33%	3.97%
2015	$48.25	$1.81	-$4.38	-4.88%	-8.32%	3.44%
2014	$52.64	$1.72	$13.59	39.22%	34.81%	4.40%
2013	$39.04	$1.66	$1.25	7.69%	3.30%	4.39%
2012	$37.79	$1.64	$4.27	17.64%	12.74%	4.90%
2011	$33.52	$1.55	$1.14	8.32%	3.53%	4.79%
2010	$32.38	$1.49	$2.75	14.30%	9.28%	5.02%
2009	$29.63	$1.44	-$13.12	-27.31%	-30.68%	3.37%
2008	$42.75	$1.42	$2.34	9.31%	5.78%	3.53%
2007	$40.41	$1.36	N/A	N/A	N/A	N/A

Federal Energy Regulatory Commission

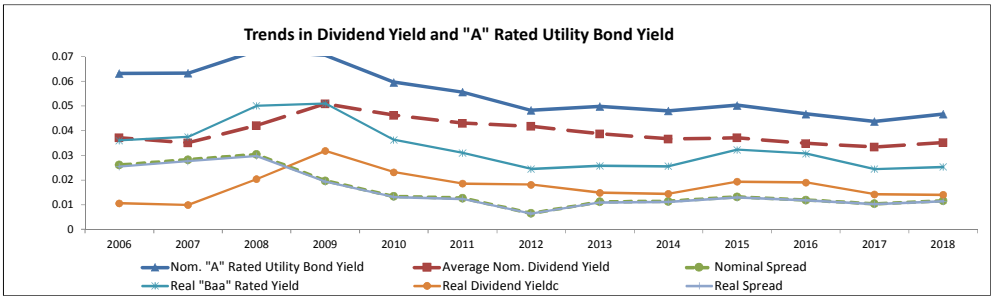
	Large-Capitalization Stocks				
Year	Total Return	Capital Appreciation	Tot. Return Growth	Cap. App. Growth	Dividend Yield
2018	$7,030	$196	-4.38%	-6.24%	1.98%
2017	$7,353	$210	21.83%	19.42%	2.02%
2016	$6,035	$175	11.96%	9.53%	2.21%
2015	$5,390	$160	1.38%	-0.73%	2.13%
2014	$5,317	$161	13.69%	11.39%	2.06%
2013	$4,677	$145	32.39%	29.60%	2.15%
2012	$3,533	$112	16.00%	13.41%	2.29%
2011	$3,045	$99	2.11%	0.00%	2.11%
2010	$2,982	$99	15.06%	12.78%	2.02%
2009	$2,592	$87	26.46%	23.45%	2.44%
2008	$2,049	$71	-37.00%	-38.49%	2.42%
2007	$3,253	$115	N/A	N/A	N/A

ASSOCIATIONS EXHIBIT NO. A-5

Federal Energy Regulatory Commission

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend Yield[1] 13-Year Average (1)	2018 [2]a (2)	2017 (3)	2016 (4)	2015 (5)	2014 (6)	2013 (7)	2012 (8)	2011 (9)	2010 (10)	2009 (11)	2008 (12)	2007 (13)	2006 (14)
1	ALLETE	4.03%	3.00%	2.97%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
2	Alliant Energy	3.82%	3.21%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.63%	3.01%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	4.15%	3.52%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	3.85%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.77%	3.14%	3.14%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.83%	3.25%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.57%	4.12%	4.79%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.32%	3.03%	2.88%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10	Consol. Edison	4.51%	3.67%	3.40%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	3.98%	4.66%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	4.24%	3.33%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.78%	4.46%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'l	3.05%	4.17%	2.87%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15	El Paso Electric	2.74%	2.52%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	4.13%	4.40%	4.49%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.35%	3.28%	3.14%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Evergy, Inc.	3.11%	3.11%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	3.91%	3.33%	3.51%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
20	FirstEnergy Corp.	4.35%	4.16%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
21	Fortis Inc.	3.68%	4.03%	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
22	Great Plains Energy	4.52%	N/A	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
23	Hawaiian Elec.	4.74%	3.49%	3.65%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
24	IDACORP, Inc.	3.27%	2.64%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
25	MGE Energy	3.28%	2.20%	1.95%	2.23%	2.78%	2.78%	2.91%	3.25%	3.63%	3.98%	4.36%	4.24%	4.14%	4.25%
26	NextEra Energy, Inc.	3.22%	2.70%	2.79%	2.91%	3.01%	3.00%	3.30%	3.65%	3.96%	3.90%	3.55%	3.02%	2.65%	3.40%
27	NorthWestern Corp	4.14%	3.80%	3.52%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
28	OGE Energy	3.61%	3.92%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
29	Otter Tail Corp.	4.26%	2.95%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
30	PG&E Corp.	3.70%	N/A	2.42%	3.22%	3.45%	3.96%	4.20%	4.25%	4.24%	4.08%	4.26%	4.01%	3.07%	3.22%
31	Pinnacle West Capital	4.61%	3.46%	3.16%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
32	PNM Resources	3.31%	2.76%	2.53%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
33	Portland General	3.74%	3.20%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
34	PPL Corp.	4.38%	5.67%	4.24%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
35	Public Serv. Enterprise	3.84%	3.50%	3.74%	3.78%	3.81%	3.92%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
36	SCANA Corp.	4.37%		4.03%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.92%	4.29%	4.21%
37	Sempra Energy	2.94%	3.14%	2.92%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
38	Southern Co.	4.72%	5.19%	4.63%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
39	Vectren Corp.	4.38%		2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
40	WEC Energy Group	3.06%	3.30%	3.31%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
41	Westar Energy	4.37%	N/A	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
42	Xcel Energy Inc.	3.99%	3.18%	3.10%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
43	**Average**	**3.94%**	**3.51%**	**3.34%**	**3.49%**	**3.71%**	**3.66%**	**3.87%**	**4.18%**	**4.30%**	**4.63%**	**5.09%**	**4.21%**	**3.51%**	**3.71%**
44	Median	3.92%	3.33%	3.15%	3.43%	3.71%	3.76%	3.85%	4.18%	4.42%	4.76%	5.14%	4.21%	3.40%	3.60%
45	20-Yr Treasury Yields[3]	3.48%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
46	20-Yr TIPS[3]	1.30%	0.92%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
47	Implied Inflation[b]	2.15%	2.08%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
48	**Real Dividend Yield[c]**	**1.75%**	**1.40%**	**1.42%**	**1.90%**	**1.93%**	**1.44%**	**1.49%**	**1.81%**	**1.86%**	**2.32%**	**3.18%**	**2.04%**	**0.99%**	**1.06%**
	Utility														
49	**Nominal "Baa" Rated Yield[4]**	**5.53%**	**4.67%**	**4.38%**	**4.67%**	**5.03%**	**4.80%**	**4.98%**	**4.83%**	**5.57%**	**5.96%**	**7.06%**	**7.25%**	**6.33%**	**6.32%**
50	**Real "Baa" Rated Yield**	**3.31%**	**2.53%**	**2.44%**	**3.07%**	**3.22%**	**2.55%**	**2.57%**	**2.44%**	**3.09%**	**3.62%**	**5.11%**	**5.01%**	**3.74%**	**3.60%**
	Spreads (Utility Bond - Stock)														
51	**Nominal Spread[d]**	**1.59%**	**1.16%**	**1.04%**	**1.19%**	**1.31%**	**1.14%**	**1.11%**	**0.65%**	**1.26%**	**1.34%**	**1.96%**	**3.03%**	**2.82%**	**2.61%**
52	**Real Spread[e]**	**1.55%**	**1.13%**	**1.02%**	**1.17%**	**1.29%**	**1.11%**	**1.09%**	**0.63%**	**1.23%**	**1.31%**	**1.93%**	**2.97%**	**2.75%**	**2.54%**
	Spreads (Treasury Bond - Stock)														
53	**Nominal[f]**	**-0.46%**	**-0.49%**	**-0.69%**	**-1.26%**	**-1.17%**	**-0.59%**	**-0.75%**	**-1.64%**	**-0.68%**	**-0.60%**	**-0.98%**	**0.15%**	**1.40%**	**1.28%**
54	**Real[g]**	**-0.45%**	**-0.48%**	**-0.68%**	**-1.24%**	**-1.15%**	**-0.58%**	**-0.73%**	**-1.60%**	**-0.67%**	**-0.58%**	**-0.97%**	**0.15%**	**1.37%**	**1.25%**



Sources:
[1] The Value Line Investment Survey Investment Analyzer Software, downloaded on June 21, 2018.
[2] The Value Line Investment Survey, January 25, February 15, and March 15, 2019.
[3] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[4] www.moodys.com, Bond Yields and Key Indicators, through December 31, 2018.

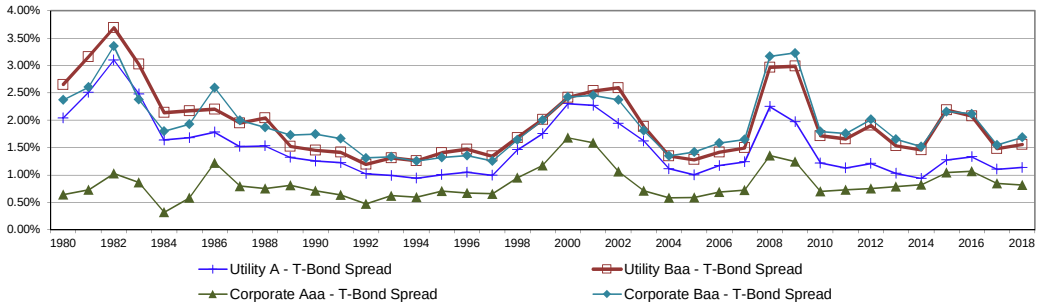
Notes:
[a] Based on the average of the high and low price for 2017 and the projected 2017 Dividends Declared per share, published in the Value Line Investment Survey, January 25, February 15, and March 15, 2019.
[b] Line 47 = (1 + Line 45) / (1 + Line 46) - 1.
[c] Line 48 = (1 + Line 43) / (1 +Line 47) - 1.
[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 - Line 43).
[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 50 - Line 48)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal utility dividend yield; (Line 45 - Line 43).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 48 - Line 46)

Federal Energy Regulatory Commission

Bond Yield Spreads

			Public Utility Bond				Corporate Bond				Utility to Corporate	
Line	Year	T-Bond Yield[1]	A[2]	Baa[2]	A-T-Bond Spread	Baa-T-Bond Spread	Aaa[3]	Baa[3]	Aaa-T-Bond Spread	Baa-T-Bond Spread	Baa Spread	A-Aaa Spread
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.90%	6.07%	6.32%	1.17%	1.42%	5.59%	6.48%	0.69%	1.58%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	2018	3.11%	4.25%	4.67%	1.14%	1.56%	3.93%	4.80%	0.82%	1.69%	-0.13%	0.32%
40	2019[4]	3.01%	4.25%	4.77%	1.24%	1.76%	3.83%	4.97%	0.82%	1.95%	-0.19%	0.42%
41	**Average**	**6.44%**	**7.93%**	**8.37%**	**1.49%**	**1.93%**	**7.28%**	**8.37%**	**0.84%**	**1.93%**	**0.01%**	**0.66%**

Yield Spreads
Treasury Vs. Corporate & Treasury Vs. Utility



Sources:

[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.

[2] The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields for the period 2010-2019 were obtained from http://credittrends.moodys.com/.

[3] The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The corporate yields from 2010-2019 were obtained from http://credittrends.moodys.com/.

[4] Data includes January - March, 2019.

ASSOCIATIONS EXHIBIT NO. A-6

Federal Energy Regulatory Commission

Electric Utility Industry Average
P/E Ratio, EPS Growth Rate (Historical and Projected), and Utility Stock to Bond Yield Spread

Line	Description	2018	2017	2016	2015	2014	2013	2012	2011
1	Historical 3-Year Average EPS Growth Rate[1]	4.6%	3.0%	3.9%	3.4%	3.1%	2.0%	3.4%	3.5%
2	P/E Ratio[1]	19.2	19.8	19.0	18.0	17.4	16.4	15.7	15.3
3	Projected 3-Year Average EPS Growth Rate[2]	4.9%	4.5%	3.4%	4.3%	3.4%	4.8%	3.8%	3.3%
4	Utility Stock to A Rated Bond Yield Spread[2,3]	1.0%	0.8%	0.6%	0.5%	0.9%	0.7%	0.2%	1.0%

Sources:

[1]The Value Line Investment Analyzer

[2]S&P Capital IQ

[3]https://credittrends.moodys.com/

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Inquiry Regarding the Commission's Policy for Determining Return on Equity	))	Docket No. PL19-4-000

Affidavit of Michael P. Gorman

SAINT LOUIS, MISSOURI ss:

BEFORE ME, the undersigned authority, personally appeared Michael P. Gorman, who after being by me first duly sworn, deposes and says that the facts stated herein are true based on personal knowledge.

I hereby affirm that the foregoing is true and correct to the best of my knowledge and belief. If called to testify in this matter, I would testify as set forth herein.

Further affiant says not.

Michael P. Gorman
Affiant

Subscribed and sworn to before me by Mr. Michael P. Gorman, who is known to me this 25th day of June, 2019.

Notary Public

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2021
Commission # 13706793

My Commission Expires: May 5, 2021