CASE: UE 233
WITNESS: Steve Storm

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 800 (Errata)

Opening Testimony

December 29, 2011

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

A. My name is Steve Storm. I am employed by the Public Utility Commission of Oregon as Program Manager of the Economic and Policy Analysis section. My business address is 550 Capitol Street NE Suite 215, Salem, Oregon 97301-2551.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND WORK EXPERIENCE.

A. My Witness Qualification Statement is included as Exhibit Staff/801.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I develop recommended cost of common equity[1] estimates for the rate-regulated property of Idaho Power Company ("Idaho Power" or "Company"). I provide a point estimate recommendation, as well as a range of estimates, of Idaho Power's cost of common equity for consideration by the Public Utility Commission of Oregon ("Commission") in establishing Idaho Power's authorized return on equity (ROE) within the Company's current general rate case in Docket No. UE 233. Additionally, I provide a recommended capital structure

[1] Common equity, or common stock, is an "ownership" investment of, say, a corporation, where stockholders "have a general preemptive right to anything of value that the company may wish to distribute." Holders of common stock are the owners of the corporation, unlike holders of preferred stock or debt securities of the corporation. *See Principals of Corporate Finance*; Third Edition; Brealey and Myers; 1988, page 305. *See* also *Principles of Corporate Finance*; Tenth Edition; Brealey, Myers, and Allen; 2011, especially that on page 346, where common stock is characterized as having a residual claim on the firm's assets and cash flow in the presence of debt financing.

associated with the recommended ROE and the recommended rate of return (ROR) based on recommendations in my testimony and the recommended costs of long-term debt as presented in Exhibit Staff/700 Ordonez. The costs of long-term debt, of common equity, and Idaho Power's capital structure are collectively identified as issue S-0.

My testimony constitutes Staff's response, in part, to that provided by Idaho Power witnesses Avera (Idaho Power/400) and Keen (Idaho Power/500).

Q. DID YOU PREPARE ANY EXHIBITS FOR THIS DOCKET?

A. Yes. I prepared Exhibit Staff/802, consisting of two pages (my DCF Model 1 results) and Exhibit Staff/803, consisting of two pages (my DCF Model 2 results).

Q. HAVE YOU MADE DATA REQUESTS OF IDAHO POWER IN THIS PROCEEDING?

A. Yes. Twenty-eight of the 127 standard data requests currently on the PUC website directly relate to the Company's cost of equity or capital structure. Many of the 30 data requests relatingj to debt financing[2] also relate to either cost of equity, capital structure, or both.

Staff data request 378 seeks to obtain functional electronic spreadsheets of Exhibits Idaho Power/402, Idaho Power/403, Idaho Power/404, Idaho Power/405, Idaho Power/406, Idaho Power/407,

[2] Nearly one-half (46%) of the Standard Data Requests are related to cost of capital.

Idaho Power/408, Idaho Power/409, and Idaho Power/410, as the Company versions of those exhibits did not have "all cell references and formulae intact," and therefore may not meet General Provision A of the Standard Data Requests.

Q HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized as follows:

A. A summary of recommendations;

B. A brief discussion of return and risk associated with investments in common stocks;

C. A detailed discussion of my cost of equity estimation methodology, including the comparable companies used, the Discounted Cash Flow (DCF) models used, data utilized and its sources, sensitivity analyses using different assumptions or values of input data, and the implications of differing capital structures and a recommended ROE for Idaho Power;

D. A discussion of Idaho Power's proposed capital structure and a capital structure recommendation for Idaho Power;

E. A short discussion regarding Idaho Power's risks;

F. A discussion of the peer utilities used by Idaho Power;

G. A discussion of Idaho Power's DCF models and associated Company-recommended rates of return on common equity;[3] and

[3] Reference to "common equity" and "equity" within this portion of testimony are meant to be synonymous. Similarly, the terms "common stock" and "stock" within this portion

H. A discussion of other methods used by Idaho Power to estimate the Company's cost of equity capital.

SUMMARY OF RECOMMENDATIONS

Q. PLEASE SUMMARIZE YOUR ANALYSIS AND CONCLUSIONS.

A. My analysis includes the following:

- I select a group of peer electric companies comparable to Idaho Power in both degree of regulation and risk as perceived by the market.
- I present conclusive evidence that publicly traded and dividend-paying U.S. corporations smooth their dividends; i.e., such companies have earnings that are more volatile than dividends, and therefore have earnings growth rates that can be and currently are higher than their dividend growth rates.
- I use two multistage DCF models, with investment horizons of 25 years and terminal value calculations, with Value Line information to develop estimates of ROEs for both my peer utilities and those of Idaho Power witness Dr. Avera. The second of these two models uses an innovative approach to accommodate forecasted growth in earnings that differ from that of dividends.
- I argue that electric utilities are unlikely over a long-term future to grow as fast as the U.S. economy as measured by GDP. I provide

---

of testimony are used synonymously and are equivalent to "common equity" and "equity."

evidence from the only provider of long-term growth estimates of the electric utility industry[4] that the industry will have a rate of growth through at least 2035 that is appreciably less than that of GDP.

- I include the use of forecasted long-term GDP growth as an upper limit on the growth rates of regulated electric utilities.
- I use an accepted method of adjusting the ROE results of each peer utility for capital structures that differ from that of Idaho Power.
- I conclude that use of Dr. Avera's peer utilities produces estimates of ROE that are generally higher than those produced by using my peer utilities.
- I present evidence that Dr. Avera's selected peer utilities, used in several of his ROE models, are much less regulated than is Idaho Power.
- I argue that the presence of material non-regulated lines of business in Dr. Avera's peer utilities as compared with those I use may account for the higher estimated growth rates for his peer utilities.

Q. WHAT ARE YOUR SUMMARY RECOMMENDATIONS?

A. Table 1 (following) illustrates returns on long-term debt and common stock, as well as capital structure, as currently authorized, as proposed

[4] The Department of Energy's (DOE) Energy Information Administration (EIA) is the only publicly available provider of long-term forecasts of the electric utility industry I have identified. I discuss these forecasts later in this testimony.

in Idaho Power's direct testimony, and as recommended by Staff in this testimony.

Table 1

Idaho Power Capital Structure and Component Returns

		Percent of Total	Rates of Return	Weighted Average
Currently Authorized (UE-213)				
Component				
Long Term Debt		50.20%	5.964%	2.994%
Preferred Stock				
Common Stock		49.80%	10.175%	5.067%
	Total	100.00%		8.061%
Idaho Power Proposed (UE-233)				
Component				
Long Term Debt		48.824%	5.728%	2.797%
Preferred Stock				
Common Stock		51.176%	10.500%	5.373%
	Total	100.00%		8.170%
Staff Recommended (UE-233)				
Component				
Long Term Debt		50.1%	5.623%	2.817%
Preferred Stock				0.000%
Common Stock		49.9%	9.500%	4.741%
	Total	100.0%		7.558%

I recommend a range of return on equity for the Commission to consider of 9.0 to 9.7 percent, along with a point estimate of 9.5 percent, with both range and point estimate associated with a capital structure as proposed in my testimony, which is one of 50.1 percent long-term debt and 49.9 percent common stock. This results in my recommending a rate of return of 7.558 percent inclusive of Staff's

recommended cost of long-term debt.[5] The 9.5 percent ROE and 7.558 percent ROR I recommend meet the *Hope* and *Bluefield* standards, as well as the requirements of Oregon Revised Statue (ORS) 756.040. My recommendations are consistent with establishing "fair and reasonable rates" that are both "commensurate with the return on investments in other enterprises having corresponding risks" and "sufficient to ensure confidence in the financial integrity of the utility, allowing the utility to maintain its credit and attract capital."[6] A significant portion of this testimony discusses ROE estimates for other electric utilities and holding companies.

RISKS AND RETURNS OF COMMON EQUITY INVESTMENTS

Q. WHAT DOES "RISK" MEAN WITH RESPECT TO COMMON EQUITY INVESTMENTS?

A. The literature of finance[7] typically defines risk as the variability in outcomes, where outcomes are divergent investor returns[8] over some holding period when compared with an *a priori* expected return for the asset held over a like period. Risk has two aspects: unique risk and market risk. Unique risk is applicable only to the common stock of a

---

5 *See* Exhibit Staff/700 Ordonez for Staff's recommended cost of long-term debt.

6 *See* ORS 756.040(1)(a) and (b).

7 This discussion follows that in *Principles of Corporate Finance*; Tenth Edition; 2011; by Brealey, Myers and Allen, especially that on page 163ff.

8 Investor returns are <u>total</u> returns; i.e., those resulting from dividends received as well as from realized gains or losses due to security price changes.

specific company;[9] i.e., "unique" to that company. "Unsystematic risk," "idiosyncratic risk," "specific risk," and "diversifiable risk" are other terms by which the concept of unique risk is known. Unique risk can potentially be eliminated by the addition of diversifying investments[10] to an investment portfolio. As emphasized by the authors of a widely used corporate finance textbook,[11] "[f]or a reasonably well-diversified portfolio, only market risk matters" (emphasis added).

Q. HOW IS THE MARKET RISK OF AN INDIVIDUAL STOCK MEASURED?

A. The market risk[12] of an individual stock,[13] in a well-diversified portfolio, is the sensitivity of the stock's return to those of the stock market as a whole. This measure of sensitivity is termed "beta" and is conventionally represented by the Greek letter β, or beta.[14]

---

[9] I recognize companies can and do have different classes of common stocks, which typically differ in voting rights.

[10] A diversifying investment in this context is one whose returns are imperfectly correlated with the portfolio as a whole.

[11] Brealey, Myers and Allen; *op. cit.*, page 170.

[12] Market risk is also known by the terms "systematic risk" and "undiversifiable risk."

[13] In the current context "individual stock" refers to the common stock of a specific company and "stock market" refers to the market or markets where trading in such common stocks occurs.

[14] The beta (β) of an asset or portfolio is a number describing the relation of its returns with that of the market as a whole. An asset with a beta of zero (0) means that its returns are not at all correlated with the market; the returns of the asset are independent from those of the market. A positive beta means that the asset's returns generally follow those of the market. A negative beta implies that the asset's returns inversely follow those of the market; the asset generally decreases in value if the market goes up and vice versa.

The formula for the beta of an asset within a portfolio is

Q. WHAT IS A "WELL-DIVERSIFIED PORTFOLIO?"

A. A well-diversified stock portfolio is one whose dispersion of actual historical returns, measured by standard deviation, approaches that of the stock market as a whole. This implies, for a diversified investor, the primary source of investment uncertainty is with respect to market risk.

The stock market as a whole, by the standard definition, has a beta of 1.0, so a well-diversified portfolio also has a beta of 1.0 (or very nearly so). If a stock portfolio's returns are perfectly (and positively) correlated[15] with the stock market as a whole, the portfolio has a beta of exactly 1.0. Additionally, since the market beta is 1.0, the beta of the "average" stock is 1.0.

Q. HOW, WITHIN THE CONSTRUCT OF A WELL-DIVERSIFIED PORTFOLIO, ARE RISK AND RETURN RELATED?

A. The answer to this question forms a good deal of that part of finance theory concerned with investments.[16] A basic conclusion is that

---

$$\beta_a = \frac{\mathrm{Cov}(r_a, r_p)}{\mathrm{Var}(r_p)},$$

where r_a measures the rate of return of the asset, r_p measures the rate of return of the portfolio, and Cov(r_a,r_p) is the covariance between the rates of return. In the Capital Asset Pricing Model (CAPM) formulation, the portfolio is the market portfolio that contains all risky assets, and so the r_p terms in the formula are replaced by r_m, the rate of return of the market.

Beta is also referred to as financial elasticity or correlated relative volatility, and can be thought of as a measure of the sensitivity of the asset's returns to market returns, and the asset's non-diversifiable risk (or systematic risk or market risk).

[15] Perfectly (and positively) correlated means the correlation coefficient (a statistical measure) between portfolio returns and market returns is +1.0.

[16] A working definition of investment theory might be that it is the body of knowledge used to support the decision-making process of choosing investments for various

investments with higher undiversifiable risks require, in well-functioning capital markets, a higher *a priori* expected rate of return than do investments having lower undiversifiable risks.

Q. WHY IS THE RELATIONSHIP BETWEEN RISK AND RETURN IMPORTANT TO CONSIDER WHEN ESTABLISHING AN AUTHORIZED RETURN ON EQUITY FOR A RATE OF RETURN REGULATED UTILITY?

A. Understanding this relationship serves to define boundaries around a fair rate of return on common equity for utilities operating under one or more rate of return regulatory regimes. The average annual return,[17] including dividends, of Standard & Poor's S&P 500 index[18] from 1926 through 2000 was 10.7 percent.[19, 20] This index has performed less

---

purposes. Topics included are portfolio theory, a variety of asset pricing models, and the efficient market hypothesis.

[17] Average annual returns cited in my testimony, unless otherwise specified, are of the geometric mean construction. This construction provides an average rate which, multiplied by one plus itself *n* times ("compounded") where *n* is the number of periods of growth, equates the value of an investment with the value of the investment *n* periods forward. A geometric growth rate is sometimes referred to as compound annual growth rate (CAGR).

[18] The S&P 500 is a market capitalization-weighted index of 500 large companies and is often used as a proxy for the entire U.S. stock market. *See* the S&P 500 fact sheet at http://www.standardandpoors.com/servlet/BlobServer?blobheadername3=MDT-Type&blobcol=urldata&blobtable=MungoBlobs&blobheadervalue2=inline%3B+filename%3DFS_SP_500_LTR.pdf&blobheadername2=Content-Disposition&blobheadervalue1=application%2Fpdf&blobkey=id&blobheadername1=content-type&blobwhere=1244017995489&blobheadervalue3=UTF-8 (accessed November 28, 2011).

[19] *See* page 4 of "Long-Run Stock Returns: Participating in the Real Economy," by R. Ibbotson and P. Chen, *Financial Analysts Journal*, January/February 2003, Vol. 59, No. 1. The 10.7 percent annual average total return was calculated on a geometric basis; i.e., it is a compound annual growth rate (CAGR).

[20] *See also*, in Docket No. UE 215, Exhibit Staff/903, where the annual average total return of "large company stocks" over the period 1926 – 2008 on a geometric basis is

well in more recent years, with an average annual total return over the past five years of 0.25 percent as of November 28, 2011.[21]

Assuming the S&P 500 index is an adequate representation of the U.S. stock market,[22] the average beta of stocks in the index is (positive) 1.0. Beta values[23] from Value Line's *Investment Survey* (Value Line) for companies in both my and Idaho Power's groups of comparable companies[24] average less than 1.0, at 0.71 and 0.75, respectively. This indicates the comparable companies, whether mine or Idaho Power's, on average have materially less market risk than the

---

9.6 percent.PGE provided this information as the company's response to Staff data request number 45 in UE 215.

[21] *See* certain returns for the S&P 500 at http://www.standardandpoors.com/indices/sp-500/en/us/?indexId=spusa-500-usduf--p-us-l-- (accessed November 28, 2011).

[22] Stocks in the S&P 500 index account for approximately 75 percent of the U.S. equity market's total value. *See* the fact sheet on this index at http://www.standardandpoors.com/servlet/BlobServer?blobheadername3=MDT-Type&blobcol=urldata&blobtable=MungoBlobs&blobheadervalue2=inline%3B+filename%3DFS_SP_500_LTR.pdf&blobheadername2=Content-Disposition&blobheadervalue1=application%2Fpdf&blobkey=id&blobheadername1=content-type&blobwhere=1244017995489&blobheadervalue3=UTF-8 (accessed November 28, 2011).

[23] Per Value Line at http://www.valueline.com/Tools/Glossary.aspx (accessed November 28, 2011), Value Line betas are based on "the historical sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Index." Notably, composition of the NYSE Composite Index is approximately 83% U.S. companies; i.e., a material portion of the index consists of non-U.S. stocks. This index has, as of November 28, 2011, 1,523 U.S. companies. *See* http://www.nyse.com/about/listed/nya_characteristics.shtml . Per Bloomberg at http://www.bloomberg.com/apps/quote?ticker=NYA:IND (accessed November 28, 2011), the NYSE Composite Index "encompasses 61% of the total market capitalization of all publicly traded companies around the world" (emphasis added). Per the NYSE, the Composite Index is composed of approximately 82 percent U.S. companies (by number) and approximately 69 percent by (presumably) market capitalization. *See* at http://www.nyse.com/about/listed/nya_characteristics.shtml (accessed November 29, 2011).

[24] I use the terms "peer utilities," "comparable companies," "peer companies," and "cohort companies" synonymously in this testimony. A discussion of my group of comparable companies and a brief discussion regarding certain attributes of Idaho Power's group of comparable companies appear later in this testimony.

stock market as a whole.[25] Moreover, "[f]or a reasonably well-diversified portfolio, only market risk matters" (emphasis added).[26] A seemingly logical conclusion is that a forward-looking long-term fair rate of return on equity (ROE), all else being equal,[27] is less than the historical (1926 forward) annual average return, including dividends, of the S&P 500 index. This would seem to hold whether the historical rate of return on the index is the 10.7 percent annual average rate from 1926 through 2000 or the lower (than 10.7 percent) annual average rate from 1926 through the more recent past; e.g., 9.6 percent through 2008. Less risk implies a lower expected return on common equity required by investors.[28]

STAFF'S COST OF EQUITY ANALYSIS

Q. DID YOU USE VALUES FROM COMPARABLE COMPANIES TO ESTIMATE PGE'S COST OF EQUITY?

A. Yes. My selection process for a group of peer companies begins by using the Peer Analytics screening capability in the SNL information

---

[25] More precisely, they have—on average—materially less risk than the stocks comprising the New York Stock Exchange (NYSE).Composite Index as a whole.

[26] Brealey, Myers and Allen; *op. cit.*, page 170.

[27] I discuss the implications of relaxing certain *ceteris paribus* assumptions, such as that pertaining to capital structure, later in this testimony.

[28] The combination of rational investors and efficient capital markets imply risk associated with the unique, or diversifiable, risk of both my and Idaho Power's peer companies has been eliminated by investors holding diversified portfolios, with individual stock price reflecting this diversification from each individual company's unique risks. The remaining risk, that of market risk, is evaluated by investors to be materially less (betas of 0.71 and 0.75, respectively, versus 1.00 for the average U.S. stock) than that of the average company's common stock.

service. I applied seven screening criteria to the SNL database of 68 publicly traded companies in the power industry,[29] including the Boolean operators ("and;" "or"). I then applied three additional screening criteria and additional checks. The 10 screening criteria I used to select the group of peer companies are listed below.

1. In Power industry; and
2. Operating Status is "Current;" and
3. "Ticker" symbol is not "Not Available." This criterion limits the results to publicly traded companies. And
4. S&P Long-term Issuer Rating of BBB+, BBB, or BBB-. This criterion eliminates companies having a long-term credit rating more than "one-step" different from the S&P Long-term Issuer Rating of BBB for Idaho Power. And
5. Compound Annual Growth Rate of Declared Dividends over the five year period ending in 2010 is greater than or equal to 0 percent. This criterion limits results to companies having no decline in dividends over the period 2006 through 2010. Or
6. "Ticker" is "POR." This allows inclusion of Portland General Electric, which a) paid dividends over the period 2006 through 2010; and b) did not have a decline in declared dividends over this period. PGE was not screened-in with the preceding criterion, as the

[29] Among the 68 companies are those engaged in lines of business other than electric distribution; e.g., merchant power producers. The 68 may also include one or more firms headquartered in Canada.

company did not pay a dividend in 2005.[30] The combination of this criterion with the preceding criterion effectively yielded those companies having paid a dividend in each of the years 2006 through 2010, which dividend was not reduced over this timeframe. After additional investigation I concluded PGE was the only company after application of the first four criteria for which both "a" and "b" were true, which is the result I wanted; i.e., to screen-in those companies declaring a dividend in each year of 2006 through 2010, where the dividend was not reduced or eliminated in any of these years from the level of the prior year.[31] And

7. The company is not a merger target. And
8. Electric utility revenue is 80 percent or more of total revenue. I made this calculation in Excel following output from SNL of data associated with the 35 companies resulting from the first seven criteria, which output included the companies' 2010 values of electric utility revenue and total revenue from SNL's database. While SNL's database did not have a value for ALLETE's electric

[30] The lack of a declared dividend in 2005 results in PGE's compound average annual rate of growth in declared dividends over the 2006 through 2010 period being "infinitely large," which is the reason it was not screened-in by criterion 5.

[31] Dividend growth rates for companies excluded by this criterion, including companies re-establishing dividend payments previously eliminated, may be uncharacteristically high, even "exceptionally high." *See*, in Docket No. UE 147, PPL/200 Hadaway/14 beginning at 16. I do not view PGE's dividend growth rate, as projected by Value Line, of 3.0 percent over the period 2008 – 2010 to 2014 - 2016 to be materially different from the 3.3 percent average annual growth rate for my group of comparable companies.

utility revenue, page 6 of the company's 2010 Form 10-K filing[32] included that 92 percent of ALLETE's consolidated operating revenue was from regulated operations. Therefore, I did not exclude ALLETE based on this criterion.

9. A categorization of "regulated" by the Edison Electric Institute (EEI) in that organization's 2010 Financial Review.[33] EEI's "regulated" category includes "those companies having 80% of holding company assets are regulated." The list of companies categorized by EEI includes 61 "shareholder-owned electric utility holding companies."

10. The company is covered by Value Line. Value Line is a standard reference; is not associated with either the "buy" or "sell" side of the market; i.e., the company does not benefit from stock transactions as, say, broker/dealers benefit. Additionally, Value Line does not benefit from corporate financing activities the way investment banks or financial firms providing similar services benefit. The Value Line

---

[32] I accessed the 10-K I used through SNL, at http://www.snl.com/Cache/A957F1767010754229.pdf?Y=10-K&KeySession=%7bBE2949DE-FFC8-4EE8-B222-16EC9543F722%7d&F=A957F1767010754229.HTML&CachePath=%5c%5cdmzdoc2%5cwebcache%24%5c&O=HTML&KeyOnlineUser=1000254110&T=ALE&S=HTML&PDF=1&D=12%2f31%2f2010 , on November 29, 2011. Note that SNL's service is restricted to licensees.

[33] *See* page 43 of the report, which is available at http://www.eei.org/whatwedo/DataAnalysis/IndusFinanAnalysis/finreview/Pages/strategies.aspx (accessed November 29, 2011). EEI's categories of companies, including the number of companies listed in each in the 2010 report, are regulated (38), mostly regulated (19), and diversified (4). The respective category "break points" of the percent of total assets that are regulated, are ≥80 percent, 50 to 79 percent, and <50 percent; i.e., less than one-half of the assets of companies in the diversified category are regulated.

information I used is from their company Reports, the one-page-per-company information I believe to be available in any U.S. public library above some modest size at no charge to library patrons. U.S. investors, and specifically non-institutional investors, can—for the direct cost associated with transportation to and from their local public library—obtain the same Value Line information I used.

I performed additional checks on the 11 companies that passed screening criteria one through 10. I performed Web searches to determine if any remaining companies were involved with merger activities more recent that the data available from SNL or was involved in merger activities, but not as a merger target. This eliminated Northeast Utilities, which is merging with NSTAR.[34] I also reviewed Value Line information, screening out Empire District Electric Company as Value Line's September 23, 2011 report indicated the company, following the May, 2011 tornado that devastated parts of its Missouri service territory, suspended its dividend for the rest of 2011.[35, 36]

---

[34] *See*, e.g., the online version of the Hartford Courant, which indicated in a story dated July 8, 2011, that the Federal Energy Regulatory Commission (FERC) approved this merger. The story is available at http://articles.courant.com/2011-07-08/business/hc-northeast-utilities-nstar-merger-20110708_1_northeast-utilities-nstar-merger-attorney-general-george-jepsen-utility-rates (accessed November 29, 2011).

[35] *See* Value Line's September 23, 2011 report on Empire District Electric. While the company, per Value Line, intends to restore its dividend in 2012, Value Line expects the 2011 amount to be one-half of the 2010 level.

[36] The tornado in May 2011 occurred after the publication dates of the Value Line reports used by Dr. Avera. The Value Line company reports he used are dated February 4, 2011 for those companies classified by Value Line as "West;" February 25, 2011 for those companies classified by Value Line as "East;" and March 25, 2011 for those companies classified by Value Line as "Central;" i.e., the May, 2011

ITC Holdings was excluded, as EEI does not categorize this firm (criterion 9); i.e., EEI presumably does not consider the company to be an electric utility or the holding company of an electric utility. Value Line's September 23, 2011 report describes ITC Holdings' business as engaging in "the transmission of electricity in the United States. The company operates primarily as a conduit, moving power from generators to local distribution systems..." and having "operations regulated by the Federal Energy Regulatory Commission" (FERC). Value Line's report includes that "ITC Holdings is not like other electric utilities. It is the sole publicly traded transmission-only company" (emphasis added) and "ITC's four subsidiaries are allowed very healthy returns on equity of 12.16% to 13.88%." Additionally, the Value Line report states that the company acquired Michigan Electric Transmission Company in 2006 and Interstate Power & Light's transmission assets in 2007. These attributes and acquisitions make ITC Holdings sufficiently different from the electric utilities whose business includes electricity distribution that I excluded the company.

Table 2 (following) lists the eight companies I found comparable to Idaho Power as well as those companies Idaho Power identified as "comparable."[37] All of the firms in this table are listed on the New York

---

Midwest tornado occurred well after the date of the Value Line report covering Empire District Electric and therefore before the date the company suspended dividend payments.

[37] The list of peer utilities used by Idaho Power is discussed at Exhibit Idaho Power/400 Avera/24 through Avera/27 and listed in Exhibits Idaho Power/402, 403, 409,

Stock Exchange (NYSE) other than Otter Tail, which is listed on the National Association of Securities Dealer Automated Quotation system (NASDAQ).

and 410. Note that Dr. Avera also uses a list of non-utility peer companies, which are listed in Exhibits Idaho Power/404 and 405.

Table 2

Companies Comparable to Idaho Power

	Company	Ticker	Staff's List	Idaho Power's List
1	ALLETE	ALE	✓	
2	American Electric Power	AEP	✓	✓
3	Ameren	AEE		✓
4	Avista	AVA		✓
5	Black Hills	BKH		✓
6	CenterPoint Energy	CNP		✓
7	Cleco	CNL	✓	✓
8	CMS Energy	CMS		✓
9	Constellation Energy	CEG		✓
10	DTE Energy	DTE		✓
11	Edison International	EIX		✓
12	Empire District	EDE		✓
13	Great Plains	GXP		✓
14	Hawaiian Electric	HE		✓
15	IDACORP	IDA	✓	✓
16	Integrys Energy	TEG		✓
17	ITC Holdings	ITC		✓
18	Otter Tail	OTTR		✓
19	Pepco Holdings	POM		✓
20	PG&E	PCG		✓
21	Pinnacle West Capital	PNW	✓	✓
22	Portland General Electric	POR	✓	✓
23	TECO Energy	TE		✓
24	UIL Holdings	UIL	✓	
25	Westar Energy	WR	✓	
26	Wisconsin Energy	WEC		

Table 3 (following) lists the 10 screening criteria I used and Idaho Power's values for each. I indicate "not applicable" for several criteria;

most of which result from the Company's being wholly-owned by IDACORP and therefore not publicly traded. Note that these distill to essentially those publicly-traded U.S. operating local distribution electric utilities (or holding companies thereof) having a Long-term Issuer rating from S&P within the BBB± range, with 80 percent or more of their revenue classified as electric utility revenue and 80 percent or more of their assets classified as regulated.

Table 3

Staff Screening Criteria and Values for Idaho Power

Criterion	Idaho Power Value
1. Power industry?	Yes
2. "Current" operating status?	Yes
3. "Ticker" not "Not Available?"	Not applicable
4. S&P Long-term Issuer rating BBB+/BBB/BBB- ?	Yes (BBB)
5. Non-negative compound annual dividend growth rate?	Not applicable (but true of IDACORP since 2004)
6. Ticker is "POR"	Not applicable
7. Merger target?	No
8. Electric Utility Revenue ≥ 80%?	Yes (97.6% in 2010[38])
9. EEI "Regulated?"	Yes (IDACORP is "yes"[39])
10. Covered by Value Line?	No

Q. DOES IDAHO POWER CAPTURE MOST OF ITS REVENUES THROUGH OPERATING AS AN ELECTRIC UTILITY?

A. Yes. As EEI lists "regulated" as IDACORPs categorization (more than 80 percent of assets regulated) and Idaho Power's revenue stream is almost entirely (97.6 percent in 2010) regulated, companies operating as electric utilities or holding companies having one or more electric utility subsidiaries must be predominantly, if not entirely, regulated to

[38] SNL, accessed November 29, 2011, has electric utility revenue as $1,033,052 thousand and total revenue as $1,058,016 thousand for 2010. Idaho Power's revenue stream is almost entirely (97.6 percent) regulated.

[39] I assume that, if IDACORP assets are more than 80 percent regulated, those of Idaho Power are also more than 80 percent regulated. This appears to be a valid assumption after reviewing the types of businesses other than Idaho Power consolidated into IDACORP reporting; i.e., most appear to be unregulated.

be comparable with Idaho Power. The Company's 2010 Form 10-K has on page five that Idaho Power (the electric utility) contributed 98.5 percent of IDACORP's (the holding company) net income in 2010.

Q. WHY DO YOU USE DIFFERENT COMPARABLE COMPANIES THAN IDAHO POWER?

A. I will discuss Idaho Power's peer utilities in more detail later in my testimony.

STAFF'S DISCOUNTED CASH FLOW MODELS

Q. WHAT TYPES OF MODELS DID YOU USE TO DEVELOP STAFF'S RECOMMENDED RETURN ON EQUITY FOR IDAHO POWER?

A. I rely primarily on two different multistage discounted cash flow models[40] for estimating the expected return on common equity required by Idaho Power investors. I also update certain input parameter values for some of the models used by Idaho Power witness Dr. Avera and contrast the results with both his results and those from my two DCF models.

Q. WHAT IS A DISCOUNTED CASH FLOW MODEL?

A. A discounted cash flow, or DCF, model estimates the rate of return for an investment using cash flows over a suitable valuation timeframe. As

[40] *See*, in Docket No. UE 115, the Commission's discussion of multistage versus single stage DCF models in Order No. 01-777 at page 27.

used in return on equity studies, a DCF model provides an estimate of the expected annual rate of return investors require on a specific investment before they will invest.

The "cash flow" portion of these models refers to the assumption that an investor cares about the amounts and timing of money they pay and receive associated with, say, their investing in a company's stock. Note that the cash flows are those going to and coming from the investor, not to and from the company; i.e., the investor directly cares about cash flows he or she will experience and only indirectly about cash flows the company will experience. The typical pattern of cash flows used in DCF models can be characterized as: a) a cash outflow from the investor, as the investment is made; b) multiple cash inflows over time to the investor, as the company pays cash dividends; and c) a "terminal" cash flow to the investor, occurring at that time in the future when the stock is sold.[41] In a corporate structure,[42] dividends paid to the investor represent returns on capital[43] and the proceeds from selling the stock in the future represent both an additional return

---

[41] These types of DCF models may be thought of as having a terminal valuation "stage."

[42] Limited partnerships and REITs are two examples of structures which may differ from this. *See* FERC Opinion 486-B for a discussion of Master Limited Partnerships in proxy groups of oil and natural gas pipeline firms for use in determining ROE.

[43] The reference here is to normal dividends; i.e., not special dividends. A special dividend is a non-recurring distribution of company assets, usually in the form of cash, to shareholders. Special dividends are typically large in comparison with normal dividends paid out by the company.

on investment as well as the return of investment.[44] I also refer to a DCF model involving the payment of dividends to investors as a Dividend Discount Model, distinct from other DCF models used for different purposes.[45] In other words, all dividend discount models are DCF models, but not the converse.[46]

The term "discount" refers to the assumption that investors have a positive time preference;[47] i.e., all else being equal, an investor prefers receiving a dollar today over receiving a dollar in a future period. To reflect this positive time preference, future cash flows are discounted by some factor and the further (more periods) into the future a cash flow occurs, the greater the numerical value by which it is discounted. In the absence of risk, the discount rate only reflects time preferences. As applied to risky investments, such as common stocks, it also incorporates risk.

The analytical result of a DCF model for estimating a company's cost of capital is the rate at which future periodic[48] cash inflows to the investor, as well as any terminal value realized at the end of the

---

[44] This assumes that the cash received for selling the stock is greater than the price at which it was purchased.

[45] Discounted Cash Flow or DCF analysis is generally thought of in areas of corporate finance, such as capital budgeting, as a technique, not a model.

[46] I have seen each of the two terms used in the professional literature of financial economics for discounted dividend DCF models.

[47] This assumption might be less defensible in the current environment, in which some short-term interest rates appear to be negative on a real basis (after adjustment for expected future inflation) than it would be in more typical interest rate and inflation environments.

[48] And the terminal cash flow, if applicable.

investment horizon, are discounted such that they equal, in total, the current cash outflow, which is the price paid by the investor for the stock.[49, 50] In other words, the rate resulting from a DCF model is the rate which, when used to discount future cash flows, equates the present value of future (net) cash inflows with the (negative of[51] the) current cash outflow.

Q. PLEASE DESCRIBE THE FIRST OF THESE TWO DCF MODELS.

A. The first model is a conventional three-stage Discounted Dividend Model requiring for each comparable company the following values as inputs: a "current" market price per share of common stock; estimates of dividends per share[52] to be received in the years 2012 through 2016; an annual rate(s) of dividend growth over the 2017 through 2021 period; and a long-term growth rate applicable to dividends beyond 2022.[53] The three stages of the model refer to the 2012 through 2016 period (Stage 1, of five years), where I use Value Line's forecasts of dividends per share; the 2017 through 2021 period (Stage 2, also of

---

[49] This rate is known in most contexts as the internal rate of return, or IRR. *See*, e.g., Brealey, Meyers, and Allen; *op. cit.*, page 107ff. In some contexts of discussing DCF model results I use the terms IRR and ROE interchangeably, while in other contexts where I am describing an adjustment to an IRR that results in an ROE, I distinguish between the two terms. I trust my meaning is, in context, clear to the reader.

[50] *See* the additional discussion of price later in this testimony.

[51] "Negative of" as, to the investor, the present value of future cash flows is positive—a net inflow—while the initial cash transaction is an outflow, or "negative cash flow."

[52] Each comparable company has its own price per share and estimated dividends per share. The long-term dividend growth rate is common across the comparable companies.

[53] This multistage DCF model directly applies the estimated long-term growth rate to dividends per share over the 2022 through 2036 timeframe. Dividends per share for the 2010 through 2015 period are based on information supplied by Value Line.

five years), where the rate of dividend growth converges from the average rate over the 2008 – 2010 to 2014 – 2016 period[54] to the growth rate of the third stage in 2021; and the 2022 through 2036 period (Stage 3, of 15 years). The model includes a terminal value calculation, in which I assume dividends per share grow indefinitely ("forever") at the rate of growth in Stage 3.

Q. WHY DID YOU USE FIVE YEARS FOR STAGES ONE AND TWO AND 15 YEARS FOR STAGE THREE?

A. I use five years for Stage One as that is the timeframe for which Value Line estimates of future dividends are available. I use five years for Stage Two as that seems a reasonable length of time for individual companies' dividend growth rates that are materially different from the growth rate used in Stage Three (and common to all companies) to converge to a long-term dividend growth rate more representative of all electric utilities. I discuss the mechanics of this convergence below. I used 15 years for Stage Three, as the end of Stage Three (in 2036) covers a presumably relevant 25 year horizon for investors, given my inclusion of a terminal valuation of the price at which a company's

[54] This procedure, in which an average "base" is established by averaging the values of two or more periods, is used in Value Line's Reports; e.g., *Annual Rates of Change* on the left hand side of a Report.

stock is sold in 2036.[55] I describe the methods I use for terminal valuation below.

Q. HOW DID YOU ESTABLISH THE "CURRENT" MARKET PRICE PER SHARE FOR EACH COMPARABLE COMPANY?

A. The "current" market price I used was the average of the closing prices for each comparable company (see Table 2) on the first trading day of the last three months; i.e., September 1st, October 3rd, and November 1st of 2011.[56] Using prices from multiple days with some time interval (approximately one month) in between minimizes the potential "noise," or likelihood of being atypical, in using a sample of but one recent price or of, say, two closing prices on consecutive trading days.

Q. IS PRICE IMPORTANT WITH RESPECT TO YOUR ANALYTICAL RESULTS?

A. Yes, and more generally to all DCF models incorporating price. As an analogy, consider a teeter-totter and its balance where both ends are at other than their extreme position; i.e., not all the way up and not all the way down, but in balance, with neither end on the ground. If the left hand side (LHS) of the teeter-totter is a stock's price and the right hand side (RHS) is the estimated future cash flows (dividends and the future selling price) accruing to the shareholder, the value of the IRR is the

---

[55] Note that some institutional investors might have a considerably longer investment timeframe; e.g., life insurance companies may have an investment horizon exceeding 100 years; e.g., where an investment is made for 100 years to match an obligation expected in 100 years.

[56] These were accessed at Big Charts http://bigcharts.marketwatch.com/historical/default.asp .

"fulcrum," or the value at which the teeter-totter is in balance; where the future cash flows, discounted at the internal rate of return (IRR),[57] equal the stock's price.

As applied to a stock investment, if the discount rate of investors in the stock increases,[58] all else being equal (and, in particular, no change in estimated future dividends and expected future selling price of the stock), the stock price declines to maintain the balance. The balance is the stock price that results in the market for the stock being in equilibrium, given no change in other relevant variables.

Q. WHAT IF THE ESTIMATED FUTURE DIVIDENDS OR THE EXPECTED FUTURE SELLING PRICE OF THE STOCK DECLINE?

A. In a circumstance where either estimated future dividends or expected future selling price of the stock (or both) decline, all else (and, in particular the discount rate) being equal, the stock price declines to maintain the balance. In our teeter-totter analogy, these dynamics between the current stock price, future cash flows (future dividends and expected future selling price), and the discount rate is akin to the fulcrum point moving from one side of the teeter-totter to the other in order to maintain balance between the LHS and the RHS.

---

[57] The discounted future values are added together to provide one value, which is the present value of the future cash flows. It is this present value that is equated to the stock price by the IRR.

[58] The discount rate can be thought of for our purposes here as the composite discount rate of all investors in the market.

Q. DO DISCOUNT RATES CHANGE?

A. Yes. Research concludes they do change, and not gradually. The author of a recent article on discount rates, Professor John Cochrane of the University of Chicago's Booth School of Business and the National Bureau of Economic Research (NBER), stated unequivocally that they do change in his 2011 Presidential Address to the American Finance Association: "Discount rates vary over *time* ("Discount rate," "risk premium," and "expected return" are all the same thing here.)"[59] (emphasis in the original).

Q. CAN YOU PROVIDE AN EXAMPLE OF THE IMPORTANCE OF PRICES?

A. Yes. Using closing prices from mid-month (September 15, October 14, and November 15) instead of those from the first trading day of the month, while holding all other input parameters constant, reduced the IRR by an average of 20 basis points for my peer utilities and by an average of 10 basis points for those of Idaho Power.

A sensitivity analysis with one of my DCF models demonstrates that current stock prices for my peer utilities would need to be 18 percent lower—for each company—for the IRR to equal the

[59] Professor Cochrane's speech was published as an article in *The Journal of Finance*; Vol. LXVI, No. 4 (August, 2011) and is available at http://faculty.chicagobooth.edu/john.cochrane/research/papers/AFA_pres_speech.pdf (accessed December 3, 2011). This statement appears on page 1047. Professor Cochrane also discusses on page 1050 research that suggests "…that all price-dividend ratio volatility corresponds to variation in expected returns." If expected dividends (and the expected selling price; see above) are unchanged, this is tantamount to saying price changes result from changes in the discount rate.

10.4 percent Idaho Power recommends.[60] Another sensitivity analysis shows that stock prices of the peer utilities used by Idaho Power, using this DCF model, would need to be 24 percent lower to equal the 11.4 percent obtained by Dr. Avera in his DCF analysis using Value Line information.[61, 62]

Q. IS IT LIKELY THAT THERE WERE CLOSING PRICES ON A DIFFERENT DAY IN THESE THREE MONTHS THAT WOULD PROVIDE A HIGHER AVERAGE ROE?

A. Yes.

Q. IS IT LIKELY THAT THERE WERE CLOSING PRICES ON A DIFFERENT DAY IN THESE THREE MONTHS THAT WOULD PROVIDE A LOWER AVERAGE ROE?

A. Yes.

Q. AS I UNDERSTAND IT, YOU OBTAINED THE CLOSING PRICES AS OF THE FIRST DAY OF EACH OF THE THREE MOST RECENT MONTHS AND SUBSEQUENTLY OBTAINED THE CLOSING PRICES ON THE TRADING DAY CLOSEST TO MID-MONTH. DID

---

60 *See* Idaho Power/400 Avera/5. This is Dr. Avera's "bare bones" recommended ROE.

61 *See* Idaho Power//402 Avera/1, "Average (g)" of column "(f)."

62 Dr. Avera excluded the results of five of his peer utilities in his DCF analysis using Value Line estimates, four because the results were "too low" and one because the result was "too high." I will discuss this point later in my testimony. By comparison, all but two of the peer utilities used by Idaho Power were above 9.0 percent in this sensitivity analysis and the highest IRR value obtained was 13.0 percent. Note that I did not include the two companies having the lowest results in these calculations. I discuss the price of these two companies later in my testimony.

YOU REVIEW THE IMPACT OF PRICES ON ANY OTHER DAY OF THESE MONTHS?

A. No. This fact, in combination with the fact that the second, mid-month "sample" which yields a lower ROE for both my peer utilities on average and a lower ROE for those of Idaho Power on average, a set of prices I did not use, illustrates the conservative approach I have taken in estimating an ROE for Idaho Power in this proceeding.

Q. PLEASE DESCRIBE THE VALUE LINE DIVIDEND INFORMATION YOU USED AND HOW YOU USED IT.

Value Line provides three "sets" of reports for the electric utilities, one for each of three U.S. regions in which the company's operations are located; i.e., one for those in the "East," one for those in the "Central," and one for those in the "West." Value Line issues updated reports on a periodic basis throughout the course of a year. The reports I used for Value Line information are dated, respectively for the regions listed above, November 25, 2011, September 23, 2011, and November 4, 2011.

I used the 2012 value of annual dividends estimated by Value Line for each comparable company; the value indicated as the average for 2014 – 2016 for the 2015 value; interpolated values based on the 2012 and 2015 values for the 2013 and 2014 values;[63] and, for the 2016

[63] My interpolation method used the average annual rate of growth over the period from 2012 to 2015 applied to the previous year's value; i.e., applied to the 2012 value to

value, the rate of annual growth calculated from a base of averaged 2008 – 2010 actual values to the 2014 – 2016 average value estimated by Value Line applied to the 2015 value.[64, 65] In other words, the dividend values for each of the years 2012 through 2016 were either the values estimated by Value Line (2012 and 2015) or interpolated between these two values (2013 and 2014) or derived from the rate of growth implied by the Value Line estimate of the average 2014 – 2016 dividend and a historical base of actual values for 2008, 2009, and 2010 (2016). For the four companies for which I calculate a negative average annual growth rate over the 2008 – 2010 through 2014 – 2016 timeframe,[66] I used the average annual rate of growth from Value Line's 2012 estimate to Value Line's estimated average 2014 – 2016 value (which latter value I used for 2015, as previously mentioned).

---

obtain that for 2013 and applied to the 2013 value to obtain that for 2014. The results of this method vary slightly from those obtained if the change in value from 2015 to 2015 was split equally between the two intervening years.

[64] Value Line provides estimated annual rates of dividend growth on the same basis as I used; i.e., the annual average growth rate in dividends from the average of 2008 – 2010 values to the average of 2014 – 2016 values. I did not use these growth rates as Value Line rounds to the nearest one-half of one percent (50 basis points), although for most companies the two rates, Value Line's and the rate I calculated from Value Line's information (other than the four exceptions in Idaho Power's list noted in the following footnote), are the same value to one-tenth of one percent.

[65] Note that my average for the 2014 – 206 period may be slightly different than the value calculated by Value Line. This is expected by "go both ways," with some companies having a somewhat higher average than estimated by Value Line and some a somewhat lower average.

[66] Value Line estimates that three of Idaho Power's peer utilities will have negative dividend growth rates over the 2008 – 2010 to 2014 – 2016 timeframe, and a fourth (Great Plains) has a negative 0.1 percent annual average growth rate as calculated by me from Value Line values (Value Line indicates Great Plains' annual average growth rate is *nil*). Value Line estimates that the average 2014 – 2016 dividend will increase over the 2012 dividend for three of these four companies—Ameren, Constellation Energy, and Great Plains—while that of the fourth—Empire District—will not.

I derived dividend values for the years 2017 through 2021 by applying a rate of growth, geometrically converging from the average annual growth rate I calculated from the average of 2008 – 2010 actual dividends to the average of Value Line's estimated dividends for 2014 – 2016[67] to the rate I used as the long-term growth rate, to the dividend value for the preceding year. Note that the latter growth rate is greater than the former growth rate for all but one of my comparable companies (Cleco); i.e., this model has the annual rate of dividend growth accelerating from the rate I calculated from Value Line's estimated values for all but one of my peer utilities over the 2017 – 2021 period of Stage 2. In other words, the annual rate of growth "steps-up" over the course of Stage 2 (for seven of my eight peer utilities; for Cleco the growth rate "steps-down"). See columns three and four of Exhibit Staff/802 Storm/1.

Q. WHAT IS AND WHY DID YOU USE A "GEOMETRICALLY CONVERGING GROWTH RATE?"

A. It is reasonable to smooth or taper over the 2017 through 2021 Stage 2 timeframe, the annual rate of dividend growth from the rate specific to each company for 2016 over 2015 to the long-term growth rate common to all companies. This "smoothing" or "tapering" may be either

[67] Note that this underlying growth rate for each company, at the beginning of Stage 2 and before application of the mechanics of convergence, is identical with that used for obtaining 2016 dividend values from the respective 2015 (average of 2014 – 2016) values estimated by Value Line (with the exception of the four companies in Idaho Power's list mentioned in the preceding footnote).

increasing (for seven of my peer utilities) or decreasing (Cleco) the annual rate of growth, hence "converging." The annual growth rate geometrically converges over the course of Stage 2 as the ratio of the long-term average annual growth rate to the average annual rate of growth for 2014 – 2016 over 2008 - 2010[68] is increased (or decreased) exponentially in each year of this timeframe.[69] A geometrically converging growth rate is the method I use for transitioning over multiple periods from one growth rate (for each company) to another (for all companies).

Q. WHAT IS THE TERMINAL VALUE YOU MENTIONED EARLIER?

A. Rather than extend the timeframe of DCF models to the limits of spreadsheet or other software's capability, I use a technique of terminal valuation to produce an explicit estimation of the stock price at the end of Stage 3 in 2036, which is then figuratively "sold," producing the terminal cash flow. This involves calculating the value of a growing

---

[68] The four companies in Idaho Power's list of peer utilities listed in a prior footnote are exceptions to this, for which the initial growth rate in this period (the denominator in the ratio) is that used for 2016; i.e., the average annual rate of growth for 2014 – 2016 over 2012.

[69] This can be expressed mathematically as:

$$D_{t-1} \times (1 + G_{2016}) \times ((1 + G_{LT}) \,/\, (1 + G_{2016}))^{\frac{i}{5}}$$

where

D_{t-1} is the value of the preceding year's dividend;

G_{2016} is the growth rate from 2015 to 2016;

G_{LT} is the long-term growth rate applicable to 2022 through 2036; and

i is an index that is 1 for 2017, 2 for 2018, 3 for 2019, 4 for 2020, and 5 for 2021 (in which year convergence is complete as the exponent of the ratio is 5/5, which equals 1).

perpetuity[70] in 2036, when the stock is "sold," and discounting this value back to the initial period.[71] This method of terminal valuation is commonly used in cost of capital DCF analyses.

As the outcomes of DCF models using a terminal valuation often have a large part of the outcome based on the terminal valuation,[72] I calculated the share of the present value, before addition of the (negatively valued) stock price, attributable to the terminal valuation in column 5 of Exhibit Staff/802. The proportion of total valuation (the current stock price) attributed to the terminal valuation is in the low- to mid-30 percent range, with the percentage being approximately 2.5 percent higher for my group of peer utilities versus those used by Idaho Power. An alternate way to state this is to say that roughly one-third of the estimated ROE is based on the estimated value of dividends to be paid after 2035.

Q. HOW DID YOU DETERMINE THE APPROPRIATE LONG-TERM GROWTH RATE FOR STAGE THREE?

A. Analysts often recommend projected long-term growth in nominal GDP as an appropriate rate of growth for electric utilities beyond the mid-

---

[70] A perpetuity is similar to an annuity, except it has no defined lifespan; i.e., payments continue into perpetuity and, in this case of a growing perpetuity, the periodic amounts received by the investor increase over time.

[71] Calculating the value of a growing perpetuity is a standard technique in finance. *See* Brealey, Myers, and Allen; *op. cit.*, pages 33 and 91-92. The formula used to calculate this value also appears on the inside back cover of this title, as one of "some useful formulas." Note that, in this location, the authors refer to the formula as "the "Gordon" model."

[72] *See*, e.g., the cautionary statement in Brealey, Myers, and Allen; *op. cit.*, on page 92.

term future. While there is sufficient evidence to support, for any regionally diverse group of electric utilities, with each above some minimum size,[73] use of a growth rate for dividends that is less than the growth rate for long-term nominal GDP, I use such values as the rate of growth of dividends. This use, in and of itself given the use of realistic shorter-term growth rates, tends to make my ROE estimates conservative, which in this circumstance means higher than what might otherwise be warranted.

Using such a rate of growth for electric utility dividends as an upper bound is justified by the mathematical fact that any company growing at a rate greater than that of the economy as a whole will, after passage of a sufficient length of time, be the economy. See FERC's discussion on this topic in Opinion 396-B at page 9:

> *"First, the record shows that as companies reach maturity over the long-term, their growth slows, and their growth rate will approach that of the economy as a whole."*

[73] I make this qualification as it may be possible to pick a very small number of the fastest growing electric utilities in the U.S. for which a reasonably longer-term estimate of growth is, on average, higher than an estimated rate of growth in GDP. I assume such electric utilities, if they exist in any number, are smaller in size than the average electric utility. Additionally, the common stock of such companies may not by publicly traded.

This reader of the preceding statement is curious as to which firms are growing more slowly than is "the economy as a whole," as mathematically, not all can be growing more rapidly.[74]

SLOW GROWTH IN THE ELECTRIC UTILITY INDUSTRY

Q. WHY DO YOU SAY THERE IS SUFFICIENT EVIDENCE TO SUPPORT…USING A GROWTH RATE FOR DIVIDENDS THAT IS LESS THAN THE GROWTH RATE FOR LONG-TERM NOMINAL GDP?

A. I have several reasons for saying this. The electric utility industry in the U.S. is a mature industry. Figure 1 (following) is a conceptual depiction of the successive phases of growth through which a product or service, a product (or service) line, or an industry pass.[75] The U.S. electric utility industry is well past the "high growth"[76] phase of the industry's lifecycle and is in the "mature" phase; i.e., the right-hand portion of the graph in Figure 1. This phase is characterized by slower growth and is well represented in the graph in Docket No. 210's Exhibit PPL/209

---

[74] To me, some discussions on this point of regulated utility growth relative to that of GDP have a sense of illusory superiority and appear to be the regulatory cost of capital equivalent of fictional Lake Wobegon, where "…all the children are above average."

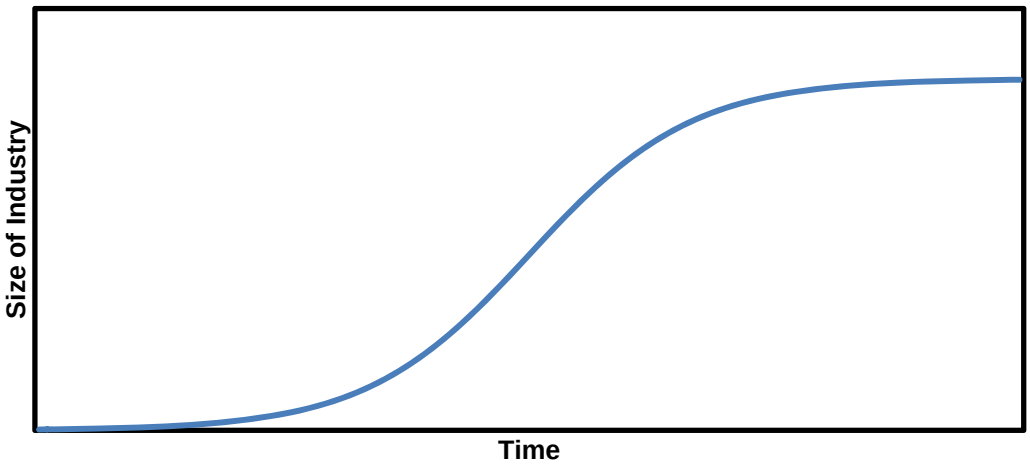
[75] The functional (mathematical) form of the equation producing this graph is a logistic function.

[76] The "high growth" phase is the steep section of the curve in the middle of the graph. Slower rates of growth pertain to both a nascent and to a mature industry, which are respectively positioned on the left and right portions of the curve.

Hadaway/23,[77] where total kilowatt hour (kWh) electricity sales, a unit measure, is clearly shown to be growing at a materially slower rate than real GDP over the 1984 through 2008 period.[78]

Figure 1

Industry Life Cycle

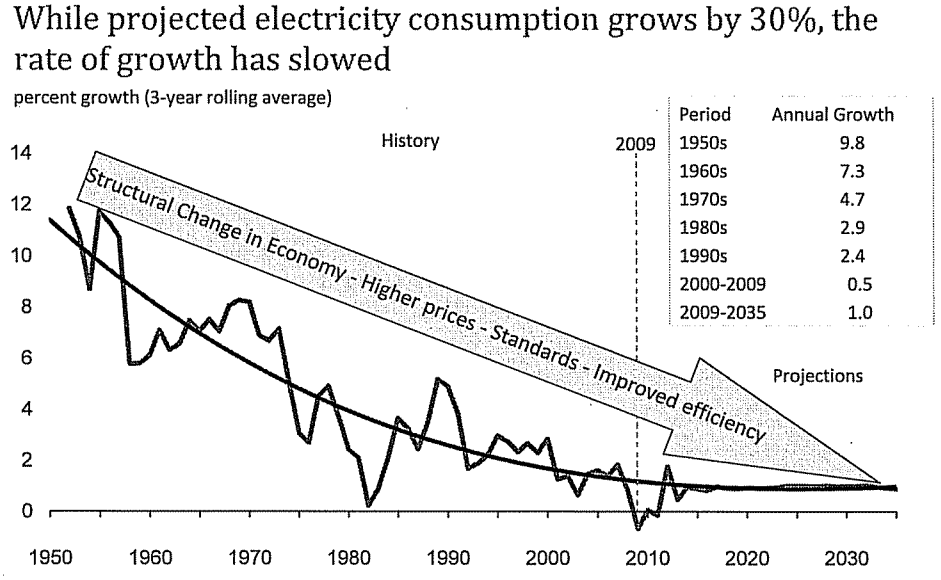


This slower rate of growth is also evident in Figure 2 (following), which shows not only the decline since the early 1950s, but the relatively low rates of growth forecast for years beyond 2011.

[77] The graph is on page 26 of the cited document.

[78] Note in particular the "less than real GDP" rate of growth in kWh sales from, say, 1992 forward.

Figure 2[80]



Source: EIA, Annual Energy Outlook 2011

Additionally, a 2007 presentation by Susan Tierney of the Analysis Group shows an overall decline in expenditures on electricity as a percent of U.S. GDP from 1983 through 2005.[81] I updated Tierney's graphic in Figure 3 (following) to include results through 2010.[82] Per

---

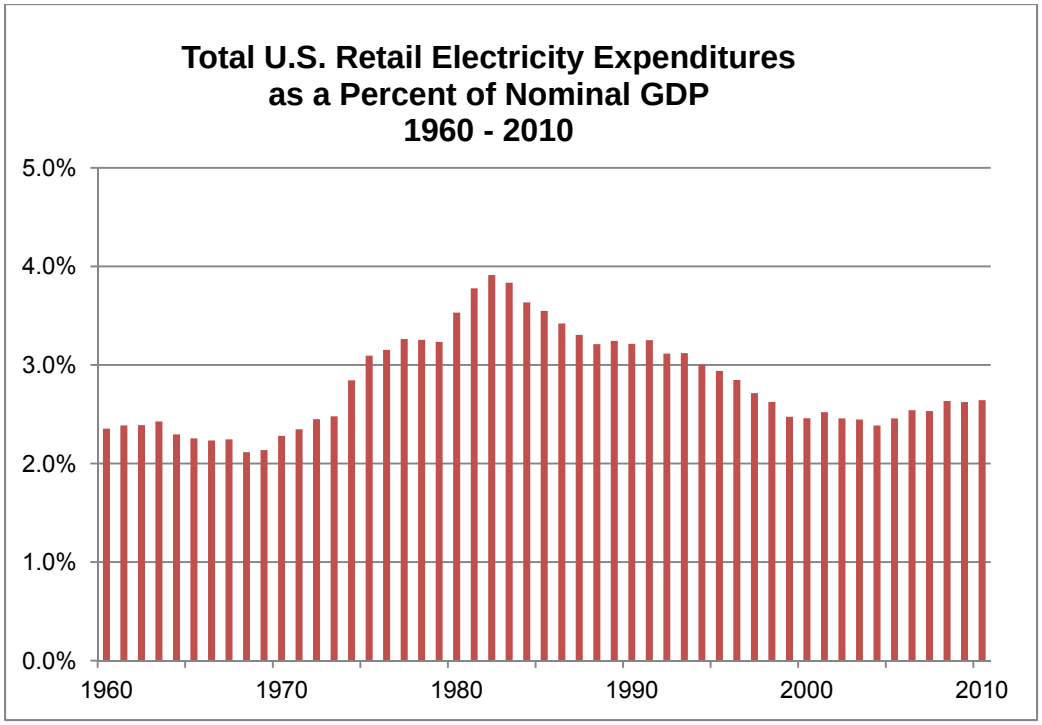
80 Source: EIA's Annual Energy Outlook 2011's *Briefing Slides*, available at http://www.eia.gov/forecasts/aeo/index.cfm (accessed November 30, 2011).

81 *See* Figure 6 on page 7 of Susan Tierney's "Decoding Developments in Today's Electric Industry — Ten Points in the Prism"; available from the Harvard Electricity Policy Group at http://www.hks.harvard.edu/hepg/Tierney%20-%20Decoding%20Electricity%20Prices.pdf (accessed November 30, 2011). In Figure 3 I have updated Tierney's chart through 2010 using underlying information available from the Bureau of Economic Analysis (BEA) at http://www.bea.gov/national/index.htm (accessed November 15, 2011) and EIA's Annual Energy Review 2011 Tables 8.9 *Electricity End Use, 1949-2010* and 8.10 *Average Retail Prices of Electricity, 1960-2010*, available at http://www.eia.gov/totalenergy/data/annual/#electricity (accessed November 30, 2011).

82 Source data for Figure 4 are available from the Bureau of Economic Analysis (BEA) at http://www.bea.gov/national/index.htm (accessed November 15, 2011) and EIA's

Tierney, "…as a percentage of gross national product, the U.S. spends about 2/3rd less on electricity than what we spent during the 1980s."[82] This long-term secular trend, due to underlying structural change in the U.S. economy, will continue (see Figure 2).

Figure 3



Annual Energy Review 2011 Tables 8.9 *Electricity End Use, 1949-2010* and 8.10 *Average Retail Prices of Electricity, 1960-2010*, available at http://www.eia.gov/totalenergy/data/annual/#electricity (accessed November 30, 2011).

[82] Tierney; *op. cit.*, page 7.

Figure 4

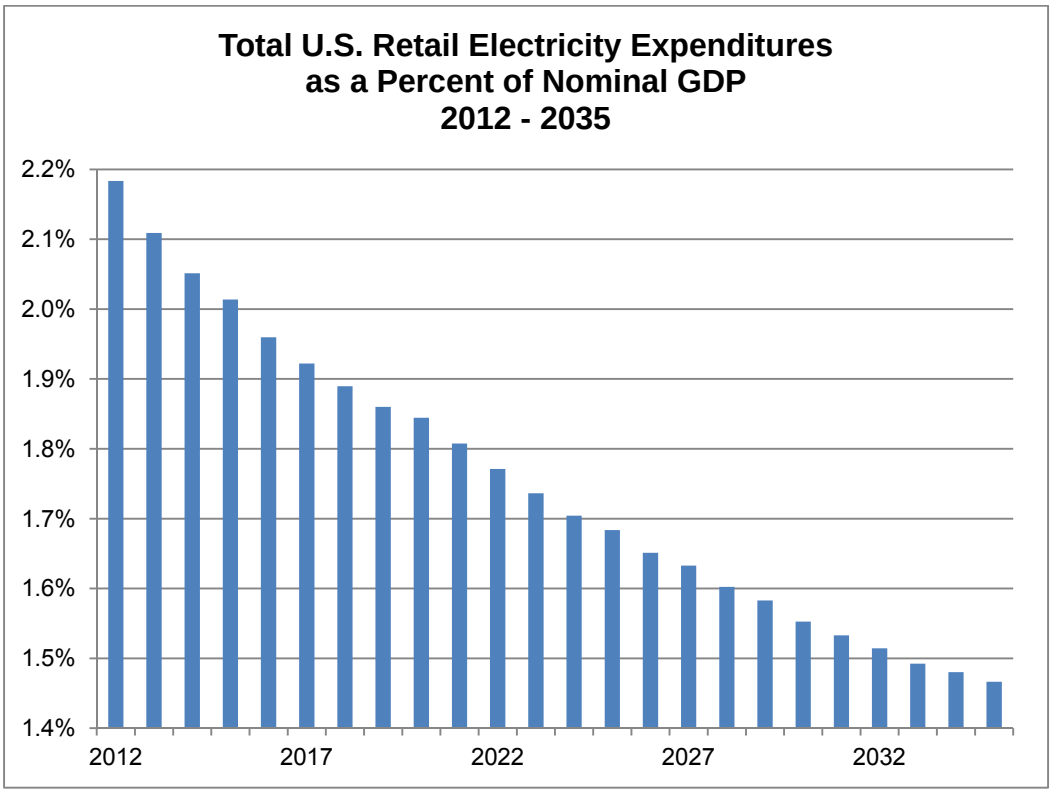


Figure 5

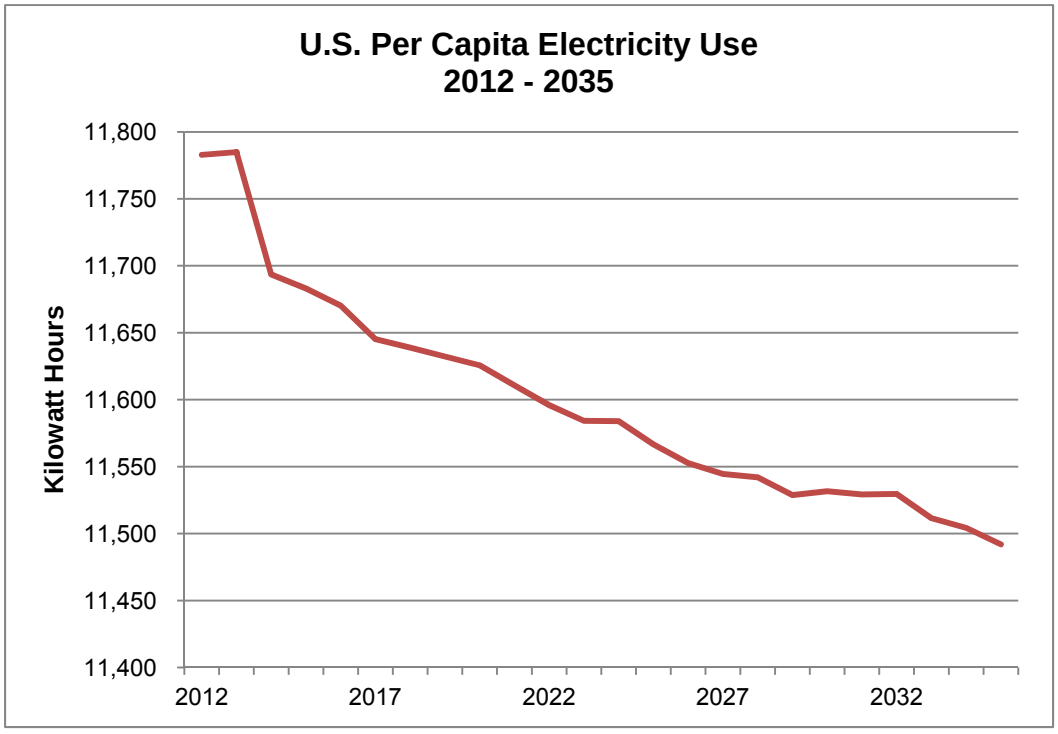


Figure 4, compiled using data from EIA,[83] depicts electricity expenditures as a percent of nominal GDP declining over the 2012 - 2035 period. Figure 5 depicts U.S. per capita electricity use declining over the period 2012 through 2035.[84] The implication of this information is clear: the long-term growth rate in revenue and earnings[85] for the electric utility industry will be less than the long-term growth rate of nominal GDP.[86]

A 30-year future in which electricity prices increase at a higher rate than inflation does not seem likely; in fact, the forecast "goes the other way." EIA forecasts retail electricity prices to increase over the period 2012 – 2035 at an average annual rate of 2.0 percent,[87] while the Consumer Price Index – All Urban (CPI) is forecast to increase at an

---

[83] Data used in Figure 5 are from EIA's Annual Energy Outlook 2011, Tables *Electricity Supply, Disposition, Prices, and Emissions, Reference Case* and *Macroeconomic Indicators, Reference Case*. This information is available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed November 30, 2011).

[84] Data used in Figure 5 are from the same 2011 AEO tables used in Figure 4.

[85] Earnings growth is necessary for dividends to grow. I provide additional discussion on this point later in this testimony.

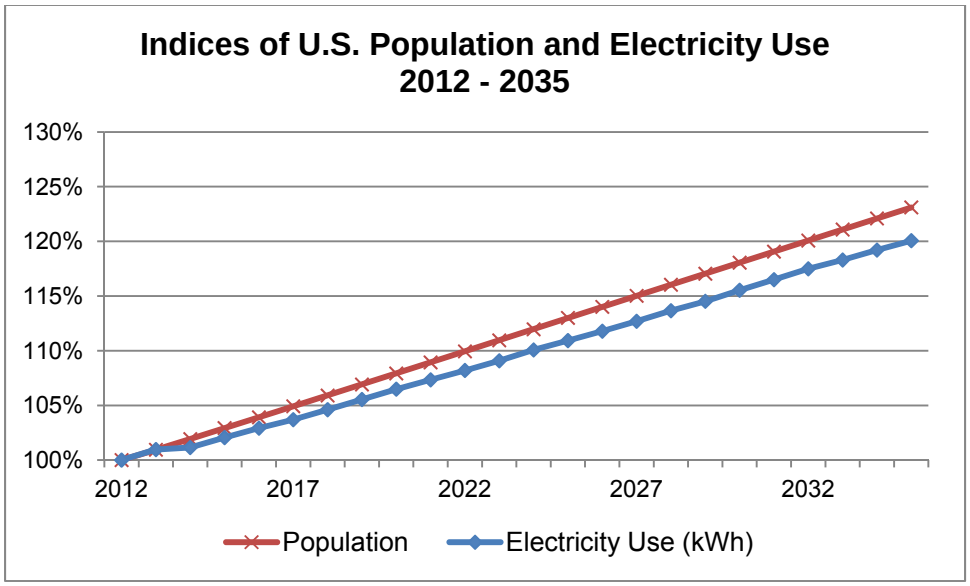
[86] The only way this is not possible is if electricity unit prices increase not only at a higher rate than general inflation, but also at a rate sufficiently high to more than offset the lower than real GDP rate of growth in electricity volumes. See also the graph "Cost of Electricity vs. Consumer Prices" in Docket No. 210's Exhibit PPL/209 Hadaway/17, where, by visual inspection, it appears the "electricity component of CPI" price measure has not risen at a rate greater than the rate of overall price inflation as measured by the Consumer Price Index (CPI) over the 1992 through 2008+ period. In other words, over the past 16 years, the price of electricity has increased at a rate similar to (not greater than) consumer prices generally.

[87] Prices are on a kilowatt-hour basis. Source: EIA's Annual Energy Outlook 2011, Tables *Electricity Supply, Disposition, Prices, and Emissions, Reference Case*. This information is available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed November 30, 2011).

average annual rate of 2.1 percent;[88] i.e., over the period 2012 – 2035, retail electricity prices are not expected to keep pace with inflation.

Electricity use over the period from 2012 through 2035 is growing, albeit slowly and at a rate similar to, but less than that of population. Figure 6[89] (following) plots the level of each over this period, with 2012 having a value of 100 percent for each. Population is forecast to grow at an average annual rate of 0.9 percent and electricity at a slightly slower average annual rate of 0.8 percent.

Figure 6



[88] Source: EIA's Annual Energy Outlook 2011, Tables *Electricity Supply, Disposition, Prices, and Emissions, Reference Case* and *Macroeconomic Indicators, Reference Case*. This information is available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed November 30, 2011).

[89] Source: EIA's Annual Energy Outlook 2011, Tables *Electricity Supply, Disposition, Prices, and Emissions, Reference Case* and *Macroeconomic Indicators, Reference Case*. This information is available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed November 30, 2011).

Industry observers other than EIA see the electric utility industry as one of slower than average growth. From the February 26, 2009, Standard and Poor's *Industry Surveys – Electric Utilities*: "For firms in the S&P Electric Utilities index…shares tend to trade at a discount to the market multiple *because of the slow-growth nature of utilities' regulated operations*"[90] (emphasis added). Presumably, by "slow-growth nature," Standard and Poor's is making an implicit growth comparison with an average of all industries or with the economy as a whole. [91] Note that this "slow-growth nature" pertains to future growth; the stock market establishes prices on a forward-looking basis. While S&P may be describing historical growth, they must also be describing a "slow growth" future; otherwise market multiples for electric utility stocks would not trade at a discount to the market multiple.

It seems unlikely that electric utilities earnings will grow faster than revenues over the long-term; or alternatively stated, it is likely that electric utilities' earnings will grow at a similar rate as revenues. EIA forecasts electricity revenues to grow more slowly than nominal GDP, as shown in Figure 7 (following).[92] Over the 2012 through 2035

---

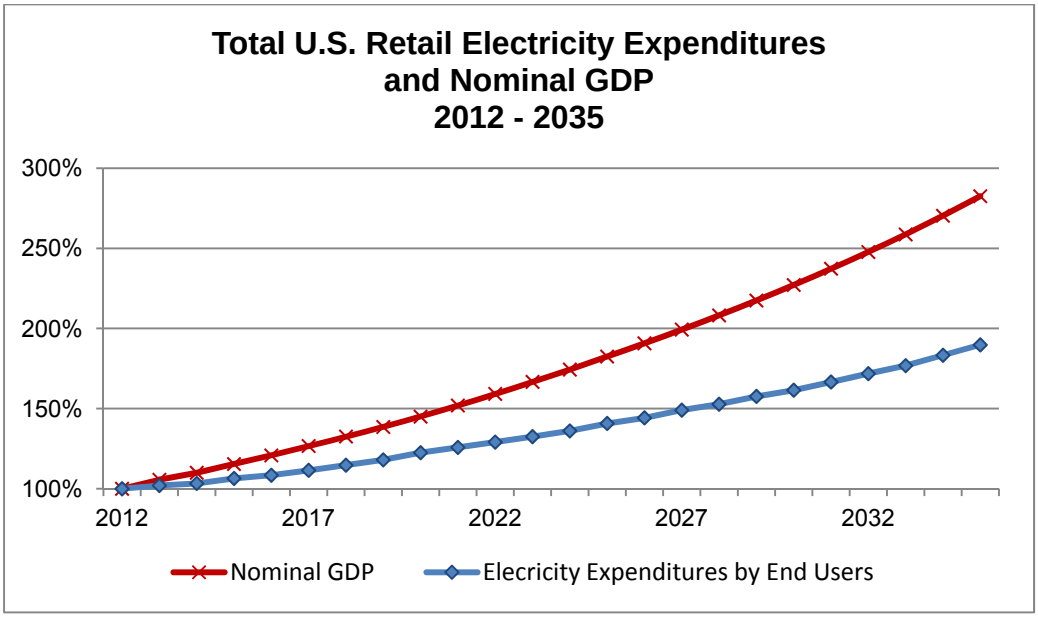
[90] *See,* in Docket No. 210, Exhibit PPL/209 Hadaway/28 (the last paragraph of page 26 of the document).

[91] Arguably, S&P is, contrary to my interpretation, comparing "slow-growth nature of utilities' regulated operations" with the growth for electric utilities overall or for electric utilities' non-regulated operations. This is one reason my screen of comparable companies includes a criterion that regulated assets account for at least 80 percent of total assets and at least 80 percent of total revenue is electric utility revenue.

[92] Data used in Figure 7 are from EIA's Annual Energy Outlook 2011, Tables *Electricity Supply, Disposition, Prices, and Emissions, Reference Case* and *Macroeconomic*

timeframe, EIA forecasts an annual average increase in electricity revenues from end users to increase at an average annual rate of 2.8 percent, while the agency forecasts nominal GDP to increase at an annual average rate of 4.6 percent. The difference between these rates of growth moderates somewhat over the end of this timeframe; over the period 2022 through 2035, electricity revenues are forecast to increase at an average annual rate of 3.0 percent while nominal GDP grows at an average annual rate of 4.5 percent.

Figure 7



To summarize, over the period 2012 through 2035, electricity use is forecast to grow more slowly than population; electricity prices are forecast to increase at a slower rate than consumer prices as

Indicators, Reference Case. This information is available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed November 30, 2011).

measured by the CPI; and electricity expenditures (revenues from end users) are forecast to grow at a materially slower rate than nominal GDP.

As earnings growth is necessary over the long-term to support dividend growth, there is sufficient evidence to support the use of a growth rate for dividends that is less than the growth rate of long-term nominal GDP.

LONG-TERM GROWTH RATES

Q. DO YOU USE A RATE OF LONG-TERM GROWTH THAT IS LESS THAN GDP, GIVEN THE OUTLOOK FOR THE INDUSTRY YOU DESCRIBED ABOVE?

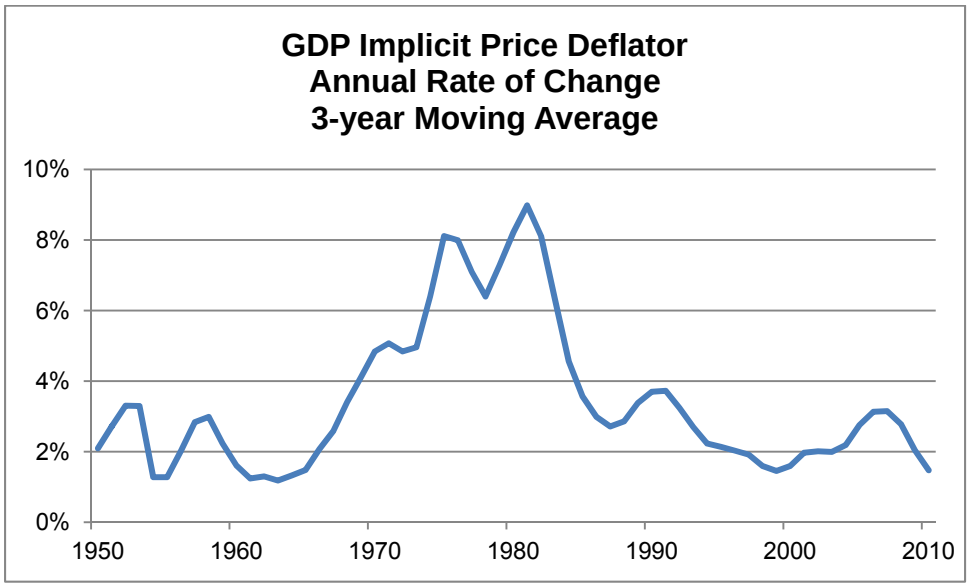
A. No; and that is one of the reasons my recommended ROE is conservative.

Q. WHAT LONG-TERM GROWTH RATE OR RATES DID YOU USE?

A. I use several. I first calculated the average annual historical rate of real GDP, as rate of inflation has changed over the past 60 years. Figure 8 (following) illustrates this using the Implicit GDP Price Deflator,[93] which is a very broad measure of inflation.

[93] The BEA defines an implicit price deflator as "…the ratio of the current-dollar value of a series, such as gross domestic product (GDP), to its corresponding chained-dollar value, multiplied by 100." *See* at http://www.bea.gov/faq/index.cfm?faq_id=513&searchQuery=implicit deflator&start=0&cat_id=0 (accessed December 1, 2011).

Figure 8



As can be seen, inflation heated-up beginning in the mid-1960s and declined dramatically in the mid- to late-1980s.[94] Therefore, rates of long-term growth based on historical nominal values of GDP include the impact of this more-or-less two decade experience in which the rate of inflation was relatively high when compared with the remaining four decades since 1950. For this reason, a more methodologically appealing approach is to use a growth rate of historical real GDP and appliqué an independently developed estimate of future inflation. I reviewed real GDP growth rates for a variety of periods. Table 4 (following) has the growth rates for certain periods over the past

[94] As measured by the GDP Implicit Price Deflator and expressed in Figure X using a three-year moving average of annual rates of change in this index. The data underlying this chart is available from the Federal Reserve FRED site at http://research.stlouisfed.org/fred2/series/GDPDEF/downloaddata?cid=21 .

60 years. Due to the oil price shocks in the 1970s,[95] and the ensuing "stagflation," I chose 1980 through the most recently reported quarter (2011 Q3) as the period most applicable for estimating future growth in real GDP.[96]

Table 4

U.S. Real Gross Domestic Product

Historical Period	Annual Average Real GDP Growth[97]
1961 – 2010	3.1%
1971 – 2010	2.8%
1981 – 2010	2.6%
1991 – 2010	2.5%
2001 – 2010	1.4%

An ordinary least squares (OLS) regression of the natural logarithm of quarterly values of seasonally adjusted annual rates of real GDP[98]

---

[95] *See* Perron's discussion of the impact of the 1973 oil price "shock" on the change in the trend rate of real GNP growth, including the observation that "…after that [1973] date, the slope of the trend function has sensibly decreased. This phenomenon is consistent with the much discussed slowdown in the growth rate of real GNP since the mid-seventies;" on page 1382 of "The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis'" in *Econometrica*, Vol. 57, No. 6 (November,1989).

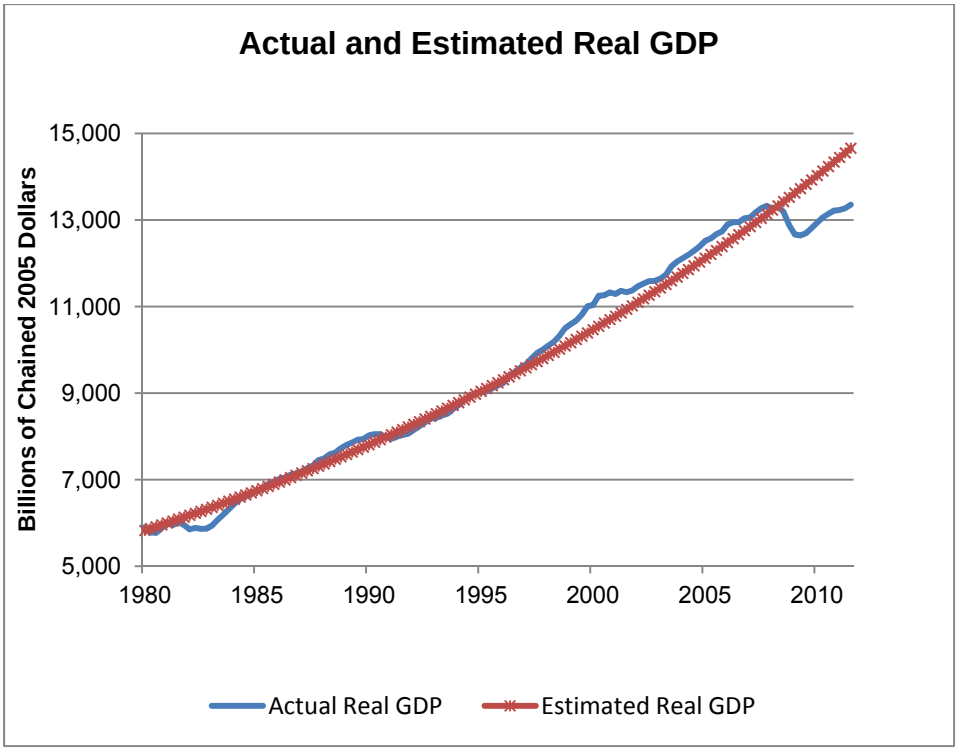
[96] Note that no statistical tests were conducted on this or any other period's values of real GDP.

[97] These rates are compound annual growth rates; i.e., the growth rate at which the beginning value, when annually compounded over the respective period by the growth rate, equals the value at the end of the period,

[98] Expressed in billions of chained 2005 dollars; i.e., the period for which the nominal value equaled the real value was 2005.

over the period 1980 Q1 through 2011 Q3,[99] provided a compound annual growth rate for real GDP over the period of 2.96 percent. Figure 9 (following) plots estimated values of real GDP based on this regression and the actual values.[100]

Figure 9



[99] That is to say, the natural logarithms of annual values of real GDP were regressed against values for time; i.e., a semi-log regression model.

[100] *See* John Cochrane's "How Big is the Random Walk in GNP" from the October, 1988 *Journal of Political Economy* for an assessment of real GNP growth having mean-reversionary versus random walk qualities.

The average annual rate of growth over the 1980 through 2010 period is 2.6 percent, while the regression analysis yields 2.96 percent over a similar period.[101]

Q. HOW DID YOU TRANSFORM THE ESTIMATED 2.96 PERCENT ANNUAL GROWTH RATE FOR REAL GDP INTO AN ANNUAL GROWTH RATE FOR NOMINAL GDP?

A. As the purpose is to develop a forecast of the dollar value of dividends per share paid in future periods,[102] I developed a forecast of inflation using the TIPS[103] breakeven method of estimating inflationary expectations.[104] This involved constructing a forward curve of dollars, priced in terms of today's dollar;[105] i.e., a forecast of future price levels. This inflation forecast provided an average annual inflation rate forecast for 2022 through 2031 of 2.54 percent. An advantage of such a forecast is that it is actually "being made" by economic agents (investors) collectively having considerable amounts (trillions of dollars)

---

[101] Limiting the regression to Q4 2010 (not shown) provided a similar result; i.e., the annual average rate of growth was five basis points lower.

[102] Future dividends are valued in nominal dollars.

[103] Treasury Inflation-Protected Securities (or TIPS) are the inflation-indexed notes and bonds issued by the U.S. Treasury. The principal amount of these securities is adjusted with changes in the Consumer Price Index. The coupon rate is constant, but generates a different amount of interest when multiplied by the inflation-adjusted principal, thus protecting the holder against (or compensating the holder for) inflation. The U.S. Treasury currently offers TIPS in five-, seven-, 10-, and 20-year maturities.

[104] *See* "Inflationary Expectations: How the Market Speaks," S. Kwan, *Federal Reserve Bank of San Francisco's Economic Letter*, Number 2005-25, October 3, 2005. *See also* "Empirical TIPS," R. Roll, *Financial Analysts Journal*, January/February 2004, Vol. 60, No. 1; pages 31 - 53

[105] This analysis used the U.S. Treasury securities' monthly average interest rates for the months of August and September, 2011, available in the Federal Reserve's Statistical Release H.15 at http://federalreserve.gov/releases/h15/data.htm .

at risk. The global market for debt securities issued by the U.S. Treasury is almost certainly the world's largest financial market for securities of a single issuer.

I multiplied the 2.54 percent estimated annual inflation rate by the estimated 2.96 percent annual rate of growth in real GDP to obtain an estimated long-term average annual growth rate in nominal GDP of 5.58 percent.[106,107]

Q. DID YOU USE ANY OTHER LONG-TERM GDP GROWTH RATES?

A. Yes. I reviewed a variety of governmental sources for forecasts of long-term GDP over the timeframe 2022 through 2036. The two forecasts matching my needs were from the Office of Management and Budget (OMB) and from EIA. The former provides a nominal GDP growth rate of 4.3 percent for 2021, which combines their forecast of a "steady state" 2.5 percent real GDP growth rate with their forecast of a 1.8 percent change in prices.[108]

I calculated an annual average growth rate in nominal GDP using EIA forecasts by first calculating annual values of nominal GDP from

---

[106] Combining a forecast of real GDP with an inflation forecast to get a forecast of nominal GDP is not new. S*ee,* e.g., *New Regulatory Finance*; Roger A. Morin; 2006; page 311. While Dr. Morin has the two rates being added, the correct mathematical treatment is in the following footnote.

[107] By "compounding," or multiplying, the two rates; i.e., (1 + 0.0254) X (1 + 0.0296) – 1 = 0.0558, or 5.58 percent (rounded to two decimal places).

[108] *See* OMB's September 1, 2011 Mid-Session Review, Table 2 on page 9 at http://www.whitehouse.gov/sites/default/files/omb/budget/fy2012/assets/12msr.pdf (accessed November 28, 2011). OMB's reason for the forecast long-term growth rate being less than the historical average is, on page

EIA's forecast of real GDP and of a "Chain-type Price Index"[109] and using the nominal values of GDP to calculate an average annual rate of growth in nominal GDP of 4.5 percent over the 2022 through 2035 timeframe.

Q. HOW DID YOU USE THE THREE FORECASTS OF NOMINAL GDP?

A. I averaged the three forecasts by weighting the forecast based on history and the TIPS inflation forecast at 50 percent and the two governmental agency forecasts at 25 percent apiece. This is a conservative approach in that the forecasts of nominal GDP[110] by the two governmental agencies are "down-weighted" at 25 percent each and giving the forecast based on historical real GDP and the TIPS inflation forecast a 50 percent weight; i.e., my composite forecast is based one-half on the forecast having the largest average annual rate of growth in nominal GDP.

Q. ARE YOU AWARE OF ANY NON-GOVERNMENTAL SOURCE THAT PROVIDES FORECASTS COVERING THE PERIOD BEYOND 2020?

A. No. There is an exception in that the OMB document previously cited has the Blue Chip 2021 year over year forecast for real GDP at 2.6 percent and the GDP price index at 2.1 percent.[111] I did not incorporate

---

[109] *See* EIA's Annual Energy Outlook 2011 Macroeconomic Indicators table for the Reference Case, available at http://www.eia.gov/oiaf/aeo/tablebrowser/ (accessed December 1, 2011).

[110] Or, in the case of the EIA forecast, of explicit values that when combined are a forecast of nominal GDP, as previously described.

[111] OMB 2011; *op. cit.*, page 12.

this exception, as OMB indicates a Blue Chip outlook for a long-term real GDP growth rate similar to that used by OMB; i.e., "All the forecasters have a similar expectation for the long-run growth rate, which is expected to be around 2-1/2 percent per year." Additionally, the 4.55 percent average of the Blue Chip and CBO forecasts of nominal GDP for 2021 is essentially identical with the 4.53 percent OMB forecast.[112]

DISCOUNTED DIVIDENDS AND THE TIME VALUE OF MONEY

Q. ARE THERE ADDITIONAL FEATURES OF THIS DCF MODEL YOU WOULD LIKE TO DISCUSS?

A. Yes. One problem with developing discounted dividend models in a spreadsheet is how to account for the fact that most corporations paying dividends do so on a quarterly basis; i.e., four payments in each year. The analyst has the choice of either expanding the spreadsheet and modeling on a quarterly basis as opposed to the more commonly used annual basis or relying on mathematical calculations within the context of annual values as Microsoft Excel calculates IRRs assuming cash flows occur at the end of the period. As previously discussed investors are assumed to have a positive time preference, and the value of receiving four quarterly dividends at the end of each year,

[112] OMB 2011; *op. cit.,* page 12.

which is how Excel works in an annual model, is less than the value of receiving them quarter by quarter.

Q. HOW DID YOU DEAL WITH THIS "TIMING ISSUE?"

A. While literature discusses several methods, I averaged the results of two annual model variants, which differ in the timing of cash flows.[113] The first variant is the conventional discounting of cash flows to yield an IRR, with the end-of year timing. The second variant accelerates the receipt of dividends by one year, as the end of one year is effectively the beginning of the next year.[114] Each model calculates an IRR, which I average by peer utility. This technique effectively changes the timing of receipt of dividends from all four quarterly dividends being received at the end of the year, to all four quarterly dividends being received in the middle of the year.

Q. ARE THERE ANY OTHER FEATURES OF THIS MODEL TO DISCUSS?

A. Yes. Another problem with cost of equity analyses is being able to compare the resulting ROEs (IRRs) between companies that may have very different capital structures. I make adjustments for the differences between the peer utilities' capital structures and my recommended Idaho Power capital structure for the 2011 test year of 50.1 percent

[113] The first variant uses "beginning of year" (BOY) values and the second variant uses "end of year" (EOY) values.

[114] Receipt of the first dividend, for 2012, is at the same time the stock is purchased; therefore the initial cash flow, which in the first variant is the purchase of the stock, is in the second variant the sum of the negative price (cash outflow) and 2012 dividend (cash inflow).

long-term debt and 49.9 percent common equity.[115] I use the Hamada equation[116] to make this adjustment[117] for each individual peer utility, with the resulting adjustment to estimated ROE for each company in Table 5 (following).[118] The Hamada equation decomposes the beta of a company's stock into two parts: a measure of risk related to the company's business activities (the unlevered beta) and a measure of risk related to how the company finances those activities; i.e., the risk associated with the company's capital structure.

Adjustment for capital structure differences using the Hamada equation requires as inputs for each peer utility the observed capital structure, the income tax rate, the target capital structure, an assumed beta[119] of the company's long-term debt[120] and one of: the historical

---

[115] I discuss the recommended capital structure late in this testimony.

[116] *See* Morin, *op. cit.*; pages 221ff. *See also* pages 4-8 of the January 15, 2004 rebuttal testimony of Robert G. Rosenberg in the New York jurisdiction's *Rochester Gas & Electric Corporation*, Case Nos. 03-E-0765, 02-E-0198, and 03-G-0766 and "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks;" Robert S. Hamada; *The Journal of Finance*, Vol. 27, No. 2 (May, 1972).

[117] *See* Brealey, Myers, and Allen; op. cit.; pages 484 – 486 and especially footnote 17.

[118] Note that using as historical rates a market rate of 11.0 percent and the intermediate government bond rate of 5.4 percent as the risk-free rate (implied risk premium 5.6 percent) coupled with the average of the average yields over the months of March and April of 2010 for the 10-year U.S. Treasury (3.79 percent), provided approximately the same results.

[119] An assumed beta as I have not seen an observed debt beta, although one could be constructed using observable market prices for a company's debt, assuming it is publicly traded.

[120] I assumed the long-term debt for each peer utility has a beta of 0.0. A sensitivity analysis assuming a beta of each peer utility's long-term debt has a beta of 0.3, while it did change individual companies' ROE adjusted for capital structure, it did not change the average adjusted ROE for either my peer utilities or for the peer utilities used by Idaho Power; i.e., the negative adjustments within each of the two groups of companies offset the positive adjustments in each group.

values for the risk-free rate and the market rate, or the historical risk premium. I used Value Line's 2011 estimates for each peer utilities for the first two parameters, and Staff's recommended 50.1 percent long-term debt – 49.9 percent common equity as the target capital structure. The Commission has previously provided guidance on adjustments to ROE for different capital structures, as in Order No. 01-777:

> *"It is well understood by finance practitioners and theoreticians that the cost of equity drops as the percentage of common equity in the capital structure increases. Because the average amount of common equity in the capital structure of the comparable group of electric companies was 45.14 percent compared to 52.16 percent for PGE, it necessarily follows that PGE has a lower cost of equity. PGE's capital structure is therefore less risky, and its cost of common equity should be adjusted accordingly."*[121]

I used rates of return from page 23 of the 2009 Ibbotson SBBI Valuation Yearbook, supplied in Docket No. UE 215 by PGE in response to Staff data request 45, using the 3.7 percent average T-bill rate as the historical risk-free rate and the 9.6 percent average return on large company stock as the historical market return.[122]

---

[121] *See* in Docket No. UE 115 Order No. 01-777 at 36.

[122] As a an analysis of the sensitivity of the adjustments for capital structure to use of different values of market premium, I also used an 8.3 percent market premium, the higher of the two values Dr. Avera uses. *See* Exhibit Idaho Power/406 Avera/1 – 2. Use of the 8.3 percent market premium also changed some individual peer utilities' ROE adjusted for capital structure and, while it did not change the average adjusted ROE for my peer utilities (the declines offset the increases), it reduced the average adjusted ROE for the peer utilities used by Idaho Power by 0.1 percent. I discuss Dr. Avera's market risk premia later in this testimony.

Table 5

Peer Utility[123]	ROE Adjustment using Hamada equation
ALLETE	0.4%
American Electric Power	-0.2%
Cleco	0.2%
IDACORP	0.2%
Pinnacle West Capital	0.1%
Portland General Electric	0.0%
UIL Holdings	-0.5%
Westar Energy	-0.2%
Average	0.0%

Q. WHAT ARE THE RESULTS OF THIS MODEL?

A. I will first discuss the differences between this model and my second DCF model and follow with a discussion of results from the two models.

Q. HOW DOES YOUR SECOND DCF MODEL DIFFER FROM THE FIRST MODEL?

A. The second model differs in one key aspect, and this difference is important.

Corporations have formal dividend policies, whether documented or not. As a general principle, and, as revealed in research dating back to John Lintner's pioneering research in the mid-1950s,[124, 125]

---

[123] The capital structure adjustments for the peer utilities used by Idaho Power appear in Exhibits Staff/802 and Staff/803.

[124] *See* "Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes;" John Lintner; *The American Economic Review*; Vol. 46, No.2. (May, 1956).

corporations are cautious with respect to changing the dollar amount of dividends paid. The results of Lintner's research have been characterized as concluding that:[126]

1. Managers target a long-term payout ratio[127] when determining dividend payout policy.
2. Dividends are "sticky;" i.e., managers are cautious about changing the level of dividends paid.
3. Dividends are tied to long-term sustainable earnings.
4. Dividends are "smoothed" from year to year; e.g., if it appears the company is capable of sustaining a higher dollar level of dividend payout, managers may adjust over several years as opposed to making an upward change in one year. Stated another way, if earnings increase over one or more years above some long-term trend, managers do not increase dividends by a similar (growth) rate.

---

[125] John Lintner is commonly cited as one of four individuals who individually developed the Capital Asset Pricing Model (CAPM). The other three are Jack Treynor, William Sharpe, and Jan Mossin. This list is occasionally narrowed to Sharpe and Lintner; e.g., see page 25 of "The Capital Asset Pricing Model: Theory and Evidence;" by Fama and French; *Journal of Economic Perspectives*, Volume 18, Number 3 (Summer 2004). This article is available at http://www-personal.umich.edu/~kathrynd/JEP.FamaandFrench.pdf (accessed December 4, 2011).

[126] *See* "Payout policy in the 21st century;" Brav, *et. al.*; Journal of Financial Economics; 77 (2005); page 484.

[127] The payout ratio is the ratio of dividends paid in the period divided by earnings for the period. Payout policies are those corporate policies associated with the payment (or nonpayment) and level of dividends.

Recent research confirms Lintner's findings, with the exception that corporate managers were found to now place less emphasis on targeting the payout ratio (Lintner's number 1, above); e.g., "[n]inety percent of firms strongly or very strongly agree that they smooth dividends from year to year."[128] Payout policies are also conservative in that corporations have a tendency to change in response to permanent changes in earnings: over 65 percent of dividend-paying companies surveyed say stability of future earnings or a sustainable change in earnings are important or very important factors in making decisions about dividends.[129] In particular, the authors' found "cash cows" to be more likely than other firms surveyed to maintain a smooth dividend stream and to not make changes they may have to reverse in the future. The authors' "cash cows" appear similar in some regards to electric utilities.

Q. WHY ARE THE FINDINGS THAT COMPANIES CHANGE THE AMOUNT OF DIVIDENDS CAUTIOUSLY AND SMOOTH DIVIDENDS OVER TIME IMPORTANT?

A. The conventional discounted dividend DCF model assumes that the growth rate for certain parameters in the model are, for any given period, the same; e.g., dividends grow at the same rate as earnings

---

[128] *Ibid.,* pages 497 – 507 (the quotation is from page 499). The authors surveyed 384 financial executives and conducted in-depth interviews with an additional 23. Their research included 256 public companies, of which 166 pay dividends.

[129] *Ibid*., page 499.

grow, which implies the payout ratio is constant in all periods. This is clearly not the case, based on the research discussed above, where corporate managers, on a year-to-year basis, allow the payout percentage to fluctuate and smooth the amount of dividends paid. It is also demonstrably not the case viewing Value Line's estimated dividends and earnings on per share bases to calculate annual average growth rates over the period 2008 – 2010 through 2014 - 2016,[130] as can be seen in Table 6 (following).

Table 6

Average Annual Rate of Growth

Per Share Dividends and Earnings based on Value Line Estimates[131]

2014 – 2016 over 2008 – 2010

	Dividend Growth Rate	Earnings Growth Rate
Staff's Peer Utilities		
ALLETE	1.9%	5.9%
American Electric Power	4.0%	4.7%
Cleco	9.5%	6.2%
IDACORP	3.8%	4.1%
Pinnacle West Capital	1.5%	4.0%
Portland General Electric	3.0%	7.6%
UIL Holdings	0.0%	3.2%
Westar Energy	3.1%	8.6%
Average	3.3%	5.5%

[130] Recall the earlier discussion regarding dividend growth rates calculated from information provided by Value Line.

[131] For those peer utilities used by Idaho Power for which I had to adjust either the dividend or earnings growth rate, I discuss the adjustment in the related text.

Idaho Power's Peer Utilities		
American Electric Power	4.0%	4.7%
Ameren	0.0%	1.4%
Avista	9.0%	4.6%
Black Hills	1.5%	8.4%
CenterPoint Energy	2.9%	3.1%
Cleco	9.5%	6.2%
CMS Energy	13.8%	7.0%
Constellation Energy	1.4%	16.6%
DTE Energy	4.0%	4.6%
Edison International	1.9%	5.1%
Empire District	6.3%	6.9%
Great Plains	9.8%	5.9%
Hawaiian Electric	0.8%	11.1%
IDACORP	3.8%	4.1%
Integrys Energy	0.1%	9.1%
ITC Holdings	5.3%	13.8%
Otter Tail	1.5%	12.8%
Pepco Holdings	1.2%	2.7%
PG&E	4.5%	5.8%
Pinnacle West Capital	1.5%	4.0%
Portland General Electric	3.0%	7.6%
TECO Energy	4.5%	10.4%
UIL Holdings	0.0%	3.2%
Westar Energy	3.1%	8.6%
Wisconsin Energy	16.1%	8.6%
Average	4.4%	7.1%

Based on Value Line's estimates, the average annual growth rate for earnings exceeds that of dividends by an average of 2.2 percent for my peer utilities and by an average of 2.7 percent for the peer utilities used by Idaho Power.

Q. WHICH GROWTH RATE IN PER SHARE VALUES IS MOST RELEVANT FOR ESTIMATING AN ELECTRIC UTILITY'S ROE USING A DISCOUNTED CASH FLOW MODEL?

A. Assuming the company pays a dividend and is expected to continue to do so, it is the growth rate in dividends per share—or, more precisely, the growth rate of the dollar amount of future dividends per share, which are directly related to growth rates[132] —that is most relevant to investors in the publicly traded stock of electric utilities using discounted dividend models to determine value. Dividends constitute a large portion of the value investors receive, both historically for large U.S. companies and on a prospective basis for the peer utilities used by me and those used by Idaho Power,[133, 134] and such investors never receive earnings. To the investor, there are only two periods in a multistage DCF model where the cash flows are not dividends: the initial purchase price (cash outflow) and the selling price at the end of the investment period (cash inflow).[135]

---

[132] In a very real sense as I use them in my DCF model: either growth rates are derived from dividends, or dividends are derived from growth rates; i.e., given one, you also have the other.

[133] *See* support for the "large portion of the value received being dividends" in my discussion of my results later in this testimony. *See* also column 5 of Exhibit Staff/802.

[134] The 2008 Ibbotson Stocks, Bonds, Bills, and Inflation (SBBI) Classic Yearbook, states that a year-end 1925 investment in large company stocks, with dividends reinvested, had an average annual growth rate of 10.4 percent over the period 1926 through 2007. Capital appreciation (price increases) had an average annual growth rate of 6.0 percent. The 4.4 percent difference is largely due to dividends (average annual yield of 4.2 percent). *See* pages 61 – 63.

[135] The selling price would not be included if the model was extended in the number of periods to closely approach the result obtained from an indefinitely long stream of dividends. The growing perpetuity calculation establishes the selling price in DCF models using this method of terminal valuation.

Dr. Roger Morin, in the context of discussing in his *New Regulatory Finance* the use of historical data in DCF models has the following to say on the topic:

> *DCF proponents have variously based their historical computations on earnings per share, dividends per share, and book value per share. Of the three possible growth measures, growth in dividends per share is likely to be preferable, at least conceptually. DCF theory states clearly that it is expected future cash flows in the form of dividends that constitute investment value.*
>
> *However, since the ability to pay dividends stems from a company's ability to generate earnings, growth in earnings per share can be expected to strongly influence the market's dividend growth expectations. After all, dividend growth can only be sustained if there is growth in earnings. It is the expectation of earnings growth that is the principal driver of stock prices. On the down side [sic], using earnings growth as a surrogate for expected dividend growth can be problematic since historical earnings per share are frequently more volatile than dividends per share. Past growth rates of earnings per share tend to be very volatile and can sometimes lead to unreasonable results, such as negative growth rates.*****
>
> *****Under normal circumstances, dividend growth rates are not nearly as affected by year-to-year inconsistencies in accounting procedures as are earnings growth rates, and they are not as likely to be distorted by an unusually poor or bad year. Dividend growth is more stable than earnings growth because dividends reflect normalized long-term earnings rather than transitory earnings, because investors value stable*

dividends, and because companies are reluctant to cut dividends because of the information effect of dividend payments.[136]

This passage confirms the research results reported above: dividends are less volatile than earnings—and they are less volatile because corporate managers smooth dividends from year to year and tie the amount of dividends to long-term sustainable (or normalized) earnings.

Q. MODIGLIANI AND MILLER'S (MM) "DIVIDEND IRRELEVANCE" THEOREM STATES THAT WHETHER AND HOW MUCH A FIRM PAYS IN DIVIDENDS DOES NOT AFFECT THE VALUE OF THE FIRM. HOW MIGHT THIS CONCLUSION BE RELATED TO THE QUESTION OF EARNINGS GROWTH RATES OR DIVIDEND GROWTH RATES?

A. First of all, MM's theorem[137] applies only in perfect capital markets with no taxes and, while in some regards highly competitive, modern capital markets are not perfect if only by the absence of perfect information;

---

[136] *See The New Regulatory Finance*; Roger A. Morin, PhD; 2006. The passage cited is from page 284.

[137] *See "Dividend Policy, Growth and the Valuation of Shares*;" M.H. Miller and F. Modigliani; Journal of Business 34 (October 1961). Each of these two economists became (separately) Nobel laureates for work that included their work together. A concise discussion of dividend irrelevance and related topics can be found in Chapter 16, Payout Policy; Brealey, Myers, and Allen; *op. cit*.Their joint work is usually labeled as "MM" (or occasionally "M&M"), for their surname initials.

i.e., the presence of asymmetric information[138] alone implies they are not perfect. It is, however, a useful construct in which to think about payout policy. Dividend irrelevance implies that an investor is indifferent between receiving some amount(s) of periodic dividends and the price realized with the selling of the stock at the end of the investment timeframe and receiving no or smaller amount(s) of periodic dividends in exchange for realizing a larger price with the selling of the stock, subject to his or her own time preference as reflected in his or her personal discount rate (or rates). In the real world of actual companies and stocks, owners of stock in most electric utilities receive dividends and only part of their total cash received from owning stock is from the final sales price. For owners of stocks that never pay dividends, all of the total cash received comes from the final sales price.

Again using my teeter-totter analogy, the tradeoffs between the presence and amount of dividends versus the final selling price can be made in such a way that the teeter-totter continues to be in balance with the same initial price and same discount rate; i.e., we are merely changing the number and/or sizes of the cash flows on the right hand side.

[138] Asymmetric information is present if one party to a transaction has more or better information than another party to the transaction. I assume asymmetric information is present to some degree in real world stock markets.

Q. DR. AVERA DISCUSSES THE IMPORTANCE OF FUTURE EARNINGS AND OF FUTURE EARNINGS RELATIVE TO FUTURE DIVIDENDS IN ESTIMATING THE ROE OF AN ELECTRIC UTILITY USING DCF MODELS.[139] DO YOU BELIEVE EARNINGS ARE UNIMPORTANT?

A. No, earnings are important, as—and presumably agreeing with Dr. Avera on this point[140]—it is long-term growth in earnings that support long-term growth in dividends. Nevertheless, it is dividends that investors in publicly traded electric utilities explicitly receive, not earnings. It is cash flows to the investor that are used in discounted dividend DCF models, and those cash flows are, with the exception of the purchase price and the final selling price, dividends paid by the company to the investor.

Q. YOU SAID YOUR SECOND DCF MODEL DIFFERS FROM THE MODEL YOU DESCRIBED ABOVE "IN ONE KEY ASPECT." WHAT IS THIS ASPECT?

A. I developed and use the second model to overcome a shortcoming in conventional DCF discounted dividend models, including and perhaps especially the single-stage "Gordon" (constant) growth model. DCF models used for estimating the cost of equity assume the following are growing at the same rate: price, dividends, earnings, and book value.

---

[139] *See* Exhibit Idaho Power/400 Avera/30 at line 21 through Avera/32 line 17.

[140] Exhibit Idaho Power/400 Avera/31 at line 8. As previously noted, I discuss Dr. Avera's use of estimated earnings growth rates later in this testimony.

This implies these models have, across all periods, a constant price-earnings (P/E) ratio, a constant earnings yield (earnings per share, or EPS, divided by price), and a constant payout ratio (dividends per share divided by EPS), the latter of which was discussed above. This shortcoming is present in those situations in which the assumption of earnings and dividends growing at the same rate is not reasonably met, or perhaps not met on average, which is the case for the growth rates in Table 7. Where the first model I described uses the growing perpetuity formula to calculate a sales price in 2036, my second model uses a P/E approach and assumes the P/E ratio is constant over the investment period.

To make use of the fact that Value Line has different estimates of the growth for earnings as compared with that for dividends, I use the dividend growth rate for dividends, which are still the cash flows being discounted in all periods other than the initial (purchase stock) period, and the earnings growth rate for price, which is not discounted when the stock is purchased (since no time in the investment period has yet elapsed), but is discounted when the stock is sold in 2036. To do this, I use my “current” price and the Value Line estimated 2012 earnings per share (EPS) value to calculate a forward P/E ratio. I then estimate the annual EPS for each of the years from 2012 through 2016 using the Value Line estimated EPS in the same manner as I did in the first model and do in this model for the estimated dividends per share

(future dividends in this model have the same values by year as in the first model). Analogous with the geometrically converging growth rates previously described, I have the EPS growth rate geometrically converging in the Stage 2 period (2017 – 2021), from Value Line's average annual growth rate of 2008 – 2010 through 2014 – 2016 to the rate I used as the long-term growth rate for the Stage 3 period beginning in 2022.

The Stage 3 EPS annual growth rate is the same as the Stage 3 dividends per share annual growth rate.

Q. DID YOU HAVE TO MAKE ANY ADJUSTMENTS TO THE EARNINGS BASED ON VALUE LINE'S INFORMATION?

A. Yes. Similar to the issue previously discussed, where four of the peer utilities used by Idaho Power had negative average annual dividend growth rates over the 2008 – 2010 through 2014 – 2016 timeframe, the Value Line earnings information had negative calculated average annual rates of growth for two of the peer utilities used by Idaho Power: Ameren, which was one of the four with a negative dividend growth rate, and Edison International.

Q. HOW DID YOU HANDLE THE NEGATIVE GROWTH RATES FOR THESE TWO COMPANIES USED AS PEER UTILITIES BY IDAHO POWER?

A. I treated their earnings growth rates as I did the negative dividend growth rates of four companies used by Idaho Power as peer utilities: I

used the 2015 over 2012 average annual growth rate. This changed Ameren's EPS growth rate to 1.4 percent and Edison International's to 5.1 percent.

Q. HOW DID YOU CALCULATE THE 2036 TERMINAL VALUE IN THIS MODEL?

A. I derived the selling price in 2036 by multiplying the P/E ratio from the beginning of the investment timeframe by the 2037 EPS.[141]

Q. DID YOU MAKE THE ADJUSTMENT FOR THE "TIMING ISSUE" AND FOR THE DIFFERENCES IN CAPITAL STRUCTURE YOU PROPOSE FOR IDAHO POWER VERSUS THAT OF THE PEER UTILITIES USED?

A. Yes; both of these were handled in the same way they were in the first DCF model I described.

Q. WHAT CAN YOU SAY ABOUT THIS MODEL THAT YOU CANNOT ABOUT THE FIRST DCF MODEL?

A. If forecasted growth in earnings per share is higher than forecasted dividends per share, the second model results in higher estimated ROEs (and vice-versa) This model incorporates Value Line's forecast of EPS values for the 2012 through 2016 timeframe and derives the selling price in 2036 from the basis of an assumed constant P/E ratio instead of a calculation of a growing perpetuity; i.e., it bases the

[141] This is the only calculation involving the 2037 EPS value.

terminal value on the value of earnings, not dividends. It allows for different growth rates for EPS and dividends per share.

Q. IN DEVELOPING YOUR DCF MODELS, WHAT ARE YOU ASSUMING ABOUT INVESTORS' BEHAVIOR?

A. I assume that investors know and base investment decisions on the understandings that: a) earnings may grow over some period at a different—higher or lower—rate than dividends; b) the growth rate for earnings are more volatile than is the growth rate of dividends; c) it is dividends they receive as cash flows while they own the stock, growing at the dividend growth rate and not dividends growing at the earnings growth rate (where the two are different[142]); d) it is the long-term growth in earnings that allow for long-term growth in dividends; and e) they act as if they believe the value of a stock investment is derived from the cash flows, including selling price, that are realized from owning the stock.

I note that, as one example of the composition of shareholders of electric utilities, 68 percent of IDACORP common stock is held by institutional and mutual fund owners.[143] I assume such owners can afford a Value Line subscription and have access and motivation to

[142] They are different for all of my peer utilities and for all but Ameren, the peer utility used by Idaho Power that Value Line forecasts to have negative growth rates for both dividends and earnings on a per share basis.

[143] *See* at http://finance.yahoo.com/q/mh?s=IDA+Major+Holders (accessed December 3, 2011).

acquire and understand the relevant findings of research in financial economics.

Q. DO INVESTORS CARE ABOUT INFLATION?

A. Yes; investors care about the purchasing power of their investments and therefore care about inflation and take likely future inflation into account. Arguably, if investors did not, the U.S. Treasury's TIPS notes and bonds[144] would not exist.

Q. HOW DOES THIS RELATE CURRENT PRICES TO FUTURE PRICES?

A. Current prices embed investors' expectations; i.e., prices of investments are forward-looking. This means that the current yield of bond incorporates investors' expectations of future yields[145] for that specific bond and similar investments. In other words, if interest rates are expected to increase prior to a bond reaching maturity, the effects of that increase are included in yield that investors', through the actions of the market, establish for the bond. This fact is captured by Brealey and Myers' "second lesson of market efficiency:" "In an efficient market you can trust prices. They impound all available information about the value of each security."[146]

---

[144] Recall the earlier discussion of Treasury's Treasury Inflation Protected Securities (TIPS).

[145] Yields are the traditional means of expressing the price of fixed income securities (hat are not zero-coupon instruments; e.g., zero coupon bonds.

[146] Brealey and Myers; *op. cit.*, page 290.

This impounding of future prices is explicit in both of my DCF models and in that of many others, where the current price (or ROE, given the current price) is dependent upon a future price calculated as a terminal value.

Q. WHAT ARE THE RESULTS OF YOUR TWO DCF MODELS?

A. I refer to the first model I described as the Discounted Dividend Model with Terminal Valuation Based on P/E Ratio and the second as Discounted Dividend with Terminal Valuation Based on a Growing Perpetuity. Exhibit Staff/802 presents the results of the first model and Exhibit Staff/803 presents the results of the second model. Table 8 (following) also lists the ROE values after adjustment for my recommended capital structure for each model.

The first model, using the growing perpetuity calculation to estimate terminal value, did not have an IRR value that converged in Excel. The IRR calculation, whether performed in Excel or in my 25 year-old personal HP 12c financial calculator, is not an analytic result, achieved by using algebra, but a result of a numeric approach, which involves reiterative solutions until one is sufficiently "close." Based on their respective values of input parameters (current price and future dividends) and the values of long-term growth I used, the IRR value failed to converge for two of the peer utilities used by Idaho Power: Constellation Energy and ITC Holdings. For this reason, the average adjusted ROE for the peer utilities used by Idaho Power is indicated as

"N/A," or not available. I tested for the price necessary for each company to have the IRR value of the remaining 23 peer utilities used by Idaho Power. For both companies the price necessary to achieve this level of IRR was less than 50 percent of the current price. As a lower price implies a higher IRR,[147] the implication is that the IRR value for each of these two companies, at their respective current price, is well below the average of the other 23 peer utilities used by Idaho Power.[148]

As can be seen in Table 7 (following), my peer utilities' adjusted ROE values, after adjusting the IRR results (column 1 in Exhibit Staff/802) for the difference between the peer utility's 2011 capital structure and my recommended capital structure for Idaho Power, are reasonably close in value to one another, varying from a low of 8.4 percent (IDACORP) to a high of 10.2 percent (Westar Energy), with both extremes in the second model. I did not consider removing any companies because their adjusted ROE was too low or too high. I also note that the 8.4 percent is considerably above the 5.728 percent cost of long-term debt proposed by Idaho Power,[149] and dramatically above (500 basis points) the 3.378 percent coupon 10-year maturity

[147] Recall the earlier "teeter-totter" discussion.

[148] *See* also my discussion later in this testimony of the portion of total value represented by the terminal value calculations.

[149] *See* Exhibit Idaho Power/502 Keen/1.

"replacement" utility bond at the credit rating matching that of Idaho Power for similar bonds used by Staff witness Ordonez.[150]

Table 7

		DCF Model 1 Adjusted ROE using Growing Perpetuity	DCF Model 2 Adjusted ROE using P/E Ratio
	Staff's Peer Utilities		
1	ALLETE	9.8%	10.1%
2	American Electric Power	9.7%	9.8%
3	Cleco	9.8%	9.8%
4	IDACORP	8.7%	8.4%
5	Pinnacle West Capital	9.5%	9.4%
6	Portland General Electric	9.4%	9.5%
7	UIL Holdings	8.8%	8.7%
8	Westar Energy	9.6%	10.2%
	Group Average	9.4%	9.5%

[150] *See* Exhibit Staff/700 Ordonez regarding this *pro forma* bond.

Idaho Power's Peer Utilities

1	American Electric Power	9.7%	9.8%
2	Ameren	9.4%	9.1%
3	Avista	10.6%	10.5%
4	Black Hills	9.2%	9.6%
5	CenterPoint Energy	7.1%	7.0%
6	Cleco	9.8%	9.8%
7	CMS Energy	9.7%	9.7%
8	Constellation Energy	N/A	10.1%
9	DTE Energy	9.7%	9.7%
10	Edison International	7.7%	7.8%
11	Empire District	10.8%	11.4%
12	Great Plains	10.5%	10.6%
13	Hawaiian Electric	9.7%	10.7%
14	IDACORP	8.7%	8.4%
15	Integrys Energy	10.3%	10.7%
16	ITC Holdings	N/A	7.2%
17	Otter Tail	11.8%	12.9%
18	Pepco Holdings	10.3%	10.6%
19	PG&E	9.7%	9.9%
20	Pinnacle West Capital	9.5%	9.4%
21	Portland General Electric	9.4%	9.5%
22	TECO Energy	10.3%	10.8%
23	UIL Holdings	8.8%	8.7%
24	Westar Energy	9.6%	10.2%
25	Wisconsin Energy	10.7%	13.9%
	Group Average[151]	N/A	9.9%
	Average w/o Constellation Energy and ITC Holdings	9.8%	

[151] Recall the Model 1 average for the peer utilities used by Idaho Power do not include Constellation Energy and ITC Holdings, as previously discussed.

Q. YOU PREVIOUSLY SAID "…DIVIDENDS CONSTITUTE A LARGE PORTION OF THE VALUE RECEIVED BY INVESTORS, BOTH HISTORICALLY FOR LARGE U.S. COMPANIES AND ON A PROSPECTIVE BASIS FOR THE PEER UTILITIES USED BY ME AND THOSE USED BY IDAHO POWER…" AND CLAIMED YOU WOULD PROVIDE SUPPORT FOR THIS CONCLUSION. WHAT SUPPORT DO YOU OFFER?

A. I discussed the historical portion of this statement in a prior footnote.

I calculated the proportion of the total discounted value of cash flows (dividends plus selling price in 2036) received by investors for each of the two timing variants of each of my two multistage DCF models, and averaged the results by peer utility by each model. The terminal value received by investors as a percent of the total discounted value received by investors subsequent to purchase of the peer utility stock is shown in column 5 of the "growing perpetuity" model (Model 1) and in column 9 of the "P/E ratio" model (Model 2). Table 8 (following) has some illustrative values for each of the two models and for the peer utilities used by Idaho Power, as well as for my peer utilities.

Note first that the average for each peer group, in each of the two models, is in the mid-30s percent range; i.e., between 33.0 percent (Idaho Power peer utilities in Model 1) to 36.4 percent (Idaho Power peer utilities in Model 2). As the Model 1 average result for the peer

utilities used by Idaho Power does not include the values for two of the peer utilities (Constellation Energy and ITC Holdings), for reasons previously discussed, when I look at the difference between the Model 1 average result for my peer utilities versus the Model 2 average result for my peer utilities (a 0.5 percent difference) and then look at the Model 2 values for Constellation Energy (66.1 percent) and ITC Holdings (67.8 percent),[152] I conclude that if the Model 1 values for these two companies were available and reflected in the Model 1 average result for the peer utilities used by Idaho Power, all four average values would be very similar. I also note that these two companies are the lowest yielding companies used as a peer utility by either me or Idaho Power, at 2.5 percent and 1.9 percent for Constellation Energy and ITC Holdings, respectively. Conceivably the average values might range from 35.5 percent to 36.4 percent. Note also that, for stocks that do not currently pay a dividend and are not expected to initiate a dividend, the values would be 100 percent.

[152] *See* Exhibit Staff/803 Storm/2.

Table 8

	Model 1	Model 2
Staff		
Peer Utilities Average	35.5%	36.0%
Max: IDACORP	44.6%	43.2%
Idaho Power		
Peer Utilities Average[153]	33.0%	36.4%
Max: Edison International (Model 1); ITC Holdings (Model 2)	47.7%	67.8%

Constellation Energy and ITC Holdings are the lowest yielding companies used as a peer utility by either me or Idaho Power, at 2.5 percent and 1.9 percent, respectively.[154]

I include this analysis to reinforce the impression of the importance of the terminal value calculation, and the extent to which this calculated value impacts the estimated ROE of companies, even those with significant dividend yields. In my "growing perpetuity" Model 1, it is dividend growth rates that drive terminal value; in my "P/E ratio" Model 2, it is earnings growth rates that drive terminal value.

[153] The Model 1 Peer Utilities' Average value does not include values for either Constellation Energy or ITC Holdings. See the prior description regarding calculation of certain values for these two companies. See, however, the values for these two companies in Model 2.

[154] These two companies may be, at this time, the electric utility equivalents of the technology stock in the late 1990s which was said to be so richly price given the fundamentals of the company that the market was not only discounting the future into perpetuity, but also discounting the hereafter.

Q. DO YOUR MULTISTAGE DCF ANALYSES PRODUCE A RANGE OF RETURNS ON EQUITY?

A. Yes. Depending on the rate of long-term growth used for Stage 3 (years 2022 – 2036), the models produce a range of average adjusted ROE estimates.

Q. PLEASE DESCRIBE THE RESULTS OF USING THESE DIFFERENT LONG-TERM GROWTH RATES.

A. The results in Table 7, which provide my point estimate of 9.5 percent, stem from the use of the composite 5.0 percent long-term growth rate I discussed earlier in this testimony. I note that, due to the use of the regression-based historical real GDP growth rate over the 1980 through the third quarter of 2011 period, this rate is higher than the OMB forecast for a "steady state" 4.3 percent average annual rate of nominal GDP growth and higher than EIA's forecast of a 4.53 percent average annual rate of nominal GDP growth. I contend this makes my results more conservative (higher estimated ROE) than the straight use of the 4.41 percent average of the forecasts from OMB and EIA.

Using the 4.41 percent rate results in an average adjusted ROE for my peer utilities of 9.0 percent (Model 1) and 9.1 percent (Model 2). Using the 5.58 percent historical average results in an average adjusted ROE for my peer utilities of 9.9 percent for each of the two models. Strongly believing this to be an unduly high estimate of long-term growth in nominal GDP, I split the difference with my point

estimate of 9.5 percent to arrive at the 9.7 percent upper end of my recommended range of ROE for Idaho Power.

I note in passing that using EIA's estimated annual average rate of growth in electricity expenditures by end users over the period 2022 through 2035 provides adjusted ROE results of 7.8 percent (Model 1) and 8.1 percent (Model 2).

I note again the conservatism embedded in using forecasted growth rates of long-term nominal GDP as long-term growth rates for electric utilities (for dividends or earnings per share). A lower assumed long-term rate of growth implies a lower ROE, all else being equal.

Q. WHAT THOUGHTS DO YOU HAVE REGARDING THE 9.8 PERCENT AND 9.9 PERCENT ADJUSTED ROE AVERAGES FOR THE PEER COMPANIES USED BY IDAHO POWER?

A. This result, where using the same methodology on the peer utilities of the energy utility result in an average adjusted ROE value materially exceeding that using my peer utilities, was somewhat surprising. Given the 9.8 percent and 10.1 percent results for ALLETE, the only peer utility I used that was not used by Idaho Power, my average results of my peer utilities are clearly less than the average of all the peer utilities used by Idaho Power; i.e., the seven of my peer utilities in the group used by Idaho Power are "pulling down" the average results of the Idaho Power group. Previous comparisons of different peer utility group provided that the two groups of peer utilities typically had similar

average ROE estimates. I address the peer utilities used by Idaho Power later in this testimony.

Q. WHAT IS YOUR RECOMMENDED ROE FOR IDAHO POWER?

A. I recommend an ROE of 9.5 percent.

IDAHO POWER CAPITAL STRUCTURE

Q. WHAT CAPITAL STRUCTURE DOES IDAHO POWER REQUEST FOR RATEMAKING PURPOSES?

A. Idaho Power requests a capital structure of 48.824 percent long-term debt and 51.176 percent common equity.[155]

Q. HOW DOES THIS STRUCTURE COMPARE WITH THAT CURRENTLY AUTHORIZED AND WITH WHAT THE COMPANY HAS RECENTLY REPORTED?

A. The capital structure recommended by Idaho Power is materially different from that currently authorized, with the common equity component recommended by the company over 1.37 percent greater than that currently authorized.

Q. HOW DID YOU ARRIVE AT THE CAPITAL STRUCTURE YOU RECOMMEND?

A. Idaho Power's recommended capital structure, per Exhibit Idaho Power/502, is as of December 31, 2011—the end of the test year. I recommend the Commission view the capital structure as "linked" to

[155] *See* Exhibit Idaho Power/502 Keen/1 and Table 1 of this testimony.

rate base, in that Staff uses an average of rate base over the test year, as it is "this capital structure" that pays for "that rate base."

I arrived at the capital structure I recommend by using values reported by the Company in the three Form 10-Qs filed with the SEC this year as of the date of this testimony. I incorporate Idaho Power's recommended values as found in Exhibit/502 by averaging the four dollar values for each of long-term debt and common equity: three actual results (one per quarter) and the December 31, 2011 pro forma values from Idaho Power. This yields my recommended capital structure.

Q. WHAT DO YOU RECOMMEND TO THE COMMISSION REGARDING THE COMPOSITION OF IDAHO POWERS CAPITAL STRUCTURE?

A. I recommend the Commission authorize a capital structure composed of 50.1 percent long-term debt and 49.9 percent common equity.

Q. WHAT IS THE AVERAGE CAPITAL STRUCTURE OF YOUR PEER UTILITIES AND DOES THAT AVERAGE CAPITAL STRUCTURE CAUSE YOU TO MAKE AN ADJUSTMENT TO YOUR RECOMMENDED ROE FOR IDAHO POWER?

A. The average structure of my peer utilities, using Value Line's estimated values for 2011, is 50.0 percent long-term debt; 49.9 percent common equity; and 0.1 percent preferred stock.

IDAHO POWER'S CASE FOR A ROE OF 10.5 PERCENT

RISK REVISITED

Q. DOES IDAHO POWER OFFER ANY TESTIMONY REGARDING THE RISK OF IDAHO POWER?

A. Yes. Company witnesses discuss risk at Exhibit Idaho Power/500 Keen/5 through Keen/28 and at Exhibit Idaho Power/400 Avera/6 through Avera/20.

Q. HOW RISKY WOULD IDAHO POWER'S COMMON STOCK BE, IF THE COMPANY'S STOCK WAS PUBLICLY TRADED?

A. Assuming essentially all of the Company's common stock was publicly traded, to mitigate any effect of any partial and material ownership by a corporate parent, the risk of Idaho Power's common stock would be similar to that of other electric utilities or utility holding companies.[156] The average unlevered beta[157] of my peer utilities is 0.42 and, by way of indirect but valid comparison, the unlevered beta of IDACORP is 0.40. Of the six other peer utilities, only one has an unlevered beta that is less than that of IDACORP. This strongly suggests Idaho Power, by far the largest component of IDACORP, has a business risk very comparable to the other electric utilities in my peer group. Figure 10[158] (following) depicts the separation of the risk of a common stock

---

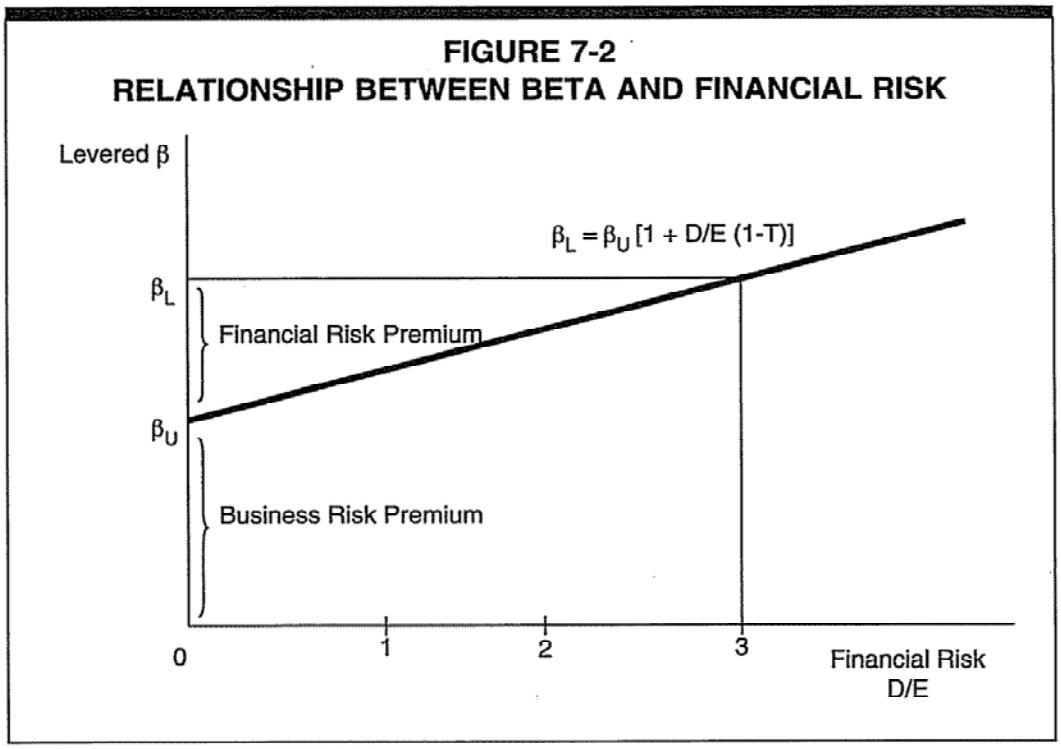
[156] *See* the discussion on risk and beta earlier in this testimony.

[157] Recall, in my discussion of the Hamada equation earlier in this testimony, that risk can be decomposed into business risk and risk due to debt financing.

[158] This figure is from Morin, *op. cit*., page 222, where it appears as Figure 7-2.

investment between business risk and the financial risk associated with debt financing.

Figure 10



PEER UTILITIES

Q. HOW DID DR. AVERA SELECT THE PEER UTILITIES USED BY IDAHO POWER?

A. Dr. Avera's criteria[159] were as follows:

1. Categorized by Value Line as being in its "Electric Utility Industry" groups.

[159] *See* Idaho Power/400 Avera/24.

2. An S&P Corporate credit rating of "BBB-" to "BBB+."[160]
3. A Value Line Safety Rank of "2" or "3;" and
4. A Value Line Financial Strength Rating of "B+" to "B++."

He also excluded FirstEnergy, Northeast Utilities, and Progress Energy, as "…they are currently involved in a major merger or acquisition."

Q. HOW DO THE PEER UTILITIES RESULTING FROM DR. AVERA'S SCREENING CRITERIA COMPARE WITH YOUR PEER UTILITIES?

A. I will to review those companies included as peer utilities by Dr. Avera and not by me, as the only peer utility I used that is not included by Dr. Avera is ALLETE,[161] while I excluded 18 of the peer utilities he included. Table 9 (following) lists my reasons for excluding each of the 18 companies included by Idaho Power as a peer utility.

---

[160] I am equating Dr. Avera's "S&P corporate credit rating" with S&P's Long-term Issuer Credit Rating, which the company defines as "…a forward-looking opinion about an obligor's overall financial capacity (its creditworthiness) to pay its financial obligations. This opinion focuses on the obligor's capacity and willingness to meet its financial commitments as they come due. It does not apply to any specific financial obligation, as it does not take into account the nature of and provisions of the obligation, its standing in bankruptcy or liquidation, statutory preferences, or the legality and enforceability of the obligation. In addition, it does not take into account the creditworthiness of the guarantors, insurers, or other forms of credit enhancement on the obligation…Issuer credit ratings can be either long term or short term. Short-term issuer credit ratings reflect the obligor's creditworthiness over a short-term time horizon." *See* at http://www.standardandpoors.com/ratings/articles/en/us/?articleType=HTML&assetID=1245323088016 (accessed December 4, 2011).

[161] Presumably Dr. Avera did not include ALLETE as the company, per the September 23, 2011 Value Line report, had a Financial Strength Rating of A. Note that S&P has a BBB+ long-term Issuer credit rating on ALLETE since at least

Table 9

Why Staff Excluded 18 Companies Included by Idaho Power

Company	Reason(s) for Exclusion
Ameren	2009 dividend reduction
Avista	Below 80% revenue threshold
Black Hills	EEI "Mostly Regulated" & revenue threshold
CenterPoint Energy	Below 80% revenue threshold
CMS Energy	Below 80% revenue threshold
Constellation Energy	EEI "Diversified;" dividend decline; currently being acquired by Exelon; revenue threshold
DTE Energy	Below 80% revenue threshold
Edison International	EEI "Mostly Regulated;" revenue threshold
Empire District	2011 dividend reduction
Great Plains	2009 dividend reduction
Hawaiian Electric	EEI "Diversified"
Integrys Energy	Below 80% revenue threshold
ITC Holdings	EEI does not include; is transmission company; unusually high authorized ROEs
Otter Tail	Below 80% revenue threshold
Pepco Holdings	EEI "Mostly Regulated;" revenue threshold
PG&E	Below 80% revenue threshold
TECO Energy	Below 80% revenue threshold
Wisconsin Energy	"A-" Issuer rating from S&P

I exclude Ameren, Empire District, and Great Plains as they had dividend cuts in, respectively, 2009, 2011, and 2009. Value Line is predicting no growth for Ameren's dividend through the 2014 – 2016 timeframe. Great Plains reduced the company's dividend by 50 percent in 2009. While Value Line estimates no increase in 2012, the average annual increase from 2012 through 2015 (average of 2014 – 2016) is 9.8 percent, which is the growth rate used in my DCF models.

Dr. Avera used a growth rate of 10.1 percent[162] in his constant growth DCF model. Empire District, due to the May, 2011 Midwest tornado previously mentioned, suspended its dividend prior to the third quarter. Value Line estimates a) a 50 percent reduction for 2011; b) a 56 percent increase in 2012 over 2011; and c) an average annual growth rate of 6.3 percent from 2012 through 2015 (average of 2014 – 2016). My DCF models used a 6.3 percent average annual dividend growth rate for 2012 through 2015, while Dr. Avera used a growth rate of 12.9 percent.

The Empire District and Great Plains results—my 6.3 percent growth rate and Dr. Avera's 12.9 percent, and my 9.8 percent and Dr. Avera's 10.1 percent, respectively—demonstrate the value of screening out companies having recent dividend declines: to do otherwise permits the calculation or forecast of near-term future growth rates that can easily exceed that which can be sustained over the long-term, and can exceed the growth rate in earnings per share: contrast the 9.8 percent dividend growth rate with the 5.9 percent EPS growth rate I used for Great Plains.[163, 164]

---

[162] *See* Exhibit Idaho Power/402 Avera/1 column f for the Great Plains value.

[163] *See* Table 6.

[164] *See* my discussion of this point in a footnote to my screening criteria 5 and 6.

Q. I SEE IN TABLE 9 THAT YOU EXCLUDE SEVERAL FIRMS WITH ELECTRIC UTILITY REVENUE LESS THAN 80 PERCENT OF 2010 TOTAL REVENUE. PLEASE PROVIDE MORE INFORMATION REGARDING THESE COMPANIES, WHICH IDAHO POWER USED AS PEER COMPANIES.

A. Table 10 (following) lists, for the companies excluded by the 80 percent of revenue criteria, their 2010 Electric Utility Revenue as a percent of their 2010 Total Revenue.[165] I include IDACORP for a direct comparison. It is not clear to me that some of these firms are even remotely similar to Idaho Power in their primary line(s) of business or degree of regulation. Only three of the companies on this list received more than two-thirds of their 2010 revenue from their business as an electric utility: Edison International (78.9%), Pepco (69.2%), and PG&E (76.7%). All fall dramatically short of the 97.3 percent of IDACORP.[166] I note that Pepco and PG&E are also below my threshold of EEI's "Regulated" classification of assets (≥ 80% of assets are regulated).To the extent structure, due to owning non-regulated generating facilities, results in a relatively low percentage in Table 10, I argue that such a company is materially different than Idaho Power.

---

[165] The revenue values for each company were obtained using SNL's Peer Analytics capability on November 23, 2011 (except for Constellation Energy, which were obtained December 4, 2011). I exported the values to an Excel spreadsheet, where I calculated the percentages.

[166] Recall the earlier discussion in a footnote regarding the regulatory classification of Idaho Power's assets versus those of IDACORP. A reasonable assumption would be that Idaho Power's revenue streams are at least as regulated as those on a consolidated basis of its parent IDACORP.

Table 10

	2010 Electric Utility Revenue as Percent of Total Revenue
Avista	62.3%
Black Hills	40.2%
CenterPoint Energy	24.9%
CMS Energy	58.0%
Constellation Energy	18.9%
DTE Energy	57.7%
Edison International	78.9%
IDACORP	**97.3%**
Integrys Energy	25.4%
Otter Tail	26.8%
PG&E	76.7%
Pepco Holdings	69.2%
TECO Energy	60.8%

Q. PLEASE DISCUSS THE REMAINING COMPANIES YOU EXCLUDED THAT WERE USED BY DR. AVERA.

A. I previously listed the reasons for excluding ITC Holdings: it is engaged in the business of transmission, not retail electric distribution; it is not classified by EEI; and Value Line notes that the company operates under a "formula-based ratemaking system" and that "ITC's four subsidiaries are allowed very healthy returns on equity of 12.16% to

13.88%."[167] To me, these qualities make ITC Holdings a company quite different from Idaho Power.

I exclude Hawaiian Electric due to the other than "Regulated" classification by EEI. I note that Hawaiian Electric, while meeting the revenue threshold with 89.2 percent of 2010 total revenue coming as electric utility revenue, is diversified: its subsidiary bank generated more than 50 percent of the company's 2010 net income.[168]

Wisconsin Electric is screened out of my peer utilities as the company has an S&P Long-term Issuer Rating of "A-;" which is outside of the BBB± range I require.

Q. IS YOUR GROUP OF PEER UTILITIES MORE OR LESS LIKE IDAHO POWER THAN THE GROUP OF PEER UTILITIES USED BY DR. AVERA?

A. Each of my peer utilities is more like Idaho Power than many of his peer utilities, and arguably, this includes as many as 18 of his companies. Companies in my group are more like Idaho Power, for the reasons discussed above.

---

[167] *See* Value Line's September 23, 2011 report on the company.

[168] *See* page 15 of Hawaiian Electric's 2010 10-K at http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NDE0NjExfENoaWxkSUQ9NDI2MzA2fFR5cGU9MQ==&t=1 .

Q. WHAT ARE THE IMPACTS OF USING DR. AVERA'S PEER UTILITIES VERSUS USING YOUR PEER UTILITIES?

A. Dr. Avera uses his peer utilities in the following: his constant growth DCF model variants (Exhibits Idaho Power/402 and Idaho Power/403); his CAPM model variants (Exhibit Idaho Power/406 Avera/1 and Idaho Power/407 Avera/1) and his comparable earnings analysis (Exhibit Idaho Power/409).

One way to assess this use of different peer utilities uses values that appeared earlier in this testimony in Table 7: using my DCF models with his peer utilities. Table 7 shows that there is a 0.4 percent higher ROE using my growing perpetuity DCF model (Model 1) with his peer utilities[169] versus mine: 9.8 percent versus 9.4 percent.[170] It also shows a 0.5 percent higher ROE using my P/E ratio DCF model (Model 2) with his peer utilities versus mine: 9.9 percent versus 9.5 percent. Given that exactly the same information sources and modeling methodology was used for both groups of peer utilities, this is significant. My adherence to a requirement regarding the extent of regulated and/or electric utility business engaged in by each of my

---

[169] This is using Value Line information on growth rates in each of our models; i.e., I using the average results in

[170] Note again that this model's average ROE for Dr. Avera's peer utilities does not include Constellation Energy or ITC Holdings for the reason previously discussed. Presumably, Dr. Avera would now exclude Constellation Energy, given the company is merging with Exelon. The merger agreement was approved by both companies' boards of directors on April 14, 2011 per the online *The Daily Record* at http://thedailyrecord.com/2011/04/28/constellation-energy-exelon-corp-to-merge-in-7-9-billion-deal/ (accessed December 4, 2011).

peer utilities effectively reduces the estimated ROE I use in my recommendation by 0.4 (Model 1: 9.8 percent to 9.4 percent) and 0.4 percent (Model 2: 9.9 percent to 9.5 percent) from the results using Dr. Avera's peer utlities. Stated differently, using my peer utilities instead of Dr. Avera's peer utilities decreases the estimated ROE by about 0.5 percent.

Q. DR. AVERA ONLY USES SEVEN OF YOUR EIGHT COMPANIES AS A PEER UTILITY. WHAT DO YOU HAVE TO SAY ABOUT ALLETE, THE COMPANY YOU INCLUDE, BUT DR. AVERA DOES NOT?

A. Inspection of Exhibits Staff/802 and Staff/803 reveals that not including ALLETE in my group would tend to reduce my ROE results, as ALLETE's adjusted ROE is higher than the average of my peer utilities in both Model 1 (9.8 percent versus the average of 9.4 percent) and Model 2 (10.1 percent versus the average of 9.5 percent). If ALLETE is removed from my group of peer utilities, the average estimated ROE in Model 1 is unchanged and the average ROE in Model 2 declines by 0.1 percent. After excluding ALLETE, my Model 1 result (9.4 percent) remains 0.4 percent lower and my Model 2 result (9.4 percent) is now 0.5 percent lower than his results.

Q. IS THERE ANOTHER COMPARISON YOU CAN MAKE BETWEEN THE RESULTS FROM THE TWO DIFFERENT GROUPS OF PEER UTILITIES?

A. Another and similar assessment is to use only the seven companies used as peer utilities by me and by Dr. Avera in his DCF model variants. Calculating the average ROEs of the seven common peer utilities, using the spreadsheet provided by Idaho Power in response to Staff data request 378, reduces the average ROE from the 11.4 percent in his Exhibit Idaho Power/402 to 9.9 percent using his Value Line estimated growth rates (column f); from 10.5 percent to 9.1 percent using his IBES estimated growth rates; from 10.4 percent to 9.3 percent using his Zacks estimated growth rates; and from 9.1 percent to 9.0 percent using his "br+sv" constant growth variant.

This is significant: if you reduce his peer companies to those seven most like Idaho Power, Dr. Avera's constant growth DCF model variants' highest average ROE is 9.9 percent, and the average of the four variants is reduced from 10.3 percent (average of 11.4, 10.5, 10.4, and 9.1 percent) to 9.3 percent (average of 9.9, 9.1, 9.3, and 9.0 percent); i.e., the average reduction across all four variants is 1.0 percent.

Q. DR. AVERA EXCLUDES THOSE COMPANIES WITH ESTIMATED ROES HE CONSIDERS TO BE TOO HIGH OR TOO LOW. DOES ADJUSTING FOR HIS EXCLUDED COMPANIES AND RESULTS CHANGE THE RESULTS YOU JUST DISCUSSED?

A. It does, but not by much. The only one of my seven companies Dr. Avera excludes, in any of his four variants, is Cleco in his IBES

variant. After removing Cleco from the calculation, the average estimated ROE of my remaining six peer utilities is 9.5 percent, up from 9.1 percent in this variant. This effect is to change the average of his four constant growth DCF variants from 9.3 percent to 9.4 percent. Dr. Avera's constant growth DCF model variants, after placing more restrictions on "what is a peer utility" to Idaho Power, produce results that are, on average, equal to or less than the results from my multistage DCF models.

I note that the 9.9 percent average estimated ROE from his constant growth DCF model variant using Value Line growth rates still exceeds the 9.4 percent (Model 1) and 9.5 percent (Model 2) from my two multistage DCF models.

Q. WHAT ISSUES DO YOU HAVE WITH DR. AVERA'S CONSTANT GROWTH DCF MODEL RESULTS?

A. The constant growth DCF model has three inputs: a stock price in period "0" (the purchase price), an estimate of dividends paid in period "1," and a constant rate of growth applicable to the initial value of dividends.

The first issue I will discuss is simple. It is associated with changes to the information used in Dr. Avera's DCF model variants; i.e., changes in the values of the price and dividend parameters. Per

Exhibit Idaho Power/402 Avera/1, the footnote associated with column "a" indicates the prices were as of April 20, 2011.[171]

Q. WHAT IS THE IMPACT OF UPDATING THE PRICES TO THOSE YOU USED IN YOUR DCF MODELS?

A. I first updated Exhibit Idaho Power/402 for just those seven companies common in the two groups of peer utilities. This lowered the average ROE estimates to 9.7, 8.9 (9.4 without Cleco), 9.2, and 8.9 percent for, respectively, the Value Line, IBES, Zacks, and "br+sv" variants. The average estimated ROE for these seven peer utilities, using the updated prices in Dr. Avera's constant growth DCF model and across all four variants, is 9.2 percent (9.3 percent without Cleco in the IBES variant).

I then updated the prices for Dr. Avera's remaining peer utilities.

Q. WHAT ARE THE RESULTS OF UPDATING PRICES FOR ALL OF DR. AVERA'S PEER UTILITIES?

A. This update did not change the 11.4 percent average estimated ROE using Value Line growth rates from that in Exhibit Idaho Power/402. The average estimated ROEs for each of the three other variants declined by 0.1 percent.

---

[171] *See* also Exhibit Idaho Power/400 Avera/29 at line 20, where the date of the prices is not clear ("…the corresponding stock price…"). Checking the closing price for Ameren on April 20, 2011 provided a price of $28.68, which matches the Ameren price in this exhibit.

Q. THE DIVIDEND YIELD IS NEXT YEAR'S DIVIDEND DIVIDED BY PRICE. DID YOU UPDATE DR. AVERA'S CONSTANT GROWTH MODEL FOR BOTH PRICE AND DIVIDEND?

A. Yes, subsequent to the update of prices discussed above. The average estimated ROE results for Dr. Avera's peer utilities did not change for any of the four variants. The results for the seven peer utilities common to both my group and Dr. Avera's group changed to 9.8 percent, 9.0 percent (9.4 percent without Cleco), 9.3 percent, and 9.0 percent for the Value Line, IBES, Zacks, and "br+sv" variants, respectively. The average of the four variants was 9.3 percent (9.4 percent without Cleco in the IBES variant).

Table 11 (following) shows the average estimated ROE results from Exhibit Idaho Power/402; those associated with updating Dr. Avera's constant growth DCF model with the prices and dividends used in my DCF models, as well as the average estimated ROEs of the two groups using my two multistage DCF models.

Table 11

Change	Peer Utilities[172]	Value Line	IBES	Zacks	"br+sv"	Average
Exhibit Idaho Power/402						
	Avera	11.4%	10.5%	10.4%	9.1%	10.3%
	Staff	9.9%	9.5%	9.3%	9.0%	9.4%
Price Update						
	Avera	11.4%	10.4%	10.3%	9.0%	10.3%
	Staff	9.7%	9.4%	9.2%	8.9%	9.3%
Price & Dividend Update						
	Avera	11.4%	10.5%	10.4%	9.1%	10.4%
	Staff	9.8%	9.4%	9.3%	9.0%	9.4%
Staff Mod. 1						
	Avera	9.8%				
	Staff	9.4%				
Staff Mod. 2	Avera	9.9%				
	Staff[173]	9.4%				

Q. WHAT DO YOU CONCLUDE FROM THE ROE RESULTS IN TABLE 11?

A. I conclude that, for each of the two peer utility groups, using the prices and dividends I used in my two DCF models in Dr. Avera's constant growth DCF model variants produces results similar to those of my two

[172] Values for Staff's peer utilities are the average of the seven companies common to both sets of peer utilities; i.e., ALLETE is excluded. The values listed do not include Cleco in the IBES or Average columns.

[173] Does not include Constellation Energy or ITC Holdings. *See* the explanation regarding excluding these two companies earlier in this testimony.

multistage DCF models using the same growth rate. This conclusion serves to reinforce the differences in the two groups of peer utilities are behind most of the differences between Dr. Avera's DCF average results and my average results using my base case long-term rate of dividend growth.

I also refer to the reasons I exclude 18 companies Dr. Avera includes as peer utilities (see Table 9 above): either the company had a dividend cut sometime in the past five years (4 companies) or were engaged in businesses that on the whole are less regulated than Idaho Power (13 companies). Constellation Energy is in each of these two categories. The remaining two companies are ITC Holdings and Wisconsin power, each of which is discussed earlier in this testimony.

Q. CAN YOU CHARACTERIZE HOW THE PEER UTILITIES USED BY DR. AVERA ARE DIFFERENT FROM THOSE YOU USED?

A. Yes. Table 12 (following) has the average of the growth rates I used in my two DCF models for my eight peer utilities and by Dr. Avera in his DCF model variants for his 25 peer utilities. Note that Dr. Avera's average growth rates exclude, for each variant, the growth rates of those companies the estimated ROEs of which he excluded in Exhibit Idaho Power/402 Avera/1. Note also that, as both of my DCF models are multistage, I have separated the growth rate averages into that for the period 2013 – 2016 and the long-term growth rate applicable to the

period beyond 2021.[174] Note in particular that the Staff 2013 – 2016 growth rates are based on Value Line's estimates of dividends and earnings.

Table 12

DCF Models' Average Annual Growth Rates

		Constant	2013 - 2016	2022 Forward
Avera				
	Value Line (all 25)	7.0%		
	Value Line (7 Staff cos.)[175]	5.4%		
	IBES	5.8%		
	Zacks	5.9%		
	br+sv	4.6%		
	Average	5.6%		
Staff				
	Model 1		3.9%	5.0%
	Model 2: Dividends		3.9%	5.0%
	Model 2: Price & Earnings		4.7%	5.0%

[174] The growth rates for my peer utilities for the period 2017 – 2021 vary for each company by year, converging from growth rates in Stage 1 to the long-term Stage 3 growth rate. This was described earlier in this testimony.

[175] This value is calculated using the Value Line information used by Dr. Avera for these seven peer utilities common to both of our peer groups of companies. Note that ALLETE's average earnings growth rate in my models is 6.8 percent, therefore it is likely that inclusion of ALLETE in this figure would serve to increase this value to an estimated value of approximately 5.6 percent: (7 x 5.4)+6.8) / 8.

Q. WHAT DO YOU CONCLUDE FROM THE AVERAGE GROWTH RATES IN TABLE 12?

A. I conclude that Value Line's average earnings growth rates have declined for my peer utilities between the time Dr. Avera obtained his information and the time I obtained mine (approximately seven months); i.e., the reduction from an estimated 5.4 percent to an estimated 4.7 percent.

I also conclude that earnings growth rates are higher than dividend growth rates, both as estimated by Value Line for my companies in Fall 2001. This is not surprising, given the earlier discussion on the prevalence of dividend smoothing as a feature of U.S. publicly traded corporations' payout policies and that the U.S. economy is (still) "rebounding" from the recession that began in 2007.

I also conclude that that his peer companies have different lines of business than do my peer companies, with less of their total business regulated than is the case for my peer companies.

As electric utilities are commonly known to have less earnings volatility than that of U.S. industries as a whole, I would expect that, in a period of economic expansion—even one that currently seems agonizingly slow on a national basis—industries and lines of business other than regulated electric utilities will have a greater acceleration in earnings, a higher rate of earnings growth, than electric utilities.

To the extent Dr. Avera's peer utilities, on average, engage in more of these industries or lines of unregulated businesses, I would expect their earnings to be more volatile than that of my peer utilities, which have more than 80 percent of both their assets in and revenue streams from regulated lines of business. I note again that Idaho Power's revenues are 97.6 percent from regulated activities.

Q. DOES YOUR ANALYSIS USING DR. AVERA'S CONSTANT GROWTH, SINGLE-STAGE DCF MEAN YOU ENDORSE THE USE OF SUCH DCF MODELS FOR ESTIMATING THE ROE OF ELECTRIC UTILITIES?

A. No; it does not. I note that the Commission has previously weighed-in on the use of such models.[176]

Q. DOES THIS MEAN YOU CONCUR WITH DR. AVERA'S CHOICES WITH RESPECT TO INFORMATION SOURCES AND USAGE?

A. No; it does not.

Q. DR. AVERA USES A SECOND GROUP OF COMPANIES IN HIS FOUR VARIANTS OF THE SINGLE-STAGE, CONSTANT GROWTH DCF MODEL. WHAT ARE YOUR THOUGHTS ON THE USE OF THESE COMPANIES AS A PROXY FOR IDAHO POWER?

A. Dr. Avera's "non-utility proxy group" of companies was developed by screening for those U.S. companies followed by Value Line that 1) pay

[176] *See* Order No. 01-777 at 27, where the Commission in a previous docket rejected consideration of results from parties' single-stage DCF models. The Commission also rejected consideration results from parties' single-stage DCF models in Docket No. UE 116. *See* Order No. 01-787 at 24.

common dividends; 2) have a Safety Rank of "1;" 3) have a Financial Strength Rating of "B++" or greater; 4) have a beta of 0.85 or less; and 5) have investment grade credit ratings.[177] He uses this group of companies in his constant growth DCF model in Exhibits Idaho Power/404 Avera/1 and Idaho Power/405. Table 12 (following) has the averages for his utility proxy group and his non-utility proxy group.

Table 13[178]

Attribute	Utilities	Non-utilities
Dividend Yield	4.5%	2.8%
Earnings Growth Rates:		
Value Line	6.3%	8.7%
IBES	6.3%	9.2%
Zacks	10.4%	9.6%
br+sv	4.5%	11.3%
Average Growth Rate	6.9%	9.7%
ROE Estimates:		
Value Line	11.4%	11.9%
IBES	10.5%	12.4%
Zacks	10.4%	12.5%
br+sv	9.1%	12.1%
Average ROE	10.3%	12.2%

[177] *See* Exhibit Idaho Power/400 Avera/25.
[178] Table values for dividend yield and the average ROE across all of the four DCF variants were derived from spreadsheet versions of Exhibits Idaho Power/402 (utilities) and Idaho Power/404 (non-utilities). Idaho Power provided the spreadsheet in response to Staff data request 378.

As can be seen in Table 13, the utilities' average dividend yield of 4.5 percent is 60.7 percent greater than that of the non-utilities at 2.8 percent. Additionally, the average rate of estimated growth in earnings per share for the utilities (6.9 percent) is 28.9 percent less than the average of the non-utilities (9.7 percent).

While Dr. Avera uses multiple screening criteria related to risk, he provides no analysis of the beta of these companies versus that of his utility companies. In other words, he presents no information on how the market, as measured by each company's beta, views the risks of these two groups of companies.[179] Additionally, he presents no analysis of the extent to which the beta measures for companies in either group are related to leverage (i.e., their capital structures) versus business risk, let alone any adjustment to calibrate with the capital structure of Idaho Power.

Q. WHAT DO YOU CONCLUDE FROM THIS COMPARISON?

A. While the two groups may have some broad similarities, such as paying dividends, the average dividend yields are significantly different. They are also materially different in terms of average growth estimates provided by the same organizations or derived using the same method (br+sv) and this is very important. Dr. Avera's non-utility companies are not, on average, comparable to Idaho Power.

[179] See the earlier discussion of market risk and beta.

Q. WHAT DO YOU RECOMMEND WITH RESPECT TO THE RESULTS PRODUCED USING THESE NON-UTILITY COMPANIES?

A. I recommend the Commission disregard any ROE estimates resulting from the use of Dr. Avera's non-utility proxy group of companies.

Q. DR. AVERA PRESENTS THE RESULTS OF FOUR CAPITAL ASSET PRICING MODEL VARIANTS. WHAT ARE YOUR THOUGHTS REGARDING THESE MODELS AND THEIR RESULTS?

A. The four variants are the use of a "current" bond yield from April, 2011 and the use of a "projected" bond yield based on estimates made in February of 2011 (two estimates) and December, 2010 (one estimate). Dr. Avera uses each of the two bond yields for his utility proxy group and for his non-utility proxy group. As explained earlier in this testimony, the expected level of future bond yields are incorporated within current bond yields, and this is particularly true at the longer maturities, such as the 30-year Treasury used by Dr. Avera in all four variants. I recommend the Commission disregard the results of the two variants using the now approaching one-year old forecasts of 30-year Treasury bonds.[180] I also note that the yield on 30-year single-A utility bonds has declined from an average for the months of December, 2010 through February 2011 from 5.75 percent to an average of 4.16 percent in November, 2011.[181]

---

[180] These two results are those in Exhibits Idaho Power/407 Avera/1 and Avera/2

[181] Source: Bloomberg (accessed December 5, 2011).

Consistent with my recommendation above that the Commission give little weight to any results produced using Dr. Avera's non-utility proxy group of companies, I recommend the Commission give little weight to the 10.0 percent estimated ROE from the CAPM using those companies.[182] The remaining CAPM is on Exhibit Idaho Power/406 Avera/1, and uses a "current" bond yield and Dr. Avera's utility group of companies.

Q. PLEASE DISCUSS THIS MODEL AND DR. AVERA'S RESULTS.

A. First, I want to discuss the use of the 30-year Treasury's yield as a risk-free rate. While agreeing with Dr. Avera that a 30 year timeframe is a reasonable one for the purpose of estimating the ROE of a rate-regulated electric utility such as Idaho Power,[183] I am troubled by two implications of doing so. The first is that the average yields of the 30-year Treasury (3.16 percent) and of the 30-year TIPS equivalent (1.01 percent) for the months of September and October of this year[184] indicate the market expects a 2.15 percent average annual rate of inflation over the next 30 years; i.e., the 30-year period ending in Fall 2031. This implies the real yield on the current 30-year Treasury, as of Fall 2011, is 1.0 percent.[185] The longer the maturity of a Treasury

---

[182] *See* Exhibit Idaho Power/406 Avera/2.

[183] Recall that my two multistage DCF models use a timeframe of 25 years plus a terminal value calculation.

[184] From the Federal Reserve's H.15 report at http://federalreserve.gov/releases/h15/data.htm (accessed December 5, 2011).

[185] This is (1+.0316) / (1+.0215).

bond, the greater the exposure to the risk of unexpected inflation for the investor in that bond. Use of the 30-year Treasury is *de facto* incorporation of this risk; i.e., the 30-year Treasury bond used by Dr. Avera is not truly risk-free.

Q. WHAT IS THE SECOND IMPLICATION?

A. Dr. Avera's use of the yield of the 30-year Treasury leads to a "mismatch" between the relevant timeframes of his risk-free rate (30 years) and of his market return of 12.8 percent. This latter estimate, even if it is perfectly accurate, is based on analysts' earnings forecasts for no more than five years out (from early 2011). If the risk-free rate has a tenor of 30 years, the market return should also. Dr. Avera's 12.8 percent market annual return, if projected over the 30 years of his risk-free rate,[186] incorporates an average annual inflation rate estimated at 2.15 percent, as discussed above. This means the real return, and investors care about real returns,[187] on an average annual basis would be 10.4 percent.[188] The Ibbotson SBBI 2008 Classic Yearbook includes that the average annual nominal rate of return on large company stocks was 10.4 percent[189, 190] over the 1926

---

[186] Note that, although Dr. Avera nowhere specifies the timeframe of this CAPM result, to not think of his result as long-term leads to the "mismatch."

[187] *See* the discussion on investors and inflation earlier in this testimony.

[188] This is (1+.128) / (1+.0215) - 1.

[189] Ibbotson SBBI 2008 Classic Yearbook; page 61.

[190] I believe it highly likely that Dr. Avera's group of dividend paying companies in the S&P 500 might be expected, over a 30 year timeframe, to grow more slowly that the

– 2007 timeframe and that the average annual rate of inflation over that same timeframe was 3.0 percent.[191] This implies an average annual historical real return on large company stock of 7.2 percent.[192] In other words, using the CAPM model in Exhibit Idaho Power/406 Avera/1, if the timeframe of the investment is matched to that of the risk-free rate, produces an average annual real rate of return on his utility peer company' stocks (10.4 percent) over the next 30 years that is 44 percent greater than the annual average return on large company stocks, after adjusting for the effects of inflation, over the 82 year period in the Ibbotson numbers (7.2 percent). I suggest this is unlikely. Additionally, and more to the point, I suggest investors know it is unlikely.

Recall also the earlier discussion of earnings growth versus dividend growth and the relevance of timeframe length. A group of large companies growing earnings over the next 30 years at an average annual rate of 12.8 percent are growing at approximately 250 percent of the projected rate of growth in nominal GDP growth.[193]

---

average of the 500 stock index as a whole; i.e., the dividend-paying companies will grow more slowly than the companies that do not pay a dividend.

[191] *Ibid.*; page 75.

[192] Some may object to my use of geometric averages in this context. When considering an investment over a 30-year timeframe, geometric averages are highly relevant, perhaps more so than arithmetic averages. *See* Chapter 5 of *Investments*; by Bodie, Kane, and Marcus; Ninth Edition; 2011 and especially pages 153 – 154.

[193] Actually, 256 percent. That is, 0.128 / 0.05, or 2.56.

Acknowledging Dr. Avera's orientation from historical values, if I: 1) use his dividend yield of 2.3 percent; 2) a more realistic 30-year dividend growth rate of 5.0% (as used in my two DCF models and based on averaging the historical average since 1980 and governmental forecasts); 3) the current 30-year Treasury yield of 3.2 percent;[194] and 4) the current Value Line average beta of 0.74 for his utility proxy group of companies, I derive a 30-year CAPM result of: ((2.3%+5.0%)-3.2%) X 0.75 + 3.2% = 6.2%, where the market return is 7.3 percent (vs. 12.8 percent) and the market premium of 4.1 percent is about one-half of Dr. Avera's 8.3 percent and the "utility group" risk premium is therefore 3.0 percent (versus 6.3 percent).[195] If I then add a size premium of 1.01 percent, I have an adjusted CAPM result, using Dr. Avera's companies, updated interest rates, and a realistic 5.0 percent growth rate, of 7.2 percent.

Q. DOES THIS MEAN YOU AGREE WITH DR. AVERA'S SIZE ADJUSTMENT OR THE METHODOLOGIES HE USED IN THIS MODEL?

A. No.

Q. BASED ON YOUR REVIEW OF DR. AVERA'S CAPM AS DEPICTED IN EXHIBIT IDAHO POWER/406 AVERA/1 AND HIS RESULT OF

---

[194] This is the average of the average 30-year Treasury bond yields for September and October of 2011; from the Federal Reserve's H.15 report at http://federalreserve.gov/releases/h15/data.htm (accessed December 5, 2011).

[195] Note that all values are in nominal terms.

11.8 PERCENT, WHAT DO YOU RECOMMEND TO THE COMMISSION?

A. I recommend the Commission give little weight to Dr. Avera's result in considering an ROE for Idaho Power.

Q. DR. AVERA DEVELOPS TWO VARIANTS OF A RISK PREMIUM MODEL. WHAT ARE YOUR THOUGHTS ON THESE?

A. I recommend the Commission give little weight to the results of the "projected" bond yield variant, for the reasons discussed previously.

Regarding Dr. Avera's risk premium model, if I use all of the parameter values used by Dr. Avera in Exhibit Idaho Power/408 Avera/1, but update his April 2011 BBB utility bond yield of 5.98 percent to the 4.16 percent yield of a 30-year single-A ("A") utility bond in November, 2011,[196] I get a resulting "Risk Premium Cost of Equity" of 8.91 percent, which is supportive of the results from my two DCF models.

Q. WHY DID YOU USE A SINGLE-A ("A") BOND YIELD, NOT THE TRIPLE B ("BBB") BOND YIELD USED BY DR. AVERA?

A. While Idaho Power's current S&P Long-term Issuer Rating is "BBB," the Company's first mortgage bonds, which account for 89 percent of Idaho Power's long-term debt,[197] are rated single-A ("A") by Moody's

---

[196] Source: Bloomberg (accessed December 5, 2011).

[197] *See* Exhibit Idaho Power/503 Keen/1. This is $1,268.6 million (column 10 first mortgage bond total) divided by $1,425.9 billion (column 10 total debt capital).

and "A-" by S&P.[198] Note that the 30-year single-A utility bond yield in April, 2011 was 5.59 percent, implying that the yield on utility bonds rated "BBB," such as those used by Dr. Avera, have almost certainly declined as well. As both my peer utilities and Dr. Avera's peer utilities (and Idaho Power) have, on average for the two groups, S&P Long-term Issuer ratings of BBB±,[199] it is a reasonable assumption that the average company in each of the two peer utilities also have single-A ("A") ratings on their first mortgage bonds.

Q. WHAT DO YOU RECOMMEND TO THE COMMISSION REGARDING DR. AVERA'S RISK PREMIUM ROE RESULT OF 10.73 PERCENT?

A. I recommend the Commission give little weight to his result. I recommend the Commission consider the 8.91 percent estimated ROE I obtained by updating the interest rate and shifting to a bond more representative of those in Idaho Power's current capital structure (89 percent) as supportive of the 9.5 percent ROE I recommend for Idaho Power.

Q. DOES YOUR UPDATING AND ADVOCATING COMMISSION ACKNOWLEDGEMENT OF YOUR UPDATED RESULT IMPLY YOU ARE SUPPORTIVE OF DR. AVERA'S METHODOLOGY WITH REGARD TO THIS RISK PREMIUM MODEL?

A. No.

---

[198] *See* Exhibit Idaho Power/500 Keen/8,

[199] *See* Exhibit Idaho Power/400 Avera/24 and the description of my screening criteria earlier in this testimony.

Q. DR. AVERA USES A COMPARABLE EARNINGS ANALYSIS TO ESTIMATE A RECOMMENDED ROE FOR IDAHO POWER. WHAT ARE YOUR THOUGHTS ON THIS?

A. Given some of the changes from updating some of Dr. Avera's other analyses; my first thought was to update this one as well.

Q. WHAT WERE YOUR RESULTS?

A. I used the same Value Line reports used by Dr. Avera, but used the most recently available report for each company on both my and his lists of peer utilities as of late November, 2011.[200] The average of values in Dr. Avera's "Expected Return on Common Equity"column, while not shown in Exhibit Idaho Power/409 Avera/1, is 10.2 percent. His adjustment to "convert year-end return to an average rate of return"[201] averaged 0.2 percent (10.4 percent less 10.2 percent) for his group of peer utilities. My results of updating the Value Line information were 9.4 percent for my peer utilities and 9.7 percent for the peer utilities used by Dr. Avera, implying an "adjusted return on common equity" of 9.6 percent and 9.9 percent, respectively.

Q. DOES THIS IMPLY YOU ARE SUPPORTIVE OF THE METHODOLOGY AND INFORMATION USED BY DR. AVERA?

A. No.

---

[200] *See* Exhibits Idaho Power/400 Avera/50 and Idaho Power/409 Avera/1, including footnote "a" in the latter exhibit. *See also* my description of information sources earlier in this testimony. I used Value Line's estimated average "Return on Common Equity" for the 2014 – 2016 timeframe.

[201] Idaho Power/409 Avera/1 footnote "b."

Q. WHAT DO YOU RECOMMEND TO THE COMMISSION REGARDING DR. AVERA'S ADJUSTED RESULT OF 10.4 PERCENT?

A. I recommend the Commission give little weight to Dr. Avera's 10.4 percent ROE result and acknowledge my updated adjusted ROE result of 9.6 percent for my peer utilities as supportive of the results from my two multistage discounted cash flow models.

Q. HOW WOULD YOU SUMMARIZE YOUR ANALYSIS OF THE MODELS AND METHODS USED BY DR. AVERA AND THE ESTIMATED ROE VALUES HE OBTAINED FROM THEM?

A. I recommend the Commission give little weight to Dr. Avera's results derived from using the non-utility proxy companies and from models using the future yield of a debt instrument. I recommend the Commission disregard his remaining CAPM result of 11.8 percent and his remaining Risk Premium result of 10.73 percent.

I recommend the Commission consider the 8.91 percent (Risk Premium) and 9.6 percent (Comparable Earnings) results[202] I obtained from Dr. Avera's models as being supportive of my 9.5 percent recommended ROE for Idaho Power.

I recommend the Commission consider the arguments presented in this testimony regarding the appropriate choice of companies as peer utilities with Idaho Power with respect to the 10.5 recommended ROE of Dr. Avera and the 9.5 percent ROE I recommend for Idaho Power.

[202] The 9.6 percent is for my group of peer utilities.

Q. YOU HAVE CITED A NUMBER OF ARTICLES APPEARING IN PROFESSIONAL JOURNALS AND SEVERAL TEXTBOOKS COVERING TOPICS RELATED TO CORPORATE FINANCE OR INVESTMENTS. DO YOU ACCEPT ALL CONCLUSIONS MADE BY A SPECIFIC AUTHOR OR GROUP OF AUTHORS AS AUTHORITATIVE? IN OTHER WORDS, IF YOU FIND ONE OR MORE OF AN AUTHOR'S CONCLUSIONS TO BE AUTHORITATIVE, DO YOU NECESSARILY FIND OTHER CONCLUSIONS BY THE SAME AUTHOR AUTHORITATIVE?

A. No.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

CERTIFICATE OF SERVICE

UE 233

I certify that I have this day served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 29th day of December, 2011 at Salem, Oregon.

Linda Martin

Linda Martin
Public Utility Commission
Regulatory Operations
550 Capitol St NE Ste 215
Salem, Oregon 97301-2551
Telephone: (503) 378-4373

Service List

UE 233 (Errata)

DON READING **(C) (HC)**
6070 HILL ROAD
BOISE ID 83703
dreading@mindspring.com

ATTORNEY AT LAW

JOSHUA D JOHNSON **(C) (HC)**
101 S. CAPITOL BLVD., STE 300
BOISE ID 83702
jdj@racinelaw.net

ERIC L OLSEN **(C) (HC)**
201 E CENTER ST
POCATELLAO ID 83201
elo@racinelaw.net

CITIZENS' UTILITY BOARD OF OREGON

GORDON FEIGHNER **(C) (HC)**
ENERGY ANALYST
610 SW BROADWAY, STE 400
PORTLAND OR 97205
gordon@oregoncub.org

ROBERT JENKS **(C) (HC)**
EXECUTIVE DIRECTOR
610 SW BROADWAY, STE 400
PORTLAND OR 97205
bob@oregoncub.org

G. CATRIONA MCCRACKEN **(C) (HC)**
LEGAL COUNSEL/STAFF ATTY
610 SW BROADWAY, STE 400
PORTLAND OR 97205
catriona@oregoncub.org

IDAHO POWER COMPANY

CHRISTA BEARRY **(C) (HC)**
PO BOX 70
BOISE ID 83707-0070
cbearry@idahopower.com

LISA D NORDSTROM **(C) (HC)**
ATTORNEY
PO BOX 70
BOISE ID 83707-0070
lnordstrom@idahopower.com

MCDOWELL RACKNER & GIBSON PC

LISA F RACKNER **(C) (HC)**
ATTORNEY
419 SW 11TH AVE., SUITE 400
PORTLAND OR 97205
lisa@mcd-law.com

PORTLAND GENERAL ELECTRIC

RANDY DAHLGREN
RATES & REGULATORY AFFAIRS
121 SW SALMON ST - 1WTC0702
PORTLAND OR 97204
pge.opuc.filings@pgn.com

DOUGLAS C TINGEY
ASST GENERAL COUNSEL
121 SW SALMON 1WTC13
PORTLAND OR 97204
doug.tingey@pgn.com

PUBLIC UTILITY COMMISSION

JUDY JOHNSON **(C) (HC)**

PO BOX 2148
SALEM OR 97308-2148
judy.johnson@state.or.us

PUBLIC UTILITY COMMISSION OF OREGON

CARLA BIRD **(C) (HC)**
REVENUE REQUIREMENTS ANALYST

PO BOX 2148
SALEM OR 97308-2148
carla.bird@state.or.us

PUC STAFF--DEPARTMENT OF JUSTICE

STEPHANIE S ANDRUS **(C) (HC)**
ASSISTANT ATTORNEY GENERAL

BUSINESS ACTIVITIES SECTION
1162 COURT ST NE
SALEM OR 97301-4096
stephanie.andrus@state.or.us

RICHARDSON & O'LEARY

GREGORY M. ADAMS **(C) (HC)**
ATTORNEY

PO BOX 7218
BOISE ID 83702
greg@richardsonandoleary.com

RICHARDSON & O'LEARY PLLC

PETER J RICHARDSON **(C) (HC)**

PO BOX 7218
BOISE ID 83707
peter@richardsonandoleary.com

UTILITY NET.INC

ANTHONY J YANKEL **(C) (HC)**

29814 LAKE RD
BAY VILLIAGE OH 44140
tony@yankel.net